ЕКОНОМІЧНИЙ ВІСНИК ДОНБАСУ

науковий журнал

quarterly scientific journal

ECONOMIC HERALD OF THE DONBAS

2012   № 4 (30)

Economic Herald of the Donbas

Quarterly Scientific Journal
№ 4 (30) 2012

Founded in 2004

Founders:

Contents

SCIENTIFIC ARTICLES*

---

* All articles are published in the author's wording

SCIENTIFIC ARTICLES

Economic Theory

I. V. Rozmainsky,
National Research University Higher School of Economics,
Russia, Saint-Petersburg

STAGFLATION IN THE INSIDE MONEY ECONOMY: THE POST KEYNESIAN PERSPECTIVE

1. Introduction

Stagflation is a comparatively new (35 – 40 years) feature of the advanced market economy. The 2007 – 2012 Global Financial Crisis – which was labeled by some authors (Whalen, 2012) as the „Great Recession" – has reminded again about this phenomenon (Alattar, 2011). All famous theories of stagflation – Monetarist, New Classical, and Traditional Keynesian ones – have one common point. According to all these theories stagflation is generated by exogenous factors: the government policy or (adverse) supply shocks. We shall try to show in this paper that stagflation can be *endogenously inherent* to the modern advanced market economy. In order to make it we will follow the Post Keynesian approach. In particular, this approach emphasizes both the very important role of debt in the process of business cycles and a cyclical character of the money supply dynamics (Palley, 2002).

The starting point is that the modern advanced economy is the "inside money economy" (Dow and Earl, 1982, ch. 9). A huge part of the money supply is the (private) credit money, that is, both asset and liability of the private sector. In other words, in the inside money economy *money is simultaneously a debt*. Such money has endogenous nature: stock of inside money „… is determined by the demand for bank credit, and the latter is causally dependent upon the economic variables that affect the level of output" (Fontana, 2003, p. 292).

The fact that money is a debt complicates many relationships between macroeconomic variables. On the one hand, monetary aggregates are the only means of financing expenditures. The more is the money supply, the more are aggregate expenditures, and aggregate demand will be. On the other hand, money is a debt, and the liquidation of this debt can absorb a lot of financial resources. In other words, the more is stock of the outstanding debts (inside money) and the closer is maturity date, the less financial resources available for the expenditures will be. It turned out, that the relation between macroeconomic situation and the (inside) money stock is ambiguous.

This ambiguity appears in the phase of slump of the business cycle. As Minsky (1977; 1986) has showed, the slumps in the modern advanced economies are the causes and the consequences of the inability of the business sector to meet cash payments commitments that grow out of debts borrowed in the phases of expansion and boom. The goals and purposes of the majority of the households and the firms may be changed during the slump. The *immediate* redemption of debts becomes the main purpose of many agents in this phase of the business cycle. Such change in the goals and purposes can alter relationships between the main macroeconomic variables in the output market and lead to the stagflation.

We will describe it in the Section 2. The Section 3 considers the role of the money market for the process of stagflation. The Section 4 touches upon the link between the inside money economy and oligopolistic competition. The Section 5 mentions about one of the forgotten conceptions by Keynes. This conception is relevant for our theme and supplements our approach. The Section 6 concludes the paper.

2. The Output Market

a) *The relationship between aggregate demand and the price level.* The mainstream macroeconomic theory proves the presence of negative slope of aggregate demand curve by means of Pigou effect, Keynes effect and net export effect. But Keynes effect (the price level – the demand for money – the interest rate – investment – aggregate demand) can be negligible if investments are driven first of all by animal spirits and the state of confidence. When trade barriers are strong, then the net export effect (the influence of the price level on the export and the import) also does not matter. In the phase of slump Pigou effect (the price level – the real money supply – consumption – aggregate demand) is outweighed by Fisher effect. This effect consists in the increase in the *real* debt burden because of the fall in the price level. Such increase causes the wave of bankruptcies and economic collapse (Fisher, 1933; Minsky, 1986; see also Wray and Tymoigne, 2008). It is clear, that it is in the

phase of contraction that Fisher effect plays the enormous role. We believe that in this phase of business cycle Fisher effect may become more than the sum of Pigou, Keynes and net export effects. *The slope of aggregate demand curve can be a positive in the phase of slump*. The idea of positive relationship between the price level and aggregate demand under the inside money was already put forward in "non-Neoclassical" economic literature (Fazzari and Minsky, 1984; Caskey and Fazzari, 1986). We stress the importance of the phase of slump for the emergence of this unusual relationship.

b) *The relationship between aggregate supply and the price level*. As we mentioned above, the business firms in the phase of contraction try to liquidate their debts *immediately*. We believe that the firms do not maximize profit in that situation. Really, the business sector aspires quickly to earn revenue which is *sufficient* for the redemption of the debts. It means that the fall (rise) of the price level causes the firms to *increase* (*decrease*) output for the provision of this *sufficient* amount of revenue (Nozdran and Berezin, 1993). In other words, *the relationship between aggregate supply and the price level* can be a negative in the phase of slump. The reasons for this appear especially when households as owners of resources also desire (first of all) to redeem their debts. We shall explain this relationship in the end of this section.

Such transformations of these essential macroeconomic relationships are the key to the explanation of the endogenous nature of stagflation in the inside money economy. The domination of inside money alters economic behavior in the phase of contraction. In this situation any adverse demand shocks (caused by the collapse of investment or consumption confidence, the rise in the liquidity preference, the increase in the thriftiness, the share prices crash etc.) may not only generate the decrease in output, but also become the reason for the price level rise. It means that the inevitable (during the slump) negative demand shocks automatically lead to stagflation. In this fashion the stagflation is inherent to the inside money economy. It takes place *without* both adverse exogenous supply shocks and the government stabilization policy.

We must, however, point out that these stagflationary processes are not long-lasting. After the liquidation of the debts and/or mass bankruptcies of the business firms the relationships both between the price level and aggregate demand and between the price level and aggregate supply become "normal", "traditional". Under these "normal" relationships the endogenous sources of stagflation fade away because the necessity of the debts redemption is not already dominating factor in the behavior of the firms and the households. If, however, the process of paying debts continues in the "post-depression" and recovery phases,

some "unusual" macroeconomic relationships, possibly, matter. In this situation Fisher effect may become less than other (Keynes, Pigou and net export) effects, but the negative relationship between aggregate supply and the price level can persist. The business firms will *decrease* prices or inflation rates in order to induce the increase in demand, supposing that current level of that is low. The example is the US economy in the 1980s: stagflation of the 1980 – 1982 was offset by *disinflationary expansion* in the 1982 – 1990.

In other words, the increase in aggregate demand in the "post-crash" phase removes the threat of the mass bankruptcies wave and weakens Fisher effect importance; but at the same time, the redemption of financial obligations, as before, is the big problem for many businesses. Firms try to decrease the prices and increase the output, because they aspire to provide not maximal profit but sufficient amount of revenue. When such measures are accompanied by the aggregate demand increase, disinflationary expansion takes place. The necessary conditions for it are rooted in the use of roll over credit, derivatives and other means to avoid the bankruptcy *without* the final redemption of the debts. The application of such instruments is a consequence of the financial evolution (creation of new monetary aggregates, new banking "practices" etc). It is in the inside money economy that financial evolution is developing and accelerating (Simons, 1936; Minsky, 1957; Chick and Dow, 1988; Niggle, 1991; Arestis and Howells, 1992; Nozdran and Berezin, 1993; Wray, 2009). Broadly speaking, we believe, that the speed of the final redemption of debts negatively depends upon (a) the aggregate inside money stock in the economy, (b) the ratio of long-term debts to short-term debts. At the same time, the frequency of the appearance of the "debt bankruptcies" threat positively depends upon the former factor and negatively upon the latter factor. Caskey and Fazzari (1986) have brilliantly described the importance of the latter factor.

We must take into account, however, that if disinflationary expansion is not accompanied by the final liquidation of debts or even is tied up with the additional inside money creation, new financial crisis becomes inevitable. As Wolfson (1995) has showed, economic recession in the USA in the 1990 – 1992 was generated first of all by the enormous amount of the credit market outstanding debt. Similarly, the 2007 – 2012 Global Financial Crisis was induced by enormous use of derivatives, securitization and other risky financial practices implying enormous accumulation of debts (Wray, 2009; 2011b). In particular, at the end of this crisis total financial derivatives "… reached perhaps $600 *trillion* – many times world GDP" (Wray, 2011a, p. 7).

These reasoning may change the character of some other theories and hypotheses. Consider Minskian approach to the analysis of stagflation (Minsky, 1985; 1986). According to this theory, stagflation appears because of the attempts of the government to smooth out „a debt deflation". „Stagflation is a substitute for a big depression" (Minsky, 1985, p. 52). We think that this statement is absolutely true only combined with recognition of it as being endogenously inherent feature of the inside money economy (in comparison with the outside money economy). Broadly speaking, it can also be true in relation to the effects of the expansionary macroeconomic policy, if the problem of the redemption of debts is important but not dominating factor in the behavior of firms, and, at the same time, the firms try to solve their problems by means of decreasing output and rising prices, for example, in order to maintain an appropriate level of the mark-up.

But in the opposite case, if the firms do not pursue the profit-maximizing goal at all, and aspire *only* to get a sufficient amount of revenue for the sake of the liquidation of indebtedness, expansionary government policy in the phase of slump generates not stagflation but the disinflationary expansion. Why? As we have already pointed out, the *decreasing* demand can force firms to raise prices to escape from financial crash. We suppose that the situation is possible when the *increase* in the demand (caused by the government) can remove the incentives to raise prices. If the firms simultaneously try to stimulate the demand expansion by the prices decrease, the emergence of disinflationary expansion becomes evident. In the case of the US economy huge federal budget deficit was, possibly, one of the factors contributed to the disinflationary economic recovery in the 1980s and an absence of another „Great Depression" after 2007 (but the „Great Recession" is turned out to be inevitable (Whalen, 2012)). This conclusion can be used in the controversies with the Monetarists and New Classical economists arguing that any expansionary government policy is either completely ineffective or stagflationary. Actually the government can not only eliminate stagflation in the inside money economy but also transform it into non-inflationary prosperity. In such a „non-standard" situation supply side policies may be... inflationary)! The improvement of the production possibilities causes not only the increase in output, but also inflation. The point is that such event generates the increase in the output, and this increase can be purchased by spenders only at higher prices, because Fisher effect may matter! Inflation can decrease the real burden of debts and allow the businesses to dissave for the sake of the purchase of the increased output produced by means of the improved production possibilities.

We must repeat that these „miracles" can end up very quickly, after the majority of the firms and households will meet their huge financial obligations. If a slump is very severe and before the business firms were able to redeem the debts, they had gone bankrupt, the above events do not occur in reality and the „traditional" macroeconomic relationships hold.

Moreover, the complicated macroeconomic relationships of the inside money economy of the real world cannot be fully described by the AS – AD model. The point is that this model – as any supply-demand model – is usually based on the assumption that producers and spenders are price-takers. As we will remind below, the modern inside money economy is oligopolistic and the business firms possess the price control. This fact makes the application of the AS – AD model in some degree senseless. Therefore, the economists are forced to make such special assumptions, as „ratchet effect" (it means the price level downward rigidity when aggregate demand *falls* in the conditions of mass unemployment; that is to say, aggregate supply curve is horizontal under demand contraction), in order to retain realistic elements of this model under imperfect competition.

We believe, however, that the above reasoning – using the language of AS and Ad relationships – can describe the phase of recession with some degree of realism. The decreases in the demand cause the business firms to raise their prices in order to provide themselves with the revenue which is sufficient for the redemption of financial obligations. At the same time, firms may obtain funds not by the price rise but by the means of the output expansion at the decreasing prices (or decreasing inflation rates). We suppose, however, that the former strategy takes place when the demand is falling: and the latter strategy takes place when the demand is low or is rising and/or Fisher effect become negligible. If the firms follow the latter strategy, and Fisher effect dominates, the debt-deflation is possible. But, it seems to us, this possibility seems very unlikely. Fisher effect matters when the threat of financial collapse and credit crunches is very likely to occur, and the firms try first to raise their prices. The increase of output at the lower prices is carried out by the firms when the above-mentioned threat becomes little less dangerous, and Fisher effect is weaker than other (Pigou, Keynes and net export) ones, but the redemption problem is still important. These conclusions can be explained by means of the fact of the demand inelasticity in the short run and the one elasticity in the long run (Eichner, 1973). When the demand is falling, and „a debt-depression is all around", firms are forced to obtain funds *very quickly* in order to survive to liquidate their debts. They are ready to get the immediate revenue gain (caused by the rise in the prices) at the expense of the following decreasing revenue flow.

When the redemption problem is important but not crucial, firms can bring down prices in order to stimulate demand and increase revenue in the „medium run".

3. The Money Market

There is another reason for stagflation to take place in the phase of contraction in the inside money economy. The desire to redeem financial obligations in the recession means the increase in the demand for money and, in the absence of infinitely elastic supply of money, the rise in the market interest rate. Interest rates become higher. As Eichner (1973) has pointed out, the market interest rate is one of the fundamental determinants of the markup under oligopoly (we shall consider below the close relationship between the domination of oligopolistic structures and the domination of inside money). The higher is the rate of interest, the higher is the mark-up and, naturally, the higher prices will be. The point is that the price in the conditions of „oligopolistic competition" is a means of financing discretionary expenditures (Eichner and Kregel, 1975). The price rise provides additional finances for some or other oligopolistic firm. As Eichner (1973) has believed, the interest rate is a something like „a floor" for the mark-up increase by some or other oligopolistic company. The interest rate rise makes external finance expensive. Such increase in the cost of external finance may force oligopolistic firm to increase prices in order to get additional cash inflow. Needless to say, that the interest rates rise usually before and in the beginning of recession. The cyclical phase of slump is the period of the rising and higher interest rates. In the inside money economy (as we shall show below, such economy cannot be „perfectly competitive") the rising and higher interest rates generate inflation. In the phase of contraction any inflation becomes stagflation. The process of creating new credit money can become self-fulfilling in the inside money economy. This tendency can be intensified in the recession because the increase in the inside money stock in the phases of recovery and boom inevitably leads to the huge payments of principal and interest in the contraction. In this situation some firms go bankrupt anyway, simply because these firms are worse than the „average" companies. Such bankruptcies mean the emergence of bad loans for some commercial banks and other financial institutions. Needless to say that these events cause the increase in the lender risk (Keynes, 1936, p. 145; Minsky, 1986, p. 193). It is the important factor of the rise of the „new inside money" price, that is to say, the rise of the rate of interest. Banks, of course, can provide new finances for the corporate sector by means of managed liabilities, (and also securitization and other financial practices). But the use of such instruments is very expensive (Wolfson, 1995) and inevitably forces banks to raise the „retail" interest

rates. As we have pointed out above, the increase in the „price of money" in the oligopolistic economy leads to the increase in the prices of goods and services. The severe slumps in the 1974 – 1975 and 1980 – 1982 (and also the 2007 – 2012 Global Financial Crisis) in the USA and other advanced countries with the inside money economy were (are) characterized by the decreasing output and the rising interest rates and price level. The slump of the 1990 – 1991 is the only exception with its low inflation and interest rates (Wolfson, 1995).

4. Imperfect Competition and The Inside Money Economy

Why is the inside money economy oligopolistic? We think that the emergence and the spreading of inside money are the response to the increase in the capital-intensity of the economy. The expensive investment with long gestation period cannot be implemented without more or less stable external finances. It is possible only when the bank deposits are money and banks can finance their activity not only by excess reserves, but also by purchased funds (managed liabilities), in other words, in the endogenous inside money economy. Endogenous inside money is an inevitable ingredient of the economy in which an expensive, and long period gestation investment „rules the roost". But the large-scale and long-term investment cannot be performed by „perfectly competitive", „polypolistic" firms. Such small „polypolistic" firms cannot control their prices and have no market power at all, and also possess too small own („entrepreneurial") capital (Kalecki, 1956, p. 91 – 95). In such conditions these firms cannot obtain funds, sufficient for the expensive and long-term investments. The atomistic competition economy is first of all a consumption-oriented economy. It can be often very unstable, but the problems of long-term investments, mergers and acquisitions, leveraged buyouts, and financial evolution (implying liability management, securitization and use of derivatives, see Wray (2009)) are not central to this type of the economy. Capital-intensification and corresponding changes in the banking sector occur under oligopolistic and other „imperfect" structures. The idea of close relationship between the imperfect competition, high capital-intensity and inside money was put forward for the first time by H.P. Minsky (1977; 1985; 1986). For example, he wrote:

Oligopoly and monopolistic competition are the natural market structures for capital-intense industries. Since investors and bankers demand some guarantee that price competition will not occur, the paper-oriented world of Wall Street anathematizes price competition among producers (Minsky, 1986, p. 167).

In a capitalist economy money is tied up with the process of creating and controlling capital assets… the

creation of money is part of the mechanism by which a surplus is in a capitalist economy money is tied up with the process forced and allocated to the production of particular investment goods. (Minsky, 1986, p. 223 – 224)

We cannot, however, agree that „money is tied up with the process of creating and controlling capital assets" in *any* „capitalist economy". In the capitalist economy of the XIX century money was outside and exogenous and determined not by the actions of corporations and financial institutions, but by the gold stocks. Likewise, the money supply, for example, in Germany in the 1920s was also outside and determined exclusively by the actions of the government. In both cases the money creation process was not tied up with physical and financial investments at all. We think that the statement of Minsky is true only for the inside money economy. This type of money indeed appears and spreads with the capital-intensification under imperfect competition. The inside money economy can function successfully only when the business firms are capable of controlling their prices.

We do not believe that atomistic competition and the long period gestation investment are inconsistent at all. As Boyd and Blatt (1988) have demonstrated, in the economy with exogenous outside (metallic) money the investment activity is financed through the very unstable stock market. According to that model, the firms sell shares in order to finance their investment, and then issue new shares in order to pay dividends on old shares (it is a something like Ponzi finance!). The decrease in the willingness of financial investors to buy shares generates rapid and heavy crisis. In this model the financial investors' sector loses all money invested in the shares in the phase of slump. It means that „financial investments are irreversible" (Boyd and Blatt, 1988, p. 74). We suppose that this irreversibility cannot be long-run feature of the market monetary economy. And we believe that the case described by Boyd-Blatt model was realistic, but not typical for the atomistic monetary economy. The long "latency times" investments can be executed systematically and without enormous losses for some classes of the society only in the oligopolistic inside money economy.

5. Keynes's Theory of „Artificial Borrowers"

Keynes has described in the end of the second volume of the **Treatise on Money** (1930) his theory of „artificial borrowers". According to the theory, in the phase of recession „genuine borrowers", who rely on the expected yield of new investment, are displaced by „artificial" ones, who rely on the need to redeem old debts („distress" borrowers), or on the aspire to gain from the (actual and expected) differences between short-term and long-term interest rates („banking" borrowers) or on the desire to make money on the stock exchange („speculative" borrowers). Keynes has believed that such „artificial borrowing", especially „speculative borrowing", can exacerbate economic instability.

Unfortunately, this theory has been overlooked or forgotten by many (may be even all) the Post Keynesians (of course, I do not mention any mainstream macroeconomic approaches). By the way, by means of developing this theory, we can explain stagflation in the period of recession in the inside money economy. „Artificial borrowing" is by and large a feature of such an economy in the phase of slump. It is a consequence of the *inside* money supply growth in the expansion and it can be carried out only if money are created *inside* the economy. The actions of „artificial borrowers" generate the interest rates rise, and under imperfect competition such a rise is the reason for inflation in the recession, that is to say, for stagflation. Furthermore, as we mentioned above, „artificial" borrowers displace the „genuine" ones; it means the decrease in the degree of availability of finances for the long-term investment. Aggregate demand falls, and if relationship between aggregate supply and the price level has a negative slope, stagflation takes place. In the outside (metallic or fiat) money economy such events are impossible, because the economic expansion is by and large not financed by private debts, and there are no incentives and conditions for the „artificial borrowing".

It is interesting that Keynes has assumed the exogeneity of money in his *magnum opus* (1936). The endogenous inside money were in his focus in the *Treatise on Money* and some articles published after the *General Theory* in 1937 and 1939 (1937a; 1937b; 1939). The theory of „artificial borrowing" had disappeared in the works of Keynes after 1930. And the Post Keynesians have „lost" this theory. Even Paul Davidson, who often stressed (1972) the importance and the meaning of the *Treatise on Money*, never mentioned this theory in his brilliant works.

6. Summary and Conclusions

We can point out that stagflation is endogenously inherent to the inside money economy. It is not always a consequence of adverse supply shocks (according to the Traditional Keynesians) or of the expansionary government macroeconomic policy (according to Monetarists and the New Classical economists). Stagflation can take place in the inside money economy *without* any exogenous shocks or „interventions". It can appear only in the cyclical phase of slump because of the intentions of „imperfectly competitive" firms to avoid *immediately* the „debt bankruptcies" in the conditions of a „debt crisis" and the decrease in demand. The domination of Fisher effect and the „very strong" desire

to redeem the debts are the reasons for the inflation after the demand contraction. Moreover, stagflation can also take place in the inside money economy under the rising and higher interest rates because in this situation the business firms raise prices with the same above-mentioned goals owing to the increase in the cost of external finance. At the same time, stagflation is not *endogenously long run* process in the inside money economy. The redemption of debts by some firms and the bankruptcies of other firms generate the „resurrection" of the „traditional", „standard" macroeconomic relations, behaviors and goals. In particular, Fisher effect does not always matter, in contrast with the point of view of some Post Keynesians (Caskey and Fazzari, 1986). Stagflation ends up. If, however, the process of the debts' redemption is slow and continues in the phases of „post-depression" and „recovery", there will be possibility of disinflationary expansion. In any case inside money is the condition for an existence of stagflation only in the „cyclical context".

The common point in the Post Keynesian literature is the importance of the difference between the „monetary economy" and the „barter (or real exchange) economy" (Keynes, 1973, p. 408 – 411; Chick, 1983, p. 1 – 12, Carvalho, 1992, p. 1 – 53). We tried to show in this paper that the difference between the „inside money economy" and the „outside money economy" is not less important. Involuntary unemployment is endogenously inherent to the monetary economy and is not endogenously inherent to the barter or real exchange economy. Likewise, stagflation is endogenously inherent to the inside money economy and is not endogenously inherent to the outside money economy. It can appear in the latter type of the economy, but only due to the exogenous „shocks", „interventions" and „disturbances". We think that the picking out of the meaning of inside money can help to understand the causes of many important problems of the modern advanced economies, in particular, the causes of stagflation. It is very important today, in the period of the 2007 – 2012 Global Financial Crisis.

References

1. **Alattar A. E.** 2011. Current world economic crisis: positive analysis. http://www.mees.com/en/articles/3556-curent-world-economic-crisis-positive-analysis 2. **Arestis, P. and Howells, P.** 1992. Institutional developments and the effectiveness of monetary policy. Journal of Economic Issues 26, pp. 135 – 157. 3. **Boyd I. and Blatt J. M.** 1988. Investment confidence and business cycles. Berlin: Springer Verlag. 4. **Carvalho F. J. C.** 1992. Mr. Keynes and the Post Keynesians. Principles of macroeconomics for a monetary production economy. Aldershot: Edward Elgar. 5. **Caskey J. and Fazzari S.** 1986. Macroeconomics and credit markets. Journal of Economic Issues 20, pp. 421 – 429. 6. **Chick V.** 1983. Macroeconomics after Keynes. A reconsideration of the „General theory". Oxford: Philip Allan. 7. **Chick V. and Dow S. C.** 1988. A Post-Keynesian perspective on the relation between banking and regional development. In Arestis, P., editor, Post-Keynesian Monetary economics: new approaches to financial modeling. Aldershot: Edward Elgar. 8. **Davidson P.** 1972. Money and the real world. London: Macmillan. 9. **Dow S. C. and Earl P.** 1982. Money matters: a Keynesian approach to monetary economics. Totowa (N. J.): Barnes and Noble Books. 10. **Eichner A. S.** 1973. A theory of the determination of the murk-up under oligopoly, Economic Journal 83, pp. 1184 – 1200. 11. **Eichner A. S. and Kregel J. A.** 1975. An essay on Post-Keynesian theory; a new paradigm in economics, Journal of Economic Literature 13, pp. 1293 – 1314. 12. **Fazzari S. and Minsky H. P.** 1984. Domestic monetary policy: if not Monetarism, what? Journal of Economic Issues 18, pp. 101 – 116. 13. **Fisher I.** 1933. The debt-deflation theory of great depression, Econometrica 1, pp. 337 – 359. 14. **Fontana G.** 2003, Post Keynesian approaches to endogenous money: a time framework explanation. Review of Political Economy 15, pp. 291 – 314. 15. **Kalecki M.** 1956. Theory of economic dynamics. An essay on cyclical and long-run changes in capitalist economy. London: Allen and Unwin. 16. **Keynes J. M.** 1930. A Treatise on money. Vol. 2 (Applied theory of money). London: Macmillan. 17. **Keynes J. M.** 1936. The general theory of employment, interest and money. London: Macmillan. 18. **Keynes J. M.** 1937a. Alternative theories of the rate of interest, Economic Journal 46, pp. 241 – 252. 19. **Keynes J. M.** 1937b. The „ex-ante" theory of the rate of interest, Economic Journal 46, pp. 663 – 669. 20. **Keynes J. M.** 1939. The process of capital formation, Economic Journal 49, pp. 569 – 574. 21. **Keynes J. M.** 1973. The monetary theory of production (1933). In Moggridge D., editor, *The collected writings of John Maynard Keynes*. Vol. XIII (The general theory and after. Part I: Preparation). London: Macmillan. 22. **Minsky H. P.** 1957. Central banking and money market changes, Quarterly Journal of Economics 71, pp. 171 – 187. 23. **Minsky H. P.** 1977. The financial instability hypothesis: an interpretation of Keynes and an alternative to „standard" theory, Nebraska Journal of Economics and Business 16, pp. 5 – 16. 24. **Minsky H. P.** 1985. The financial instability hypothesis: a restatement. In Arestis P. and Skouras T., editor, Post-Keynesian economic theory: a challenge to Neo Classical economics, Brighton: Wheatsheaf. 25. **Minsky H. P.** 1986. Stabilizing an unstable economy. London: Yale University Press. 26. **Niggle C. J.** 1991. The endogenous money supply theory: an institutional

appraisal, Journal of Economic Issues 25, pp. 137 – 151. 27. **Nozdran N. and Berezin I.** 1993. Denezhnie agregati: teoria i praktika. Voprosi Ekonomiki 6, str. 31 – 39. [the paper is available only in Russian] 28. **Palley T.** 2002. Endogenous Money: What it is and Why it Matters. Metroeconomica 53, pp. 152 – 180. 29. **Simons H. C.** 1936. Rules versus authorities in monetary policy. Journal of Political Economy 44, pp. 1 – 30. 30. **Whalen C. J.** 2012. Post-Keynesian Institutionalism after the Great Recession. The Levy Economics Institute. Working Paper № 724. May. 31. **Wolfson M. H.** 1995. Monetary policy, financial crises and the business cycle: implications of the change in Federal Reserve policy during the 1982 – 90 business-cycle expansion. Review of Political Economy 7, pp. 345 – 359. 32. **Wray L. R.** 2009. The rise and fall of money manager capitalism: a Minskian approach. Cambridge Journal of Economics, 33, pp. 807 – 828. 33. **Wray L. R.** 2011a. Minsky Crisis. The Levy Economics Institute. Working Paper № 659. March. 34. **Wray L. R.** 2011b. Minsky's Money Manager Capitalism and the Global Financial Crisis. The Levy Economics Institute. Working Paper № 661. March. 35. **Wray L. R. and Tymoigne E.** 2008. Macroeconomics meets Hyman P. Minsky: The Financial Theory of Investment. The Levy Economics Institute. Working Paper № 543. September.

Розмаїнський І. В. Стагфляція у внутрішньо-грошовій економіці: посткейнсіанський погляд

У статті зроблено спробу розробки теорії, що базується на посткейнсіанському підході. Автор пояснює, чому стагфляція може бути властива внутрішньо сучасному ринковому господарству. Дуже важливим є те, що таке господарство трактують як „внутрішньо-грошову економіку”. Автор показує, що стагфляція неминуча в такій економіці, коли контролюючі значення цін фірми намагаються уникнути банкрутств в умовах „боргової кризи”, високих і/або таких, що ростуть відсоткових ставок і зменшення сукупного попиту. Іншими словами, у внутрішньо-грошовій економіці рецесія завжди є стагфляцією. У статті також показано, що циклічна експансія, укупі з погашенням боргів одними фірмами і банкрутством інших фірм, може позбавити економіку від стагфляції, але лише до появи наступної рецесії. Усі ці міркування на сьогодні дуже важливі, особливо в час глобальної фінансової кризи.

Ключові слова: стагфляція, внутрішньо-грошова економіка, ділові цикли, боргова криза, глобальна фінансова криза.

Розмаинский И. В. Стагфляция во внутренне-денежной экономике: посткейнсианский взгляд

В статье осуществлена попытка разработки базирующейся на посткейнсианском подходе теории, объясняющей, почему стагфляция может быть внутренне присуща современному рыночному хозяйству. Очень важно, что такое хозяйство трактуется как „внутренне-денежная экономика”. Автор показывает, что стагфляция неизбежна в такой экономике, когда контролирующие значения цен фирмы пытаются избежать банкротств в условиях „долгового кризиса”, высоких и/или растущих процентных ставок и уменьшения совокупного спроса. Иными словами, во внутренне-денежной экономике рецессия всегда представляет собой стагфляцию. В статье также показано, что циклическая экспансия вкупе с погашением долгов одними фирмами и банкротством других фирм может избавить экономику от стагфляции, но лишь до появления следующей рецессии. Все эти рассуждения могут быть очень важными в сегодняшнее время глобального финансового кризиса.

Ключевые слова: стагфляция, внутренне-денежная экономика, деловые циклы, долговой кризис, глобальный финансовый кризис.

Rozmainsky I. V. Stagflation in the Inside Money Economy: the Post Keynesian Perspective

The paper contains attempt to develop theory which try to explain – in the Post Keynesian „spirit” – why can stagflation be inherent in the modern market advanced economy. The treatment of such economy as the „inside money economy” is very important. The author shows that stagflation is the inevitable feature of any recession in the inside money economy, when price-controlling firms try to avoid immediately the bankruptcies in the conditions of a „debt crisis”, higher and/or rising interest rates and decrease in the aggregate demand. In other words, a recession in such economy is always a stagflation. The paper also shows that cyclical expansion together with redemption of debts by some firms and the bankruptcies of other firms can deliver the economy from stagflation, but only until the beginning of a next recession. All this reasoning can be very important in the current period of the 2007 – 2012 Global Financial Crisis.

Key words: Stagflation; Inside Money Economy; Business Cycles; Debt Crisis; the 2007 – 2012 Global Financial Crisis.

UDC 338.439:332.1

Ya. Ya. Pushak,
Dr. Hab (Economics),
Lviv State University of Internal Affairs

STATE SUPORT OF AGRARIAN SPHERE AS KEY COMPONENT OF FORMING OF FOOD SAFETY

The problem. In the current global conditions food shortage is one of the national security issues for most countries of the world.

To achieve economic and social balance of national and regional food markets is the ultimate goal of macroeconomic control of the agriculture and a prerequisite of food security. The role of significant food security formation components should be performed by the increase of the manufacturers' income share in the produce price as well as economic accessibility of food.

Food security is a major component of national security, since it provides sustainable production of staple foods and their availability to the public. Ensuring food security is a prerequisite for creating a favorable social climate in the society. In case required reserves and supplies in the region are absent there may develop social tension; due to this fact food supply issue claims attention on the part of the State both on reginal and national levels.

The analysis of the last researches and publications. Paid a lot of attention to the study of threats, that promote the problems of lack of food at global level, in particular they were investigated in the scientific labours by such foreign scientists as Dzh. Alstron, T V'yatt., K. Dzheyli, S. Karr, And. Krettiger, And. Volodin, In. Kashin, A. Magomedov, A. Merzlov, N. Stukanova and others. On the problem aspects of functioning and development of domestic Agro Industrial Complex (AIC) sharpened attention in the scientific labours M. Dem'yanenko [3], V. Zbarskiy [4], V. Mesel'-Veselyak [5], Yu. Nesterchuk [6], T. Oliynik [8], B. Paskhaver [9], P. Sabluk [11 – 12], O. Shpychak [14] and others.

Questions which touch national food safety are examined in the scientific labours of such domestic scientists as O. Goychuk, N. Basyurkina, O. Borodina, I. Lukinova, O. Pavlova, A. Prokopa, O. Reznikova, V. Yurchyshyna and others. At the same time, taking into account many-sidedness and complication of this problems, plenty of its aspects still is not a sufficiently made clear, and the separate from them need permanent analysis and monitoring.

Aftewards, the purpose of the article is to ground directions and forms of state support of development of agrarian sphere for forming of food safety in Ukraine and its regions, and also competitive advantages of domestic economy in the world market.

The main material. The raise of domestic regions food security ought to be mainly ensured by intensive development and enhancing competitiveness of agriculture, taking into account regional peculiarities, especially the region's climate and environment, which will lead to the decrease of import competitivenessts. Import administrative restriction by prohibitive tariffs and quotas proved to be incapable to utterly solve the problem.

The regional food market works against the background of competitive struggle among manufacturers for more favorable conditions to sell goods. In order to detect and control competitive advantages in a regional market the following actions would be reasonable: to systematically identify competitive domestic manufacturers in the region, to strengthen material-technical basis of agricultural producers and produce processors in the region, to expand production capacity for increasing a range and amount of food production, to change the legal basis so as to comply with the international food quality standards.

The conceptual scheme of manufacturers' competitiveness appraisal should be divided into five stages: sampling firms that offer similar products in the region's market; calculating the share of import manufacturers in the regional market; analyzing the correlation between domestic and foreign food producers; determining factors which affect consumers' preferences; finding the most powerful competitors; ranking companies by the results. The task of improving the regional food sector competitiveness ought to be resolved by enhancing intersectoral integration processes. While choosing appropriate for the established conditions forms of intersectoral integration priority should be given

Another strategic objective to enhance food security of the region is reforming agricultural sector towards a rational combination of area self-governing and sectoral control systems of comprehensive development of agriculture and rural areas.

While building agricultural market management system the use of market regulatory measures on the regional level is to be intensified, which meets the requirements for priority control of the food market and

for strengthening the regional component of economic policy as well as satisfies the immediate crops producers' interests. To achieve this balance of interests is possible through the implementation of pricing policy, based on the government actions which are directed to: supporting a reasonable level of purchasing prices for grain and grain crops, limiting their transportation and processing expenditures, restricting monopoly effects of agricultural raw materials processors and dealers, preventing excessive trading price premiums. The main emphasis of the government policy for rural development should be placed on its social character, efficient agriculture which would provide food security, deruralisation and protecting the natural environment.

It will be difficult to provide the necessary level of food security in the regions of Ukraine unless efficient measures are assumed: such as related to restructuring agriculture, following successful foreign experience in rural areas control, urging rural population to seek innovative approaches to farming and enhancing its effectiveness. If the current situation is not drastically changed, in several years losses entailed by reduction of agricultural production will be felt, and the need for increased import of food at rising world prices will cause more problems with both ensuring food security and payment balance of the country.

To strengthen the government's role in providing the favourable conditions for agriculture development is one of the of the national economy priorities. After all, agrarian economy is by its nature socially oriented market economy; besides, stabilizing and intensifying its development will provide Ukraine with food security and reduce the growth of external debt [2]. It should be noted that the revival of agriculture will precipitate the end of recession. The significance of agrarian economy in the economic and social life of the country and regions ought to be always born in mind.

Institutional control at the regional level should be understood as a system of legislative, legal, organizational and economic measures on the part of state institutions, which ensure a uniform development and balanced stable functioning of economy and social sphere of the region. Its purpose is to eliminate disparities in the regions' development; this in its turn reflects the institutional control purpose (in a simplified way) to solve complex issues that arise [1]. The main target of the institutional control over the economy consists in the economic and social stability, sustainable economic growth, economic self-sufficiency and food security in the region. However, the government should not only help to eliminate disparities but ensure rational and equitable allocation of industry, uniform regions' development, avoiding any imbalances in the level of their economic and social development [13].

One of the most difficult questions is the one of delimitation of competences, powers and responsibilities between the national and regional authorities, on whom the efficiency of all the system depends. There are no law regulations that clearly determine the range of responsibilities and scope of the economic functions of national and regional authorities. The main functions of the institutional control over agriculture at the present stage are: supporting prices and farmers' income, adjustment of supply and demand, implementing inner and socio-economic structural changes, promoting scientific and technological advances, ensuring the national needs for food etc.

These functions are to be performed by different tools, the major ones being as follows: fixing quota for areas and for production and sales; payments per area unit and per head of livestock; government procurement, sale and storage; guaranteed prices over market prices, preferential loans, tax relief; facilities for medium class subsidization of investments and others.

At the regional level adjustments in the process of agriculture management are made by the appropriate regional state administrations units. For the sake of state order fulfilment, strengthening food security of the region and encouraging local farmers regional authorities are to carry out the following:

– implementation in the region of a unified state policy on food security, taking into account local conditions;

– development and maintenance of their own targeted programs of food security in not comprised in the national target program;

– organization of quality control of food, materials and goods produced and circulated in the region;

– drafting regional food order scheme for the following year considering local authorities' proposals;

– attraction of government contracts funded from the regional budget, especially of local farmers;

– collection and analysis of data on availability of food supply for the population, as well as prediction of the regional food market development dynamics;

– working out recommendations for the government to introduce legislation and economic incentives aimed at replacing imported agricultural products and foods with domestic ones.

Local governments in their turn, in order to increase food security within the territory of the corresponding municipality, need to support farmers and food and processing industries in the production and marketing of their products, participate in decision making about the location of production facilities etc.

Regional authorities in order to monitor food security state and trends may and should gather statistics on food production, its supply and consumption,

regional balances between the required and actual levels of food production.

Under current transformational circumstances agriculture sector formation and functioning are complicated by the reduction of government control level as well as by strengthening of the regions' independence. Various economic and social conditions of the regions' development led to the emergence of new aspects of control over the food market, which require theoretical and practical solutions.

To summarize, in order to improve food security both of Ukraine wholly and its regions, as well as to provide favorable grounds for the development of the national agro-industrial and agricultural products market it is required [7]:

– to complete the process of the land reform and land market infrastructure;

– to elaborate a scientifically justified evaluation system for agricultural land;

– to focus efforts on promoting bulk farming facilities as one of the most effective forms of agricultural production;

– to support the formation of integrated cooperative structures in manufacturing, storage, distribution and processing of agricultural products;

– to improve the system of state support for farmers;

– to promote the integration of banking, agricultural and industrial capital through forms of joint venture investment funds and mortgage lending system;

– to bring into conformity with WTO mechanisms for financial support to agricultural manufacturers;

– to create and maintain the required amount of national produce reserve , to intervene on the government level in order to stabilize prices at regional agricultural markets;

– to establish national monitoring and forecasting of regional agricultural markets conditions;

– to improve the state system of food safety supervision, to integrate it with international food safety systems;

– to comply national standardization and certification system with the international standards;

– to provide state support (legal, organizational, financial, etc.) for technical re-equipment of the agricultural sector and application of new modern agricultural production and processing technologies;

– to raise social standards for the rural population, to improve their living conditions so as to stimulate the inflow of working age population, to reproduce human resourses and to strengthen rural communities;

– to promote active participation of domestic producers in international agrarian exhibitions and fairs.

Farmers and personal subsidiary housekeepings require the special attention from the side of the state on the modern stage of development .

To the traditional problems of the domestic farming: lacks of circulating money, high level of wearing out of agriculture machinery, regular rising in price of fuel and mineral fertilizers, complication and bonding of conditions of bringing in of credit resources, low efficiency of menage and efficiency of work, in comparing with the foreign producers, the new was added – active growth at the market of agricultural produce of amount of various mediators.

Such situation stimulates growth of a vacation cost of products for an eventual user, that as a result of low solvency of majority of population predetermines falling of demand on it, complicates forming of adequate price on produced product for a direct producer through the not always grounded pressure on him from the side of mediators. All of it negatively affects food safety, as consumer goods of food group become inaccessible for the wide layers of population. Except for that, for small agriculture producers direct access is closed to the foreign markets, basic incomes from the export of grain-growing get various traders, dealers, regional representatives. In opinion of experts, through an existent situation only domestic farmers lose from 50 to 60 milliards of grn. annually [17].

Unconsidered liberalization of outer economic activity at the food market caused weakening of food safety of both the state on the whole and its separate regions. Domestic producers more and more lose internal markets, the imported products successfully compete and oust domestic, nonsense, however recently Ukraine imported, for an example, potato from Egypt, buckwheat from China. Domestic users a long ago have already got used, that in supermarkets and markets are offered not only exotic bananas and oranges, but also traditional for our agriculture apples, tomatoes, vine of the Polish, Spanish or Turkish producer. The governments of the foreign states stimulate own agriculture producers in production and export of food to other countries. Due to protectionism support as export subsidies, grant of different sort of grants and others like that the real prices on the food imported to Ukraine in countries-exporters is perceptibly higher, than in countries-importers. Considerable harm to forming the competition environment causes the illegal, including the so-called „grey import" which takes place at opaque procedure of registration of the imported commodities (understating of custom cost or volume of the brought in food stuffs and others like that). Fully obviously, that small domestic argicultural producers, not having necessary support from the side of the state, are unable adequately answer on competition threats from the side of both foreign and

large, domestic producers (agrokholdingiv), and also are not ready to become the active participants of market of agricultural lands.

One of main directions of increase of efficiency of functioning of domestic AIC, providing its steady development must become innovative modernization. Owing to it AIC would have to grow into a sector of economy, able to generating and commercialization of innovations and developments, with a scientific content. Next to that, increase of level of innovation of this sphere is complicated taking into account of the specific of agriculture as to the type of entreprising activity (it is biological essence of AIC) which shows up through the unique natural terms of realization of economic activity in the different regions of the state.

Realization of scientifically innovative developments requires state support; the most effective method of attraction additional financial resource for providing this process is the general financing both from the side of the state and commodity producers, first of all the large ones.

Except for that, the state must stimulate not only the increase of the labour productivity, where large agrarian structures have a lot of advantages, but also comprehensively promote and support development of small agricultural producers, however their bankruptcy simply will entail growth of unemployment and, as a result, not only the profits of budget will diminish but also their charges will grow.

During the last twenty years domestic AIC actually functions in crisis terms, that are conditioned by the row of factors, which have already been remembered higher. However, it is necessary to realize expressly, that agriculture unlike certain spheres of industry, which can fall into a decay or even disappear in transformation terms, will always be the strategic resource of domestic economy, as it is chronically not enough foods in the world and this tendency only increases from year to year. Today, in opinion of experts of Food and agricultural organization, only Ukraine, Russia, Canada and aught Brazil own possibilities in relation to the considerable increase of production of agricultural goods volumes without causing harm to an environment. In other countries of the world such possibilities are already used fully or almost fully. Therefore the products of Ukrainian lands will always have a demand, not looking on any crises, that it is impossible to say, unfortunately about most commodities of other industries, tentative to the export.

Crisis terms must become the catalyst of development of the domestic agrarian provision system. It is necessary for the state to spare the proper attention on functioning of domestic AIC, not only on macro- and mezo- but also on a microlevel, at what to carry out an agrarian policy, accenting attention on stimulation of development of small agricultural producer.

Taking into account a strategic necessity for strengthening of competitiveness of agriculture, it is necessary to inculcate tax vacations for small agriculture producers and farmers for the sake of grant them of possibility to accumulate a financial resource on the basis of which they will be able to conduct modernization of own park of agriculture machinery and finance building of capital buildings (granaries, cowsheds and etc.) and development of infrastructure. It is necessary to develop and system realize the state policy of gradual replacement of import, guarding a national producer from bad quality food stuffs which are importing from abroad and realizing on the understated prices. As Ukraine is the member of WTO and application of increased rates of customs on the imported food stuffs is limited enough, it is necessary to strengthen control of quality of such products, establish new state standards, that will assist in not only defence of domestic market from a cheap and bad quality import but also realization of competitive advantages of domestic AIC.

Conclusion. In the modern terms of approaching the second wave of world economic crisis domestic AIC in a counterbalance to other industries of national economy owns substantial advantages, however in spite of the forecast falling of consumer demand for goods of necessity of people in food will not almost change. Permanent demand on food stuffs predetermines the necessity of stable production, practically the unchanging volumes of requirement in food do not form objective terms to reducing of scales of agriculture. Taking it into account, stimulation of development of domestic AIC will provide not only the increase of national food security, but also will allow to form the additional competitive advantages of national economy in the world market.

References

1. **Болдуєв М. В.** Державне регулювання регіонального агропромислового комплексу: монографія / М. В. Болдуєв. – Запоріжжя КПУ. – 2009. – 304 с. 2. **Ваченко О. М.** Зарубіжний досвід державної підтримки сільськогосподарського виробництва та напрями його використання у вітчизняній практиці / О. М. Ваченко // Економіка та управління: Зб. наук. пр. Білоцерків. Нац. аграр. ун-т. – Біла Церква, 2011. – Вип. 5 (85). – 160 с. 3. **Дем'яненко М. Я.** Державна підтримка як фактор забезпечення конкурентоспроможного аграрного виробництва / М. Я. Дем'яненко, Ф. В. Іванина // Економіка АПК. – 2009. – № 9. – С. 3 – 9. 4. **Збарський В.** Державна підтримка сільського господарства / В. Збарський, В. Горьовий // Економі-

ка АПК. – 2010. – № 4. – С. 74 – 80. 5. **Месель-Веселяк В. Я.** Аграрна реформа і організаційно-економічні трансформації у сільському господарстві / В. Я. Мессель-Веселяк. – К.: Нац. наук. центр „Ін-т аграрної економіки", 2010. – 57 с. 6. **Нестерчук Ю. О.** Теоретико-методологічні основи розвитку інтеграційних процесів в аграрній сфері України: [монографія] / Ю. О. Нестерчук. – Умань, 2009. – 289 с. 7. **Новікова О. Ф.**, Покотиленко Р.В. Економічна безпека: концептуальне визначення та механізм забезпечення: Монографія / НАН України. Ін-т економіки пром.-ті. – Донецьк, 2006. – 408 с. 8. **Олійник Т. І.** Державна підтримка аграрного сектору економіки / Т. І. Олійник // Економіка АПК. – 2009. – № 7. – С. 80 – 85. 9. **Пасхавер Б.** Цінова конкурентність аграрного сектору / Б. Пасхавер // Економіка України. – 2007. – № 3. – С. 78 – 87. 10. **Саблук П. Т.** Глобалізація і продовольство: [монографія] / П. Т. Саблук, О. Г. Білорус, В. І. Власов. – К.: ННЦ ІАЕ, 2008. – 632 с. 11. **Саблук П. Т.** Продовольча безпека України. / П. Т. Саблук, О. Г. Білорус, В. І. Власов // Економіка АПК. – 2009. – № 10. – С. 3 – 7. 12. **Самойлов А. А.** Забезпечення продовольчої безпеки як одна з умов стійкого економічного розвитку / А. А. Самойлов // Фінанси і кредит. – 2003. – №15. – С. 72 – 73. 13. **Шмельов Г. І.** Продовольча безпека: шляхи досягнення / Г. І. Шмельов // Проблеми прогнозування. – 1999. – № 1. – С. 27 – 40. 14. **Шпичак О. М.** Якість і ціна сільськогосподарської продукції / О. М. Шпичак // Науковий Вісник Національного університету біоресурсів і природокористування України. – К.: ВЦ НУБіПУ, 2010. – Вип. 154. – Частина 1. – С. 11 – 19. 15. **Food** safety risk analysis. A guide for national food safety authorities / FAO food and nutrition paper, 87 Rome 2006. – 50 р. 16. **Strengthening** national food control systems: Guidelines to assess capacity building needs / FAO Rome 2006. – 137 р. 17. **Електронний ресурс**. – Режим доступу : http://web.worldbank.org/WBSITE/ EXTERNAL/COUNTRIES/7~theSitePK:328533, 00.html.

Пушак Я. Я. Державна підтримка аграрної сфери як ключова компонента формування продовольчої безпеки

У статті розглянуто основні напрями та форми державної підтримки національної аграрної сфери як ключової складової формування продовольчої безпеки держави. Окреслено комплекс державних заходів, спрямованих на посилення продовольчої безпеки вітчизняних регіонів.

Ключові слова: продовольча безпека, національна безпека, державна підтримка, регіон, інституційне регулювання, продовольчий ринок.

Пушак Я. Я. Государственная поддержка аграрной сферы как ключевая компонента формирования продовольственной безопасности

В статье рассмотрены основные направления и формы государственной поддержки национальной аграрной сферы как ключевой составляющей формирования продовольственной безопасности государства. Рассмотрен комплекс государственных мероприятий направленных на усиление продовольственной безопасности отечественных регионов.

Ключевые слова: продовольственная безопасность, национальная безопасность, государственная поддержка, регион, институционное регулирование, продовольственный рынок.

Pushak Ya. Ya. State Support of Agrarian Sphere as Key Komponent of Forming of Food Safety

The articles basic directions and forms of state support of domestic agrarian sphere are Considered as a key constituent of forming of food safety of the state. Outlined complex of state measures of directed on strengthening of food safety of regions.

Key words: food safety, national safety, state support, region, instituciyne adjusting, food market.

UDC 330.34-047.48

O. S. Melnyk,
Donetsk National Technical University,
Ukraine

STRUCTURAL TRANSFORMATION AND ECONOMIC GROWTH

Statement of problem. The one–sector growth model has become the workhorse of modern macroeconomics that is used for measuring aggregate economic activity and for addressing a wide range of important positive and normative issues. The popularity of the one–sector growth model is at least partly due to the fact that it captures in a minimalist fashion the essence of modern economic growth, which Kuznets (1973) in his Nobel prize lecture described as the sustained increase in productivity and living standards. By virtue of being a minimalist structure, the one–sector growth model necessarily abstracts from several features of the process of economic growth. One of the most important ones is structural transformation, that is, the reallocation of economic activity across agriculture, manufacturing and services.

Kuznets listed structural transformation as one of the six main features of modern economic growth. Structural transformation has also received a lot of attention in the policy debate of developed countries where various observers have claimed that the sectoral reallocation of economic activity is inefficient, and calls for government intervention. Understanding whether structural transformation arises as an efficient equilibrium outcome requires enriching the one– sector growth model to incorporate multiple sectors [1]. More generally, this raises the question whether incorporating multiple sectors will sharpen or expand the insights that can be obtained from the one–sector growth model. Several researchers have recently begun to tackle these questions, and the objective of this chapter is to synthesize and evaluate their efforts.

Description of main material. The term „structural transformation" has been used regularly in the economic literature over several decades. However, different meanings have been given to this concept. It will be used in this work to refer to a process in which the relative importance of different sectors and activities within a national economy changes, in terms of both composition and factor utilization, with a relative decline of low-productivity agriculture and low value added extractive activities and a relative rise of manufacturing and high-productivity services. This process also involves upgrading within sectors as production becomes more skill-, technology- and capital-intensive. Moreover, the sectoral shifts also tend to increase the predominance of sectors and activities with a higher growth potential, both in terms of income elasticity of demand, the presence of increasing returns to scale and the potential of technological progress.

Structural transformation occurs through factor accumulation, factor reallocation and innovation, which refers to the introduction of products and processes which are new to a national economy. In dynamic economies undergoing structural transformation, there is a continual process of creative destruction, as some activities wither away whilst others mushroom. In general, structural transformation is also associated with changes in the form of integration into the global economy, in terms of both export and import composition, and also the increasing urbanization of the population [2].

A first step in the broad line of research on structural transformation is to develop extensions of the one-sector growth model that are consistent with the „stylized facts" of structural transformation. Accordingly, we begin this chapter by presenting the stylized facts of structural transformation and then we develop a multi–sector extension of the growth model that serves as a natural benchmark model to address the issue of structural transformation. Given the prominent role attributed to theories of balanced growth in the literature using the one-sector growth model, we start by asking whether it is possible to simultaneously deliver structural transformation and balanced growth. Recent work has identified several versions of the growth model that achieve this, and we present the results of this work in the context of our benchmark multi-sector model.

It turns out that the conditions under which one can simultaneously generate balanced growth and structural transformation are rather strict, and that under these conditions the multi-sector model is not able to account for the broad set of empirical regularities that characterize structural transformation. We therefore argue that the literature on structural transformation has possibly placed too much attention on requiring exact balanced growth, and that it would be better served by settling for approximate balanced growth instead. Put somewhat differently, we think that progress in building better models of structural transformation will come from focusing on the forces behind structural transformation without insisting on exact balanced growth.

As mentioned before, structural transformation is defined as the reallocation of economic activity across three broad sectors (agriculture, manufacturing, and services) that accompanies the process of modern economic growth. Carnai (2005) and Restuccia et al. (2006) argue that the proximate cause of much of the large differences in living standards across countries is attributable to two simple facts [3]:

– developing countries are much less productive in agriculture relative to developed countries;

– developing countries devote much more of their labor to agriculture than do developed countries.

These two facts suggest that in order to understand why developing countries are so poor it is of first-order

importance to understand the forces that shape the allocation of resources between agriculture and the other sectors. A version of the growth model extended to incorporate structural transformation is the natural framework to be used in this context.

Work by Gollin, Parente, and Rogerson (2002, 2007) illustrates how low agricultural productivity can be the source of large cross-country differences in aggregate productivity. For ease of exposition we focus on the simpler presentation in the 2002 paper, which uses a two-sector version of our benchmark model, with the two sectors being agriculture and non-agriculture. They assume that the population is constant and normalize it to one. Preferences are such that there is a subsistence level c_a of agricultural consumption at which individuals are also satiated. The non–agricultural production function is essentially a Cobb-Douglas production function in capital and labor. In contrast, there are two agricultural production functions: a traditional and a modern one. Both agricultural production functions are linear in labor, though the analysis would be unaffected by assuming a fixed quantity of land and decreasing returns to scale in labor. The traditional production is assumed to be the same across countries and to be sufficiently productive to exactly meet subsistence agricultural needs when all labor is allocated to it. The modern production function has a country-specific total factor productivity parameter and it is the only production function that is subject to technological progress. In this model, only the agricultural technology with the larger productivity will be used in equilibrium. Initially this is the traditional technology. Since the modern technology is subject to technological progress, at some point the modern technology will replace the traditional technology as the only technology that will be used. The somewhat extreme structure of the model then yields a very simple solution method for determining the equilibrium. Total food production must be. As long as the traditional technology is used, this means that all labor will be in agriculture. When the modern technology starts to dominate the traditional technology, labor will start to flow from agriculture to non-agriculture. With the time series for labor allocations determined, the remainder of the model becomes a standard growth model with an exogenously given process for labor. The growth rate of labor in the non-agricultural sector is completely determined by the exogenous growth rate of labor productivity in the modern agricultural sector. Since all countries have the same output of agriculture, cross-country differences in aggregate output are entirely driven by differences in non-agricultural output.

Several implications follow. First, countries that use the modern technology in agriculture but have low productivity in it will have to devote more labor to agriculture. This leads to less labor, and capital, in non-agriculture, and hence to less aggregate output. Given the observed differences in the amount of labor that is devoted to agriculture, show that this mechanism can account for a large part of the cross-country differences in aggregate output. This is interesting because in their model the only difference across countries is the level of productivity of agriculture.

Second, assuming that productivity growth rates

are constant over time, the model necessarily implies that transition dynamics will be long-lived, thereby addressing a point emphasized by King and Rrebelo (1993) that in a standard one-sector growth model transition to the steady state capital level is rapid. This point does not carry over to the two-sector model because labor allocated to the non-agricultural sector only slowly converges to its asymptotic level. Third, the model implies that (in a closed economy setting) advances in agricultural productivity are a precondition for growth. This view was a central argument of Schultz (1953), and figured prominently in later contributions by Johnston and Mellor (1961), Johnston and Kilby (1975), Timmer (1988), and Yang and Zhu (2009), among others. More recently, it has taken a central state in the writing of non-economists such as Diamond (1997).

Laitner (2000) considers a similar framework as Gollin et al. (2002) but focuses on a different issue. He notes that in the time series data there is evidence of an increase in savings rates early in the industrialization process. Whereas some have argued that the increase in savings rate is the driving force behind the industrialization process, Laitner shows that, in a model of structural transformation, this apparent increase in savings rate is simply an artifact of how NIPA measures saving. Early in the development process most labor is employed in agriculture, and so most savings take the form of realized capital gains in the value of land, which is not recorded as savings by the NIPA. As labor moves out of agriculture and agriculture becomes a smaller part of aggregate output, this issue becomes less important quantitatively [4]. Laitner argues that viewed from the perspective of his model of structural transformation, one should not attach any significance to the apparent increase in savings rates that occur in the early stages of development.

Our model of structural transformation allows for the possibility that different sectors have different levels as well as growth rates of labor productivity. Herrendorf and Valentinyi (2011) provide evidence from the 1996 Benchmark Study of the Penn World Tables on sectoral TFP differences across countries. They find that there are large sectoral TFP differences relative to the United States not only in agriculture, but also in manufacturing, and that the sectoral TFP differences in these two sectors are much larger than in the service sector. Aggregate labor productivity may then be affected by the sectoral composition of the economy. In particular, to the extent that different countries are at different stages of the process of structural transformation, sectoral reallocation associated with structural transformation could generate significant changes in aggregate productivity growth. In principle, episodes of acceleration or slowdown in aggregate productivity growth may occur even if in each country sectoral productivities are growing at constant rates [5].

In a recent paper, Duarte and Restuccia (2010) have investigated the importance of these effects in a sample of 29 countries for the period of 1956 – 2004. They employed a somewhat simplified version of our benchmark model in which labor is the only factor of production (and production functions are linear in labor).

They assumed that each sector's labor productivity grows at a constant rate, but that level and growth rates differ across economies as dictated by the data.

The preference structure of Duarte and Restuccia (2010) assumes a period utility function which is a two-period version of (1):

$$C_t = w \log(c_{at} - \overline{c_a}) + w_n \log(c_{nt})$$

– stands for non-agricultural consumption and it is a CES aggregator of manufactured goods and services. Preference parameters are calibrated so as to match the behavior of the economy and are assumed to be the same across countries. The initial productivity levels of all countries relative to the US are inferred from the model by requiring that the model match the observed employment shares in the initial period. Inputting the sectoral productivity growth rates from the data, Duarte and Restuccia (2010) then simulate the model and compute the implied series for aggregate labor productivity.

Even though their model assumes constant productivity growth rates at the sectoral level of each country, it generates large movements in relative aggregate productivity across countries over time. Key to this finding is that differences in the levels and growth rates of labor productivity between rich and poor countries are larger in agriculture and services than in manufacturing. This implies that during the process of structural transformation, the reallocation of labor from agriculture to manufacturing leads to a catch up of aggregate productivity relative to the USA, and the reallocation from manufacturing to services leads to a falling behind of aggregate productivity relative to the USA.

In related research, Bah and Brada (2009) study the countries from Central Europe which have recently entered the European Union. The point of departure of their analysis is the stylized fact that central planning during communist times resulted in „over-agrarianism" and „over-industrialization", and the neglect of service sector in these countries. Bah and Brada document that even today employment in the service sector is considerably smaller in Central Europe than in the core countries of the European Union. Moreover, they find that in all of these countries the service sector has lower TFP than the manufacturing sector. This implies that structural transformation into the service sector will lead to losses in GDP per capita, unless reforms are implemented that make the service sectors more productive.

References
1. **Mensch G.** Stalemate in technology: Innovations overcome the depression. Ballinger. Cambridge (Massachusetts). – 1999. – 212 p. 2. **Barro, Robert J. and Xavier Sala-i-Martin**. Journal of Political Economy. – 1992. – P. 223 – 251. 3. **Restuccia, Diego, Dennis Tao Yang, and Xiaodong Zhu**. Agriculture and Aggregate Productivity: A Quantitative Cross–Country Analysis. Journal of Monetary Economics. – 2006. – P. 234 – 250. 4. **Laitner, John**. Structural Change and Economic Growth. Review of Economic Studies. – 2000. – P. 545 – 561. 5. **Lee, Donghoon and Kenneth I. Wolpin**. Intersectoral Labor Mobility and the Growth of the Service Sector. Econometrica. – p. 2006. – P. 1 – 46. 6. **Dosi G**. Technological change and industrial transformation. Macmillan. – 1984. – P. 118 – 132. 7. **Kuznets S.** Economic growth of nations: total outputs and productions structure. – Cambridge, MA: Harvard Univesiti Prees. – 1971. – P. 67 – 80.

Мельник О. С. Структурні трансформації і економічне зростання

У статті розглянуто існуючу теоретичну основу структурної трансформації економіки як основу для досягнення нової якості економічного зростання. Процес структурних перетворень розглянуто в якості одного з основних факторів економічного розвитку країни. Економічне зростання може бути визначене, як зростаючий потенціал на основі розвитку технологій та інституціональних та ідеологічних змін, яких потребує економіка країни.

Ключові слова: структурна трансформація, розвинені країни, висока продуктивність послуг, інновації у промисловості.

Мельник Е. С. Структурные трансформации и экономический рост

В данной статье рассматривается существующая теоретическая основа структурной трансформации экономики как основа достижения нового качества экономического роста. Процесс структурных преобразований рассматривается в качестве одного из основных факторов экономического развития страны. Экономический рост может быть определен, как растущий потенциал на основе развития технологий и институциональных и идеологических изменений, которых требует экономика страны.

Ключевые слова: структурная трансформация, развитые страны, высокая производительность услуг, инновации в промышленности.

Melnyk O. S. Structural Transformation and Economic Growth

In this article, under review there are the theoretical basis of structural transformation of economy as basis of achievement of new quality of economic growth. In article process of structural transformations as one of the main facts of economic development of the country is considered. A country's economic growth may be defined as a long-term rise in capacity to supply increasingly diverse economic goods to its population, this growing capacity based on advancing technology and the institutional and ideological adjustments that it demands.

Key words: structural transformation, developed countries, high-productivity services, industrial innovation.

UDC 351.9:005.6

S. V. Lyashenko,
Donetsk National Technical University

SYSTEM OF INDICATORS OF GOVERNANCE AND INSTITUTIONAL QUALITY: UKRAINE'S PERFORMANCE

Introduction

While new global standards of governance are emerging, and developing countries increase their awareness of costs of corruption and poor management, Ukraine is demonstrating below-average performance on a range of institutional and governance quality indices. This paper covers main institutional indices, which show Ukraine's performance in terms of institution development and governance over last decade.

Indicators of institutional and governance quality are covered by World Bank papers [6; 8] or other non-governmental organizations, a number of foreign researchers Barro, Robert, Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer. In Ukraine and CIS instutionalism is dealt with by Kachala T. M. [1], Freikhman L. M., Dashkeev V. V. [2] Yarosh O. B. [3; 4] and others.

Aim. The aim of the research is to determine Ukraine's position on world governance indicators scale and its dynamics in comparison with different groups of countries.

Methods. The research is based on Inductive and deductive Methods of Economic Analysis, dialectical method of knowledge and systematic approach, abstract logic, historical comparison.

Results. World bank experts [2] classify dimensions of governance indicators as those concentrating of performance measures and process measures (Fig. 1). Freinkman Dashkeev, Muftyahetdinova in their research on institutional dynamics in transition economies [1] distinguish four ways of measurement of institutional characteristics:

– Based on macroeconomic data, for instance, for measurement of development of financial sector (loans to GDP ratio, etc.);

– Based on surveys of users of governmental services (companies and individuals);

– Based on interviews of experts;

– Based on measurement of some qualitative data like education quality (results of tests), competition level on elections (election statistics).

In general, governance is constituted by the traditions and institutions such as the process by which governments are selected, monitored and replaced, ability of the government to effectively formulate and implement policies, social interactions among citizens, state and institutions.

World bank in its Worldwide Governance Indicators (WGI) distinguishes six broad dimensions of governance (for more detailed descritpition of these dimensions and methodology please refer to [3]):

· Voice and accountability which captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media;

· Political stability and absence of violence – measures perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically-motivated violence and terrorism;

· Government effectiveness which captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies;

· Regulatory quality – captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development;

· Rule of law – captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence;

· Control of corruption which captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as „capture" of the state by elites and private interests;

Country's performance is measured from – 2.5 to 2.5 on these dimensions based on surveys of firms, individuals, agencies, and other non-governmental organizations. Ukraine's performance across all of these six indices is as indicated on Fig.2. One can see that in general there was slight decline after 1998, then recovery in 2000 – 2002, then till 2007 – 2008 political stability and voice and accountability significantly improved, while other indices were on the same level, and after 2009 all indices deteriorated.
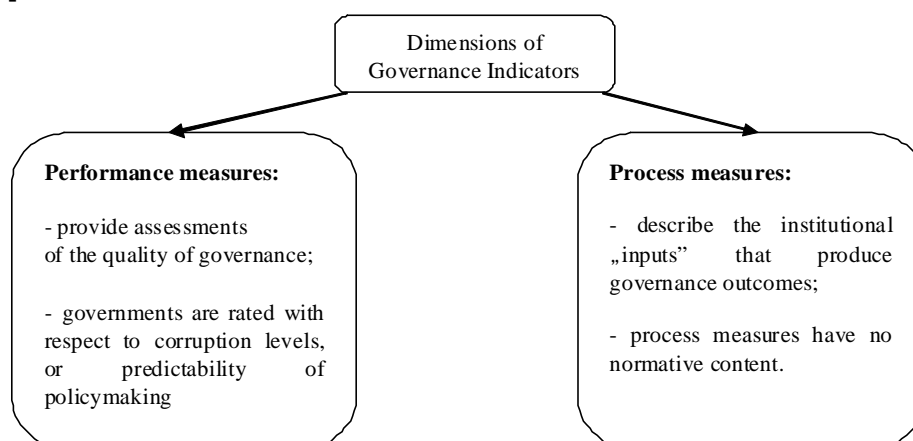
Fig. 1. Classification of governance indicators by dimension
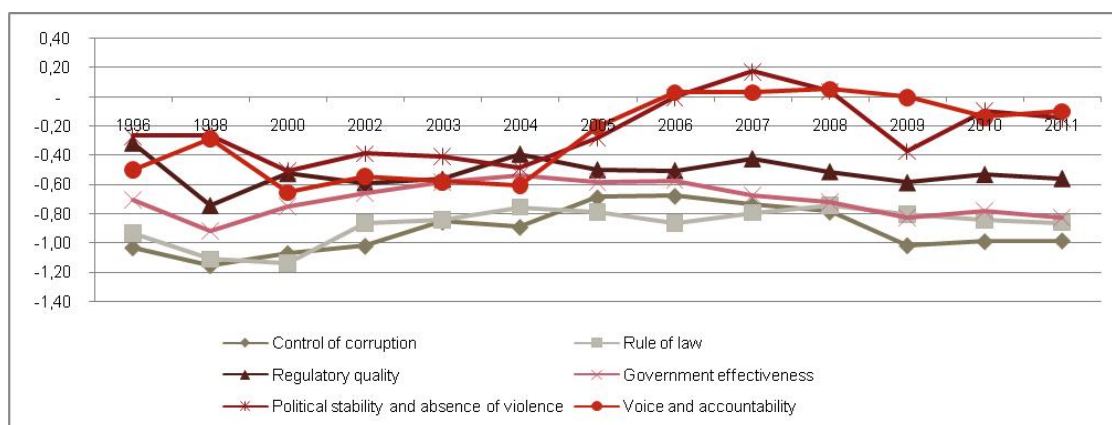
Fig. 2. Ukraine's performance against WGI indices

Also, one can note that during 1996 – 2011 all Ukraine's governance quality indicators were in negative area, which itself is negative. For better understanding of Ukraine's position let us look at country's rank across other 200 countries (Fig.3)

Fig. 3. shows that Ukraine's governance characteristics lie far below average in 100 – 180 range (among almost 200 participants). The country is in worst 30% in control of corruption, rule of law, government effectiveness and regulatory quality. Moreover, in last years Ukraine's position had negative trend. Consistently with Fig.2. Ukraine's rating by voice and accountability and political stability and absence of violence is slightly better, but still below 100.

To extend research, one can view comparison of Ukraine with countries from different groups (Fig.4. – Fig.6.). The following countries were chosen for comparison:

– Russian Federation – as former member of Soviet Union and usual peer of Ukraine in such research;

– Poland – as another example of transition economy, „more successful" neighbor of Ukraine;

– Brasil, China – components of famous BRIC, world leaders by growth rates and overall significant economies;

– Greece – current example of badly run economy with negative GDP growth and bunch of problems in finance sector;

– United States – the biggest economy in the World.

Fig. 4. Shows trends of governance indicators of control of corruption and rule of law for 1996 – 2011. It can be noted that during this period Poland and Brasil improved both their indices, China, Brasil, Russia and United States demonstrated mixed performance, while Greece worsened its indicators. It is interesting that Greece's indicators have had a negative trend since early 2000.

Interestingly, per United Nations classification [2] Greece and Poland are now classified as „Developed economies". Greece became EU member in 1999 and since then its performance was negative, while Poland obtained such status in 2004 and till 2011 improved results significantly. Also all developed economies are in the top
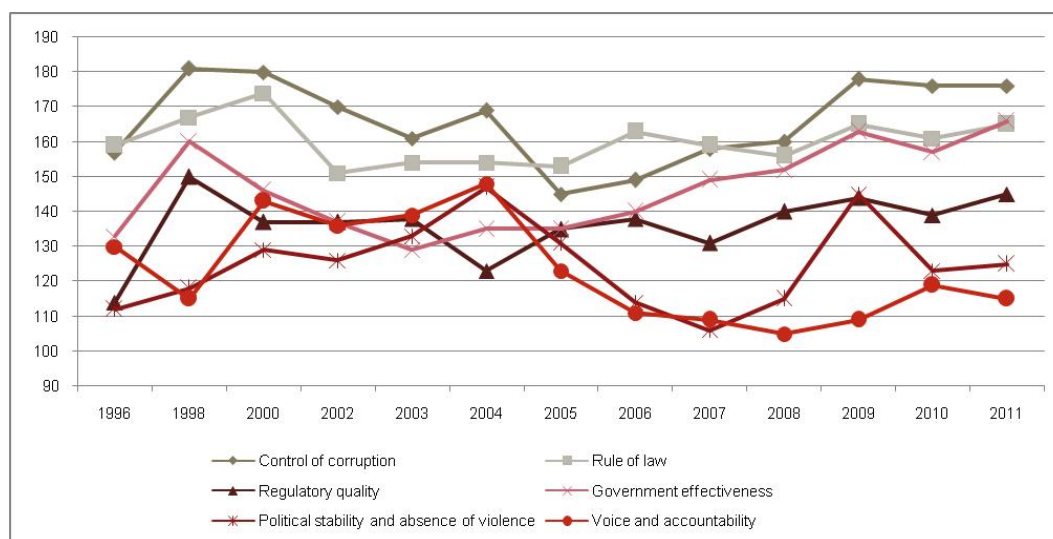
Fig. 3. Ukraine's ranking compared to other countries on WGI
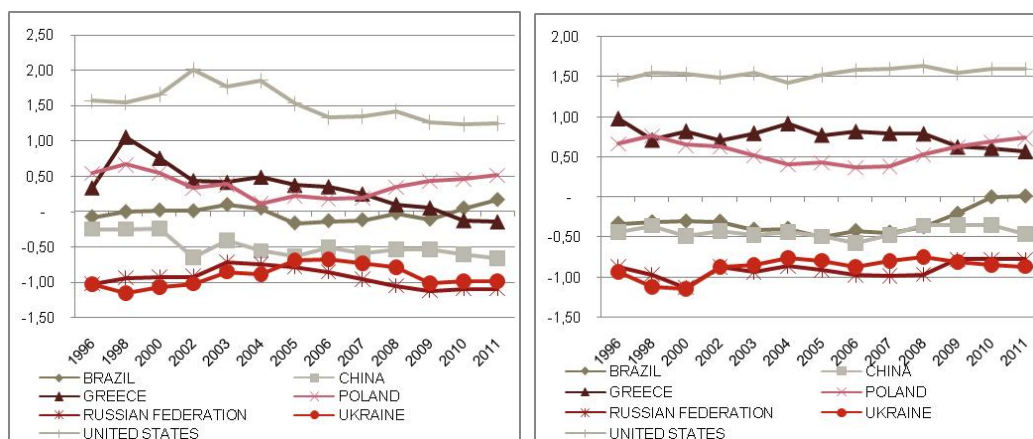
Fig. 4. Control of corruption (left) and rule of law (right) indices of chosen countries

part of the chart, while developing and transition economies are in the bottom.

Ukraine together with Russian Federation are on the bottom of the selected sample with indices fluctuating around -1.0 and negative trend since 2006 – 2007.

Second set of graphs (Fig. 5.) shows performance of the same group of countries from regulatory quality and government effectiveness points of view. The situation is roughly the same: United States are well above other members of the group, Greece and Poland were on the same level, with Poland outperformed Greece starting from 2009. Brazil and China fluctuate around zero value, and Ukraine and Russia are on the bottom of the graph.

And the last set (Fig. 6.) represents political stability and voice and accountability indices. Surprisingly, United States are not such a confident leader here, as in Fig.4. and Fig.5. Political stability and absence of violence index

of US is average, being under pressure of wars. In this field Poland is the leader, while Ukraine, Brazil and Greece met near zero value in 2011. China and Russia are on the bottom of both graphs. In this field Ukraine achieved highest ratings compared to its performance in other directions.

Conclusions. Research had shown that Ukraine demonstrated poor performance in all dimensions of governance indicators with some minor improvement in recent years. At the same time other countries from research group performed (demonstrated improvement of indicators) clearly better (Poland, Brazil), on the same level (Russia, China) or worse (Greece). In the absolute terms Ukraine's governance and institutional quality is assessed as poor.

The correlation among economic growth and institutional quality trends is also not clear. While there is
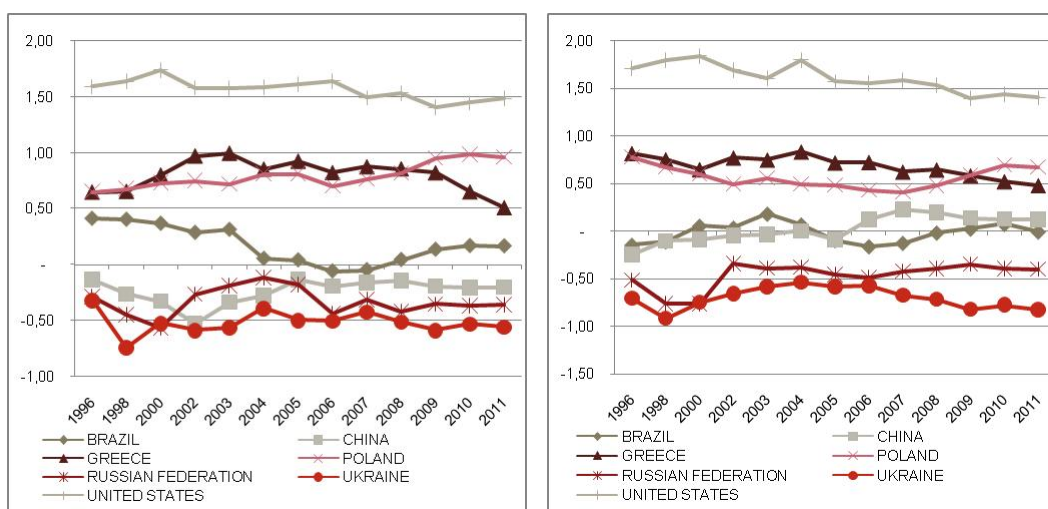
Fig. 5. Regulatory quality (left) and government effectiveness (right) indices of chosen countries
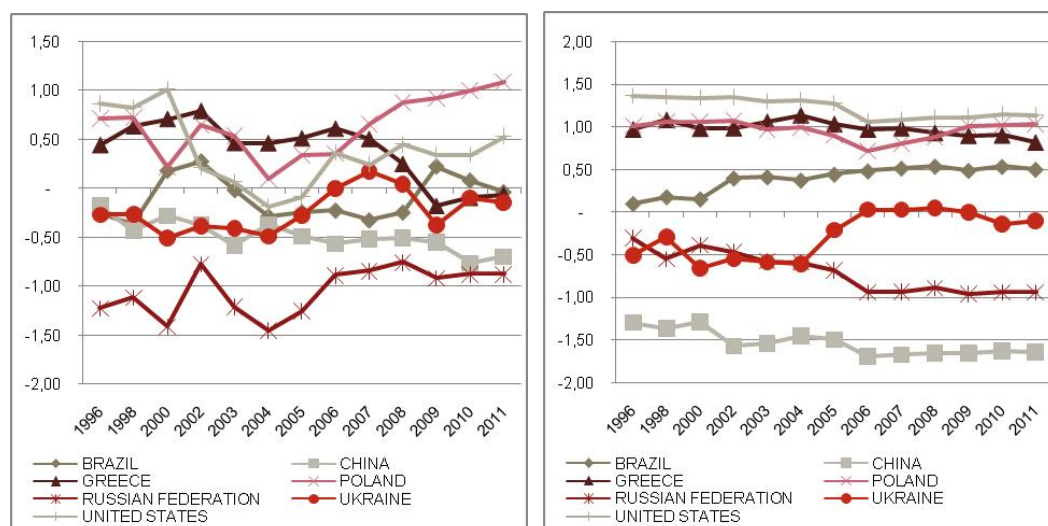
Fig. 6. Political stability and absence of violence (left) and voice and accountability (right) indices of chosen countries

positive correlation in Poland, Brazil (improvement of quality and economic growth) and Greece (deterioration of quality and crysis), China, Russia and Ukraine's results are not so obvious. In the next research these correlations will be studied more thoroughly.

References

1. **Качала Т. М.** Сучасні проблеми інституційного розвитку України / Т.М. Качала // Вісник економічної науки України. – 2009. - №2. – С. 48 – 49. 2. **Фрейнкман Л. М.**, Дашкеев В. В., Муфтяхетдинова М. Р. Анализ институциональной динамики в странах с переходной экономикой / Л. М. Фрейнкман, В. В. Дашкеев, М. Р. Муфтяхетдинова – М.: ИЭПП, 2009. – 252 с. 3. **Ярош О. Б.** Институциональные индикаторы, их значение и роль в устойчивом развитии Украины [Електронний ресурс] / О. Б. Ярош // Режим доступу : http://www.nbuv.gov.ua/portal/soc_gum/Ekupr/2009_1/а6.pdf 4. **Ярош О. Б.** Проблемы в международных институциональных оценках устойчивого развития / О. Б. Ярош // Экономика и управление. – 2008. – № 5. – С. 118 – 121. 5. **Country** classification: Data sources, country classifications and aggregation methodology [Електронний ресурс] / World Bank // Режим доступу: http://www.un.org/en/development/desa/policy/wesp/wesp_current/2012country_class.pdf 6. **Indicators** of Governance and Institutional Quality [Електронний ресурс] / World Bank // Режим доступу: http://siteresources.worldbank.org/INTLAWJUSTINST/Resources/IndicatorsGovernanceandInstitutional

Quality.pdf 7. **Henrekson M.**, Sanadaji T. The interaction of entrepreneurship and institutions / M . Henrekson, T. Sanadaji // Journal of Institutinal Economics. – 2011. – № 1. – P. 47 – 75. 8. **World** Governance indicators [Електронний ресурс] / World Bank // Режим доступу: http://info.worldbank.org/governance/wgi/resources.htm

Ляшенко С. В. Система показників якості управління та інституційної якості: показники України

У статті розглянуто значення індексів якості управління та інституційної якості Світового Банку для України протягом 1996 – 2011 рр. Аналіз проведено на основі тенденцій протягом визначеного періоду й відносно різних груп порівняння: розвинені країни, країни, що розвиваються, країни з перехідною економікою. Дослідження показали, що Україна продемонструвала низькі результати за всіма вимірами показників якості державного управління з певним поліпшенням в останні роки. У той же час, інші країни з дослідницької групи продемонстрували такі тенденції: значне поліпшення (Польща, Бразилія), збереження на тому ж рівні (Росія, Китай), погіршення (Греція). В абсолютному прояві якість управління в Україні та інституційна якість оцінено як погані.

Ключові слова: інституціоналізм, управління якістю, показники Світового Банку, якість регулювання, корупція, політична стабільність, ефективність роботи уряду.

Ляшенко С. В. Система показателей качества управления и институционального качества: показатели Украины

В статье рассматриваются значения индексов качества управления и институционального качества Мирового Банка для Украины в течение 1996 – 2011 гг. Анализ проводился на основе тенденций в течение наблюдаемого периода и в отношении различных групп сравнения: развитые страны, развивающиеся страны, страны с переходной экономикой. Исследования показали, что Украина продемонстрировала низкие показатели во всех измерениях показателей качества государственного управления с некоторыми незначительными улучшение в последние годы. В то же время, другие страны из исследовательской группы продемонстрировали следующие тенденции: явное улучшение (Польша, Бразилия), сохранение на том же уровне (Россия, Китай), ухудшение (Греция). В абсолютном выражении управление Украины и институциональное качество оценивается как плохое.

Ключевые слова: институционализм, управления качеством, показатели Всемирного Банка, качество регулирования, коррупция, политическая стабильность, эффективность работы правительства.

Lyashenko S. V. System of Indicators of Governance and Institutional Quality: Ukraine's Performance

The article covers Ukraine's performance on world governance indicators scales during 1996 – 2011. The analysis was performed based on trends during the observed period and against different groups of peers: developed countries, developing countries, transition economies. Research had shown that Ukraine demonstrated poor performance in all dimensions of governance indicators with some minor improvement in recent years. At the same time other countries from research group performed (demonstrated improvement of indicators) clearly better (Poland, Brazil), on the same level (Russia, China) or worse (Greece). In the absolute terms Ukraine's governance and institutional quality is assessed as poor.

Key words: institutinalism, governance quality, World Bank, governance indicators, regulatory quality, corruption, political stability, government effectiveness.

International and Regional Economics

UDC 336.7

A. M. Baghdasaryan
PhD (Economics),
Armenian State Agrarian University

PROBLEMS OF ECONOMIC GROWTH AND DEVELOPMENT
OF THE SECURITIES MARKET IN EMERGING ECONOMIES

The economic growth and the development of the securities market are interrelated issues. The economic growth contributes to the development of the securities market, making investment opportunities and increasing both supply of and demand for investment resources. On the other hand, the development of the securities market may contribute to the economic growth, creating conditions for realization and stimulation of investment opportunities. The issue of economic growth and development of the securities market is of higher importance in emerging economies. Here the economic growth is seen as a main factor for heightening the subsistence level of population and decreasing poverty. The Republic of Armenia is a typical example for studying the problems of economic growth and development of the securities market in emerging economies.

The changes in the amounts of gross domestic product, the volume of the stock market capitalization, the amounts outstanding for the debt securities market and bank assets in the Republic of Armenia are shown in Fig.1 [1; 2; 4; 5; 6; 7].

As it can be seen from Fig.1, the amount of the stock market capitalization and outstanding debt securities in the Republic of Armenia is substantially less than the volume of the gross domestic product and bank assets. The relation between bank assets and gross domestic product in Armenia is almost on the same level as the mean for Eastern Eurpean counties. The bank assets in the Republic of Armenia make up more than forty percent of the gross domestic product. However, we have to notice that the bank assets exceed the world output more than by 1,5 times.

For revealing the current situation and overwhelming conditions in the securities market in the Republic of Armenia, it is also important to study and analyse the structure of the investment securities market by distinct instruments of the market.

The changes in the volume of the stock market capitalization and the amounts outstanding for the debt securities market in the Republic of Armenia are shown in Fig.2 [1; 2; 4; 5; 6; 7].

As it can be seen from Pic.2, the volumes of the debt securities market have been steadily increasing during the last decade. As in the world, in the Republic of Armenia the volumes of the debt securities market had been increasing even during the last economic crisis. Moreover, the increase in the volume of the debt securities was significantly higher in the period of 2007 – 2011. Nonetheless, the chart shows that the debt securities market in the Republic of Armenia is completely overwhelmed by the government securities. Moreover, the market of corporate debt securities showd decrease in volume in the period of 2008 – 2011.

Fig. 2 shows that the stock market capitalization is also lower than the amounts outstanding for the government securities but exceeds the amounts outstanding for the corporate debt securities. However, this is due to the methodology for calculation of the stock market capitalization used in the Republic of Armenia. Actually, this methodology does not represent the real picture in the stock market and may not be used for international comparisons.

Comparing the above figures with the figure of the gross domestic product in the Republic of Armenia we get the real picture of the stock and debt securities markets in the Republic of Armenia.

The changes in the amount of the gross domestic product per capita in the middle income countries and in the Republic of Armenia are shown in Fig.3 [3; 4; 8; 9].

As it can be seen from Fig.3, the indicator of the gross domestic product per capita in the Republic of Armenia was lower than the same indicator for the lower middle income countries before 1998. Due to high rates of growth of the gross domestic product during 2001 – 2008 and the decrease in the exchange rate of the US dollar, the gross domestic product per capita in Armenia exceeds the same indicator for the middle income countries in 2008. However, due to the global economic crisis the volume of the gross domestic product decreased in the Republic of Armenia with higher rates than in the middle income countries. As a result of this, the gross domestic product per capita became lower than the same indicator for the middle income countries.

Fig.3 shows that during the last decade the growth rate of the gross domestic product per capita in the Republic of Armenia was significantly higher than the
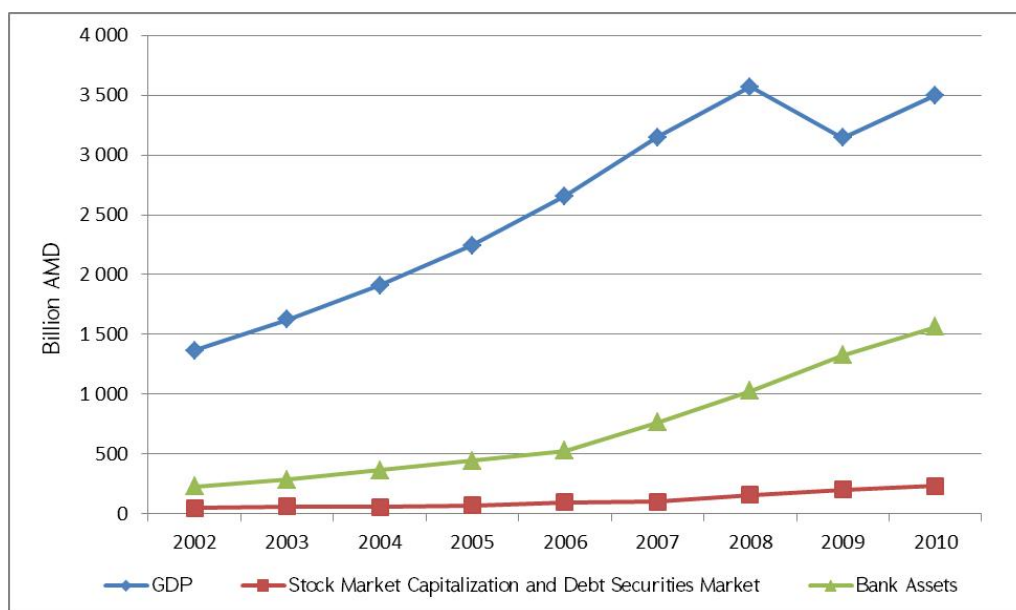
Fig. 1. Volume of GDP, Stock Market Capitalization and Debt Securities Market and Bank Assets in the Republic of Armenia, 2001 – 2010. [1; 2; 4; 5; 6; 7]
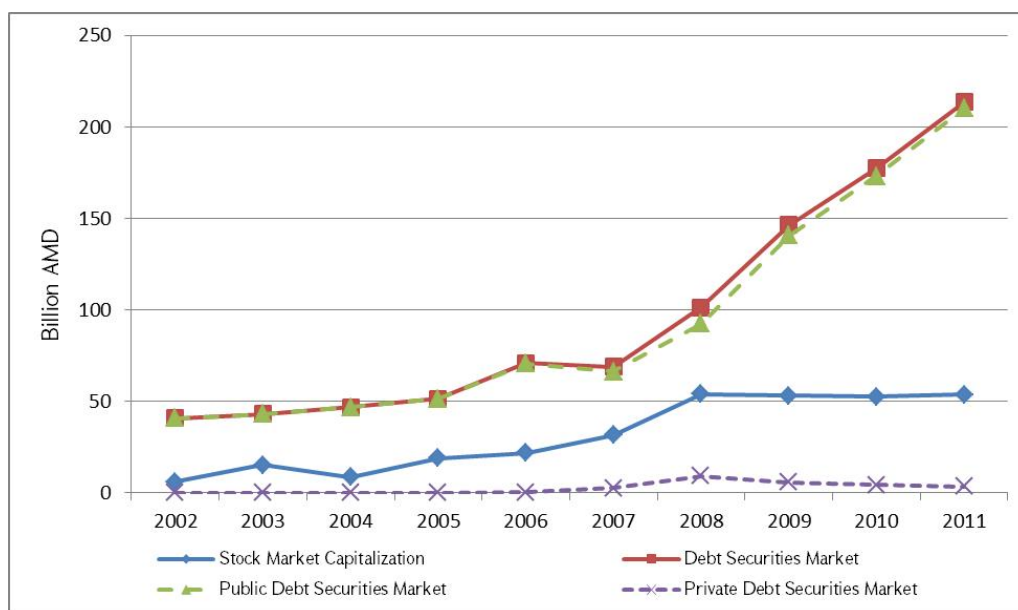
Fig. 2. Volume of Stock Market Capitalization and Public and Private Debt Securities Markets in the Republic of Armenia, 2001 – 2010.

same indicator of the countries with lower middle, middle and upper income.

The changes in the amount of the gross domestic product per capita in the Republic of Armenia, Regional Countries and in the World are shown in Fig.4 [3; 4; 8; 9].

As it can be seen from Fig.4, the indicator of the gross domestic product per capita in the Republic of Armenia was significantly lower than the same indicator

for the countries of Eastern Europe and Central Asia as well as the world indicator. The indicator of the gross domestic product per capita was also almost always lower than the same indicator for the countries of Middle East and North Africa. Due to higher rates of growth of the gross domestic product, the gross domestic product per capita in the Republic of Armenia surpassed the same indicator for the countries of Middle East and North
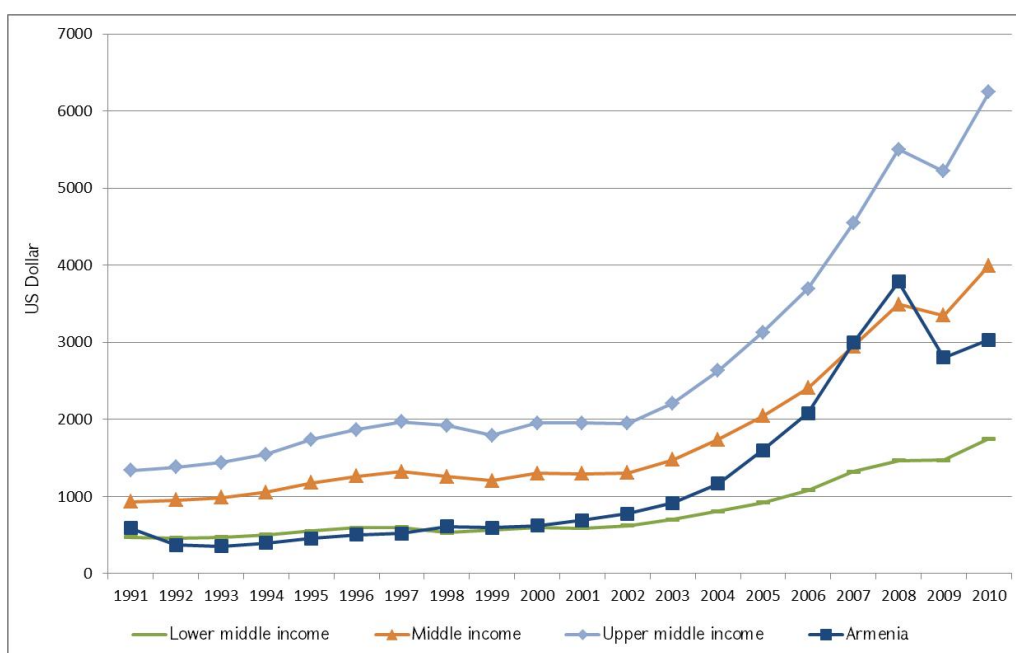
* World Bank Classification

**Fig. 3. GDP per Capita (Current US$) in the Middle Income Countries
and in the Republic of Armenia, 1991 – 2010**
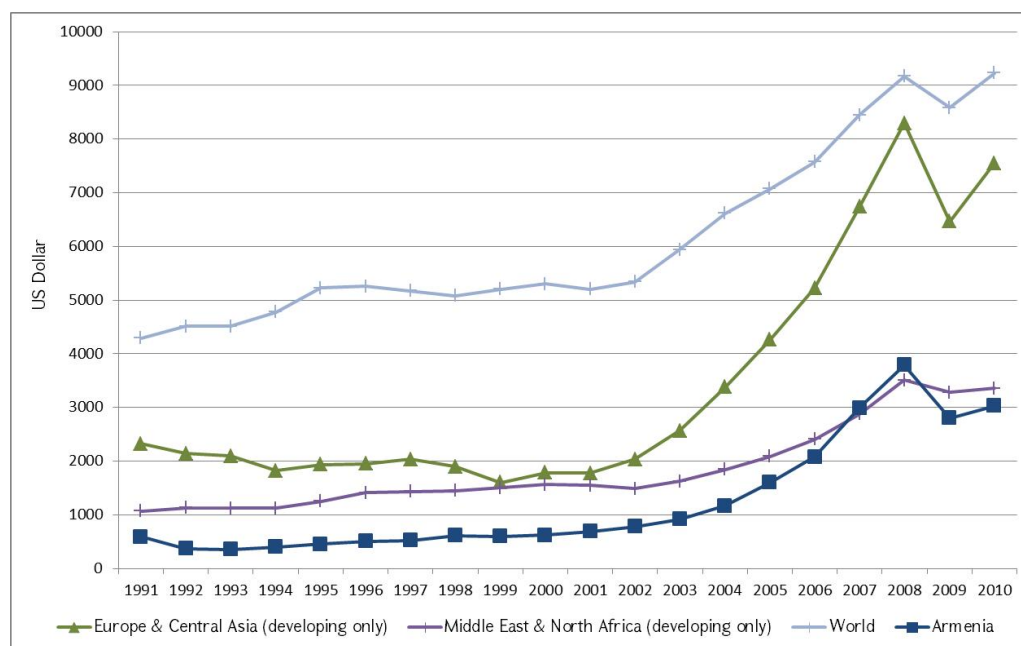
* World Bank Classification

**Fig. 4. GDP per Capita (Current US$) in the Republic of Armenia,
Regional Countries and in the World, 1991 – 2010**

Africa. However, due to deeper impact of the global financial crisis on the economy of the Republic of Armenia, the indicator of the gross domestic product per capita in the Republic of Armenia dropped below the same indicator for for the countries of Middle East and North Africa in 2009.

Fig. 4 shows that during the last decade the growth rate of the gross domestic product per capita in the

Republic of Armenia was significantly higher than the same indicator of the countries of Eastern Europe and Central Asia, Middle East and North Africa, as well as the world indicator.

The changes in the amount of the gross domestic product per capita in the Republic of Armenia and in Selected Eastern European Countries are shown in Fig.4 [3,4,8,9].

As it can be seen from Pic.5, the indicator of the gross domestic product per capita in the Republic of Armenia was significantly lower than the same indicator for Slovenia, Estonia and Macedonia. The indicator of the gross domestic product per capita in the Republic of Armenia is higher only than in the neighboring Georgia.

The figures derived for the Republic of Armenia may be generalized for most emerging economies, especially for those in the Eastern European region and with small and open economy. As it can be seen from Fig.5, the indicators of the gross domestic product per capita for the Republic of Armenia, Georgia and Macedonia may be viewed as relatively comparable (all these countries are small and open emerging economies).

Main conclusions and suggestions: The studies and analyses show that the gross domestic product per capita in the emerging economies is significantly lower than in developed economies as well as the world indicator. Studies show also that in emerging economies, in contrast to the developed economies and the world mean figures, the volume of bank assets is smaller than the gross domestic product. The volume of the securities market, in turn, is much smaller than the amount of bank assets in emerging economies. Moreover, the structure of the securities market in most emerging economies, especially ones in the Eastern European region, is dominated by the government securities. Thus, the main instruments of the securities market and financing of long-term investments, the corporate stock and debt securities are underdeveloped in emerging economies. On the other hand, the higher growth rates of gross domestic product in emerging economies lay opportunities for development of the securities market in those countries. In such situation it is important to develop mechanisms of making benefits from higher GDP growth rates and translating them into development of the securities market and, ultimately, regaining interrelation between the economic growth and the development of the securities market.

References
1. **36. Armenian Stock Exchange,** Annual Reports, 2002-2003, http://www.nasdaqomx.am. **2. 37. Armenian Stock Exchange,** Annual Reviews, 2004 – 2007, http://www.nasdaqomx.am. 3. **Bank** for International Settlements, http://www.bis.org. 4. **19. Central** Bank of Armenia, http://www.cba.am. 5. **35. NASDAQ** OMX Armenia/Armenian Stock Exchange Bulletins, 2003 – 2011, http://www.nasdaqomx.am. 6. **43. NASDAQ** OMX Armenia Annual Reviews, 2002 – 2010, http://www.nasdaqomx.am. 7. **Public** Debt of the
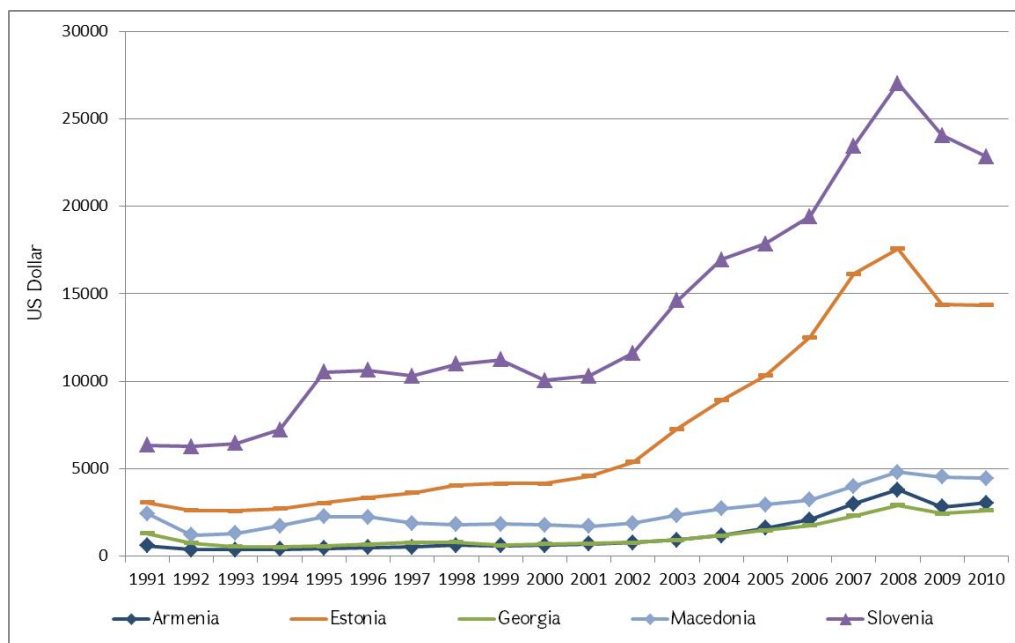
Fig. 5. GDP per Capita (Current US$) in the Republic of Armenia and in Selected Eastern European Countries, 1991 – 2010

Republic of Armenia, Annual Reports, 2003 – 2010, Ministry of Finance of the Republic of Armenia, http://www.minfin.am. 8. **Statistical** Yearbooks of Armenia, 2002 – 2011, National Statistical Service of the Republic of Armenia http://www.armstat.am. 9. **World** Bank, http://www.worldbank.org

Багдасарян А. М. Проблеми економічного зростання та розвитку ринку цінних паперів в країнах з ринком, що формується

У статті розглянуто проблеми економічного зростання і розвитку ринку цінних паперів в країнах з ринком, що формується. Республіку Вірменію розглянуто як типовий приклад для вивчення проблем економічного зростання і розвитку ринку цінних паперів в країнах з ринком, що формується. Зокрема, були вивчені та проаналізовані основні економічні показники і показники ринку цінних паперів у Республіці Вірменія. Було проведено порівняльний аналіз економічних показників у Республіці Вірменія, у країнах регіону, у світі.

Ключові слова: економічне зростання, розвиток ринку цінних паперів, країни з ринком, що формується.

Багдасарян А. М. Проблемы экономического роста и развития рынка ценных бумаг в странах с формирующимся рынком

В статье рассматриваются проблемы экономического роста и развития рынка ценных бумаг в странах с формирующимся рынком. Республика Армения рассматривается в качестве типичного примера для изучения проблем экономического роста и развития рынка ценных бумаг в странах с формирующимся рынком. В частности, были изучены и проанализированы основные экономические показатели и показатели рынка ценных бумаг в Республике Армения. Был проведен сравнительный анализ экономических показателей в Республике Армения, в странах региона и в мире.

Ключевые слова: экономический рост, развитие рынка ценных бумаг, страны с формирующимся рынком.

Baghdasaryan A. M. Problems of Economic Crowth and Development of the Securities Market in Emerging Economies

The article considers problems of economic growth and development of the securities market in emerging market. The Republic of Armenia was regarded as a typical example for studying the problems of economic growth and development of the securities market in emerging economies. Particularly, the main economic indicators and indicators of the securities market in the Republic of Armenia were studied and analyzed. Comparative analysis of economic indicators in the Republic of Armenia, in the regional countries and in the world was done.

Key words: economic growth, development of the securities market, emerging economies.

Yu. Kostin, M. Mass, N. Dubrovina

UDC [334.764:622.374](477.62)-043.86

Yu. Kostin,
Dr. Hab (Economics), Kharkiv University of Radioelectronics
M. Mass,
PhD (Economics), Chairman of the Board, PJSC „Donetskoblgaz"
N. Dubrovina,
PhD (Economics), Kharkiv Institute of Trade and Economy

PROBLEMS OF SOCIAL AND ECONOMIC DEVELOPMENT AT THE „DONETSKOBLGAZ" ENTERPRISE

Introduction

The gas branch is one of the most important branches ensuring the industrial potential of Ukraine. The largest national company of oil and gas branch is National Joint-Stock Company „Naftogaz of Ukraine". It is realizing the state foreign and domestic policy as for provision of the delivery of oil and gas resources to various categories of the consumers in Ukraine and abroad.

The Donetsk region represents a highly advanced industrial and energy complex, where the important role played by gas industry provides its stable functioning. In Donetsk region the first activities on supplying cities and industrial objects with gas started the late 1930s. However mass gas supply campaign began in 1958, when the plan of gas supply for dwellings in Donetsk region was approved for the period of 1959 – 1965. In 1959 due to gasification of 17 cities of Donetsk region the self-supporting regional gas company „Oblprombytgas" was created within the municipal service for control of gas local enterprises. The first industrial consumers were Khartsyzsky steel wire rope and pipe producing plants, Kontantinovsky metallurgical and glass producing plants, Kramatorsky metallurgical plant, Novokramatorsky machine-building plant, Artemovsky plant of rolled metals. In 1975 the reorganization of the management system in regional gas industry was carried out, and the trust „Oblprombytgaz" was liquidated. Then the Donetsk industrial association of gas supply named „Donetskoblgaz" was founded and it was subordinated to Republican association „Ukrgaz".

According to the Decree of the President of Ukraine „On formation of enterprises corporation" from 15.06.1993 №210/93 and Order of State Committee of Ukraine on oil and gas from 11.03.1994 in 1994 the Donetsk regional state enterprise on gas supply „Donetskblgaz" was transformed in the Open Joint-Stock Company „Donetskoblgaz".

Structure of this company includes 19 branches: 17 departments on gas supply, departments on construction works and repair-shop „Gas – service" and Donetsk gas filling station. The privatization of the enterprise was carried out by the central body of State Property Fund of Ukraine.

In June 2011 Open Joint-Stock Company „Donetskoblgaz" was transformed into Public Joint-Stock Company „Donetskoblgaz". About 38% of the shares of the PJSC „Donetskoblgaz" belong to NJSC „Naftogaz of Ukraine". Nowadays the territory of the licensed activity of the company includes numerous economic institutions, namely: 49 cities, 108 settlements of urban type and 808 villages, 382 industrial enterprises, 3529 municipal household installations, 853902 apartments, 1379107 household units of gas equipment, 265426 household gas counters. Over 12 thousand km of gas pipelines, including about 5 thousand km of underground gas pipelines, are under the authority of PJSC „Donetskoblgaz" enterprise.

The PJSC „Donetskoblgaz" is one of the leaders of gas branch; more than 4,5 thousand employees work at this enterprise. New technologies and innovations are developed here, the specialized laboratories and service centres are created. The own educational center of professional training and improvement of professional skill of the employees is established. There are some campings, sports centers and health facilities at the disposal of the employees of the „Donetskoblgaz" enterprise.

Taking into account social and economic importance of PJSC „Donetskoblgaz" for gas branch and Donetsk region, the long-term history of the given company functioning, the research was carried out with the purpose of studying corporate and organizational culture at the „Donetskoblgaz" enterprise.

1. The economic and financial activity of the PJSC „Donetskobgaz" enterprise

The PJSC „Donetskoblgaz" is one of largest gas supply enterprises of Ukraine. The basic tasks of the enterprise are: maintenance of gas pipelines and equipment in a technically serviceable condition; maintenance of reliable and safe gas supply for all categories of the consumers; designing and construction of gas transport systems. Priority trends of the company activities are: application of innovation technologies; attraction of new industrial consumers; increase of volumes of the gas supply. The strategy of the PJSC „Donetskoblgaz" is aimed at designing and construction of gas pipelines from polymeric materials.

The results of industrial output of the PJSC „Donetskoblgaz" for 2009 – 2010 are given in table 1.

In 2010 volume of natural gas transportation by PJSC „Donetskoblgaz" amounted to 2449,181 million

cubic meters. It increased by 408,972 mill. cubic meters or by 20% as compared with 2009. However in 2010 the supply of natural gas provided by „Donetskgaz" enterprise to the various consumers was 4.54% less as compared with 2009 and amounted to 814,978 million cubic meters. The volume of liquefied gas supply has grown in 2010 and amounted to 2402 tons, it is 30.2% more as compared with 2009.

The cost of the enterprise production in 2010 has considerably increased due to the growth of volumes supplied to customers and growth of prices. In 2010 the cost of gas transported by the enterprise made 272891 thousand of UAH, that is 69.93% more as compared with 2009. The cost of natural gas supplied by enterprise to the various consumers made 38162 thousand UAH in 2010, that is 3.48% more as compared with 2009. The cost of the liquefied gas supply increased in 2010 and amounted the 15971 thousand UAH, that is 39.75% more as compared with 2009. The cost of other services delivered by the „Dontskgaz" enterprise" increased by 43.54% in 2010.

However, as it is seen from the last column of tab. 1, the structure of production cost in 2010 did not essentially differ from the structure in 2009. So, in total amount the share of gas transportation cost increased by 6,3%, the share of natural gas deliveries cost to the various consumers decreased by 4,4%. In 2010 the share of other kinds of services decreased by 1,49% in the structure of production cost.

In table 2 the basic economic indicators of the PJSC „Donetskoblgaz" are shown for 2007 – 2010. In 2007 the income from production sold has amounted to 688055 thousand UAH, and in 2010 this index was 1077312 thousand UAH. The growth of the income from production sold amounted to 389257 thousand UAH for the period of 2007 – 2010 or 56.76 % as compared with 2007.

The net income of the enterprise was 568024 thousand UAH in 2007, and in 2010 this index has amounted to 898782 thousand UAH. The growth of the net income of the enterprise was 330758 thousand UAH for the period of 2007 – 2010 or 58.23% as compared with 2007.

The cost of production sold was 539491 thousand UAH in 2007, and in 2010 this index has amounted to 870028 thousand UAH. The growth of the cost of production sold amounted to 330537 thousand UAH for the period of 2007 – 2010 or 61.27% as compared with 2007.

The gross profit of the enterprise was 28533 thousand UAH in 2007, and in 2010 this index amounted to 2854 thousand UAH. The growth of the gross profit was 6237 thousand UAH for the period of 2007 – 2010 or 0.77% as compared with 2007.

In 2010 the enterprise received net profit equal to 2154 thousand UAH for the first time for the period of 2007 – 2010.

In table 3 the annual changes and growth rates of the basic indicators of economic activity of the PJSC „Donetskoblgaz" are given.

From tables 3 it follows, that the highest values of growth rates of economic activities indexes were observed in 2007 – 2008, that is period before the beginning of economic crisis. But the lowest values of mentioned growth rates were observed for the period of 2008 – 2009, that is period during at the height of economic crisis.

It should be noted, that the cost of realized production grew by higher rates, than gross income and net income in the „Donetskoblgaz" enterprise, and it negative impact on profitability of the enterprise.

In table 4 some financial indicators presenting a financial status of the PJSC „Donetskoblgaz" are given.

In 2007 the assets of the enterprise accounted to 435021 thousand UAH, and in 2010 this index amounted to 589839 thousand UAH. The growth of assets of the enterprise was 154818 thousand UAH for the period of 2007 – 2010 or 35.59% as compared with 2007.

The non-current assets amounted to 257364 thousand UAH in 2007 or 59.16% of total assets. In 2010 the non-current assets amounted to 301337 thousand UAH or 51% of total assets. Non-current assets increased by 43973 thousand UAH for the period of 2007 – 2010 or about 17% as compared with 2007.

The current assets amounted to 174739 thousand UAH in 2007 or 40,16% of total assets. In 2010 the current assets were 288026 thousand UAH or 44.16% of total assets. For the period of 2007 – 2010 the growth of current assets amounted to 113287 thousand UAH or 64.83% as compared with 2007. The value of total assets of the „Donetskoblgaz" enterprise was increased basically due to expansion of current assets in the period of 2007 – 2010; more than half of these current assets were trade and other receivables for the goods, activities and services provided by the enterprise.

The equity of the enterprise amounted to 18934 thousand UAH in 2007, and in 2010 this index amounted to 44777 thousand UAH. For the period of 2007 – 2010 the growth of the equity amounted to 25843 thousand UAH or 136.49% as compared with 2007.

In table 5 the annual changes and growth rates of the basic financial indexes of the PJSC „Donetskoblgaz" are given.

In table 6 the structure of operational costs from sold products (works, services) of the „Donetskoblgaz" enterprise is given.

In 2007 the material costs of the enterprise amounted to 65575 thousand UAH or 27.82% of total operational costs. In 2010 this index amounted to 105326 thousand UAH or 27.06% of total operational costs of the enterprise. For the period of 2007 – 2010 the growth of material costs amounted to 39751 thousand UAH or 60.62% as compared with 2007.

The labour costs amounted to 83895 thousand UAH in 2007 or 35.59% of total operational costs. In 2010 this index amounted to 128722 thousand UAH or 33.07% of total operational costs. For the period of 2007 – 2010 the growth of the labour costs amounted to 44827 thousand UAH or 53.43% as compared with 2007.

Yu. Kostin, M. Mass, N. Dubrovina

Table 1.

Parameters of industrial activity of the PJSC „Donetskoblgaz"

№	Indicator	Industrial outputs		Production at the current prices, thous. of UAH		Share of production in %		Change of industrial outputs	Change of production at the current prices	Change the share of production, %
		2009	2010	2009	2010	2009	2010	2009/2010	2009/2010	2009/2010
1	Services in transportation of natural gas	2040,209 mln. m^3	2449,181 mln. m^3	160589,00	272891,00	59,28	65,59	408,972 mln. m^3	112302,00	6,31
2	Services in natural gas supply	853,725 mln. m^3	814,978 mln. m^3	36880,00	38162,00	13,61	9,17	-38,747 mln. m^3	1282,00	-4,44
3	Services in the liquefied gas supply	1845 t	2402 t	11428,00	15971,00	4,22	3,84	557 t	4543,00	0,3
4	Other kinds of services	-	-	62024,00	89028,00	22,89	21,40	-	27004,00	-1,49

Table 2.

The basic indicators of economic activity in the PJSC „Donetskoblgaz" for 2007 – 2010, in thousand UAH

Indicators	2007	2008	2009	2010
Production sold (works, services)	688055	877919	944675	1077312
Net income	568024	708003	772470	898782
Cost of production sold	539491	702183	775425	870028
Gross profit	28533	5820	-2955	28754

Table 3.

Annual changes and growth rates of basic economic indicators in the PJSC „Donetskoblgaz" for 2007 – 2010

Indicators	Annual changes, thous. UAH			Annual growth rates, %		
	2007/2008	2008/2009	2009/2010	2007/2008	2008/2009	2009/2010
Production sold (works, services)	189864	66756	132637	27.59	7.6	14.04
Net income	139979	64467	126312	24.64	9.11	16.35
Cost of production sold	162692	73242	94603	30.16	10.43	12.2

Table 4.

Basic financial indicators in the PJSC „Donetskoblgaz" for 2007 – 2010, in thousand UAH

Indicators	2007	2008	2009	2010
Assets	435021	494607	525370	589839
Non-current assets	257364	281534	284046	301337
Current assets	174739	208760	232007	288026
Equity	18934	27045	17602	44777

In 2007 the social contributions amounted to 28766 thousand UAH or 12.2% of total operational costs. In 2010 this index amounted to 45341 thousand UAH or 11.65% of total operational costs. For the period of 2007 – 2010 the growth of the social contributions has amounted to 16575 thousand UAH or 57.62% as compared with 2007.

In 2007 the depreciation was 25647 thousand UAH or 10.88% of total operational costs. In 2010 this index amounted to 23517 thousand UAH or 6.04% of total operational costs. For 2007 – 2010 the depreciation decreased by 2130 thousand UAH or by 8.31% as compared with 2007. It should be noted, that the depreciation is an important item of the operational costs for given enterprise, because more than 40% of fixed capital is out-dated and should be modernized.

The value of other operational costs amounted to 31857 thousand UAH in 2007 or 13.51% of total operational costs. In 2010 this index amounted to 86351 thousand UAH or 22.18% of total operational costs. For the period of 2007 – 2010 the value of other operational costs increased by 54494 thousand UAH or by 171% as compared with 2007.

Whole, the total operational costs amounted to 235740 thousand UAH in 2007 and in 2010 this index increased by 65.12% and amounted to 86351 thousand UAH.

The growth of operational costs for the period of 2007 – 2010 was determined by a rise in prices and tariffs in connection with inflation and economic crisis in Ukraine. The growth of operational costs resulted in the increase of the production cost and to the decrease profitability of the „Donetskoblgaz" enterprise.

2. Study of social development at the „Donetskoblgaz" Enterprise

Nowadays experts in management science consider social development using analysis of organizational and corporate culture. Corporate ethics and behavior are defined as important components of the corporate strategy and social policy for the leading enterprises.

The cornerstone of a success for enterprise is a well-defined and implemented corporate strategy, which is accepted and realized by all staff, from workers to top-managers, and vice versa. The performance of employers corresponds to how the work and rewards (both financial and non-financial) meet the employee's needs. The employee behavior is related to organizational culture, which is a complex network of values and norms created by individuals in the enterprise.

Organizational culture, corporate governance and corporate behavior are related. It is possible to consider the corporate governance and corporate behavior as components of corporate culture. D.Crowther (2011) considered corporate governance as environment of trust, ethics, moral values and confidence, which reflect synergic effect of all kinds of stakeholders.

Corporate governance is concerned with creating a balance between the economic and social goals of a company including such aspects as the efficient use of resources, accountability in the use of its power, and the

behavior of the corporation in its social environment (D.Crowther, 2011). Good corporate governance is based on realization of four principles: transparency, accountability, responsibility and fairness. Good governance can improve the performance of enterprise and help to increasing shareholders' satisfaction.

Corporate behavior involves legal rules, ethical codes and social responsibility. Development of corporate social responsibility creates the platform of dialogue between the government, business and civil society. Corporate social responsibility can help to improve the image of corporation and solve the common social problems, which are important for enterprise and its stakeholders.

Taking into account the theoretical background of corporate and organizational culture and peculiarities of Ukrainian corporations we developed the two-stage scheme of research study of corporate and organizational culture at the „Donetskoblgaz" enterprise.

First stage is based on study of official industrial and financial reports and statements described the current activities of PJSC „Donetskoblgaz" for last three years. We focused on analysis of the dynamics and characteristics of employees in this enterprise during last three years and studied the financial motivation for the personnel. In addition, we analyzed the Social Contract (Collective Agreement) and social policy provided by PJSC „Donetskoblgaz" for their employees and stakeholders in the framework of corporate social responsibility. First stage of research allowed us to describe the visible components of corporate and organizational culture at the „Donetskoblgaz" enterprise.

Second stage is based on sociological research for samples of respondents from 19 departments of PJSC „Donetskoblgaz" located in different cities of Donetsk region. Sociological research was carried out by means of questionnaire. This questionnaire contained 32 questions and included some personal data (sex, age, education, occupation, etc.) and groups of questions focused on personal attitudes of respondents to different components of organizational culture, corporate social policy, corporate governance in the „Donetskoblgaz" enterprise. 190 respondents (or 10 representatives from each department) took part in this sociological research. The samples of respondents were balanced on gender group and categories of personnel (managers, specialists and professionals, technicians and workers). All questionnaires were statistically elaborated in Statistica and total data set was created for econometric modeling in Eviews. Some hypothesis about the influence of individual characteristics and personal attitudes to organization culture were checked by means of the Binary Dependent Variable Models. We revealed group of social and economic factors, which had significant impact on evaluation of corporate and organizational culture by respondents. This stage was useful to reveal the non-clear visible (or latent) components of employee's behavior and their expectations.

Table 5.

Annual changes and growth rates of basic financial indicators in the PJSC „Donetskoblgaz" for 2007 – 2010

Indicators	Annual changes, thous. UAH			Annual growth rates, %		
	2007/2008	2008/2009	2009/2010	2007/2008	2008/2009	2009/2010
Assets	59586	30763	64469	13.7	6.22	12.27
Non-current assets	24170	2512	17291	9.39	0.89	6.09
Current assets	34021	23247	56019	19.47	11.14	24.15
Equity	8111	-9443	27175	42.84	-34.92	154.39

Table 6.

The structure of operational costs from sold products (works, services) of the PJSC „Donetskoblgaz" for 2007 – 2010, in thous. UAH

Elements of operational costs	2007	2008	2009	2010
Material costs	65575	89067	69021	105326
Labour costs	83895	107205	93857	128722
Social contributions	28766	36807	32479	45341
Depreciation	25647	26673	23688	23517
Other operating costs	31857	35865	43864	86351
Total	235740	295617	262909	389257

According first stage of our research we analyzed dynamics and characteristics of human resources at the „Donetskoblgaz" enterprise.

As mentioned earlier human resources are the important component in formation of corporate and organizational culture at the enterprise. A condition of human resources, their motivation and expectation in standards of labour and social policy at the enterprise influence existing values and behaviour of the employees, their attitude to image of the enterprise and tendencies of its development.

In this connection the analysis of human resources in the PJSC „Donetskoblaz" was carried out.

In table 7 the average number of the employees who are employed full and part time or temporary in the „Donetskoblgaz" enterprise is shown.

In 2008 average number of the employees amounted to 4863 persons, and in 2009 in the negative impact of economic crisis the number of the employees reduced by 3.33% as a compared with 2008. In 2010 average number of the employees amounted to 4638 persons or 1.34% less as compared with 2009. At the „Donetskoblgaz" enterprise more than 96% of total personnel is a full-time employees. In 2008 average number of full-time employees amounted to 4761 persons, and in 2009 this index reduced by 246 persons and amounted to 4515 persons. In 2010 average number of full-time employees amounted to 4519 persons.

In table 8 the structure of wages fund for full-time employees is given. The wages fund consists of two parts: base wage fund and variable pay fund.

Base wage is based on the minimum salary level (tariff or minimum of the range). Usually it depends on external competitiveness and internal equity in the enterprise and branch. Variable pay fund includes bonuses and compensations. Bonuses and compensations are results of corporate and team performance or results of individuals.

In 2008 total wage fund amounted to 105155.5 thousand UAH, and in 2009 this fund decreased by 13331.4 thousand UAH. For the period of 2008 – 2009 the reduction of total wage fund was 12.68%. In 2010 total wage fund amounted to 128119.2 thousand UAH, that is 36295.1 thousand UAH more as compared with 2009. For the period of 2009 – 2010 the increase of total wage fund was 39.53%. In 2008 the base wage fund amounted to 68955.5 thousand UAH, and in 2009 this index decreased by 5925.3 thousand UAH and amounted to 63020.2 thousand UAH. For the period of 2008 – 2009 the reduction of the base wage fund was 8.59%. In 2010 the base wage fund amounted to 87303.5 thousand UAH or that is 38.51% more as compared with 2009.

In 2008 the variable pay fund accounted to 36200 thousand UAH, and in 2009 this fund decreased by 7406.1 thousand UAH or that is 20.46% as compared with 2008. In 2010 the variable pay fund accounted to 40815.7 thousand UAH or 41.75% more as compared with 2009.

It should be noted that the average monthly wage of employees in the „Donetskoblgaz" was less than similar indexes in gas branch and industry in Ukraine and it was less than average monthly wage in Donetsk region (table 9).

In 2008 the average monthly wage in the „Donetskoblgaz" enterprise was 13.45% less than in gas branch. It was 9.42% less than in industry and 9.33% less than in Donetsk region. In 2009 the average monthly

Table 7.

Average number of the employees in the „Donetskoblgaz" enterprise for 2008 – 2010, in persons

Indicator	2008	2009	2010	2008/2009		2009/2010	
				Annual change, in persons	Annual growth rate, %	Annual change, in persons	Annual growth rate, %
Average number of full-time employees	4761	4515	4519	-246	-5.17	4	0.09
Average number of part-time employees and temporary employees	102	186	119	84	82.35	-67	-36.02
Total average number of employees	4863	4701	4638	-162	-3.33	-63	-1.34

wage in the „Donetskoblgaz" enterprise was 30.42% less than gas branch. It was 21.32% less than in industry and 21.28% less than in Donetsk region. In 2010 the average monthly wage in the „Donetskoblgaz" enterprise was 18% less than in gas branch. It was 9,67% less than in industry and 8.57% less than in Donetsk region.

Thus, relatively small average wages in the enterprise resulted to high number of employees, which have left the PJSC „Donetskoblgaz". In 2008 – 2009 this index was 14 – 15 % of number of total staff, and in 2010 it decreased and amounted to 9,7%. In table 10 the structure of the personnel of the enterprise is given.

The managers amounted to 10% of all personnel. In 2008 the number of managers amounted to 519 persons, and in 2010 this index decreased and amounted to 497 persons. The specialists and professionals amounted to 12% of all personnel. In 2008 the number of specialists and professionals amounted to 567 persons, and in 2010 this index decreased and amounted to 534 persons. Technicians and clerks are less than 1% of all personnel. In 2008 the number of technicians and clerks amounted to 25 persons, and in 2010 this index amounted to 27 persons. The main group of employees in „Donetskoblgaz" enterprise are workers (about 77% of all personnel). In 2008 the number of workers amounted to 3650 persns, and in 2010 this index decreased and amounted to 3461 persons.

About 40% of the employees in the „Donetskoblgaz" enterprise are women, most of them (about 75%) are the specialists, professionals and clerks. About 20% of the employees in the „Donetskoblgaz" enterprise have complete tertiary education and about 35% of the employees have basic tertiary education. About 27% of the employees are group aged up 34 years and about 18% of the personnel are the pensioners. The number of

the women and men of pre-pension age are about 14% of total personnel.

At the „Donetskoblgaz" enterprise the trainings on improvement of professional skills for technicians and workers are regularly organized, special topic is instruction on safety regime for working equipment and people.

The own educational centres are created on base on department n Gorlovka and Kramatorsk. In 2008 in these educational centres 212 workers and technicians have passed professional preparation. In 2009 489 workers and technicians have passed training at these centres, and in 2010 this number has amounted to 326 workers and technicians.

During each three years the managers and engineers improve their professional skill and pass tests for certification.

In the framework of corporate social responsibility PJSC „Donetskoblgaz" regularly supported some cultural and sport events for employees and local communities. Some own cultural traditions are created at the „Donetskoblgaz" enterprise, such as hymn, cultural meetings for veterans, charity concerts for talented youth, etc.

Nevertheless, it is quite important task to reveal the needs and expectations of employees by means sociological research. This sociological research is aimed to study the individual attitude of respondents to some elements of corporate and organizational culture at the „Donetskoblgaz" enterprise. The main results of sociological research and characteristics of respondents are presented below.

In table 11 the distribution of respondents by aged groups is shown.

It is seen that small proportion of respondents from

Wage Fund in the „Donetskoblgaz" enterprise for 2008 – 2010, in thous.UAH

Indicator	2008	2009	2010	2008/2009 Annual change, in thous.UAH	Annual growth rate, %	2009/2010 Annual change, in thous.UAH	Annual growth rate, %
Base wage fund	68955.5	63020.2	87303.5	-5925.3	-8.59	24273.3	38.51
Variable pay fund	36200	28793.9	40815.7	-7406.1	-20.46	12021.8	41.75
Total wage fund	105155.5	91824.1	128119.2	-13331.4	-12.68	36295.1	39.53

Indexes of average wages for the period of 2008 – 2010, UAH

Indicator	2008	2009	2010	2008/2009 Annual change, in UAH	Annual growth rate, %	2009/2010 Annual change, in UAH	Annual growth rate, %
Average monthly wage in gas branch	2111	2394	2943	283	13.41	449	18.76
Average monthly wage in industry	2017	2117	2580	100	4.96	463	21.87
Average monthly wage in Donetsk region	2015	2116	2549	101	5.01	433	20.46
Average monthly wage in "Donetsk-oblgaz" enterprise	1827	1665.7	2330.6	-161.3	-8.83	664.9	39.92

Structure of the personnel in the „Donetkoblgaz" enterprise for 2008 – 2010, in persons

Indicator	2008	2009	2010	2008/2009 Annual change, in persons	Annual growth rate, %	2009/2010 Annual change, in persons	Annual growth rate, %
Managers	519	501	497	-18	-3.47	-4	-0.8
Specialists and professionals	567	544	534	-23	-4.06	-10	-1.84
Technicians and clerks	25	22	27	-3	-12	5	22.73
Workers	3650	3448	3461	-202	-5.53	13	0.38

aged groups of 20 – 25 years and up to 19 years, these respondents amounted to 6.5% of all sample. Also the small proportion of respondents from aged group 55 years and more was observed, only 14.21% of total number. The main group of respondents was represented by persons aged 25 – 55 years.

According to the information from the questionnaires the majority of respondents (57.89%) had tertiary education, 6.32% of respondents had a second tertiary education. The proportion of respondents with secondary education amounted to 7.89%. About 22.63% of respondents had secondary vocational education and

5.26% of the respondents had incomplete or basic tertiary education.

In table 12 the distribution of respondents by occupation is given.

It is seen from the table 12 results that managers amounted to hruppuvannya respondents to 57 persons or 30% of the all respondents. There were 21 female respondents and 36 male respondents among this group. Other group included specialists and professionals, number of respondents from this group amounted to 76 people or 40% of all respondents.

In this group 63 female and 13 male respondents

were. The group of workers included 57 persons or 30% of all respondents. Among them 23 female and 34 male respondents were.

Overall, in this survey 107 female ad 83 male respondents took part, and proportions of female and male respondents amounted to 56.32% and 43.68% relatively.

Among female respondents about 19.62% were managers, 58.88% were professionals and specialists, and 21.5% were workers. Among male respondents about 43.37% were managers, 15.67% were professionals and specialists, 40.96% were workers.

Most of managers supervised small number of employees (up 20 persons), but managers who supervised 100 and more persons also took part in survey.

In survey respondents have been asked about reasons of choice of jobs in gas branch.

In table 13 the reasons explained the choice of jobs in gas branch according the opinion of respondents is given.

As it is seen from the table 13 only 21 people (or 11.05% of respondents) said that their reason was concerned with family tradition. Among these 21 respondents 7 persons (or 33.33%) were managers, 9 persons (or 42.86%) were professionals and specialists, 5 persons (or 23.81%) were workers.

Number of respondents who choose reason as wish to work at big enterprise was 59 persons (or 31.05%). Among this group of respondents 23 persons (or 40.35%) were managers, 23 persons (or 30.26%) were professional and specialists, and 13 persons (or 22.81%) were workers.

The high wages as reason for choice jobs in gas branch was selected by 20 respondents (or 10.53%). Among them 6 persons (or 10.53%) were managers, 9 persons (or 11.84%) were professionals and specialists, and 5 persons (or 8.77%) were workers.

The similar distribution was for group of respondents who choose lack of other opportunities as reason of choice of jobs in gas branch.

About half of respondents indicated other reasons when they choose jobs in gas branch.

Other task of survey was aimed to evaluation of the attractive sides of „Donetskoblgaz" enterprise by respondents.

In table 14 the results of evaluation of attractive sides of „Donetskoblgaz" enterprise by different gender group of respondents is given.

It is seen that 46 (or 24.21%) noted high wage as one attractive sides of „Donetskoblgaz" enterprise. Among these 46 respondents there were 26 women (56.52%) and 20 men (43.48%). Nevertheless, 144 respondents (or 75.79%) did not support this view.

43 respondents (or 22.63%) indicated career development as one of the attractive sides of the „Donetskoblgaz" enterprise, but 147 respondents (or 77.37%) had another opinion.

141 respondents (or 74.2%) indicated stability of material status as one of attractive side of „Donetskoblgaz" enterprise.

Availability of social program was indicated by 134 respondents or 70.53% of total number.

It should be noted that stability of material status and availability of social program were more important for female respondents than for male ones.

78 respondents (or 41%) indicated on opportunity to have creative work as one of attractive side of „Donetskoblgaz" enterprise.

In table 15 the results of evaluation of attractive sides of „Donetskoblgaz" enterprise by different occupation group of respondents is given.

It is seen that 17 managers (or 29.82% of 57 managers) noted high wage, but 40 managers (or 71.12%) had another opinion. 19 professionals and specialists indicated high wage as attrctive side of „Donetskoblgaz" enterprise and only 10 wokers had similar opinion.

Career development as attractive side of „Donetskoblgaz" enterprise was noticed one third of respondents from different occupation group.

Most of respondents from different occupation group noticed the stability of material statusand social program as attractive sides of „Donetskoblgaz" enterprise.

More than half respondents from different occupation group indicated opportunity to have reative work as attractive side of „Donetskoblgas" enterprise.

In survey the respondents have been asked about importance of different corporate events such as corporte holidays, corporate trainings, corporate health and sport support events, corporate cultural events. Respodents ranged these options according their preferences. For majority of all respondents from different aged, occupation and gender group the organization of corporate health and sport support events were more important than other kind of social corporate activity.

In survey about 55.26% of respondents noted the importance of corporate culture as factor of stable functioning of enterprise. About 56.32% respondents were convinced that visible elements of corporate culture are important in their work. More than half respondents supported reforms in gas branch and in the „Donetskoblgaz" enterprise.

Conclusions

Successful strategy of corporate development depends on the good corporate governance and competitive organizational culture. In Ukrainian industrial corporations organizational culture is connected with heritage of Soviet period, percularities of national economy and traditional mentality of employees. Organization culture at the „Donetskoblgaz" enterprise has attributes of technical-bureaucratic type and is characterized by strong role of formal leaders and managers. Current status of organizational culture at the „Donetskblgaz" enterprise is at the stage of maturity. But outcoming reforms in gas branch, transformation of public and state corporations are a signal that some

Table 11.

Distribution of respondents participated in sociological research in the „Donetskoblgaz" enterprise by aged groups

Aged groups	Counts	Frequency, in %
Up to 19 years	1	0,53
20-25 years	11	5,79
25-35 years	49	25,79
35-45 years	52	27,37
45-55 years	50	26,32
55 years and more	27	14,21
Total	190	100

Table 12.

Distribution of respondents participated in sociological research in the „Donetskoblgaz" enterprise by occupation

Occupation	female	male	Total
Managers	21	36	57
Specialists and professionals	63	13	76
Workers	23	34	57
Total	107	83	190

Table 13.

Reasons of jobs in gas branch according the opinion of respondents

Occupation	Family tradition		Wish to work at big enterprise		High wage		Lack of other opportunities		Other		Total
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Managers	7	50	23	34	6	51	3	54	21	36	57
Specialists and professionals	9	67	23	53	9	67	8	68	27	49	76
Workers	5	52	13	44	5	52	10	47	25	32	57
Total	21	169	59	131	20	170	21	169	73	117	190

Table 14.

Results of evaluation of attractive sides of „Donetskoblgaz" enterprise by different gender group of respondents

Gender group	High wage		Career development		Stability of material status		Social program		Opportunity to have creative work	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Female	26	81	21	86	84	23	76	31	43	64
Male	20	63	22	61	57	26	58	25	35	48
Total	46	144	43	147	141	49	134	56	78	112

significant changes of organizational culture at the „Donetskoblgaz" enterprise will be appeared. The main task of enhauncement of organizational culture at the „Donetskoblgaz" enterprise is connected with financial and non-financial motivation of human resources. More employees should be involved in participation in the mangerial processes and leadership skills should be developed for different target groups of young employees. An important role should play informal and non-formal education of employees such as mentor assistance, team work, trainings, etc. More transparent information policy should be implemented at different departments of „Donetskoblgaz", it will improve image of this enterprise, motivation and responsibility of employees. Periodical sociological research at the „Donetskoblgaz" enterprise should be provided for monitoring of social needs and expectations of personnel, results of social monitoring of personnel should be used for development of social programs in framework of corporate social responsibility.

Table 15.

**Results of evaluation of attractive sides of ,,Donetskoblgaz" enterprise
by different occupation group of respondents**

Occupation group	High wage		Career development		Stability of material status		Social program		Opportunity to have creative work	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Managers	17	40	14	43	44	13	39	18	33	24
Specialists and professionals	19	57	17	59	55	21	57	19	26	56
Workers	10	47	12	45	42	15	38	19	19	38
Total	46	144	43	147	141	49	134	56	78	112

References
1. **Albert S.**, Whetten D., Organizational Identity, Research in Organizational Behavior, 1985. – 214 p. 2. **Crowther D.**, Seifi S., Corporate Governance and International Business, Mille Bidslev&Ventus Publishing ApS, 2011. – 312 p. 3. **Gomez C.**, The influence f environmental, organizational and HRM factors on employee behavior is subsidiaries: a Mexican case study of organizational learning // Journal of World Business. – 2004. – № 2. – P. 34 – 45. 4. **Lægaard J.**, Organizatinal theory, Mille Bidslev&Ventus Publishing ApS, 2006. – 268 p. 5. **Lawrence P.**, Lorsch J., Organization and Environment – Managing Differentiation and Integration, Harvard University, Boston, 1967. – 326 p. 6. **Mintzberg H.**, Organization Design, Fashion or Fit // Harvard Business Review. - 1981. – № 3. – P. 45 – 56. 7. **Schein E.**, Organizational Culture and Leadership – a dynamic Review, Jossey-Bass, San Francisco, 1985. – 388 p.

Костін Ю., Масс М., Дубровіна Н. Проблеми соціального та економічного розвитку на підприємстві ,,ДОНЕЦЬКОБЛГАЗ"

У статті подано результати дослідницького проекту, що базуються на вивченні соціального та економічного розвитку на підприємстві ,,Донецькоблгаз". Проаналізовано тенденції економічного розвитку підприємства. Для аналізу соціальних процесів було розроблено анкету, що містить профіль респондентів та їхню оцінку корпоративних і організаційних компонентів культури в зазначеному підприємстві. Було виявлено чинники, що визначають стимули та особисті відносини, елементи культури ведення загального бізнесу і організаційної поведінки серед працівників різної статі, віку і професійних груп на підставі статистичного дослідження.

Ключові слова: підприємство, розвиток, персонал, соціологічне дослідження.

Костин Ю., Масс Н., Дубровина Н. Проблемы социального и экономического развития на предприятии ,,ДОНЕЦКОБЛГАЗ"

В статье представлены результаты исследователь-ского проекта, основанные на изучении социального и экономического развития в предприятии ,,Донецк-облгаз". Проанализированы тенденции экономического развития предприятия. Для анализа социальных процессов в этом предприятии была разработана анкета, содержащая профиль респондентов и их оценку корпоративных и организационных компонентов культуры в упомянутом предприятии. Были выявлены факторы, определяющие побуждение и личные отношения, элементы культуры ведения общего бизнеса и организационного поведения среди работников различного пола, возраста и профессиональных групп на основании статистического исследования.

Ключевые слова: предприятие, развитие, персонал, социологическое исследование.

Kostin Yu., Mass M., Dubrovina N. Problems of Social and Economic Development at the ,,Donetskoblgaz" Enterprise

The results of the research project based on the study of social and economic development at the ,,Donetskoblgaz" Enterprise are presented. The trends of economic development at the ,,Donetskoblgas" Enterprise are analysed. For analysis of social processes in this enterprise the questionnaire containing the respondents' background and their estimation of components of corporate and organizational culture components at the mentioned enterprise was created. The various factors determining the motivation and personal attitudes to separate elements of corporate and organizational culture among the employees of different gender, age and professional groups were revealed on the basis of statistical research. By the results of the carried out research the priority tendencies and recommendations for the social and economic development at the ,,Donetskoblgaz" enterprise are revealed.

Key words: the enterprise, development, personnel, sociological research.

UDC 336.711(420)-047.37

B. Bozhinov,
Assoc. prof., D. A. Tsenov Academy of Economics - Svishtov

THE ROLE OF THORNTON AND BAGEHOT FOR THE DEVELOPMENT
OF LENDER OF LAST RESORT CONCEPT

The emergence of the lender of last resort concept is closely related to the emergence and institutionalization of the Bank of England as a Central Bank for England. The term **„lender of last resort"** was used by Sir Francis Baring in his „Observations on the Establishment of the Bank of England **a**nd on the Paper Circulation of the Country"[1], published in 1797, in which he referred to the Bank of England as the *der-nier resort*[2], from which all banks could obtain liquidity in times of crises.

The concept itself was developed and systematized in the works of Henry Thornton and mainly in the book „An Enquiry into the Nature and Effects of Paper Credit of Great Britain"[3], published by him in 1802 where he identified the Bank of England's distinguishing characteristics as a lender of last resort. Thornton distinguished between the macro- and microeconomic aspects of this function as well as its role for preventing and absorbing macroeconomic shocks. He investigated what influence the banking sector liquidity support would have on the monetary control in the economy carried out by the Central Bank, incl. to what extent these two functions contradict each other. Besides, for the first time in the world literature the author enunciated and examined the „moral hazard" problem arising from the presence of a lender of last resort for the banking sector.

The main characteristics of a lender of last resort according to Thornton are[4]:

– Key and last resort of liquidity for the financial system;

– Guard of the central gold reserves and the responsibilities arising thereof;

– Specific social responsibilities, as a result of its particular role in the economy.

The Central Bank as a special type of bank maintains a strategic reserve of gold stocks and along with this – as a monopoly note-issuing bank – it can create unlimited amount of banknotes[5], which are accepted as legal currency and complete replacement of gold coins. Thus it is an **unlimited source of liquidity** for the whole financial system, which in turn enables it to give liquidity support in times of crises. In Thornton's view it is this ability that is the first and key characteristic of a lender of last resort. In this way he proves that only a Central Bank of issue can perform this function as, otherwise, any other institution would not have access to unlimited sources of liquidity, i.e. it would not be able to give unlimited liquidity support in crisis periods.

The second distinguishing characteristic of a lender of last resort defined by Thornton relates to special **responsibilities as a keeper of the central gold reserves**[6]. In his opinion this institution not only has to keep considerable reserves through which to inspire complete trust in their actual availability in times of crisis, but it also has to have enough own resources, as being a „last resort" it cannot turn to other sources of liquidity.

In addition to this characteristic Thornton adds that the Central Bank needs to be ready at any time to issue the necessary amount of banknotes to prevent the panics leading to internal drain of gold reserves[7]. Thus, the main purpose of the lender of last resort is not only to deal with the primary shock, but rather to prevent secondary shocks that lead to hardships for the real economy. It is

---

[1] Baring, F. Observations on the Establishment of the Bank of England and on the paper circulation of the country. Minerva Press for Sewell and Debrett, London, 1797. http://www.ier.hit-u.ac.jp/library/fr71-56/44-1.htm

[2] From legal French – „last resort".

[3] The original title: Thornton H. An Enquiry into the Nature and Effects of Paper Credit of Great Britain, 1802.

[4] Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, pp. 9-11.

[5] The current study does not discuss the inflation problems resulting from over-issuing of banknotes unsecured with gold.

[6] This characteristic of a lender of last resort arises from the fact that at this historic moment England was in a gold standard, i.e. it guaranteed 100% converting of banknotes issued by the Central Bank into gold coins.

[7] According to Thornton there are two scenarios possible:

1. Internal withdrawal of the gold stocks when the gold stocks are withdrawn from the bank system, but remain in the country.

2. External withdrawal of the gold stocks when, for one reason or another, the gold stocks leave the national economy.

For details see Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Cato Journal, Vol. 4, N 1 (Spring/Summer 1984), pp. 275 – 318.

through willingness for additional but still prudent issuance of banknotes, that the Central Bank counteracts the drain of gold stocks. Thus it preserves the amount of money in circulation, protecting the economy from the unfavorable effects of the contractions in the money supply.

Unlike the ordinary commercial banks whose responsibilities spread only to the respective stockholders, according to Thornton, the responsibility of the lender of last resort spreads to the whole economy, i.e. it has **social responsibilities** as well. To these he refers the preserving of the aggregate amount and the purchasing power of the national currency during bank escapes and panics as well as the supporting of the entire financial system in times of a crisis. It is namely these responsibilities that predetermine the behaviour of the lender of last resort during a crisis, when it expands the range of extended credits and issued notes and credits in total contradiction to the policy of the commercial banks during a crisis[8]. Every contraction of credit or money expansion during a crisis by the lender of last resort would lead to an unfavourable impact on the entire economy.

All these specific requirements, described by Thornton, allow for the role of a lender of last resort to be played solely by the Central Bank of issue in compliance with the respective economy.

Along with the description of the specific characteristics of a lender of last resort Thornton's contribution to the studied issues is supplemented by his research on the influence which this function would have on the traditional activity of a central bank. This research can be most generally summarized in the following four trends[9]:

– possible conflict between the responsibilities of the Central Bank as a regulator of the note component of money stock and its function as a lender of last resort;

– degree of responsibility of the lender of last resort to the individual banks and the banking system as whole;

– role of the lender of last resort in preventing the shocks of the financial system;

– identifying the main purpose of the lender of last resort in economy.

As long as one of the main tasks of the Central Bank is to guarantee a stable non-inflation growth of the note component with the aim to avoid devaluation of the national currency and the drain of gold reserves, it has to follow a restrained policy regarding expansion of the banknotes it issues. At the same time in periods of liquidity crises it has to give credits freely and to issue such an amount of banknotes as to cover the liquidity need and thus – to overcome the crisis in its initial stage. This leads, of course, to an apparent **conflict between its goals and responsibilities as a regulator of the note component of money stock and as a lender of last resort.**

Thornton's contribution in this direction is that he was the first to distinguish clearly between the Central Bank's long-term policy for stable monetary growth and the short-term measures for coping with liquidity crises. In his opinion the short-term growth of the amount of notes issued for coping with the liquidity hardships will not affect the Central Bank's long-term goals provided that it takes them out of circulation after recovering its gold reserves. In this way it can enable the long-term growth of money in circulation to correspond to the growth rate of economic activity in the country and at the same time it will avoid the inflation processes caused by the growth of the note component.

If the Central Bank responds fast and firmly as early as the first symptoms of panic and liquidity hardships appear, these negative trends can be overcome within two days. The fast overcoming of panic will eliminate or greatly reduce the need of issuing additional notes, thus the deviation of the money from the long-term target level will be little regarding both time and amplitude.

As regards **commitments and responsibilities of a lender of last resort to individual banks**, Thornton simply and clearly expresses the view that the main responsibility is for the whole system or, as he calls them „common interests"[10], but not for the state of the individual banks. Besides, every bank that finds itself in a crisis due to poor and incompetent management, reckless risk-taking or negligence should be left to go bankrupt, i.e. to pay for its imprudence through the loss suffered by its shareholders.

According to him aiding distressed individual banks is justified only when the bankruptcy of the respective bank can lead to wide spreading problems for the banking system and the economy as a whole. Even in these cases the aid has to be meager and difficult to access, as a

---

[8] A logical step of commercial banks during a crisis is to limit the extended credits, to raise the collectibility of credits already extended as well as to contract the issuing of notes, with the aim to raise the liquidity and stability of the respective bank.

[9] When discussing Thornton's views on these problems we should bear in mind the historical era in which he lived and worked as well as the fact that these considerations mainly relate to the role of the Bank of England in the English economy.

[10] Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, p. 14.

policy of fast and generous lending to problem banks would create stimuli for poor management and excessive risk-taking in the lending policy of the other banks without fear of the consequences of such a policy and management. Thus, Thornton was the first to formulate the issue of the so-called „**moral hazard**".

Regarding the question **whether a lender of last resort has to try to prevent the shocks for the financial system,** Thornton replies negatively – according to him a lender of last resort exists not to prevent shocks but to minimize their secondary echo[11]. This statement is completely logical as the Central Bank is not able to control all triggering events; the only thing it can do is create a set of measures for limiting and reducing the negative impact of these events.

In this context if a particular bank goes bankrupt it is only the lender of last resort that can take measures to provide the necessary market liquidity with the aim to eliminate the secondary impact of that failure – liquidity difficulties in the entire banking system and chain bankruptcies among the other banks. From this point of view the emergence of large-scale panic in the national economy will be due not to the bankruptcy of a particular bank but rather to the failure of the Central Bank to protect the economy from the impact of that event[12]. In this way Thornton once again outlines the key role of the lender of last resort for the stability of the banking system and the economy as a whole and the price of every mistake it has made.

According to him the actions of a lender of last resort for preventing liquidity crises and bank escapes are subjected mainly to the task to preserve the money supply and stability of the national currency. The impossibility of a lender of last resort to fulfill its purpose would lead to a sharp decrease in the money supply, which in turn would result in a drop in the level of economic activity in the country. Thus he views **a lender of last resort as monetary rather than bank function.**

Summarizing his points of view Thornton defines the role and **purpose of a lender of last resort**[13]:
– preventing large-scale bank failures;
– preserving the confidence in the bank system;
– preventing collapse in the prices of assets in times of crises;
– counteracting the danger of mass withdrawal of currency;
– ensuring the ability of banks and other lending institutions to meet their liabilities.

Walter Bagehot[14] developed Thornton's ideas about lender of last resort. He extended and complemented the functions and commitments of the lender of last resort and gave a modern interpretation of the problem, which has remained unchanged over the past two centuries.

The contributions and innovations in Bagehot's views can be summarized in the following five areas[15]:

First, a clear distinction is made between preventive and subsequent support of the Central Bank during a crisis. In his opinion the role of the lender of last resort is not restricted only to the interference during a crisis, but to the giving of a clear and unambiguous sign to society that it will interfere unconditionally in any case of necessity and will lend freely to all institutions concerned. The presence of confidence for a future support in case of crises calms the population and helps to generate stabilization expectations reducing the stimuli for panicked withdrawals of gold from the bank system.

Second, last resort lending should be done with a penalty interest rate. In this way the distressed banks will receive the necessary liquidity support but will pay the price for their imprudence, i.e. they will pay for the protection provided by the Central Bank. At the same time the penalty interest rate will restrict the banks in using that form of lending, stimulating them to look for alternative sources of liquidity. Thus the credits obtained from the Central Bank will really be of last resort after exhausting all other options.

Third, it should be clearly defined which borrowers will have access to last-resort lending, and what the acceptable collateral for this will be. According to Bagehot the Bank of England **should lend to everybody who offers good collateral.** Thus he extends the range of the lender of last resort, going beyond the frameworks of the banking system and

[11] Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, p. 19.

[12] Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, p. 19.

[13] Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, p. 20.

[14] Bagehot W. Lombard Street: A Description of the Money Market. http://www.econlib.org/library/Bagehot/bagLom.html

[15] For details see Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective. Working paper 84-03, Federal Reserve Bank of Richmond, 1984, pp. 26 – 28.

covering the whole economy – banks, traders, firms and people[16].

This can be explained with his view that the Central Bank must give liquidity to the market rather than to the distressed banks. In this sense whether it will lend to banks or their clients, it satisfies the market's demand for liquidity.

As far as the acceptable collaterals against that kind of lending are concerned, according to Bagehot the Central Bank has to accept all quality assets (policies, securities, shares, bonds, etc.), which later can be cashed without any problems. The price at which these assets are to be evaluated should be their price at normal times regardless of the fact that at that moment their market price has temporarily fallen below the nominal, due to the drop in the securities market. Besides, according to him the Central Bank should rely mainly on the penalty interest rate and restrain from administrative caution, moral beliefs and other quality restraining measures in last-resort lending.

Fourth, Bagehot outlines precisely the scope of responsibility of the lender of last resort – only the banking system but not the insolvent banks. He thinks that only healthy banks should be helped and the others should be left to go bankrupt. Thus he specifies that the lender of last resort does not have to prevent individual bank failure at any cost but rather to limit its impact only to the unhealthy institutions creating a healthy and competitive environment in the banking sector. There is no exception from this rule even for the big and key banks whose failure could lead to a loss of public confidence and subsequent cascading financial collapses if they are poorly managed or have led an imprudent policy. In this way he declares unambiguously that the function of a lender of last resort should not be viewed as a guarantee that banks will not be allowed to fail, but rather that the failures will not be transferred to the healthy institutions.

Fifth, directly related to the above said is the view that **the lender is not a substitute of prudent banking practices.** Banks have to rely mainly on their own resources and soundness and not only on the liquidity assistance by the Central Bank. Thus he emphasizes the need of consolidation of individual banks. In compliance with his philosophy of non-interference in the private institutions and free market he thinks that the key power of the banking system has to be based not on the existence of a lender of last resort but on the individual banks' resources and health.

In his opinion the banking system must be organized in such a way that every individual bank is obliged to maintain certain cash reserves to ensure that it can meet a certain growth in the liquidity demand without any problems. In order to achieve such a system, he proposes that the banks have to face punishment for forced bankruptcy if they do not maintain appropriate levels of reserves. In this way he launches for the first time the prototype of the **idea of mandatory minimum reserves.**

The role of the penalty interest rate in last-resort lending takes a special place in Bagehot's views. As has already been indicated the Central Bank has to give liquidity support in case of crisis but the loans it extends must necessarily include an element of punishment in the form of penalty interest rate for the liquidity support it gives. Moreover, Bagehot thinks that the use of penalty interest rate will have a favourable impact as[17]**:**

– **it protects the gold reserves by encouraging the import and preventing the export of gold coins from the country**. The high interest rate will help to attract short-term capitals from abroad and at the same time will have a deflationary influence on the level of economic activity improving the balance of trade;

– the high interest rate on the credits extended by the Central Bank makes them unfavourable for the commercial banks and thus stimulates the prompt repayment of loans after the crisis period is over. This, in turn, **helps the rapid contraction of the note component,** which during the crisis has increased sharply as a result of the issuance of emergency banknotes. In this way the Central Bank avoids inflation risk and returns to pursuing its goals to maintain sustainable growth of the note component of the money supply, the deviations from these goals during the crisis being minimal both in duration and amplitude;

– **the high interest rate will reduce the amount of the precautionary cash reserves, which the banks maintain**. According to Bagehot the Central Bank must impose a penalty interest rate as early as the beginning of the panic in order to prevent the obtaining of credits from it, too as an additional precautionary measure by the commercial banks and thus to additionally protect its gold reserves;

---

[16] Bagehot W. Lombard Street: A Description of the Money Market. http://www.econlib.org/library/Bagehot/bagLom.html
[17] For details see Humphrey T., R. Keleher. The Lender of Last Resort: A Historical Perspective, Working paper 84-03, Federal Reserve Bank of Richmond, 1984, pp. 29-30.

– **the penalty interest rate will provide an incentive for the banks to exhaust all market sources of liquidity and even to develop new sources before going to the Central Bank**. In this way, he thinks, the commercial banks will be encouraged to develop better techniques for managing their available resources, as well as to develop new channels for mobilizing the existing liquidity through the capital market.

According to Bagehot the penalty interest rate can also be used as a **test for the soundness of the borrowers in trouble.** The high interest rate set at several points above the market one will stimulate non-liquidity banks to turn first to the market for providing the liquidity they need. If the banks are in a good condition and only have temporary problems as a result of the sharp increase in the demand for liquidity, then the lenders will assess this and will extend them the credits they want. On the other hand, if the market decides that the respective bank is too risky to be credited, then it will be forced to turn to a lender of last resort to get the liquidity support it needs. Thus the turning itself of the distressed banks to the Central Bank for liquidity assistance will indicate the presence of serious weaknesses in the respective institutions.

Admittedly, the last arguments hold true only in normal times or at the beginning of the crisis before the market gets under massive liquidity pressure. The breakup of the market during a severe financial crisis even the healthiest banks would hardly get the necessary liquidity support from it, which would make them turn to the lender of last resort.

Walter Bagehot's points of view discussed above supplementing and developing Henry Thornton's conceptual formulations enable us to view him as the creator of modern concept of the role of the Central Bank as lender of last resort in the national economy.

Божінов Б. Роль Г. Торнтона та У. Беджета в розвитку концепції „кредитор останньої інстанції"

Виникнення і розвиток концепції „кредитор останньої інстанції" впритул пов'язано з виникненням та інституціоналізацією Bank of England в якості центрального банку Англії. Уперше термін „**кредитор останньої інстанції"** було використано сером Френсисом Берінгом, ідея отримала розвиток і була систематизована в роботах Генрі Торнтона і Уолтера Беджета. У статті детально показано розвиток ключових характеристик „кредитора останньої інстанції" в дослідженнях обох авторів та його генезис до сучасного тлумачення.

Ключові слова: банки, центральний банк, кредитор останньої інстанцію, стабільність банку, надійність банківської мережі.

Божинов Б. Роль Г. Торнтона и У. Бэджета в развитии концепции „кредитор последней инстанции"

Возникновение и развитие концепции „кредитор последней инстанции" вплотную связано с возникновением и институционализацией Bank of England в качестве центрального банка Англии. Впервые термин **„кредитор последней инстанции"** был использован сэром Фрэнсисом Бэрингом, при этом идея получила развитие и была систематизирована в работах Генри Торнтона и Уолтера Бэджета. В статье детально прослеживается развитие ключевых характеристик „кредитора последней инстанции" в исследованиях обоих авторов и его генезис до современного толкования.

Ключевые слова: банки, центральный банк, кредитор последней инстанции, стабильность банка, надежность банковский сети.

Bozhinov B. The Role of Thornton and Bagehot for the Development of Lender of Last Resort Concept

The emergence and development of the lender of last resort concept is closely related to the emergence and institutionalization of the Bank of England as a Central Bank for England. The term **„lender of last resort"** was firstly used by Sir Francis Baring and the idea was developed and systematized in the works of Henry Thornton and Walter Bagehot. The present article makes a detailed overview of the development of the key characteristics of lender of last resort in the works of the two authors, and its genesis to its modern interpretation.

Key words: banks, central banks, lender of last resort, bank stability, bank safety net.

I. Riss,
Israeli Central Bureau of Statistics, Jerusalem

THE „WAVE APPROACH" IN MIGRATION RESEARCH WAVES OF IMMIGRATION TO ISRAEL, 1974 – 2001

Introduction

Every stream of migration starts, surges, and eventually ebbs. The term „waves of migration is commonly used, and mechanism of migration waves is repeatedly referred in the literature. Faist (2000) describes the formation of a migration wave and shows process behind it. Massey (1988) proposes a cumulative causality approach that depicts the mechanism through which a migration wave develops. It has been noted that migration streams from most European countries in the nineteenth century followed an inverted „U shape (Akerman, 1976; Massey, 1988; Hatton, and Williamson, 1998). This was accounted for the role of demographic factors such as growing impending migrants stock, which was responsible for the upswing of migrations, followed by a weakening of these forces due to a strong convergence of European real wages with those in the New World, causing the migration to fade. It was also observed that rates of out-migration follow a trajectory that moves from low to high to low values, yielding an inverted U-shaped curve which Martin and Taylor (1996) have called the „migration hump. Important efforts to investigate migration waves have been made in order to determine wave-like changes in the rates of emigration (Locher, 2000, 2001, 2002). It is known that during the development of a migration wave, both the volume and the composition of the migration stream undergo noticeable changes. The discovery of regularities in these phenomena may be useful not only in theoretical research but also in the practical forecasting of migration processes. This paper tries to pull attention to some of such regularities checking them on Israeli immigration data. The analysis of other data sets must check and clarify the hypotheses formulated here.

Flows of information play an essential role in the formation of migration streams. Hatton (1995) examined this phenomenon with regard to emigration from the United Kingdom in the nineteenth century. Epstein and Hillman (1998) proposed a model of informational cascades in migration, in which making decisions about migration depends on information flows. Analysis of informational flows at different stages of the migration process indicates some critical steps, interactions, and decision-making from the point of view of individual migrants (Benson-Rea and Rawlinson, 2003). This model aims to explain an increase in migration rates over time. There is an additional aspect of functioning of informational flows in migration formation: the information obtained by would-be migrants might be imperfect. Such „mistaken migrants are frequently found

in the stream of return migration (Borjas and Bratsberg, 1996). In case, when the migration was planned to be permanent, the volume of return migration may serve as an indicator of the quality of information that was available to people at the time of their emigration.

Selectivity in migration – that is, the composition of migration streams – has received considerable attention from researchers. Migrant selectivity is usually understood as an array of migrants' demographic, economic, social, and other characteristics, which are measured with respect to relevant characteristics of the sending and/or receiving populations. All researchers agree that migration is selective in the sense that every migration stream involves some population groups more than others; Borjas (1999) presents theoretical models of the subject. Numerous studies have been dedicated to discovering regularities in migration selectivity, including classic works on laws of migrations by Ravenstein (Grigg, 1977), on migration differentials (Thomas, 1938), and on migration theory (Lee, 1966). A long list of migration generalizations was provided by Pierson (1973).

Selectivity is frequently studied in the context of differences between migrants and stayers or between migrants and natives of places of destination (Borjas, 1987; Chiswick, 1999; Zavodny, 2001). Numerous studies have used the theory of Roy (1951), to demonstrate that migrants are differed from the native population in non-random ways. Within the framework of this theory, Borjas (1987) studied the skill differentials between immigrants and natives in wage distribution to emphasize that migrants are non-randomly selected from the native population. The composition of the migration flows by skills is determined by individuals' positions in their home-country wage distribution and the cross-country variance differential. A method frequently used to examine whether immigrants are selected from the high or low levels of a skill is to compare them to natives in the destination country. This method is based on the presumption that there must be a strong positive correlation between the earnings a worker may expect in the home country and the earnings he or she may expect in the destination country. Borjas (1987, 1991) and Cobb-Clark (1993) estimated this for immigrants and natives in the United States, using data from decennial censuses or from the Current Population Survey. Jasso, Rosenzweig, and Smith (2000) used a similar method for legal permanent residents in the USA, using current data from the Immigration and Naturalization Service. Positively selected migrants expected to have greater success in their adjustment in the destination country (Chiswick, 1999). Some studies

have found a positive selection of migrants respective to their former non-migrant compatriots (Bailey, 1993; Borjas, 1987, 1991; Islam and Choudhury, 1990; Hvidt, 1975), while others have found a negative selection (Borjas, 1990; Greenwood et al., 1996; Zavodny, 2001). Similar finding were published concerning the selectivity of migrants in respect to receiving populations. Some studies allow for both sides of the selectivity process: that is, they look at both the sending and the receiving populations (e.g., Feliciano, 2005). There are fewer references in the literature to possible relationships between the development of migration waves and the evolution of migrants' selectivity. Borjas and Bronars (1991) suggest that in the case of sequential family migration, family members who are best suited for migration will be the first to move, with less-suited family members then following.

Migration Waves and Wave-like Pattern of Migrants' Selectivity

The migration stream appears as response to real and/or imagined pull and/or push factors under existing conditions in places of origin and destination, and along routes of migration streams. The migration expands until the region of arrival attains a point of saturation and/or until the pool of prospective out-migrants in the region of departure runs low. When this happens, the migration stream gradually diminishes. This wave-shaped phenomenon is accounted for by negative feedback in the migration process, involving the demand/supply of migrants, information flows, and other factors.

The migrants' composition changes as a wave of migration develops. Seemingly, these changes present certain regularities, which generally speaking may be described as follows. Selectivity of migrants evolves in wave-like manner in which the migrants' characteristics align themselves with the factors of migration. At the initial onset of a migration wave, several definite types of people migrate – alienated persons that are weakly connected with their place of residence, people motivated by *Wanderlust,* ideological migrants, and the like. Next, people who receive information about a place of destination that they consider reliable, from previous migrants or from other sources, begin to migrate. They believe that migration will improve their living conditions in its important aspects. These people conform maximally to the specific type of migration stream, i.e., to the main factors that generate the migration stream. If the main factors attract qualified professionals, their per cent among the migrants will increase; if they attract unskilled workers, this component will increase, and so on. As the migration stream gathers strength, the degree of migrants' conformity to the migration factors rises. In the final phase of the migration wave, the migration stream includes, in greater part, people who for various reasons could not or did not want migrate earlier and do not correspond to the main factors of the migration stream. Now the migrants' conformity to the main factors of the

migration wave becomes low. Thus, the conformity of migrants' characteristics to the generating force of the migration stream is higher near the peak of the migration wave and lower at its beginning and its end. At each stage, migrants who have properties fitting the given stage are selected. At the outskirts of migration wave may be seen deviations from the expected pattern of wave selectivity. It may be explained by interference with a new beginning wave of migration between the same places of origin and destination. During this process, two interrelated waves are emerging: a wave of migration and a corresponding wave of change in migrants' selectivity.

Positively selected migrants originate among owners of higher human and social capital. They will be more represented among the migrants at the peak of the migration wave. Negatively selected migrants are those with lower human and social capital in the place of origin. At the closing stage of the migration wave, there will be more persons with low social capital, those who have difficulties in decision-making due to various reasons – personal, psychological, or social. Thus, we suppose that usually a share of the positively selected migrants grows at the peak of migration wave though they may not constitute a majority. Consequently, defining if the observed set of migrants has been selected positively or negatively depends on the stage of migration wave from which the studied set of the migrants has been drawn; and, therefore, the conclusions about the character of selectivity in the entire migration stream may turn out to be erroneous.

There is a supplementary basis for more positive selection of migrants around the peak of a migration wave. Each population has a socio-demographic core, comprising those people who are maximally integrated from the economic, societal, and demographic points of view. For most populations of the developed countries, the core may be defined as people who are educated, married, and younger or middle-aged. They have higher productive and reproductive potential, and are usually less prone to migrate, due to possible problems with transferability of their human and social capital. The prospective migrants are „heavier", whether they carry their considerable capital in all its forms with them or are compelled to leave it behind. This „burden" prevents them from leaving the places of origin until the generative and shaping factors of the migration system does not bring them into motion. The „heavier" migrants need more information about transferability of their capital into the place of destination in order to make a migration decision. With amplification of the migration wave, the stream of migration drags more persons out from the socio-demographic core of the sending population; those who would not have migrated with a lower strength of migration. The share of „heavier" migrants is growing. These migrants are stronger than other in the stream, and they can take more places in the migration channel. The „heavier" migrants may not be leading migrants, and they usually constitute a minority in the migration stream.

„Heavier" migrants have more ability to seize a place in the migration channel. They will also usually be strong migrants, so their share in the migration stream is expected to grow with the surge of the migration wave. If there exists a clear selective push/pull factor, the share of responding migrants will grow with a surge of migration. When specific generative factors general demographic pressures do not exist, the responding migrants cannot be detected, but the share of stronger migrants will still be higher at the peak of the wave.

Data

To examine the hypothesis presented above, we use published statistical data on immigration to Israel between 1974 and 2001. Israel provides a good source of data for the research of migration streams, since data in machine-readable form about all legal immigrants has been gathered in several governmental institutions, including the Ministry of Absorption and the Israeli Central Bureau of Statistics, since the late 1960s. We chose a number of migration streams for which the data was maximally complete. Naturally, these were the main migration streams to Israel. The data for immigration from the USSR/FSU (former Soviet Union) was available for the years 1974 – 2001. For other main migration streams, the published data that are needed for the purpose of analysis were available only for the period 1974 – 1991.

We briefly describe the waves of immigration to Israel, and finally present the findings of our study. During the years 1967 – 2001, more than 1.6 million people have immigrated to Israel. We shall consider some of the main streams of Jewish immigration to Israel, referred to in Hebrew as *Aliyah*. These streams differed one from another in their volume, intensity, and composition. Since most of the streams are characterized by a comparatively high proportion of professionals among the immigrants, we will confine our research to such waves. The socio-demographic cores of all sending populations of immigrants to Israel are similar. However, different streams of immigration to Israel differ in their percentage of professionals.

The demand for professionals was important in all periods of immigration to Israel, because human capital is a staple resource in its economy, but the level of this demand has changed during the years under consideration. Flows of highly skilled migrants are driven largely by industry and market requirements (Iredale, 2001). Immigration to Israel resulted not only from such requirements, but also by strong push factors, which brought the mass exodus from the USSR/FSU. Israeli researchers regard the immigration to Israel as mass migration of skilled workers (Paltiel, 2001). In typology of skilled migrations by migrants' motivation (Iredale, 2001), Jewish immigration to Israel may be qualified as „ethical emigration", which falls somewhere between „forced emigration" and „brain drain", depending on the country of origin.

Immigration from USA

The Jewish population of the USA through the years under consideration stood at about 5.5 million. Jews in the USA are an ethnic group that is highly integrated into American society (Steinlight, 2004). The total number of American immigrants who arrived in Israel between 1974 and 1991 was 42,016. This volume is lower than that from the Soviet Union, but higher than that from France, the United Kingdom, or any single Latin American country, including Argentina. Taking into account the size of American Jewish population, the number of immigrants looks rather low. The propensity to move to Israel from the USA is based on Zionistic idealism, the development of education programs in Israel, and the maturation of a generation of graduates of Jewish day schools and other intensive Jewish learning programs in the United States (Rebhun and Waxman, 2000; Waxman, 1989). The increase in the number of American immigrants occurred when the total volume of immigration to Israel had slowed down, thus producing significant growth in their relative share of the total Aliyah. This was a consequence of Israeli immigration policy, which slowed immigration from secure countries at times when immigration from distressed regions was possible. This policy is a major cause of the origin of the waves of immigration from the USA. Despite sharp fluctuations from the mid-1970s to the 1990s in the annual number of American immigrants, the overall pattern is one of decline, from almost 3,000 per year in 1974 – 1979 to an average of just over 2,000 in the following decade. The decline in the volume of American immigrants in the 1980s was modest in comparison to the trends of the total Aliyah. These differences strengthened both the proportion of Americans among all immigrants (with an unparalleled value of 20.7 per cent of total immigrants in 1986) and their influence on the Jewish population growth. The growth in the volume of the Aliyah from the USA may result from the decrease of the Aliyah from other places of origin.

Immigration from Argentina

In 1982, there were about 230,000 Jews in Argentina (Schmelz and DellaPergola, 1985). The population presented the modern demographic patterns characteristic of more developed regions of the world. Financially, Argentinean Jews belonged to the middle or upper class. Argentinean Jewry does not suffer from anti-Semitism or other forms of ethnic discrimination. Sum excesses, however, had place in some years during the 1970s and 1980s. In the 1970s, Argentina was ruled by a military dictatorship responsible for the disappearance of innumerable Argentinean citizens, including many Jews. After the Junta seized the power in 1976, the wave of immigration to Israel surged, but it gradually faded by 1981. Argentinean Jews were involved in a struggle against the Junta, and about 15 – 20 per cent of guerrilla fighters killed in the early stages of the „dirty war" were Jewish.

In 1982, Argentina was defeated in the war with the United Kingdom over the Falkland Islands (Malvinas), and this forced the collapse of the Junta and led to calls in favour of free elections to re-establish a legally constituted civilian government. Economically, 1982 was hard for Latin America, and it resulted in a new wave of immigration to Israel. The next wave was connected to worsening economic conditions in Argentina. In an effort to improve Argentina's public image, marked as it was by anti-Semitism and the presence in the country of Nazi criminals, in 1988 the parliament passed a law against racism and anti-Semitism. The Jewish collectives were highly assimilated from their beginning in Latin America. Jewish communities were shrinking at the rate of about one per cent a year (Schmelz et al., 1985). Religion did not play an important role in the life of highly secularized Latin American Jewry (Elkin, 1985). In the absence of a religious nucleus in the communities, Zionism took its place as an organizing ideology. In the period considered, 23,902 immigrants from Argentina came to Israel. On average, about 1,000 people moved to Israel from Argentina each year, a stream of rather high migration intensity relative to the size of the Jewish population. The intensity of immigration to Israel was highest for Argentina, apart from the almost total exodus of Soviet Jewry.

Immigration from France

In the early 1980s, the Jewish community in France comprised approximately 535,000 people (Benbassa, 1999). The majority of the community, approximately 350,000 people, lived in Paris and the surrounding areas. In the 1980s, 45% of French Jews held university degrees, 25% had secondary education, and 12% had technical or commercial training. The majority of Jews belonged to the middle class, with a high proportion (about 30%) of salaried employees, tradespeople, and shopkeepers.

During the period under consideration in this paper (1974 – 1991), 22,976 Jews immigrated from France to Israel . Immigration to Israel was relatively attractive to French Jews, only immediately after the Six Day War. However, some young French Jews were deeply involved in the student unrest of May 1968 (Benbassa, 1999). The interest in Aliyah weakened during the 1970s and 1980s as it was found in the surveys of the Jewish population (Allouche-Benayoun, 1992). Only in 1983 did the number of immigrants to Israel exceed 2,000. As in the case of American Jewry, the increase of the number of immigrants from France may be an outcome of the decline of Aliyah from other countries.

Immigration from USSR/FSU

Emigration from the USSR became possible in the 1960s, was strengthened in the 1970s, then factually being seized by the Soviet authorities in the eighties and eventually at the end of the decade was transformed into a mass exodus, mainly to Israel. Emigration of Jews was allowed after the Six-Day War in September 1968.

Between 1968 and 1983, more than 250,000 Jews left the Soviet Union, about two-thirds of them for Israel. The emigration started from the periphery of the Soviet Union; diffused to its core; and eventually, in the 1990s, ended up as an almost total exodus of the Jewish population, including many non-Jewish relatives of Jews. The year 1976 saw the lowest number of emigrants from the USSR in the 1970s. The following year, a wave of immigration started, which was dramatically reduced in 1980 by the Soviet authorities. Emigration from the USSR increased again only in 1987.

Between 1989 and 2001, about a million people from the Soviet Union and the former Soviet Union (FSU) immigrated to Israel. More than one migration wave developed during the 1990s. For research purposes, the entire period can be divided into sub-periods that were differentiated by the waves of immigration in these years. The sub-periods are distinct in terms of migrants' characteristics. The first sub-period peaked in 1990, when Jewish immigration attained a record level. The next sub-period included 1994, when immigration increased insignificantly relative to 1993. The resulting weak wave was caused, among other things, by the passage of a new emigration law in Russia, the war in Chechnya, and a government crisis in Russia in September 1993. The last sub-period witnessed a strong wave of immigration that crested in 1999, as migration decisions made in the previous year were implemented and as Russia, along with several post-Soviet countries with strong economic ties to Russia, endured a year of financial crisis.

Coefficient of Wave Similarity (CWS)

In recent years, a progress has been made in methods of comparing time series (Hetland, 2004). These approaches are based on rather complex mathematical methods and, as a rule, require lengthy series of data. Such series rarely exist in the context of migration processes. This may be due to the nature of migration processes, since the time-span of these processes includes independent or weakly dependent migration streams, each of which has to be examined in isolation from the others.

We need to compare short segments of paired time series, at times numbering only three consequent members in each of them, and to check if the expected behavior of migration selectivity will be found in a majority of cases. For this aim, we propose to use a simple coefficient of wave similarity, which is described below.

In cases where one wishes to estimate the similarity of sequences, a coefficient that is analogous to coefficients used for the comparison of the similarity of binary series is appropriate. In its simple form, such a coefficient calculates the number of coincidences between respective values in two binary sequences. In the following table, two columns with six members per column are presented, and the number of concurrences in values is three. Thus, the coefficient of similarity of the sequences is 0.5.

1	1
0	1
0	0
1	1
1	0
0	1

When comparing different waves of migration over time, and when comparing changes in different characteristics of one migration wave, the time aspect is very important. This aspect is lacking in the coefficient described above. Therefore, this study suggests the use of a coefficient of wave similarity (CWS) for time sequences that takes into account the time aspect of the development of a migration wave.

The number of characteristics of a migration process is measured, and the values of each characteristic are recorded at the same time. One of the time sequences is assumed to be the main wave; the others are the waves of its characteristics. The wave to be considered is selected in the main time series. For the same period, a time series for the describing characteristic is selected, and the following calculations are made: If the value in two consecutive values of the sequence is larger than the previous value, the calculated parameter is assigned the value of '1'; and if it is smaller than the previous value, the parameter is assigned the value of '0'. Zero change is considered a positive change. This elicits two new sequences that are composed of ones and zeroes. For these sequences, one additional auxiliary parameter is calculated in the following way: if the corresponding members of both sequences have identical values, the parameter is assigned the value of '1'; and if the values are different, then the parameter is assigned the value of '-1'. The results obtained are added up, and the sum is divided by the length of the sequences. The result of this operation is called the **C**oefficient of **W**ave **S**imilarity (CWS). The CWS will be equal to '1' in the case of full phase coincidence of waves, and '-1' in the case of total anti-phase. Values close to zero signal a lack of coincidence between the main wave and the wave of characteristics change.

Coefficient of wave similarity is computed by formula:

$$CWS = \frac{(n-k)-k}{n};$$

where n is a length of considered sequence, and k is a number of discrepancies between the two waves.

$$k = \frac{n(1-CWS)}{2};$$

per cent of concordances (p) having CWS known, is calculated as:

$$p = \frac{(CWS+1)*100}{2}$$

Any positive value of CWS means that more than half the pairs in the two series were concordant, and that the waves are similar during more than fifty percent of the time of their development.

The CWS allows us to compare the similarity of waves irrespective of their amplitude. This is both a shortcoming and an advantage of the method. The CWS method, however, has several limitations. The CWS value depends on the number of members in the sequences, as well as on parity in the number of members of even and odd sequences. The factor may be zero only in a case where the length of the sequence is expressed by an even number. The factor quickly decreases commensurate with the number of discrepancies between values of the series, so that a value close to 0.3 signifies about 60 percent agreement between the examined waves. Despite these limitations, CWS may be a convenient tool for the analysis of migration processes. We here apply it to the analysis of immigration to Israel.

Index of Migrants' Composition

In order to evaluate migrants' selectivity, it is necessary to define a measure for this phenomenon. For this purpose, we use the Index of Migrants' Composition. The definition of the index should be specific for each migration stream depending on its generative and shaping factors. We define here this index in such a way that it can be used for testing our proposition on available data. Therefore, the index must reflect the belonging of the migrants to the socio-demographic core of the sending population. For the majority of migration streams, we can say that selectivity of migrants is more positive when the percentage of persons aged 60 and over is low and a share of high-skilled migrants is higher. Jewish migrations are still usually family migrations so we take into account this aspect of migrants' composition. Accordingly, we define the Index of Migrants' Composition as a product of the percentage of academic and professional workers among migrants who worked before the migration; the percentages of married women and of married men among migrants aged 15 and older, divided by the percentage of migrants aged sixty and older. (The data is presented in Supplement 1. Tables I – IV.) The index is computed for a specified time interval; in our case, a calendar year.

$$IMC = \frac{P * M_M * M_F}{A_{60+}}$$

(*In order to get the values of IMC in the range between zero and one as they reported in the supplement, the result of calculation must be divided by 100*100.*)

Where *IMC* – Index of Migrants' Composition,

P – the percentage of academic and professional workers among migrants who worked before the migration;

M_F - the percentages of married women among migrants aged 15 and older,

Supplement 1.

Table I

Immigration to Israel from USSR/FSU

		Immigration to Israel from USSR/FSU				
Year	Total of Aliyah	The percentage of academic and professional workers among migrants who worked before the migration	Percent of persons aged 60+	Percent of Married Men	Percent of Married Women	Index of Migrants' Composition
1974	16816	23.4	15.0	68.5	60.9	0.65
1975	8531	25.9	17.1	65.8	56.4	0.56
1976	7279	26.3	18.9	67.0	56.3	0.53
1977	8348	28.0	19.7	70.7	56.9	0.57
1978	12192	28.4	18.2	70.9	53.9	0.60
1979	17614	28.1	18.0	73.1	60.8	0.69
1980	7570	28.9	21.9	72.7	60.5	0.58
1981	1770	40.0	26.2	63.7	53.3	0.52
1982	782	40.9	27.0	63.5	46.8	0.45
1983	399	45.3	24.5	66.2	51.5	0.63
1984	367	40.9	25.6	62.1	45.9	0.46
1985	362	44.3	19.3	64.7	45.7	0.68
1986	202	32.9	31.2	59.4	39.4	0.25
1987	2096	42.5	21.0	62.3	54.7	0.69
1988	2283	42.8	21.0	64.7	59.1	0.78
1989	12932	38.9	17.2	72.7	62.0	1.02
1990	185227	39.1	17.7	75.5	64.0	1.07
1991	147839	35.5	19.3	70.1	58.6	0.76
1992	65093	32.1	20.1	64.2	55.1	0.56
1993	66145	26.4	19.9	63.9	52.7	0.45
1994	68079	28.0	20.0	63.2	54.2	0.59
1995	64847	25.7	19.0	63.7	51.8	0.45
1996	59049	27.1	18.3	63.5	52.3	0.49
1997	54618	26.7	16.5	63.3	53.1	0.54
1998	46032	26.0	16.3	64.6	53.6	0.55
1999	66848	27.3	16.2	67.2	55.7	0.63
2000	50817	27.0	16.6	64.9	54.4	0.57
2001	33549	26.0	15.4	63.7	53.6	0.58

Table II

Immigration to Israel from USA

		Immigration to Israel from USA				
Year	**Total of Aliyah**	**The percentage of academic and professional workers among migrants who worked before the migration**	**Percent of persons aged 60+**	**Percent of Married Men**	**Percent of Married Women**	**Index of Migrants' Composition**
1974	3089	23.1	11.0	48.6	45.2	0.46
1975	2803	18.0	9.1	43.5	43.1	0.37
1976	2700	19.3	9.3	47.0	46.2	0.45
1977	2571	18.2	11.0	47.0	44.6	0.35
1978	2921	20.7	10.1	49.0	48.1	0.48
1979	2950	16.5	9.2	39.7	49.3	0.35
1980	2312	19.5	8.5	50.7	51.7	0.60
1981	2384	19.7	9.1	41.0	46.0	0.41
1982	2693	25.1	9.1	51.5	52.1	0.74
1983	3469	31.0	9.0	55.6	51.9	0.99
1984	2581	33.3	14.4	55.3	53.7	0.69
1985	1915	29.4	13.1	52.3	57.2	0.67
1986	1968	32.8	9.0	55.5	59.8	1.21
1987	1818	17.3	12.7	54.1	56.9	0.42
1988	1551	16.5	10.4	50.6	49.3	0.40
1989	1383	22.0	11.6	49.1	47.1	0.54
1990	1370	25.9	9.5	50.4	49.9	0.69
1991	1538	29.4	8.7	51.9	53.3	0.93

M_M - the percentages of married men among migrants aged 15 and older,

A_{60+} - the percentage of migrants aged sixty and older.

Instead of the percentage of academic and professional workers, it might have been better to use the percentage of persons having a high number of years of schooling; however, we did not have the required data. We cannot take the occupations of migrants before emigration alone as a measure of positive or negative selectivity, because if the migrants were older, the prospects to use their human capital would be low. We see that the percentage of persons with academic professions among the immigrants from the USSR during the 1970s was high and steadily rising, but their ages were high and steadily rising as well; thus, it is difficult to refer to a positive selection of migrants. The index of migrants' composition in a migration stream may be especially helpful in such cases.

Comparison of the Waves

We compare the waves of immigration to Israel with the waves in change of Index of Migrants' Composition for these waves using the Coefficient of Wave Similarity. The waves in immigration were selected from the data in

Table III

Immigration to Israel from France

Immigration to Israel from France						
Year	**Total of Aliyah**	**The percentage of academic and professional workers among migrants who worked before the migration**	**Percent of persons aged 60+**	**Percent of Married Men**	**Percent of Married Women**	**Index of Migrants' Composition**
1974	1345	9.1	8.7	40.0	35.8	0.15
1975	1382	10.5	6.4	36.1	34.9	0.21
1976	1416	16.2	9.6	37.3	35.9	0.23
1977	1226	13.8	9.1	38.3	33.0	0.19
1978	1302	15.1	10.4	42.8	39.1	0.24
1979	1648	14.9	9.3	39.7	36.2	0.23
1980	1430	13.0	10.6	38.5	33.2	0.16
1981	1430	17.7	10.8	41.0	39.4	0.26
1982	1682	17.4	11.2	40.0	36.4	0.23
1983	2094	21.0	9.1	46.3	40.1	0.43
1984	1539	22.6	8.5	44.0	38.9	0.45
1985	1017	24.0	10.2	53.8	52.7	0.67
1986	927	22.1	6.6	54.7	49.1	0.90
1987	888	8.8	11.4	45.9	47.0	0.17
1988	920	9.5	11.3	46.0	50.5	0.20
1989	900	13.7	10.9	41.0	36.2	0.19
1990	864	21.1	9.5	41.2	37.7	0.35
1991	966	20.8	8.8	38.6	38.3	0.35

the Supplement 1. Since the margins of sub-periods are difficult to determine, there is always an element of arbitrariness in their choice. We present the values of CWS for the selected waves in Tables 1 – 4 below.

In eleven of fourteen observed waves, the CWS was higher than zero, showing different degrees of similarity between the waves of migration and selectivity. We use the sign test to check the wave hypothesis. We assign '+' to CWS higher than zero: that is, when there is a concordance between the waves of at least 50%; and assign '-' to other values of CWS. We can consider this as an experiment with results of type „positive" and

Table 1.

USSR/FSU

Period	1976-1986	1986-1992	1992-1998	1998-2001
CWS	0.60	1.0	-0.33	0.33

Table 2.

USA

Period	1977-1980	1980-1985	1985-1990
CWS	-0.33	0.6	0.2

Table IV

Immigration to Israel from Argentina

Year	Total of Aliyah	The percentage of academic and professional workers among migrants who worked before the migration	Percent of persons aged 60+	Percent of Married Men	Percent of Married Women	Index of Migrants' Composition
1974	1625	26.8	12.6	60.3	58.3	0.75
1975	892	28.1	14.1	55.3	49.1	0.54
1976	1616	34.7	11.7	54.9	55.0	0.90
1977	2158	33.1	11.3	56.2	52.4	0.86
1978	1960	24.0	15.0	57.5	53.9	0.50
1979	1577	23.5	17.4	56.7	55.3	0.42
1980	1036	21.3	20.0	55.0	49.7	0.29
1981	949	23.0	16.0	48.7	51.8	0.36
1982	1169	23.5	11.0	54.1	53.0	0.61
1983	1283	25.4	10.3	50.4	49.2	0.61
1984	841	20.1	14.4	45.5	45.3	0.29
1985	836	34.5	12.8	48.2	48.8	0.63
1986	772	25.0	16.1	45.7	49.7	0.35
1987	1078	18.0	11.3	50.0	52.2	0.42
1988	1546	18.5	9.0	48.7	54.8	0.55
1989	1853	23.4	8.8	52.1	51.5	0.71
1990	2045	25.9	10.6	52.1	51.5	0.65
1991	666	19.0	18.5	45.8	44.7	0.21

„negative", when we check the number of „positive" results. A critical region is R<4 for a one-tailed test for 14 tries with a significance level <p=0.05> 0.029 (Walpole and Myers, 1978, Table 15). Thus, the sign test supports the proposed hypothesis.

Conclusions and Future Considerations

Our study found a certain degree of consistency in the observed wave-like changes in migrants' characteristics and the waves of migration. This suggests that special approaches may be used to seek such phenomena in the data. Methods of pattern recognition in statistical series may be especially useful. In sum, the

Table 3.

France

Period	1974-1977	1977-1980	1980-1987	1987-1990
CWS	1.0	0.33	-0.14	0.33

Table 4.

Argentina

Period	1975-1981	1981-1986	1986-1991
CWS	0.33	0.2	0.6

development of statistical mathematical methods for the analysis of wave phenomena in migrations is essential.

The methods described here do have some shortcomings. Similarity measuring by CWS is inflexible: it does not allow for noise or short-term fluctuations or for phase shifts in time.

In order to use the wave approach for the analysis of migration processes, some changes in the collection and presentation of statistical data must be made. The collection and/or publication of time series are often interrupted when the magnitudes of observed facts seem to be too small, because they fall short of some level arbitrarily regarded as worthy of attention. No less frequently, the collection and/or publication of data does not begin until the observed phenomenon attains a level that is considered important enough for practical reasons. This rules out the very possibility of studying the wave character of migrations; hence, our insistence that the administrative approach of this type in gathering statistical data should be changed. In the present era, when information may be collected on digital media with immense capacities, such a change is feasible.

References

1. **Akerman S.** 1976. „Theories of Migration Research", in H. Rundblom, and H. Norman (eds), From Sweden to America: A History of the Migration. Minneapolis: University of Minnesota Press. 2. **Allouche-Benayoun J.**, 1992. Israel in the Debate of Jewish Population in France, 1969 – 1987. In: French Jewry, Zionism and the State of Israel. Eds. Pinkus B., and Bensimon D. The Ben Gurion Research Center. Ben Gurion University of Negev. In Hebrew 3. **Bailey Adrian.** 1993. A Migration History, Migration Behavior and Selectivity, *Annals of Regional Science* 27: 315 – 326. 4. **Benbassa E.** 1999. The Jews of France. A History from Antiquity to the Present. Princeton University Press. Princeton, New Jersey. 5. **Benson-Rea M.**, and Rawlinson, St. 2003. Highly Skilled and Business Migrants: Information Processes and Settlement Outcomes. International Migration, 41 2: 59 – 77 6. **Borjas G. J.** 1987. „Self-Selection and the Earnings of Immigrants. *American Economic Review*, September 1987, *774*, pp. 531 – 53. 7. **Borjas George J.** 1990. „Self-Selection and the Earnings of Immigrants: Reply, *American Economic Review* 80: 305 – 308. 8. **Borjas G. J.** 1991. „Immigration and Self-Selection", in John M. Abowd and Richard B. Freeman, eds. *Immigration, Trade, and the Labor Market*. Chicago: University of Chicago Press, pp. 29 – 76. 9. **Borjas G. J.** 1999. „The Economic Analysis of Migration" *Handbook of Labor Economics,* Vol 3, Ch. 28; 1697 – 1959. 10. **Borjas G. J.**, and Bronars S., 1991, „Immigration and the family." *Journal of labor economics*, 92, 123 –148. 11. **Borjas G. J.** and Bratsberg 1996. „Who Leaves? The Outmigration of the Foreign Born". *Review of Economics and Statistics*, Vol. 78, No. 1, Feb 1996, pp 165 – 176. 12. **Chiswick Barry R.** 1999. Are Immigrants Favorably Self-Selected? *American Economic Review,* May 1999 *Papers & Proceedings*, *89*2, pp. 181 –

85. 13. **Cobb-Clark Deborah A.** „Immigrant Selectivity and Wages: The Evidence for Women. *American Economic Review,* September 1993, *834*, pp. 986 – 93. 14. **Elkin J. L.**, 1985. Latin American Jewry Today. American Jewish Yearbook. Vol. 85. The American Jewish Committee. New York. The Jewish Publication Society of America. Philadelphia. 15. **Epstein G.**, Hillman A. L. 1998. Herd Effects and Migration, CEPR Discussion Paper 1811. 16. **Faist T.** 2000. The Volume and Dynamics of Transnational Social Spaces. Clarendon Press. Oxford. 17. **Feliciano C.** 2005. Educational Selectivity in U.S. Immigration. How do Immigrants Compare to Those Left Behind? Demography, Vol. 42-Number 1, February 2005. 18. **Grigg D. B.** 1977. E. G. Ravenstein and the „Laws of Migration". Journal of Historical geography, 3,1, pp. 41 – 54. 19. **Hatton T.** 1995. A Model of U.K. Emigration, 1870 – 1913. The Review of Economics and Statistics, 773, 407 – 415. 20. **Hetland M. L.** 2004. A survey of recent methods for efficient retrieval of similar time sequences. In M. Last, A. Kandel, and H. Bunke: Data Mining in Time Series Databases, World Scientific, 23-42. 21. **Hvidt Kr.** 1975. Flight to America. The Social background of 300,000 Danish Emigrants. Academic Press. New York, San Francisco, London. 22. **Iredale R.** 2001. „The migration of professionals: Theories and typologies," International Migration 39: 7-24. 23. **Islam M., N.**, Choudhury, S., A. 1990. „Self Selection and Interprovincial Migration in Canada," *Regional Science and Urban Economics* 20:459-472. 24. **Jasso G.**, Rosenzweig M. R., and Smith J. P. 2000. „The Changing Skill of New Immigrants to the United States: Recent Trends and their Determinants," in George J. Borjas, ed., *Issues in the Economics of Immigration*. Chicago: University of Chicago Press, pp. 185 – 225 . 25. **Lee E. S.**, 1966. A Theory of Migration, Demography, No. 3. 26. **Locher L.** (2001). „The Determination of a Migration Wave Using Ethnicity and Community Ties" August 2001. IZA Discussion Paper No. 346. http://ssrn.com/abstract=282221 Accessed 2.1.2004. 27. **Locher L.**, 2002. Determining the Shape of a Migration Wave. http://www.iza.org/iza/en/papers/transatlantic/1_locher.pdf Accessed 2.1.2004. 28. **Locher L.** 2000. Immigration from the Eastern Block and the former Soviet Union to Israel: Who is coming when? IZA DP No. 227. Discussion Paper Series, December 2000. 29. **Massey D. S.** 1988. „Economic Development and International Migration in Comparative Perspective". Population and Development Review, 14 3: 383–413. 30. **Massey D. S.**, Arango J., Hugo G., Kouaouci A., Pellegrino A., J. Edward Taylor eds. 1998. *Worlds in Motion. Understanding International Migrations at the End of the Millennium.* Clarendon Press. Oxford. 31. **Martin Ph. L.**, Taylor J. Edward. 1996. „The Anatomy of a Migration Hump." Pp. 43 – 62 in J. Edward Taylor, ed., Development Strategy, Employment, and Migration: Insights from Models. Paris: Organization for Economic Cooperation and Development. 32. **Paltiel A.** 2001. Mass Migration of Highly Skilled Workers: Israel in the 1990s.

International Mobility of Highly Skilled workers: From statistical Analysis to the Formulation of Policies. Seminar organized by the OECD DSTI/DEELSA, Paris, 11 – 12 June 2001. 33. **Pierson G. W.**, 1973. The Moving Americans. New York. Knopf. 34. **Popivanov I.**, Miller R. J. 2002. Similarity Search over Time-Series Data Using Wavelets. Proceedings of the 18th International Conference on Data Engineering ICDE.02 IEEE. 35. **Rebhun U.**, Waxman Ch. I. 2000. The „Americanization" of Israel: A Demographic, Cultural and Political Evaluation • Israel studies, Vol. 5, Number 1. 36. **Roy A. D.** 1951. „Some Thoughts on the Distribution of Earnings," Oxford Economic Papers Vol. 3, pp. 135 –146. 37. **Schmelz U. O.**, DellaPergola S. 1985. The Demography of Latin American Jewry. American Jewish Yearbook. Vol. 85. The American Jewish Committee. New York. The Jewish Publication Society of America. Philadelphia. 38. **Steinlight St. M.** 2004. High Noon to Midnight. Why Current Immigration Policy Dooms American Jewry. http://www.cis.org/articles/2004/steinlight2.html 07.09.2004. 39. **Thomas Dorothy Swaine Thomas**, Mrs.*, Research memorandum on migration differentials* / by Dorothy Swaine Thomas; with contributions by Rudolf Heberle, E.P.Hutchinson, Eleanor C. Isbell, Fritz Meyer [and] SvendRiemer. A report to the Committee on migration ... Published: New York, Social science research council, [1968]. Description: 2 p. l., [vii]-xii, 423 p. diagrs. 23 cm. Series: Social science research council. Bulletin. 43, 1938. Lippincott H31 .S675 no.43. 40. **Walpole R. E.**, Myers R. H., 1978. Probability and Statistics for Engineers and Scientists. 2nd Edition. Macmillan Publishing Co., Inc. New York, Collier Macmillan Publishers. London. 41. **Waxman Ch. I.** (1989). American Aliyah: Portrait of an Innovative Migration Movement. Detroit, Michigan: Wayne State University Press. 42. **Zavodny M.** 2001. Determinants of Immigrant Selectivity and Skills. Federal Reserve Bank of Atlanta. Working Paper 2000-12a. May 2001. http://www.frbatlanta.org/publica/work_papers/index.html Accessed 30.06.2004

Рісс І. „Хвилевий підхід" в дослідженні імміграції до Ізраїлю у 1974 – 2001 роках

Потоки міграції хвилеподібні за своєю природою. На властивий хвилі потік міграції впливає негативний зворотний зв'язок у системі міграції, яка залучає дво-тактні чинники, інформаційні потоки, та інші чинники. Ця стаття привертає увагу до можливих взаємин між змінами в обсягах міграції та виборі переселенців для міграції. Збільшення числа іммігрантів до Ізраїлю від кожної з чотирьох розглянутих країн, пов'язується зі збільшенням відсотка одружених, кваліфікованих іммігрантів і зменшенням частки старших за віком іммігрантів.

Ключові слова: хвилі міграції, вибірковість, імміграція до Ізраїлю.

Рисс И. „Волновой подход" в исследовании иммиграции в Израиль в 1974 – 2001 г.

Потоки миграции волноподобны по своей природе. Присущий волне поток миграции производит отрицательная обратная связь в системе миграции, которая вовлекает двухтактные факторы, информационные потоки, и другие факторы. Эта статья обращает внимание на возможные взаимоотношения между изменениями в объеме миграции и выборе переселенцев для миграции. Увеличение числа иммигрантов в Израиль от каждой из четырех рассматриваемых стран, связывается с увеличением доли женатых, квалифицированных иммигрантов и уменьшением доли старших по возрасту иммигрантов.

Ключевые слова: волны миграции, выборность, иммиграция в Израиль.

Riss I. The „Wave Approach" in Migration Research Waves of Immigration to Israel, 1974 – 2001

Migration streams are wave-like in their nature. A wave-shaped stream of migration is generated by negative feedback in migration system that involves push-pull factors, information flows, and other factors. This paper calls attention to possible interrelations between changes in volume of migration and selectivity of migrants as a wave of migration progresses. An increase in the number of im-migrants to Israel from each of the four countries considered is associated with an increase in the share of married, skilled immigrants and a decrease in the share of older immigrants.

Key words: migration waves, selectivity, immigration to Israel.

D. Yu. Cherevatskyi, O. I. Atabyekov

UDC [338.48:622.012.2]-027.3-027.235

D. Yu. Cherevatskyi,
PhD (Technique)
O. I. Atabyekov,
Institute of Industrial Economics NAS of Ukraine, Donetsk

PRODUCTION FUNCTION OF A COAL MINE AND ECONOMIC EFFICIENCY OF ITS OPERATION

A gradual transition to economic priorities of the coal mining industry is observed in the economic policy of the state. If the main objective of the state program „Coal of Ukraine" (2005) was the increase in effectiveness of mines operation (mainly technical) as well as achieving the coal output needed for meeting the national economy's requirements [1], the current program of coal mining industry modernization [2, 3] declares the strive for ensuring the break-even functioning of coal mines.

With regards to ensuring the break-even functioning of coal mines the coal mining expert Peter McInally (International Mining Consultants Ltd, GB) thinks that the basis for the break-even functioning of coal mine as a whole is a break-even functioning of each coalface: income received as a result of longwalls development should cover not just the costs involved in functioning of separate production units but the costs of functioning of the coal mine on the whole. The following principle is postulated: longwall should not be developed unless it is capable of bringing profit: „if mining and sales of coal do not give profit this coal should remain underground" [4, p. 50]. At the same time the Ukrainian and Russian coal miners follow another principle: „Output brings economic results". That's why as it is considered by a famous coal mining specialist and scientist Y. P. Yashchenko „the minimum estimated annual coal mine output constitutes a starting point for ensuring the break-even operation of coal mine and achieving economic proportions of its self-development" [5, p. 10]. A capability to increase an output above the level of a minimum estimated parameter determines the investment attractiveness of a coal mining enterprise [6]. The same concept is described in the work [7]. The record of coal mining costs by faces which Peter McInally considers to be necessary is not being kept at all. It is done only for the coal mine as a whole.

The principles of managing the efficiency by governing the work inputs were first described by the economists of Lausanne school which is also called the mathematical school. Marginalists – followers of L. Walras, among whom were Pareto, Edgeworth and the others, described it in details on the model of Robinson Crusoe's economy [8; 9, ch. 29]. To maximize the profit, labor inputs should be correlated with the production capabilities of the company and prices actual at the markets of useful product and resources used for its production. A governing as it is, is a very delicate process allowing the fluctuations in capital assets utilization.

Neither P. McInally nor the Ukrainian economists make a clear accent on this and they do not study how coal mine characteristics change depending on various modes of its operation. That's why this work represents an attempt to study how the efficiency of coal mining depends on the characteristics of a coal mine and fluctuations of coal/ resource prices.

There is a notion of Robinson Crusoe's economy in the microeconomic theory – one producer, one consumer and two commodities (format „1x1x2"). The idea of this nominal model was evoked by the history from a famous D. Defoe's work. While residing on uninhabited island one man (Robinson) acts in the capacity of a producer and a consumer of products at the same time.

By means of labor input he produces useful product, yams, for his own consumption as is described by Daniel McFadden [8]. The second product is leisure – his spare time. Let's denote the first product as x_2, as it is described in [10], then second product (x_1) is the difference

$$x_1 = L - z \qquad (1)$$

where L – time – factor which forms a constituent part of commodity cluster;

z – working time spent on production of commodity x_2.

Production function $f(z)$ inherent to the company – is a numerical correlation between an output (produced commodities) q and resource input (labour time) z. The production function reflects the fact that the more time Robinson spends working the more yams he obtains. Although the amount of useful marginal product which Robinson obtains by investing a marginal labour hour is decreasing. This statement corresponds to neoclassical economics' concept of diminishing return or increasing marginal costs.

It is supposed that production activity results in a profit

$$\boldsymbol{p} = pf(z) - wz \qquad (2)$$

where π – company's profit;

p – price of useful product;

w – price of resource.

The main company's task is profit maximization.

The most effective volume of production depends on price ratio (p/w) as on a parameter.

$$p \; \textbf{a} \; \max; z^* = \arg \max p(z, p) = z^* \qquad (3)$$

Customer's preferences (for instance Robinson's) characterize functions of utility which depend on $u(x_1, x_2)$ – curves of indifference.

The more Robinson gets the yield, the more he has the food, but the less time is left "to improve his suntan". This is the reason why the customer's task consists in welfare maximization

$$u(x_1, x_2) \; \textbf{a} \; \max; p x_2 \leq w(L - x_1) + p(p, w) \quad (4)$$

Entire satisfaction in maximum criteria is reached when Robinson works and consumes in the state of balance and the curve of operation set $f(z)$ correlates with the assemblage of indifference curves (fig. 1).

In this very case the most preferred combination of labor and consumption is achieved if this particular technology is used.

Thus the ratio between the commodity price and the price of resources used for its' production determines the most effective output.

If we denote the mined coal as a variable x_2 then the second commodity which is an analog of leisure time can be denoted as „saving" which is a provisional commodity produced by the coal mine during the idle operation. It is not occasional that we used the term „idle operation" instead of „an interval in production activity" since coal mine is in operation even in the periods when it does not mine coal – coal mining production requires continuous ventilation and extraction of ground waters.

If the notion of „leisure" in the economy of Robinson is a time which is not spent for production (fixed duration of the day minus z), then in case of a coal mine the quantity x_1, the „savings" is a difference between the inputs of resources when a mine operates at its maximum production capacity and costs corresponding to the actual quantity of mined coal. When the capital assets of a coal mine are fully utilized the volume of the „savings" is equal to zero and vise versa – coal mine which does not produce a mineral produces just „savings".

Unlike the Robinson's economy, the inputs of resources at the coal mine are not limited to labor input only. These are combined inputs of labor, energy resources, materials, etc. It is impossible to make a graphic embodiment of all this diversity.

To have an idea of a production function of a coal mine it is acceptable to use the technique similar to the method of indirect assessment of a cost of an enterprise by the profit it makes. The company has the level of capitalization equal to the banking capital bringing the same profit at a fixed loan interest. In the similar way we can determine the operating costs – it can be considered that

they are determined by some multi resource equivalent (MRE). We'll continue to denote it as z. It contains labor inputs, cost of electricity, thermal energy, material costs, etc. In such case the price of MRE will be denoted as w.

The individual input of MRE ($z=1$) corresponds to the specific coal output (equal to production capacity of a coal mine $s=1$)

$$s = \frac{q}{P} \qquad (5)$$

$$r = \frac{z}{z_P} \qquad (6)$$

where s – extent of a mine production capacity utilization, fractions of one;

q – annual coal output, thousand tons;

P – production capacity of a mine, thousand tons;

r – specific consumption of multi resource equivalent MRE (relative to the volume of MRE when coal mine production capacity is utilized in full), fractions of one;

z_P – consumption of MRE when production capacity of mine is used in full, conventional units.

The ratio (7) reflects the specific character of coal mine production function.

$$z \leq z_0; q = 0 \qquad (7)$$

Where z_0 – MRE input which does not depend on the volume of production (its invariable part).

In principle the production function of a mine could be determined empirically. The production activity of many enterprises is notable for the periods of rise and decline which differ by their economic characteristics. Thus a long-term observation can in principle give an idea of the ratio between the coal mine volume of production and a prime cost of coal. But the real picture is more complicated. The graph shown as an example on fig. 2 reflects the dynamics of industrial and economic performance of coal mine „Trudovskaya" during 2000 – 2006.

Overlaying of two processes: of the price rise and changes in coal output gives paradoxical results: coal production of 881 thousand tons in 2004 costs less than the coal production of 517 tons in 2006 – 115 and 128 million hryvnas respectively.

If we admit that the production function of a coal mine is represented by logarithmic dependence:

$$s = K \cdot Ln(r) + 1, \qquad (8)$$

where K – a regression coefficient,
then any value s is corresponded to some value r

$$r = e^{(s-1)/K} \qquad (9)$$
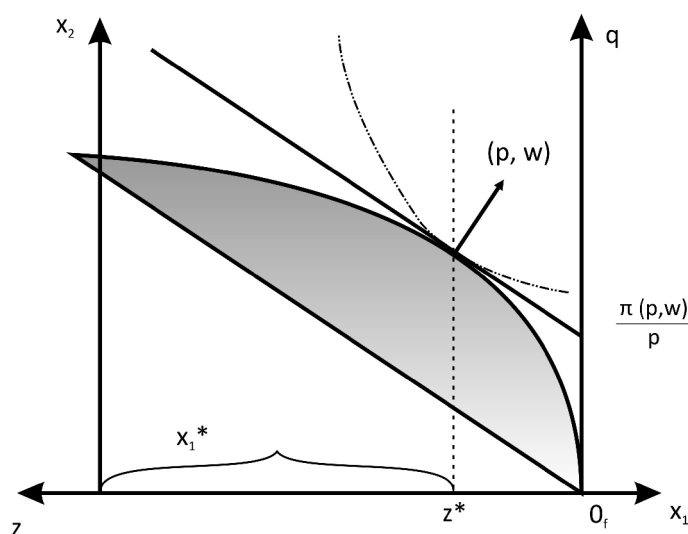
Fig. 1. The equilibrium in Robinson Crusoe's economy
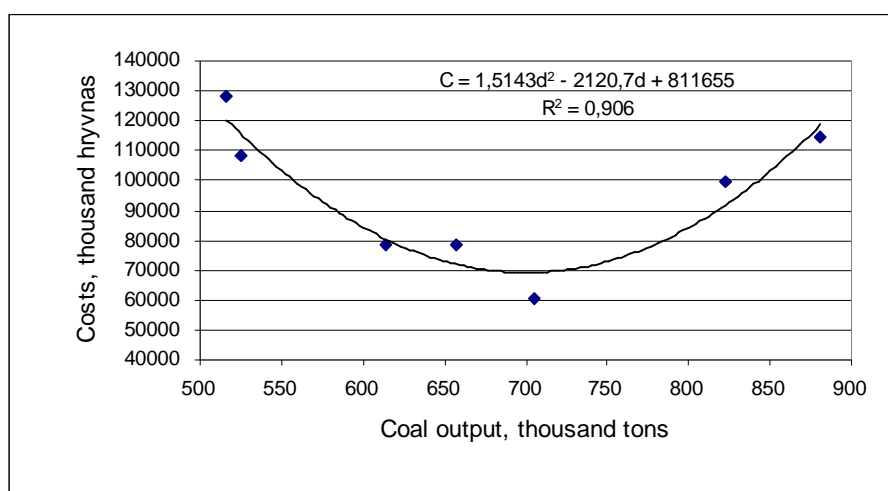
Fig. 2. Costs and coal output ratio at the coal mine „Trudovskaya".

where e – is a natural logarithm base (approximately 2,71).

Thus coal production costs depend on production capacity utilization, the value of alternative w, which changes in the course of time and a coefficient K which reflects the specific characteristics of the coal mine. In the other words coal production costs depend on the constant MRE input.

Since in this work we do the relative estimation of MRE input, a corresponding value z_p reflects the price of MRE unit in the year t.

$$w_t = \frac{C_t}{r_t} \qquad (10)$$

where w_t – is the total cost of MRE during the year t, thousand hryvnas;

C_t – the annual coal mine costs year t, thousand hryvnas;

r_t – total MRE input during the year t, fractions of one.

On the other hand the variable C_t depends also on the degree of production capacity utilization

$$C_t = K_1 \cdot Ln(s) + C_{1t} \qquad (11)$$

where K_1 – regression coefficient;

C_{1t} – fixed term of regression dependency.

When the enterprise operates at full swing (when $s=1$), the absolute term of regression model becomes the index of specific output costs for the particular coal mine. So in order to „calibrate" the model (8), we need data on the extent of coal mine estimated

capacity utilization and net cost of production during two years t and $t+1$ having not much difference in resource prices. These two years should at the same time have a positive dynamics of coal production.

It is suitable to calculate value $C_{1(t+1)}$ by the diagram made with the help of MS Excel program shell – we should make a graph and seek logarithmic function trend line. The target value r_{t+1} is calculated from the following ratio:

$$r_{t+1} = \frac{C_{t+1}}{C_{1(t+1)}} \qquad (12)$$

The value K of the equation (8) is made more exact with the help of „Solution search" module of Ms Excel program shell. If K value is calculated correctly then specific value of MRE consumption for the year $t+1$ will be equal to r_{t+1}.

As an example let's look into the characteristics dynamics of the Donetsk based academician A.A. Skochinsky coal mine which has an estimated capacity of 1800 thousand tons per year (table 1).

The above data prove how much the price fluctuations affect the efficiency of coal mine functioning. Though the production output was less in 2005 than in 2000, the coal mine received profit of 36 mln. hryvnas in 2005 whereas it was loss-making (losses of 13 mln. hryvnas) in 2000.

The estimated indexes are given in the table 2.

As a result of regression model calibration (selection of regression model terms in such a way that the condition $r_{2001}=0.269$ is met), the value of regression coefficient K is admitted to be equal to 0,500 for A.A. Skochinsky coal mine, which corresponds to zero specific consumption of MRE which in its turn is equal to 0,136 (fig. 3).

Data obtained with the help of "Solution search" module show that the 69% coal mine production capacity utilization is optimal for the price situation of 2006 (ratio between the costs and coal output value at full capacity operation of coal mine equal to 0,925). In these conditions the profit reaches its maximum and constitutes 19% relative to product value at the rated mine capacity.

Dependence of mine profit from the degree of production capacity utilization at various price ratios is given in fig. 4.

At product price to resource price ratio which existed in 2000, the coal mine is loss making and cannot bring profit under any conditions. As to the year 2006 there are operation „risk zones" determined by low capital assets utilization. The coal mine can operate profitably at $s>0.181$.

But „A. A. Skochinsky" coal mine though having hard operating conditions is not the worst example of coal mining enterprise.

Fig. 5 shows operating characteristics of 3 coal mines developing high dip coal seams. These are coal mines „Olkhovatskaya", „Bulavinskaya" and „Uglegorskaya". They have estimated capacity of 450, 490 and 750 thousand tons per year respectively. All of them are parts of a state-owned enterprise „Ordzhonikidzeugol" (Yenakiyevo).

Their inherent regression coefficients (K) are arranged in an ascending order from 0,915 („Olkhovatskaya" mine) up to 1,549 („Uglegorskaya" mine). In the other words, at „Uglegorskaya" mine more than 50% of MRE input is not used for coal production but for keeping coal mine in operating state, i.e. ventilation of mine workings, air compression, water pumping, mine surface complex maintenance, etc.

When describing the characteristics of function graphs, the economists use the term „flexibility": the less inclined the line is the less flexible it is. The horizontal line (nonelastic at all) shows the complete indifference of function to changes of the argument. And vice versa the vertical characteristic is completely elastic. Of the three coal mines under scrutiny, „Olhovatskaya" coal mine has the most inflexible characteristic $s(r)$, and „Uglegorskaya" mine has the most flexible one.

Let's assume that the w/p ratio for all three mines is 0,8 and any changes in the conditions of optimum depend solely on the changes of K values (Table 3).

The more flexible the production function of a coal mine is, the more it should be „loaded" to maximize the profit. It is evident that as far as the stated criteria is concerned, optimal production load for „Olhovskaya" mine exceeds its' production capacity parameters. As to „Bulavinskaya" and „Uglegorskaya" mines it can not be achieved at all. To achieve at least a break-even operation at „Olhovatskaya" mine, the degree of estimated capacity utilization should not be less than 0,43 (140 thousand tons per year). At „Uglegorskaya" mine this parameter should be higher than 0,63 (470 thousand tons).

None of the above mines achieved such parameters in the 21st century. The highest coal output (0,39) was registered at „Bulavinskaya" coal mine in 2002. But even then it was far behind the required level of breakeven parameter (even though the price ratio (0,8) was quite favorable during that period). Production capacity utilization was around 0,2 at „Olhovskaya" and „Uglegorskaya" coal mines in the most favorable years of the analyzed period. It is clear that all analyzed coal mining enterprises are irreversibly loss-making.

It is worth mentioning that in the 1970th coal mines of the Central Donbass were economically stable enterprises which utilized their capital assets almost completely.

Untimely and insufficient capital investments, manpower shortages (at mines with steep dip seams coal is mined mostly manually) led to degradation of coal production at them. Crisis of coal mining enterprises could be avoided if the correlation between a production function and a profitability was taken into consideration and a competent investment policy was pursued: the more flexible the production function of the coal mine is the more attention and financial support such coal mine deserves. On the contrary the coal mines having inflexible

D. Yu. Cherevatskyi, O. I. Atabyekov

Table 1

Industrial and economic indexes of A. A. Skochinsky coal mine.

Year	Coal output, thousand tons	Commercial output, thousand tons	Commercial output value, thousand hryvnas	Commercial output costs, thousand hryvnas	Profit, thousand hryvnas
2000	554	523	44091	56654	-12563
2001	616	531	59683	76835	-17152
2002	349	313	33157	55068	--21911
2003	714	674	69058	97024	-27966
2004	962	831	129073	146021	-16948
2005	531	529	155950	119884	36066
2006	564	554	157740	141445	16295

Table 2

The estimated indexes of the coal mine functioning

Year	Extent of coal mine estimated capacity utilization, fractions of one	Multi resource equivalent input, fractions of one	Commercial output value at full capacity operation of the coal mine, thousand hryvnas	Production costs at full capacity operation of the coal mine, thousand hryvnas	Production costs and commercial output value ratio at full capacity operation of coal mine, fractions of one	Profit and commercial output value ratio at full capacity operation of coal mine, fractions of one
2000	0,308	0,251	143334	225318	1,572	-0,088
2001	0,342	0,269	174370	285172	1,653	-0,098
2002	0,194	0,200	170863	274661	1,607	-0,128
2003	0,396	0,300	174218	323273	1,856	-0,161
2004	0,534	0,395	241509	369452	1,530	-0,070
2005	0,295	0,245	528901	489071	0,925	0,068
2006	0,313	0,254	503426	556159	1,105	0,032
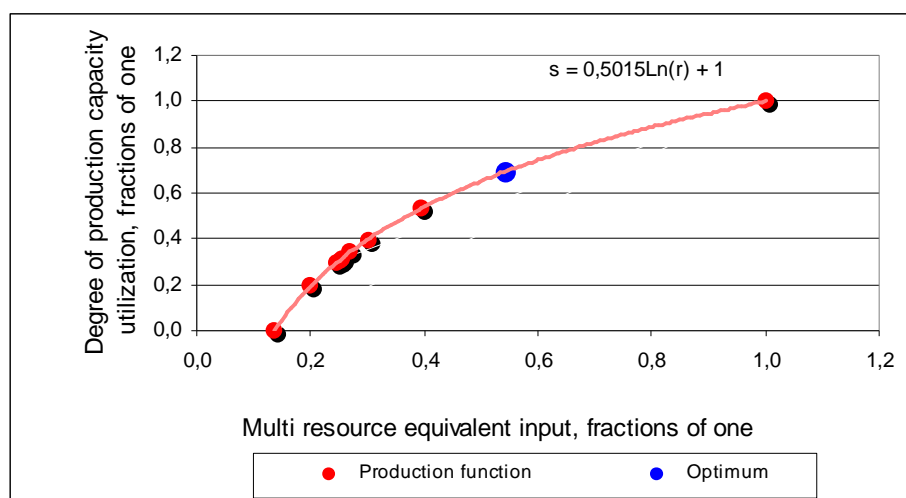
Fig. 3. Production function of A. A. Skochinsky mine
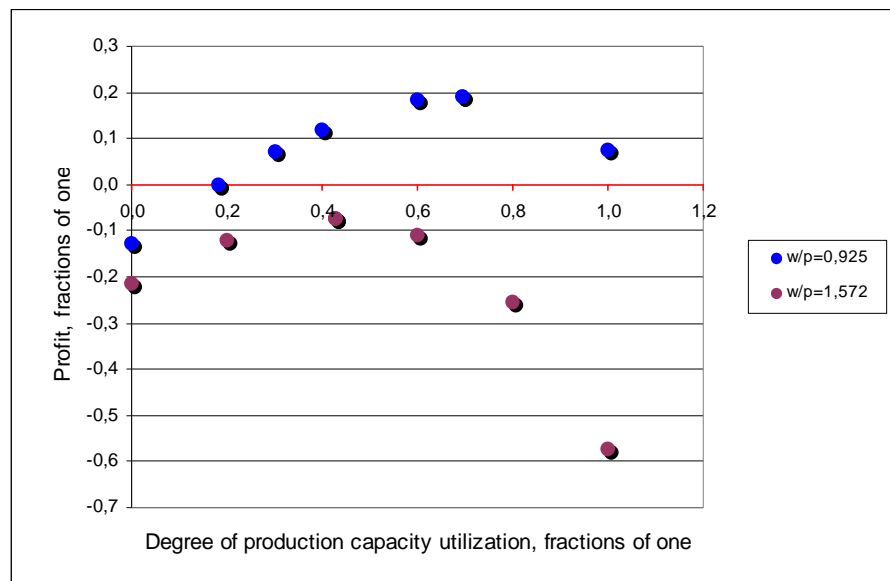
Fig. 4. Dependence of profit from coal output at price ratios of 2000 and 2006 at „A. A. Skochinsky" coal mine
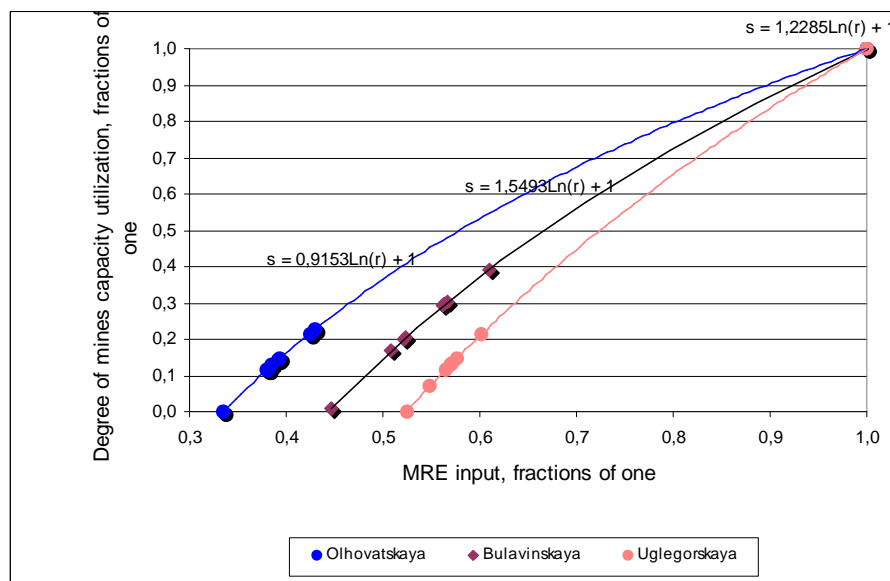
Fig. 5. Operating characteristics of SE „Ordzhonikidzeugol" coal mines

Table 3

Characteristics of production load of coal mines

Coal mine	*K value*	Optimum production load value ((s_{opt}))	Production load at break even operation (zero profit)
"Olhovatskaya"	0,915	1,126	0,430
"Bulavinskaya"	1,229	1,533	0,560
"Uglegorskaya"	1,543	2,021	0,630

D. Yu. Cherevatskyi, O. I. Atabyekov

characteristics may require imposing production load limit to maximize profit.

To prove the made conclusions it is reasonable to give the following actual data. Due to the state of the market the US based coal mining company „Walter Energy" took a decision to reduce the coal production at its less profitable coal mine „Maple" at Western Virginia by 35% (the prices of coking coal constituted 220 USD per ton in the I quarter of 2012 which was the decrease of 10% compared to the prices of the IV quarter of 2011. Prices of dust coal constituted 180 USD per ton in the I quarter of 2012 which was the decrease of 15% compared to the prices of the IV quarter of 2011). The coal mine „Maple" produces about 60 thousand tons of coal per month and has around 230 workers on its' payroll. At this coal mine the reduction in production is planned to be effected at the expense of working hours reduction by 10 days per month [1]. This is the procedure to be followed if we act as per Lausanne school model.

Thus the interrelations between the production function of a coal mine and its economic characteristics were studied in this article. The notion of production function elasticity is used. It is shown that the more flexible the characteristic of the coal mine is the higher extent of production capacity utilization it requires.

References

1. **Програма** „Українське вугілля": Затверджено постановою Кабінету міністрів від 19 вересня 2001 р. №1205.– Київ, 2001.– 66 с. 2. **Програма** економічних реформ України на 2010 – 2014 рр. [Електронний ресурс].– Режим доступу : http://www.dt.ua/2000/2020/69596 3. **План-графік** реформ. Напрямок „Реформа вугільної галузі": Схвалено наказом Мінвуглепрому від 22.07.2010 р. №270 [Електронний ресурс]. – Режим доступу : http://www.mvp.gov.ua/mvp/control/uk/publish/category?cat_id=83903. 4. **Макиналли П.** Как сделать российские шахты рентабельными / П. Макиналли // Уголь.– 1999.– № 9.– С. 46 – 50. 5. **Ященко Ю. П.** Достижение экономических пропорций расширенного воспроизводства на действующих шахтах Донбасса / Ю. П. Ященко // Уголь Украины.– 2011.– № 9.– С. 6 – 11. 6. **Ященко Ю. П.** Критерии инвестиционной привлекательности и оценка инвестиционной емкости развития угольных шахт / Ю. П. Ященко // Уголь Украины.– 2011.– № 11.– С. 11 – 18. 7. **Кравченко А. А.** Анализ себестоимости готовой продукции шахт Донбасса / А. А. Кравченко, Л. Н. Вертельная, Е. А. Думанская // Уголь Украины. – 2011.– № 6.– С. 8 – 12. 8. **McFadden D.** Robinson Crusoe meets Walras and Keynes / Daniel McFadden.– Berkley : Department of Economics, University of California, 1975. – 21 с. 9. **Вэриан Х. Р.** Микроэкономика. Промежуточный уровень: Соврем. подход : [Учеб. для вузов по экон. специальностям] / Хэл Р. – Вариан.– М. : Изд. об-ние „ЮНИТИ", 1997. – 767 с.

10. **Сонин К.** Микроэкономика: Теория общего равновесия [Электронный ресурс].– Режим доступа : http://pages.nes.ru/ksonin/Lecture%20Micro%20GE%201.pdf 11. **„Walter Energy Inc."** ожидает неутешительных результатов I кв. 2012 г., несмотря на увеличение производства угля // Уголь.– 2012.– № 6.– С. 92.

Череватський Д. Ю., Атабєков О. І. Виробнича функція й рентабельність роботи шахти

Роботу присвячено пошуку залежності рентабельності видобування вугілля від властивостей шахти і кон'юнктури цін на вугільну продукцію й ресурси. Дослідження виконано із залученням теорії економіки Робінзона Крузо – один виробник, один споживач і два товари (формат „1×1×2") – і ретроспективних даних реально існуючих шахт. Установлено, що економічна ефективність функціонування підприємств залежить від еластичності виробничих функцій, що їм властиві.

Ключові слова: шахта, рентабельність, виробнича функція, економіка Робінзона Крузо.

Череватский Д. Ю., Атабеков О. И. Производственная функция и рентабельность работы шахты

Работа посвящена поиску зависимости рентабельности добычи угля от свойств шахты и конъюнктуры цен на угольную продукцию и ресурсы. Исследования выполнены с привлечением теории экономики Робинзона Крузо – один производитель, один потребитель и два товара (формат „1×1×2") и ретроспективных данных реально существующих шахт. Установлено, что экономическая эффективность функционирования предприятий зависит от эластичности производственных функций, которые им свойственны.

Ключевые слова: шахта, рентабельность, производственная функция, экономика Робинзона Крузо.

Cherevatskyi D. Yu., Atabyekov O. I. Production Function of a Coal Mine and Economic Efficiency of Its Operation

This work represents an attempt to study how the efficiency of coal mining depends on the characteristics of a coal mine and fluctuations of coal/ resource prices. A theory of Robinson Crusoe's economy – one producer, one consumer and two commodities (format „1×1×2") as well as a history record of currently functioning coal mines were used when doing this research. It was determined that the economic efficiency of mining enterprises operation depends on the flexibility of their inherent production functions.

Key words: mine, economic efficiency, production function, Robinson Crusoe's economy.

UDC [332.8: 33. 021.8] (477)

L. M. Matrosova,
Dr. Hab (Economics),
Luhansk Taras Shevchenko's National University

THE REFORMATION OF HOUSING
AND COMMUNAL SPHERE OF UKRAINE

Introduction. The communal sphere of Ukraine in last years is in the state of chronical underfinancing. This negatively affects the degree of depreciation of fixed assets and utilities of different areas (water, heat, gas, etc.). Dramatically worsened the condition of the housing stock of the country. Therefore, the issue of reforming the sector is important in terms of the need to attract resources to upgrade assets and ensure stable operation of the utilities.

The analysis of the last researches and publications. Sharp debate on research constantly burning on television and in print. The economic literature on this issue expressed their views with numerous professionals, executives and stakeholders. Thus, the current problems in housing are considered works of N. Gura, I. Kirichenko, V. Logvinenko, N. Lysenko, D. Trepylets and others [1 – 8]. But questions about the flow of investments for reform of communal area, the validity of prices and tariffs unfortunately remain unresolved, and the state of public utilities in general unsatisfactory. Proof of this is the constant threat of man-made disasters and catastrophes that occasionally occur in different regions of Ukraine. Therefore it is necessary for a comprehensive study to ensure the modernization and stable operation of utilities.

It should be noted that the scope of housing is an important segment of the Ukrainian economy. Virtually every citizen of our country somehow related to it. If some citizens working in this field, others are consumers of public services. In Housing of Ukraine is about 15% of the working population. As you know, the current state of the economy is characterized by a constant deterioration. Attempts by the Government to introduce reforms in housing led only to another tariff increase and subsequent decline of this sector of the economy.

On the example of Ukraine's regions, we note that the identified deficiencies have led to a number of accidents and disasters in cities Alchevsk, Dnepropetrovsk, Kiev, Evpatoria.

As for the current state and development of housing, it is accountable for its threatening position is not only a state government that dosy not able to offer the public informed and understand the measures to reform the said area, but local authorities and local communities. Should play an important role as public organizations and associations of the population. Unfortunately, the latter is very passive in general, and virtually no impact on issues of public utilities.

The purpose of the article. The aim of the article is to study the current problems of housing and development of proposals for reform.

The statement of the main research. Note that the processes that have occurred in recent years, society and the economy of Ukraine, negatively affected the situation in the housing. Previously, large industrial enterprises had in its structure boilers and other public facilities, but now the situation has changed. In connection with the transition to a market economy and bring the above-mentioned objects of private property under lease or concession, took a single complex fragmentation into separate small units, which in turn led to an increase in the cost of their maintenance, contributed to the opacity of, level of responsibility, methods of calculating rates.

For example, in Luhansk, in the field of water supply and water supply running two businesses – CCE „Miskvodokanal" and LTD „Lugansk water." Serving homes and provide services to local area cleaning, maintenance of elevators, lighting, buildings, garbage, etc. consistently performed urban utility „Zhylservis" and CE Standard – Luhansk, but it does not affect how the consequences of their work and the quality of services provided. Usually bilshyst discounted to rent services city residents generally not available.

Thus, attempts to overcome the monopoly utilities led only to an increase in the number of intermediaries distance service provided, from the end user and growth of its price. The consequence of the privatization of utilities is careless management, lack of competition from managing companies, lack of financial resources.

Regarding the financing of communal areas, it should be noted that the lack of funds, not only for repairs, but also to support the equipment in good condition. That is why today, the problem of attracting additional financial resources in housing is more than relevant. However, the rates for the maintenance of buildings does not provide a mechanism for returning money to investors.

If the applicable law was made for private investors to leave before it unspent funds until full cost recovery of invested capital (in terms of documentary evidence of

these expenses for purposes of energy saving technologies and overhaul residential building), utilities would be able to obtain additional resources for modernization But unfortunately this is no legislative provision because municipal area is generally unattractive to investors in the near future should not expect the tide to its considerable financial resources.

Given this situation, it is interesting learning experience of foreign countries to support and finance housing. This is quite important, given the high level of depreciation of fixed assets and the need for immediate repair housing. According to the Institute for Strategic Studies Razumkov approximately 70% of the country's housing stock was built before 1970, so its wear exceeds 60%. Power consumption of services is 2 – 3 times higher than in European countries. The loss of electricity in the grid reaches 20%, heat and water – 30 to 50%. Equipment of boiler-houses and Thermal Power Stations used since 20 – 30 – years of XX century. Thus, the Ukrainian communal sphere in comparison with foreign countries is outdated and energy-intensive technologies for improved production infrastructure and system management utilities.

As an example, we note that the common practice in the USA to attract specialized firms in the management of residential property, including multifamily residential complexes. Such firms are divided into different categories by type of activity. Some of them provide services only to accounting, maintenance and repair, but not concerned about commercial sale and rent apartments. The most popular are property management companies that provide full range of high quality services.

In Germany, the common form of property other than apartments and houses – is housing cooperatives, which play a significant role in providing housing for middle – and low income groups. Thus, cooperatives, owned 17% of the housing stock in the eastern part of Germany and 4% – in western part [6]. Another form of Housing Management in Germany as in the USA – a condominiums in which apartment owners create appropriate association tenants.

In France, management of private residential sector together with public management of social housing. The country has a rule whereby every ten years, the homeowner must be in proper condition фаsade of the house. In Sweden, this rule requires the owner of house hold every decade renovated home at his own expense. Ukraine in comparison with developed countries is extremely poor condition of the housing stock, also the responsibility of repair and maintenance of housing in good condition translates to shoulder most residents.

Note that in almost all developed countries are active organizing social (public) housing movement. The largest

of them are in Germany, where they unite more than 1 million people in Sweden – more than 445 thousand people and 800 people who are working staff at all levels. In Ukraine, the share of companies condominium is not more than 10%.

Interesting is the British experience of the voluntary transfer of housing residents. Most municipalities consider transmission housing or part of its balance sheet to others as a means to provide better service and solving the housing problems of the population. As an example of the growth of quality public services give such a figure in the British rule as a fixed time dialing for dispatching service (30 sec.) And runtime applications for elimination or eradication of disadvantages.

The process of reforming the utilities in their time were different countries. Paying to experience Europe vidilymo following models of housing. Thus, in the Czech privatization was provided only their own apartments. Brownie infrastructure sold by individual owners – legal or natural person who is responsible for keeping the house in good condition. This owner, on the one hand, provides services to the residents of the main building and adjoining areas on the other – is representative of their interests in relations with suppliers of water, heat, gas, electricity. Residents do not have to be full owners of housing with the rights and duties. They are only required to timely pay utilities. All tariffs are those provided by the consent of the authorities.

Another model was introduced in Estonia is. This approach is based on the transition in ownership tenants not only apartments but also the entire house with appropriate opportunities and responsibilities. Therefore, residents should have create oversight committees and appoint managers to deal with problems of building maintenance and protection of their interests in relations with external service providers.

Note that these models have their advantages and disadvantages, but the positive was that they were carried out purposefully, quickly, with a corresponding legal framework.

It should be noted that housing reform in countries such as Russia, Poland, the United Kingdom conducted a long time. For example, in the UK it spent more than 15 years, Russia has planned third phase of housing reform (first launched in 1995, the second – in 2004).

In an attempt to put Ukraine in 2015 year all the houses in partnership with condominium provides overhaul the previous owner. But this is hardly possible, given the high level of depreciation of the housing stock. Thus, the government hopes to shift significant costs to repair homes for their inhabitants. Note that the repair of the housing stock requires considerable resources. According to experts, to

thoroughly renovate 9 – stors building (in Ukraine are more than 70%) should be about 2 – 3 millions UAH. And this amount is growing with the rising cost of building materials. It is clear that these funds tenants of houses and find yourself unable to pay.

According to the profile on the reform of the Ministry of Housing to about 300 billions UAH. Since in practice a significant influx of investment resources in this sector is not observed, the situation remains critical. To raise the necessary funds for the modernization of public utilities should pay attention to the use of such financial instruments as reasonable prices and tariffs, taxes, fees, charges, depreciation, modern forms of payment. All this will improve financial utilities. But now housing represents a kind of black hole, fundraising which does not lead to any positive changes.

It should be noted that the level of utility tariffs are now warranted. This confirms their significant difference in different regions and cities. For example, water tariffs in Crimea almost in 2 times is less than in Luhansk. If we consider the general problem of water in Crimea by the point of view of the logic is difficult to explain. For a more reasonable approach, we note that the basis of tariff differentiation may be only the quality of services rendered, categories of consumers in terms of income, housing status and other factors. Thus, the common practice abroad (Great Britain, France, Chile), when rates are set for a specified period. By the end of their term of independent experts conduct research to rate their adjustment toward increasing or decreasing.

Ukraine has no legislative provisions to establish a list of residential services for different categories of buildings. In addition, a large number of utilities, including a list of the so-called paid rent, never provided. But utilities from one year to increase payments to the public. For example, if you compare the level of tariffs on personal incomes, then the 90 – years, this indicator was 2% and now it is exeeds 40 – 50%. At the same time, municipal institutions constantly pay attention to untimely payment of their services to the public and highly indebted consumers. But in fact, the level of populations calculation (we underline this fact!) Not provided services in last years, growing and reaches 95%. Such figures do not observed even in developed countries of EU. In our view, this indicates an improvement in consumer's financial discipline on the basis of inefficient work of public services. This includes work management companies continued growth rates, lack of competition and increasing monopolization of the industry.

National Energy Regulatory Commission and the National Commission for state regulation of public utilities, in practice, do not perform their regulatory functions. The result is a lack of clear and reasonable state tariff policy. According to the operating technique with rates include all gross costs are increasing. No examinations on substantiation rates by public institutions is not provided. Therefore, questions about the accuracy of calculation of tariffs. For example, why rates of export smyttya calculated by measuring the area and not by the number of residents, what size of rents depends on the area of the apartment, not on the quality and condition of housing (year of introduction in operation, the level of wear and communication networks, etc.). In addition, the tariff revision procedure takes prymayni six months ago to the adoption of new Tarifa they no longer meet the new cost structure.

Concerning the mechanism for providing subsidies to pay utility services for low-income segments of the population, we note that the list of documents to be collected reaches 15 names. For the time that is required for collection and processing of information, we have not mentioned. If we compare the number of employees per 1000 water supply services consumers, in the USA, the figure is 0,6 persons, and Ukraine – 5,65 persons. In general, the population of Ukraine loses for various permits to 20 billion during the year.

As a positive fact, we note the decision to start of pilot project to reform communal sphere in Alchevsk. As for its expected results, it can show the time only. Ministry responsible as always promises to reform the communal sphere, but positive changes in practice are not observed in reality.

Conclusions and suggestions. In our opinion, to bring communal sphere at least satisfactory in comparison with the modern state should implement the following measures.

1. Improving the regulatory framework for the formation of tariffs for communal services.

2. Creating a competitive environment in the sub-housing – housing, lift economy and sound – water supply, current and capital repairs and more.

3. The pricing (of transfer) depending on the quality of services provided. Peredbaty mechanism for payment services only for the fact that they provide.

4. Determination of the amount of rent, depending on the category of housing and real services provided to the residents, which are on the list.

5. Simplification of formalities and the payment of subsidies communal services staff reduction of control structures and institutions by transferring them to new and emerging technologies work.

6. Overseeing the activities of management companies and authorities entitled to establish the tariffs. Raising the role of the local communities and institutions to independent examination methods for calculating payments and utility tariffs.

7. Learning the experience of foreign Reform – Housing sector.

8. The introduction of energy saving technologies in housing.

9. The using of various financial instruments in order to increase the amount involved in the modernization of industry investment resources.

References

1. **Гура Н. О.** Система формування тарифів на житлово – 2. **Логвіненко В. І.** Житлово-комунальне господарство: закордонний та вітчизняний досвід його реформування та розвитку / В. І. Логвіненко // Актуальні проблеми державного управління. Зб. наук. Праць Харківського регіонального інституту державного управління Національної академії державного управління при Президентові України. – 2008. – № 2. – С. 37 – 42. 3. **Гура Н. О.** Розвиток діючої системи ціноутворення і розрахунків за послуги в житлово-комунальному господарстві / Н. О. Гура // Реконструкція житла. – 2004. – № 6. – С. 75 – 86. 4. **Кириченко І.** ЖКГ і криза: платити доведеться нам [Електронний ресурс] / І. Кириченко // Дзеркало тижня. – 2009.– № 43. 5. **Лега Ю. Г.** Вдосконалення управління житлово-комунальним комплексом України в сучасних умовах розвитку національної економіки / Ю. Г. Лега, Т. М. Качала, Н. Ф. Чечетова. – Черкаси: ЧДТУ,2003. – 219 с. 6. **Олійник Н. І.** Зарубіжний досвід управління житловим фондом / Н. І. Олійник // Актуальні проблеми державного управління. Зб. наук. праць Національної академії державного управління при Президентові України. – 2005. – № 1. С. 56 – 62. 7. **Полуянов В.** Комплексна характеристика методів ціноутворення на житлово-комунальні послуги / В. Полуянов, А. Савенко // Економіка. – 2009. – № 9 (100). – С. 40 – 47. 8. **Трепилец Д. А.** Концепция создания механизма управления финансовым обеспечением жилищно-коммунального комплекса города /Д. А. Трепилец // Економіка і організація управління. – Вип. 3. – 2008. – С. 159 – 166.

Матросова Л. М. Проблеми реформування житлово-комунального господарства України

У статті досліджено сучасні проблеми комунальної сфери, проаналізовано досвід зарубіжних країн з підтримки та фінансування ЖКГ, запропоновано заходи щодо модернізації комунальних підприємств.

Ключові слова: житлово-комунальне господарство, комунальні тарифи, субсидії, житловий фонд, комунальна сфера.

Матросова Л. Н. Проблемы реформирования жилищно-коммунального хозяйства Украины

В статье исследованы современные проблемы коммунальной сферы, проанализирован опыт зарубежных стран по поддержке и финансированию ЖКХ, предложены меры по модернизации работы коммунальных предприятий.

Ключевые слова: жилищно-коммунальное хозяйство, коммунальные тарифы, субсидии, жилищный фонд, коммунальная сфера.

Matrosova L. M. The Reformation of Housing and Communal Sphere of Ukraine

The modern problems of communal sphere are investigated in this article, the experience of the foreign countries on support and financing of communal sphere is analysed, measures on modernization of work of communal enterprises are proposed.

Key words: housing and communal services, communal tariffs, subsidies, housing fund, communal sphere.

UDC 338.22(4:479.2)-043.83

A. Deneva,
PhD (Economics),
D. A. Tsenov Academy of Economics – Svishtov, Bulgaria

EUROPEAN DIMENSIONS OF BULGARIA'S INDUSTRIAL POLICY

During the last two years the European economy, slowly and with great effort, has been recovering from the most severe economic and financial crisis of the last century. Industrial production plays a central role in this process. Namely, industry is the economic branch that impacts and provides development opportunities to the rest of the economic sectors.

It is no coincidence that there are frequent discussions on the revival of industry and its leading role in the economies of the European states. Besides, the document „Integrated Industrial Policy for the Globalisation Era", adopted by the Commission in 2010 as part of the Europe 2020 Strategy, was updated[1].

This laid the foundations for the renewal of the European industrial strategy and the development of a uniform European industrial policy. Its main emphasis is raising awareness of the fact that a stable industry is of significant importance for building a rich and economically viable Europe.

The problem of developing a strong industry is not new to Bulgarian economy. As early as the beginning of the 20th century, a large part of the leading economists and politicians in the country asked themselves a number of questions regarding the role and place of industry in the economic structure of Bulgaria[2]. At the beginning of the new century, the debate regarding the chosen path of economic development is too painful and pressing. Given the background of tumultuous events at the end of the 19th century, this choice is fully justified and understandable. The argument revolved around the choice between agriculture and industry, economic openness or protectionism. In the end, there is no single and definitive answer to all these questions. In a way, all our economic history to this day has not been able to provide a conclusive solution.

1. Bulgaria's industrial policy throughout the 20th century

The peculiarities and vicissitudes of Bulgaria's economic history provide the grounds for a certain periodization of Bulgarian industrial policy. The measure for such differentiation is the economic management system at work during separate stages.

On this basis we may isolate the following primary periods:

1. First period – from the country's liberation to 1944.
2. Second period – from 1947 to 1989
3. Third period – after 1990

The first period may easily be called „initial" with regard to the emergence and formation of Bulgaria's industrial policy. Despite the preserved majority of agriculture in the common economic structure, Bulgaria's industry was developing at a significant pace. A number of new factories were built in a short period of time and in 1911 the country had 345 factories with a total of 15 000 workers.

The official economic policy played an important role for achieving these results. The first written rules, regulating industrial production date as far back as 22 December 1893 – The National Industry Development Act[3], which obliged all state officials and the army to wear clothes and shoes made in Bulgaria. The Homeland Industry Stimulation Act[4] was passed two years later in 1895 and promulgated on 28 January. It introduced a number of relief measures (tax exemptions, duty-free imports, free building terrains, reduction of transportation charges in the railways, privileges in state procurement, etc.) for Bulgarian industrial factories. With the passing of a legislation package in 1905[5], the first integral framework of industrial rules was enacted. Laws for industry stimulation, duties and patent tax on drinks and sanitary oversight for foods and drinks embodied the state control in different industrial branches.

The Balkan Wars and World War I played an important role in the industrial development of the country. On the one hand, they almost entirely destroyed Bulgaria's economy, but on the other – they led to a significant increase in the demand for goods and food, which provided favorable conditions for a new economic boom.

The state's economic policy was entirely adequate in these circumstances. State regulation of foreign exchange transactions and the introduction and increase of specific duties for groups of goods were a precondition

---

[1] COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS A Stronger European Industry for Growth and Economic Recovery http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0582:FIN:BG:PDF

[2] Boev, B. Journal of the Bulgarian economic society, 1911 book. 10, pp. 699 – 700.

[3] http://212.39.92.39/e/prosveta/istoria_11/40.4.html.

[4] State Gazette №22, 28 January 1895

[5] Вж. Владигеровъ, Т. Цит. произв., с. 43 – 46.

for economic revival. Bulgaria's economy was on the undeniable economic upswing, which reflected in the zero inflation level of 1923.

The passing of the Homeland Industry Stimulation Act in 1928 was a continuation of a successful industrial policy. It provided duty-free import of equipment and machinery that was not produced in Bulgaria, free state and municipal lands granted for the construction of factories, reduction of 25% to 30% of the railway tariffs, exemption from some taxes and fees aimed at modernization of production. This law encouraged small-scale industrial enterprises rather than large ones[6], but it did not deliver the expected results. From the beginning of 1929 to 1934 the country's economy was in crisis. At precisely this time, monopolization processes in the industrial sector gained momentum, which required the passing of a special law for control over cartels and monopolistic prices in 1931. The law's main purpose was to decrease prices of industrial production.

The extensive state interference in industrial production and the radical changes carried out, brought not only stabilization to the economy, but also an increase in industrial output. According to census data from 1934, 13% of the active population was employed in industrial production[7].

The adoption of the next Industry Act in 1936 attempted to create a new organization of industrial relationships. It removed the stimulus of the Homeland Industry Stimulation Act and defined the rights and responsibilities of particular factories and sectors. As a consequence of the introduced measures and restrictions, industrial production development accelerated and its output in constant prices in 1941 reached 18.16 billion BGN at an average annual growth rate of 6.9%.

After World War II, with the start of the process of nationalization of banks and industrial enterprises (23.12.1947), the construction of new „socialistic" enterprises started. The first five-year plan for the country's development (1949 – 1953) marked the beginning of a period of accelerated industrialization of Bulgarian economy, which, however, was not consistent with the natural and demographic characteristics of the country.

In these first years, growth rates of industrial production were too high, but to a large extent unrealistic. Many new factories were built, mainly in the heavy industry sector. Unfortunately, the larger part of them counted solely on raw material imports from abroad – from the member countries of the Council for Mutual Economic Assistance and the equipment and machinery used were outdated.

During the same period, along with the building of new factories, the existing ones were restructured and consolidated. As a result of this their number dropped from 7000 in 1947 to 2200 in 1989. In relation to the COMECON specialization, Bulgaria developed such branches as truck production, electronics, textile and food and beverage production. The largest part of industrial production came from the so called heavy industries – machinery, metal works, electric works and electronics, chemical production and petroleum processing. At the end of the 1970s, as measured by some key indicators per capita Bulgaria ranked 20th and 30th in the world in these sectors. In terms of electric and motor trucks, electric hoists and other types of complex machinery, our country was in the top ten[8].

Despite these results, the country's economy started to experience a number of difficulties towards the end of the 1980s. Regardless of the attempts to overcome those through the adoption of a number of new regulatory acts, the country's economic indicators deteriorated. There was a sharp drop in economic development, part of the working factories were closed down and key markets were lost.

For the above reasons, in 1989 Bulgaria launched economic restructuring processes for the whole industrial sector, which represented the larger part of the economy. The basic foundation of the restructuring was the transition from one principle of production to a completely different one – the market. The reforms carried out in the economy, the adoption of an entirely new legislative framework and most importantly – the implementation of an entirely different industrial policy, were able to slow down the negative trend.

Comparatively more optimistic results were achieved in 1997 as a consequence to the structural reform and privatization. Most of the merit for this stabilization is attributed to the Currency Board introduced in 1997.

2. Bulgaria's industrial policy – an element of the Uniform European Industrial Policy

Since 1999 the country's policy with regards to industrial production has been in conformity with the EU requirements. This was a result of an EU preparation and accession procedure which was set in motion.

In relation to this, a new innovative strategy and Investment program were developed and adopted, which aim at creating the necessary conditions for modernization of the industry by 2001.

In parallel, a Strategy for Industrial Development was drafted and adopted, which was part of the National Plan for Economic Development 2000 – 2006[9]. It recognized the importance of accelerated continuation of the privatization process to 2004, regardless of the accomplished restructuring. This resulted in 51.9% of all state-owned assets being privatized and a private sector share in GDP of 70% in 2000.

---

[6] http://monarchism.blog.bg/politika/2010/02/05/ikonomika-na-tretoto-bylgarsko-carstvo.486973.

[7] Вж. Стефановъ, Ив. Методика на примишлените преброявания въ България. София, 1939, с. 89 – 96.

[8] Иванов, Д. Цит. произв., с. 278 – 279.

[9] Intergovernmental conference for the accession of the Republic of Bulgaria to the EU, Brussels, 23.IX.2001 - www.mi.government.bg.

The new strategy for privatization passed by the Council of Ministers on 15.11.2001, envisioned an expansion of privatization processes in sectors such as energy, railway transport, services, etc. Improving efficiency and control over privatization deals required the passing of a new Privatization and Post-privatization Control Act (31.10.2001) and the institution of a post-privatization control Agency. These come as direct obligations from the EU accession agreement from 1992.

In parallel with privatization, this period was characterized by a process of fast pace liquidation and declaration of insolvency of losing enterprises. As of 31.10.2001, 236 state-owned enterprises were in the process of liquidation and another 159 were at a different phase of the insolvency procedure.

All these measures were aimed at carrying out the necessary restructuring of industrial production.

The other main priority of the government at the time was nurturing a favorable business climate and stimulating investments. As a result of this and in compliance with the requirements for legislative harmonization with the EU, Bulgaria undertook changes in the tax code. A tax code package was developed and adopted for the purpose: Corporate Income Tax Act, VAT Act, Personal Income Tax Act, Local Taxes and Fees Act, etc. Regulatory alleviation was also carried out and by the end of 2000 63 such acts were abrogated.

These measures achieved macroeconomic stability for the economy and in particular for the industrial production and marked the beginning of Europeanization of the Bulgarian industrial policy.

The country's accession to the EU in 2007 allowed the carrying out of our industrial policy on the basis and principles of the European regional policy. Its key instruments are:

1. **The structural funds:**
– European Regional Development Fund;
– European Social Fund;
– European Agricultural Fund for Rural Development.

2. **Community initiatives** – INTERREG III; URBAN II; LEADER +; EQUAL

3. **The Cohesion Fund** – for member countries with GDP per capita less than 90% of the EU average, for projects in the sectors of ecology and Trans-European transport corridors.

4. **Pre-accession assistance** – PHARE, ISPA, SAPARD

5. **European Investment Bank**

6. **European Bank for Reconstruction and Development**

7. **European Investment Fund**

8. **European Central Bank**

Bulgaria's industrial policy is carried out on the grounds of the developed and adopted National Strategic Reference Framework (NSRF) and Operational Programme „Developing of the Competitiveness of the Bulgarian Economy 2007 – 2013".

NSRF describes the country's strategy in supporting the competitiveness of the Bulgarian economy. It is divided in the following main parts:

1. Analysis of differences, weaknesses and potential for development – it encompasses problems of macroeconomic stability and growth, basic infrastructure, human resource development, territorial development and entrepreneurship.

2. Strategy for intervention in key activities and priorities – such as:
– Improving the basic infrastructure;
– Increasing the quality of human capital;
– Encouraging entrepreneurship;
– Balanced territorial development.

3. Operational programmes and mechanisms for coordination and mutual complementation of all financial instruments of the European Union – the programmes are as follows:
– Transport.
– Environment.
– Human resource development.
– Developing the competitiveness of the Bulgarian economy.
– Administrative capacity.
– Regional development.
– Technical assistance.

Operational Programme Developing of the Competitiveness of the Bulgarian Economy 2007 – 2013 is of highest importance to the economy and the industry in particular. It substantiates our strategic priorities and economic development objectives after our accession to the EU. The Programme is funded by the European Fund for Regional Development and the National Budget.

During the period from 2007 to the mid-2008, the new industrial policy resulted in achieving positive rates of growth of industrial production and in parallel there is a process of technological and product renovation. This fully conforms to the stated goal of improving the competitiveness of Bulgarian industry.

Unfortunately, these positive trends have been declining gradually since the summer of 2008. The main reason for that is the financial and economic crisis, which spread throughout the world economy. These negative trends forced the reconsidering of key priorities and objectives of the European economic policy. This resulted in the development of the *Europe 2020* strategy, which is a continuation of the Lisbon Strategy adopted in 2000. It outlines the key parameters of economic and social development of member countries with an emphasis on the following *three priorities*:

– **smart growth** – building an economy based on knowledge and innovation;

– **sustainable growth** – stimulating effective use of resources, environmental conservation and improving economic competitiveness;

– **inclusive growth** – stimulating high levels of employment and achieving social and territorial cohesion.

The seven leading initiatives aimed at achieving

effective results and faster way out of the crisis[10] are an important element of this strategy. These include the initiative „Integrated industrial policy for the globalization era", which is a basis for the development of a new European industrial policy, aimed at improving the business environment, small and medium enterprise development and achieving sustainable industrial base, allowing competitiveness on a global scale.

In accordance with the changes in European industrial policy, Bulgaria has taken the necessary measures and actions to improve its competitiveness in industrial production. Bulgarian industry turned into a key factor for overcoming the economic crisis. Based on data by the National Statistical Institute, industrial production marked a 5.2% growth rate in 2011. On annual basis compared to December 2009 the growth of processing industry production is 7.9%, 0.8% in the distribution of electricity, heating and gas, and 0.3% in the extraction industry. There is also growth in the field of investment products – 16.9%; 6.9% in the production of intermediate products, and 2% in the production of energy products[11].

In 2011 the industrial sector created 33% of the gross added value in the economy compared to 30.3% in 2009, with an effective decrease compared to 2008 of 8.1%[12].

The country's economic development through the years has categorically proven that it is precisely industry that is the economic sector which succeeds in providing macroeconomic stability to Bulgaria. It is undeniable that as an economic branch, industry is of significant importance for separate countries. Furthermore, in accordance with Toffler's theory for the third wave, investments in industry are of vital importance for every economy[13].

The route of the Bulgarian industrial policy has not been easy and painless. A number of errors and delays were committed, but the final result is more important than that. It is true that Bulgarian industrial production is still falling behind in terms of competitiveness and effectiveness, but the direction of development is correct. At this stage, it is of particular importance to carry on with the transformations that were initiated and to build a contemporary industrial policy, conforming to the principles of the uniform European industrial policy.

Денева А. Європейські виміри болгарської індустріальної політики

Центральна роль індустріального виробництва у відродженні економік європейських держав в останні два роки стала приводом для актуалізації питання про європейську індустріальну політику. Здійснено перші кроки до оновлення Європейської індустріальної стратегії й формування Єдиної європейської індустріальної політики.

Ключові слова: Європа, вимір, промислова політика, формування.

Денева А. Европейские измерения болгарской индустриальной политики

Центральная роль индустриального производства в возрождении экономик европейских государств в последние два года актуализировала вопрос о европейской индустриальной политике. Предприняты первые шаги к обновлению Европейской индустриальной стратегии и формированию Единой европейской индустриальной политики. Болгария как полноправный член Европейского сообщества также уделяет значительное внимание и усилия к улучшению состояния своей индустрии. Политика, которую проводит страна по отношению к индустриальной отрасли, является объектом исследования в настоящей статье. Акцент ставится на процессе ее трансформирования сообразно особенностям и требованиям ЕС. Рассматриваются основные рычаги современной болгарской индустриальной политики как элемента создающейся единой европейской индустриальной политики.

Ключевые слова: Европа, измерение, промышленная политика, формирование.

Deneva A. European Dimensions of Bulgaria's Industrial Policy

The central role of industrial production in the European countries' economic revival in the last two years has brought to the front the concept of European industrial policy. Moreover, the first steps on the renewal of the European industrial strategy and the formation of a uniform European industrial policy were made. Being a full member of the European Union Bulgaria also pays special attention and makes efforts to improve the state of its industry. This article examines the policy of the government regarding the industrial sector. The emphasis is on the process of its transformation according to the EU specifics and requirements. The basic levers of the modern Bulgarian industrial policy are discussed as an element of the uniform European industrial policy that is being built.

Key words: Europe, measuring, industrial policy, forming.

---

[10] Europe 2020 Strategy for smart, sustainable and inclusive growth, European Commission Brussels, 2010, p. 7.

[11] newspaper Monitor, 08.02.2011

[12] http://eea.government.bg/cms/bg/soer-bg-2009/2economy/2industry.

[13] Дочев, И. и др. Преструктуриране и предприемачество в индустрията на РБългария. С., 1995., с. 3.

UDC 330.34(477.6),,18/19"

V. V. Volchik
Dr. Hab. (Economics),
Southern Federal University, Rostov, Russia

THE LAND OF LOST OPPORTUNITIES: AN INSTITUTIONAL HISTORY OF THE DON AGRARIAN AND TRADE ENTREPRENEURSHIP

The Region of the Don Army [Oblast Voyska Donskogo] which is characterized by beneficial geographical location, relatively soft climate and a plenty of fertile lands, could become one of the centers of the development of agrarian and trade entrepreneurship in the Russian Empire. However, in this regard, the Don Region strongly fell short of its neighbors in the XIX – beginning of the XX centuries. There are, of course, objective reasons for relative economic backwardness of the Region of the Don Army. The main reason is its military organization of administration and the Cossacks' liabilities for military service. It is archaic and inefficient institutional structure of the Don economy became the cause of economic failures. This paper tries to understand an influence of economic institutions on forming of the basic market mechanism of agrarian entrepreneurship in the Don Region in the end of the XIX century and in the beginning of the XX century. It can contribute to an understanding of the contemporary institutional changes.

Institutions matter. Their role is not reduced to the framework determining behavior of the economic agents. Institutions as an element of culture (including economic culture) mould preferences, behavioral models, modes of organization of business and exchanges. It is important to take into account historical properties of institutional evolution, and also their influence on local rules and mechanisms of organization of market exchange. Institutions play very important role as the factor of formation and functioning of economic order, exactly because that they set long-term constraints and create persistent stereotypes of behavior of economic agents. In the end, the quality of institutions determines economic efficiency of country or some region. Economic history of the Don Region is very interesting exactly due to the special regime of institutional regulation of economic activity. This regime was unique for Russia. The fact that in the Don Region various ethnic and class groups were exposed to diverse specific institutional regulation is very interesting from the institutionalist point of view.

Economic evolution of any country or region in its historical development does not guarantee efficient outcomes of adaptation to the changing circumstances even if market exists. Such evolution does not guarantee also Pareto-efficiency of functioning. Therefore, we cannot develop universal ways of providing economic prosperity. But we can reveal laws and vector of economic evolution of some society in some period of its development. In such case history, culture and institutions matter (Volchik 2004).

Neo-Evolutionary Economics[1] and Economic History provide us with instruments and empirical evidence which help us to understand reasons for long-term and stable existence of suboptimal institutions. Application of Neo-Evolutionary Economics can also contribute to a construction of more complete picture of development of the Don agrarian and trade entrepreneurship.

Forming of institutions is considered as an evolutionary process within the framework of this analysis. However, an approach to forming and „strengthening" of institutions, which is generally accepted in the modern institutionalism, seems too much narrow-minded. When institutions are dynamically analyzed, it is necessary to emphasize main institutional innovators and dominating interest groups which contribute to the process of forming and changes of institutions.

Bad institutions are often characterized by striking vitality. This feature was described in a multitude of works written within the framework of the very important theoretical branch of Neo-Evolutionary Economics – Path Dependence. The evolution of institution of „agrarian property" and „militaristic" direction of the development of the Region of the Don Army can be considered as an illustration of Path Dependence. However, the contemporaries face with difficulties trying to make „good" decision in favor of efficient institution. It is impossible sometimes to make such decision. The striking example can be the fact of understanding – by the

---

[1] Neo-Evolutionary Economics in the traditions of B. Arthur and P. David is different from Evolutionary Economics of R. Nelson and S. Winter. The difference takes place because the former emphasizes an evolution of suboptimal and relatively inefficient institutions and technologies in the conditions of path dependence. See suggestions on an existence of „Neo-Evolutionary „Branch" in Economic Theory in: Fligstein N., Feeland R. Theoretical and Comparative Perspectives on Corporate Organization // Annual Review of Sociology. 1995. V. 21. P. 21 – 43.

contemporaries – of existence of inefficient economic and social institutions, and also repeated attempts to reform economic institutions and mechanisms of the Region of the Don Army, which are made up to 1916 and in general failed. History gives us useful facts which allow (although in retrospect) to emphasize important laws of functioning and development of economic institutions in the Russian economy.

Relatively low performance of economic development of the Region of the Don Army can be explained mainly by specific institutions. Favorable geographic, climatic and transport opportunities for development of trade and agrarian entrepreneurship were not used during all the XIX century and in the beginning of the XX century. Moreover, evolution of institutions which determine rules and constraints for economic agents was often resulted in substitution of bad institutions for worse ones.

Paradoxes of institutional history of entrepreneurship in the Don Region can be more easily understood in context of political and cultural history. When evolution of economic institutions is analyzed it is also necessary to take into account path dependence. Here we should pay close attention to the properties of „coming-into-being" of the Don Region as a part of the Russian Empire. Phenomenon of path dependence is based on understanding and emphasizing facts of historical conditionality of development of systems characterized by positive feedback (Arthur, 1994; David, 1985). However, this process is unlike „historicistic" one. The latter implies „strict", „rigid" determination of stages and processes of historical development of social systems (Popper 1993).

When evolution of economic institutions is analyzed, it is necessary to take into account that some situations are beyond the Neo-Institutionalist framework of models of institutional equilibria. Researches should have inductive thinking in order to develop relevant theories (hypotheses) which give understanding of processes of non-linear development of rules and mechanisms of regulation of economic processes (Authur 1994a, 6-411). Economic History can be important factor for understanding of evolution of complex economic systems, if we bear in mind forming of patterns of inductive thinking.

The construction of clear picture of evolution of agrarian and trade entrepreneurship institutions in the Don Region can be accompanied by attempts of development of „counter-factual" historical models (Cowan and Foray 2002, 539 – 562). Although such approach can be rather fruitful, it is not directly relevant for purposes of this paper. History of development of institutions of entrepreneurship is a succession of missed opportunities for implantation of efficient of economic rules. Possible best alternative ways of forming of institutions were not realized owing to many causes. The main reasons are lack of influential groups interested in the development of entrepreneurship, and also „militaristic" policy of the imperial government.

Functioning of some institution is concerned with current interactions between economic actors: organizations, interest groups and individuals. Therefore, interest groups play very important role in the process of institutional selection, it being known that interests of such groups can be both narrow (special) and overall. Special interest groups are usually treated as an aggregate of agents which are characterized by coincidence of economic interests and affected by selective incentives for production of joint collective good. Groups with special interests can create structures (for lobbying political and economic decisions and normative acts), oligarchic and monopolistic structures, and also take part in redistribution. Rule, institutional agreement, or institution, matter only when there is a significant quantity of individuals which follow them. Individuals make small and large secondary groups, within the framework of which there is a forming of selective incentives. It allows inclusion of groups into the process of creation, change and strengthening of institutions.

According to M. Olson approach, special interest groups affect economic development negatively. On the contrary, activity of groups with overall interests mostly leads to implantation of efficient institutions (Olson 1998). In the course of planning of institutional reforms in the sphere of organization of the economy of the Region of the Don Army there was a realization of special (narrow) interests. Consequently, it was a cause of implantation of suboptimal institutions. Finally, narrow interests of militarized elite generated in many respects low performance of repeated attempts of reforming economic institutions of the Don Region.

But by the end of the XX century there were publications of many works which earnestly prove hopelessness of institutions formed in the economies under the domination of groups with narrow, special interests. The economy of power groups, as E. de Soto fairly noted, strikingly resembles classical system of mercantilistic economy. Institutions of mercantilistic economy were relatively efficient for their time, in the XVI – XVIII centuries, but in the XX century a system of modern mercantilism is an institutional trap where – due to lock-in – already obviously inefficient institutions are strengthened and function over the long period of time (Soto 1975).

However, treatment of narrow (overall) interests groups as innovators of inefficient (efficient) institutions would be too much simplified. The groups are the units of social selection which generate change, selection and preservation (inheritance) of institutions structuring social interactions.

When interest groups are well preserved and expand, they take part in both generative social selection and

subset social one (Hodgson and Knudsen 2005). It is very difficult to distinguish interest groups in concrete society and economic order. To explore them is still more difficult task. However, such groups are more real[2] than notorious populations of firms. The groups (we speak in this context about secondary ones) attract attention mainly due to the fact of coordinated or solidary actions in the course of creation of some rule or during following it. The domination of subset selection in an evolution of economic institutions of the Region of the Don Army led to some stability. But, in this case, stability of archaic institutions was often irresistible barrier to implantation of progressive institutional innovations.

Because groups are considered in the light of account of some institutional actions, change of personal membership in some group does not affect group-supported rules, routines, and institutions strongly. The example from history of Russia can be economic and entrepreneurial activity of the Old Believers who followed some informal institutions, in particular, specific economic ethics (Benam and Benam 1999).

The fundamental cause of inefficiency of interest groups as institutional innovators is their long stability and irremovability within the framework of political system. After the works of M. Olson there is a generally accepted view that large groups provide with their members collective good worse than small ones. Moreover, large groups are less stable. Therefore, if the problem of stability of interest groups (or the problem of „social sclerosis”) can be solved at the expense of flexibility of political institutions, that it gives chance of forming and functioning of efficient economic and political institutions for society with a plenty of special interest groups[3]. However, in the traditional and less developed societies, in which most social alliances are primary groups and religious communes, the principles of „social sclerosis”, destruction and movability of groups must be considered separately taking into account specific features of such societies and their economic system.

In economic history of the Don Region we can distinguish some points of bifurcation, when there was a opportunity of choice among several variants of institutional development, for example, in the beginning of the XVIII century and in the 60s of the XIX century. The actions of institutional innovators or lack of such actions,

of course, cannot be considered beyond general, historical context of economic development of the Russian Empire in the XIX century and in the beginning of the XX century. However, it is distinction in institutional regulation of entrepreneurial activity in the Don Region from such region of the Empire that attracts close attention.

It is important to note that economic success can be promoted by not only institutions which constrain monopoly power or decrease uncertainty in interactions between agents. In some conditions actors also behave in some opportunistic manner, i. e. are interested in cheating, information hiding etc. Such actions can be efficient in order to be successful in market activity as well as provision with more qualitative services, decrease of production cost, and creation of new products, and also offer of lower prices (Kerber 2006).

The process of creation and change of institutions depends upon culture and dominating values which are formed within the framework of ethnic communes. In the Region of the Don Army, Taganrog district („Taganrogskoe gradonachal'stvo”) and Rostov uyezd of Ekaterinoslav province („Ekaterinoslavskaya guberniya”) polyethnic structure of population was historically formed in the XVIII – XIX centuries. The main ethnic groups are Great Russians, Little Russians[4], Armenians, Jews, and Greeks (Fursa 2001). Within the framework of ethnic groups specific culture, including entrepreneurial one, was formed. It is important to note that in one ethnic niche a few types of economic culture could be formed, for example, in the environment of the Great Russian peasants, the Cossacks, the Old Believers.

The Region of the Don Army, entering in the XVIII century in membership of the Russian Empire, had become to play important role in economic, military and political life of State. This region was characterized by many features of development which are specific for the Central Russia, but general for any South region. The main feature is a presence of the Cossacks („military class”). According to the data of administrative and revision registration of population in 1858 the Don Cossacks amounted more than 50% – 564 thousand (54%), peasantry – 413 thousand (39,5%), nobles and offocoals – 14 thousand (1,3%) clergy, merchants, bourgeois, retired soldiers, Little-Russian Cossacks and other categories of population – more than 53 thousand (5,2%).[5]

---

[2] Explorations of the interest groups can be found in the works of political scientists and adherents of public choice theory. See: Makarenko V. P. Gruppovye interesy I vlastno-upravlenchsky apparat: k metodologii issledovaniya // Sotsiologicheskie issledovaniya. 1996. No. 11; Buchanan J., Tullock G. Raschyot soglasiya; Buchanan J. Granitsy svobody. Mezhdu anarkhiey i Leviathanom / Nobelevskie laureaty po ekonomike. J. Buchanan. Moscow. 1997; Nureev R. M. Teoriya obshchestvennogo vybora. Moscow. Izdatel'sky dom GU-VSE. 2005.

[3] The economies of the Scandinavian countries can be examples.

[4] „Little Russia” is the name of Ukraine in the "tsarist" era. Hence, Ukrainians are called „Little Russians”.

[5] GARO F. 55. Op. 1. D. 381, L. 1 – 6.

The military direction of the development of the Region of the Don Army („military class" amounted majority of population up to 1917, see Table 1) was beneficial mainly for narrow groups with special interests which filled the leading posts in this region. However, exactly these groups repeatedly initiated prohibitive measures in the economy which applied to both the Cossacks themselves and the nonresidents. For example, in 1858, according to the Imperially Approved Regulations of Council of Defense (published on 14 May)[6], – there was an introduction of prohibition for nonresidents to acquire real estate in the Region of the Don Army. In 1868, according to the Imperially Approved Opinion of the State Council, published on 18 June[7], there was permission for nonresidents to acquire real estate – „houses and buildings of all kinds" – but land assigned for buildings remained ownership of the Don Army. Broadly speaking, institution of „nonresidents" is worthy

of special exploration. We briefly note only that discriminating measures of economic policy nothing but slowed economic development, contributing to spillover of enterprising „nonresidents" in neighboring provinces. Here the striking example is economic development of located nearby Rostov uyezd (distance between Rostov-on-Don and Novocherkassk is nothing but 40 km.) and Taganrog district of Ekaterinoslav province up to 1888.

Militarization of the region (which in the second half of the XIX century was already not frontier area but actually inland one) affects negatively also development of political institutions, in particular, self-government. In the end, in also does not promote development of entrepreneurship. For example, in 1882 in the Don region there was an abolition of *zemstvo* (Russian kind of institutions of local governing). After Rostov uyezd had joined in 1888, *zemstvo* was abolished also in it. In general, during all the 1880 – 1890s militarization of civil

Table 1

Distribution of population of the Region of the Don Army in accordance with classes[8]

Classes	1864		1876		1898		1908		1916	
	population	%	population	%	population	%	population	%	population	%
Nobles	14913	1,5	18688	1,46	23278	0,96	24022	0,8	29520	0,82
Clergy	6564	0,68	6986	0,54	7061	0,28	6538	0,22	6191	0,17
Urban	974	0,1	2871	0,22	153833	6,23	100239	3,4	107903	3,02
Rural	289856	3,14	373175	29,25	678111	27,46	840675	28,9	878330	24,6
Military	639907	66,54	776601	60,8	1162925	47,1	1418533	48,8	1680404	47,1
Permanently living nonresidents from other classes	-	-	97090	7,6	406083	16,4	445838	15,3	794434	22,2
Foreign subjects	40	0,004	275	0,02	8879	0,35	5702	0,19	10583	0,29
Nonresidents (Tatars, Circassians, Kalmyks, Not Cossacks)	25	0,002	-	-	5356	0,21	10869	0,37	19413	0,54
People not belonging to above-mentioned categories	9301	0,967	1275686	-	22595	0,9	51108	1,7	38832	1,089
Total	961616	100	1275686		2468571		2903524		3565626	

---

[6] PCZ. Sobranie II. T. XXXIII. 1858. No. 32938.

[7] PCZ. Sobranie II. T. XLIII. 1868. No. 45785.

[8] GARO F. 353. Op. 1. D. 367, 387, 400, 479a, 514.

administration continued steadily. Economic conditions of the Cossacks during the reign of Alexander the Third continued sharply deteriorated. After liquidation of *zemstvo* The Don Army had returned to the principles of times of Nicholas the First. Civil development of the region was, of course, artificially late. Militarization of the region and hard military service of the Cossacks impeded development of homecraft and trade in accordance with the tendencies of economic development in those times (Svatikov 1924, 412).

During the reign of Nicholas the Second the Cossacks are substantially guided from any changes which could improve their economic conditions and, even more so, political position (Svatikov 1924, 437). Actually, autonomy of the region was off and away. The Cossacks were practically the class enslaved by compulsory military service. Being approximately one half of population of the Region of the Don Army, the Cossacks were actually excluded from its economic life.

The major harm for development of agrarian and trade entrepreneurship, and also development of industry in the Don Region was generated by instability and conditional character of property in land. In the 1850s lands of landowners could be expropriated not only for needs of the Don Army, but also upon request of companies or societies which expressed a desire to extract anthracite in parcels of land owned by private „operator" in the Don Region (Dulimov 1998, 191). Specification of property rights concerning land and real estate would led to development of markets and capital inflow, but during all the XIX century achievements in the sphere of clear establishment of absolute and freely alienable private property in the Don Region were very low.

The features of possession of the main resource for agrarian production (which is land) inevitably led to different regimes of use of land and application of agrotechnics (it is important that these features were determined by institutional structure of the Don Region). In estates of the Don landowners whose economic activity was based on own, allotted, or inherited land, there was a use of three-field system. However, numerous tenants using army yurta lands or lands allotted for generals and officers who did not belong to the landed classes, do not conform to the rules of any field-use system, upturn virgin soil and after harvesting refuse from cultivating it during sometimes 6 or even 8 years (Dulimov 1998, 175).

Most of the lands which was indicated in the reports as a cultivated one, in reality belonged to the fallow ones. So, in 1857, according to the reports, only 3.5 million dessiatinas were cultivated out of 13 million dessiatinas; actually there was a cultivation of 500 thousand dessiatinas (Dulimov 1998, 176).

Institution of trade class in the Region of the Don Army was formed as a specific institution of trade Cossacks which, unlike „ordinary" Cossacks, were engaged mainly in trade and productive activity, rather than military service. During all the XVIII century Cossacks could engage in any economic activity only when they were free from military campaign and muster. Therefore in the economy of the Don Region there was a lack of many conditions and resources which are necessary for development of agricultural production and trade.

It is interesting that, unlike common Cossack custom to shave beards and have only moustache, trade Cossacks had beards. Thus, they stood out against a background of the most part of people even by appearance. The class of the trade Cossacks was established by the nominal Imperial decree addressed to ataman Platov 12 September 1804 about privilege to avoid military service for Cossacks engaged in trade and having fishery and merchant ships. Originally the quantity of trade Cossacks were determined as equal to 300 people. Annually each of them should was to pay 100 rubles (Savelyev 1904, 40).

12 September 1834, based on the Imperial decree, there was an establishment of the Don Trade Society. The order of its functioning, and also rights and duties of trade Cossacks were determined in the Imperially approved (26 May 1843) regulations on the administration of the Don Army. According to the regulations, trade Cossacks were released from any military service, and instead should annually were to pay 200 roubles. The period of service for Cossacks of the Trade Society was determined as equal to 30 years. During this period they were obliged to pay the Army prescribed sum (Savelyev 1904, 42). The Trade Society included five hundred Cossacks. The process of entry into membership of the Trade Society was not simple.

The order of certificates delivery for Cossacks of the Trade Society implied that in the course of admission into the Society of the Don Trade Cossacks there must be the following guarantees:

1) regarding behavior;
2) regarding determined sum of capital (1500 silver roubles);
3) regarding kind of trade;
4) regarding family life;

Those who have advantage over other potential entrants had been entered into trade Cossacks. Requests concerning entering were considered and complied with (or not complied with) by the Commercial court.[9] The Cossacks of the Trade Society which did not pay prescribed dues by the specified date, were treated as drop-out. They became first and foremost „candidates" for pressing into military service. Such people served

---

[9] GARO. F. 200. Op. 1. D. 32.

within the period of military service specified for „first and foremost Cossacks of combatant service". But, at any case, retirement age for them was thirty eight (Buslenko 1996, 27).

In 1855 the membership of the Society of Trade Cossacks had been expanded and become equal to 750 people. In the same year there had been permission to enter into the trade Cossacks not only individually, but also by families. Membership dues (for each serving Cossack) was established as equal to 57 roubles 15 kopecks in silver. In the same year the Don Trade Society was given a new name – the Society of the Don Trade Cossacks.

A quantity of Cossacks which wished to enter into the Trade Society increased year by year. Therefore the membership of the society repeatedly was expanded – in 1859 up to 1000 people, in 1869 up to 1500 people. However, a quantity of those who wanted to enter into the Society of the Don Trade Cossacks did not decrease and significantly exceeded the specified limit. Therefore, 8 May 1869, according to the Imperial command, this limit was almost abolished: the only constraint was to provide total quantity of serving Cossacks having a low rank which would be sufficient for recruitment (for combatant service). In 1874 a quantity of trade Cossacks amounted to 3760 people, in 1875 – to 3921 people. In 1875 their sum of paid-up dues was equal to 255 548 rubles (Savelyev 1904, 55-56).

But, according to the new army regulations (adopted in 1875), entering of new members was stopped. In 1885 the membership of the society included only 482 people (Maslokovetz 1899, 265). In the same year there was permission (applied during 3 years) to include in the staff of the Trade Society with payment: 300 roubles from „first and foremost" and „preparatory" Cossacks and 150 roubles from Cossack sergeants, „second- and third-order" Cossacks, and also retired ones. Owing to such high dues a quantity of entered was very small. According to the Regulations of Council of Defense there was a decrease of the dues. This sum had become equal to 200 roubles for those who had not served during all specified period of service, 100 roubles for those who had served during all period, 50 roubles for retired Cossacks. In 1898 the Don Trade society included only 194 people (Buslenko 1996, 48 – 49).

A trade by the Don Cossacks within the bounds of the territory of the Don Army was exempted from any government duties. The Don Cossacks were obliged to pay dues only in favor of the Don Army itself (Buslenko 1996, 25). But privileges impeded rather than promoted development of entrepreneurship, because they actually hampered trade Cossacks entry into the external markets, and also restrained penetration of trade experience and capitals from the outside.

The lag in economic development of the Don Army in comparison with neighbor regions became one of the causes of the following change: since 1 January 1888 Rostov uyezd and Taganrog district passed on from jurisdiction of Ekaterinoslav province to the Region of the Don Army, becoming okrugs of the latter. These okrugs were productive and trade leaders and affected economic development of the Region of the Don Army positively.

Development of Rostov-on-Don as the trade centre in the XIX century were in many respects caused not only by favorable geographic and transport conditions, but also, last but not least, by the fact that being the part of Rostov uyezd of Ekaterinoslav province, this city was not faced with institutional trade restrictions which took place in the Region of the Don Army.

The main commodities traded by Rostov-on-Don in the middle of the XIX century, were the following ones: horned cattle, horses, bread, manufactured goods imported from Moscow and Kharkov, groceries imported from Odessa, Moscow, Kharkov, and Taganrog, Crimean salt, which transported through Rostov to the inland provinces of Russia, very large quantity of fish, marketed to Moscow, Kharkov, Voronezh, Little Russia and Western provinces, numerous goods of the Volga and the Kama, metals, timber, resin, flour, cereals, other items, and, finally, the Caucasian goods: bread, wool, suet, leather, linseed and other ones. Trade expansion of Rostov-on-Don was especially promoted by its famous trade fairs [„yarmarki"] getting All-Russian popularity in the 1840s and the 1850s (Ilyin 1909 – 1910, 67 – 68).

However, in the end of the XIX century turnover of such fairs started gradually to fall. The development of railway and steamship services, universal spread of telegraph, and an improvement of postal service can be treated as the causes of trade fall at big Russian fairs, in general, and at Rostov fairs, in particular. The important reason for fair trade in Rostov-on-Don was a practical lack of financial institutions and, consequently, absence of the Rostov merchants' access to credit.

After Crimean war in the 1860s and 1870s Rostov-on-Don became the main city centre of trade between near-river towns of the Novorossisk region. Wheat and linseed exported from Rostov-on-Don abroad in very large amounts were considered in those times as the main items of trade turnover of Rostov port.

Up to 1863 Rostov did not have officially established bank and only in this year the first official credit institution in Rostov had emerged. This institution is the City Public Bank. An office of the State Bank was really opened one year earlier in 1862, but this one did not deal with crediting on the security. The second – according to time of establishment – officially established credit institution in Rostov-on-Don, namely, the Society of Mutual Credit, was opened in 1867. In the same year charter of Rostov Exchange was approved. However it began to function only since 1885, when there was an emergence of „exchange committee" attached to this institution, and

up to this year it existed only nominally. In 1872 in Rostov-on-Don Committee of trade and manufactories had emerged. All these financial institutions contributed to an expansion of Rostov trade (Ilyin 1909 – 1910, 69 – 71).

However economic development of Rostov-on-Don was rather an exception from the general tendencies of the Don Region economic evolution. It is necessary to note that many merchants and manufacturers bringing glory to Rostov-on-Don as the economic centre, were of trade Cossacks origin, such as very famous in Rostov-on-Don entrepreneurs Paramonovs.

Apartness of the Don region from nonresidents inevitably led to social sclerosis, i. e. devolution of the special interest groups and supported by them institutions and customs of economic activity.[10] Economic history of the Region of the Don Army is an additional confirmation of the following fact: stable and protected from external intervention special interest groups inevitably generate a domination of inefficient institutions. In the end, it produces economic decline, a decrease in incomes and technological backwardness of the economy.

During the long period of time nonresidents could not independently trade within the Region of the Don Army. Only since 1862 nonresidents were granted a right on temporary trade within the Don Region, but obligatory payment was 10% more than obligatory State and local dues directed at equiping town settlements of Novocherkassk and okrug Cossack villages with up-to-date services and utilities. However, status uncertainty and legal „unprotectedness" of nonresident traders encouraged them to export accumulated capital beyond the bounds of the Don Region. Therefore, up to the XX century there was an absence of the large trade nonresident-owned firms with trade turnover based on „correct" but not predatory principles (Savelyev 1904, 58).

Among the Cossacks the following opinion was widely current: nonresident, „coming from the outside" traders, „dilute" way of their trade as well as way of their life, and, voluntarily or not, encroach upon their privileges. The Cossacks did not want share these privileges with other classes, all the more with newcomers from the outside. Such opinions were reflected also in the legislation of the Don Army. It is a system of privileges that restrained the Cossacks trade entry into the big market, and also hampered a penetration of trade experience from the outside (however strange it is). No wonder that institutional regulation of trade by nonresidents was mainly prohibitive (Buslenko 1996, 29)

Backwardness of trade in the Don Region, uncertainty and relative „scantiness" of nonresidents rights led to the following phenomenon. As soon as in 1868 nonresidents were allowed to buy real estate and engage in trade, a lot of opportunism-oriented merchants moved to this region. Cheating, false measure and selling of inferior goods at a high price became ordinary phenomena. Correspondingly, nonresident traders were not held in respect from the direction of the Cossacks; moreover, the Cossacks treated them with undisguised disdain, malice and distrust (Savelyev 1904, 59).

In contrast to the Russian peasant communes, the Cossack communes were practically not reformed up to 1917. Opponents of the Cossack communes reform argued that it would lead to an abolishment of the Cossacks as the class [„raskazachivanie"], and that the Cossacks have not habit and propensity to be engaged in individual private business activity. However, as was fairly noted in 1916 in the report of provincial deputy of the Don Army M. V. Sarinov: „The practice of attaching importance to the Cossack communes is useless. A material prosperity and contentment rather than commune is the first and main foundation of the Cossacks class. … The power of commune suppresses private initiative and enterprise and, surely, impedes improvement of agrarian equipment".[11] In the Cossack communes as well as in the peasant ones the main restriction was mutual responsibility. It was necessity of independent provision of Cossacks munition for military operations that the very main cause of conservation of communes which were responsible for due and timely supply with munition.

Moreover, in 1916 it was noted that parcels of land which are in inherited use by the Cossacks (such parcels were mainly utilized as various kinds of gardens) differed strikingly from other parcels: they were well-groomed and characterized by application of improved methods of agriculture and growing of more „progressive" crops.[12] However, the decree of the Nobles Assembly according to which the practice of financial provision of the Cossacks munition at the expense of treasury, and, at impossibility of it, at the expense of the Army, was recognized as adverse, was passed only in 1916 and practically not realized.[13]

---

[10] See Olson M. Vozvyshenie I upadok narodov. Ekonomichesky rost, stagflyatsiya and sotsialny skleroz. Novosibirsk. 1998; Olson M. Jr. The Devolution of the Nordic and Teutonic Economies // American Economic Review. May. 1995. Vol. 85. No. 2. Papers and Proceedings of the Hundredth and Seventh Annual Meeting of the American Economic Association. Washington. DC. January 6 – 8. 1995.

[11] Doklad oblastnogo deputata Voyska Donskogo M. V. Sarinova Ocherednomu oblastnomu Voyska Donskogo sobraniyu dvoryanstva „O zhelatel'nosti provedeniya v zhizn' nekotorykh meropriyatiy k podnyatuyu material'nogo blagosostoyaniya kazakov" / GARO. F. 304. Op. 2. D. 486. L. 108.

[12] Op. cit. / GARO. F. 304. Op. 2. D. 86. L. 105 – 109. Op. 6. D. 255. L. 1 – 2.

[13] Postanovlenie Ocherednogo oblasti Voyska Donskogo Sobraniya dvoryanstva / GARO. Op. 6. D. 255. L. 1 – 2.

Conservation of communes and common use of land among the Cossacks up to 1917 did not contribute to an implantation of both technologically and institutionally progressive innovations in the agrarian sector. Formally in the Cossack communes equal rights to land were proclaimed. Each seventeen aged Cossack had right to take parcel whose area amounted to 30 dessiatinas of „convenient" land.[14] The average parcel of land of a person released from the serfdom [„krepostnoe pravo"] was equal only to 3.5 dessiatinas. Nevertheless, peasants developed more intensive branches of plant growing and cattle-breeding than Cossacks. Such practice allowed them to receive more gross output by use of lesser parcel of land.[15]

Cossacks were outstanding warriors which allowed developing, preserving and protecting Southern frontiers of Russia. However, in comparison with other categories of population, Cossacks were in general less successful entrepreneurs and organizers of production activity. It can be explained partly by less efficient institutions, and also by the fact that both productive and entrepreneurial activity was not major one for the Cossacks and during the long period of time frankly prohibited (for them) (Larionov 2007). Nevertheless, it is necessary to note that there were many examples of productive and trade activity of the Cossacks.[16]

The features of the institutional structure of the Region of The Don Army allowed for the Cossacks some economic privileges. For example, freight transportation along Don within the bounds of the Don Army was actually monopolized by the Cossacks of near-Don villages. The fact is the following: up to a liquidation of isolation of the Army territory in the end of the 1860s ships owned by people not belonged to the „army classes" could not landed within the bounds of the Don Army.[17]

It can be concluded that, in the end, various economic privileges negatively affected production and entrepreneurship among the groups which had access to them. The economic activity (including entrepreneurship) of the Cossacks in comparison with the Russians which were not Cossacks can be the striking example. Different levels of economic efficiency of the different groups of people in the Don Region were determined mainly by diverse institutional conditions which regulated economic processes within the framework of different „communities".

In the Don Region during all the XIX century there was no indeed development of reprocessing of agricultural production. It affected development of agrarian entrepreneurship negatively. For example, there was an abundance of wool and other products of cattle-breeding, but any factories were absent. Moreover, there was a lack of any factories suitable for reprocessing of local products except two tallow-melting mills in Novocherkassk, vodka distillery, two breweries and three brick-works (Savelyev 1904, 33).

At present time in the Don Region there are attempts to revive culture and customs of the Cossacks, including their entrepreneurial traditions. It is here important to take into account not only positive aspects, but also negative experience of institutional (both formal and informal) regulation of economic relations. An understanding of such relations can be provided by an analysis of history of agrarian and trade entrepreneurship with use of theoretical instruments of Neo-Evolutionary Economics. The relevant explanation of the happened processes is necessary to grasp evolution of modern economic institutions.

References

1. **Arthur W.** (1994). Increasing Returns and Path Dependence in the Economy. Ann Arbor: The University of Michigan Press. 2. **Arthur W.** (1994a) Inductive Reasoning and Bounded Rationality // American Economic Review. Vol. 84. No. 2. 3. **Benam A.**, Benam L. (1999). Prava sobstvennosti v perekhodnoy ekonomike: kommentarii po povodu togo, chto znayut ekonomisty // Ekonomicheskaya nauka sovremennoy Rossii. No. 3. 4. **Buchanan J.** (1997). Granitsy svobody. Mezhdu anarkhiey i Leviathanom / Nobelevskie laureaty po ekonomike. J. Buchanan. Moscow. 5. **Buchanan J.**, Tullock G. Raschyot soglasiya. 6. **Buslenko N.** (1996). Donskoy sled Merkuriya. Istoriko-ekonomisheskie ocherki stanovleniya I razvitiya rynochnoy ekonomiki na Donu. Rostov-on-Don. Delovoy dvor. 7. **Cowan R.**, Foray D. (2002). Evolutionary economics and the counterfactual threat: on the nature and role of counterfactual history as an empirical tool in economics // Journal of Evolutionary Economics. Vol. 12. No. 5. 8. **David P.** (1985). Clio and the Economics of QWERTY // American Economic Review. Vol. 75. No. 2. 9. **Doklad** oblastnogo deputata Voyska Donskogo M. V. Sarinova Ocherednomu oblastnomu Voyska Donskogo sobraniyu dvoryanstva „O zhelatel'nosti provedeniya v zhizn' nekotorykh meropriyatiy k podnyatuyu material'nogo

---

[14] Krestyanstvo Severnogo Kavkaza I Dona v period kapitalisma. Rostov-on-Don. Izdatel'stvo Rostovskogo universiteta. 1990. P. 82.

[15] Ibid. S. 85.

[16] Don i Severny Kavkaz v XVI – pervoy polovine XIX veka. Torgovye kazaki na Donu / Istoriya Dona i Severnogo Kavkaza s drevneyshikh vremyon do 1917 goda (http://grants.rsu.ru/osi/Don_NC/XVI-XIXbeg/Vod_trans.htm)

[17] See examples of successful entrepreneurial activity of Cossacks and also cases of institutional constraints of the Cossacks entrepreneurship in: Torgovo-promyshlennoe obshchestvo Voyskovogo kazachyego obshchestva „Vsevelikoe voysko Donskoe" (http://www.tpovvd.ru/3.htm)

blagosostoyaniya kazakov" / GARO. F. 304. Op. 2. D. 486. L. 108. 10. **Don** i Severny Kavkaz v XVI – pervoy polovine XIX veka. Torgovye kazaki na Donu / Istoriya Dona i Severnogo Kavkaza s drevneyshikh vremyon do 1917 goda (http://grants.rsu.ru/osi/Don_NC/XVI-XIXbeg/Vod_trans.htm) 11. **Fligstein N.**, Feeland R. (1995). Theoretical and Comparative Perspectives on Corporate Organization // Annual Review of Sociology. V. 21. 12. **Fursa E.** (2001). Armyanskoe i evreyskoe naselenie Donskogo kraya v XIX – pervoy chetverti XX veka (sotsial'no-demographicheskie aspekty) / in: „Naselenie i krizisy". Vol. 7. Moscow. 13. **GARO F.** 353. Op. 1. D. 367, 387, 400, 479a, 514. 14. **GARO F.** 55. Op. 1. D. 381, L. 1 – 6. 15. **GARO. F.** 200. Op. 1. D. 32. 16. **GARO. F.** 304. Op. 2. D. 86. L. 105 – 109. Op. 6. D. 255. L. 1 – 2. 17. **Hodgson G.**, Knudsen T. (2005). The Nature and Units of Social Selection // Papers on Economics and Evolution. No. 0424. 18. **Ilyin A.** (1909 – 1910). Istoriya goroda Rostova-na-Donu. Rostov-on-Don. 19. **Kerber W.** (2006). Competition, Knowledge, and Institutions // Journal of Economic Issues. Vol. XL. No. 2. 20. **Krestyanstvo** Severnogo Kavkaza I Dona v period kapitalisma. Rostov-on-Don. (1990). Izdatel'stvo Rostovskogo universiteta. 21. **Krylov** deystvitel'ny statsky sovetnik. Ocherk sovremennogo sostoyania zemli voyska Donskogo. 1858 / Zemlya v sud'bakh donskogo kazaka. Sobranie istoriko-pravovykh aktov. 1704 – 1719. / Otv. Red. E. I. Dulimov. Sostavitel' N. S. Korshikov. (1998). Rostov-on-Don. DYI. 22. **Larionov A.** (2007). Ekonomicheskie osnovy sushchestvovaniya Voyska Donskogo // Ekonomichesky vestnik Rostovskogo gosudarstvennogo universiteta. Vol. 5. No. 2. 23. **Makarenko V.** (1996). Gruppovye interesy I vlastno-upravlenchsky apparat: k metodologii issledovaniya // Sotsiologicheskie issledovaniya. No. 11. 24. **Maslokovetz N.** (1899). Trudy osoboy komissii dlya issledovaniya prichin, podryvayushchikh khozyastvenny byt donskikh kazakov. 25. **Nureev R.** (2005). Teoriya obshchestvennogo vybora. Moscow. Izdatel'sky dom GU-VSE. 26. **Olson M.** (1995). The Devolution of the Nordic and Teutonic Economies // American Economic Review. May. Vol. 85. No. 2. 27. **Olson M.** (1998). Vozvyshenie I upadok narodov. Ekonomichesky rost, stagflyatsiya i sotsialny skleroz. Novosibirsk. 28. **PCZ.** Sobranie II. T. XLIII. 1868. No. 45785. 29. **PCZ.** Sobranie II. T. XXXIII. 1858. No. 32938. 30. **Popper K.** (1993). Nishcheta istoricisma. Moscow. Progress. 31. **Postanovlenie** Ocherednogo oblasti Voyska Donskogo Sobraniya dvoryanstva / GARO. Op. 6. D. 255. L. 1 – 2. 32. **Savelyev E.** (1904). Ocherki o istorii torgovli na Donu. Obshchestvo Donskikh Torgovykh kazakov. 1804 – 1904. Novocherkassk. 33. **Soto E.** (1985). Inoy put'. Nevidimaya revolutsiya v tretyem mire. Moscow. 34. **Svatikov S.** (1924). Rossiya i Don. Issledovanie po istorii gosudarstvennogo i administrativnogo prava i politicheskikh dvizheniy na Donu (1549 – 1917). Izdanie Donskoy istoricheskoy komissii. Vena. 35. **Torgovo-promyshlennoe** obshchestvo Voyskovogo kazachyego obshchestva „Vsevelikoe voysko Donskoe" (http://www.tpovvd.ru/3.htm) 36. **Volchik V.** (2004). Evolyutsionnaya paradigma i institutsional'naya transformatsiya ekonomiki. Rostov-on-Don. Izdatel'stvo Rostovskogo universiteta.

Вольчик В. В. Земля втрачених можливостей: інституційна історія Донського аграрного і торгового підприємництва

Статтю присвячено дослідженням інститутів аграрного і торгового підприємництва Донського регіону в XIX – початку XX ст. Выдносну неефективність економічного розвитку Донського регіону пов'язують з архаїчними інститутами регулювання: військового управління, власності, підприємництва. Проведено аналіз історичних особливостей і причини тривалого стабільного існування субоптимальних інститутів.

Ключові слова: інституційна економіка, субоптимальні інститути, підприємництво, козацтво, Донський регіон.

Вольчик В. В. Земля утраченных возможностей: институциональная история Донского аграрного и торгового предпринимательства

Статья посвящена исследованию институтов аграрного и торгового предпринимательства донского региона в XIX – начале XX в. Сравнительная неэффективность экономического развития донского региона связывается с архаичными институтами регулирования: военного управления, собственности, предпринимательства. Анализируются исторические особенности и причины длительного стабильного существования субоптимальных институтов.

Ключевые слова: институциональная экономика, субоптимальные институты, предпринимательство, казачество, Донской регион.

Volchik V. V. The Land of Lost Opportunities: an Institutional History of the Don Agrarian and Trade Enterpreneurship

The article is devoted to the research of agrarian and trade entrepreneurship institutions of Don Region in the XIX century – beginning of the XX centuries. Relative inefficiency of Don Region economic development is connected with archaic regulating institutions of: military command, property and entrepreneurship. Historical peculiarities and causes of long stable existence of suboptimal institutions are analyzed in the article.

Key words: institutional economics, suboptimal institutions, entrepreneurship, the Cossacks, Don Region.

Finance

UDC 336.76(477),,1995/2011''-047.37

Ya. V. Khomenko,
Dr. Hab (Economics)
K. A. Nesterenko,
A. V. Bodnar,
Students majoring,
Donetsk National Technical University

THE INSTITUTIONAL FRAMEWORK: PFTS AND UKRSE

In Ukraine today the stock market is a major source of funding for corporations. By its very nature it is a mechanism to accumulate temporarily free funds from the population and business structures, allocate them to productive purposes and to ensure, therefore, the flexible flow of the capital among the sectors of the economy. The more reliable, sustainable and effective this mechanism is, the more likely it is to attract the necessary capital.

With the globalization the stock market becomes more far-reaching. Prospective investors are more interested in new areas for capital investment outside their country. As Templeton maintains, ,,In London and New York share prices get out of line in value, but in other places they get even further out of line. You get better bargains in addition to more bargains by looking world wide''[1]. In this regard, the stock market should be seen as an ideal mechanism through which we can create conditions for releasing the capital to the financial markets of other countries.

To meet the increased interest in global equity investing a universal tool for measuring the performance of foreign stock markets is needed. This need is covered by the internationally accepted range of stock prices indexes. By stock index we understand a gauge of the revenue which can be gained by the holder of a specific set of shares. This is a numerical representation of price movements for a set of stocks relative to their baseline values at the start date in the past [2].

An important role of the stock market indices in developing the world capital market is emphasized by the majority of scholars and economists. Lyashenko and Pavlov see the value of indices in the fact that ,,they give concise information about prices in the market or in its particular segment as a simple reference figure, which helps investors and analysts assess the demand for stocks and forecast the future price movements''[3]. Fabozzi et al. consider the global stock indexes as the most ,,reliable indicators of the overall performance of international stocks and markets'' [4]. Solnic and McLeavey maintain that only the stock market indexes ,,allow one to measure the average performance of a national market'' [5]. Taking into account all these views it gets relevant to make asset allocation decisions and stock market performance measurements on the bases of the stock indexes analysis.

In view of the abovementioned this paper is to answer the questions: *how has the institutional framework of PFTS and UKRSE changed during the last ten years, what problems does it have, and what has to be done to solve these problems?* This issue is approached by analyzing the evolution of institutional framework of PFTS and UKRSE, the Ukrainian stock market's 10-year development, by viewing and comparing with changes in the institutional framework. The database for research comprises the Law of Ukraine ,,On Securities and Stock Market'', the current accounts and archives of the National Bank of Ukraine, National Board of Statistics, Stock Exchange of the First Stock Trade System, the Financial Times – Stock Exchange. The following methods of the research are applied: comparative analysis and technical analysis.

Before analyzing the institutional framework of PFTS and UKRSE it is crucial to look through its evolution, and to find out what problems we had in the past and what problems we should solve now.

Ukraine has taken the path of social reform in the late XX century, when the world was experiencing globalization of all processes, including the economic ones. The experience of developed countries creates the need in adopting their experience to improve living standards and increase the capacity of the state. The formation of the securities market in Ukraine used international practice and began to create the history of a civilized market development. It begins with the adoption of the Law of Ukraine ,,On Securities and Stock Exchange'' in 1991.

1991 – 1992 is a period of the occurrence of the first Ukrainian shares and security traders, as well as the Ukrainian Stock Exchange (UKRSE) (1991). Before May 1995, the UKRSE was the only officially registered stock exchange in Ukraine. But the development of the stock market infrastructure went through the opening of the

UKRSE branches (in 1992 there were 22 branches, in 1994 there were 27 branches and 2 regional centers). The participants of trading were financial intermediaries. On the Ukrainian stock market they were trust companies, investment funds and companies, as well as commercial banks. At the beginning of 1995 in Ukraine there operated 228 commercial banks, 500 trust companies and 500 investment companies and funds.

In 1994, the government measures were taken to significantly increase the capacity and the structure of financial markets. The most important part of the development was the „Concept of the operation and development of the stock market of Ukraine" and the Law of Ukraine „On State Regulation of Securities Market in Ukraine", as well as the decision on the issue of government securities, the issuance of which was to become one of the efficient mechanisms to cover the deficit of the state budget. Thus, by the end of 1994, the foundations of the institutional and legislative activities of the Ukrainian stock market were made.

The rapid growth in emissions in government securities was a characteristic feature of the securities market development in Ukraine in 1995. This process was even more dynamic than the movement of securities on the stock market. In particular, 1995 was the beginning of the practice of issuing government securities to cover the state budget deficit in Ukraine.

Describing the stock market in 1997 and 1998, it should be noted that over the years there was produced the greatest volume of trading.

The next stage of the Ukrainian stock market begins with the adoption by the Ukrainian President Leonid Kuchma of the Decree „On Additional Measures on the Stock Market Development of Ukraine" dated 26.03.2001, which was approved by the „Main directions of development of the stock market of Ukraine for 2001 – 2005". In 2006 the law „On Securities and Stock Exchange" was modified because the market needed such modification. Also in 2006 the law „On Joint-Stock Companies" was created and it was also modified in 2009.

In the section to follow the dynamics of stock market development in Ukraine for the period from 2000 to 2010 will be considered. Stock indexes are the main tool of analysis here.

An index of the Stock Exchange of the First Stock Trade System (PFTS) is accepted as the basic index of the Ukrainian stock market. As of October 8, 2010 the PFTS index basket includes 20 companies' shares in the main industries of the national economy (see Table 1).

Over the past decade, the Ukrainian stock market has developed quite rapidly. Figure 1 demonstrates the performance profiles of PFTS index within the last ten years. As it is shown, the first part of the decade did not emphasize the intensive development of the market, but the second part was notable for its revival. The PFTS index reached its highest level on the eve of the global financial crisis, exceeding 30.6 times the indicators of the beginning of 2000. However, the period of 2008 – 2009 witnessed a rapid fall in the index. During this period it fell to the level of 199.12 points (March 6, 2009). Its growth resumed in the second quarter of 2009 and was marked by a fairly high rate, restrained seasonal correction, subsequent activation in the summer months, and volatility dynamics in the last quarter. The highest PFTS value (661.1 p) was observed on 16 October (+232.0% since the beginning of the growth restoration, +119.3% YTD). At the end of the year the index amounted to 572.91 points (+90.1% since the beginning of 2009, +1362% since the beginning of 2000). In the first decade of 2010 the index exceeded 800 points.

Thus, basing on the values of PFTS index, the study period of the stock market development in Ukraine (2000 – 2010) can be divided into five stages: a slow progressive development (2000 – 2004), a moderate growth (2005 – 2006), an intensive growth (2007), a rapid fall (2008) and a recovery growth (2009 – 2010).

According to the results of January-July 2010 on the organized stock market of Ukraine the PFTS index grew by 238.30 points (from 572.91 to 811.21 points), or by 41.59% against the beginning of the year, and as of 01.08.2010 it accounted for 811.21 points. The maximum value of the PFTS index in July this year totalled 812.37 points (29.07.2010), the minimal – 746.43 points (07.01.2010). The following were sold most actively on the PFTS Stock Exchange in July: in the shares sector – securities of the OJSC Poltava Ore-Processing Plant (3574 agreements); in the sector of corporate bonds - bonds of JSB „Business Standard" A series (16 agreements); in the *treasury bills* sector – bonds maturing 20/10/2010 (10 agreements). The total number of agreements with securities on PFTS Stock Exchange in July amounted to 31,292 agreements.

As of 01.08.2010 the Stock Exchange PFTS listed 807 securities: shares – 291, corporate bonds – 320, ISE securities – 119, government bonds – 57 and municipal bonds – 20. Of them, 11 securities are listed in the quotation list of the first level, 179 securities are listed in the second-tier quotation list, and 617 securities – in the extralisting securities. Trading volume on the PFTS Stock Exchange in July 2010 increased by almost 5 times against the same period of 2009 and accounted for nearly 3.7 bln. UAH. In general, for the seven months of 2010 the volume of trading on the PFTS Stock Exchange amounted to nearly 31.0 billion UAH.

The performance of the PFTS index shows that the stock market of Ukraine proved to be very sensitive

81

to changes in the country's economic and political spheres. Even minor economic reforms and political developments could affect the index value. The index dynamics in 2009 has been professionally explained by the Chief Consultant of the Analytical Centre for the monetary policy issues at the Council of the National Bank of Ukraine S.Tkachenko. She believes that such index fluctuations were caused by a set of factors, including the crisis in the economy, lower ratings of Ukraine in all international rating agencies in the first quarter, a sharp drop in prices for oil and precious metals, the implementation of the IMF credit programs Stand-By Arrangement (stand-by) and cooperation with other international financial organizations, volatility of the relations between CJSC Neftegaz Ukraine and OJSC Gazprom in the issues of the gas transportation system functioning.

Having described the history of development of the institutional framework of PFTS and UKRSE we can approach analyzing the current problems of the institutional framework and finding the solutions for these problems.

There are such main problems and threats of market development:

Table 1.

PFTS index basket 08.10.2010

Issuer		Weight of the security
OJSC „Alchevsk Metallurgical Plant"	ALMK	1.86
OJSC „Avdeyevskiy Coke Plant"	AVDK	1.13
OJSC „Azovstal"	AZST	5.35
PJSC „Raiffeisen Bank Aval"	BAVL	5.87
OJSC „Centrenergo"	CEEN	11.58
OJSC „Dniproenergo"	DNEN	1.82
OJSC „Donbassenergo"	DOEN	2.52
OJSC „Yenakiyevo Steel Plant"	ENMZ	2.07
OJSC „Kryukov Wagon Building Works"	KVBZ	2.02
OJSC „MotorSich"	MSICH	13.56
OJSC „Mariupol Heavy Machinery Plant"	MZVM	0.57
OJSCINTERPIPE „Nizhnedneprovskiy Tube Rolling Plant"	NITR	1.02
OJSC „Poltava Ore-Processing Plant"	PGOK	2.42
OJSC „Sumy Machine Building Enterprise named after Frunze"	SMASH	2.10
OJSC „Concern Styrol"	STIR	2.65
OJSC „Ukrneft"	UNAF	14.53
PJSC JSCB „Ukrsotsbank"	USCB	3.36
OJSC „Ukrtelecom"	UTLM	8.90
OJSC „Yasinevsky Coke Chemical Plant"	YASK	1.04
OJSC „Zakhidenergo"	ZAEN	15.65

1) Low market liquidity.

2) High market volatility.

3) High dependence on the world stock market development.

4) Low level of confidence among households and ordinary shareholders.

5) Low speed of market operations due to the lack of sufficient technical equipment.

6) High influence of non-residents on the market development.

7) Lack of sufficient information for decision making.

8) Low level of citizens' competence in the stock market theory.

One of the biggest problems of Ukrainian stock market is low market liquidity. Daily turnover of PFTS is 30 – 40 million UAH. But, for example, the daily turnover of MICEX (Moscow stock exchange) is 1 – 2 billion dollars. The problem of low market liquidity creates another one: high market volatility. If world stock indexes fall by 10%, PFTS may fall by 40% (See Figure 2).

In Ukraine there is a very low level of confidence among households and ordinary shareholders. Only 7% of Ukrainians know what stock market is. Low speed of market operations due to the lack of sufficient technical equipment is also a big problem. Only in 2008 several brokers started providing online-trading services for its customers. Also, low market liquidity creates another
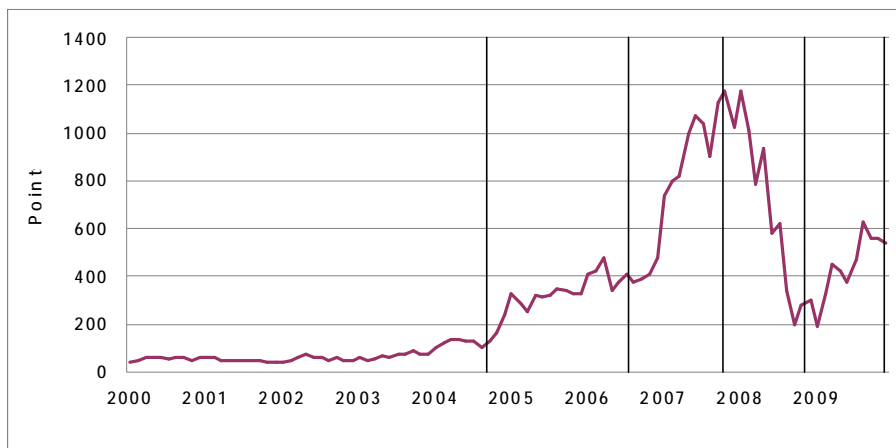
Fig.1. The Performance Profile of PFTS Index, 2000 – 2009

Fig.2. World stock indexes movement (December 2007 – June 2011)

problem: the main role in it is played by non-residents. They can raise and lower the market by rapid input and output of capital. There is a lack of sufficient information for decision making. For example: in 2008 2 billion UAH were invested in stock market, but 160 billion UAH were invested in bank deposits. It shows that there is a low level of citizens' competence in stock market theory. In the USA and Western Europe 20% of citizens invest money in stock market, but in Ukraine it is less than 1%.

To solve these problems it is necessary to find further directions of market development. First of all the institutional framework should be improved. To find out the directions of institutional framework improving let us make the monitoring of its development.

First let us see the chart of PFTS index from 1997 to 2011 (See Figure 3).

As we can see in the beginning of institutional framework creating for UKRSE and PFTS, the Ukrainian stock market had period of slow progressive development. The first laws „On Securities and Stock Exchange", „On the State Regulation of the Stock Market", „On the National Depository System and Specificities of Securities' Electronic Circulation in Ukraine", creating the state commission for securities and stock market, all

these things were made for the start of the Ukrainian stock market. It was the beginning. In those times the laws worked well enough, as we can see a slow growth.

In 2002 the Verhovna Rada made the project „On the Equity Securities and Stock Exchange", as agreed with the EU directives. This was the first step of the institutional framework modernization. According to experts, 2003 was one of the most successful years for the Ukrainian stock market. It grew and became more transparent, its participant's corporate culture improved. The most important event for the stock market was the adoption of a new Commercial Code for PFTS. This led to improvement of the securities' liquidity. In 2003, there were increased demands on the level of disclosure by issuers of bonds during the passage of the PFTS listing, requirements to level of liquidity needed to stay in the List of Issuer PFTS, approved the provision of the Institute for market makers. This provoked the beginning of moderate growth. And in 2006 the main law of the institutional framework of PFTS and UKRSE was modernized. This event and economic growth provoked the intensive growth (See Figure 4).

Next years were also good for the stock market because of economic growth. But in the end of 2008 the
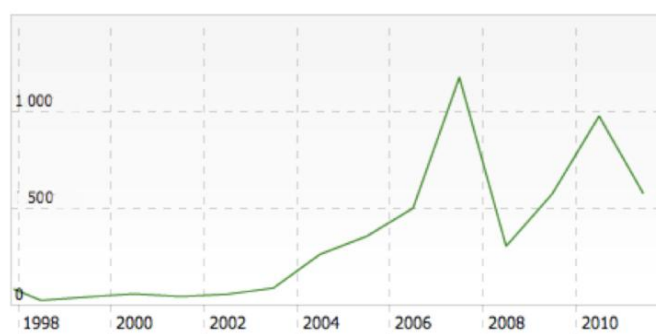
Fig.3. PFTS index (1997 – 2011)
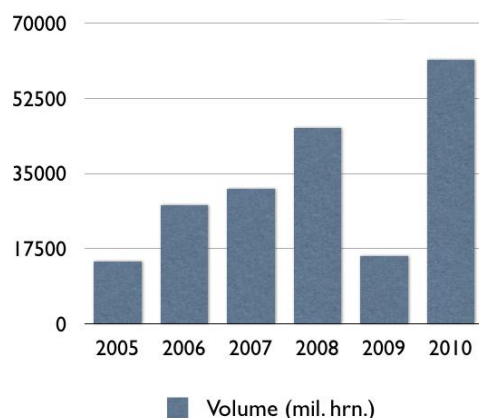
Fig.4. Stock Market Volume

rapid fall started. And in 2009 and 2010 there was a recovery growth. In these times, especially in 2008 and 2009 the institutional framework needed more modernization and adaptation according to necessity. But it was not executed. Only the law „On Joint Stock Companies" was adopted in 2009 and helped the market.

So we can make a conclusion: the government must always modernize the institutional framework according to the necessity, and try to learn from the experience of foreign countries.

The next step in improving of current situation on the stock market is households attraction to the stock market. This will increase the stock market activity. And we will have better developed market infrastructure, because brokers will have more clients and profits. There is a big necessity in providing of high qualified technical services for speeding market operations. So we need to make it by investing money in market infrastructure. Another big step will be accelerating the activity of institutional investors. This is very important because it can raise the liquidity of the market. It would be very good to create the institutional investors association.

References

1. **Bodie Z.**, Kane A., Markus A. J. (2005), Investments, 6th ed., McGraw-Hill/ Irwin: New York. 2. **Colander D. C.** (1995), Economics, 2nd ed., Irwin: Chicago. 3. **Fabozzi F. J.**, Modigliani F., Ferri M. G. (1994), Foundations of Financial Markets and Institutions, Prentice-Hall Inc.: Englewood Cliffs. 4. **Sears S. R.** /Trennepohl G. L. (1993), Investment Management, The Dryden Press: Orlando. 5. **Shim J. K.** / Siegel J. G. (1988), Handbook of Financial Analysis, Forecasting, and Modeling, Prentice-Hall Inc.: Paramus. 6. **Solnik B.** / McLeavey D. (2003), International Investments, 5th ed., Pearson: New York. 7. **Vaitilingam R.** (1996), Guide to Using the Financial Pages, 3rd ed., Pitman Publishing: London. 8. **Динаміка** Індексу ПФТС за 2000 – 2009 роки, available at: http://www.pfts.com/uk/trade-results/, 02.10.2010. 9. **Індексний** кошик Індексу ПФТС, 08.10.2010. Рішення індексного комітету, available at: http://pfts.com/ uk/indexes/, 13.10.2010. 10. **Ляшенко В. И.** / Павлов К. В. (2007), Фондовые индексы зарубежных стран, Магистр: Москва. 11. **Ткаченко С.** (2010) Оцінка стану і перспективи розвитку фондового ринку України, in Вісник НБУ, No. 9, С. 44 – 50. Use Ukrainian standard to describe Ukrainian sources

Хоменко Я. В., Нестеренко К. А., Боднар А. В. Інституціональне середовище: ПФТС та УФБ

У статті визначено взаємозв'язок між розвитком інституціонального середівища щодо ПФСТ та Української Фондової Біржі та розвитком фондового ринку України протягом 1995 – 2011 рр. Дослідження грунтується на аналізі змін у законодавстві, динаміки індексу ПФТС.

Ключові слова: фондовий ринок, інституціональний розвиток, індекс, закон.

Хоменко Я. В., Нестеренко К. А., Боднар А. В. Институциональная среда: ПФТС и УФБ

В статье определено взаимосвязь между развитием институциональной среды касательно ПФСТ и Украинской Фондовой Биржи и развитием фондового рынка Украины на протяжении 1995 – 2011 годов. Исследование базируется на анализе изменений в законодательстве, динамики индекса ПФТС.

Ключевые слова: фондовый рынок, институциональное развитие, индекс, закон.

Khomenko Ya. V., Nesterenko K. A., Bodnar A. V. The Institutional Framework: PFTS and UKRSE

This paper studies the correlation between the development of institutional framework of PFTS and UKRSE, and performance of the Ukrainian stock market over a time period from 2000 until 2009. The study of stock market performance is based on the analysis of changes in law, the PFTS index.

Key words: stock market, institutional framework, index, law.

A. V. Malyshko, O. I. Molchanov, K. S. Sheyka

UDC 336.76(477)-047.37

A. V. Malyshko,
PhD (Economics),
O. I. Molchanov,
K. S. Sheyka,
Students majoring,
Donetsk National Technical University

TESTING THE CAPM ON THE UKRAINIAN STOCK MARKET: BETA COEFFICIENT DETERMINATION

Introduction. Investors are always interested in how the risk of their investment should affect its expected return and how to construct the optimal portfolio. Using CAPM it is possible to answer these questions and to create such an optimal portfolio based on the idea that there is a positive relation between risk and return. However, it should be remembered that not all risk can affect asset prices and some risks can be diversified away. The CAPM helps us to carry out the close relationship between risks of our assets and their profit, to investigate the Ukrainian Stock Market (using UX index) and analyze the environment for investors in our economy. Our paper lays out the main information of the CAPM usage on the Ukrainian Stock market, calculation and estimation of Beta coefficient. The attempt is made to draw a conclusion about the optimal portfolio of the Ukrainian stocks and answer the question whether it is possible to use a Capital Asset Pricing Model in the Ukraine [1].

Sample selection and Data. The present case is realized by using the data about 16 companies traded in the Ukrainian Stock Exchange (UX). The data are obtained from UX Data Base. The study covers the period from 29.07.2009 to 05.08.2011 [2].

The above 16 companies were chosen according to the following criteria:

1. First 10 companies are 10 blue chip companies. These companies are the most traded and tend to be less volatile than other companies and provide solid growth.

2. Next 6 companies are mid cap stocks and listed in the second quotation list.

All securities included in the sample are traded on the UX on a continuous basis throughout the full Ukrainian stock exchange trading day, and are chosen according to specified liquidity criteria set by art. 24 of the Ukrainian Law „On Joint Stock Companies" and in accordance with Stock exchange Rules.

In order to obtain better estimates of the beta coefficient value, the study uses daily stock returns. Returns calculated using a longer time period (e.g. weekly or monthly) cannot be used by virtue of the lack of data (the Ukrainian Stock Exchange was established in October 2008). The UX index is used as a proxy for the market portfolio. This index is a market value weighted index, which comprises the 10 most highly capitalized shares of the main market, and reflects general trends of the Ukrainian stock market.

Furthermore, the 1-year Ukrainian Government Bonds are used as the proxy for the risk-free asset. The yields were obtained from the statistic data of the National Bank of Ukraine. The yield on the 1-year Ukrainian Government Bonds is specifically chosen as the benchmark that better reflects the period of time which was chosen for estimation in our work.

The methodology of our project precedes from fact that Capital Asset Pricing Model (CAPM) is based on two hypotheses: Efficient-market hypothesis (EMH) and Modern Portfolio Theory (MPT) [3].

Results and analysis. The first part of the study required the estimation of betas for individual stocks by using observations on rates of return for a sequence of dates. All results of beta estimation are represented in Table 1. Firstly, *t-statistic* and *R-squared* will be considered. The purpose is to see what extent the beta as a measure for relative riskiness is relevant. The companies traded in the Ukrainian Stock Exchange are under analysis. The results are presented in the Table 1.

This table of results allows drawing a conclusion that for most companies, which were under estimation, the betas are significant at a level of 10% or even 5%. This means that market influences the stocks' performance a lot. According to this information, the resulting output is that beta is not a reliable and accurate measurement of risk on the Ukrainian stock market. And if the beta values are considered, it is possible to conclude that the stocks are rather risky. Majority of values are greater than 1.

To summarize, it can be maintained that the Ukrainian Stock market is rather risky and will be a good environment for those investors who have high expectation toward returns and want to form an aggressive portfolio.

But the following question is significant as well: „What power has the beta?" Answering this question it is necessary to look at the R-squared. It shows the proportion of explained variance of the dependent variable. The average value of this coefficient is between 0.3 and

Table 1.

Stock beta coefficient estimates

Stock Name	Alpha Coefficient (t-statistic)	Beta Coefficient (t-statistic)	R squared
UNAF	0.0015 (1.75)	0.96 (26.88)	0.553
ALMK	-0.0009 (-0.98)	1.30 (32.76)	0.647
AZST	-0.0004 (-0.57)	1.12 (39.75)	0.730
USCB	-0.0005 (-0.63)	1.35 (38.35)	0.715
CEEN	-0.0004 (-0.60)	1.01 (41.53)	0.747
MSICH	0.0013 (1.72)	0.90 (29.57)	0.599
ZAEN	-0.0014 (-1.72)	0.77 (23.37)	0.483
ENMZ	-0.0017 (-1.92)	1.18 (33.97)	0.651
UTLM	0.0005 (0.59)	0.78 (24.23)	0.487
BAVL	-0.0007 (-0.84)	1.23 (36.93)	0.688
AVDK	-0.0007 (-0.72)	1.01 (26.03)	0.547
DOEN	-0.0010 (-0.97)	1.05 (33.00)	0.666
MZVM	-0.0038 (-1.11)	0.87 (6.41)	0.071
SGOK	0.0027 (1.99)	1.00 (17.28)	0.392
KVBZ	0.0003 (0.28)	0.88 (25.00)	0.538
STIR	-0.0004 (-0.27)	0.76 (16.48)	0.324

0.7. It is a rather high indicator. It means that stocks are highly correlated with the market and the beta explains the model in average in a proportion more than 50%.It means that systematic risk takes a great part. Nevertheless it is not reasonable to claim that the beta as a measurement of risk and expected return can undoubtedly trusted. It is also means that there are other factors that have a great influence on stocks' returns.

In order to have a visual example the Figure 1 is to be considered. It is the examination of AZST ("Azovstal") stocks. On the graph some noise in the data is obvious. There are too many observations that deviate from the line. This is one more evidence to prove the significant influence of outside factors.

Thus there appears a question: can it be said that the beta is a good indicator in our case? There is no definite answer. If only the beta is taken into account, there is a great probability of failure when investing in stocks. Values are pretty high, which allows the conclusion that the risk is too high for investment to be safe. So one should be careful when choosing stocks. The daily data shows that there are periods when wealth can increase/decrease rapidly by investing money only in shares of one company. Thus the high value of beta should not please an investor in the case he doesn't like the risk very much.

Nevertheless, calculations and analysis of the dynamics of the individual stocks' beta series show that for any shares their beta coefficient is not stable over time and therefore cannot serve as an accurate assessment of the future risk. The beta of portfolio consisting of even 10 randomly selected stocks is stable enough and, therefore, can be regarded as an acceptable measurement of a risk portfolio. That is why the attempt was made to
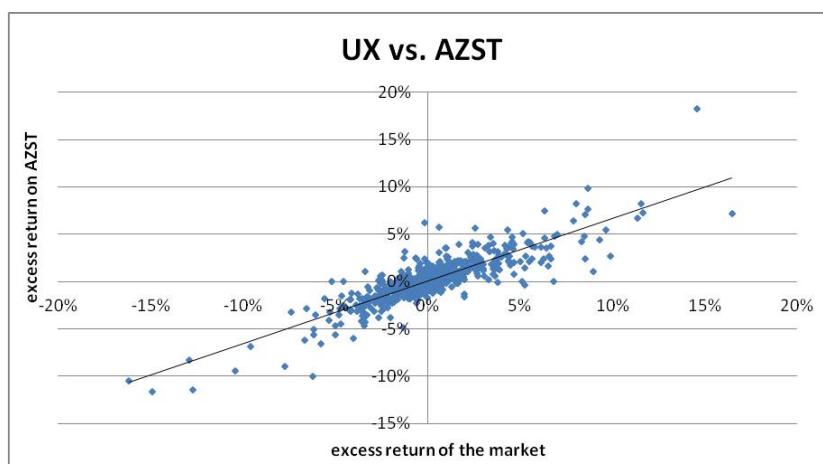
Fig.1. Security Characteristic Line for AZST

create the portfolio of all securities, which were under estimation in the project. At the same time, as it was mentioned before, one of the main purposes of the CAPM model is to help create the effective portfolio.

To verify the statement, mentioned above, the decision was made to form a tangent portfolio, based on stock exchange data, which covers the period from 29.07.2009 to 02.08.2010 and to test it during the next period of time from 03.08.2011 to 05.08.2011. These two periods are equal and consist of 252 working days.

After some calculations, the effective portfolio was determined. The results are represented in Table 2.

The weight of all stocks, which were in the sample, equals to 100% (graph 4 „Weight"). The graph „Portfolio Contribution" shows the return of each stock in the portfolio. Analogically, the graph „Beta Contribution" shows the stock's contribution in the portfolio beta.

Figure 2 represents the Capital Market line and the efficient frontier. The efficient frontier is combination of assets, i.e. a portfolio. It is referred to as „efficient" if it has the best possible expected level of return for its level of risk. In our case it is proxies by the standard deviation of the portfolio's return [4]. On the efficient frontier there is plotted every possible combination of taken assets, without including any holdings of the risk-free asset.

The graph also shows the point, which is called „Tangent Portfolio". The tangency portfolio is the portfolio of risky assets on the efficient frontier at the point where the CML is tangent to the efficiency frontier and combines this optimal combination of risky assets with a risk-free asset. Combinations of the tangency portfolio and the risk-free asset compose the CML.

In our case the tangent portfolio corresponds to the portfolio which consists of 13.12% of UNAF shares, 11.99% of AZST shares, 14.71% of USCB shares, 12.11% of CEEN shares, 5.95% of ZAEN shares, 8.16% of ENMZ shares, 9.11% of UTLM shares, 21.00% of

BAVL shares, 0.53% of AVDK shares, 3.31% of SGOK shares.

So, the Figure 2 below visually represents our Capital Market Line, which is drawn from the point $R_f = 10.1\%$, and Efficient Frontier. The point of their intersection is Tangent portfolio, which characterizes the best and most effective combination of our assets, with expected return equal to 113.52% and Standard Deviation equal to 36.18%.

For more effective presentation, these data are represented by pie and bar charts below. All shares are grouped according to their belonging to different sectors of the economy and summarized in Figure 3 and 4.

One way to allow for the possibility that the CAPM does not hold true is to add an intercept in the estimation of the SML. The CAPM considers that the intercept is zero for every asset. Hence, a test can be constructed to examine this hypothesis.

In order to diversify away most of the firm-specific part of returns, thereby enhancing the precision of the beta estimates, the securities were previously combined into a portfolio. This approach mitigates the statistical problems that arise from measurement errors in individual beta estimates. This portfolio was created for several reasons: (1) the random influences on individual stocks tend to be larger compared to those on suitably constructed portfolio and (2) the tests for the intercept are easier to implement for a portfolio because by construction their estimated coefficients are less likely to be correlated with one another than the shares of individual companies.

The high value of the estimated correlation coefficient between the intercept and the slope indicates that the model used explains excess returns (Table 3). The beta is interesting because it tells us about risk. Alpha is interesting because it tests if the market portfolio is the tangency portfolio.

Portfolio estimates

Equity	Beta	CAPM	Weight	Portfolio Contribution	Beta Contribution
UNAF	0.96	101.39%	13.12%	13.31%	0.13
ALMK	1.30	131.08%	0.00%	0.00%	0.00
AZST	1.12	115.34%	11.99%	13.83%	0.13
USCB	1.35	136.03%	14.71%	20.02%	0.20
CEEN	1.01	106.01%	12.11%	12.84%	0.12
MSICH	0.90	96.11%	0.00%	0.00%	0.00
ZAEN	0.77	84.06%	5.95%	5.00%	0.05
ENMZ	1.18	120.49%	8.16%	9.83%	0.10
UTLM	0.77	84.25%	9.11%	7.68%	0.07
BAVL	1.27	128.61%	21.00%	27.01%	0.27
AVDK	1.01	105.31%	0.53%	0.56%	0.01
DOEN	1.05	108.73%	0.00%	0.00%	0.00
MZVM	0.87	93.28%	0.00%	0.00%	0.00
SGOK	1.00	104.30%	3.31%	3.45%	0.03
KVBZ	0.88	94.45%	0.00%	0.00%	0.00
STIR	0.75	82.80%	0.00%	0.00%	0.00
TOTAL				113.52%	1.10
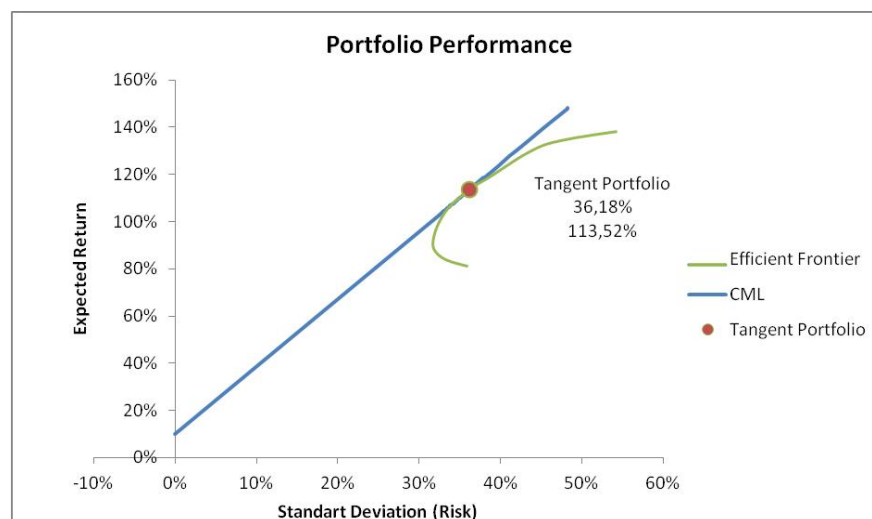
Fig.2. Portfolio Performance

In the estimation, the CAPM's prediction for б is that it should be equal to zero. The calculated value of the intercept is small (-0.00016) but it is not significantly different from zero (the t-value is not greater than 2). Hence, based on the intercept criterion alone the CAPM hypothesis cannot clearly be rejected. And also P-value of б-coefficient is significantly greater than 0.05. It means that б is not statically different from zero.

In order to illustrate the above-mentioned, the following example can be used. If we take a look at the graph, we can understand why t-statistic is high, but adjusted R-square is not so high. Undoubtedly, OLS (Ordinary Least Square) method indicates that the straight line fits the best model. But the data look rather like a cloud. There are many observations that deviate from the line.

All in all, it can be said that if the market portfolio is the tangency portfolio, then the estimated alpha should be zero. This statement does not correspond to our case.

The next step of our portfolio testing was its examination during the next year. But the analysis on the entire one year period did not yield strong evidence in favor of the CAPM. The market shows the annual return on the level of 9.07%, while our portfolio grew only by 0.66%. It means that beta does not explain the relation between return in a good way. According to the portfolio, which was created, it can be maintained that it did not bring expected results.

Unfortunately, there was no opportunity to examine whether a similar approach for a longer period of time would provide more supportive evidence.

Conclusion. This study was aimed at finding the answer to the question whether CAPM is valid for the Ukrainian Stock Exchange. The question appears to be rather controversial. The model does explain, however, excess returns. If one looks at the sign of beta, it can be noticed that risk is related to return and CAPM has passed a first step. However, the fact that the intercept has a value around zero, weakens the above explanation.

In order to diversify away the specific risk and increase the precision of the beta estimates, all the assets are combined into portfolios. That helps to avoid the statistical problems that arise from measurement errors in individual beta estimations. The CAPM's prediction
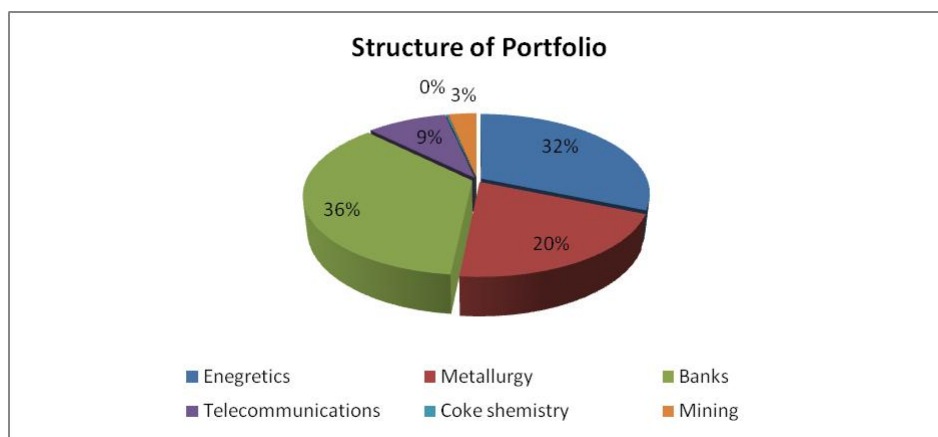
Fig.3. Structure of portfolio

Table 3.

Statistics of the estimation of the SHL of the Portfolio

Coefficient	α	β
Value	-0.00016	1.092492
t-value	-0.16841	33.81939
p-value	0.866328	4.7E-135
Residual standard error: 0,01703 Multiple R-Squared: 0,8252 R-Squared: 0,6809		
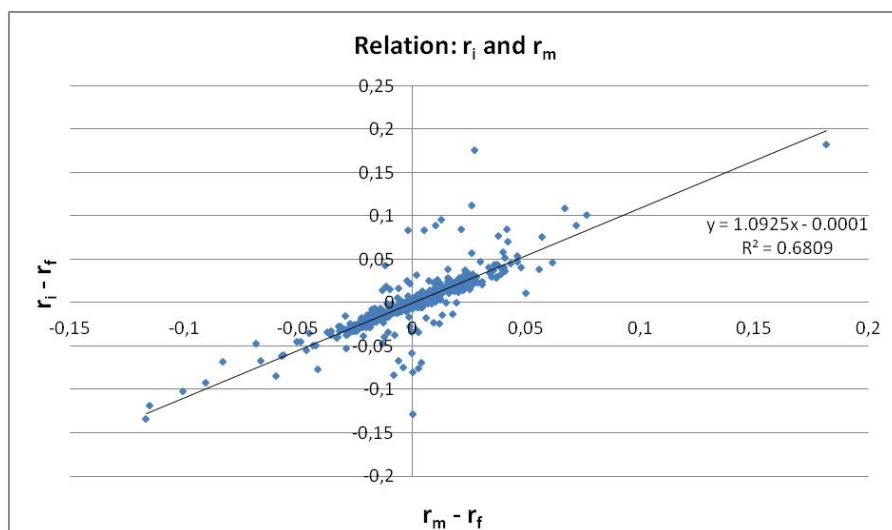
Fig.4. Portfolio's return regressed on UX return

for the intercept is that it should be equal to zero and the slope should equal to the excess returns on the market portfolio. The findings of the study contradict the above hypothesis and indicate evidence against the CAPM.

The results of the tests conducted on the data from the Ukrainian stock exchange for the period of July 2009 to August 2011 do not appear to clearly reject the CAPM. This does not mean that the data do not support the CAPM.

Such conclusion has been made because there are some inhibited factors.

First of all, the Ukrainian Stock Market is an emerging market. Exchange trading in Ukraine has existed since 1992. Before „the Ukrainian Stock Exchange" started to function in 2009, there had been no system, which guaranteed the execution of transactions on any of the exchanges. Exchanges were represented as a bulletin board and messaging system. In such technologies, there were some difficulties for a private investor associated with additional costs and time. That is why there are small number of participants, transactions and financial instruments on the stock exchange. There are also many zeros in data (especially at the second tier when the number of observations falls in some cases to 10 – 20 during the year).

Another weak point of the Ukrainian Stock Market is the significant influence of external factors. Or simply, 3 – 4 main players can influence the market movement.

And last, but not the least is imperfection of the legislation. The striking example in this case can be the fact that „The Securities Act", which was created in 2006, already has 14 amendments.

References

1. **Solnik B.**, McLeavey D. (2003): International investments, 5ᵗʰ ed., Pearson. pp.144 – 145. 2. **Ukrainian Stock Exchange:** http://www.ux.ua/. 3. **McLaney E. J.** (2006): Business Finance: Theory and practice, Moscow: Prentice Hall Financial Times (An imprint of Pearson Education). 4. **Elton, E. J.** and Gruber, M. J. (1995): Modern Portfolio Theory and Investment Analysis, 5th ed., New York: John Wiley & Sons, Inc. 5. **Cheng F. Lee**; John C; Alice C. (2009): Financial analysis, planning and forecasting, 2d ed., Singapore: WorldScientific. 6. **Markowitz H. M.** (1959): Portfolio Selection: Efficient Diversification of Investments, 2ⁿᵈ ed., New York: John Wiley &Sons (reprinted by Yale University Press). 7. **Ross, S. A.**; Westerfield, R. W.; Jaffe, J. F. (2005): Corporate Finance, 7th ed., Boston: McGraw-Hill. 8. **Lintner J.** (1965): The valuation of risk assets and selection of risky investments in stock portfolios and capital budgets, Review of Economics and Statistics, pp. 40 – 47. 9. **Merton, Robert**: An analytic derivation of the efficient portfolio frontier, Journal of Financial and Quantitative Analysis, 7 September 1972, pp. 1851 – 1872. 10. **Scholz, Hendrik** (2007): Refinements to the Sharpe ratio: Comparing alternatives for bear markets, Journal of Asset Management 7(5), pp. 347 – 357. 11. **Sharpe, W. F.** (1964). Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk, Journal of Finance, pp. 425 – 442.

Малишко О. В., Молчанов О. І., Шейка К. С. Дослідження моделі оцінки фінансових активів на українському ринку цінних паперів : бета-коефіцієнт

У статті відображено результати тестування CAPM моделі на українському фондовому ринку, зокрема дослідження Бета коефіцієнта й можливостей формування оптимального портфеля цінних паперів. Дослідження ґрунтується на даних Української фондової біржі та індексу UX за 2009 – 2011 рр.

Ключові слова: український ринок цінних паперів, диверсифікація, ризик, модель оцінки фінансових активів, сучасна портфельна теорія, бета-коефіцієнт, оптимальний портфель, межа ефективності.

Малышко А. В., Молчанов А. И., Шейка Е. С. Исследование модели оценки финансовых активов на украинском рынке ценных бумаг : бета-коэффициент

В статье отображены результаты тестирования CAPM модели на украинском фондовом рынке, в частности исследование бета-коэффициента и возможности формирования оптимального портфеля ценных бумаг. Исследование базируется на данных Украинской фондовой биржи и индекса UX за 2009 – 2011 гг.

Ключевые слова: украинский рынок ценных бумаг, диверсификация, риск, модель оценки финансовых активов, современная портфельная теория, бэта-коэффициент, оптимальный портфель, граница эффективности.

Malyshko A. V., Molchanov O. I., Sheyka K. S. Testing the CAPM on the Ukrainian Stock Market: Beta-Coefficient

This article represents the results of testing CAPM model on the Ukrainian stock market, in particular calculation and estimation of Beta coefficient and attempts to form an optimal portfolio. The study is based on data from the Ukrainian Stock Exchange and UX index for 2009 until 2011.

Key words: Ukrainian Stock Market, Diversification, Risk, Capital Asset Pricng Model, Modern Portfolio Theory, Beta-Coefficient, Optimal Portfolio, Efficient Frontier.

D. S. Zukhba,
PhD (Economics),
A. Ye. Vysotskyi,
H. S. Popovich,
Donetsk National Technical University

THE CAPITAL ASSET PRICING MODEL: CROSS-SECTIONAL ANALYSIS

The idea of the CAPM, first independently introduced by W. Sharpe in 1964 [1] and J. Lintner in 1965 [2] based on earlier works by Harry Markowitz, proved valid in general if not overwhelmingly conclusive in specifics, prompting further research by specialists worldwide. The idea of using average portfolio returns rather than individual returns in the theory was originally proposed by Michael C. Jensen, Fischer Black and Myron S. Scholes in their 1972 work „The Capital Asset Pricing Model: Some Empirical Tests", in which they suggested rejecting the traditional form of the model based on the finding that the expected excess return of a single asset is not strictly proportional to its beta. They offered instead to use a two-factor model based on cross-sectional tests that proved to be more efficient and precise than the original CAPM conception [3]. In the following years a number of studies emerged, both supporting the model and arguing its reliability. There were suggested some theories that, although based on the CAPM, were considered separate and opposing to it.

Currently the CAPM has great popularity amongst the researchers, which results not only in positive reviews proclaiming its advantages but also in numerous publications that analyse its drawbacks. Particularly, the criticism of the CAPM present in Richard Roll's works is explained in the analysis of the fairness of the model's empirical criteria [4]. In his analysis Roll suggested two statements regarding the market portfolio:

1) Mean-variance tautology. Given a proxy for the market portfolio, testing the CAPM equation is equivalent to testing mean-variance efficiency of the portfolio. The CAPM is tautological if the market is assumed to be mean-variance efficient;

2) The market portfolio is unobservable. In practice it would necessarily include every available asset. The returns on all possible investments opportunities are unobservable.

From the first statement, validity of the CAPM is equivalent to the market being mean-variance efficient with respect to all investment opportunities. Without observing all investment opportunities, it is not possible to test whether this portfolio, or indeed any portfolio, is mean-variance efficient. Consequently, it is not possible to test the CAPM.

Rolf W. Banz suggests that the CAPM is mis-specified [5]. He notices that stocks in the quintile portfolio with the smallest market capitalization earn a risk-adjusted return that is month higher than the remaining firms. The size effect is not linear and is most pronounced for the smallest firms in the sample. Banz conjectures that many investors do not want to hold small stocks because of insufficient information, leading to higher returns on these stocks.

M. Blume stresses the problem of stability of the CAPM's key parameter: the beta coefficient. His research showed that it tends to 1 because of portfolio diversification and corporate management risks are lowering, approaching average sector or market levels. The analysis resulted in corrections to the beta coefficient [6].

Many researchers, such as S. Basu, B. Rosenberg, K. Reid and R. Lanstein question only taking into account the systematic factors in the model, despite existing empirical evidence of non-systematic variables, such as operational and financial leverage, that have an impact of the required returns [7, 8].

In the case of the Ukrainian stock market the model has never received such wide recognition as it has in the Western world. It is obvious that there always is some formula to determine investment risks; sometimes it is just not that easy to find one as every market has its specific aspects that influence those risks.

There are also a number of factors in the CAPM that result into difficulties of implementing it on Ukrainian market. First of all, we should mention that the Ukrainian stock market, being a developing one, has significant differences with the large diversified markets of Europe and the USA in terms of observation periods. Moreover, it is special because it emerged and is being developed on the border between planned economy and mixed market-oriented economy. These conditions are characterized by the revolutionary type of changes, instability of economy and society, a number of transition possibilities and presence of special economic forms that incorporate the principles of both planned and market economy.

William Sharpe's classic CAPM does not pay proper attention to the „country risk" [9] that is inherent to a developing market. Its main components are:

· Social conflicts;
· Non-payment of state debt;
· Possibility of hyperinflation;
· Chance of the national currency denomination;
· Obstacles to capital movement.

We shall consider some of the components in more detail, since they are directly related to the Ukrainian market, for instance, Ukraine's national debt has a growth tendency. Ukraine also encountered the problem of hyperinflation in 1992 – 1995, and some fear the possibility of it returning in the near future. Additionally, to counter the negative effect of limitations to capital movement on the Ukrainian market, we need to make corrections in either the risk-free rate or the market risk premium.

Ukrainian market can be described as one with low liquidity and difficulty of its diagnose. It is predetermined towards decline due to internal reasons, one of which being low activity of the market subjects, which in its turn is caused by continued decline of mid- and long-term interest in the specific market of the developing countries. All this makes the use of beta-coefficient more difficult, as it is calculated based on prior data about a stock's revenue and its correlation with the market revenue, and those tend to be significantly less than 1. Theoretically, the required yield from investing in to stocks of companies within one sector with the same financial lever that have higher and lower liquidity should be equal. However, the investor takes the low liquidity risk which should be compensated with additional premium [10]. This shows that classic single-factor Sharpe-Lintner model requires adjustments. The model should take into account not only the beta coefficient, but also the liquidity coefficient in the risk vs. yield equation. The CAPM does not take into account liquidity implementation tools (interbank credit, currency swap, REPO-market), although they play an important role in sustaining the liquidity of the visible speculative market.

Unstable social and economic indicators also pose difficulties for implementing the CAPM in Ukraine. Worsening of the economic situation is related to the increase in consumer energy prices, the implementation of the government debt of 10.5 billion hryvnia in March 2011 and the peak of state debt payments equaling 19 billion UAH this July. Simultaneously, the IMF suspended the tranches to Ukraine in April. As a result of the abovementioned factors Ukraine ended up amongst 18 countries that are facing default.

The CAPM uses the beta coefficient that is calculated on a time period different from the one being analysed. Instability of our economy leads to volatility of this coefficient. Because of this it is unable to perform as an adequate evaluation of future risks [11].

In Sharpe's and Lintner's classic CAPM model there are a number of institutional and financial premises that also are not always true for the Ukrainian stock market. For instance, the rationality of investors' behaviour, uniformity of their expectations, which is one of the model's assumptions [12], is not fulfilled on our market if we take into account the length of its existence. As of this moment we are still lacking a basis for making investment decisions. Also, not all of them have equal opportunities to act on our stock market (financial resources, availability of information, different level of awareness and education of market subjects – all these are a premise to their irrational behaviour). In these conditions the unity of their expectations is impossible. Asymmetric information in all areas is a characteristic feature of transition economies and emerging market. In the absence of a proper legal framework, as well as misuse of information, possession of this information is crucial in market transactions.

There is a statement that on a stock market there are no transactions costs, and it is in fact a game with „zero" sum. In spite of this it should be noted that there are costs for activities in the stock market and they can be significant (brokerage services, consulting, custodial services) [13]. Only to brokers this assumption is valid because they charge a percentage commission.

The Ukrainian stock market is also characterized by the discrepancy of actual yields distributions a normal distribution (symmetrical one), as well as higher kurtosis. Investors' expectations are also offset from traditional ideas about the behaviour of profitability. For Ukrainian stocks we can observe that actual distribution differs from normal one. The distribution is also characterized by a high excess kurtosis. Investors' expectations also vary from the traditional yield conceptions.

Another assumption that there is unrestricted borrowing and lending on a risk-free rate [14] is incorrect for the Ukrainian stock market (this is a consequence of the economic crisis of 2008 – 2009, the slow growth of economic indicators, frequent changes in the political vector of the country).

Testing the CAPM

In order to test the classic Sharpe-Lintner model on the Ukrainian stock market, we test the following assumptions:

· Beta coefficient describes the dynamic of expected asset yield;
· Presence of additional variables besides the beta;
· The need to take liquidity and root-mean square deviation as indicators of investment risk levels into account;
· Asymmetry and excess kurtosis of stock yields distribution are influencing risk and returns calculations too.

D. S. Zukhba, A. Ye. Vysotskyi, H. S. Popovich

These hypotheses are tested using the cross-sectional regression – an empirical method based on the ex-post analysis of historical data on various asset prices. Beta coefficient is calculated on the base period of time as [15]:

$$\beta = \frac{Cov[R_i, R_M]}{Var[R_M]} \qquad (1)$$

where R_i is the return of a given asset, and R_{mM} is the market portfolio return. After that the regression of asset returns on beta is built for every point in time. The slope of the regression line (the security market line) gives an estimate of the market risk premium. Finally, by means of statistical methods time series of these estimates are analysed. Given the econometrical formula of the CAPM [15]:

$$z = \gamma_0 + \gamma_1 \beta + \varepsilon \qquad (2)$$

(z being the excess return and e – random errors) we can test two hypotheses: $\gamma_0 = 0$ which would confirm whether beta is the only significant variable in the model; and $\gamma_1 > 0$ which would confirm that beta is actually a significant variable.

Based on the UX stock exchange data over the period from 04.08.2010 to 28.10.2011, calculations are done for key assets that are included into the market index using Microsoft Excel (or any other suitable software). We calculate the beta and alpha coefficients as well as the correlation coefficient r^2 which shows the effect that the index changes have on individual asset price (see Table 1 for results).

We see that (which is, in essence,), does not equal to zero for any of the assets despite coming rather close to it. This shows that the classic beta coefficient cannot be used to describe the expected yields on the Ukrainian stock market precisely enough because there are other significant risk factors. Also it should be noted that the correlation coefficient for all assets is high which indicate high dependence of asset prices on the UX index.

At the beginning of this section we made assumptions that asset liquidity, distribution asymmetry and kurtosis have some influence on the risk and returns calculations. Now that it has been determined that for the Ukrainian market some additional variables indeed need to be taken into account for those calculations, we shall examine them in greater detail to determine the scale of their impact.

To calculate liquidity we choose the method that uses the relative spread (RS) of average ask and bid prices (and) on each asset over the period of time for which beta has been calculated [16]:

$$RS = \frac{P_{ask} - P_{bid}}{\frac{P_{ask} + P_{bid}}{2}} \qquad (3)$$

The results, presented in Table 2, clearly show that the Ukrainian stock market is characterized by low liquidity. Even for the assets that form the UX index and constitute 90% of its capitalization this value is very low. The impact of this on risk and, therefore, yields estimation has already been described in Section 2. What is more important, however, is that this means that the Ukrainian

Table 1.

Calculations of key coefficients for the Sharpe-Lintner CAPM

Ticker	β	α	r^2
UNAF	0.917214	0.004236498	0.416796827
ALMK	1.326354	-0.000515394	0.654051186
AZST	1.128370	-0.001020756	0.739726594
USCB	1.091229	-0.003079292	0.728679837
CEEN	1.173370	-0.000569984	0.773245986
MSICH	1.086889	0.001890782	0.649284724
ZAEN	0.644549	-0.001946537	0.102762754
ENMZ	1.280685	-0.005131061	0.701678608
UTLM	0.677543	-0.000469414	0.372905744
BAVL	0.888155	-0.004278997	0.672999386
KVBZ	0.746757	0.000383798	0.409037268
AVDK	1.004394	-0.002013120	0.603073724

stock market does not meet one of the core requirements of the CAPM, as one of its assumptions is that the assets are absolutely liquid.

A cross-sectional analysis based on beta and liquidity coefficients can be performed in order to determine whether they describe the changes in the expected returns.

As can be seen in Table 3, the liquidity coefficient bears more significance, since its t-statistic is higher than that of the beta coefficient, although its correlation coefficient is very low. In fact, the liquidity coefficient explains less than 1% of the sample data. However, these results lead us to another conclusion. The coefficient appears negative and very close to zero. This once again displays the inconsistency of the CAPM on the Ukrainian stock market as both hypotheses that are supposed to support it were disproved.

One last step will be applying the normal law of probability distribution by calculating the asymmetry and excess kurtosis. For a normal distribution they both would equal zero [17]. In other cases having a positive asymmetry would tell that higher yields are considered more likely than lower and vice versa. As for the kurtosis, the higher it is, the less risky the asset is considered. Using the following equations to calculate them:

$$As = \frac{n}{(n-1)(n-2)} \times \sum \left(\frac{R_i - \bar{R}}{s}\right)^3 \qquad (4)$$

$$Ex = \frac{n(n+1)}{(n-1)(n-2)(n-3)} \times \sum \left(\frac{R_i - \bar{R}}{s}\right)^4 - \frac{3(n-1)^2}{(n-2)(n-3)} \qquad (5)$$

with n being the number of observations and $\bar{R}$ – average asset return we receive the following results shown in Table 4.

Once again we turn back to the initial assumptions of the CAPM. As it only takes into account the mean-variance and the returns variance [14], higher order moments are irrelevant to it. This would mean that any deviation from the mean value would be perceived equally by the investors; however, calculations showed that this is not true: there is a tendency to a positive skewness and the distribution is asymmetrical. The CAPM's limitations and reserving to only observing the first and second order moments can only be reasonable in case of a normal distribution, which, as it has been shown, is not the case. The Ukrainian stock market is characterized by high volatility and bias compared to the normal distribution. Given that, characteristics of returns distribution play an important role for investors, and they are measured by higher order moments. This provides us with need for a model that takes those into account.

An Alternative Model: the D-CAPM

The Downside Capital Asset Pricing Model was introduced by Javier Estrada in 2002 as a modification to Markowitz's classic CAPM. While the latter uses yields dispersion as the asset risk measure making no difference between upside and downside deviation, the D-CAPM uses semicovariance instead. This allows discarding some of the classic CAPM's assumptions, such as the normal distribution of returns and that investors' behaviour is determined by expected returns and asset returns dispersion [18]. As it was shown in previous sections, this is not true. Standard deviation can only be used in case of symmetrical yield distribution; and it can serve as a measure of risk only when it is a normal distribution. Also, investors tend to avoid risk on the downside, whereas the possibility of bigger returns than expected earlier is rarely a turn-off for them; as a result of this logical conclusion the model only incorporates downside risk. Because investing in developing markets is very risky for a western investor, he tries to primarily avoid the risk of losing the initial value of his investments, or avoids decreasing of this value below a predefined target level. Because of this using the semidispersion and, consequently, standard semideviation is reasonable.

The semicovariance () used in the D-CAPM is the analogue of the classic model's covariance [18]:

$$\Sigma_{iM} = E\{Min[(R_i - \mu_i), 0]Min[(R_M - \mu_M), 0]\} \qquad (6)$$

where and is the mean of returns of the investor's portfolio and market portfolio respectively. This indicator is used when calculating the modified beta coefficient by dividing it by semivariance of the market portfolio [18]:

$$\beta_i^D = \frac{\Sigma_{iM}}{\Sigma_M^2} = \frac{E\{Min[(R_i - \mu_i), 0]Min[(R_M - \mu_M), 0]\}}{E\{Min[(R_M - \mu_M), 0]^2\}} \qquad (7)$$

In order to test the model on the Ukrainian market, additional risk indicators have been taken into account: yield standard deviation (SD), yield asymmetry (Sk), standard beta coefficient and standard semideviation () [19]:

$$\Sigma_i = \sqrt{E[(R_i - ER_i)^-]^2} \qquad (8)$$

Based on data from section 3, for every risk factor a regression of mean of returns on each of them was made (table 5). After that, cross-sectional analysis was performed for each factor. Results show that only the semivariance has relatively high significance value. However, it is also clear that the modified downside beta coefficient has higher significance value than the classic beta.

Conclusions

The examination of conditions in which the Ukrainian stock market operates already showed a large array of problems that would prevent implementing the CAPM to calculate expected returns and approximate

95

Table 2.

Liquidity coefficients of assets included in the UX index

Ticker	Relative Spread
UNAF	0.037490
ALMK	0.037593
AZST	0.036091
USCB	0.032752
CEEN	0.030422
MSICH	0.026591
ZAEN	0.026591
ENMZ	0.035152
UTLM	0.026022
BAVL	0.029575
KVBZ	0.032378
AVDK	0.029246

Table 3.

Cross-sectional analysis of beta and liquidity coefficient significance

Coefficient	γ_0	γ_1	t-statistic	r^2
β	0.000956615	-0.003475173	-0.98293908	0.088104534
RS	-0.003235157	0.022950812	0.116381783	0.00135264

Table 4.

Additional statistical coefficients

Ticker	Root-mean square dev.	Asymmetry	Kurtosis
UNAF	0.037380485	0.119161508	6.593603
ALMK	0.043150909	1.12795817	6.268034
AZST	0.034518525	0.304179385	2.415931
USCB	0.033634422	0.018009388	2.269267
CEEN	0.035108518	0.248449695	2.180433
MSICH	0.035489854	0.133085215	2.799755
ZAEN	0.052902329	3.024165298	29.77586
ENMZ	0.040226266	0.937452096	8.364822
UTLM	0.029192653	-1.04208687	5.418051
BAVL	0.028485104	-0.34360573	2.068904
KVBZ	0.030720933	0.796441055	5.064090
AVDK	0.034029474	-0.14974052	3.275902

risks for investors. Being an emerging market, Ukraine faces a number of difficulties absent on mature and developed markets. Political and social factors also contribute to those problems introducing additional risk components that further complicate risk and yield estimation. Recent crises also added some uncertainty that makes a lot of aspects rather unpredictable. Given all this, theoretically using the CAPM is already unjustified.

Empirical tests further proved this suspicion. They showed that the factors that the model does not take into

Table 5.

Results of regression of mean of returns on risk factors for each given asset

Ticker	β	β^D	SD	Sk	Σ_i
UNAF	0.917213969	1.233870005	0.037380485	0.119161508	0.961386
ALMK	1.326353686	1.291727444	0.043150909	1.127958170	0.377127
AZST	1.128369588	1.059634960	0.034518525	0.304179385	0.318187
USCB	1.091228924	1.091676864	0.033634422	0.018009388	0.327640
CEEN	1.173369683	1.125540978	0.035108518	0.248449695	0.329422
MSICH	1.086889364	1.133527942	0.035489854	0.133085215	0.331009
ZAEN	0.644549372	0.900615250	0.052902329	3.024165298	0.423866
ENMZ	1.280685146	1.192183010	0.040226266	0.937452096	0.361262
UTLM	0.677542629	0.759514605	0.029192653	-1.042086870	0.302380
BAVL	0.888154794	0.937062298	0.028485104	-0.343605736	0.288223
KVBZ	0.746757125	0.743441742	0.030720933	0.796441055	0.277808
AVDK	1.004393685	1.095173579	0.034029474	-0.149740520	0.333998

Table 6.

Results of cross-sectional analysis

Risk factor	γ_0	γ_1	t-statistic	r^2
β	0.00096	-0.003475173	-0.98294	0.088104534
β^D	-0.00259	0.0000806340	0.01701	0.000028922
SD	-0.00211	-0.011099158	-0.08944	0.000799303
Sk	-0.00240	-0.000253389	-0.30592	0.009271976
Σ_i	-0.00582	0.00857439	2.37933	0.361480563

account bear significance, in particular, the stock liquidity. Furthermore, the beta coefficient does not have as much significance. Therefore, the model is not adequate, as its key element – the beta coefficient that it is basically built around – has less significant influence on expected returns than additional elements. In general, though, the correlation between liquidity and returns is very low and at times might see random at all. This is largely a result of aforementioned problems of the Ukrainian stock market, the "country risk" for which the CAPM does not account. Testing also failed to support the assumptions of the CAPM that the returns distribution is a normal and symmetrical one which are required for it to work properly.

In theory the D-CAPM seemed a reasonable alternative for the situation. Its downside beta coefficient accounted for all the factors the CAPM missed, particularly the asymmetry of returns distribution. Performed tests showed that it is indeed more suitable for Ukrainian market conditions, albeit barely. The semideviation coefficient that is used in the D-CAPM

had the highest significance which shows us that the model is usable at least to some level of reliability. The downside beta coefficient, though very close to zero, still is positive and bears higher significance than the classic CAPM's beta coefficient, which also proves the supremacy of the D-CAPM over the Sharpe-Lintner CAPM in Ukraine.

It is clear, however, that neither of the models is anywhere close to perfect. There are too many variables in the market which are impossibly hard to calculate and compose into a single model that estimates risks with high precision. Nevertheless, this paper has taken some steps in the direction of dealing with this problem, although the current situation gives reasons to believe that market conditions might dramatically change at any moment which will likely further complicate any such attempts to develop a model to estimate risks and predict asset returns on the Ukrainian stock market.

References
1. **Sharpe, W. F.** (1964), „Capital Asset Prices –

D. S. Zukhba, A. Ye. Vysotskyi, H. S. Popovich

A Theory of Market Equilibrium Under Conditions of Risk". Journal of Finance XIX (3): 425 – 442. 2. **Lintner, J.** (1965), „The valuation of risk assets and the selection of risky investments in stock portfolios and capital budgets", Review of Economic and Statistics, 47, 13 – 37. 3. **Jensen, Michael C.** / Black, F. / Scholes, M. S. (1972), The Capital Asset Pricing Model: Some Empirical Tests. Michael C. Jensen, STUDIES IN THE THEORY OF CAPITAL MARKETS, Praeger Publishers Inc. Available at SSRN: http://ssrn.com/abstract=908569 4. **Roll, R.** (March 1977), „A critique of the asset pricing theory's tests Part I: On past and potential testability of the theory", Journal of Financial Economics 4 (2): pp. 129 – 176. 5. **Banz, R. W.** (1981), „The relationship between return and market value of common stocks," Journal of Financial Economics, Elsevier, vol. 9 (1), pages 3 – 18, March. 6. **Blume, M.** / Friend, I. (1973), „A New Look at the Capital Asset Pricing Model", Journal of Finance. 28:1, pp. 19 – 33. 7. **Basu, S.** (1977), „Investment performance of common stocks in relation to their Price-Earnings ratio: A test of the efficient market hypothesis", Journal of Finance, XXXII, 3, pp. 663 – 682. 8. **Rosenberg, B.** / Kenneth R. / Lanstein R. (1985), „Persuasive Evidence of Market Inefficiency", The Journal of Portfolio Management, Vol. 11, No. 3: pp. 9 – 16. 9. **Teplova, T.** (2007), Investment Levers of Maximizing Company's Value, Vershina: Moscow, available at http://www.cfin.ru/management/strategy/classic/investment_risks.shtml, 03.04.2007. 10. **Shen, P.** (2006), „Liquidity Risk Premia and Breakeven Inflation Rates", Economic Review: Federal Reserve Bank of Kansas City, Q2: pp. 29 – 54. 11. **Jagannathan, R.** / Wang, Z. (1996), „The Conditional CAPM and the Cross-Section of Expected Returns", Journal of Finance, vol.51, Issue1, pp 3 – 53, March. 12. **Magni, C. A.** (2005), „Norms of rationality and investment decisions: CAPM, arbitrage and description invariance", University of Modena and Reggio Emilia 13. **Stoll, H. R.** / Whaley, R. E. (1983), „Transaction Costs and the Small Firm Effect", Journal of Financial Economics, 12, p. 57 – 79. 14. **Fama, E. F.** / French, K. R. (2004), „The Capital Asset Pricing Model: Theory and Evidence", Journal of Economic Perspectives, Vol. 18, Number 3: pp. 25 – 46. 15. **Sharpe, W. F.** / Alexander G. J / Bailey J. W. (1998), Investments. 6th ed., Prentice Hall: Old Tappan, New Jersey. 16. **Amihud, Y.** / Mendelson, H., (1986), „Asset pricing and the bid-ask spread", Journal of Financial Economics 17, p. 223 – 249 17. **Tsarev, V.** (2004), Estimation of Investment Economic Effectiveness, Piter: St. Petersburg. 18. **Estrada, J.** (2002), „Systematic Risk in Emerging Markets: the D-CAPM", Emerging Markets Review, Vol. 3, pp. 365 – 379. 19. **Estrada, J.** (2003), „Mean-Semivariance Behavior: A Note", Finance Letters, Vol. 1, pp. 9 – 14.

Зухба Д. С., Висоцький А. Є., Попович Г. С. Модель оцінювання капітальних активів: перехресний аналіз

У статті розглянуто застосування моделі оцінювання капітальних активів на українському ринку цінних паперів, загальні недоліки її використання, а також ті, що виникають у вітчизняних умовах. Виявлено ступінь ефективності використання моделі на українському фінансовому ринку і запропоновано альтернативні моделі оцінювання фінансових активів.

Ключові слова: модель оцінювання капітальних активів, перехресний аналіз, ліквідність, в- коефіцієнт, ексцес, асиметрія.

Зухба Д. С., Высоцкий А. Е., Попович А. С. Модель оценки капитальных активов: перекрестный анализ

В статье рассмотрено применение модели оценки капитальных активов на украинском рынке ценных бумаг, а так же общие недостатки ее использования и те, что возникают в отечественных условиях. Определен уровень эффективности использования модели на украинском финансовом рынке и предложены альтернативные модели оценки финансовых активов.

Ключевые слова: модель оценки капитальных активов, перекрестный анализ, ликвидность, в-коэффициент, эксцесс, асимметрия.

Zukhba D. S., Vysotskyi A. Ye., Popovich H. S. The Capital Asset Pricing Model: Cross-Sectional Analysis

This article deals with application of the Capital Asset Pricing Model and its drawbacks on the Ukrainian equity market. In this paper efficiency of the CAPM in the domestic conditions is identified; alternative models are proposed.

Key words: the Capital Asset Pricing Model, cross-sectional analysis, liquidity, в-coefficient, excess, asymmetry.

I. V. Kostenok,
PhD (Economics),
Donetsk State University of Management
C. V. Chernikova, C. Y. Soboleva,
Donetsk National Technical University

UKRAINIAN MARKET FOR THE INVESTMENT CERTIFICATES

Investing to investment certificates could make the life of the population who needs additional money easier. Making investments sensibly, they could not only earn money from taking part in CII, but also make a fortune. Of course, there could be some risks, but compared to the advantages, it is possible to neglect them. As a result of using investment certificates it is possible to increase the population wealth.

The main purpose of this research is to analyze the current situation on the Ukrainian stock market and to describe the perspective of the share investment funds in Ukraine, possible ways of solving problems connected with the existence of CII and eliminating the barriers appearing on the way of CII development.

Investment certificate is a nominal security which is produced by investment found or investment company and accepts the right of the owner of such a certificate to take part in the investment fund or the investment company but it doesn't give the right to vote at the general meeting of a stock company. The ownership of investment certificate accepts the right of getting the income (dividend). Investment certificate in comparison to the stock guarantees definite income minimum [1].

AMC establish investment funds, which deal with the emission of such securities as investment certificates into the circulation.

First of all the investor should pay attention to reputation, experience and efficiency of AMC. On investor's requirement, AMC should give the full information which confirms the existence of SSMSC license, registration of CII order and stock's emission prospect, and securities emission registration license of SSMSC, CII registration in the Unit State register [2].

According to the Law of Ukraine „On State Regulation of Securities Market in Ukraine" [3] the government regulation of securities market is performed by the Securities and Stock Market State Commission (SSMSC). **The purpose of SSMSC regulatory activities** is to develop and improve the effectiveness of the state regulation in the stock market, promote the unified state policy realization on the issues and turn over of securities, protection of investors and other stock market participants.

The main directions of SSMSC's activities in the field of regulation are:

1. working out of Draft Regulations in securities market;
2. adoption of Regulations;
3. introduction of amendments to Regulations;
4. analysis of regulatory impact of Regulations;
5. tracking of adopted Regulations effectiveness [4].

Compared to another issuers SSMSC provides CII with thorough control and protects the investors' interests [5].

While choosing CII, it is worth, first of all, taking into account such features of investment as profitability, liquidity and risks.

CII which invest money especially to stocks are considered to be the most risky, but they have high profitability. It is necessary to remember that the more is the potential profitability, the more is the risk level. An intermediate option is the fund of mixed investments, which foresees the proportion of bonds and stocks in the portfolio. The liquidity defines the profitability of quick getting of invested money at the definite moment of time. If it is significant for you to get this money in different moment independently on the sum of money, you can invest them to open-end fund as it is obliged to buy your securities for the formed price conditioned by Net Asset Value. If it is enough to get such an opportunity time after time, the interval fund is an alternative. Closed-end fund is not obliged to buy your securities till the end of their activity term, but you can sell them without engaging of the fund itself, because such securities in comparison to open-end funds turn free at the secondary market, like the interval fund's securities [2].

Table 1 shows that the number of the investment certificates bought, which value has been expressed in UAH billion, has increased compared to 2006 on UAH 6.81 bln. UAH and it is obvious that the positive tendency is constant. Per se, the main factor which influences such a positive tendency should be the population income. The logic is simple: the more is income, the more available assets people have for investing in the stock market, in this case in investment certificates. However, after checking the connection between the number of the investment certificates, it appeared that the connection

I. V. Kostenok, C. V. Chernikova, C. Y. Soboleva

does not exist. The connection does not exist because the investment certificates are not popular among the Ukrainians. In other words, in general only legal persons invest to CII and it was proved by the regression-correlation analysis. Therefore, the dependence of the investment certificates popularity lies in other factors (crisis, unawareness of the people, poor protection and so on).

The stock market of Ukraine is divided into five sectors: banks, insurance companies, financial and investment companies, CII and non-state pension funds. Figure 1 depicts the dynamics of the investments to securities during 2009 – 2010. As we see, the banks demonstrate leading positions on the market and the pace of increasing of the investments to the securities compared to other institutes of the stock market. So, to the end of the third quarter of 2010 the amount of banks investments to securities was UAH 76.2bln when the CII investments were less (approximately UAH 5bln). What was the reason for such difference and why are banks miles more trustworthy? Moreover, after the crisis in 2008 there was a moratorium on population deposits introduced: the investments have been frozen for 4 – 5 month. However, despite this fact, the banks have managed to return the population's trust.

Our further research is based on the following assumption: low demand on investment certificates in Ukraine in 2006 – 2010 depends on low income of the Ukrainian people. In order to check the connection between income and the amount of investment certificates sold we used correlation-regression analysis, which showed us that our theory is wrong. Although the tightness is medium the connection between them is invalid.

$$\begin{cases} \sum_i y_i = n \cdot a_0 + a_1 \sum_i x_i; \\ \sum_i x_i \cdot y_i = a_0 \sum_i x_i + a_1 \sum_i x_i^2; \end{cases} \quad (1)$$

$$\begin{cases} 15240,00 = 5 * a_0 + a_1 * 3936292,00; \\ 14839371740,00 = a_0 * 3936292,00 + a_1 * 3338420946144,00; \end{cases}$$

$$\begin{cases} a_1 = 0,01; \\ a_0 = -4824,58; \end{cases}$$

$$r^2 = \frac{\sum (y^\wedge_x - y')^2}{\sum (y_i - y')^2} = \frac{23954200,43}{55841480,00} \approx 0,43 \quad (2)$$

where r is the correlation coefficient;

Table 1

The number of the stock exchange contracts with the securities in 2006 – 2010, mln. UAH [4]

Year	2006	2007	2008	2009	2010
Number of stock exchange contracts with investment certificates	330	430	200	7140	7140
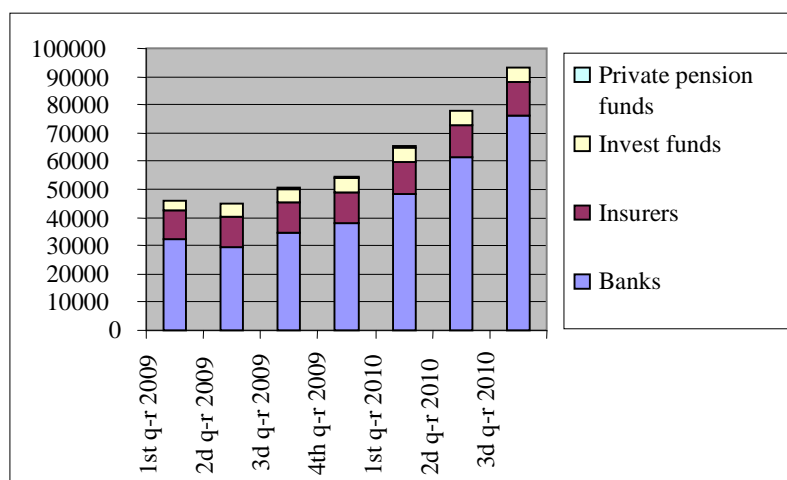
Fig. 1. Dynamics of the investment in securities of the institutional investors, mln. UAH [7]

Table 2

The results of correlation-regression analysis

Year	Income, x_i	Number of stock exchange contracts with investment certificates, y_i	x_i^2	$y^{\wedge}_x$
2006	472061.00	330.00	222841587721.00	-103.97
2007	623289.00	430.00	388489177521.00	1408.31
2008	845641.00	200.00	715108700881.00	3631.83
2009	894286.00	7140.00	799747449796.00	4118.28
2010	1101015.00	7140.00	1212234030225.00	6185.57
Sum	3936292.00	15240.00	3338420946144.00	

$$F = \frac{r^2}{1-r^2} * \frac{k2}{k1} = \frac{0,43}{1-0,43} * \frac{3}{1} \approx 2,26 \quad (3)$$

where *F* is Fisher's test, *k1* – the number of the degree of freedom in the external variance, *k2* – the number of the degree of freedom of the average one out of group dispersion.

$$F_{tab} = 10,13; \quad F < Ftab;$$

Therefore, there are some other reasons why investment certificates are unpopular in Ukraine. These are some of them:

– low awareness of the population concerning investment funds activity;

– economic crisis;

– weak protection of investment certificates owners.

Delving deeply into the first reason, the Ukrainians know nothing about how to double their income, although there are a lot of ways to increase their profits. One of them is buying investment certificates. Asset management companies do not pay much attention to promotion whereas the banks do. Looking at the banks' advertising campaigns, it is evident where people invest their savings more willingly. However collaboration with share investment funds is risky but you also can get more money, because there the rate is higher than in banks. As for the second reason, the peak of the economic crisis happened in 2008. It has been reflected on the investment certificate sales. Unfortunately, except the prices decrease of investment certificates, the crisis brought a lot of problems to the investors. The main problems were:

temporary moratorium on redemption of investments certificates; very slow revaluation of non-liquid assets. Despite the absence of official statements, this problem is an urgent one. Even today there are some not revaluated assets since 2008 in some funds. The third reason can be explained as the lack of government support to investors. That is why there are not enough guarantees to return their money with profit. Moreover, investors can not be sure that they will get their money at all. Investment funds are not protected by government, they exist on the private base. There is some risk of Asset Management Company bankruptcy.

Therefore, there are some possible ways for improving the situation, such as:

1. Effective advertising campaign of investment funds. CII should be ready to spend the definite sum of money for the promotion as the banks do. However, such expenditures not always can be effective depending on the sources of information (television, magazines, radio, newspapers, the Internet and so on). In this situation the main aim is to increase the number of people who know about investment funds and to persuade them that such kind of the investments values for money.

2. The government support. As it was said above, CII needs some kind of guarantee fund, which can help to prevent investors from bankruptcy. The lack of such a support brings up some hesitation and uncertainty if it is worth investing or not.

3. The transformation of savings into investment capital. People should be aware of all the benefits which they can get from ownership of investment certificates. To sum up all the above mentioned possible ways for improvement CII will be able to make potential investors be interested in their offers.

Conclusion

Judging from the information and analytics above, we can conclude that although the formation of CII as the rigorous participants at the stock market is slow, at least it is developing. Even taking into account the number of the stock exchange contracts with the securities it appeared that in 2006 – 2011 the situation with the investment certificates sales was changing and during the six years it has been improved practically 20 times, so it is a rather good start.

Of course, the CII availability, first of all, depends on the situation at the stock market of Ukraine. It means that the decrease of the amount of the investments to CII and to the investment certificates buying appeared in 2008 together with world finance depression. At that time the consequences of the crisis for the stock market became evident: prices' dramatic fall, flight of investors and so on. Naturally, this could push away not only international investors but also the Ukrainian ones as their money was under threat due to unstable situation at the stock market. In addition, it is necessary not to forget about low liquidity of the Ukrainian fund market, and also about the quite little amount of securities which are being sold on an exchange, limited amount of instruments of fund market also prevents the development of CII potential in full strength. In fact, there is also another problem with stock market development, and consequently with CII, it is absence of the single deposit-clearing system, which would become a calculated depositary and authorized holder for all of the largest trade grounds of the country. Although the crisis consequences are evident, Ukraine is on the edge of post-crisis recovery. The dynamics of the economic development indexes in the first quarter of 2011 shows the positive tendencies at the phase of the post-crisis recovery.

The main rivals in the investment in the securities are still banks. The main reason is in the fact that it is easier for the Ukrainians to deposit their money to the bank with the annual interest and to get minimal but guaranteed profitability. And although banks suffered more during the crisis, anyway they stay much more preferable. While investing to CII it is possible to choose how to manage the money. To invest to the bank, of course is the simplest but not the most profitable decision. However, in Ukraine investment to CII is not so popular and there is no proper advertising campaign (compared to banks). Nowadays there is the dependence of the Ukrainians on their savings, so with the increase of the profitability the savings of the potential investors are increasing, what leads to the desire to use free money or to invest. Unfortunately, only Ukrainians with the high income afford to invest to the CII. However, during the last years the positive tendency of income increase has appeared in Ukraine. Moreover, the accelerated economy development, which provides active increase of the population income, will stimulate the Ukrainians to find additional directions of the savings allocation. And CII will not be the last.

In order to accelerate the process of the investment to CII, it is necessary to provide the society with the information about the activity of CIFs, about their advantages for the investors remembering that some risks of this direction exist. Today the lack of the information about CII does not give the opportunity to carry out the market potential fully.

The absence of sufficient amount of the reliable financial instruments on the internal market has become another substantial problem, which prevents AMC from investments of the investors attracted facilities. The solution is in development of the private sector of country, in other words in creation of the higher amount of enterprises as possible, whose stocks would circulate on the Ukrainian stock market. Moreover, foreign investments bringing in is also necessary in a private sector and not only.

There is an unwarrantable imbalance in the levels of profit taxation from investments in different financial institutions. Interests acquired to bank deposits are not under taxation and at the same time the income, which the population has got from CIF investments, are under taxation. It would be useful to introduce the preferential taxation of the investors' income, who invests to CIF for the long period of time, or to decrease the rate of taxation of the income from the investments for the term which is more than one year in order to increase the investment activity of the individuals. The taxation rate depends on the investor's legal position. The minimal taxation rate is for individuals (residents and non-resident legal persons, whose rate will be 15 per cent of the profit). So, now the rate is not so high, which can become an extenuating circumstance for CII when choosing the institutional investor.

The real problem is the methodology of the NAV assessment of the CIFs. The active statement of the SSMSC, which regulates this issue, allows the companies to assess their net assets of the CIFs freely. This can lead to distorting the information about the funds assets. This problem can be solved with the help of the calculation methodology improvement.

The dynamics of the CII coming to the market does not decrease actually. Therefore, today the problem is not in the quantitative growth of CII and AMC, but in the quality of their services, increase of the professional level of managers, on the one hand, growth of potential investors trust, on the other hand, and readiness of

economy. For harmonious development of investment funds in Ukraine it is necessary to do a lot but they already have good prospects which they can bring to life with the help of the government.

References

1. **Altus** (2009): Analytics – Teaching materials, http://en.altus.ua/?to=menu&id=222. 2. **Voitsehovski, V.** (2006): CII in Ukraine, Consulting in Ukraine 3. **Vedomosti** Verhovnoi Rady Ukrainy (VVRU) The Law of Ukraine „On State Regulation of Securities Market in Ukraine" as valid for October 30th, 1996 http://www.zakon.rada.gov.ua 4. **SSMSC**(2010): SSMSC Activities – SSMSC Annual Reports, http://www.ssmsc.gov.ua/activities/annual 5. **Melnik, V. A.** (1998): Rynok zennyh bumag. Spezial'noe izdanie, Kiev: A.L.D. Vera-R. 6. **Ukrstat** (1998): Site Map – The population income in regions, http://www.ukrstat.gov.ua/ 7. **Rurik** (2010): Research – Analytical Review, http://rurik.com.ua/our-research/branch-reviews/1192

Костенок І. В., Соболєва К. Ю., Чернікова К. В. Український ринок інвестиційних сертифікатів

У статті визначено потенціал розвитку інвестиційних сертифікатів на фондовому ринку Україні, проведено аналіз дійсної ситуації за допомогою кореляційно-регресійного аналізу на основі динаміки, простеженої з 2006 по 2010 рр.

Ключові слова: фондовий ринок, інвестиційні сертифікати, інститути спільного інвестування, компанія з управління активами, державна комісія з цінних паперів та фондового ринку.

Костенок И. В., Соболева Е. Ю., Черникова Е. В. Украинский рынок инвестиционных сертификатов

В статье определяется потенциал развития инвестиционных секртификатов на фондовом рынке Украины, проводится анализ нынешней ситуации с помощью корреляционно-регрессионного анализа на основе динамики, прослеженной с 2006 по 2010 гг.

Ключевые слова: фондовый рынок, инвестиционные сертификаты, институты совместного инвестирования, компания по управлению активами, государственная комиссия по ценным бумагам и фондовому рынку.

Kostenok I. V., Chernikova C. V., Soboleva C. Y. Ukrainian Market for the Investment Certificates

An article defines the potential of the investment certificates development on the securities market of Ukraine, shows the results of the current market situation analysis with the help of the correlation-regression analysis on the base of the dynamics of the 2006 – 2010.

Key words: Security Market, Investment Certificates, Collective Investment Institutions, Asset Management Company, State Securities and Stock Mearket Commission.

I. A. Kirnos, I. S. Voshchyna, M. M. Breiman

UDC 336.76(4:477)

I. A. Kirnos,
PhD (Economics),
I. S. Voshchyna,
M. M. Breiman,
Donetsk National Technical University

UKRAINIAN DERIVATIVES MARKET

Introduction

Derivatives market is defined as the financial market for derivatives, financial instruments, like futures contracts or options, which are derived from other forms of assets. However, most „derivative instruments, often used to mitigate interest-rate risks, can be used to hedge any type of risk exposure in any market" [6]. Main derivative instruments are options, swaps, futures and forwards.

According to Bodie, Marcus and Kane „futures and forward contracts are like options in that they specify purchase or sale of some underlying security at some future date. However futures and forwards carry the obligation to go through with the agreed-upon transactions"[2]. This quotation covers all derivatives markets. But these authors do not separate futures from forward contract, while Muhammad al-Bashir Muhammad al-Amine maintains that „The futures contracts have been able to overcome some of the problems of the forward contract associated with risk, especially price risk and better planning of business" [3]. So, as our article is devoted mainly to financial futures Roses and Hudgingses' definition fits its purpose the best – „a financial futures contract is an agreement reached today between a buyer and a seller that calls to delivery of a particular security in exchange for cash at some future date" [4].

Bodie, Marcus and Kane identify hedging as a technique that offset particular sources of risk [2]. This definition perfectly illustrates the main idea of introducing derivatives on the Ukrainian market, because in the unstable conditions of the Ukrainian economy it is quite reasonable to prevent risks.

Derivatives Market Formation and Main Problems

Ukrainian derivative market is not the main player of the Ukrainian market in general. The unit weight of derivatives even does not reach 1% [10]. The history of the Ukrainian market is not long, that is why Ukraine is on its way of developing the market. The whole Ukrainian money-market began its activity after disintegration of the Soviet Union in 1992. The initial purpose of such a market was to make purchase and sale operations of foreign currency. In 2006 there began the real futures trade on the mean interbank rate USD/UAH, which was calculated by the UICE on the ground of white sheets granted by the Ukrainian banks. In 2010 the Ukrainian exchange was working on launching of the derivative market [11].

Nevertheless, on the way of using the derivatives in Ukraine there are definite problems. The main domestic manufacturers refuse from using derivatives because of lack of confidence for the derivatives market development and the absence of legislative foundation. The present situation is such that there is only a Law Draft „About Derivatives" in the country and it actually does not fit in the real economic situation in Ukraine [7]. The other problem of the Ukrainian derivatives market is the high level of speculation. In most cases traders buy futures with the expectation of index growth and sell when they think that index will decrease [9]. The representatives of the SSEC say that the majority prefer to buy options on exclusive things such as options on delivery or places on the ground for marking. Financial instruments narrow represented on the Ukrainian derivatives market. This is mainly because of the low level of the markets development and their low activity. The most options which are issued on OTC market or just delivered directly to the client. This is somehow the way of omitting tax evasion for those firms that issue such kind of derivatives.

Companies Comparison

As it was said in the previous chapter, the Ukrainian derivatives market cannot be called developed. As far as derivatives give more liquidity, more opportunities for hedging, and more instruments to capital market, they are an essential part of it in the modern economy. That is why the Ukraine's low underdeveloped derivatives market is a problem. Causes of this problem are completely interdependent: on the one hand, there is low demand on the derivatives in Ukraine, and on the other hand, there exist a small number of such instruments, which means low supply [9]. Since supply can create a demand, and the number of the instruments can be increased manually, it appears to be a simpler method of solving the problem, and that is why we focused this study on it.

At the European exchange for derivatives – Eurex, derivatives on stocks of more than thousand companies are traded daily. The Russian stock exchange RTS

provides 17 derivatives on shares of the largest Russian companies [12]. At the same time, equity derivatives are not traded on the Ukrainian capital market at all.

The question „Why is not there equity derivatives on Ukrainian market?" is unanswered. In this study we supposed that the key to the question is Ukrainian companies, and put forward a hypothesis: companies which have derivatives on their stocks may have something common in their finance, which is no for the Ukrainian companies. The hypothesis was tested using this algorithm:

· Blue chips of Ukrainian market, whose stocks are potential underlying assets for equity derivatives, were selected.

· European and Russian companies, which have the same main activities, but have derivatives on their stocks openly traded, were selected.

· Commonly used financial ratios were computed for selected companies on the base of public financial data

· Results of computations for every company were compared with the others, and data summarized were analyzed to check the hypothesis.

For this study there were taken 5 companies from this list, each representing a different industry:

· Motor Sich – aviation engines production.

· Ukrtelecom – a large-scale telecommunication company [13].

· Centerenergo – a managing company which owns power plants and different assets in power engineering and one of the market leaders [14].

· Azovstal Iron and Steel Works – a metallurgical plant, one of the largest in Ukraine [15].

· Ukrnafta – an oil and gas company, which has processing plants, drilling divisions and many other assets in this industry [16].

Additionally, large-scale European and Russian corporations, which have derivatives on their stocks, and operate in the same industries, were selected:

· Daimler AG, a giant in machine building.

· Telefonica, one of the leading European telecommunication companies.

· Fortum and RusHydro, counterparts of Centerenergo.

· Arcelor Mittal and Severstal, which are large-scale metallurgical enterprises, and rivals of Azovstal Iron and Steel Works on the international market.

· Norilsk Nickel – a mining company, counterpart of Ukrnafta

Of course, all these Ukrainian, Russian and European companies cannot be compared directly. However, as our hypothesis suggests, finance is what they may have in common. To check if these common features exist, a system of financial ratios was used.

Hypothesis consists not only in existence of common features among between companies that have derivatives on their equities, but also in the assumption that the Ukrainian companies lack these features, and that is why derivatives on their stocks are not issued. That means that ratio's values for the Ukrainian companies must be worse than for their Russian and European counterparts. A worse value in terms of financial ratios means lower profitability and liquidity as well as higher debt ratio value. Results of calculations are given below.

Financial ratios which were computed are reasonable for almost every public company, even if they operate completely different businesses, so data in the Table 1 is adequate. And on the basis of these data, no dependence between the country of company's foundation and its financial ratios was found. It may look like Ukrainian companies have lower profitability in general, however losses of two companies are rather connected with specific problems, than with the generalities of Ukrainian business environment: Ukrtelecom was privatized in 2010 and is in a process of a reorganization [29], while Azovstal highly relies on the world metal prices, and hardly suffered from the world financial crisis [31]. As for liquidity and debt ratios, no noticeable trends are found as well.

Assets Variation

Traditionally financial futures are more highly traded than agricultural, metals or energy futures. One of the points why companies trade futures is that the variation of their assets is large [2]. So if a company has great volatility in its assets, its rates vary and stocks payment might be different, that is why there is a need in the futures on the stocks of companies. In this part we analyzed whether this premise is correct in Europe and in Ukraine. Firstly we will cover the sampling of the European blue chips, and secondly investigate Ukrainian companies.

Arcelor Mittal has been changing its assets since its first acquisition in 1989, leasing the Iron & Steel Company of Trinidad and Tobago. Since then Arcelor Mittal continued increasing the number of its assets and announced 35 transactions in Argentina, Austria, Canada, China, Estonia, France, Germany, Italy, Mexico, Poland, Russia, Slovakia, South Africa, Turkey, the United Kingdom, Uruguay, the United States and Venezuela, a number of which were completed in 2007 [21].

Fortum, a large energy producer in Europe, started the formation of its assets in 2002 by selling its Norwegian EP business to Eni and two new tankers from China. In 2010 Fortum acquired a 40% stake in Europe's wind farm projects in Blaiken, Sweden [19].

A few years after the USSR collapse, in 1993 Norilsk Nickel became a corporation. In 2003, the company took

Table 1.

Financial ratios of the companies

	Gross profit margin	Operating profit margin	Net profit margin	Return on assets (ROA)	Asset turnover	Current liquidity	Quick liquidity (Acid test)	Debt ratio
UkrNafta	0.241	0.187	0.132	0.144	1.073	1.058	0.578	0.554
Azovstal Iron and Steel Works	0.00025	-0.027	-0.007	-0.005	0.697	1.392	1.219	0.555
Motor Sich	0.467	0.307	0.250	0.203	0.964	2.044	0.877	0.381
Center-energo	0.023	0.018	0.002	0.002	1.308	0.761	0.187	0.569
Ukrtelecom	0.173	-0.042	-0.038	-0.025	0.608	1.273	0.830	0.357
Arcelor Mitall	0.089	0.052	0.039	0.023	0.603	1.389	0.388	0.495
Daimler AG	0.233	0.074	0.048	0.034	0.739	1.073	0.707	0.721
Fortum	0.548	0.271	0.215	0.062	0.301	0.747	0.507	0.602
Telefonica	N/A	0.271	0.166	0.078	0.511	0.629	0.584	0.756
Norilsk Nickel	0.618	0.513	0.242	0.129	0.547	4.811	2.662	0.248
RusHydro	N/A	0.041	0.027	0.017	0.722	2.169	0.773	0.204
Severstal	0.329	0.175	-0.038	-0.027	0.697	1.506	0.471	0.621

over Stillwater Mining Company. Stillwater operates a platinum group metals (PGM) facility in Stillwater, Montana in the USA. In November 2010, Norilsk Nickel sold Stillwater. During 2007, Norilsk acquired a number of mining and metallurgical assets abroad: in Australia, Botswana, Finland, Russia, South Africa, and the United States. The crucial deal as completed on June 28, 2007, when Norilsk Nickel acquired about 90 per cent of Canada's LionOre Mining International Ltd [23].

Telefonica is one of the giants of telecommunication industry. It was fully privatized by the government in 1997, nevertheless the company steadily began to cope with new markets and build its subsidiaries. Nowadays Telefonica acts as a parent company for ten major subsidiary companies, including Telefynica de Espaca, Telefynica Latinoamericana, Telefynica Myviles S. A., Terra Lycos S. A., Telefynica DataCorp S.A., Atento, and Admira" [18].

Daimler Company began from Carl Benz and Gottlieb Daimler, who are cited by most authorities as the most important contributors to developing of the internal combustion engine. In 1926 Daimler and Benz merge to form Daimler-Benz AG, which begins producing cars under the name Mercedes-Benz. In 1928 Chrysler acquires Dodge Corporation. However in 1944 World War II destroys most of Daimler-Benz's plants in Allied bombing raids. In 1987 Chrysler acquires American Motors Corporation. In 1993 Daimler-Benz becomes the first German firm listed on the New York Stock Exchange. In 1995 Jьrgen Schrempp takes over as Daimler-Benz's chairman and CEO; company posts losses of nearly $4 billion. Finally, in 1998 Daimler-Benz and Chrysler merge to form DaimlerChrysler AG [17].

As it can be seen on the example of the European countries the statement, that companies trade futures because the variation of their assets is high, is proved, and might be considered to be true. To say whether it is preferable in Ukraine we will look on the assets variation in the companies from our sample. Motor Sich in 1995 was transformed into public corporation, before it had become the corporation the assets of it increased [32]. While since 1907 there was only Zaporozkiy motor-building plant in 1988 Zaporozskiy machine-building plant was established. Meanwhile in 1970 there was build Snezhanskiy machine-building plant and in 1971 – Volochinskiy machine-building plant. So the assets

variation was observed only in times of the Soviet Union. Ukrtelecom was organized as united telecommunications in Ukraine in 1993. At the time of its formation the company consisted of 5 organizations: Kiev telegraph, „Ukrtech", „Zakarpattelekom", „Dneprsvjaz", „Ukrsvjazoproekt"; in 1995 22 regions telecommunication enterprises aligned and finally in 1996 „Dneprtelecom" was linked to Ukrtelecom [33]. Ukrnafta appeared on the market as public corporation in 1994 and from 2000 Ukrnafta began to buy petrol network, there are 563 petrol stations all around Ukraine [34]. Centrenergo was united to one company in 1994 according to the statute of Cabinet of Ministers of Ukraine and then was reorganized into public corporation. So Centrenergo did not have assets variation [35]. Metallurgical enterprise Azovstal was founded in 1930 and in 1996 it became public. In 2005 it merged with Mariupol by-product coke plant „Markohim" [36].

From the all above we can conclude that in most blue-chip Ukrainian companies there is assets diversification, but it is in times less than European countries assets variation. Of course, this difference is under conditions of some factors, main of which are: unstable post-soviet economy and incommensurability of European and Ukrainian companies' sizes of. However the thesis was basically proved for Ukrainian companies as well, so looking through the prism of this thesis Ukrainian blue chips companies can trade futures on their stocks.

Correlation of Futures on Index

It is proved that effectively functional markets are perfectly, contemporaneously correlated the returns on stock index and stock index futures. This article studies the correlation of stock index and futures index on the unstable Ukrainian market. This is made to figure out whether existing Ukrainian futures can be used for hedging domestic economic risks but not only for scalping. Fig. 1 shows the volatility of stock index on the Ukrainian market.

We have used linear correlation coefficient to calculate the variation of futures on the Ukrainian stock market. Futures on stock index have their time of circulation, on the Ukrainian market its medium time of circulation is almost 4 months. Our sample contains futures on stock index and stock indexes, respectively, from 5.11.2010 to 4.11.2011, that is why there are some correlation coefficients. 6 futures were investigated on the stock index in different time periods. Correlation between futures and indexes in the respective time is mostly the same with a small variation from 0.96 to 0.99. Table 4 represents a sample of stock index futures and stock indexes from 05.11.10 to 14.12.10, where x is the closing price on stock index futures and y is the closing price on stock indexes.

The sample is represented according to the number of futures on stock index (ux-12.10). Within the following formula it is possible to calculate the correlation.

$$\rho = \frac{CovXY}{\sigma_X \sigma_Y} = \frac{\sum(x_j - \bar{x})(y_j - \bar{y})}{\sqrt{\sum(x_j - \bar{x})^2 \sum(y_j - \bar{y})^2}}$$

Where c is a correlation coefficient, x_j is the corresponding closing price on stock index futures, y_j is corresponding closing price of stock index, $\bar{x}$ and $\bar{y}$
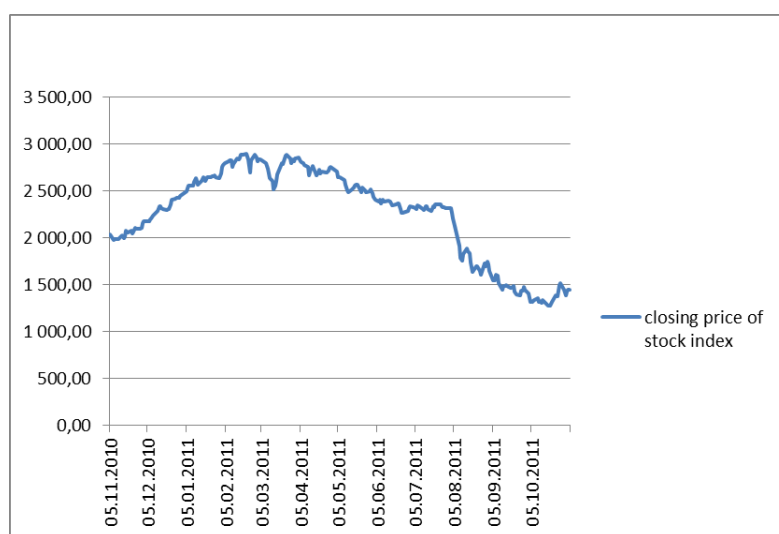
Fig. 1. Variation of stock index [8]

are mean values of figures in x and y, respectively, which could be calculated within the following formula [1].

$$\bar{x} = \frac{\sum x_j}{n}$$

Where n is the quantity of dates, in our case $\bar{x} = 2100,23$ and $\bar{y} = 2103,77$.

Calculations result in:

$$\rho = \frac{265181,35}{\sqrt{257631,96 * 275697,33}} = \frac{265181,35}{266511,2612} = 0,99$$

Such value means that stock index and futures on it are highly interconnected with each other and when stock indexes increase, the futures on stock index also increases. That is why we can conclude that UX index can be used for hedging.

Conclusions

This article is focused on various aspects of the Ukrainian derivatives market. The word „market" stands for the dynamically changing environment, and that is why the first question to start with was the current situation on the market. In the developed countries, derivatives play an important role on the capital market, are widely used and traded in large volumes. In Ukraine, on the contrary, derivatives market is objectively underdeveloped. Only two instruments are openly traded on the stock exchange, and volumes of their trade are relatively low and highly volatile. The article contains the

Table 2.

The sample of stock index futures and stock indexes from 05.11.10 to 14.12.10

Trading date	x	y
05.11.2010	2 064,99	2036,11
08.11.2010	1 989,68	1972,89
09.11.2010	1 988,00	1986,49
10.11.2010	1 983,00	1987,12
11.11.2010	1 979,86	1985,05
12.11.2010	1 974,00	1985,96
15.11.2010	2 014,10	2026,33
16.11.2010	1 994,30	1991,64
17.11.2010	2 008,00	2016,46
18.11.2010	2 079,00	2074,42
19.11.2010	2 065,61	2058,47
22.11.2010	2 074,91	2080,93
23.11.2010	2 047,49	2041,94
24.11.2010	2 059,99	2063,44
25.11.2010	2 085,00	2103,39
26.11.2010	2 085,40	2098,15
29.11.2010	2 093,49	2096,68
30.11.2010	2 098,99	2104,92
01.12.2010	2 141,91	2155,84
02.12.2010	2 180,86	2175,4
03.12.2010	2 173,00	2180,44
06.12.2010	2 176,99	2180,31
07.12.2010	2 196,50	2194,62
08.12.2010	2 194,01	2202,59
09.12.2010	2 220,88	2235,96
10.12.2010	2 235,47	2246,77
13.12.2010	2 265,00	2283,78
14.12.2010	2 336,00	2339,5

history of derivatives in Ukraine and main challenges of Ukrainian derivatives market. One of the most serious challenges is the poor legislative base in terms of the capital market. There is no particular law which would regulate derivatives market in Ukraine. The other problems are interdependent: it is low demand on derivatives in Ukraine, and low supply (in shape of low number of instruments). On the other hand, there exist such important circumstances for introducing new derivative instruments as a variety of potentially underlying joint-stock companies and an infrastructure, needed for the open trade of securities on the market.

This article studied Ukrainian enterprises, blue chips of the domestic stock market, which are regarded as potential underlying assets for the equity derivatives. Because derivatives on shares of Russian and European large-scale companies are wide-spread, the following hypothesis was put forward: companies which have derivatives on their stocks may have something in common in their finance, which Ukrainian companies do not have. Because different enterprises from different sectors of economy cannot be compared directly, the hypothesis was tested using a range of financial ratios that characterize profitability, liquidity and debt. Same ratios were computed basing on financial statements of selected Ukrainian and foreign companies. If the hypothesis is correct, the data received should show a trend of Ukrainian companies having worse values of ratios than their foreign rivals. However, no trend was found, which means the hypothesis is disproved and leads to the conclusion, that shares of Ukrainian companies can become underlying assets for the derivatives in the future.

To develop the comparison, variation of selected companies' assets was analyzed. The study was based on the idea, that if a company has great volatility in their assets, its rates vary and stocks payment might be different, that is why there is a need in the futures on the companies' stocks. The conclusion was that in most blue-chip Ukrainian companies there is an assets variation, but it is in times less than assets variation in the European companies. Of course, this difference is under conditions of some factors, main of which are: unstable post-soviet economy and disproportion of scale of European and Ukrainian companies.

The Ukrainian derivatives market was analyzed not only from its perspectives point of view. The futures on the index of the Ukrainian Exchange (UX), which presently is the main derivative on the Ukrainian market, is used among traders for short-term speculations (scalping). However, it can be also used for hedging domestic economic risks, and for that reason the correlation between the values futures on UX index and the index itself was checked. It was expected that correlation will be almost equal to 1, and these expectations were met, with a computation result being equal to 0.99. With such a strong correlation, the futures on the UX index can be definitely used for hedging, while changes in the index value simultaneously result in the same changes of the futures' price.

References

1. **Francis, DP**; Coats AJ, Gibson D (1999). „How high can a correlation coefficient be?". Int J Cardiol 2. **Bodie, Zane**; Alex Kane and Alan J. Marcus (2004) „Essentials of Investments"5th ed./ McGraw-Hill Irwin. 3. **Muhammad** al-Bashil Muhammad al-Amine 2008) „Risk Management in Islamic Finance An analysis of derivatives instruments in commodity markers"/ Neitherlands/Hotei Publishing 4. **Peter S.** Rose Sylvia C. Hudgings (2008) „Bank management and Financial services, seventh edition"/Singapore/McGrow-Hill/Irvin 5. **Hans R.** Stoll and Robert E. Whaley (1990) „The Dynamics of Stock Index and Stock Index Futures Returns" /Journal of financial and quantitative analysis 6. **Forbes** „The Great Derivatives Smackdown" (2003) [Electronic resource] http://www.forbes.com/2003/05/ 09/cx_aw_0509derivatives.html 7. **The** letter from Jorge Zukovski (President of the Chamber of Commerce in Ukraine) to Mycola Azarov (deputy head) (2009) 8. **Ukrainian** stock exchange http://www.ux.ua/en/ 9. **Уляницкая А. Ю.** Дериватив прорвался/ Бизнес - №35 (970). - 29.08.2011[Electronic resource] – Accessed 28.11.2011 http://www.business.ua/articles/ finansovue_instrumentu/Derivativ_prorvalsya-19261/ (Ulyanizkaya „Derivative forced through") 10. **Украин-ский** рынок деривативов проявляет тенденции к раз-витию, но остается относительно незначительным / uallfinanz/ http://uallfinanz.com/news/view_text.php?id=109 [Electronic resource] (Ukrainian derivatives market shows the tendency for progress, but stays relatively insignificant) 11. **Украинская** межбанковская валют-ная биржа.- http://mab.micex.ru/houses/18 [Electronic recourse] (Ukrainian Interbank Currency Exchange) 12. **Derivatives** Market FORTS — RTS Stock Exchange http://www.rts.ru/en/forts/ [Electronic resource] 13. **Ukrtelecom** JSC - Financial Accounting http:// en.ukrtelecom.ua/about/finance [Electtronic resource] 14. **SMIDA** – Annual financial responsibility of Centrenergo http://smida.gov.ua/db/emitent/year/ showform/75/211088 [Electronic resource] 15. **Annual** report of the issuer PJSC Azovstal for 2010 http:// azovstal.metinvestholding.com/upload/azovstal/ shareholders/richna_informacija_jemitjenta_vat_ _mk_azovstal__za_2010_rik.pdf [Electronic resource] 16. **Ukrnafta** – Financial results http://www.ukrnafta.com/

en/investors/financial_results [Electronic resource] 17. **Daimler** – Investor relations http://www.daimler.com/ investor-relations/en [Electronic resource] 18. **Telefonica** – Annual report [Electronic resource] http://www.telefonica.com/en/shareholders_investors/ html/financyreg/informesanuales.shtml 19. **Fortum** – Annual reports http://www.fortum.com/en/investors/ financial-information/annual-reports/pages/default.aspx [Electronic resource] 20. **RusHydro** - Consolidated financial Statement, prepared in accordance with International Financial Reporting Standards and independent auditor's report http://www.eng.rushydro.ru/ file/main/english/investors/reports/finreports/iasfinrep/ IFRS_FY2010_ENG.pdf [Electronic resource] 21. **ArcelorMittal** – Annual report 2010 http:// www.arcelormittal.com/rls/data/upl/638-22-0-AM_AR10.pdf [Electronic resourse] 22. **Severstal** – Financial reports http://www.severstal.com/eng/ir/ results_reports/financial_reports/ [Electronic resourse] 23. **Norilsk** Nickel – Financial documents http:// www.nornik.ru/en/investor/report/fin_disclosure/ [Electronic resourse] 24. **Richard** Loth – Profitability Indicator Ratios: Profit Margin Analysis – Investopedia http://www.investopedia.com/university/ratios/ profitability-indicator/ratio1.asp [Electronic resource] 25. **Richard** Loth – Profitability Indicator Ratios: Return On Assets – Investopedia http://www.investopedia.com/ university/ratios/profitability-indicator/ratio3.asp [Electronic resourse] 26. **Richard** Loth - Liquidity Measurement Ratios: Current Ratio – Investopedia http:/ /www.investopedia.com/university/ratios/liquidity-measurement/ratio1.asp [Electronic resourse] 27. **Richard** Loth – Liquidity Measurement Ratios: Quick Ratio – Investopedia http://www.investopedia.com/ university/ratios/liquidity-measurement/ratio2.asp [Electronic resourse] 28. **Richard** Loth - Debt Ratios: The Debt Ratio – Investopedia http://www.investopedia.com/ university/ratios/debt/ratio2.asp [Electronic resourse] 29. **Austria's** EPIC pays in full for Ukrtelecom in privatization deal – KyivPost. – 10.05.2011 http:// www.kyivpost.com/news/business/bus_general/detail/ 104027/ [Electronic resourse] 30. **Ukrtelecom** carves off mobile communications business as TriMob LLC – KyivPost. – 13.09.2011 http://www.kyivpost.com/news/ business/bus_general/detail/112703/ [Electronic resourse] 31. **Ukrainian** steel majors cut output in 10 months, decline still slowing – KyivPost. – 03.11.2009 http:// www.kyivpost.com/news/business/bus_general/detail/ 51796/ [Electronic resourse] 32. **MotorSich** history http://www.motorsich.com/eng/profile/history

33. **Ukrtelecoms'** history http://en.ukrtelecom.ua/about/ history 34. **Ukrnaftas'** history http://www.ukrnafta.com/ en/about/history 35. **Centrenergo** history http:// www.centrenergo.com/eng/index.html 36. **Azovstal** history http://azovstal.metinvestholding.com/en/about/ history

Кірнос І. А., Вощина Є. С., Брейман М. М. Український ринок деривативів

В статті розглянуто стан ринка деривативів в Україні, можливість його розвитку в довгостроковій перспективі. Проведено порівняння провідних європейських компаній та українських компаній, що складають індекс Української біржі, з погляду основних економічних показників та історичного чинника формування компанії. Також було проведено кореляцію між біржовим індексом та ф'ючерсом на індекс.

Ключові слова: дериватив, ринок деривативів, вільна торгівля, ф'ючерс, капітал, коефіцієнт варіації, хеджування.

Кирнос И. А., Вощина Е. С., Брейман М. М. Украинский рынок деривативов

В статье рассмотрено состояние рынка деривативов в Украине, возможность его развития в долгосрочной перспективе. Проведено сравнение ведущих европейских компаний и украинских компаний, которые составляют индекс Украинской биржи, как со стороны основных экономических показателей, так и со стороны фактора исторического их формирования. Так же была проведена корреляция между индексом биржи и фьючерсом на индекс.

Ключевые слова: дериватив, рынок деривативов, свободная торговля, фьючерс, капитал, коэффициент вариации, хеджирование.

Kirnos I. A., Voshchyna I. S., Breiman M. M. Ukrainian Derivatives market

This article deals with the topic of the Ukrainian derivatives market conditions and possibilities of its development in the long-run position. There were made comparison of European Blue chips companies and Ukrainian companies, which build up the index of Ukrainian stock exchange, from the point of view of main economic indicators on the one hand and from position of their historical development on the other hand. Moreover there were made correlation between stock exchange market and futures on index.

Key words: derivative, derivatives market, free trade, futures, capital, coefficient of variation, hedging.

UDC 368(4:497.2)

G. Stefanov,
PhD (Economics),
H. M. Dochev,
D. A. Tsenov Academy of Economics – Svishtov,
Bulgaria

LEGAL OPPORTUNITIES
FOR PERFORMING INSURANCE ACTIVITY IN BULGARIA
BY ENTITIES WITH HEADQUARTERS IN A THIRD COUNTRY

I. Introduction

It is a fact that the existing and functioning of a stable banking and insurance system is the base for the development of a democratic and legal state. These qualities of the Republic of Bulgaria are defended in accordance with the Constitution of the country and they can be objectively accessed by contemporary Bulgarian society. During the last 20 years, however, when the transition to market economy took place, these two sectors of economy of the country were quite instable. This is most often explained by the dynamics of the social economic relationships which impose the development and application of different normative solutions. The legislation base of the insurance sector undergoes a lot of changes and amendments of different legal acts. The beginning of this century in the Republic of Bulgaria is characterized by gradually establishing stability in the social economic relations and together with this are fulfilled the so-called Copenhagen criteria for membership in the European Union. The membership in the union itself is the circumstance that imposes the introduction of a completely new legal regime in some aspects of the insurance activity in Bulgaria. The accepted new normative act – The Insurance code[1] regulates the performing of activity in the Republic of Bulgaria by insurers with headquarters in third countries.[2] The report will present the differentiation in the legal opportunities for performing of activity by entities with headquarters in a member state and by entities with headquarters in a third country to which the Arabic Republic of Egypt belongs.

II. Legal opportunities for performing of activity by an insurer with headquarters in a third country

1. General conditions

In accordance with the Bulgarian legislation the entities – insurers with headquarters in a third country have the right to perform activity if they observe special conditions. Such are foreseen for subjects registered in any country that is not a member of the European Union or the European Economic Area. Different regulations, specific and characteristic for the common internal market,[3] are valid for the representatives of these two unions.

The peculiarities of the insurance activity as a whole impose supervision on the part of the country and the application of imperative measures. That is why, first, the entity that wants to perform insurance activity in Bulgaria should have this right as per its national legislation. In order to have rights as per the Bulgarian legislation this entity is obliged to register its branch on the territory of Bulgaria. The registration of the branch is performed in accordance with the general regulations of the Bulgarian commercial legislation and is not the subject of the present report.

The second main element of the actual contents of performing activity by an insurer with headquarters in a third country includes the issuing of a licence by the Financial Supervision Commission that is the competent state authority supervising the insurance activity on the territory of Bulgaria. The starting of the branch of the foreign insurer cannot be done alone. It is based on the preliminary submission to the registration authority (The Registry Agency) of the already issued licence which on its part allows the official to enter the respective branch with subject of activity insurance and/or reinsurance. The Registry Agency issues a certificate for the registration of the branch of the insurer from a third country and a copy of it should be submitted to the supervising authority – the Financial Supervision Commission.

---

[1] The insurance code in its prevailing part is effective as from the date of entry into force of the Treaty of Accession of the Republic of Bulgaria to the European Union.

[2] As per the Insurance code a „member country" is a country that is a member of the European Union or that belongs to the European economic area. „Third country" is any other country not belonging to these two agreements.

[3] See Chapters III and IV of the Insurance Code.

2. Granting of a licence

2.1. General regulations

The role of the Financial Supervision Commission is quite significant because all insurers from third countries have rights and obligations of insurers with headquarters in the Republic of Bulgaria and their insurance activity in the country is supervised by the state. The registration procedure and starting of activity by an insurer with headquarters in a third country is connected with the evaluation of the facts and circumstances that are stated before the Financial Supervision Commission when the licence is issued. The licence itself is issued and can encompass only the types of insurance that the insurer received permit for performing in the country where the headquarters are. To this aim the Financial Supervision Commission checks and compares the submitted certified copy of the licence for performing insurance activity issued by the respective competent authority as per the headquarters of the insurer.

The insurer with headquarters in a third country submits an application for the issuing of a licence for performing insurance activity by the branch. It is obligatory to attach to the application the act by which the Managing body of the insurer has taken a decision for the opening of a branch on the territory of Bulgaria. In order to decide whether the Bulgarian legislation requirements are met the Financial Supervision Commission should receive official documents certifying the registration of the insurer as well as updated data for its individualizing features including the headquarters and the management address, subject of activity, the amount of the subscribed capital, the management system and the persons that manage it and/or represent it.

Having in mind the specifics of the insurance activity and with the aim to guarantee the opportunity for correct fulfilment of the obligations as per the concluded insurance contracts the insurer with headquarters in a third country is obliged to meet a number of requirements connected with its financial standing. A deposit amounting to one fourth of the minimum guarantee capital[4] should be deposited in a bank that performs banking activity in the Republic of Bulgaria. The deposit is part of the guarantee capital the branch of the insurer should have. The guarantee capital itself cannot be less than the minimum amounts specified as per types of insurance included in the licence of the insurer. The branch of the insurer from a third country is obliged to invest within the boundaries of the Republic of Bulgaria its assets calculated to the amount of the minimum guarantee capital.

The procedure of the application for issuing of a licence requires the insurer from a third country to present a programme for the activity for the next three years which should be updated on an annual base. The contents of the programme for the activity of the insurer is imperatively stipulated and includes information about the management and organization structure, forecast for the expenses for the organizing and starting of the activity, the resources, amount and distribution of the own funds. The lack of even one of the required elements can be the reason for refusal to issue a licence.

2.2. Special requirements

The application for issuing of a licence should take place after some special internal acts have been developed by the insurer. Such are the regulations for the organization and management of the information system and for the organization and activity of the service for internal control. The information system should be kept up-to-date as its most significant elements include the statute of the insurer and the other internal acts, the accounting and actuarial information and others.

The branch of an insurer from a third country should create a specialized service for internal control and its manager should be appointed by the organ that is competent to appoint the manager of the branch. The service has important authority as the most important is to check and evaluate the observation of the law and the internal acts, the preparation of the accounting documents and reports and others. The importance of the internal control can be judged from the fact that there is a special legal act.[5]

Special information that should be submitted with the application to the Financial Supervision Commission is the information for the persons that have advantage when taking decisions in the General meeting of the insurer. Such are the persons that have directly or by connected entities 10 or more than 10 votes in the General meeting or the capital of the insurer or other participation which gives them the opportunity to control it.

---

[4] The amount of the minimum guarantee capital varies in accordance with the types of insurance included in the insurer's licence – 4.4 million BGN, resp. 6.4 million BGN. In accordance with § 4.from Insurance code's additional provisions the minimum amounts under Article 82, Paragraph 1 shall be updated every year and their amount in EUR shall be increased with the percentage increase of the European index of consumer prices published by Eurostat provided that this percentage exceeds by 5 per cent the last re-calculation. The result shall be rounded up to any complete EUR 100,000.

[5] See Ordinance No 32/13.09.2006 about the requirements to the organization and activity of the service for internal control of the insurer and the people included in the insured group. (published SG issue 86/2006).

Together with the shown requirements that should be met when applying for the issuing of a licence the insurer from a third country has the obligation to present its annual financial reports for the last three years.

The Financial Supervision Commission is obliged to pronounce its decision within 4 months after receiving of the application. With its decision the Financial Supervision Commission has the right to issue a licence for performing of insurance activity or to refuse the issuing of a licence.

2.3. Refusal for the issuing of a licence

The refusal of the Financial Supervision Commission to issue a licence for performing insurance activity by the branch of the insurer with headquarters in a third country can be based on not meeting the requirements stated in the Insurance code and the acts for its application. Also the Financial Supervision Commission can motivate its refusal to issue a licence on the grounds that the performed towards the insurer insurance supervision by the respective competent national organ threatens the interest of the consumers of insurance services or impedes the performing of the state insurance supervision as per the Bulgarian legislation. A negative answer can be given also in case that the Financial Supervision Commission establishes that in the respective third country as per the headquarters of the insurer is not applied the reciprocal principle[6] when giving access to Bulgarian insurers to the respective local national insurance market.

In case there is a negative decision the Financial Supervision Commission motivates in writing its refusal for issuing a licence and a new application for issuing a licence can be submitted not earlier than 6 months after the decision for refusal was enforced.

2.4. Withdrawal of a licence

The withdrawal of a licence of an insurer from a third country is part of the material competency of the Financial Supervision Commission. The Legislator has divided the prerequisites for withdrawal of a licence[7] into two groups – general and special as the general ones are valid for insurers with headquarters on the territory of Bulgaria and the special ones are valid only for insurers registered in a third country.

Acting in the conditions of entangled competency the Financial Supervision is obliged to withdraw the licence of an insurer when it establishes that the entity has not started activity within 12 months after the issuing of the licence. The violation of the prohibition for performing other commercial activity besides the activity for which a licence was received is also an absolute prerequisite for withdrawing of the licence. The same consequence is realized in case that the total amount of the liabilities of the entity exceed the total value of its assets.

The general prerequisites for withdrawing of a licence of an insurer are complemented also by the cases in which the Financial Supervision Commission has the right to decide whether to perform its authority to withdraw the licence or not. When the insurer stops performing activity for more than six months the Financial Supervision Commission has the discretion rights to withdraw the licence of the insurer. If the latter illegally refuses to pay or delays payment of an executable payment and liquid cash obligation the Financial Supervision Commission may decide to withdraw the licence. The withdrawal of the licence can be for one or more types of insurance if the grounds for withdrawal of the licence refer to part of the activity of the insurer.

The special prerequisites for withdrawal of the licence of an insurer from a third country include obligatory withdrawal of the licence when the permit for performing of insurance activity has been withdrawn by the competent organ in the country as per the headquarters.

The withdrawal of the licence, however, does not free the insurer from the obligations as per the already concluded contracts. After the decision for withdrawal of the licence becomes effective the insurer does not have the right to conclude new insurance contracts and to offer new conditions in them as well as to change them. When the licence is withdrawn away in connection with the grounds for this the Financial Supervision Commission is obliged to inform the respective court for the opening of a procedure for liquidation or for insolvency procedure.

2.5. Special cases

Advantages to foreign insurers

The insurers from a third country have the legal opportunity to use special advantages connected with alleviated requirements to their financial standing in the member states of the European Union and the European Economic Area. To this aim the insurer from a third country submits an application to the Financial Supervision Commission and to the competent organs of the remaining

---

[6] The insurer from a third country is obliged to submit a certificate issued by the organ performing insurance supervision in the country as per the headquarters that a Bulgarian insurer can open and start its activity in this country as per the general order established for then foreign insurers.

[7] Only some of the prerequisites for withdrawal of an insurance licence have been considered in this report – art. 36 from the Insurance code.

member countries with a request to perform activity (or has already received a licence for performing such an activity). In the request the insurer states motives for choosing of a competent organ of one of the member countries which will supervise its solvency in connection with the activity of all its branches established within the European Union and the European Economic Area. All competent organs to which the request has been submitted should give their consent including the Financial Supervision Commission which gives its consent after evaluating the financial standing of the insurer including its solvency. The procedure for the choice ends when on its part the specified in the request of the insurer competent organ informs the other competent organs that he will supervise the solvency of the insurer regarding the activity of all its branches established within the framework of the European Union and the European Economic Area. As a result of this the insurer from a third country receives a kind of privilege because the insurer is not obliged to deposit the specified deposit amounting to one fourth of the amount of the minimum guarantee capital (see 2.1) in every member country where he performs activity but only in one of them. The same applies for the assets that represent means to the amount of the guarantee capital. They may be in one of the member states in which the insurer performs activity. The third advantage is connected with the so-called limit of solvency[8] of the insurer from a third country. It can be calculated towards the overall volume of activity performed in the member states and not separately in each of them. These opportunities aim on one side to alleviate the requirements for the financial standing of the insurers from third countries when starting or extending their activity in other member countries and on the other hand – to unify the principles and the execution of the state insurance supervision by the competent national authorities.

When there is an application for issuing of an insurance licence that comprises insurance concerning every responsibility for damages due to the usage of land vehicles the insurers from third countries should submit to the Financial Supervision Commission and the Guarantee fund[9] a list with the names and addresses of the representatives for settling of claims as per this insurance in every of the member states.

Collateral installments

All insurers including the branches of insurers from a third country are obliged until 31st May every year to perform payment as per the account of the fund to secure the insurance receivables. In this way are guaranteed the receivables of the insurance services consumer in case of insolvency of an insurer with headquarters in Bulgaria or of an insurer from a third country that has registered a branch. The insurers from a third country make installments in the securing fund only for the activity performed through the branch registered in Bulgaria.

Requirements to the activity of the branch of an insurer from a third country

The branch of the insurer from a third country has relative autonomy. It is obliged to keep its trade registers in Bulgarian in accordance with the legislation in the Republic of Bulgaria and to store as per its address the complete available documentation connected with its activity in the country. Unlike the branches of Bulgarian entities, the branches of insurers with headquarters in a third country should prepare a separate balance sheet.

The competent organ of the insurer as per the legislation of the third country should choose a manager of the branch in the Republic of Bulgaria. Having in mind the status of the branch and the peculiarities of the insurance activity the law has introduced a number of requirements namely to the manager of the branch of an insurer from a third country. The Manager of the branch – citizen of a third country should have a permit for long term residence in the Republic of Bulgaria. His representative power should be to the limit that allows him to take the insurer's obligations towards third parties and to represent him to state authorities and courts in the Republic of Bulgaria. In this way by means of the authorized representative of the branch the insurer from a third country takes part in the administrative and court cases in front of Bulgarian administrative and court organs. The documents handed over as per the established order at the management address of the branch are considered handed over to the insurer. The stating of this inarguable presumption aims to bind the insurer to the activities performed by and towards the authorized

---

[8] In accordance with art. 81 of the Insurance code the solvency limit represents the minimum amount which should be equal to the own funds of the insurer (that means his assets decreased by the foreseen liabilities), decreased by the intangible assets, necessary for the performance of the contractual obligations of the entity in the long term, in correspondence with the total volume of his activity. For the accurate calculation of these indices see Ordinance No 21/16.03.2005 for the own funds and the solvency limit of the insurers, re-insurers and health insuring companies (published in S.G. No 29/2005).

[9] The guarantee fund is an independent legal entity that receives installments from all insurers offering the obligatory insurance "Third party liability" for vehicles as the minimum amount of the funds in the fund is 3 million BGN.

representative because as per the Bulgarian commercial law the branch has no procedural legitimating and the party in all cases is the insurer.

Applicability towards the insurance intermediaries

The insurance intermediaries (insurance brokers and insurance agents) registered in a member state of the European Union and the European Economic Area can perform activity on the territory of the Republic of Bulgaria under the conditions of the right of establishment and freedom of rendering services. They can start activity one month after informing the Financial Supervision Commission by the respective competent organ of the country by origin about the intention of the insurance intermediary to perform activity in Bulgaria. Unlike the insurance intermediaries from member countries, the Bulgarian legislation does not settle the option for insurance intermediaries registered in third countries to perform insurance activity.

Стефанов Р., Дочев Х. М. Законні можливості для страхової діяльності в Болгарії об'єктами зі штаб-квартирою в третій країні

Після вступу до Євросоюзу Республіка Болгарія стала частиною єдиного внутрішнього євроринку. Коли контракт набуває чинності, тоді первинне і вторинне законодавство об'єднання, стає обов'язковим для всіх Болгарських державних влад, фізичних і юридичних осіб. Нормальне існування 450-мільонного сімейства європейців вимагає введення і дотримання низки вимог, які не були застосовані доти. Республіка Болгарія зобов'язана гармонізувати внутрішнє законодавство із законодавством Євросоюзу, подаючи низку директив у національних нормативних актах або створюючи повністю нові. Так нові моменти в розвитку правової основи відбиваються в усіх аспектах соціальних взаємин. Це повідомлення взаємопов'язане з передумовами для виконання страхової діяльності в Болгарії об'єктами з штаб-квартирою в третій країні, оскільки акцент робиться на специфічних особливостях процедури для дозволів і виконання державного нагляду.

Ключові слова: страховик, дозвіл, страхова діяльність, третя країна, Болгарія.

Стефанов Г., Дочев Х. М. Законные возможности для страховой деятельности в Болгарии объектами со штаб-квартирой в третьей стране

После вступления в Евросоюз Республика Болгарии стала частью единого внутреннего европрынка. Вступление в силу контракта делает первоначальное и вторичное законодательство объединения, обязательным для всех Болгарских государственных властей, физических и юридических лиц. Нормальное существование 450-миллиона семейства европейцев соединено с введением и соблюдением ряда требований, которые не были применены до тех пор. Республика Болгария обязана гармонизировать внутреннее законодательство с законодательством Евросоюза, представляя ряд директив в национальных нормативных актах или создавая полностью новые. Эти новые моменты в развитии правовой основы отражаются во всех аспектах социальных взаимоотношений. Это сообщение имеет дело с предпосылками для выполнения страховой деятельности в Болгарии объектами со штаб-квартирой в третьей стране, так как акцент делается на специфических особенностях процедуры для разрешений и выполнения государственного надзора.

Ключевые слова: страховщик, разрешение, страховая деятельность, третья страна, Болгария.

Stefanov G., Dochev H. M. Legal Opportunities for Performing Insurance Activity in Bulgaria by Entities with Headquarters in a Third Country

After joining the European Union on 1st January the Republic of Bulgaria became part of the European single internal market. The entering into force of the contract makes the primary and secondary legislation of the union obligatory to all Bulgarian state authorities, physical and legal entities. The normal existence of the 450-million European family is connected with the introduction and observation of a number of requirements which have not been applied until then. The Republic of Bulgaria is obliged to harmonize its internal legislation with the legislation of the European Union by introducing a number of directives into the national normative acts or by creating entirely new ones. These new moments in the development of the legal framework are reflected in all aspects of social relationships. This report deals with the prerequisites for performing insurance activity in Bulgaria by entities with headquarters in a third country as emphasis is put upon the specifics of the procedure for issuing of licences and performing of the state supervision.

Key words: insurer, licence, insurance activity, third country, Bulgaria.

L. A. Leonova

UDC 336.02(477)

L. A. Leonova,
PhD (Economics),
Donetsk National Technical University

ACCOUNTING POLICIES FOR FINANCIAL INVESTMENTS
AND FINANCIAL INSTRUMENTS IN UKRAINE

Accounting is often said to be the language of business. It is used in the business world to describe the transactions entered into by all kinds organizations. Accounting terms and ideas are therefore used by people associated with business, whether they are managers, owners, investor, bankers, lawyers or accountants.

The actual record-making phase of accounting is usually called book-keeping. However, accounting extends far beyond the actual making records. Accounting is concerned with the use to which these records are put, their analysis and interpretation. An accountant should be concerned with more than the record-making phase. In particular, he should be interested in the relationship between the financial results and the events which have created them. He should be studying the various alternatives open to select the best plan of action for the business. The owners and managers of a business will need some accounting knowledge in order that they may understand what the accountant is telling them.

Probably there are two main questions that the managers or owners of a business want to know:

the first, whether or not the business is operating at a profit;

the second, they will want to know whether or not the business will be able to meet its commitments as they fall due, and so not have to close down owing to lack of funds. Both of these questions should be answered by the use of accounting reports [1].

Accounting policies in Ukraine and in other countries refer to specific principles, bases, conventions, rules and practises adopted by an enterprise with regard to significant transactions (or classes of transactions) and events while preparing and presenting financial statements. Examples of accounting policies: inventory valuation first-in, first-out (FIFO), weighted average (WA); revenue recognition; provisions recognition and estimation.

The accounting policies make a difference to the figures that are then used in the financial statements. Development of IFRS-compliant accounting policies by an enterprise is the responsibility of the enterprise's accountants (to develop) and management (to approve).

By adopting IFRS-compliant accounting policies Ukrainian enterprises make sure that financial statements are prepared according to IFRS [2].

Financial statements shall present fairly the financial position, financial performance and cash flows of an entity. Fair presentation requires the faithful representation of the effects of transactions, other events and conditions in accordance with the definitions and recognition criteria for assets, liabilities, income and expenses set out in the Framework. But such Framework is absent in Ukrainian practice.

In virtually all circumstances, an entity achieves a fair presentation by compliance with applicable IFRSs. A fair presentation also requires an entity:

a) to select and apply accounting policies in accordance with IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. IAS 8 sets out a hierarchy of authoritative guidance that management considers in the absence of an IFRS that specifically applies to an item;

b) to present information, including accounting policies, in a manner that provides relevant, reliable, comparable and understandable information;

c) to provide additional disclosures when compliance with the specific requirements in IFRSs is insufficient to enable users to understand the impact of particular transactions, other events and conditions on the entity's financial position and financial performance.

The most big problem in using IFRS in Ukraine is accounting policies for financial investments and financial instruments. Different scientists try to give solutions, but the main reason is in undeveloped markets of stocks and bonds [3; 4].

A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

A financial asset is any asset that is: cash, an equity instrument of another entity, a contractual right to receive cash or another financial asset from another entity. Examples: Trade debtors, Notes receivable, Investments in equity instrument of another entity, Debt instruments.

A financial liability is any liability that is: a contractual obligation to deliver cash or another financial asset to another entity or to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavorable to the entity. Examples: Trade creditors, Bonds, Loans, Notes Payable.

Financial investments are investments for getting profits from interests and dividends or for obtaining the significant influence and control over an entity. Accounting for investments in equity instrument of another entity is

depended from a share of the investors. There are three levels of possessing:

1) to 20 per cent;

2) from 20 to 50 per cent;

3) more than 50 per cent.

The first level. IAS 39 Financial Instruments: Recognition and Measurement is used sets out the requirements for recognizing and measuring financial assets and financial liabilities[5] .

Many users of financial statements and other interested parties told the Board that the requirements in IAS 39 were difficult to understand, apply and interpret. They urged the Board to develop a new standard for the financial reporting of financial instruments that was principle-based and less complex. Although the Board amended IAS 39 several times to clarify requirements, add guidance and eliminate internal inconsistencies, it had not previously undertaken a fundamental reconsideration of reporting for financial instruments.

The Board intends that IFRS 9 will ultimately replace IAS 39 in its entirety. However, in response to requests from interested parties that the accounting for financial instruments should be improved quickly, the Board divided its project to replace IAS 39 into three main phases. As the Board completes each phase, it will delete the relevant portions of IAS 39 and create chapters in IFRS 9 that replace the requirements in IAS 39. The three main phases of the Board's project to replace IAS 39 are:

a) Phase 1: Classification and measurement of financial assets and financial liabilities. In November 2009 the Board issued the chapters of IFRS 9 relating to the classification and measurement of financial assets. Those chapters require all financial assets to be classified on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial asset. Assets are initially measured at fair value plus, in the case of a financial asset not at fair value through profit or loss, particular transaction costs. Assets are subsequently measured at amortized cost or fair value;

b) Phase 2: Impairment methodology. In June 2009 the Board published a Request for Information on the feasibility of an expected loss model for the impairment of financial assets;

c) Phase 3: Hedge accounting. The Board is considering how to improve and simplify the hedge accounting requirements of IAS 39.

Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction.

Following accounting transactions can be proposed for Ukrainian practice:

1) Purchasing of an equity instrument of another entity

Dr 145 „Financial investments"

Cr 31„Cash at Bank"

2) Revaluation of an equity instrument of another entity under increasing of Fair value

Dr 145 „Financial investments"

Cr 735 „Profit of an entity"

The second level. International Accounting Standard 28 Investments in Associates is used [2]. The Standard permits an investor that continues to have significant influence over an associate to apply the equity method.

The Standard clarifies that investments in associates over which the investor has significant influence must be accounted for using the equity method whether or not the investor also has investments in subsidiaries and prepares consolidated financial statements.

Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control over those policies.

The equity method is a method of accounting whereby the investment is initially recognized at cost and adjusted thereafter for the post-acquisition change in the investor's share of net assets of the investee. The profit or loss of the investor includes the investor's share of the profit or loss of the investee.

Accounting transactions that are used in Ukraine:

1) Purchasing of Investments in Associates

Dr 141„Investments in Associates"

Cr 31„Cash at Bank"

2) Revaluation of Investments with increasing of net assets of investee

Dr 141„Investments in Associates"

Cr 721„Profit from Investments in Associates"

3) Getting of Dividends from Investee

Dr 373 „Dividends receivable"

Cr 141 „Investments in Associates"

The third level. International Accounting Standard 27 Consolidated and Separate Financial Statements is used [2].

Control is the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. A group is a parent and all its subsidiaries. A parent is an entity that has one or more subsidiaries. Consolidated financial statements are the financial statements of a group presented as those of a single economic entity. Non-controlling interest is the equity in a subsidiary not attributable, directly or indirectly, to a parent.

The objective of IAS 27 is to enhance the relevance, reliability and comparability of the information that a parent entity provides in its separate financial statements and in its consolidated financial statements for a group of entities under its control.

The Standard specifies:

the circumstances in which an entity must

consolidate the financial statements of another entity (being a subsidiary);

the accounting for changes in the level of ownership interest in a subsidiary;

the accounting for the loss of control of a subsidiary;

and the information that an entity must disclose to enable users of the financial statements to evaluate the nature of the relationship between the entity and its subsidiaries.

A parent must consolidate its investments in subsidiaries. There is a limited exception available to some non-public entities. However, that exception does not relieve venture capital organizations, mutual funds, unit trusts and similar entities from consolidating their subsidiaries.

A group must use uniform accounting policies for reporting like transactions and other events in similar circumstances. The consequences of transactions, and balances, between entities within the group must be eliminated.

Non-controlling interests must be presented in the consolidated statement of financial position within equity, separately from the equity of the owners of the parent. Total comprehensive income must be attributed to the owners of the parent and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

Financial assets that are excluded from fair valuation and have a fixed maturity should be measured at amortized cost.

Under IAS 39, amortized cost is calculated using the effective interest method. The effective instrument rate is the rate that exactly discounts the estimated cash flows associated with the financial instrument through the expected life of the instrument.

The following example illustrates how amortized cost is calculated using the effective interest method. For example: entity A purchases a debt instrument with three years remaining to maturity. The instrument has a principal amount of $230,000 and carries fixed interest of 9 per cent that is paid annually ($230,000 * 9% =

$20,700 per year). The market-based rate for similar instruments is 10 per cent.

The market price of debt instrument:

1) PV = 230,000 * PV (3; 10%) = 230,000 * 0,7513 = $172,799;

2) PVA = 20,700 * PVA (3; 10%) = 20,700 * 2,4869 = $51,479;

3) Total amount = $172,799 + $51,479 = $224,278.

The discount is equal $230,000 - $224,278 = $5,722.

This discount is amortized to profit over the term to maturity of the note using the effective interest method.

Following accounting transactions can be proposed for Ukrainian practice:

1) Purchasing of a debt instrument

Dr 146 „Held-to-maturity financial asset" 230,000
Cr 147 „Discount"   5,722
Cr 31 „Cash at bank"   224,278

2) Accounting with using of the effective interest method at the end of 20x1

Dr 373 „Interests receivable"   20,700
Dr 147 „Discount"   1,728
Cr 73 „Interests revenue"   22,428
Dr 31 „Cash at bank"   20,700
Cr 73 „Interests receivable"   20,700

3) Accounting with using of the effective interest method at the end of 20x2

Dr 373 „Interests receivable"   20,700
Dr 147 „Discount"   1,901
Cr 73 „Interest revenue"   22,601
Dr 31 „Cash at bank"   20,700
Cr 373 „Interests receivable"   20,700

4) Accounting with using of the effective interest method at the end of 20x3

Dr 373 „Interests receivable"   20,700
Dr 147 „Discount"   2,093
Cr 73 „Interests revenue"   22,793
Dr 31 „Cash at bank"   20,700
Cr „Interests receivable"   20,700

5) Accounting of fixed payment at maturity

Year	Interest income	The amount by effective interest method	Amortization of discount	Amortized cost at the end of the year
20x0	-	-	-	224,278
20x1	20,700	22,428	1,728	226,006
20x2	20,700	22,601	1,901	227,907
20x3	20,700	-	2,093	230,000
	62,100	-	5,722	-

Dr 31 „Cash at bank"   230,000
Cr 146 „Held-to-maturity financial asset"   230,000
These transactions could be used by Ukrainian enterprises for adopting of IFRS, but a lot of problems in accounting for financial investments and financial instruments are presented. One of such problems is IFRS 7 „Financial Instruments: Disclosures". This standard requires the entity to provide disclosures about financial assets it has designated as at fair value through profit or loss [2]. At initial recognition, an entity shall measure a financial asset or financial liability at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

References

1. **Anthony Rice**. Accounting demystified (how to understand and use company accounts). – London. : PITMAN PABLISHING, 1997. – 234 p. 2. **Международные** стандарты финансовой отчетности. (перевод с англ.) – М. : „Аскери – АССА", 2010. – 1058 с. 3. **Бурденко I. М.** Особливості визнання фінансових інструментів. // Соціально-економічні проблеми сучасного періоду України. Фінансовий ринок України: глобалізація та євроінтеграція: збірник наукових праць / НАН України. Ін-т регіональних досліджень. – Львів, 2009. – Вип.1 (69). – С. 454 – 460. 4. **Примостка Л.** Фінансові інструменти та особливості їх відображення бухгалтерському обліку: методологічні аспекти // Бухгалтерський облік і аудит. – 2001. – № 12. – С. 9 – 12. 5. **Руководство** по применению Стандарта финансовой отчетности 39 „Финансовые инструменты – признание и оценка" (Guidance on Implementing Financial Reporting Standard 39 „Financial Instruments: Recognition and Measurement") – М. : „Аскери – АССА", 2006. – 338 с.

Леонова Л. О. Облікова політика у відношенні фінансових інвестицій і фінансових інструментів

У статті розглянуто проблемні питання формування облікової політики у відношенні фінансових інвестицій і фінансових інструментів. Складність цих питань розкрито які на рівні застосування міжнародних стандартів, і в українській практиці. Багато правил і принципів не діє в Україні у зв'язку з відсутністю розвинутого ринку цінних паперів. Крім того, сама організація бухгалтерського обліку фінансових інструментів в Україні вимагає реформування і прийняття виправлень для того, щоб підприємства могли правильно формувати облікову політику. Отже, подаємо рекомендації щодо застосування нових рахунків бліку фінансових активів.

Ключові слова: облікова політика, фінансовий інструмент, фінансовий актив, фінансові інвестиції, інвестиції в асоційовані компанії, контроль, борговий інструмент.

Леонова Л. А. Учетная политика в отношении финансовых инвестиций и финансовых инструментов

В статье рассмотрены проблемные вопросы формирования учетной политики в отношении финансовых инвестиций и финансовых инструментов. Сложность этих вопросов раскрыта как на уровне применения международных стандартов, так и в украинской практике. Многие правила и принципы не соблюдаются в Украине из за отсутствия развитого рынка ценных бумаг. Кроме того, сама организация бухгалтерского учета финансовых инструментов в Украине требует реформирования и принятия поправок для того, чтобы предприятия могли правильно формировать учетную политику. В этой связи даны рекомендации по применению новых счетов для учета финансовых активов.

Ключевые слова: учетная политика, финансовый инструмент, финансовый актив, финансовые инвестиции, инвестиции в ассоциированные компании, контроль, долговой инструмент.

Leonova L. A. Accounting Policies for Financial Investments and Financial Instruments in Ukraine

Accounting is often said to be the language of business. It is used in the business world to describe the transactions entered into by all kinds organizations. Accounting terms and ideas are therefore used by people associated with business, whether they are managers, owners, investor, bankers, lawyers or accountants.

The actual record-making phase of accounting is usually called book-keeping. However, accounting extends far beyond the actual making records. Accounting is concerned with the use to which these records are put, their analysis and interpretation. An accountant should be concerned with more than the record-making phase. In particular, he should be interested in the relationship between the financial results and the events which have created them. He should be studying the various alternatives open to select the best plan of action for the business. The owners and managers of a business will need some accounting knowledge in order that they may understand what the accountant is telling them.

Key words: accounting policies, financial instrument, financial asset, financial investments, investments in associates, control, debt instrument.

UDC 336.225.674

G. Ivanov,
PhD (Economis),
D. A. Tsenov Academy of Economics – Svishtov, Bularia

AUDIT EVALUATION OF INTERNAL CONTROL SYSTEMS

Audit, as a specific type of control, plays a significant role in the process of evaluation of the effects related to the development of both private and public-sector entities. The need for constant enhancement of its practical efficiency is the principal drive for the development of the audit theory and practice and provides solutions to various problems related to its practical implementation. Despite the development of the audit technology in the last decades, there are still some technological problems and controversial issues regarding their practical interpretation.

This is why this article tackles some issues related to the audit evaluation of the internal control systems using the audit risk assessment model. The evaluation of internal controls efficiency during the audit is an important element of the assessment of the overall audit risk and a key factor for the overall auditing process used by the auditors to achieve a sustainable higher quality of the auditing activities they perform.

The article reviews the possible theoretical models for assessing the adequacy of the internal controls systems of audited entities based on the internationally accepted audit risk assessment model. It also aims to determine the relation between the accuracy of the assessment of internal controls' adequacy and the quality of the audit activities.

***

Throughout the discussion we should answer the following specific questions: What is risk and how does it relate to audit practice?; What model should we use to assess the audit risk?; How can we assess the adequacy of internal controls and will this assessment affect the overall audit risk assessment?

During the last decade the term risk became popular in both theory and practice. Regardless of the field we work in, we are trying every day to identify, assess and manage the risks that may have positive or negative effects for the achievement of our goals. This is why we are often trying to answer the question What is risk and how can we assess and manage it efficiently?

The risk management theory defines risk as „the combination of the probability of an event and its consequences"[1]. In other words, risks are assessed in terms of the probability of their occurrence and the degree of their impact on the goals of a certain activity such as practical auditing (Fig. 1). Thus we may determine which risks are significant for achieving the goals of an activity and what measures should be taken to ensure the achievement of these goals.

In practice Risk management is usually associated with the methods, means and techniques to control the events that would have an adverse effect for the achievement of the goals. Such a definition is incomplete and incorrect because the events that may have a positive effect should also be considered risks. This is due to the fact that risks have dynamic characteristics and can therefore have negative as well positive effect. In this article we shall discuss only the risks that have negative consequences for the achievement of the set goals as well as the need for risk management mechanisms.

The focus of risk management is the identification, evaluation and management of identified risks by the organization's managers. The main objective of each risk management system is to methodically address the risks attaching to the organization's activities and minimize the adverse effect thereof by including well-structured and effective internal controls of processes and activities.

In a purely practical aspect, audit is exposed to certain risks as well. If they are not adequately assessed and managed by the auditors, they could impair the quality of their work and thus jeopardize the achievement of the purposes and effects of the audit. The identification of the risks by the auditors is an important part of the management of each audit. In international audit theory and practice the risk that an auditor may issue unqualified report due to auditors failure to detect material misstatement either due to error or fraud is known as „audit risk" and the model for assessing and managing such risk for each particular audit is known as „audit risk model".

Audit risk must be assessed and managed due to the fact that the auditor cannot detect all material misstatements or conflicting data about the activities of the audited organization. This may be due to objective as well as subjective reasons. The objective reasons may be: audit tests mail fail to detect material misstatement (pool-based audit tests); complexity of the audited operations; many factors that influence the reliability of data, etc. The objective reasons may be: the level of auditor's qualification and competence; industry and management pressures, etc.

---

[1] See: A Risk Management Standard, AIRMIC, ALARM, IRM: 2002, translation copyright FERMA, 2003

This is why Audit Risk (AR) is considered and essential audit category and should be considered when we determine the scope and methods of the audit. The acceptable overall audit risk is usually a relative value that reflects the auditors' awareness that upon completion of the audit they will have detected and reported all existing misstatements in the organization. Since in practice it is almost impossible for them to carry out a comprehensive review of all the operations of the audited organization, the auditors must accept a certain level of audit risk.

Without entering the theoretical debate on the nature of audit risk, we may say that it is the risk that auditors may issue unqualified report due to their failure to detect material misstatement either due to errors, frauds or other reasons they were not aware of during the audit.

All international audit standards[2], regardless of the types of audit they refer to, point out that to assess the audit risk auditors should rely on their professional judgment and then develop the necessary audit procedures to reduce the audit risk to an acceptable level.

The international theory and practice define audit risk as a combination of three key components (Fig. 2):

– Inherent Risk (IR) is defined as the susceptibility of an assertion about a class of transaction, account balance or disclosure to a misstatement that could be material, either individually or when aggregated with other misstatements, before consideration of any related controls. Inherent are in fact the business risks the audited entity is exposed to in the course of its activities.

– Control Risk (CR) is defined as The risk that a misstatement that could occur in an assertion about a class of transaction, account balance or disclosure and that could be material, either individually or when aggregated with other misstatements, will not be prevented, or detected and corrected, on a timely basis by the entity's internal control. Control risk is assessed in terms of the level of efficiency of the entity's internal control system.

– Detection Risk (DR), also known as procedural risk. This is the risk that the procedures performed by the auditor to reduce audit risk to an acceptably low level
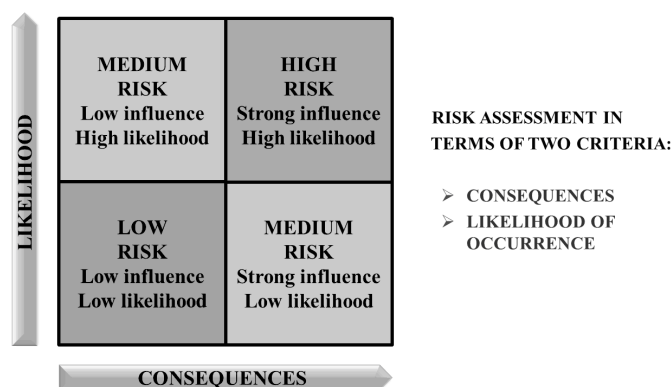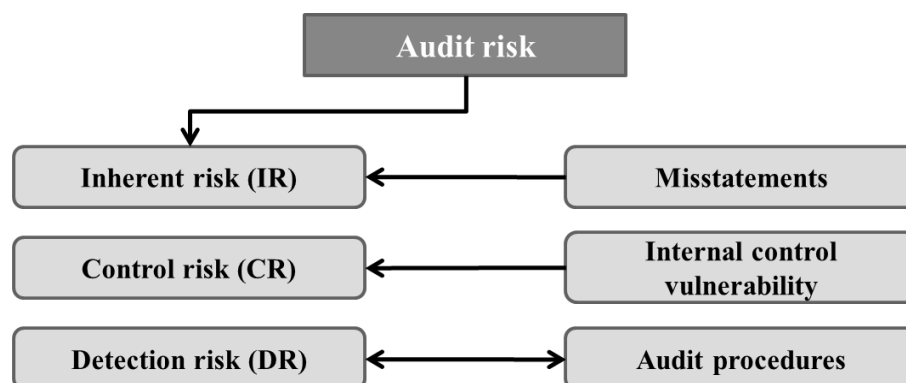

Fig. 1. Risk portfolio

Fig. 2. Audit risk components

[2]Such as the International Audit Standards, the International Standards of Professional Practice in Internal Audit, the International Standards of Supreme Audit Institutions

will not detect a misstatement that exists and that could be material, either individually or when aggregated with other misstatements. Detection risk reflects the probability assumed by the auditors that despite the audit procedures they have performed and the data they have collected there still might be some material misstatements. This risk is related to determining the scope of audit activities and the evidence that must be collected during the audit.

The audit risk model shows the relations between these components. There are two practical approaches for assessing audit risk[3]:

– Intuitive (qualitative) – this approach is more popular among auditors that are less prone to apply statistical methods for assessment of the audit risk. With this approach the auditors estimate the level of risk on the basis of their professional experience, knowledge on the business and the management, and personal informed judgment.

The intuitive approach to assessing the audit risk is based on assessment of its elements as well as the overall aduit risk in terms of three categories – low, medium and high. The interrelationship among the IR, CR and DR is illustrated in Table 1[4].

– Quantitative – this approach is based on mathematical models for assessment of the audit risk using the interrelations among its constituent elements, i.e. the so-called probability multiplication rule or assessment of the residual effect of risks. It can be expressed mathematically as [1]:

$$AR = IR \times CR \times DR \quad [1],$$

where: OP is the audit risk;
   IR is the inherent risk;
   CR is the control risk;
   DR is the detection risk

The international practice has assumed that the overall audit risk should not exceed 5%, i.e. the level of audit adequacy (accuracy) should be at least 95% (100% – 5% = 95%). The level depends on the test methods used during the audit procedures. This is why the overall audit risk level is determined by the auditors prior to commencing the audit and considering the specific characteristics of the audited entity, audotprs' professional competence and the policy of the audited entity.

In this respect the assessment of audit risk depends on the assessment of the detection risk (DR). Thus we are able not only to determine the effectiveness of the audit plan but also its feasibility (rationality). In this sense the level of detection risk will determine the quantity of evidence the auditors will need. The acceptable quantity of evidence is inversely proportional to the level of detection risk – the lower the risk, the greater volume of auditor's work and evidence will be required and vice versa. DR level is calculated as [2]:

$$DR = \frac{AR}{IR \times CR} \quad [2],$$

where: OP is the audit risk;
   IR is the inherent risk;
   CR is the control risk;
   DR is the detection risk

Here we should refer back to one of the questions raised above – How can we assess the adequacy of internal controls and will this assessment affect the overall audit risk assessment? Auditors very often face the question „To what extent the internal control system established and implemented by the management of the audited entity is adequate and to what extent can they rely on it when performing the audit procedures?

International standards[5] define internal control as a process related to activities and operations that are considered risky by the entity's management. It is implemented using certain resources of the organization. Its effects are defined in terms of its contribution (added

Table 1

The intuitive audit risk assessment method

Auditor's assessment of the inherent risk (IR)	Auditor's assessment of the control risk (CR)		
	CR – high	CR – medium	CR – low
	Auditor's assessment of the detection risk (DR)		
IR – high	DR – low	DR – low	DR – medium
IR – medium	DR – low	DR – medium	DR – medium
IR – low	DR – medium	DR – medium	DR – medium

---

[3]See: Герхауд, Н., Пол Дж. Смит и Р. Абхелмауер, „Международни одиторски стандарти", изд. „Икономика прес", С., 2009, р. 153
[4] Source: http://www.bg-ikonomika.com/2010/11/9_337.html
[5] See: Internal Control – Integrated Framework „COSO", Committee of Sponsoring Organizations of the Treadway Committee, Jersey City, NJ:AICPA, 1992

value) to the achievement of the goals of the organization at the optimal level of costs it requires. These effects are not always directly measurable (e.g. as income from sales, reduction of direct production costs, etc.)

The internal control system operates through the internal controls effected by the entity's management. They are developed and effected in order to minimize the consequences of the inherent risks and maximize the efficiency of entity's processes and operations. Inherent risk may be defined as the probability of non-compliance of processes and activities. It may arise from poor performance in terms of compliance with the adopted standards or in terms of the achieved results before consideration of any related controls. The inherent risk may be measured in terms of the harm/damage the entity would incur from the event.

The level of risk, i.e. the risk vulnerability (V) of a process or an activity depends on the probability of occurrence of the event (P) and the severity of its adverse effects (S) and is calculated as $V = P \times S$.

Entity's management must decide (according to its risk „appetite" (tolerance) which inherent risks should be management by means of internal controls in order to minimize their impact to an acceptable low level known in the risk theory as „residual risk". The adequacy of the internal control is measured in terms of the value it adds to the organization's value by improving its processes and operations, i.e. by reducing the level of its residual risk.

The main criteria for evaluating the internal controls are their efficiency and effectiveness.

Effectiveness is defined as the degree to which entity's objectives are achieved in terms of comparing the actual and the expected results. The effectiveness of the internal controls of an organization may be assessed in terms of the degree of minimization of the inherent risks (IR) and the reduction thereof to the acceptable level of residual risk (RR) for a process of an activity. A greater degree of minimization of the inherent risks and their reduction to the acceptable level of residual risk would mean a better effectiveness if the internal controls and vice versa. The degree of effectiveness varies between 0 and 1.

The effectiveness of the internal controls may be estimated both as an absolute and as a relative value. As an absolute value it is the difference between the assessed inherent risks of the processes and operations and the residual risk after the controls are effected (i.e. the absolute reduction of the expected harm/damage from the process/activity) using equation [3]. As a relative value it is the risk reduction ratio calculated as:

$$Ek = IR - RR \quad [3]$$

$$Ek = 1 - \frac{RR}{IR} \quad [4],$$

where: Eк is the effectiveness;
IR is the inherent risk;
RR is the residual risk

Efficiency is defined as the degree to which entity's objectives are achieved in terms of the resources used for effecting the internal controls in the organization.

Efficiency is measured by comparing the degree of achieving the objectives and the resources (material, financial, human, etc.) used for achieving them. The efficiency of the entity's internal controls is measured in terms of the return on the costs made for effecting them. Using the popular return on investment (ROI)[6] ratio, we may calculate their efficiency as [5]:

$$Ef = \frac{(IR - RR) - C}{C} \quad [5],$$

where: Ef is efficiency;
IR is the inherent risk;
RR is the residual risk;
C are the costs

The efficiency of the entity's internal controls may be considered from still another point of view – the allowable limit of costs for effecting the internal controls compared to the expected maximum utility (the expected maximum added value) thereof using equation [6]:

$$ACL = \frac{EMU}{(1 + Ef)} \quad [6],$$

where: ACL is the allowable cost limit;
EMU is the expected maximum utility;
Ef is the efficiency

The above models for assessment of the adequacy (operating effectiveness) of the internal controls are applicable to those inherent risks that are significant for the audited processes and activities of the organization. To assess the adequacy of the internal controls the auditors may use the specific audit procedures known as tests of control. These are planned activities that aim to assess the (operative) adequacy of the controls effected for prevention, detection or correction of significant non-compliances of processes, activities or operations.

Prior to planning and performing these audit procedures the auditors should consider the following factors:

– First – the reasons for assessing the risk of significant misstatement of a specific process, activity or operation due to:

· probability of significant non-compliance resulting from the specific characteristics of the process, activity or operation, i.e. inherent risk (IR);

---

[6] See: Lenskold, James.Marketing ROI. American Marketing Association, The McGraw-Hill, 2003, pp. 157 – 185

· the presence of controls, i.e. the control risk (CR). In this respect the auditors will rely on the operating effectiveness of the controls to define the type, duration and scope of the audit procedures and therefore should check whether the controls function effectively.

– Second – the level of risk assessment, i.e. the detection risk (DR) because it will define the volume of auditor's work and the plausibility of audit conclusions.

**

In conclusion I will outline the possible „benefits" for the auditors if they perform these procedures for assessment of the control risk within the audit risk model:

– First – They will have a comprehensive view of the implemented internal control system of the organization. Thus they will eliminate the problem with the intuitive assessment of the control risks within the audit risk model.

– Second – They will be able to define accurately the degree of effectiveness and efficiency of the tested internal controls for any given process, activity or operation and thus will achieve a better accuracy of the assessment of their awareness of the audit procedures they perform.

– Third – They will improve the quality of their audits in terms of the accuracy of the assessments and conclusions of their audits.

References

1. **Герхауд Н.**, Пол Дж. Смит и Р. Абхелмауер, „Системи за вътрешен контрол".– С.: „Икономика прес", 2009. – 412 с. 2. **Lenskold, James**. Marketing ROI. American Marketing Association.– N.Y.: The McGraw-Hill, 2003. – 346 p. 3. **Internal** Control – Integrated Framework „COSO", Committee of Sponsoring Organizations of the Treadway Committee. – Jersey City, NJ: AICPA, 1992. – 214 p. 4. **Стандарт** по управление на риска, AIRMIC, ALARM, IRM: 2002, translationcopyright FERMA, 2003. – 324 с. 5. **Международни** стандарти на Върховните одитни институции.– С.: изд. INTOSAI, 2008. – 278 с. 6. **Ръководство** по международни стандарти за одит и контрол върху качеството, СМОССИС към МФС. – С.: изд. ИДЕС, 2009. – 334 с. 7. **Професионални** практики по вътрешен одит, TheIIAResearchFoundation. – С.: изд. ИВОБ, 2009. – 512 с.

Іванов Г. Оцінка системи внутрішнього контролю при аудиті

Аудит як конкретна форма контролю має суттєвий вплив на оцінку эффектів розвитку і бізнес-організацій в цілому, і бізнес-організацій публічного сектору економіки. Незалежно від поступального руху в розвитку технології аудиту в останні десятиліття, навіть зараз все ще можуть бути виявлені певні технологічні неузгодженості, і не існує єдиного погляду щодо їхньої практичної інтерпретації. У статті зосереджено увагу на питаннях, пов'язаних з оцінкою ефективності систем внутрішнього контролю при використанні моделі для визначення аудиторського ризику при проведенні аудиту. У структурному плані розглянуто можливі теоретичні моделі оцінки ефективності системи видів внутрішнього контролю в об'єктах, що підлягають аудиту, на основі прийнятої в міжнародній практиці моделі аудиторського ризику.

Ключові слова: аудит, контроль, система, організація, ризик.

Иванов Г. Оценка системы внутреннего контроля при аудите

Аудит как конкретная форма контроля оказывает существенное влияние на оценку эффектов как от развития бизнес-организаций в целом, так и бизнес-организаций публичного сектора экономики. Независимо от поступательного движения в развитии технологии аудита в последние десятилетия к настоящему моменту все еще могут быть обнаружены некоторые технологические неясности, по которым не существует единой точки зрения в отношении их практической интерпретации.

В статье сфокусировано внимание на некоторых из вопросов, связанных с оценкой эффективности систем внутреннего контроля при использовании модели для определения аудиторского риска при проведении аудита.

В структурном плане рассматриваются возможные теоретические модели оценки эффективности системы видов внутреннего контроля в объектах, подлежащих аудиту, на основе воспринятой в международной практике модели аудиторского риска.

Ключевые слова: аудит, контроль, система, организация, риск.

Ivanov G. Audit Evaluation of Internal Control Systems

Audit, as a specific type of control, plays a significant role in the process of evaluation of the effects related to the development of both private and public-sector entities. Despite the development of the audit technology in the last decades, there are still some technological problems and controversial issues regarding their practical interpretation.

This is why this article tackles some issues related to the audit evaluation of the internal control systems using the audit risk assessment model.

The article reviews the possible theoretical models for assessing the adequacy of the internal controls systems of audited entities based on the internationally accepted audit risk assessment model.

Key words: audit, control, system, organization, risk.

Marketing

UDC [338.2:620.9](497.2)

K. Kunev,
PhD (Economics), D. Tsenov Academy of Economics,
Svishtov, Bulgaria

NATURAL MONOPOLIES AND PROBLEMS OF THE ENERGY MARKET IN BULGARIA

Speaking of natural monopolies we mean such a state in a given commodity market, where a single company is able to exert unlimited market power as a result of significant economies of scale in the production of certain products. That situation is economically justified and socially acceptable since this power is compensated by resource economies and preserved production effectiveness. The natural monopoly emerges as a result of the difference in technology effectiveness, often in conformity with market demand, and not as a consequence to competitors' actions. Given this reason, it is characterized by ever diminishing values of average and marginal costs as production volume grows. As a result of this the market has only place for a single company, which is able to achieve economies of scale for a given product. In such markets competition is undesirable or even impossible.

During the transformation from planned to market economy, Bulgaria's energy market situation changed radically. Fundamental changes were carried out in a number of branches, which were traditionally state-owned – electricity production and transport, water supply, heating, etc. The main arguments for reorganization of natural monopolies were the desire to change the form of ownership, claims for their production ineffectiveness and an aspiration to create a competitive environment. As a result of the changes, in present day we have a certain change in the substance of natural monopolies, which is manifested through some positive impact over public production processes. Furthermore, companies with monopoly positions in given economic sectors usually are in possession of significant investment capabilities, which are generally put in use.[1]

At the same time however, real life shows that despite the availability of technical and technological effectiveness, concentrating the rendering of a certain service in the hands of a single producer leads to a number of negative consequences. Abuse of monopoly positions, misrepresenting expenditures and imposing high prices practically stultifies the economies of scale and forces society to pay an overly high social price for technological achievements. Very often this price can hardly be determined as monopolists are very diligent at concealing all information related to their activities. We should keep in mind that many other production facilities are largely dependent on the produce of natural monopolies. For this reason, enforcing regulation and transformation of natural monopolies are the means which should lead to achieving equilibrium between economic effectiveness and social justice. Reaching this equilibrium will allow the realization of some of the key objectives of state regulation such as:

1. Creating favorable conditions for the functioning and development of natural monopolies, while protecting the public interest.

2. Determining realistic prices for rendered services based on actual production costs and production effectiveness.

3. Stimulating producers to cut costs, improve quality of services and increase investment effectiveness.

4. Creating favorable conditions for competition in economic sectors with natural monopolies.

The main problem of regulation is to compel companies in monopolistic positions to act in unison with social objectives. Despite a number of positive changes and the experience accumulated through the past years, we have to admit that the Bulgarian energy market suffers a number of serious issues.

I. The market for services offered by natural monopolies is insufficiently liberal

The last few years mark a clear trend towards deregulation of natural monopolies with some sectors (telecommunications) where market liberalization and strengthened competition have led to the monopoly's disintegration. The benefits of liberalization (if achieved) on this markets are undeniable and they are reflected in:

– Reduced prices for services to levels, which are acceptable to an ever wider circle of consumers;

---

[1] For 2005 EVN Bulgaria has invested BGN 223 mill, and for 2007 – BGN 118 mill.; E.ON Bulgaria has invested BGN 89 mill. in 2007, and doubled the investment in 2008.

– Increased options for choice of service-providers and better contractual conditions of delivery;

– Improving quality and selection of service types;

– Abiding by market principles in pricing different service types;

– Maintenance and development of the infrastructure used to deliver the services, etc.

A good example for liberalization of a monopoly market are reforms of energy markets in some EU countries.[2] Thus for example, in Norway since 1991, Finland since 199 and England, Wales, Sweden and Germany since 1999 all electricity consumers may freely choose their supplier. This group is later joined by other countries – Austria since 2001, Denmark since 2003 and Belgium since 2006.[3]

Bulgaria started the liberalization of its energy market in 2004 when seven electricity distribution companies (EDC) were bought by the Czech CEZ, the German E.ON and the Austrian EVN. Some restructuring also took place in NEC and Bulgargaz. Energy market analysis, however, shows that the partial liberalization achieved so far is absolutely insufficient and does not adequately serve the interests of end users.[4] The reasons for this negative conclusion are multiple, the key being:

1. Insufficiently effective restructuring of large suppliers such as NEC and Bulgargaz.

After all efforts to this end, these companies are still state-owned and continue to be market monopolists For example, NEC forces NPP Kozloduy to sell electricity at lower, regulated prices, which causes losses to NPP and indirectly subsidizes the rest of the power plants. Furthermore, the company does not pay regularly and is in constant indebtedness, which amounts to EUR 483 mill. for 2012. As a state structure, NEC is not obliged to pay „transport" fee for the purchased electricity, which places it in a favorable condition compared to the rest of the electricity traders.

2. Heating utility companies and EDCs are practically left without competition.

One of the major goals of the sale of 67% of the power grid to the three private companies was the creation of effective competition among them, with all ensuing positive consequences. Experience shows that effective competition is only possible in a free market between equal economic entities. In other words – in order to liberalize the electricity market in Bulgaria we first need to privatize NEC and all electricity producers, as well as remove all access barriers for other companies to the existing infrastructure. As a result of this, all consumers will be able to choose their electricity provider based on the conditions they offer. Another positive effect of market liberalization is the participation of a lot more competitors in servicing and maintenance of the used infrastructure since this will be in everyone's interest.

Unfortunately, we have to note that as of the present moment a large part of the liberalization measures remain on the wish list. The sale of 2/3 of the power grid to the three EDCs did not lead to the desired competition as they became owners of the grid in different regions where no one can oppose their monopolistic behavior. In practice we had a substitution of state with private monopoly, resulting in energy monopolies growing even stronger. Here we have to add the possibilities of cartel agreements between the three distribution companies, which is evident by their coordinated demands for higher electricity prices for consumers to the State Energy and Water Regulatory Commission (SEWRC).

3. Quiet often natural monopolies abusing their market power violate not only economic but also legal norms of the market economy, by imposing a real dictate over consumers. A particularly indicative case concerns the period between 01.07.2003 and 01.07.2004 when due to an „incorrect" methodology for electricity price determination it increased by 20.61% instead of the expected 15%. As a result of this the EDC EVN Bulgaria misappropriated BGN45 mill. The same company, regardless of the constant consumer protests, introduced quarterly meter reading and payment for used electricity and is not willing to change this approach in spite of the multiple warnings by the SEWRC and court decisions. The EDCs improper behavior towards consumers is the reason for the vast number of complaints filed in the SEWRC – 1356 and nearly 26 000 filed with the EDCs. Based on data by the Consumer Protection Commission there were 9499 complaints for the first half of 2011, 3897 (41%) of which are against mobile operators, electricity and heating utility companies.

II. In practice, energy market prices are not market prices.

It is a known fact that price is an expression of relationships between sellers and buyers, carried out in free market conditions. This means that economic entities function in their own interest without any interference. Under these conditions the equilibrium price will be the

---

[2] For the EU in general the official deadline for liberalization of the energy market was 01.07.2007.

[3] Electric power sector reforms and their impact on consumer protection, Centre for Economic Development, Sofia, 2002, p.13 and 14.

[4] In relation to the insufficient degree of energy market liberalization, the EC sent a letter to Sofia on 29.09.2011, in which it insists on receiving information on how our country enacts the European directives related to the energy and gas sectors. This letter is the initial step of punitive procedure against energy sector monopolies.

results of interactions between demand and supply forces dependent on the quantity and quality (utility) of the given commodity. Thus determined, prices will provide the necessary information to economic entities at present and in the future, which will help for the effective coordination of their actions.

In the current situation, such conditions are practically absent on the Bulgarian energy market. For this reason, prices used by economic agents are not market as they are not formed as a result of enacted market rules. Some of the main reasons for this are:

1. There is no effective competition on the energy market at present.

Despite the privatization of the EDCs, they do not act as competing market entities. Relying on their monopoly in the given region and not always abiding by the rules defined by the state, they impose the most beneficial prices for them, guaranteeing large profits. As a result of this the EDCs are in constant contradiction with the SEWRC, which is trying to retain socially bearable prices for electric energy. We have a similar situation with the different heating utilities. As a result of this struggle (with the winner not always clear) service prices are formed that are far from the requirements of natural market principles.

2. It is unclear exactly how electricity, heating and gas prices are formed.

In 2007 SEWRC changed the method for determining energy companies prices from „costs plus" to „upper limit of prices" in order to create incentives for reducing production costs. The regulation period was also changed from 1 to 5 years, during which the set prices will not be changed except for annual inflation indexation. According to the commission this approach allows the companies to retain the part of the profit related to increased production effectiveness. Furthermore, it creates preconditions for better management flexibility as well as planning and managing investments. [5]

Experience, however, shows a totally different picture. Almost constantly the heating companies, EDCs and Bulgargaz file claims for price increases and these are significantly higher than the inflation index. The claims are backed by the need for investments, possibility for bankruptcy, etc. [6] In this respect the monopolists sometimes send absurd proposals. For example, not long ago the heating utilities asked for an increase in night electricity rates because the population preferred to use electricity for night heating and that presumably threatened the heating companies' existence. On the same lines the

Bulgarian State Railways asked to remove all bus lines travelling between the same destinations at the same time as the trains. As a result of these demands discussions are started, different organization get involved and in the end electricity and heating prices are increased in violation of regulatory documents, thus transferring the monopolists' problems to the consumers.

3. In certain cases not only the authorized authorities but the government itself interferes in energy market pricing. Such an example is agreement between the government and the petroleum company Lukoil, according to which Lukoil is bound to keep fuel prices static for the period between 23.03.2011 and 23.04.2011.

This agreement is an example of direct intervention in the business of a private company and non-market pricing, determining a ceiling price and period of action for prices of given commodities. Furthermore, this memorandum is an act of courtesy towards a producer, which has a decisive share (98%) in relation to automobile fuels and propane-butane production. In this case the state not only violates market principles, but also asks Lukoil for a temporary grace period for fuel price increase instead of seeking to perform its lawful obligations. It is also clear, that such a measure will not produce a significant effect as the period of action is too short in order to expect serious market changes.

III. Inadequate consumer protection

The energy services market is possibly the sector in which consumer rights are most severely violated. In the conditions of a monopolized market they are unable to select their electricity, heating or gas provider freely, based on market principles. Taking for granted both the prices and quality of rendered services, consumers are in a position of full dependence upon the wishes of the service providers. This is expressed in the constant, frequently ungrounded, price increases, the poor quality of the services, irregularities of supply, etc. Receiving incomprehensible or overcharged bills, which if not paid give the monopolist the right to unilaterally discontinue the contract with the consumer (even in the cases of blatant errors) is a permanent phenomenon.

Given this situation, the energy services market is the sector of Bulgarian economy where we most sharply feel the need for state intervention for social protection. This is within the authority of the SEWRC, which main objective is to carry out control over natural monopolies actions and not allow consumer rights violations (SEWRC's success in this is a point of a separate

---

[5] „Utilities", 2008, issue 5, стр.18.

[6] On 11.09.2011 Bulgargaz filed with the SEWRC for a wholesale gas price increase by 14% with the argument that this increase will allow the company to optimize its costs for Q4 of 2011.

discussion). In relation to the mentioned request by Bulgargaz for price increase of 14%, the commission answered that the gas price increase may not be higher than 10%, without explaining to society the basis of the claim or SEWRC's answer. It is true that in its capacity of a specialized state body, the commission is independent and no one may exert influence on its activity. However, a bit more transparency and information regarding its decisions would be useful for all. In this respect, some proposals by civil associations to include a larger number of NGO experts in the Consultative Council, provide access to monopoly companies original documents, etc. would have a positive effect on the work of the SEWRC and thus on consumers rights as well.

The problem with state control has a downside as well. By performing its functions the SEWRC intervenes deeply into producer-consumer relationships, which severely modifies their nature. In a number of cases, state intervention goes out of the limitations of a simple correction of deviations from the market mechanism by turning into an expression of full administrative control, which is not so concerned with the monopolists' mistakes but rather helps retain the market status quo.

Other serious problems exist, which the limited size of this paper does not allow to discuss here. In conclusion, however, we have to note that the current situation of the energy market, dominated by a group of natural monopolies, is to the detriment of both consumers as well as the national economy. It is perfectly clear that regardless of any efforts by state regulatory bodies, it is not until a real competitive environment is created in this sector that a significant success may be achieved. It is beyond doubt that Bulgaria's road to a liberalized energy market is very long and a lot of efforts, desire and political will, are needed in order to successfully complete it.

Кунев К. Природні монополії і проблеми енергетичного ринку в Болгарії

У статті розглянуто причини, які приводять до встановлення природних монополій, і в зв'язку з цим визначено основні завдання, варті державного регулювання в економіці, направлених на зменшення їх негативної дії на національне господарство. Проведено аналіз енергетичного ринку в Болгарії, виділено основні проблеми, які перешкоджають його нормальному функціонуванню. Вказані причини, що привели до таких явищ як недостатній ступінь лібералізації енергетичного сектора, відсутність умов для ефективної конкуренції між різними суб'єктами ринку; і до деяких серйозних помилок, допущених при переструктуруванні енергетичного ринку. Розглянуто також і необхідність державного втручання в управління енергетичним сектором з урахуванням контролю над діяльністю природних монополій і захистом інтересів споживачів.

Ключові слова: природні монополії, конкуренція, державне регулювання економіки, лібералізація енергетичного ринку, ціноутворення на енергетичному ринку, захист споживачів.

Кунев К. Естественные монополии и проблемы энергетического рынка в Болгарии

В статье рассматриваются причины, которые приводят к установлению естественных монополий, и в этой связи определены основные задачи, стоящие перед государственным регулированием экономики, направленные на уменьшение их отрицательного воздействия на национальное хозяйство. Проведен анализ энергетического рынка в Болгарии, при этом выделены основные проблемы, которые препятствуют его нормальному функционированию. Указаны причины, приведшие к таким явлениям как недостаточная степень либерализации энергетического сектора, отсутствие условий для эффективной конкуренции между различными субъектами рынка, наряду с этим и к некоторым серьезным ошибкам, допущенным при переструктурировании энергетического рынка. Рассматривается также и необходимость государственного вмешательства в управление энергетическим сектором с учетом контроля над деятельностью естественных монополий и защитой интересов потребителей.

Ключевые слова: естественные монополии, конкуренция, государственное регулирование экономики, либерализация энергетического рынка, ценообразование на энергетическом рынке, защита потребителей.

Kunev K. Natural Monopolies and Issues of the Energy Market in Bulgaria

The article discusses the reasons which lead to the establishment of natural monopolies and in this respect it identifies the main tasks facing the state regulation of economy aimed at reducing their negative impact on the national economy. The energy market in Bulgaria is analyzed and the main problems hindering its normal operation are outlined. The article also indicates what causes the problems: insufficient degree of energy sector liberalization, lack of conditions for effective competition between the different market subjects, as well as some serious mistakes in restructuring the energy market. It also discusses the need of government intervention in the energy sector management with a view to control the activities of natural monopolies and to protect consumer interests.

Key words: natural monopolies, competition, government regulation of economy, energy market liberalization, price formation in the energy market, consumer protection.

UDC [338.48:629.4](477)-043.86

A. V. Bukovskiy,
PhD (Economscs),
N. A. Kvartal'na,
Kyiv

BASIC PREMISES AND TRENDS OF REFORMING RAILWAY SECTOR IN UKRAINE

Problem's definition. Technical parameters of rail transport' development in Ukraine such as: a share of passenger turnover, a cargo turnover, unique shipping unit exceeds the same in Germany, England, USA, Russia (fig. 1).

First of all this shows that the sector of railway transport plays a strategic role for the economy and safety of Ukraine. But the reserves of Ukraine were exhausted during the 20 years of independence. This sector is getting old rapidly. Ageing of rolling stock exceeds the critical deadline and equal to 85%, locomotives – 92%. Since 1992 the investment requirements were fulfilled only on 25 – 30% [2]. The amount of investments in railway development was equal to 3% from overall amount of public investments per year. At the same time this figure is five times as much in foreign countries. Therefore the issue of finding the ways of raising the effectiveness of railway enterprises, and strengthening the competitiveness of railway system are still of the most immediate interest [4, p. 7].

The goal of the article is to analyze the current situation in railway transport and to find out the ways and mechanisms of its further reforming for rising of its effectiveness and investment attractiveness.

Conceptual issues of research. The general offices with the help of international consulting company „AT Kearney" held the strategic diagnostics of the industry. It is worth to mentioning that „AT Kearney" was directly involved in the reforming of the company „Canadian National" and also was a partner and remains a consultant of „Russian Railways". The results of analysis are demonstrated below. Saving positions of railway transport with the increasing of cargo turnover requires purchasing 111 thousands of new wagons in 2011 – 2020.

Another consideration is that underinvestment of 10 thousands wagons (about 5% of the fleet) leads to loses of 15 bln. t-km of cargo turnover or 1.6 bln. hrn of income (fig. 2,3).

Also there is a necessity of buying more than two thousands freight-hauling locomotives for providing an increasing cargo turnover. The amount of required investments is more than 68 bln. hrn. (fig. 4)

In passenger transportation a decrease of a share of railway transport' and increase of loses exponentially is observed.

Thus in 2010 the loses of passenger transportation were equal to 3,8 bln. hrn, and in 2011 even more than 4,5 bln. hrn. (fig. 6).

Therefore, there is an extremely critical question that concerns reorganization of passenger transportation, especially in commutation services.

As far as only 11,4% of all railway junctions provide 93% of passenger turnover, only 100 of them are between key cities of Ukraine (this equal to 0,4% from overall railway junctions (23,5 thousands) and provide almost half of total traffic flow – they should become a priority for high-speed operation' development. (fig. 7).

Base case involves 42 high-speed trains, as far as the amount of passengers of high-speed trains will increase more than four times (fig. 8).

There should be cumulative investments of more than $37,5 bln in passenger rolling stock until 2020. The reconsideration of tariff setting system should be done for realization of the investments amount that is needed (fig. 9,10).

Passenger transportation in regional rail shows a decline of paid passenger's amount. This leads to increasing of losses.

Thus the losses equaled $2,84 bln. in 2010, and 3,2 bln. in 2011.

In such situation, when there is no mechanism of loss compensation, any transport operator as of railways is uninterested in growth of traffic flow.

Nevertheless, in spite of expectable decrease of traffic flow, there is a necessity of 8,7 bln. hrn of investments during the following 10 years [3].

The infrastructure will require more than 56 bln. hrn of investments in its optimization until 2020. This includes:

– decrease of working capacity – 35,1 bln. hrn;
– optimization of „bottlenecks" – 21,1bln. hrn.

As the result the due diligence was hold in main areas of activity, which create revenue: freight traffic, passenger transportation in regional rail, long-distance traffic, and other kinds, as well as in areas of activity, which create costs: connection rod, infrastructure.

At that, freight traffic is a key source of company's revenues. Revenue receipts from it equaled 9,4 bln. hrn in 2010, and 12,5 bln. hrn in 2011. But the total financial result is practically less by half and equaled 6,88 bln. hrn in 2012.
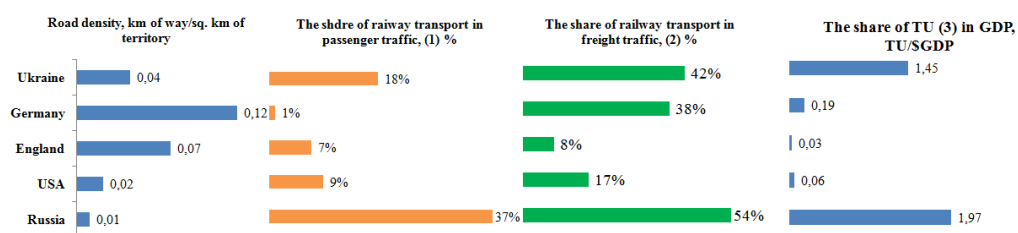
Fig. 1. Technical parameters of rail facilities' development in Ukraine, 2009 – 2010
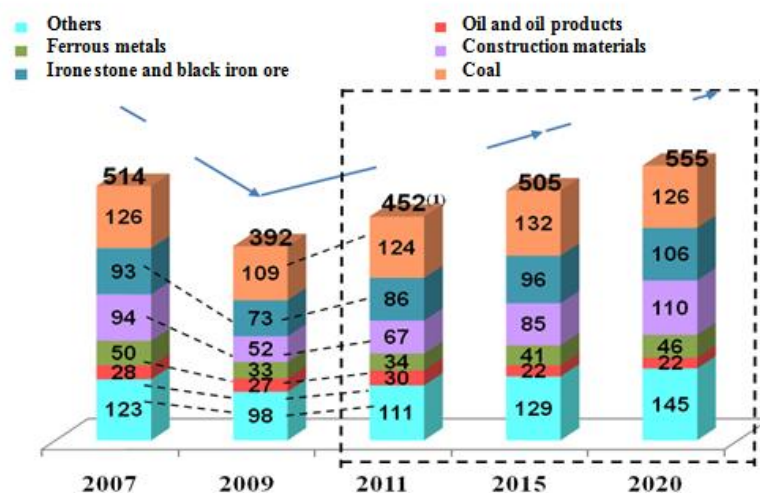
Fig. 2. The estimate of volume of carriage in the railway transport till 2020, mil. T
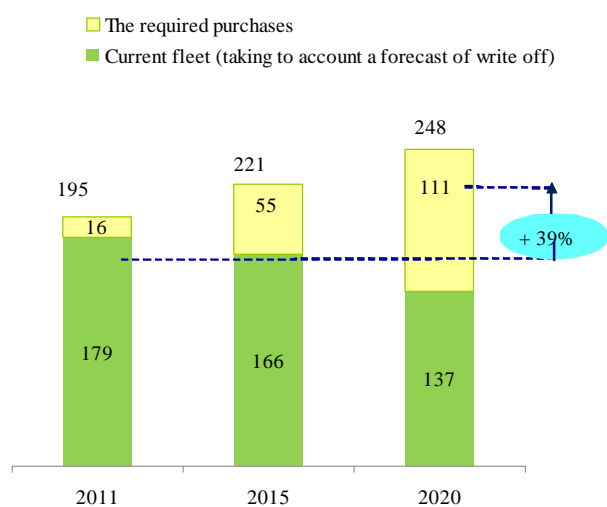
Fig. 3. The required fleet of cars to 2011 – 2020, KPcs
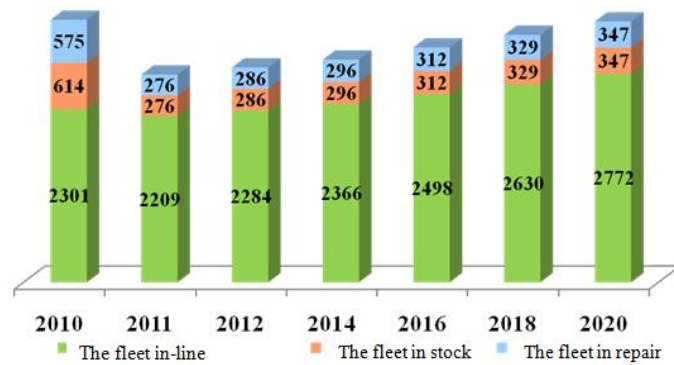
Fig. 4. The structure of inventory rolling stock of freight locomotives, units
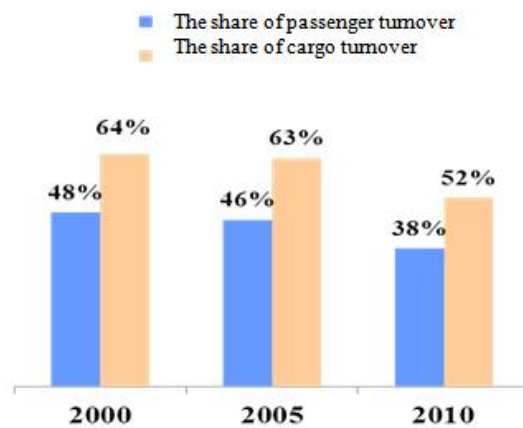
Fig. 5. The share of railway transport in passenger traffic in 2000 – 2011, %
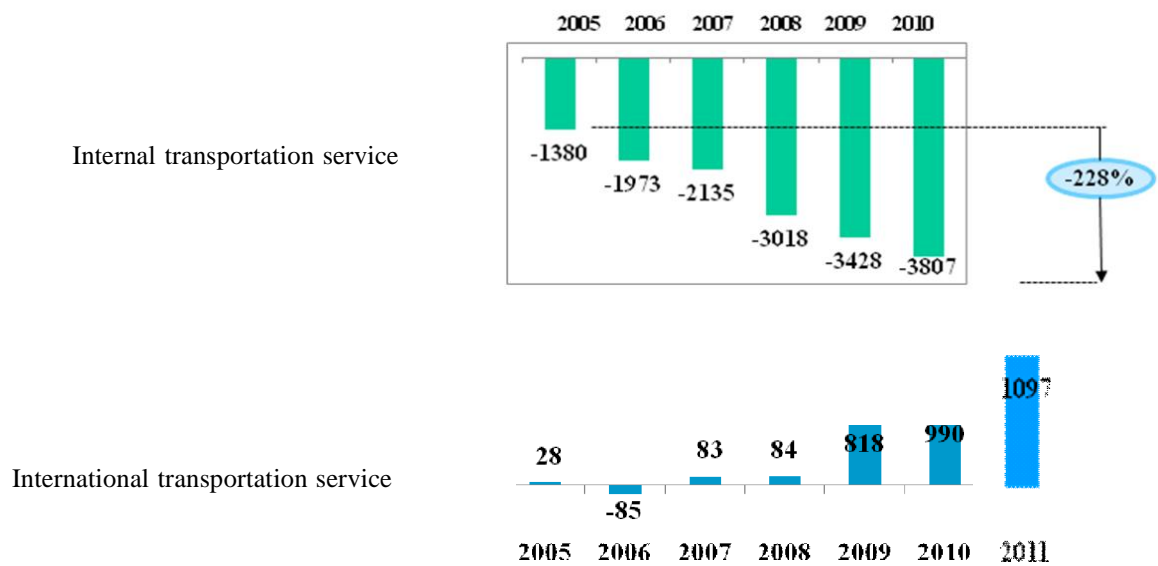
Fig. 6. Financial results in 2005 – 2011, mil. hrn.
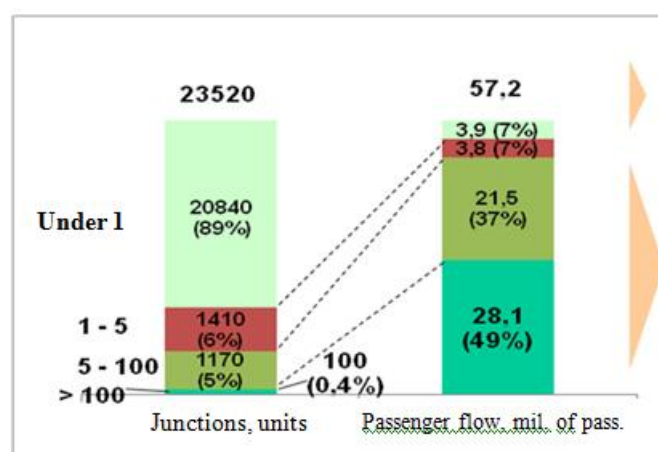
Fig. 7. The railway junctions between points of departure and calling (inland traffic), 2010
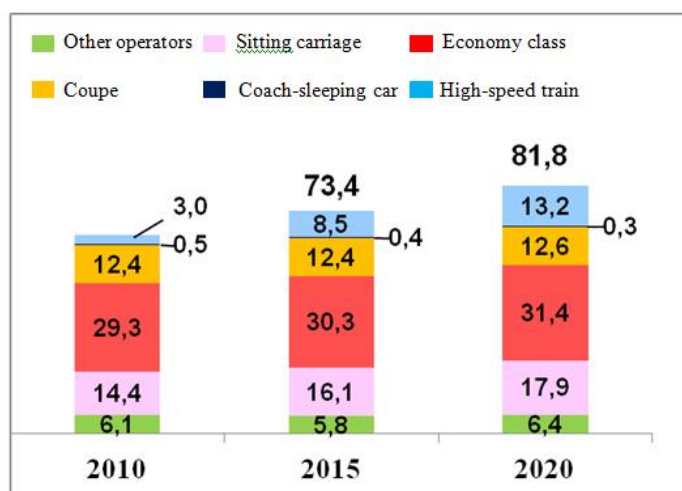
Fig. 8. The amount of railway transportation of „Ukrzaliznytsya" by segments, mil. of passengers

Fig. 9. Required purchases[*] in 2011 – 2020, cars

[*] In base case
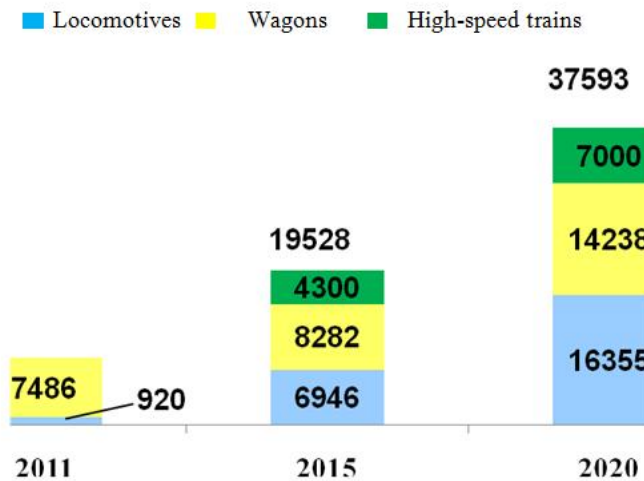
Fig. 10. Investments in renewal and maintaining of the fleet[*,**]**, mil. hrn.**

*Cumulative data, since 2011

** The amount of passenger cars taking into account write off in 2011 and required purchases for the service of traffic flows
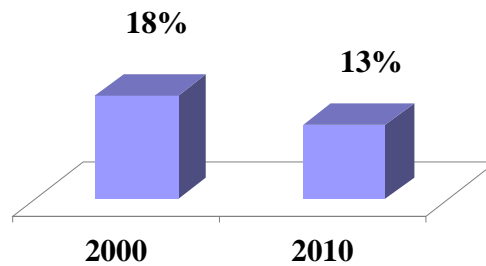
Fig. 11. The share of rail transport in 2000 – 2010 , %
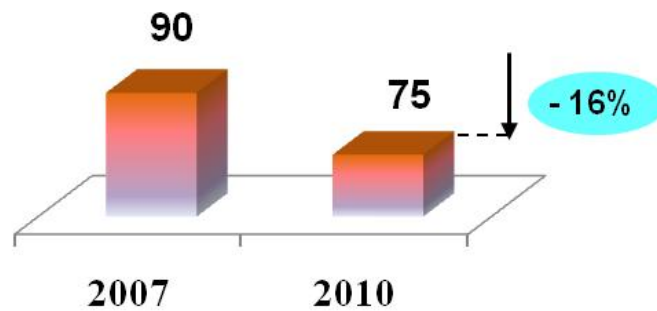
Fig. 12. The amount of „paid passengers" of the rail road in 2007 – 2010, mil. passengers
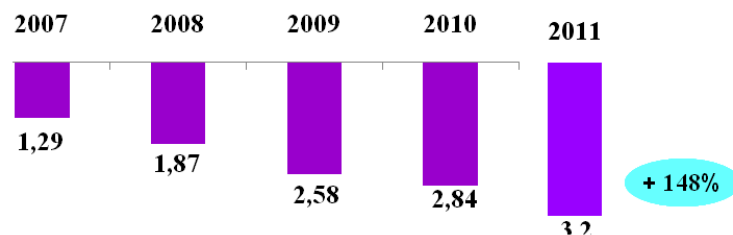
Fig. 13. The economic losses from commutation services in 2007 – 2011, bln. hrn

A. V. Bukovskiy, N. A. Kvartal'na

Therefore, the Ukrainian railways will not be able to realize the needed volume of investments at the current level of their proprietory resources, because the gap between operational profit from transportation services and required amount of investments is growing up annually (profit in 2011 – 5,9 bln. hrn, required investments – 26,9 bln. hrn).

There is four-time gap and every year of delay of implementation of investments leads to sizeable cumulative increase in future.

To use possible sources of financing, the reforming of the railway industry should be made.

In this article the following model of reforming will be represented.

Conclusions. As a summaries and recommendations for railway industry reforming should be mentioned the following:

1. The freight traffic as a segment, that creates profit, should be the key area for investments of „Ukrzaliznytsya". To support the share of railway transport while the cargo turnover is increasing on 3% per year until 2020, there is a necessity of 65 bln. hrn for buying 111 thousands of wagons. Underinvestment in 10 thousands wagons leads to losses of 1,6 bln. hrn annually. The level of wagon's component should be changed for attraction of private operators of rolling stock – today it allows paying back the wagon only by the end of the operating life.

2. The current locomotive fleet that is on the balance exceeds the required level, in spite of this in fact there is no proficit because of high share of unexploited locomotives in stock and under repair. There is a recommendation to write off such assets for the purposes of accounting and effective management of the fleet. The current plans of buying of 500 locomotives are essentially lower than there is a requirement in them.

Fig. 14. Expenses coverage ratio (income/expenses) in 2007 – 2010, %
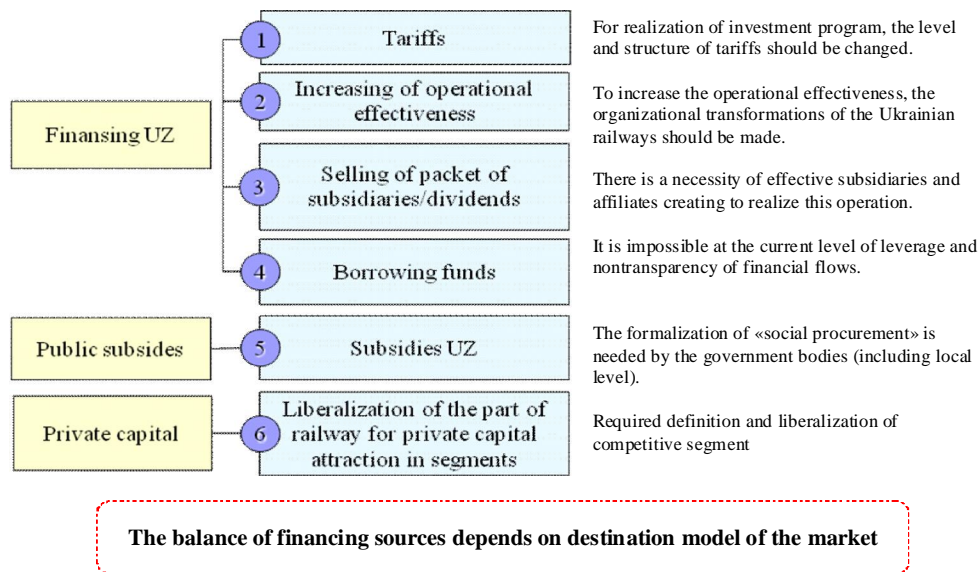
Fig. 15. The model of railway transport reforming

3. Also there is a necessity of reconsideration the train movements for rising an attractiveness of railway transport and decreasing of costs:

– cancellation of train movements in long-distance on an under-populated districts/directions;

– focus on the development of about 100 connections, that provide 50% of passenger traffic, including the high-speed operation, that will be implemented.

The implementation of 42 high-speed trains will allow transporting about 90% of the passenger traffic of those directions, which provides the practicability of high-speed traffic development (the average occupancy is 70% – 350 passengers and more).

The renewing of rolling stock is critically for holding „paid passengers", because their share is decreasing the most. It's recommended to specificate a current procedure of diversification of costs according to kinds of activity, providing transparency of financial result for specification of the compensatory amount.

The transition to accounting of passengers according to actual fact, but not using the procedure of 1994 will allow:

– maintaining the accounting within the company for factual analysis of routes, directions and estimating the effectiveness of using of assets;

– strengthening the negotiation capacities of „Ukrzaliznytsya" while specificating the size of costs' compensation.

4. The priority of „Ukrzaliznytsya" should become the liquidation of 2300 km of bottlenecks on the most heavy traffic lines. In „Ukrzaliznytsya" there is a potential of optimization of costs by reduction of low functioning lines, which handle less than 2 trains per day (about 1000 km) and generate negative financial result.

References

1. **Буковский А. В.** Управление имущественным комплексом железнодорожного транспорта как элемент обеспечения устойчивого функционирования отрасли // Вісник економічної науки. – № 2 (16). – 2009. – С. 15 – 20. 2. **Квартальна Н. О.** Реформування – початок нової епохи розвитку українських залізниць // Локомотив-информ. – № 4. – 2012. – С. 14 – 16. 3. **Реформування** залізниці треба починати сьогодні, інакше буде пізно [Електроннний ресурс]. – Режим доступу : http://www.uz.gov.ua/ press_center/ up_to_date_topic/297200/. 4. **Юхновський І. Р.** Транспортний комплекс України, Залізничний транс-порт: Проблема та перспективи / І. Р. Юхновський, Г. Б. Лебеда, Т. І. Попова ; за ред. І. Р. Юхновського. – К : ФАДА Лтд, 2006. – 288 с.

Буковсккький А. В., Квартальна Н. О. Основні положення і тенденції реформування залізничного сектора в Україні

Статтю присвячено важливим аспектам розвитку залізничного транспорту України та напрямкам його реформування для покращення результатів діяльності. Автор наводить ряд аналітичних та статистичних даних, що підтверджують необхідність реалізації заходів по реформуванню галузі. У статті наведено рекомендації щодо напрямків підвищення ефективності роботи залізничного транспорту України.

Ключові слова: залізничний транспорт, ефективність, пасажиро-, вантажообіг, модель реформування.

Буковский А. В., Квартальная Н. А. Основные положения и тенденции реформирования железнодорожного сектора в Украине

Статья посвящена важным аспектам развития железнодорожного транспорта Украины и направлениям его реформирования для улучшения результатов деятельности. Автор приводит ряд аналитических и статистических данных, подтверждающих необходимость реализации мероприятий по реформированию отрасли. В статье приведены некоторые рекомендации касательно направлений повышения эффективности работы железнодорожного транс порта Украины.

Ключевые слова: железнодорожный транспорт, эффективность, пассажиро- и грузооборот, модель реформирования.

Bukovskiy A. V., Kvartal'na N. A. Basic Premises and Trends of Reforming Railway Sector in Ukraine

This article is devoted to vital aspects of Ukrainian railways development and ways of its reforming for better performing. The author present a lot of analytical and statistical data that confirm the necessity of realization of a range of reforming measures. Some of recommendations are actually represented in the article.

Key words: railway transport, effectiveness, passenger and cargo turnover, reforming model

UDC 338.46(477)

S. O. Spornyak,
PhD (Economics),
Luhansk National Taras Shevchenko University

STATISTICAL ANALYSIS OF THE SERVICES MARKET IN UKRAINE

Introduction. Study service is one of the most important directions of research. Their results are essential to improve the vital activity of the population on the whole and each person. In the post-industrial countries manufacturing of services exceeds production of the goods. At the same time, the service sector – is one of the least studied fields, that conditionaly of several factors: first, it is a dynamic field that is developing rapidly. Second, its structure is extremely complex and diversified, that camplicate not only its study, but and manage by this complex phenomenal economic formation.

Analysis of the latest research and publications. The works of Kramchenko R. [1] Gavrilenko A. [2] Sidorova A. [3] Kalachova I. [4] dedicated to assessment of current trends of services's development.

Despite research services, nowadays there is a lack of knowledge of the processes of development, particularly those that are able to improve the quality of life of the population, on the one hand, and the structure of the economy on the other.

The purpose and objective of the research. The aim of research learning of is the functioning's perculiarity of the service sector as a subsystem of the national economy, the essence of the service market, its structure and dynamics, and forecasting of volunes of realizing services in Ukraine.

The growing number of scientific studies dedicated to service sector, conditionaly of objective needs to learning of the dynamic component of the national economy at the national level and at the regional level.

Basic material. In the world economy the service sector becomes increasingly dominant set of industries, produces an increasing influence on the process of social reproduction. On average, over 60% of GDP in OECD countries creates in the fields of service industries. The export's value of commercial services reached the quarters of world merchandise exports, which strengthened their place in the system of international exchange. In economically developed countries in the services sector employs over 60% of the working population in the U.S. – up to 75% [5, p. 82]. In global humanity inherent increase in the share of consumer spending on services.

In Ukraine, for a long time have not ensured an integrated approach to the study of statistical services.

First, certain activities that relate to services according to the Classification of Economic Activities (CSEA) do not considere as services. Second, take into account the so-called paid services for population, although the scope of services does not include only the population, all kinds of services are paid (appropriate to distinguish between market and non-market services). Third, the current system of indicators, classifications at the service does not meet the requirements of national accounts and international standards [4, p. 25]. Statistical evaluation of services market by domestic science and Western economists differ because the latter for this area includes all trade (domestic science only retail), transportation (in Ukraine only passenger), communication (in Ukraine only with the Service), that denote on volume indicators.

At the present stage is developing to improve single methodological basis of statistics based services CTEA, national accounting standards, the Unified State Register of Enterprises and Organizations of Ukraine.

Specificity of market is that, firstly, the result of its operation is to meet consumer demand at the time of service, and therefore they do not exist separately from the manufacturers. Second, they do not transport. In addition, the effect of the functioning of this market is not only in services but also outside it, in the adjacent sectors of the economic sector.

Nowadays in Ukraine the most advanced services such sectors as transport and communications, and real estate (Table 1).

The level of service Ukraine looks quite modest. This data indicates about possibility of the development of services, taking into account the growing needs of the population.

Need constant attention of authorities to its progress, especially at the regional and local levels. Therefore, strengthening the growth needs of the population by various stimuli can significantly increase development services. At the same time, it is important to interest authorities in the development of services in Ukraine at national and regional levels.

In every society services are designed to better meet the objective of human needs, due to their way of life. Existing differences in the development of services does not preclude their comparison and detection of progressive tendencies. Taking into account the experience of economically developed countries and taking into account

Table 1

Structure and dynamics of volume of the realized services by kinds of economic activity

	Volume of the realized services,%					
	2002	2005	2007	2008	2009	2010
Trade: repair, appliances and goods for own use	0,7	0,7	0,9	0,9	0,7	0,6
Activity of hotels and restaurants	1,7	1,7	1,9	1,7	1,5	1,7
Activity of transport and communications	74,4	66,8	62,3	59,5	59,7	58,1
Operations with real estate, renting, engineering, and services for entrepreneurs	13,9	21,0	25,3	28,5	29,2	30,6
education	2,4	2,0	1,5	1,4	1,4	1,3
Health care and social assistance	2,9	2,6	2,4	2,4	2,7	2,6
Other community and personal service activities in the field of culture and sport	4,0	5,2	5,7	5,6	4,8	5,1
Total	100	100	100	100	100	100

the differences of the domestic economy can optimally design future development in the process of economic reforms. Underestimation of the real value of services for the development of the national economy may cause decisions that ignore the contribution of this sector of economic growth in the medium and long term [7].

Except for analyzing the essence market, its structure and dynamics of the study is to predict the future market development.

Prognosis of servises market – this is objective probabilistic judgments about the dynamics of its most important characteristics and their alternatives, subject to the formulated hypotheses.

Consider the projections of research (marketing) services. Here you need to understand that the forecast of sales (marketing) - this is definition that the company expects to sell based off current market conditions, market potential and their capabilities. Forecasting of sales depends on the actions of two groups of factors:

– Controlled prices, distribution channels, promotion system, product characteristics, product policy of the company;

– Uncontrolled: the state of economy, inflation, interest rates, changing of demographics, consumer's tastes, competition, state of the field. From here prognostication of sale is to take into account sales opportunities concerning company relatively management of controlled factors and adaptation by the uncontrolled variables.

Perform market outlook for the next six years. To do this, we construct a graph of volume of realired services and polynomial trendline of five degrees for 2002 – 2010.

Construct a polynomial trevd's equation of the fifth degree of volume of the realized services dynamics for 2002 to 2016, which has a follow kind:

$$y_t = a_1 t^5 - a_2 t^4 + a_3 t^3 - a_4 t^2 + a_5 t - a_6 \qquad (1)$$

Using Microsoft Excel we have the following polynomial equation of trend:

$$y_t = 35,33 t^5 - 996,99 t^4 + 9857,9 t^3 - 39049 t^2 + 76385 t - 214,71 \qquad (2)$$

To forecast the volume of realized services we shall calculate auxiliary data (Table 2).

Table 2 shows that the volume of realized services is rapidly growing and in 2016 will amount to 1,985,835.79 million., that is almost in eight times more than in 2010.

Conclusions. The market in various fields of service is developed differently. At the system of transport and communications, real estate market relations have got the largest development. But in the fields such as culture, health, education, market relations have not only the specificity but and limited capacity. Regarding prospects for the development of Ukraine's services, obvious and natural is its dependence off the timely overcome the overall crisis.

A major impetus for the development of the domestic market was Euro 2012. This fact stimulated the government to action in combat with economic crisis, bringing to the forefront service sector.

Also the development of the service sector in Ukraine
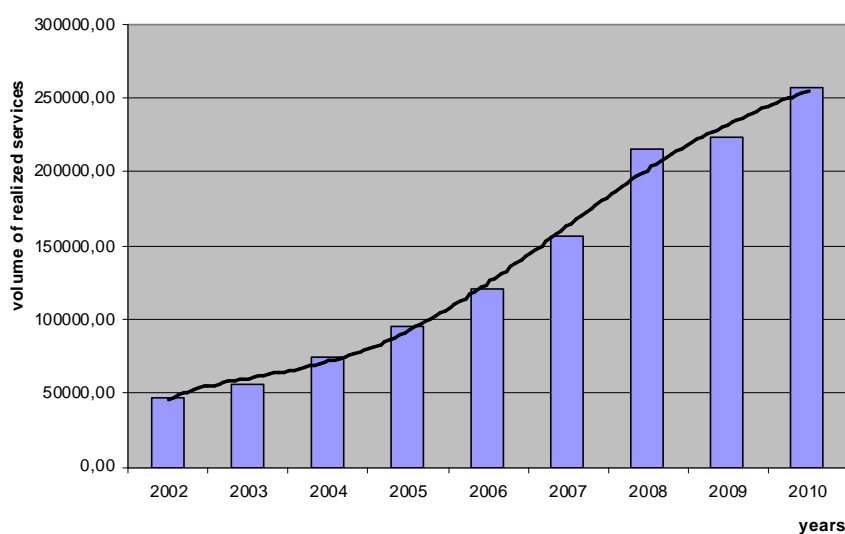
Fig.1. Dynamics of services market and its polynomial trend line of the fifth degree

Table 2

Calculation of auxiliary data for forecast of the volume of Realized services in 2016

Years	Designation of years, t	t^2	t^3	t^4	t^5	Volume of realized services in Ukraine, mln.
2002	1	1	1	1	1	46971,00
2003	2	4	8	16	32	56718,50
2004	3	9	27	81	243	74406,20
2005	4	16	64	256	1024	95832,30
2006	5	25	125	625	3125	120910,20
2007	6	36	216	1296	7776	157005,10
2008	7	49	343	2401	16807	215801,30
2009	8	64	512	4096	32768	224583,60
2010	9	81	729	6561	59049	257123,30
2011	10	100	1000	10000	100000	279658,29
2012	11	121	1331	14641	161051	328853,43
2013	12	144	1728	20736	248832	445319,41
2014	13	169	2197	28561	371293	693907,89
2015	14	196	2744	38416	537824	1166417,97
2016	15	225	3375	50625	759375	1985835,79

requires to bringing of additional investments, including foreign. Attracting of foreign capital will provide not only the receipt of the necessary financial resources, but also advanced, technically efficient methods of implementation services that will improve their quality, availability, service culture and ultimately it will increase the competitiveness of domestic producers of services and significantly strengthen the position of Ukraine at international exchange of services.

References

1. **Крамченко Р. А.** Державне регулювання розвитку сфери послуг / Р. А. Крамченко // Науковий вісник Національного лісотехнічного університету

України: [Збірник науково-технічних праць.] – Львів : НЛТУ України. – 2008. – Вип.18.6. – С. 188 – 197. 2. **Гавриленко О. В.** Послуги в контексті економічного зростання / О.В.Гавриленко // Фінанси України. – 2000. – № 4. – С. 71 – 70. 3. **Сидорова А. В.** Комплексна оцінка розвитку сектора послуг на регіональному рівні / А. В. Сидорова // Статистика України. – 2002 – № 1. – С. 46 – 51. 4. **Калачова І. В.** Статистика послуг: концептуальні основи реформування / І. В. Калачова // Статистика України. – 2001. – № 4. – С. 24 – 28. 5. **Крамченко Л. І., Килин О. В.** Теоретичні засади статистичного вивчення ринку товарів та послуг / Л. І. Крамченко // Соціально-економічні дослідження в перехідний період. Випуск XXX, Львів, ІРД НАН України. – 2001. – С. 82 – 86. 6. **Статистичний** щорічник України. 7. **Крамченко Л. І.** Статистика ринку товарів та послуг / Л. І. Крамченко // Навчальний посібник. – Львів. – 2006. 8. **Крамченко Р. А.** Теоретичні проблеми розвитку сфери послуг / Р. А. Крамченко // Формування ринкових відносин в Україні: [Збірник наукових праць.] – К. : НДЕІ М-ва економіки України, 2008. Вип.2 (81). – С. 115 – 118.

Спорняк С. О. Статистичний аналіз ринку послуг в Україні

У статті розглянуто особливості функціонування сфери послуг як підсистеми національної економіки, сутність ринку послуг та його структуру. Проаналізовано сучасний стан ринку послуг в Україні, структуру та динаміку обсягів реалізованих послуг за видами економічної діяльності. А також представлено прогноз обсягів реалізації послуг до 2016 р.

Ключові слова: статистичний аналіз, сфера послуг, обсяги реалізованих послуг, структура та динаміка, прогноз ринку послуг.

Спорняк С. А. Статистический анализ рынка услуг в Украине

В статье рассмотрены особенности функционирования сферы услуг как подсистемы национальной экономики, сущность рынка услуг и его структуру. Проанализировано современное состояние рынка услуг в Украине, структуру и динамику объемов реализованных услуг по видам экономической деятельности. А также представлен прогноз объемов реализации услуг до 2016 г.

Ключевые слова: статистический анализ, сфера услуг, объемы реализованных услуг, структура и динамика, прогноз рынка услуг.

Spornyak S. O. Statistical Analysis of the Services Market in Ukraine

At the article the features of the functioning of the service sector have been descried as a subsystem of the national economy, the essence of the services market and its structure. I have analysed the current state of the services market in Ukraine, the structure and dynamics of the volume of realized services by types of economic activity. Also the forecast of realized services by 2016 is introduced.

Key words: statistical analysis, the service sector, the volume of realized services, structure, dynamics, prognosis of services market.

Ye. V. Savelyev, V. Ye. Kuryliak, H. F. Smalyuk

UDC 341.232:330

Ye. V. Savelyev,
Dr.Hab (Economics),
V. Ye. Kuryliak,
Dr.Hab (Economics),
H. F. Smalyuk
PhD. (Economics)
Ternopil National Economic University, Ukraine

BENCHMARKING: INTEGRATION OF RIVALRY AND MUTUAL ASSISTANCE*

1. Benchmarking as a new scientific direction

Benchmarking is a direction of scientific research and area of practical activity, which has gained broad recognition in the world economy during the last decades of the 20th and early 21st century. Experts working in this field of knowledge define the essence of the term based on its ethymology: the English word „benchmark" interprets into Ukrainian as „a notch" or „a starting point". In fact, this term was used to determine the process that started in 1972 in the USA. It was introduced by the Cambridge Institute of Strategic Planning and Prims research and development company. These institutions revealed that effective managerial decisions under conditions of competition can and should be developed with orientation towards experience of other companies that successfully operate in affiliate branches. *This in turn calls for elaboration of a system which would allow to study and use best-practice experience regardless of competition.*

Benchmarking appeared in marketing and management textbooks after 1979 thanks to successful realisation of the Competitiveness Benchmarking project by Xerox. It consisted in performing a comparative systemic analysis of the company's costs and products against those of the Japanese companies and entailed elaborating effective measures for implementation of their experience. The study of competitors' business practice was induced by the intensified competivite pressure on the global market thanks to the activity of Japanese companies which started to crowd Xerox out of the market. This helped to detect and solve a number of bottlenecks related to product wharehousing, shipping, etc[1]. The study was based on the company's subsidiary Fuji Xerox operating on the Japanese market. For comparison the data on copying machinery market prices was used, which allowed to make an indirect assessment of the operational costs of competitors and to single out the areas in which they performed better financially. Assessment of the gap between Xerox and its competitors and determination of its causes and their subsequent liquidation were the findings of the study. It nevertheless took a lot of time to catch up with the leaders. According to publications, only in 1987 Xerox has overtaken its competitors in those areas, which were earlier determined to have obvious drawbacks[2]. All in all, the success of Xerox attracted attention of economists from different areas to benchmarking. Since then, businessmen have started to treat it with trust, while scientists activated their research in the field.

Another experience, which has also set a standard, is that of Southwest Airlines, which managed to increase its competitiveness significantly thanks to comparative testing of order processing, transport operations, business organisation and finance. At that, the company did not stop at studying the practice of its competitors, and focused on studying business methods in other industries as well. Thus, having revealed that technical maintenance and refill of airplanes requires no more time than do similar operations in the automobile industry, the managers of Southwest Airlines took into account the experience of „Formula-1" mechanics and reduced the duration of this procedure from 45 to 15 minutes, which allowed to increase the number of flights[3].

Taking into consideration the history of benchmarking appearance and development, the extensive set of its definitions, does not bear significant differences.

[1] See Терещенко О. О. Фінансова діяльність суб'єктів господарювання / О. О. Терещенко // [Electronic document]. – Available at: http://fingal.com.ua/content/view/319/54/1/1/.

[2] Ватсон Г. Х. Бенчмаркинг в примерах / Грегори Х. Ватсон // Деловое совершенство. – 2006. – № 8. – С. 29

[3] Фуколова Ю. Всё лучшее – себе. Бенчмаркинг / Юлия Фуколова, Игорь Шелухин, Артём Белов / [Electronic resource] // Available at: http://www.finansy.ru/publ/mark/001.htm.

As a rule, benchmarking is defined as a study of another company's experience, as well as assessment of its value for one's own company, organisation, industry, or country, and its adoption in own business conditions. In its broadest sense, benchmarking is a reference comparison and tuning of one's own organisation and its business processes by using other companies' experience. Today, benchmarking, together with management and marketing, is one of the three most popular methods of business management, which is rightly treated as a new direction in the development of economic science.

When determining the place of benchmarking in the modern science, it would be incorrect to present it as an absolutely new and unknown phenomenon. It cannot be considered by analogy with newly appearing illnesses, like bird or swine flues or global warming. In the market economies always existed business espionage, competitive and economic intelligence, the goal of which was to study the secrets that lay the basis for other companies' or countries' achievements and success. It is owing to this that the inventors of fire-making, silk-making, porcelain production, and alchemist discoveries were deprived of their monopoly[4].

In history benchmarking experts single out various forms and methods of attracting foreign experience for commercial success. Such a practice was extremely popular in the countries of the former socialist camp. Worth recalling is the experience of socialist contest organising, which was widely used in post-communist countries under the planned economy. Since it was based on comradely rivalry and mutual assistance, the participants of the socialist contest were obliged to share the leading experience. This was the subject of agreements, bilateral visits and traineeships, as well as an instrument used for motivational methods development. Unfortunately, the system of socialist contest could not play a decisive role in economic development because the goals of economic activity were limited by the state plan, and administrative levers of its fulfilment dominated in the economic mechanism. Owing to this, experience sharing more often than not was superficial in nature and reduced to mutual visits and honouring.

It cannot be stated that today the development of market relations in the world, even in the leading countries, has reached such a level that benchmarking has become a functional element of each company's activity. This is mostly true for small and middle-sized companies, 90% of which – according to the European Commission – do not use it in their practice. It is implemented only in big companies with more than 1000 employees. As for the post-Soviet countries, they are considerably lagging behind the European countries in terms of benchmarking use. Today only Russia participates in the European Benchmarking forum (EBF) and prepares official reports for this organisation, even though the latter was established back in 1997. This happens regardless of the fact that EBF aims to transform Europe into the world benchmarking leader in order to use it as an instrument of continuous business development and increased their effectiveness in the conditions of intensified international competition. In addition, special attention within the frames of the forum is paid to small and middle-sized business.

It might seem that the most active users of benchmarking ought to be the post-communist countries since they are hugely lagging behind the leaders. It might seem that there is no need in persuading that the task of catching up to a large extent **can** be solved by adopting achievements of the leaders. Unfortunately, this doesn't work so far, the reasons to which being the inadequacy of personnel providing with respect to tasks of effective application of benchmarking to solving the problem of competitiveness, as well as management's prejudice against the expensiveness and complexity of its realisation. At that, it should be noted that similar factors took place in the developed countries as well. However, in the post-communist countries, their influence is much more powerful.

Today benchmarking grows in significance in Ukraine, the economy of which is at the initial stage of creating its own model of a „catching-up leap". In view of this, it should be kept in mind that similar tasks have already been and are being **solved** to some extent by many national economies, which obtain both positive and negative results.

Ukraine can learn a lot from the experience of both developed and newly industrialised countries. In fact, the „lessons" taught by the latter in many aspects are no less important, especially in those aspects that their reformers started with public recognition of the backwardness and resolute rejection of the previous models and superpositions, which appeared to be incapable of ensuring development in the new conditions. The fanfaronade of claims to „imperial greatness" and ambitions of separate population layers were set off with sharp criticism of what had to be „left behind".

The Prime-Minister of Malaysia Mahathir bin Mohamad, who held the office for 22 years, can be a great example. In his book „The Malay Dilemma", which was written during a temporary retrenchment from active

---

[4] Єгоров В. З історії розвитку промислового шпигунства // Дзеркало тижня. – 1994. – 31 грудня. – № 13. – С. 14.

political activity, the author critically evaluated the individual character features of Malay people. In particular, he openly wrote about their lazyness, sluggishness, a habit of relying on fate, restraint and unwillingness to study, everything that prevented them from being modern. Based on this, he concluded that the Malays had to change themselves. This method is evidence in support of the fact that those who lead the reforms must be willing to move against the currents that impede modernisation.

At its very core, Ukrainian modernisation faces the Hamletian dilemma of „to be or not to be". Regardless of the fact that the country has spent the last twenty years of its independence building a national version of oligarchic state regime on the ruins of planned economy, it is time to admit that it did not become a foundation for the „Ukrainian miracle". In its functioning, this model hampers the instruments of competition, and the country never reaches the level of global leaders. By controlling entire industries, the oligarchs find no interest in inter-industry movement of capital or structural changes; instead, they accumulate personal wealth through channels of political rent by taking control over public institutions and amalgamating with them. The essential feature of the oligarchic economy is dominance of corruption based on close, partner relations between the economic and administrative-political „elites". At that, both the population of the country and foreign capital are removed from the privatisation processes. Such a situation cannot be improved without the study and brave implementation of international experience adjusted to national peculiarities. Of special importance in this aspect can be the experience of developing national doctrines of settling economic, social and ecological problems at the level of globally recognised standard indicators.

A barrier to benchmarking development is the fact that noone in the market economy has managed to remove competition, whereas leaders in technical progress maintain a limited interest in it at most. Thence, the methods of benchmarking are based mostly on using reports as a source for information. A direct study of best practice, a search for mechanisms of engaging the leaders in the process of studying their experience by the lagging companies do not gain sufficient recognition even where the propagation of successful business is performed at a high level. Thus, in Great Britain, the Ministry of Trade and Industry's list of companies, which accept visitors within the framework of the Inside UK Enterprise (IUKE) program includes 180 companies[5].

It is beyond doubt that with such a range of best-practice enterprises selected by the government, free advertising and official representation assure their long-term advantages and increased customer loyalty, even though their competitors can be their equals in business excellence. In any case, they promote certain progress, especially on the basis of forming the motivation for improvement. It is no coincidence that IUKE, the largest program of this kind in the world, is popular among entrepreneurs, and dozens of one-day visits to companies for experience-sharing purposes are a proof of that.

Overcoming the traditional ideology of competition is an important aspect of successful benchmarking implementation. This problem exceeds the limits of purely economic relations and calls for discussion in the sphere of ethics. Thus, in the USA and the EU, special rules of conduct are being developed, the aim of which is promoting mutual understanding among potential partners. For example, Ameritech company, a member of the benchmarking council at the US Institute of Strategic Planning, elaborated and approved a code of conduct, which includes nine positions: observe the laws; be willing to provide information analogous to what you want to obtain; respect each others secrets; do not disseminate received information beyond your company; initiate the contact only with those who are in charge of benchmarking; do not make references without permission; be well prepared already for the first contact; study benchmarking well and follow the procedure; determine the object of benchmarking analysis; perform thorough self-assessment[6].

By analogy with the USA, the European Foundation for Quality Management (EFQM) developed the European Benchmarking Code of Conduct[7]. It contains ten clauses, which set the foundations of the whole benchmarking process: principle of preparation; principle of contact with consideration for the partners' corporate culture; principle of information exchange; principle of confidentiality; principle of using the obtained information; principle of legality; principle of completion of the assigned responsibilities; principle of understanding and

[5] Пилчер Т. Бенчмаркинг как средство повышения конкурентоспособности компании / Терри Пилчер // Европейское качество. Дайджест. – 2004. – № 1. – С. 44

[6] Джордж С., Ваймерскирх А. Всеобщее управление качеством. Стратегии и технологии, применяемые в самых успешных компаниях. – С.-Пб.: Victory, 2002.

[7] European benchmarking code of conduct // EFQM [Електронний ресурс]. Режим доступу : http://www.efqm.org/en/PdfResources/ Benchmarking%20Code%20of%20Conduct%202009.pdf

agreement; benchmarking with competitors; and benchmarking protocol[8].

Experts in the practice of benchmarking often stumble across the problem of adopting the revealed experience. Generally speaking, it cannot be cloned at another enterprise. Moreover, the leaders do not stop in their development, they progress continuously. That is why the concept of benchmarking is not limited to procedures of its realisation. Both the leaders and the followers should be equally committed to building all their business activity towards increased performance. The only qualitative difference between them is that leaders are destined to search for new, previously unused methods of business; they are supposed to improve the level of business performance which is currently perceived as the limit of excellence. The followers should be solving a double task: to use the leader achievements and to search for opportunities of higher performance by producing their own ideas and methods of business activity. At that, the former will focus on self-assessment, whereas the latter ones will focus on competitor evaluations.

The reference model developed by the International Standards Organisation (ISO) and included in the ISO 9004:2009 offers a considerable support for the growth of national economies in general and separate economic agents in particular[9]. The significance of this standard consists in the fact that for the first time it offers a set of analytical self-assessment methods for organisation's maturity identification based on techniques of ISO 10014:2006[10] combined with traditional auditing of the quality management systems [11].

Economic literature shares a standpoint that the EFQM models do not comply with the individual needs and should be replaced with the individualised models. „Ever more organisations refuse to use EFQM due to its generality and non-compliance with individual needs, and move on to creation of their own, individualised models of self-evaluation, which are continuously being improved along with improvement of the organisation"[12], acknowledges V. Novikov. We can agree with such an approach only in the sense that individual methods of evaluation are really necessary. However, they cannot replace the old ones, they should supplement them. The individualised methods can turn especially feasible and effective when searching for innovative managerial decisions regarding leaping development (for those who lag behind) or preserving the leadership positions (for leaders).

In view of the tendencies in the development of benchmarking methods, it is worth admitting that the analysis of best practice is usually concentrated on two aspects: the process and the results. In the methodological sense, they are defined by T. Conti as „left to right" (from systemic factors through processes to results) and „right to left" (from results through processes to systemic factors)[13]. However, from both of these approaches misses an element which accompanies and assures their transformation into a quantitatively and qualitatively superior result – the mechanism of motivating all participants of the process towards best performance. Its absense or deficiency turns benchmarking into an instrument, which cannot always be a sufficient method of achieving the most desired effect – the leadership. Without leadership no excellence is ever gained, even though it is only natural for companies to wish „to play a better game". In this respect, it would be an opportune moment to recall an aphorism attributed to B. Napoleon: „He is a bad soldier who doesn't dream of becoming a general"[14].

Thus, leadership and ambition are essential or even decisive elements in achieving high results. However, they should be regarded in a broader context, proceeding from the fact that they are elements of *the mode of thinking* of individuals, teams, nations, which are predetermined by the motivational mechanism. In our opinion, this layer of activity has almost disappeared from the benchmarking systems; due to this, not all attempts to accumulate and use best practice produce desired results. This is especially noticeable when there is no understanding of the goal and methods of its achievement in the management system.

Understanding of the need to include the study of the thinking modes in the methodology of systems benchmarking is maturing and shaping among scientists. Thus, J. Pfeffer and R. I. Sutton from Harvard Business School conclude that „instead of copying what others

---

[8] The prindiples of the European Benchmarking Code were not officially translated to Ukrainian.

[9] ISO 9004:2009. Managing for the sustained success of an organization – A quality management approach.

[10] ISO 10014:2006. Quality management – Guidelines for realizing financial and economic benefits.

[11] ISO 10014:2006. Quality management – Guidelines for realizing financial and economic benefits.

[12] Новіков В. Діагностичне оцінювання як невід'ємний елемент сучасної системи управління / В. Новіков // Стандартизація, сертифікація, якість. – 2011. – № 2. – С. 40.

[13] Конти Т. Самооценка в организациях. – М.: СМЦ „Приоритет", 1999. – 337 с.

[14] The saying is attributed to General A. V. Suvorov in Russia.

---

do, we ought to copy how they think[15]». Especially since experience is always the past which cannot be blindly copied. The past had its own business conditions, client environment, international situation, etc.

Finally, there is also a factor of human exclusiveness. It can be easily noticeable in companies producing highly creative products and services. However, it is much more complicated to study the role of the leader, principles of team selection, employee motivation, and interpersonal relations at industrial enterprises. However, complexity should not lead to abandoning the study of their resource potential. In preparing for a benchmarking study, it is necessary to elaborate and approve with the partner the methodology of researching the corporate mode of thinking in general and with respect to separate employess and their groups. This element can partly be performed in the aspects of analysing the volume of knowledge posessed by the organisation. The knowledge is scattered within databases, document storages, e-mails, and reports. In addition, a significant volume of knowledge and experience is concentrated in the heads of employees, which can be accessed during individual contacts.

Knowledge benchmarking should include systems of knowledge management. This will allow going beyond simple reviews of separate data sets. It will help to single out a comprehensive business strategy, as well as a system for its realisation based on all available information, experience, and employee qualifications. Along with that, reducing the time of adjustment to changes in market conditions, achieving competitive advantages in processing the accumulated knowledge, information updating, and new knowledge generation acquire particular significance.

Finally, knowledge benchmarking is a study of competitive advantages of an enterprise in the knowledge sphere, which calls for the development of special methods and skilled employees. More than that, selection of employees should be performed in such a way that they don't cede to competitor's employees in terms of qualifications and creative potential in order to be able to analytically compare the knowledge management systems at both enterprises. A good example in this respect are the Japanese, who traditionally possess the mode of thinking based on reference models, which allows them to adopt the new knowledge brought from abroad. A popular urban legend says that many ideas published in the Soviet magazine *Yunyi Technik* (translated to English as „Young Technician") were used by Japanese businessmen, whereas domestic experts treated them only as popular information for professional orientation of children and young people.

In revealing the essence of benchmarking, researchers often neglect *creative learning* (studying) as its element. Meanwhile, globalization and modern practice require constant mastery of the new advances in science and technology. Creative learning in the system of benchmarking should be understood as a need to restrain from direct, mechanic copying of the knowledge accumulated by competitors according to the principle „think as I do; do as I do". Experts in benchmarking should assimilate and develop the achievements of competitors together with the tasks of corporate development in the conditions of scientific and technological progress. Comparing one's own company with an industry leader (standard) should be the basis for development of a new idea or a set of ideas and encourage to innovation. If such activity is performed not occasionally, but on a regular basis, it develops creative skills of employees and shapes the creative work towards building a new image of one's own company. Thanks to this, benchmarking gradually achieves the potential which (if creative learning was successfull) will pave the way to leadership.

It should be noted that the benchmarking literature sometimes uses the term „a learning organization". It usually has a double meaning: the study of someone else's experience and its creative adoption in one's own business conditions. Unfortunately, such an interpretation reduces or even beshadows the creative element of *developing original technological, organisational, financial-economic, social, and ecological solutions*. This process can happen only if the study and research are integrated. If not, the essence of benchmarking reduces to the notion that a learning organisation has only one „teacher" — the competitor, whose experience it is creatively copying. We believe that creative learning of the „learning organization" should be more precisely defined by the conception of „being one's own teacher", meaning that all previous knowledge is studied mostly to form one's own face in business, market awareness, or one's own alter ego.

2. Cooperation and mutual assistance in the benchmarking system

In the system of competition, benchmarking revives the attributes, which should be inherent in every contest – relations of *cooperation and mutual assistance*. According to the logic of market relations, economic leaders are not

---

[15] Pfeffer J. Three Myths of Management / Jeffrey Pfeffer and Robert I. Sutton // HBS. – Working Knowledge. – 2006. – 3/27.

interested in having competitors reproduce their results, or even outperform them. This is an element of rivalry. It is a driver of economic progress because it motivates business people to continuously search for, create and realise growth potential. In addition to rivalry in human life and economics, another fundamental law of human evolution is active – the law of cooperation and mutual assistance. Its essence was thoroughly studied by P. A. Kropotkin. In his theoretical conept, cooperation and mutual assistance are defined as a law of nature similar to mutual combat, although combat is more important for development[16]. To a large extent we can agree with D. Maslov, that „common work for the good of the company has a much larger potential than the work which is based on conflict, ranging and contest". The ideas that form the basis for benchmarking never better correspond to the principle „we'll all win together", and thus fit into the paradigm of modern management. In addition, the mechanism of benchmarking methods contains restrictive elements regulated by the benchmarking code of behaviour[17].

The specifics of cooperation and mutual assistance relations consists in the fact that from the outside they look as if the interests of the lagging partners dominate. Howerver, a deeper analysis shows that, given the responsible attitude of partner towards one another, both sides win and the weaker side does not necessary gain more. Thus, the leader, by providing the opportunity of studying his experience, is actually „selling" his second-hand solution. The side which receives it will never be able to automatically reach the level of the leader. More often than not, the experience of others is only an information base for the creative search of one's own concept of development and its realisation.

Above, we have already mentioned the interests of leaders towards cooperation and mutual assitance in the aspects of advertising. Another, no less important interest can be expressed by means of a Latin aphorism „docento discimo" – „we learn by teaching". Unfortunately, this side is the least described in the economic literature, and its rearly covered by mass media. The Russian engineer D. Maslov after his visit to Japan made a conclusion about the belief of the Japanese that if a company teaches someone, it educates itself. He puts forward an example of the Russian delegation's visit to a Masashino cleaning company employing 360 employees, which is a winner of the Japanese quality award. Having earned reputation in a relatively unpopular business, the company has opened a new business direction – consulting. Every day it offers paid tours for 5 to 7 delegations and sells its best practice publications[18].

However, it should be noted that the advantages of such cooperation do not always find proper recognition among business people. According to Japanese experience, only 50 to 75% of the companies agree to participate in partner benchmarking. When the matter in question is recognised service quality leaders, the winners of Boldridge National quality award, engulfed by that sort of proposals, usually reject all offers except for their affiliate suppliers and customers[19]. At that, assessing the most famous global quality awards shows that only the Japanese Deming award system is oriented towards industry and wide dissemination of standardisation methods. With the European quality award, the accent is made on customer protection and environment, whereas the Boldridge award is targeted towards popularisation of strategic planning[20].

Cooperation and mutual assistance in the modern world are global phenomena. Creative adoption of national achievements in socio-economic development is a new and actively spreading trend. Although in the second half of the XXth century, most interest was concentrated on the American, European and Japanese models, the modern reformers in different countries are thoroughly studying the systems of more or less successful countries. The Chinese, Indian, Singaporean, and Turkish models are popular in emerging economies. Many African countries, such as Ghana, Kenya, Mozambique, Nigeria, Senegal, Rwanda, Tansania, and Madagaskar, are successful to various degrees in adopting the Indian model in information technology sphere. The World Bank popularises the Brazilian system of conditional cash

[16] Кропоткин П. А. Взаимная помощь среди животных и людей как двигатель прогресса [Electronic document] Кропоткин П. А. – Available at: http://aitrus.info/node/767.

[17] Маслов Д. Бенчмаркинг – новое слагаемое успешной стратегии бизнеса в России / Дмитрий Маслов // Деловое совершенство. – 2006. – № 1. – С. 18 – 19.

[18] Маслов Д. Бенчмаркинг – новое слагаемое успешной стратегии бизнеса в России / Дмитрий Маслов // Деловое совершенство. – 2006. – № 1. – С. 18.

[19] Джордж С., Ваймерскирх А. Всеобщее управление качеством. Стратегии, технологии, применяемые сегодня в самых успешных копаниях. – СПб.: Victory, 2002.

[20] See report „Национальная премия качества Л. Болдриджа (MBNQA). – Electronic document / Available at: http://bibliofond.ru/view.aspx?id=538198

transfers, which appeared to be innovative in boosting school enrolment, reducing child and mother death rates, and reducing poverty without material budget losses[21]. In this system, the conditions for welfare transfers are not only low household incomes, but also getting regular check-ups at the doctor's office and vaccinating children, enrolling them at school. Welfare transfers can take the form of grants awarded to talented offsprings of poor families for study at prestigious federal and private universities. The Columbian system of public transport TransMilenio is very popular in large cities of many countries, providing high-speed bus lines, bicycle lanes, large-scale construction of libraries, schools, and sports areas. In recognition of the significance of this system, the Mayor of Bogota was granted „The Golden Lion", the highest award of Venice architectural Biennale. He also presented his achievements in Moscow and Kyiv.

As the forms of mutual assistance and cooperation we can identify membership in special funds and cooperation with organisations, which offer best-practice information dissemination services. In this respect, significant benefits offers membership in the European Foundation for Quality Management (EFQM), which accumulates best-practice experience in the field of management. Members of the fund, having interactive access to its information base, can freely recieve a range of benchmarking options. Similar services can be offered to companies which are not members of the fund, but on less benefitial terms.

Considerable popularity have gained the services of the best practice department at the Department of Trade and Industry of the UK and a set of intermediaries (Training and Enterprise Councils, Business Links, etc), also known as Connect, Benchmark Index i Inside UK Enterprise. A radically simplified procedure for providing consulting services offers the Connect scheme which uses a series of interactive modules on CD-ROM. The task of comparative assessment of key business indicators is solved by means of Benchmark Index, which covers 80 areas of high quality information on the state of finance, management and business excellence. The Inside UK Enterprise program is targeted at direct cooperation; it has already organised dozens of thousands of one-day visits to selected best-practice enterprises with the aim of sharing the experience and carrying out open

discussions in a close circle of colleagues. The focus is made on questions of flexible automated production implementation, teamwork organisation, and supplier relations.

The relations of cooperation and mutual assistance are based on trust. It is the essential resource for experience sharing and promotion of the leader's achievements. The development of productive relations among economic agents in the conditions of mutual trust and belief in sincere help develops cooperation in such a way that in the end, it brings a synergy effect for all partners. The basis for the philosophy of trust relations is mutual understanding of the fact that each of the partners should mutually share everything that is needed for the benefit of both sides. This mode of behaviour will ensure that each partner can expect to obtain what he wants, and even more than that. Under such conditions develops a sense of confidence in the feasibility of partnership. If not, then, according to J. Keynes, arise chaos, uncertainty, irresponsibility, breach of cooperation, etc. According to research of V. Kurylyak, the lower the level of trust in the market, the more restrained become its agents even if decisive action is required, thus leading to decreased rates of economic growth or even a crisis when the level of distrust increases[22].

In its historical aspect, cooperation and mutual assistance are represented as an evolutionary process, typical of the whole natural world and human society in particular. P. A. Kropotkin wrote: „Thus, the moral progress of the human kind in its broad sense seems to be a process of gradual widening of the foundations for mutual assistance, from the primal family to the nation to the commonwealth of nations; in other words, groups of tribes and peoples become larger and larger until finally these foundations cover all of the humanity, regardless of religious, language and racial differences[23]. This conclusion becomes ever more actual in the era of globalisation, when global economy turns into an organic integrated system of national economies and becomes a complex mono-organism with classical systemic attributes, among which the ability of self-development, management of internal organisations, and interrelations take on an essential importance.

P. A. Kropotkin, the prince and progeny of Zapoporizhzhya Cossacks, was not destined to implement

[21] See Васильев С. Модернизация Бразилии: эпоха двух президентов. – Electronic document/ Available at: (http://www.polit.ru/article/2010/11/15/brasil).

[22] Куриляк В. Є. Цивілізаційні і міжкультурні виміри міжнародного менеджменту / Віталіна Євгенівна Куриляк // Тернопіль: Автореферат …д-р економ. наук, 2011. – 17.

[23] Кропоткин П. А. Взаимная помощь среди животных и людей как двигатель прогресса [Electronic document] Кропоткин П. А. – Available at: http://aitrus.info/node/767.

his theories of anarchism. He also didn't live to see the „life and death" of real socialism and transformation of capitalism. Looking back in time, we can conclude that the relationship between rivalry in the form of economic contest or competition, and cooperation of economic subjects develops in different ways. At certain stages of human history, the factor of mutual assistance plays a more important role. This is typical of primal, archaic, even savage forms of human existence. It is thanks to mutual assistance, that humans paved the way to progress. Further development passed through increasing role of contest and its transformation into competition. It is just the competition that made it possible to speed up technical progress, discover steam engine, gain exceptional achievements in electronics and chemistry, and create computers. From the standpoint of overall human development, the apogee for competition was reached in 18th – 20th centuries, notable for industrial and science and technology revolutions.

Globalisation enhances the factor of mutual assistance and cooperation. At first, this tendency appeared mostly at the global and international regional levels in the geopolitical and geoeconomic dimensions. First of all, after the World War II a network of global governance institutions was established, including UN, IMF, World Bank, WTO, etc. Later, regional associations started to emerge, the EU being one of the most developed ones. In modern times, this tendency develops in the direction of expanding the functions and authorities of the existing bodies and unions, and establishing the new ones. At that, the institutions that were established earlier focused mainly on the tasks of peaceful coexistence and economic development, whereas the new ones tend to work towards increasing cooperation in the field of ecology, development of natural resources and global ocean, space research, and global climate change.

Further global development consolidates the tendencies of mutual assistance and cooperation not only horizontally at the level of international and inter-country communications. They diffuse deeply at the level of enterprises, local authorities, clusters, ect. This is a manifestation of the Hegel's dialectic law of negating the negation. It should be interpreted as an idea that globalisation does not interrupt development, but becomes an heir to the past, replicating its certain features at a new stage in an improved form. For economists, it is associated with the concept of „creative destruction" introduced for the first time by the German economist

W. Sombart and popularised by the Austrian and American economist and sociologist J. Schumpeter. The matter in question is that in the process of development, old relationships are destroyed, and the new ones are being formed. However, the later ones recover the values which have been abandoned in the past, but can generate new stimuli for the development in the new conditions. This process, by its nature, is a double negation, according to which everything that hampers development is removed, whereas new opportunities for future progress are created by taking all the useful attributes from the previous stages.

For the development of cooperation and mutual assistance relations at the level of competitive enterprises, it is essential that they are organically included in the economic system. At that, the element of rivalry should not be excluded or weakened. The new economy needs both intense competition and effective cooperation. This is such an important problem that the effectiveness of the economic system which is being formed in the 21st century depends on its solution. Without including the relations of cooperation and mutual assistance into the economic mechanism, it is impossible to assure the successful and balanced development. A weighty argument in favor of this statement is the fact that the breakdown of socialism was decisively driven by the removal of cooperation and mutual assistance relations from the economic system. Finally, socialism was devoid of the innovative and dynamic essence, and destined to apply imitation in development and production of new products.

As Kornai admits: „Within the frames of the socialist system, we can speak of its inability to create revolutionary new products, as well as underperformance of many technical progress indicators in comparison with the capitalist system. These features are not a result of political mistakes, but represent deeply rooted attributes of socialism as a system. Unfortunately, this obvious advantage of capitalism has not earned critical acclaim. It is totally ignored by the majority of people and even those who studies alternative systems"[24]. Y. Kornai mentions 87 revolutionary innovations implemented worldwide after 1917 (the year of socialist revolution in Russia), and innovative companies. It is noticeable that the development of new innovative products took place exclusively in capitalist countries. The countries of the socialist camp at best managed to use innovations created in capitalist countries, engaging instead in alternative solutions or imitating, which is much easier to do. The data in Table 1 proves that it occured with lengthy delays.

---

[24] Корнаи Я. Инновации и динамизм: взаимосвязь систем и технического прогресса / Корнеи Я. // Вопросы экономики. – 2012. – С. 4. (Earlier report was presented at the conference UNU-WIDER „Reflections on Transition: Twenty Years After the Fall of the Berlin Wall", Helsinki, September 18 – 19, 2009).

Table 1

New technology diffusion: steel industry, continuous casting (in %)

Country	Continous casting to total output ratio		
	1970	1980	1987
Socialist countries			
Bulgaria	0	0	10
Czechoslovakia	0	2	8
GDR	0	14	38
Hungary	0	36	56
Poland	0	4	11
Romania	0	18	32*
USSR	4	11	16
Capitalist countries			
France	1	41	93
Italy	4	50	90
Japan	6	59	93
Spain	12	49	67
UK	2	27	65
USA	4	20	58
Federal Republic of Germany	8	46	88

Note: *1986

Source: СССР и зарубежные страны в 1987 г. – М.: Финансы и статистика, 1988. – С. 109

Collaborative benchmarking: cooperation and mutual assistance

Economic literature contains more or less acceptable classifications of benchmarking. Among them, we can single out internal and external benchmarking, which are also divided into separate subcategories: competitiveness benchmarking; functional benchmarking; strategic benchmarking; global benchmarking; individual benchmarking; collaborative benchmarking; regional or national benchmarking; country union benchmarking; country or industry benchmarking; corporate benchmarking; enterprise benchmarking; corporate subdivision benchmarking; overall organization benchmarking; process benchmarking; process element benchmarking; process function benchmarking; processing cost benchmarking; product benchmarking (Scheme 1)[25]. Decomposition of the forms and types of benchmarking can be further performed with respect to managerial, financial, social, ecological, and other aspects. However, the common attribute is that all the above forms can either be realized individually or together with a partner.

Individual benchmarking is not, in fact, an utterly new business technique. It reflects traditional methods of data collection used by companies in the process of competition. It is a sort of salient industry intelligence realised by accumulating and analysing open information and occasional 'mining' for insider materials. In analysing

[25] See.: Кане М. М. Системы, методы и инструменты менеджмента качества: Учебное пособие / М. М. Кане, Б. В. Иванов, П. В. Корешков, А. Г. Схиртладзе // М.:, СПб.: Питер, 2008. – С. 460
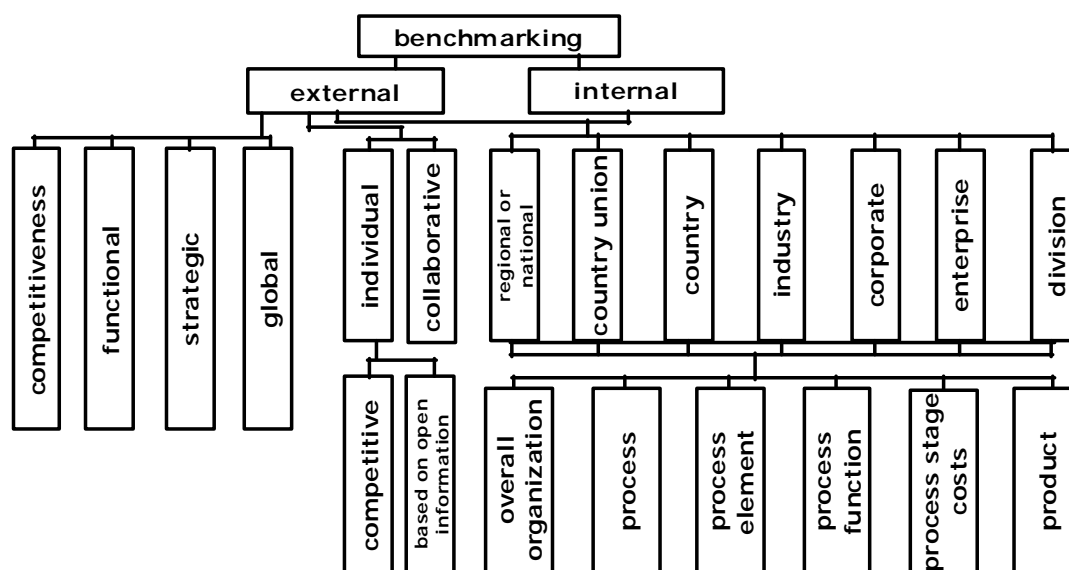
Scheme 1. Benchmarking classification

Source: Кане М. М. Системы, методы и инструменты менеджмента качества: Учебное пособие / М. М. Кане, Б. В. Иванов, П. В. Корешков, А. Г. Схиртладзе // СПб.: Питер, 2008. – С. 460.

individual benchmarking, the authors of „Системы, методы и инструменты менеджмента качества,, acknowledge that it is „on the verge of industrial espionage, which is denounced by the society and, if revealed, can lead to substantial material and image losses"[26]. Dismissing the illegal methods of data collection, individual benchmarking should be regarded as an element of collaborative benchmarking, providing a possibility for an unburdensome study of the leading experience for the partners. At that, new scientific achievements are used in information processing.

Collaborative benchmarking is a modern form of cooperation and mutual assistance for various types of organisations, primarily economic agents. It requires a partner agreement based on mutual interest of the parties. Collaborative benchmarking entails conclusion of an agreement on performing common comparative studies of own enterprise activities or other organisations and unions. The goal of collaborative benchmarking is to reveal and disseminate leading experience among business partners and to provide mutual assistance for further development. Along with that, it can be carried out by enterprises operating in different industries, as well as enterprises operating in one industry, that is competitor

companies. The later form of benchmarking is a direction that should be disseminated in the new global economy in order to reduce the negative effects of competition and encourage common activity in the interests of overall economic development. In any way, collaborative benchmarking is a certain retreat from rivalry for the benefit of cooperation, as is demonstrated by the Japanese experience[27].

An important motive for cooperation in the frames of collaborative benchmarking is the fact that neither company is or can be absolutely successful in all directions of its activity. That is why joint analytical work, search for better sides of each company's activity, mutual assistance in sharing revealed advantages is a condition for each company's gains from cooperation. At that, partners agree that benchmarking results will not be used to harm parties to an agreement.

Collaborative tendecies in benchmarking development are not limited to enterprise level. Today they diffuse to various spheres of activity and can include regional (in national and international aspects), national and international levels. Benchmarking is also starting to be actively used in cooperation network and cluster development.

---

[26] Кане М. М. Системы, методы и инструменты менеджмента качества: Учебное пособие / М. М. Кане, Б. В. Иванов, П. В. Корешков, А. Г. Схиртладзе // М.:, СПб.: Питер, 2008. – С. 463

[27] Исикава К. Японские методы управления качеством. – М.: Экономика, 1988; Михайлова Р. М. Бенчмаркинг – универсальный инструмент управления качеством / Р. М. Михайлова [Electronic document] // Available at: http://quality.eup.ru/MATERIALY5/benchmark.html.

Demonstrative is the cooperation between Germany and Korea in comparative analysis of innovative cooperation networks[28] and clusters. This benchmarking study was initiated by the German Federal Ministry for Education and Research and performed in continuation of its twenty-year long cooperation programme with Korean Ministry of Education and Science and Ministry of Knowledge Economy. Realisation of the study was delegated to Berlin Institute for Innovation and Technology. It should be admitted that the German side did not act only on its own initiative, but represented the European Union.

The applied significance of benchmarking study fulfilled by the Institute for Innovation and Technology in the case German and Korean clusters consisted in assuring the development of international regional cooperation of cooperation networks and clusters in the area of research and innovative development with further expansion of cooperation to small and medium enterprises. It was also expected to generate positive effect in questions of increasing the competitiveness of German business in Asia. This work satisfied the interests of Korea regarding closer cooperation with the EU in the field of education, science and R&D. Research findings were fully published in the Internet[29] and translated into languages of the EU countries [30].

The realisation of collaborative benchmarking in the area of cooperation networks and clusters, which integrates research and development initiatives acquires new features compared with benchmarking in other areas. Within the frames of this form, much significance is attached to comparative analysis of priority goals; assessment of the experience and openness with a view to prospects of international cooperation development; forming recommendations for the funds and state authorities decision-making, aimed at financial support of the processes of including national science and technology and business organisations into foreign cluster and network arrangements.

Thus, the Institute for Development and Innovations, together with its Korean partners, has initially studied the existing cooperation networks and clusters focusing mainly on determining the national peculiarities of this form of organisation. The researchers studied different aspects of cooperation networks and clusters activity by analysing primary and secondary documents and interviewing Korean experts and managers. Later, it became possible to determine similarities and differences of network and cluster organisation in Germany and Korea. Finally, mutual interests in the area of research and development cooperation were established.

Finally, it should be noted that collaborative benchmarking does not entail public disclosure of the research materials. As a rule, the parties agree to conditions of nondisclosure. For example, the German Institute for Innovations and Development does not publicise the names of the clusters under study and does not publish key figures in the fields of technology, energy and natural environment, pharmacy and biotechnology, microsystems and nano-technology in their reports.

Савельєв Є. В., Куриляк В. Є., Смалюк Г. Ф. Бенчмаркінг: інтеграція змагальності і взаємної допомоги

Розроблено методи формування, розвитку і поширення відносин взаємної допомоги в умовах сучасної конкуренції. Розкрито зміст категорії бенчмаркінг та його історичні корені. Показано роль бенчмаркінгу для постсоціалістичних країн, економіка яких перебуває на початковому етапі створення власної моделі „ривку навздогін". Зроблено спробу розвинути погляд, що для подолання традиційної ідеології конкуренції треба вийти за межі суто економічних відносин і перейти до сфери етики. Значну увагу приділено використанню моделі досконалості у системі стандартів, зокрема міжнародних. Автори вважають, що у діяльності з виявлення передового досвіду не можна обмежуватися лише аналізом процесу і результату, а треба вивчати також спосіб мислення індивідуума, команди чи нації як складової мотиваційному

---

[28] It should be noted that starting from 1990s, Germany has been trying to develop innovative economy by means of harnessing industry concentration at the regional level. With this aim regional conglomerates are being created, also known as „competence networks" (Kompetenznetze). An important task of these networks is to perform research which goes beyond traditional industry limits. For that, integration of the most successful innovative groups and complexes of the country is encouraged. The organisation of such networks is realised in nine categories: biotechnology; micro-nano-optical technology; production and processing; transport and mobility; healthcare and medicine; energy and environment; new materials and chemistry; information and communications; aviation and space technology. The practice of creating competence networks is becoming popular in the EU, although it is much less known in Ukraine and CIS countries.

[29] Meier zu Kцcker G. Cluster als Instrumente zur Initiierung von FuE-Aktivitдten zwischen Deutschland und Korea / Gerd Meier zu Kцcker, Liane Garnatz. – [Electronic document] // Available at: http://www.vdivde-it.de/publikationen/studien/cluster-als-instrumente-zur-initiierung-von-fue-aktivitaeten-zwischen-deutschland-und-korea.

[30] Thus, in Poland, the publications in Polish were realised by the Polish Agency for Business Development under the auspices of the Minister of Economy and with financial support of the EU.

механізму. Бенчмаркінг потребує формування системи, яка забезпечує задоволення інтересу і відстаючих, і лідерів, тобто виграш для всіх. Значною мірою це завдання вирішується в межах партнерського бенчмаркінгу, що особливо ефективним є в умовах створення інноваційних мереж співпраці і кластерів. В основу відносин суперництва і взаємодопомоги має закладатися досягнення високого рівня довіри між партнерами.

Ключові слова: бенчмаркінг, бенчмаркінг знань, взаємодопомога, відстаючий, довіра, змагальність, індивідуальний бенчмаркінг, кодекс правил проведення бенчмаркінгу, конкуренція, лідерство, партнерський бенчмаркінг, передовий досвід, спосіб мислення, суперництво.

Савельев Е. В., Куриляк В. Е., Смалюк Г. Ф. Бенчмаркинг: интеграция соревновательности и взаимопомощи

Разработаны методы формирования, развития и распространения отношений взаимопомощи в условиях современной конкуренции. Раскрывается содержание бенчмаркинга и его исторические корни. Показано роль бенчмаркинга для постсоциалистических стран, экономика которых пребывает на этапе создания собственной модели „рывка вдогонку". Развивается точка зрения, что для преодоления традиционной идеологии конкуренции нужно выйти за рамки экономических отношений и перейти в сферу этики. Значительное внимание уделяется использованию модели совершенства в системе стандартов, в т.ч. международных. Авторы считают, что в деятельности по выявлению передового опыта нельзя ограничиваться только анализом процесса и результата, а необходимо изучать также способ мышления индивидуума, команды или нации как составляющей мотивационного механизма. Бенчмаркинг требует формирования системы, которая обеспечивает удовлетворение интереса как отстающих, так и лидеров, т.е. выигрыш для всех. В значительной мере эта задача решается в рамках партнёрского бенчмаркинга, который особенно эффективен в условиях создания инновационных сетей сотрудничества и кластеров. В основу отношений соперничества и взаимопомощи должно быть положено достижение высокого уровня доверия между партнёрами.

Ключевые слова: бенчмаркинг, бенчмаркинг знаний, взаимопомощь, доверие, индивидуальный бенчмаркинг, кодекс правил проведения бенчмаркинга, конкуренция, лидерство, отстающий, партнёрский бенчмаркинг, передовой опыт, соперничество, соревновательность, способ мышления.

Savelyev Ye. V., Kuryliak V. Ye., Smalyuk H. F. Benchmarking: Integration of Rivalry and Mutual Assistance

The authors elaborate methods of forming, developing and disseminating the relations of mutual assistance in the conditions of modern competition. The essence of benchmarking and its historical roots are revealed. The authors demonstrate the significance of benchmarking in the post-socialist countries, the economies of which are at the stage of creating their own model of a „catching-up leap". The authors develop a standpoint that in order to overcome the traditional ideology of competition, it is necessary to go beyond the purely economic relations and step into the field of ethics. Significant attention is paid to using the excellence model in the system of international standards. The authors believe that benchmarking activity should not be limited to analysing processes and results; it should encompass the study of the thinking mode of individuals, teams or nations as an element of the motivational mechanism. Benchmarking calls for creation of a system, which would satisfy the interests of both the leaders and the followers, that is, mutual gains. To a large extent, this task can be solved within the frames of collaborative benchmarking, which is especially effective in the conditions of creating innovative cooperation networks and clusters. High level of trust between the partners should lay the basis for the relations of rivalry and mutual assistance.

Key words: benchmarking, benchmarking code of behavior, best practice, collaborative benchmarking, competition, individual benchmarking, knowledge benchmarking, lagging behind, leadership, mode of thinking, mutual assistance, rivalry, trust.

Yu. I. Norenko, A. I. Momot

UDC 338.2:006.015.5

Yu. I. Norenko,
The graduate student
A. I. Momot,
Dr. Hab (Economics),Donetsk National Technical University

WAYS TO INCREASE THE COMPETITIVENESS OF ENTERPRISES BY USING MODERN QUALITY MANAGEMENT TECHNOLOGIES

Formulation of the problem. Competitiveness of any company, regardless of its size, in today's business depends primarily on the quality of its products and its price commensurate with the quality offered. Increasingly important to the concept of Total Quality Management, the main principle of which remains a strategic focus on the consumer. Quality management based on modern technologies of enterprise management, as well as on the quality control of production and quality of work as a whole enterprise, and individual employee.

Analysis of the latest research and publications. The problems of increasing the competitiveness of enterprises through correct pricing, product quality and other such factors given enough attention in the foreign and domestic literature. This is the subject of P. Drucker [1], M. Meskon, M. Albert, F. Hedouri [2], J. Adler, I. Aronov, I. Shper [3] and many others. At the same time of the study of impact on the competitiveness and efficiency of the enterprise modern management techniques in domestic practice studied to a much lesser extent. Such a practice is considered in some Ukrainian publications (for example, the monograph „The economic mechanism of quality management"[4]).

The Objectives of the article. The purpose of this study is to investigate the introduction of modern quality control technologies, which also include modern quality management system, the activities of foreign and Ukrainian companies.

Statement of the basic material. In the present competitive new technologies appropriate to implement a quality management using an integrated approach. Although in itself a separate new technology could theoretically be a unique and effective method, which is the result of thought, accumulated over a period, but it is applied in practice alone is ineffective. Only in conjunction with other modern technologies can achieve the maximum effect.

Currently, it is important to ensure not only the introduction of new technology as some of the technical process, but it is more important to introduce the philosophy of this new technology in people's minds. And it is much more difficult because you have to break stereotypes over the years in the subconscious thoughts, change the way of life, etc.

The scheme, which can be adopted in the implementation may include the following steps [Figure 1]:

Step 1. The new philosophy of quality management. First of all, should be accepted concept (philosophy) of continuous improvement – TQM (Total Quality Management).

Step 2. Implementation of international standards of governance. Implementation of the new philosophy should be done through the development and implementation of basic ISO 9000 family of standards (or industry QS 9001), and then the other – ISO 14000; ISO 18000 etc.

Step 3. The introduction of new technologies and methods of quality management, including: Business Process Reengineering (BPR); Lean Production; System 5 S; Total Productive Maintenance (TPM), Benchmarking, Self-assessment, etc.

TQM system is characterized by the fact that, along with the quality of products, pursue other outcomes, including such as the long-term commercial success, the benefits to society and customer satisfaction. Thus TQM affects all methods of enterprise management, and not just those related to quality management. TQM is a new way of doing business, which is a revolution in the philosophy of quality.

In Ukraine the general principles and rules of the organization for the creation, implementation and certification of quality management systems define the introduction of International and national standards DSTU ISO 9000; DSTU ISO 14000, DSTU, ISO 18000 etc. The latest version of international standards ISO 9001:2008 has been developed the latest requirements of the market and is based on the principles of TQM. These principles are included in the new standard as the basic requirements to be met by the organization applying for a certificate of quality.

The introduction of modern management helps create:

– Effective management system;
– The achievement of strategic objectives;
– The growth of business performance;
– Improve the overall manageability of the organization;
– Decrease in the proportion of defects
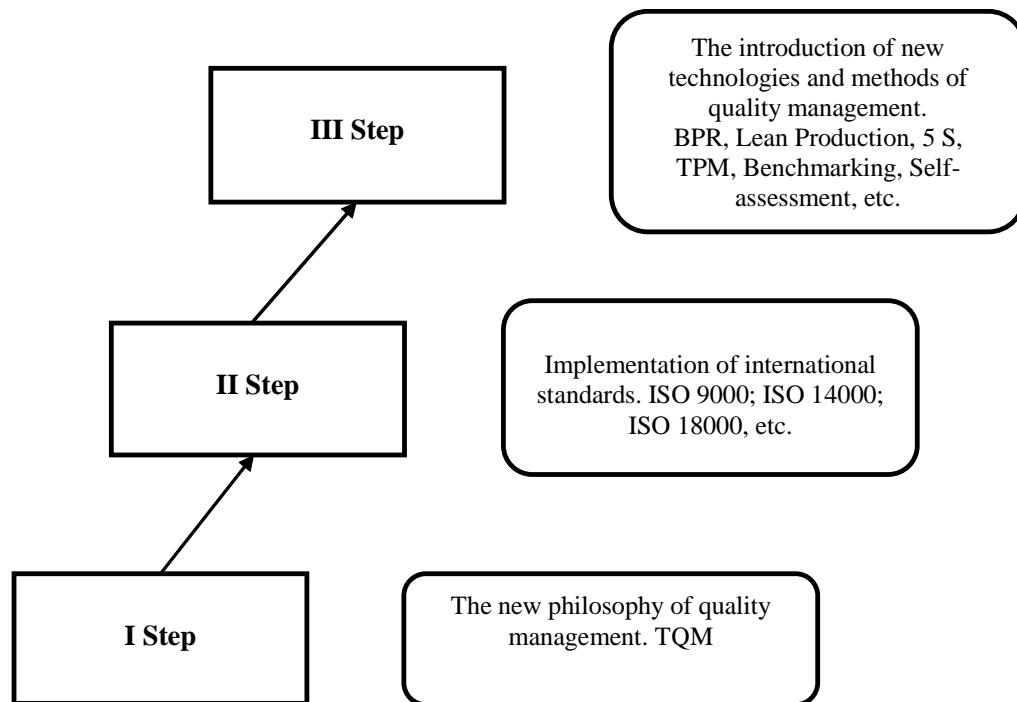
Fig. 1. Steps of the implementation of new quality Management technology

Elements of modern management quality are:

1. Reengineering of the enterprise in question, which helps to create a system that, provides a gradual increase in business performance.

2. A clear division of responsibilities and increasing participants. The quality management system is focused on the one hand, to identify the action of workers, and on the other – can avoid duplication of functions. This increases the overall manageability of the organization.

3. Phased quality control at all stages of the life cycle. According to statistics, in the implementation of quality management systems is a decrease discard rate of 25%.

Quality management methods are based on management relations that affect the organization and the elements of the production process to achieve the quality objectives. Along with individual methods are highlighted represent a combination of complex methods [5, 6], as well as theoretical foundations, concepts and systems. In contrast to the complex methods, concepts and systems involve not only the use of a specific set of methods, but the reform of the approach to the management of the organization.

Individual methods can be classified by object effects: information, social systems, and equipment. The latter are associated with the features of a specific production process, including measurement techniques, settings, and other social systems management is usually divided into economic, organizational, administrative and socio-psychological methods [7].

The economic methods include the creation of certain conditions that encourage employees and groups of enterprises, departments systematically raise and provide the necessary level of quality. At the same time, the development of market relations require greater use of economic methods of quality management, as part of which may be:

Funding of quality management;

Economic calculation in units of quality management system;

Economic incentives for production;

Pricing of products and services tailored to their level of quality;

Application of the system of wages and material incentives;

The use of economic measures to influence the suppliers;

Business planning of new and upgraded products and services.

Organizational and management methods are based on the implementation of mandatory directives, orders, directives, and other management measures designed to improve and ensure the necessary level of quality:

Regulation (functional, official, structural);

Standardization;

Regulation;

Instruction (explanation, interpretation);

a status effect (on the basis of orders, directives, regulations, etc.)

Social and psychological methods impact on social and psychological processes that take place in the workforce, to achieve the quality objectives [7]. In the field of quality to them are the following:

Moral incentives for high quality work results;

Methods of improving the psychological climate in the team (elimination of conflicts, selection and provision of psychological compatibility of employees);

The psychological characteristics of the workers' collective;

Forming motifs work staff to achieve the required quality;

Preservation and development of traditional businesses to ensure the required quality;

Ways to improve self-discipline, responsibility, initiative, and creativity of each team member.

The aim of modern quality management is not only an increase in customer satisfaction (primarily through quality products), but also to achieve this, the most economical way. Depending on the characteristics of the organization may use different methods to increase its efficiency [8]: TPM, 5S, BPR etc.

TPM program is based on the use of human factors. It is on the staff of his interest will depend on the effectiveness of implementation of TPM, the main factor of success is the training of personnel. TPM system efficiency is achieved through the complete elimination of all losses. The practice of the system TPM over the years and allowed to calculate the approximate cost of its implementation. Thus, during the first two years of a 10 – 20% increase training costs and about 15% will increase the cost of service, provided that the first year will cover 10% of the company's equipment (and 20% – for the second year) [4] .

„System 5 S" was created, as well as the TPM program at the turn of the 60 – 70's at the enterprises of Japan. It included the establishment of order, cleanliness, better discipline and creating a safe working environment, with the participation of all staff. The system of the „5 S" was not the only major independent tools of modern management, but also the basis for the deployment of a higher level – TQM and TPM [9, 13]. This system allows almost without attracting capital costs not only increase productivity, reduce losses, reduce defects and injury, but also to create the necessary initial conditions for complex and costly production and organizational innovation, to ensure their high efficiency, primarily due to the radical changes in staff attitudes to their work.

The structure of complex methods includes Reengineering, Benchmarking, Self-assessment, etc.

Reengineering – is an approach to management that allows you to make a „breakthrough", provides a dramatic increase in productivity and efficiency of the company. The order of events on reengineering involves three stages: 1) analysis, 2) design, and 3) implementation. And we mean the development and introduction of new business processes [1].

Benchmarking – a method of using other people's experience, the advanced achievements of the best companies, divisions of their own company, individual professionals to improve efficiency, production, improvement of business processes based on the analysis of results, and use them in their own activities.

Self-assessment is a comprehensive, systematic and regular review of the organization's activities and results, and they meet certain criteria, led by the organization itself. The company can develop its own methodology and its own criteria for self-assessment.

Conclusions. The theory of quality management continues to grow, including in the framework of international standardization. The set of quality management methods gradually enriched experience of successful practical implementations. Among the major developments in modern management are Lean Production, BPR, Information technology, Quality Management System, Benchmarking, Self-assessment, Humanization of production etc. This is the direction in which to develop tools and techniques of quality management in the near future.

В то же время в Украине, использование новых технологий должно основываться на глубоком анализе, необходимо выбирать из них лишь те особенности, которые могут быть использованы в условиях рыночной экономики.

At the same time in Ukraine, the use of new technologies should be based on a thorough analysis, you need to choose from among them, only those features that can be used in a market economy.

References

1. **Друкер Питер Ф.** Информация, которая действительно нужна руководителю / В кн. Измерение результативности компании: Пер. с англ. – М.: Альпина Бизнес Букс, 2006. – 220 с. 2. **Мескон М. Х.**, Альберт М., Хедоури Ф., Основы менеджмента: Пер. с англ. – М.: Дело, 2002. – 704 с. 3. **Адлер Ю. П.**, Аронов И. З., Шпер И.З. Что век текущий приготовил? Менеджмент XXI века — продолжение краткого обзора основных тенденций// Методы менеджмента качества. 2004. № 1. – С.10 – 11. 4. **Момот А. И.** Экономический механизм управления качеством / Министерство образования и науки Украины. Дон-НТУ. – Донецк: Норд-Пресс, 2005. – 383 с. 5. **Ефи-**

мов В. В. Средства и методы управления качеством. М.: КНОРУС, 2007. 6. **Управление** качеством продукции. Инструменты и методы менеджмента качества: уч. пос./ С. В. Пономарев, С. В. Мищенко, В. Я. Белобрагин, В. А. Самородов, Б. И. Герасимов, А. В. Трофимов, С. А. Пахомова, О. С. Пономарева. М.: РИА „Стандарты и качество”. 2005. 7. **Томохова И. Н.,** Рыжова Н.А. Классификация средств и методов управления качеством// журнал „Сервис plus”. – 2008. – № 4. 8. **Кане М. М.,** Иванов Б. В., Корешков В. Н., Схиртладзе А.Г. Системы, методы и инструменты менеджмента качества: Учебное пособие. СПб.: Питер, 2008. 9. **Дерябин П. М.** Почему нужно внедрять систему „Упорядочение” // Методы менеджмента качества. – 2004. – № 2. – С. 13 – 16.

Норенко Ю. І., Момот А. І. Шляхи підвищення конкурентоспроможності підприємств на основі використання сучасних технологій управління якістю

У статті запропоновано концептуальну модель підвищення конкурентоспроможності підприємств на основі використання сучасних технологій управління якістю. Розроблено етапи її послідовного впровадження шляхом поширення нової філософії управління якістю, системи TQM, розробки міжнародних стандартів менеджменту якості у.т.ч. ISO 9000, ISO 14000, ISO 18000 та ін., упровадження на основі українських особливостей нових технологій управління: BPR, Lean Production, 5 S, TPM, Benchmarking, Self-assessment. та ін.

Ключові слова: нові технології управління якістю, методи, конкурентоспроможність, впровадження, філософія якості, міжнародні стандарти, ефективність, самооцінка.

Норенко Ю. И., Момот А. И. Пути повышения конкурентоспособности предприятий на основе использования современных технологий управления качеством

В статье предложено концептуальную модель повышения конкурентоспособности предприятий на основе использования современных технологий управления качеством. Разработаны этапы ее последовательного внедрения путем распространения новой философии управления качеством, системы TQM, разработки международных стандартов менеджмента качества в.т.ч. ISO 9000, ISO 14000, ISO 18000 и др., внедрения на основе украинских особенностей новых технологий управления: BPR, Lean Production, 5 S, TPM, Benchmarking, Self-assessment и др.

Ключевые слова: новые технологии управления качеством, методы, конкурентоспособность, внедрение, философия качества, международные стандарты, эффективность, самооценка.

Norenko Yu. I., Momot A. I. Ways to Increase the Competitiveness of Enterprises by Using Modern Quality Management Technologies

Conceptual model for enterprise competitiveness through the use of modern technology for quality management. Developed stages of its consistent implementation by extending the new philosophy of quality management systems, TQM, the development of international standards for quality management ISO 9000, ISO 14000, ISO 18000, etc., based on the introduction of new technology features of Ukrainian Management: BPR, Lean Production, 5 S, TPM, Benchmarking, Self-assessment, etc.

Key words: new technology quality management methods, competitiveness, implementation, quality philosophy, international standards, efficiency, Self-assessment.

Management

UDC [316.722:005.5](497.2)

M. Bakardzhieva,
PhD (Economics),
D. A. Tsenov Academy of Economics – Svishtov, Bulgaria

BEHAVIOUR OF MANAGERS AND MANAGEES IN THE CONTEXT
OF THE PECULIARITIES OF BULGARIAN NATIONAL CULTURE

Introduction

Studying and comparing a great number of national cultures today is completely possible as there are two ways of presenting visually the common and different things between them: typologizing and measuring. The present elaboration deals with the second one, following Geert Hofstede's model. The aim is to present the Bulgarian national culture according to the five dimensions included in this model, to reveal its peculiarities and on this basis to determine the group of which countries it falls into, to project these peculiarities on the behaviour of managers and managees and to find out the influence which the national culture has on it and on the organizational culture in typically Bulgarian organizations.

1. Typologizing and measuring of cultures

Studying and comparing a great number of national cultures all over the world today is completely possible as there are ways of presenting visually the common and different things between them. There are two ways: typologizing of cultures and measuring. In both ways the cultures which have something in common fall in one group.

In typologizing cultures are grouped in a small number of ideal types by using different criteria. Typologization is easy to adopt but it creates problems in empirical research as the real cases rarely correspond completely to one ideal type. Most cases are mixed and rules for their classification in separate groups have to be worked out. Nevertheelss, this way of culture grouping has its adherents. Of practical value is culture typologization by the criteria: *way of gathering information* and *time organization*. These criteria involve the names of famous anthropologists: Edward Hall, Richard Lewis and Henry Gilbert[1].

Different *manifestations of culture which can be measured in comparing with other cultures* are used *in the measuring of cultures*. One manifestation, respectively dimension, combines several phenomena in a society, which are empirically proved to occur together. In their totality the measurements form a model of cultural

dimensions. We will present Geert Hofstede's five dimensions model[2]. The first four dimensions are formulated by him on the basis of the main problem spheres common for the whole world and discovered by the sociologist Alex Inkels and the psychologist Daniel Levinson 20 years ago. Geert Hofstede defines these spheres as power distance, individualism against collectivism, femininity against masculinity and uncertainty avoidance. Hofstede borrowed (as he puts it) the fifth dimension (long-term against short term orientation) from Michael Harris Bond – a Canadian, who has been living for many years in the Far East and describes the peculiarities of the Far East cultures[3].

Practically, typologies and multi-dimensional models can be viewed as mutually complementing. The typological approach is often used in explaining the particular dimensions. This is what Geert Hofstede himself does. For any of the five dimensions he describes two poles, which he views as ideal types.

2. Measuring of the national cultures according to Geert Hofstede

According to G. Hofstede, as we have already stated, the national cultures can be compared according to five dimensions. In their totality they make ***five dimensions model*** which describes and explains the national differences. *It is considered to be the most reliable model of cultural dimensions*. Created at the beginning of the 1980s it is constantly being renewed. For the purposes of his study G. Hofstede compares only IBM employees working in its branches all over the world. His explanation of this choice is that you cannot compare a Frenchman working for Coca Cola with a Greek working for ING Bank, because part of the differences between them can be due not to the national but to the organizational culture. For the same reason you cannot compare people belonging to one and the same national culture (employees, students, pensioners, etc.), as the differences between them can be due to the position they have in society. *The only way to compare cultures is to examine comparable quantities which differ mainly according to one indicator (national*

---

[1] For details see **Bakardzhieva, M.** Polikulturnostta i umenieto za efektivna mezhdukulturna komunikatsiya kato tsennosti na savremenniya menidzhmant. // Biblioteka Obrazovanie i nauka, D.A.Tsenov Academy of Economics - Svishtov, 2, 2012, pp. 38 – 43.

[2] See **Hofstede, G**. Cultures and organizations: Software of the mind. Sofia, 2001, pp. 16 – 19.

[3] This dimension is also called „Confucian dynamism" and covers cultural values, included in Confucianism.

culture). Of course, in that case there could be distortion of data because of age and other differences, which should also be taken into account where possible.

Here are the dimensions[4]: 1) *power distance* (measures the degree to which the weaker members of institutions and organizations in a country expect and accept the unequal distribution in society); 2) *individualism – collectivism* (measures the degree to which society prefers the weaker commitment between members): 3) *masculinity – femininity* (measures the degree to which society prefers male values when there are clearly defined social roles between genders); 4) *uncertainty avoidance* (measures the degree to which society members feel threatened or uncertain in unfamiliar situations); 5) *long-term – short-term orientation* (measures the degree to which society thinks in a long-term perspective).

G. Hofstede explains[5], that *the five dimensions can be used in describing and comparing only of nations (and ethnical groups), as only they represent integrated social systems.* Gender, generation and class, according to the theory of the six cultural layers[6], are only part of the social systems (a category of people and not groups) and therefore all dimensions cannot be applied to them. The culture of gender, generations and classes must be described independently based on special research.

The Bulgarian researcher M. Minkov interprets the first four dimensions of G. Hofstede as: non-isocracy and isocracy; non-familiness and familiness; hardness and softness; anxiety and calmness[7].

2.1. Cultural dimension „Power distance”

Power distance measures the degree to which the weaker members of institutions and organizations expect and adopt the unequal distribution of wealth.

National cultures in which power distance is small (Austria, Denmark) *tolerate the participation of workers and employees in management.* Thus stereotypes are created according to which the subordinates expect always to have access to their manager, and the using of

power by itself is neither good nor bad – it all depends on the goals and ways of using the power mechanisms. And, what is more important – the managers and subordinates view hierarchy as a temporary inequality of the performed roles, so that today's subordinate may tomorrow become a manager.

In national cultures, in which power distance is large and the perception regarding the existing differences in social status is intense (the Arab countries, India), *managers use the authority they were granted with after taking the post to influence their subordinates' behaviour.* In cultures of that type those having power enjoy certain rights and privileges. Furthermore, managers and subordinates are considered to be different categories of people. *Such cultures do not stimulate management through subordinates' participation.* They themselves have a negative attitude to the possibility to make an important decision and to take responsibility for its implementation. That justifies the use of authoritarian style of management by the managers and of the non-personal, information-seeking and authoritarian style of interpersonal communication, which still increase the power distance[8].

2.2. Cultural dimension „Individualism – collectivism”

In spite of the popularity of G. Hofstede's five dimensions there is unanimity only regarding the continuum *„individualism – collectivism",* maybe because it is the most suitable for comparing cultures in practice. Over 80% of humanity live in societies, which to one degree or another divide people into „family" and „strangers" and oppose their family and friends' circle to the rest of the people. These societies can be called „collectivist" or, using M. Minkov's terminology „family". *That is almost the whole world without the developed western countries – North America, North-western Europe, Australia and New Zealand.* In western cultures family in many cases is of little or of no significance, therefore they can be called „individualistic" or „non-family"[9]. In fact, these are the

---

[4] For details see **Hofstede, G.** Ibid., part II , p.p. 27 – 245.

[5] **Hofstede, G.** Ibid., p. 23.

[6] Depending on „the collective programing of mind" we can speak of six cultural layers:

· *national layer,* according to the country (or countries – for people who migrate in their lives);

· *regional* and/or *ethnical* and/or *religious* and/or *language layer*, as most nations are made up of regional and/or ethnical and/or religious and/or language groups, which differ in cultural aspect;

· *different gender layer*, according to which an individual is born a boy or a girl;

· *generation layer*, which differentiates grandparents from parents and children;

· *social class layer*, related to educational capabilities and job or profession of the individual;

· for the employed – *organizational or corporate layer*, depending on the way, in which employees are socialized by the organization, in which they work" (**Hofstede, G.** Ibid., p. 13).

[7] **Minkov, M.** Zashto sme razlichni. Sofia, 2007, pp. 21, 77, 93, 119.

[8] For details see **Bakardzhieva, M.** Bizneskomunikirane, Svishtov, 2007, p. 97.

[9] An explanation is necessary here: some Bulgarian ideas of individualism differ seriously from what science means. The notion "individualism" is not equal to the notion "egoism". Western peoples are not egoists. They really do care for their families less than in the other countries, but at the same time they join a great number of citizens' initiatives to protect the rights of people (protecting the rights of unfamiliar people all over the world), of women, children, animals, the sick, the underfed, the victims of natural disasters, etc.

---

countries using the Germanic languages[10]. The list can be extended by Finland and some of the Romance language-speaking countries in Europe, e.g. France, Babylon Belgium and maybe North Italy. They have also set up societies in which there are manifestations of non-familiness to quite a high extent, whereas Spain and especially Portugal seem to be still collectivist (family) cultures or somewhere in-between. Greece has a relative family culture. The Central European and Baltic countries are in the middle, of which Slovenia is closest to the western culture.

In order not to confuse the notions of „individualism" and „collectivism" we will complement the presented so far by the explanation which M. Minkov makes: „Individualism and collectivism, as cultural dimensions do not refer to the inclination of forming groups and working individually or collectively, but they refer to *how privileges are distributed*: *on the grounds of one's own merits or on the grounds of belonging to a group*. In collectivist, family societies people can get privileges only because they belong to a certain group – a family or a friends' circle. In individualistic, non-family societies that phenomenon is seldom met. Belonging to a family is not that important. What is important is who and what individual you are"[11].

2.3. Cultural dimension „Masculinity – femininity"

G. Hofstede introduced the „masculinity – femininity" dimension in order to designate the place of qualities like insistence, dominance and independence within the framework of the national culture. In order to understand what is referred here we will explain that *masculinity* is characteristic of societies which clearly differentiate between social gender roles (men are expected to be pushy and tough, to have a competitive spirit and to be oriented to material success, and women are expected to be modest, tender and concerned about the quality of life), and *femininity* is characteristic of societies in which social gender roles overlap (both men and women are expected to be modest and concerned about others and the interrelations with them, to emphasize equality, solidarity and quality of work life, to solve conflicts by means of compromises and negotiations, to sympathize with the weaker, etc.).

In countries in which „masculinity" prevails as a cultural dimension (Japan, Italy and Switzerland) people consider it normal to direct their efforts to career advancement. „Femininity is characteristic of cultures which emphasize such values as mutual help and interdependence, sympathy and concern about the quality of life and environment (Sweden, Norway and Holland).

2.4. Cultural dimension „Uncertainty avoidance"

Uncertainty avoidance is a cultural manifestation which is related to stress and its accompanying phenomena like nervousness, intolerance, tension, anxiety, uneasiness, etc. which appear in a situation of risk and uncertainty. There are two types of uncertainty avoidance: high and low. *The high level of uncertainty avoidance* is expressed in the very great need of risk avoidance and uncertainty and of increasing foreseeability through using a multitude of written and unwritten rules and procedures. The cultures with a high level of uncertainty avoidance (Greece, Portugal, Belgium, etc.) perceive the different as dangerous, whereas for those with a low degree of uncertainty avoidance, the different is fun. Cultures with high values for this dimension are characterized with more stress in work, unwillingness for changes, fear of risk ventures and strict adherence to the rules. Underlying that is the fear of uncertainty.

2.5. Cultural dimension „Long-term – short-term orientation"

This is the fifth cultural dimension which G. Hofstede, as was shown, borrowed from M. Bond who called it „Confucian dynamism" or „time orientation", as it includes cultural values of Far East cultures, underlying Confucianism. The values referred here are insistence, thriftiness, sense of shame, reputation preservation and respect for traditions. „Confucian dynamism" determines to what extent an individual is attached to the values of his/her culture.

3. Bulgarian national culture according to G. Hofstede's five dimension model

According to most cultural dimensions, included in G. Hofstede's model Bulgaria is quite an obvious case. Only the dimension „masculinity-femininity" creates some problems.

We will begin with the dimension *„individualism-collectivism"*. Probably because of the different interpretations of the notions „individualism" and „collectivism" (see above) some of the Bulgarian researchers, incl. T. Chavdarova[12], S. Karabeliova and H. Silgidzhiyan[13] prove in a purposely empirical study that Bulgarian culture is predominantly individualistic and that collectivism is not perceived as a psychological source of identity and social prosperity. The only sphere in which collectivist cultural practices continue regulating the everyday relations in Bulgaria according to S. Karabeliova and H. Silgidzhiyan is the *working environment.*

The results of other Bulgarian studies including those

---

[10] The group of Germanic languages includes English, German, Dutch and the various Scandinavian languages and dialects.

[11] **Minkov, M.** Ibid., p. 26.

[12] **Chavdarova, T.** The Small Entrepreneur: Culture and Economic Action (The Case of Sofia and Skopje), www.cas.bg/obg/downloads/3_3/Tanya_Chavdarova_project_results_ed.doc

[13] **Karabeliova, S., Silgidzhiyan, H.** Priemstvenost i promyana na tsennostite i kulturnite praktiki v Bulgaria, p. 3 (sonia-karabelioyahaiganush-silgidjian-doklad. Type: Adobe Acrobat Document)

of Y. Genov[14], M. Minkov[15] and T. Davidkov[16], however, position Bulgaria in the collectivist part of the continuum. This is confirmed by G. Hofstede's attitude[17], according to which ***Bulgaria is collectivistic rather than individualistic.*** Like in many non-western European cultures in our country society is divided into two main groups: my family and friends and I (inside group) and all the others (outside group), or as we pointed out above into „family" and „strangers". „Family" enjoys favours and concessions, cares, preferences in applying for a job and in creating partnerships in business, very often the professional qualities being shelved. According to a study of Y. Genov around 70% of the people surveyed in our country think that nothing depends on the individual, that life is controlled by chances, that chance is very important, that success in not achieved through high professional competence but through luck, pulling strings, etc.[18]. Furthermore, Bulgarians prefer indirect communication and the use of a vague language instead of a hard refusal or direct criticism (except in bursts of anger), they do not feel to blame personally, aspire to a personal expression, but at the same time they make use of every opportunity to hide behind the team, etc.

All this contrasts sharply with the culture of Northwestern Europe and especially of North America, which is individualistic, non-family. With the globalization and Bulgaria's EU accession more and more Bulgarians begin behaving like representatives of non-family culture, but the final transition from collectivism to individualism in all spheres is still far ahead in the future.

Regarding the other cultural dimensions, according to the studies of Y. Genov, S. Karabeliova, H. Silgidzhiyan, T. Davidkov, M. Minkov[19] and other researchers of the national culture and according to the author's own observations and comparisons with other countries and cultures, **the Bulgarian national culture is:**

– ***with large power distance.*** The power distance is the largest in the systems of authority and labour activity, followed by the family and it is the smallest in the sphere of political ideas. And that is obvious. Contradicting a manager in the workplace is considered to be rather dangerous, or at least a nonsensical deed.

Because of the paternalistic approach an ideal manager is assumed to be the „good father", who knows what is best for his „children". The subordinates are expected to carry out his commands and not initiate unnecessary interpersonal communications.

Put in another way, the Bulgarian managers are not inspired by managing with their subordinates' participation. The subordinates themselves like to be asked regarding their feelings and preferences in one or another respect, but they are not inspired when it comes to them to make an important decision or to take the responsibility for its implementation. They would rather their manager did it. All this points to large power distance at an organizational level.

Such is the power distance at a national level[20], especially if the significant dependence of Bulgarian government on the decisions of international institutions and the apparent weakness are taken into account, when these institutions give the government the opportunity to make decisions important for Bulgaria and to take responsibility for their implementaiton.

A certain reduction of power distance is observed at family and school levels. Indications for this are the changed relations in the family and at school: the parents' and teachers' roles are diminishing and so does the dependence on them. At political ideas level the independence as such is attractive, but it does not always work.

The power distance index as a whole depends on the preceding historic development, on the belonging to one or another language group, as well as on the impact of such important factors like the country's geographic lattitude, the number of the population and wealth. None of these factors is indicative of a forthcoming rapid reduction of power distance in our country[21].

– ***moderate feminine***. There are problems only regarding this dimension and maybe because of that there is a difference between the evaluation of the authors cited above and G. Hofstede. In his opinion Bulgaria is *feminine rather than masculine* which means that the total index of masculinity is below 50. That assumption is proved by the studies of S. Karabeliova and H. Silgidzhiyan –

[14] **Genov, Y.** Zashto tolkova malko uspyavame. Razmisli varhu tova kolko mnogo prechat nyakoi nazadnichavi cherti na nashata kultura. Sofia, 2004.

[15] **Minkov, M.** Hofstede i znachenieto na negovite trudove za Bulgaria – Hofstede, G., Ibid., p. XIII.

[16] **Sotirova, D., Davidkov, T.** Novata administrativna kultura. Organizatsionni i lichni strategii za promyana. Sofia, 2005, pp.106 – 110.

[17] Work is not the most important thing for the Bulgarians: The expert on intercultural studies Prof. G. Hofstede in The Capital newspaper (interview with G. Hofstede), // In: „The Capital", issue. 42, 2001.

[18] **Genov, Y.** Kulturata kato osnovna determinanta na produktivnostta i vazmozhnostite za prosperitet. Sofia, 2002.

[19] See **Minkov, M.** Hofstede i znachenieto na negovite trudove za Bulgaria – Hofstede, G., Ibid., pp. X – XVI.

[20] The large power distance at a national level can be explained by the two models of one of the greatest pundits in the use of political power – the Italian Nikolo Makiaveli – *the model of the fox and the model of the lion.* Countries of small power distance are accustomed to the *model of the fox*, which by cunningness manages to avoid the traps, and countries of large power distance – to the *model of the lion*, which relies on its strength to threaten the wolves.

[21] See **Hofstede, G.** Ibid., pp. 57 – 63

for 2005 they measured an index of 47.7 and defined Bulgarian culture as *moderately feminine*[22]. In earlier studies (2001) Y. Genov and S. Karabeliova reached the conclusion that the people studied in our country are with prevailing „feminine" attitudes[23]. The most important index of society's feminine orientation is the value attitude toward achievement and success. In Bulgaria people envy those who are successful and sympathize with those who are less successful. That additionally increases the preference for the behaviour models common for the two genders in which modesty, and individual anonimity in particular, dominates.

In the context of organizational behaviour femininity emphasizes such values as equality by gender, ethnicity, religion, solidarity, caring for others, mutual assistance, tendency to improve the quality of working life, etc.

– *with high uncertainty avoidance*, expressed in a very great need of increasing the foreseeability by using a number of written and unwritten rules and procedures. *The high uncertainty avoidance is a cultural manifestation caused by high levels of stress with accompanying phenomena such as nervousness, intolerance, tenseness, anxiety, uneasiness, etc.* Stress in Bulgaria starts from an early age and continues at school, where children are taught to differentiate between the explicitly forbidden from the explicitly allowed things, the wrong from right, the incorrect from correct, etc. Unshakable truths are sought which are not subject to personal interpretation. One and the same problem is thought to have two or more correct solutions. *The high uncertainty avoidance at the workplace in organizations and in authorities is expressed in tenseness, weak initiative, striving to avoid risk, unwillingness for teamwork, negative attitude and resistance to change, suppression of non-standard ideas, total frustration with everything.* At this background the appeals for greater initiative, teamwork, accepting the change as something normal and inevitable, etc. become easily explainable. Unfortunately appeals are one thing but reality – another. In the above cited study S. Karabeliova and H. Silgidzhiyan register an increase in the uncertainty avoidance index – from 66.7 in 2000 to 71.5 in 2005[24]. As of today it is probably higher because of the high stress in the Bulgarian society, the rising demand of law and order and the increased frustration not only with work but also with the state and life as a whole. Politicians usually refer this frustration to poverty, which in G. Hofstede's words is not binding. There are rich countries in which people are frustrated and are always complaining (Italy) and poor ones in which people accept the hardships in life comparatively easily (Indonesia, India).

– *with prevailing short-term time orientation.* This is the only criterion according to which Bulgaria gets closer to the western cultures. *The readiness of the Far East peoples to sacrifice personal time and efforts for the sake of the organization for a comparatively low payment, as well as the willingness to carry out any orders, at that consciously, and not for appearance's sake – is met neither in Bulgaria nor anywhere else in Europe or America.* These values, as is well-known are related to Confucianism which is not popular in our countries. An essential reason is also that people think short-term and mainly about themselves but not about investing the profit with the aim to develop the organization in future. Stockholders in their greatest part are private persons and institutions which are more interested in dividends than in the organization's success in the far future. What is worrying is that this short-term orientation is deepening – the total index of the long-term against short-term orientation dimension decreased from 40.0 in 2000 to 38.0 in 2005[25].

Conclusion.

It is obvious that according to the national culture dimensions every country can be compared to the others, particularly to those which it wants to establish stable cooperation with in the different spheres of life. The large power distance and the very strong trend of uncertainty avoidance refer Bulgaria to the group of South and East European countries, which suprises neither G. Hofstede nor Bulgarian researchers. In Edward Hall's typologization according to time organization this is the group of polyactive cultures[26].

National culture influences the behaviour of managers and managees at all levels, organizational in particular, as well as the organizational culture. This elaboration makes it clear that the emphases in organizational behaviour argue for collectivistic organizational culture, rather than individualistic one, for a culture of explicitly expressed femininity and fear of uncertainty. These common characteristics influence its specificity and it becomes process-oriented rather than result-oriented; employee-oriented rather than job-oriented; ordinary rather than professional; closed rather than open; liberal rather than strict; normative rather than practical[27].

[22] **Karebeliova, S., Silgidzhiyan, H.** Ibid., p. 3.

[23] **Genov, Y., Karabeliova, S.** Heobhodimi promeni v tsennostnite orientatsii na balgarite v protsesa na evrointegratsiya. // Human resource management: National conference with international participation. – Borovets, 2001.

[24] See **Karabeliova, S., Sylgidzhiyan, H.** Ibid., p. 4.

[25] Ibid., p. 3.

[26] For details see **Bakardzhieva, M.** Polikulturnostta ...., pp. 40 – 42

[27] For details regarding the six dimensions of organizational culture see **Hofstede, G.** Ibid., pp. 263 – 270.

That conclusion stands good only for organizational culture in typically Bulgarian organizations. *In polycultural organizations based in Bulgaria the personal values of the managers, who are in most cases not Bulgarian, also have their influence.*

References

1. **Bakardzhieva, M.** Polikulturnostta i umenieto za efektivna mezhdukulturna komunikatsiya kato tsennosti na savremenniya menidzhmant. // Biblioteka Obrazovanie i nauka, D.A.Tsenov Academy of Economics – Svishtov, 2, 2012. 2. **Bakardzhieva, M.** Bizneskomunikirane. Svishtov, 2007. 3. **Genov, Y.** Kulturata kato osnovna determinanta na produktivnostta i vazmozhnostite za prosperitet. Sofia, 2002. 4. **Genov, Y.** Zashto tolkova malko uspyavame. Razmisli varhu tova kolko mnogo prechat nyakoi nazadnichavi cherti na nashata kultura. Sofia, 2004. 5. **Genov, Y.,** Karabeliova, S. Heobhodimi promeni v tsennostnite orientatsii na balgarite v protsesa na evrointegratsiya. // Human resource management: National conference with international participation. – Borovets, 2001. 6. **Work** is not the most important thing for the Bulgarians: The expert on intercultural studies G. Hofstede in The Capital newspaper (interview with G. Hofstede), // In: „The Capital", issue. 42, 2001. 7. **Karabeliova, S.**, Silgidzhiyan, H. Priemstvenost i promyana na tsennostite i kulturnite praktiki v Bulgaria <sonia-karabelioyahaiganush-silgidjian-doklad>. Type: Adobe Acrobat Document> 8. **MInkov, M.** Zashto sme razlichni. Sofia, 2007. 9. **Sotirova, D.,** Davidkov, T. Novata administrativna kultura. Organizatsionni problemi i lichni strategii za promyana. Sofia, 2005. 10. **Hofstede, G.** Cultures and organizations: software of the mind. Sofia, 2001. 11. **Chavdarova, T.** The Small Entrepreneur: Culture and Economic Action (The Case of Sofia and Skopje) <www.cas.bg/obg/downloads/3_3/Tanya_Chavdarova_project_results_ed.doc>

Бакерджієва М. Поведінка керівників і підлеглих у контексті особливостей болгарської національної культури

Вивчення і зіставлення безлічі національних культур наразі цілком можливо, оскільки існують два способи наочного представлення схожості і відмінностей між ними: типологізация культур і вимірювання. У справжньому викладі представлен другий підхід з використанням моделі п'яти вимірювань культури, запропонованої всесвітньо відомим дослідником Гертом Хофстеде. Мета: представити болгарську національну культуру по включених в цю модель вимірюваннях, розкрити її особливості і на цій основі визначити, в групу яких держав потрапляє, спроектувати ці особливості на поведінку тих, що управляють і керованих і встановити вплив, який національна культура надає на нього і організаційну культуру в типово болгарських організаціях.

У статті показано, що для болгарської національної культури характерний високий ступінь дистанції влади, у ній домінує колективізм над індивідуалізмом, з високим ступенем уникнення невизначеності, високим показником жіночого начала, ніж чоловічого і більшою мірою з короткостроковою орієнтацією, ніж з довгостроковою. Охарактеризована таким чином, Болгарія потрапляє в групу південно- і східно-європейских країн, які, згідно з типологізацією Едварда Холла, потрапляють до групи поліактивних культур.

Друга констатація: болгарська національна культура, подібно до національних культур інших країн, робить вплив на поведінку тих, що управляють і керованих на всіх рівнях і особливо на організаційному, а також і на організаційну культуру. Акценти в організаційній поведінці, швидше за все, говорять про колективістську організаційну культуру, ніж про індивідуалістичну, про культуру з яскраво вираженим жіночим началом і страхом перед невизначеністю. Ці загальні характеристики роблять вплив на її специфіку. Визначена згідно шести вимірюванням, розробленим Г. Хофстеде спеціально для організаційних культур, вона більшою мірою орієнтована на процес, чим на результати; більш орієнтована на службовців, чим на роботу, більшою мірою простонародна, чим професійна; їй властива закритість, ніж відвертість; вона відрізняється більшою ліберальністю, чим строгістю; більш нормативна, ніж практична.

Цей висновок дійсний тільки для організаційної культури в типово болгарських організаціях. У полікультурних організаціях впливають і персональні культурні цінності керівників, які в більшості випадків мають іншу національність.

Ключові слова: національна культура, болгарська національна культура, вимірювання культури, поведінка керівників і педлеглих, організаційна культура.

Бакэрджиева М. Поведение управляющих и управляемых в контексте особенностей болгарской национальной культуры

Изучение и сопоставление множества национальных культур в настоящее время вполне возможно, так как существуют два способа наглядного представления сходства и различий между ними: типологизация культур и измерение. В настоящем изложении представлен второй подход с использованием модели пяти измерений культуры, предложенной всемирно известным исследователем Гертом Хофстеде. Цель: представить болгарскую национальную культуру по включенным в эту модель измерениям, раскрыть ее особенности и на этой основе определить, в группу каких государств попадает, спроектировать эти особенности на поведение управляющих и управляемых и установить влияние, которое национальная культу-

ра оказывает на него и организационную культуру в типично болгарских организациях.

В статье показано, что для болгарской национальной культуры характерна высокая степень дистанции власти, в ней доминирует коллективизм над индивидуализмом, с высокой степенью избежания неопределенности, высоким показателем женского начала, нежели мужского и в большей степени с краткосрочной ориентацией, нежели с долгосрочной. Охарактеризованная таким образом, Болгария попадает в группу юго- и восточно-европейских стран, которые, согласно типологизации Эдварда Холла, попадают в группу полиактивных культур.

Вторая констатация: болгарская национальная культура, подобно национальным культурам других стран, оказывает влияние на поведение управляющих и управляемых на всех уровнях и особенно на организационном, а также и на организационную культуру. Акценты в организационном поведении, скорее всего, говорят о коллективистской организационной культуре, нежели об индивидуалистической, о культуре с ярко выраженным женским началом и страхом перед неопределенностью. Эти общие характеристики оказывают влияние на ее специфику. Определенная сообразно шести измерениям, разработанным Г. Хофстеде специально для организационных культур, она в большей степени ориентирована на процесс, чем на результаты; более ориентирована на служащих, чем на работу, в большей степени простонародна, чем профессиональна; ей присуща закрытость, нежели открытость; она отличается большей либеральностью, чем строгостью; более нормативна, чем практична.

Этот вывод действителен только для организационной культуры в типично болгарских организациях. В поликультурных организациях влияние оказывают и персональные культурные ценности управляющих, которые в большинстве случаев лица не болгарской национальности.

Ключевые слова: национальная культура, болгарская национальная культура, измерения культуры, поведение управляющих и управляемых, организационная культура.

Bakardzhieva M. Behaviour of Managers and Managees in the Context of the Peculiarities of Bulgarian National Culture

Studying and comparing a great number of national cultures today is completely possible as there are two ways of presenting visually the common and different things between them: typologizing of cultures and measuring. The present elaboration deals with the second one, following Geert Hofstede's five dimensions model. The aim is to present the Bulgarian national culture according to the dimensions included in this model, to reveal its peculiarities and on this basis to determine the group of which countries it falls into, to project these peculiarities on the behaviour of managers and managees and to find out the influence which the national culture has on it and on the organizational culture in typically Bulgarian organizations.

The analysis shows that the Bulgarian national culture has large power distance, and is collectivistic rather than individualistic, with high uncertainty avoidance, feminine rather than masculine and short-term oriented rather than long-term oriented. Characterized in that way Bulgaria falls into the group of South and East European countries, which according to Edward Hall's typologization belong to the group of polyactive cultures.

The second finding is that Bulgarian national culture like the national cultures of the other countries influences the behaviour of managers and managees at all levels and particularly at organizational level, as well as the organizational culture. The emphases in the organizational behaviour argue for collectivistic organizational culture, rather than individualistic one, for a culture of explicitly expressed femininity and fear of uncertainty. These common characteristics influence its specificity. Defined according to the six dimensions worked out by G. Hofstede especially for organizational cultures it is process-oriented rather than result-oriented; employee-oriented rather than job-oriented; ordinary rather than professional; closed rather than open; liberal rather than strict; normative rather than practical.

That conclusion stands good only for organizational culture in typically Bulgarian organizations. In polycultural organizations the personal cultural values of the managers, who are in most cases not Bulgarian, also have their influence.

UDC 338.22:65.01

V. I. Dubnitskij,
Dr. Hab (Economics), Donetsk State University of Management
S. V. Ivanov,
*Dr. Hab (Economics), Prydniprovs'ka State Academy of
Civil Engineering and Architecture, Dnipropetrovs'k*
V. Yu. Lunina,
Donetsk State University of Management

FROM PLANNING TO IMPLEMENTATION: (THE THEORETICAL BASIS OF THE ENTERPRISE MANAGEMENT)

In the beginning of the fifties we were hired to build the first asphalt-paved road in the South of the State of Bahia, Brazil. The asphalt technology was not yet completely understood in Brazil, so it was necessary to associate ourselves with a European Firm with large experience in the field of Highways Engineering.

It seemed that the first half of the entrepreneurial task had been fulfilled by both associated firms, and the construction was about to start.

To accomplish such purposes, the European team arrived; it was led by an experienced professional whose reputation – a Man who knew how to „make things happen" – was highly praised by the directors of the associated firm. He was said to be able to coordinate the paving of various roads in Europe „from his desk" in the head-office of his firm; he could accurately follow the physical and financial schedules.

However, in the early fifties transportation and telephone systems did not exist in Bahia and – an even more serious fact – there were not, in that region of the State of Bahia, firms capable of furnishing sand, gravel, and other materials in the amount and within the time limits demanded by the work.

Consequently, the task of the work coordinator was very different from what it was in Europe; that is limited to „allocating with efficiency and effectiveness", gravel, sand, and other materials necessary to complete the work. Such a method of operation was based on the supposition that the Men already knew asphalt paving technology.

The entrepreneurial task of „building a paved road at that place and at that time" involved more than assuring the suitable supply of materials; it involved, above all else, the training of Men in an unknown technology and, also, the production and transportation of those inputs. We needed a „versatile man" and not a „buyer" to coordinate the business.

Considering the specific nature of the contribution we expected from him, this leader was entirely inadequate; after some time he decided to return to Europe and left his task unfinished.

In this very same work, due to the distance, it had been necessary to establish a maintenance shop for machinery and equipment; the Man responsible for this shop was a very careful mechanic who knew a lot about his work. However, his care and knowledge gradually diverted him from what should have been his business and greatly damaged the business of the Construction Company.

This Man „built up parts", „wound electrical engines", and „reconstructed equipment"; he did not consider as the first priority the challenge represented by that work which was the „simple" preventive maintenance of the material in use and the replacement.

Examples like this one, some with an extremely pernicious effect, are in the archives of mistakes of our Organization. They make evident that the *fundamental strategy* for small firm *growth* is that its leader should:

– first, identify and know the Men, their strengths and weaknesses before he defines what each one must and can do extraordinarily well, i.e., to know each of them by his potential for contribution rather than by his skills and techniques;

– second, understand profoundly and in detail the specific opportunity the Organization should develop with a certain client;

– third, integrate the individual businesses of his assistants thus obtaining through this integration the transformation of each opportunity into a business for the Organization.

The entrepreneur who acts in a different way will be unable to formulate with precision the first half of the entrepreneurial task; he will continuously and cumulatively fail in the definition of the elements of the program of action which constitutes his partnership agreement, i.e., in the definition of:

– the business itself,
– the philosophy of the business,
– the expected results,
– the structure for obtaining these results,
– the communication system,
– the partnership system with his entrepreneurs / partners,
– the budget, the accounting plan, and the reports.

Consequently if he fails in the second half of this same entrepreneurial task, his time schedules, instead of being well known and safe roads will be rough pathways, with traps created by amateurism and negligence.

The truth is that only through good planning, will implementation be safe and quick, allowing the

entre-preneurs/partners to obtain a high productivity in their result-centres, and the entrepreneur to control his business effectively.

Obtaining results at the operational level

The suitable determination of *what is correct,* which occurs in the first half of the entrepreneurial task, constitutes the pre-requisite not only *to perform well what is correct* but also *to perform it better and better, surpassing the expected results in the operational area.*

Each entrepreneur/partner is expected – while he produces the goods and services – to generate and apply continuous innovations in his own result-centre.

The leader of the small firm, within which the Men operate, is expected to enhance *the creativity* of each result-centre and *integrate* everybody's creativity within his organization, while he himself generates and applies continuous innovation to the relationship with the client. This is demonstrated in the diagram below.

Considering that changes in the economic conditions of the business depend on the financial opportunities of the client, and of the negotiations which many times transcend the isolated action of the man in charge of the small firm, and even that of his immediate leader, the intellectual work of the entrepreneur must produce a greater impact exactly on the productivity of the the operational area.

Therefore, the increases in productivity are the most precise index of the control one entrepreneur has over his own business and of the leadership he exercises over the entrepreneurs/partners and other assistants.

As we have already mentioned, more than a *process,* and more than an attitude, productivity is the *result* of the continuous search for:
– increasing effectiveness,
– increasing efficiency,

– better levels of production,
– reduced costs.

Therefore, this term has, as we conceive it, a meaning quite different from the very ordinary expression „productivity per worker" or „productivity per machine".

For this reason productivity in the operational area, previously agreed to in the program of action (partnership contract), is an inevitable obligation of the Man responsible for results and of his immediate leader; it is not possible to attribute to „the worker" or to the „mechanic" any influence on insufficient productivity.

Productivity, undoubtedly, derives from the application of the specific entrepreneur's assets – his knowledge duly applied – to the coordination of human resources as well as other key-sources for each contract or enterprise, such as:
– time,
– money,
– processes,
– equipment,
– other tangible assets.

By coordinating these resources the entrepreneur generates the results which, when integrated, assure the survival of the small firm where the entrepreneurs / partners and their immediate leader are located; he also creates the conditions for the continuous growth of the large company and the perpetuation of the Organization.

As we have noted, the capacity to conceive and put into practice continuous innovation – the *applied knowledge* – is essential to success. For this reason, our Organization needs to operate as an *organization* of *knowledge;* i.e., an organization of *Men of knowledge* endowed with an *entrepreneurial posture.* And, the larger the number and the quality of these Men of *applied*
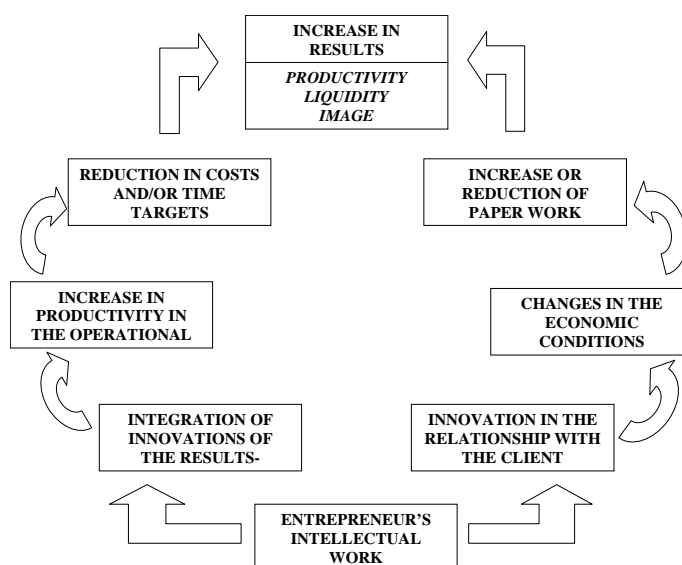
P.1. Objective of the Entrepreneur's Intellectual Work

knowledge, the larger the number of decisions with actual impact on the firm and its *results.*

Guarantee for the quick and safe implementation

In accordance with what has teen pointed out, how can and should we deal successfully with the second half of the entrepreneurial task?

The performance of this second half is not easy, precisely because the entrepreneur must be a *Man of applied knowledge,* a simple and pragmatic man, able of guaranteeing:

– the *organization.* based on the result-centres – the conceived structure throughout the first half – which should be tested and adjusted according to need; only through the establishment of these centres it is possible to identify exactly where the *employee-employer relationship* starts and ends, and therefore to make possible the establishment of the partnership;

– the *delegating* (planned delegation only, or partner-ship) of what is correct for each one of his assistants;

– the *integration* of partnerships or planned delega-ting, so as to endow his organizational unit with *synergy;*

– the *continuous* amendment/endorsement of the specific natural unit of the business;

– the amendment/endorsement of the expected results;

– the *coordination* of the Men responsible for the result-centres, helping them to act on the human and material resources put at the service of each one;

– the integration of the results obtained in each result-centre;

– the *evaluation – follow-up – and judgement* of the productivity of each Man responsible for results and of his own productivity, together with his immediate coordinator.

It is evident that, to have a successful performance in this second half as characterized above, the entrepre-neur must be an authentic leader, able of combining:

– simplicity,
– humility,
– focusing on contribution, on the opportunities and on the results,
– determination,
– perseverance.
– self-discipline.

all of which are based on the knowledge which is only gathered through the continuous performance of the economic task.

This *knowledge* also reveals the decisive truth tor the future of the Organization; the complete fulfilment of the potencial of the Men under its leadership.

The most experienced leaders in the Organization face a new challenging entrepreneurial task, i.e., the identification, training and development of Men of applied knowledge so as:

– to stimulate them, to examine, understand, and accept our technology;

– to help them to become, through this practice and technology new and good entrepreneurs;

– to facilitate the integration of each of them into the Organization.

We used the verbs „stimulate", „help" and „facili-tate" above in order to describe the leader's actions, because the Man committed to applied knowledge and who really wants to be a good entrepreneur must necessarily go through a form of self education, committing himself to:

– make his knowledge and his effort contribute to the creation of those results the Organization needs in order to survive, grow and perpetuate;

– concern himself with the use of opportunities and results for the only resource which is really under his control: *himself;*

– perform in a disciplined, systematic, objective, and organized way not only the first, but above all, the second half of the entrepreneurial task.

Дубницький В. І., Іванов С. В., Луніна В. Ю. Від планування до реалізації: (теоретичні основи управління підприємством)

У статті розглянуто особливості планування та реалізації стратегії управління підприємством, визна-чено цілі інтелектуальної праці підприємця для підви-щення продуктивності праці своїх співробітників та свого бізнесу в цілому.

Ключові слова: планування, підприємство, стра-тегія, праця .

Дубницкий В. И., Иванов С. В., Лунина В. Ю. От планирования к реализации: (теоретические основы управления предприятием)

В статье рассмотрены особенности планирова-ния и реализации стратегии управления предприяти-ем, определены цели интеллектуального труда пред-принимателя для повышения производительности сво-их сотрудников и своего бизнеса в целом.

Ключевые слова: планирование, предприятие, стратегия, труд.

Dubnitskij V. I., Ivanov S. V., Lunina V. Yu. From Planning to Implementation: (the Theoretical Basis of the Enterprise Management)

The article describes the features of the planning and implementation of enterprise management strategies. Objectives of the entrepreneur's intellectual work are identified to increase the productivity of their employees and the business as a whole.

Key words: planning, enterprise, strategy, labour.

UDC 338.43:658

E. N. Dyubo,
Luhansk Taras Shevchenko National University

STRATEGIC MANAGEMENT OF THE RESOURCES SYSTEM
OF AGRICULTURAL ENTERPRISES

Problem statement. The agroindustrial complex of Ukraine develops in the conditions of hard competition and integration in outer trade space that requires strengthening of competition positions of native producers by the increasing of their stability in the situation of external environment changes. For today the realization of such strategy requires consideration of question of involving of necessary resources and resources basis of possibilities of development in the future by estimation of available resources and level of their use, definition of untapped possibilities of resources potential, optimization of resources composition and sources of their forming, evaluation of risks of the additional involving.

Profitability and stability of functioning of agroindustrial complex, its economic security will depend on approaches and methods of the most effective use of all enterprises' resources, their balanced quantitative and high-quality cooperation, possibility to be changed during the life cycle of enterprise. Thus, development and use of sufficient resources potential for providing of safe activity of agroindustrial enterprises, that are adequate to the modern conditions, corresponds to the necessities of modern science and practice.

Analysis of the last researches and publications. The questions of providing of survivability of enterprises in the conditions of dynamic external environment are analyzed in works of M. Bendikov, V. Gucev, N. Kapustin, A. Kozachenko, T. Kuzenko, A. Lyashenko, V. Ponomarev, V. Tambovsev, V. Shlikov [1 – 7]; the research of essence and types of enterprise's potential, elements of resources, and also character of their participating in providing of stability to crisis are described in works of I. Ansoff, B. Milner, M. Porter and others [8 – 10]. Concrete research of the question of the resource' providing of economic security is described in works of V. Rasdobudko, N. Ribnikova, A. Chorna [11 – 12], in which the problem of development of scientifically-methodological bases of the rational use of all types of resources for providing of the economy growing and safety of enterprises are analyzed. However, the question of determination of the single methodical approach for forming of management resources' strategy within the framework of the system of providing of enterprises' economic security is still open.

The aim of the article is an improvement of approach for determination of management strategy by the system of the resource that providing of economic security of agricultural enterprises.

The main material. In economic literature the definition of resource is often equated with the concept of potential. Therefore, D. Chernikov, S. Belova consider that potential is a complex of necessary different types of resources for functioning or development of the system [13 – 14]. L. Abalkin does not compare these terms, considering that potential – it is resources characteristics only, mostly economic, which directed on functioning of production, increasing of scientific and technical progress and which tied to the place and time [15, p.24]. O. Fedonin examines potential as ability of complex of resources of the economic system to solve the defined tasks: if structure of object is successful and connection of its structural and functional elements is responsible than more higher will be potential and efficiency of object [16, p. 7 – 8]. Thus, resources will reflect potential possibilities of the system in achievement of strategic aims, which at the real involving will take a form of factors of production.

The specific of activity in an agrarian sector that related to seasonality and low level of the technological providing of production creates additional threats for using of the limited natural resources for the effective functioning, steady and safe development of enterprises, increasing of their competitiveness. Consider taking into account that a modern economy is a difficult mechanism of cooperation of objects of different levels, a question of safety management in such aspects:

1) at national level economic security of enterprises will be determined by the complex of arrangements, that realized by the state and direct to providing of food safety, safety of distribution and redistribution of national income, safety of quality of producible and consumed products, and also safety of its realization;

2) at regional level the management of economic security of agroindustrial enterprises will be directed to providing of safe distribution and redistribution of regional product, to infrastructural and regional ecological safety;

3) the branch level of management is oriented on providing of market competition environment safety of enterprises' functioning;

4) The level of the separate enterprise system of its safety will be directed to forming and maintenance of the effective functioning and steady development at the set level of the resource providing and specialization of production. At such approach, steady development means reliability, durability of enterprise, presence and maintenance in time of the system of all vertical and horizontal communications, that allows to maintain the

internal and external loading in the process of activity, while safety of development is ability quickly eliminate various threats or adapt to the existent conditions.

In the conditions of hard competitive activity, the access to the limited resources and efficiency of their use determined by dynamic quality of development of agroindustrial business taking into account such factors:

1) knowledge and experience of managers which must adapt the resources of enterprise to the probabilistic changes of external environment;

2) volume and structure of resources of enterprise will depend on political, economic, social, legal state and international factors.

The combined resources of enterprise be conditionally divided into two groups: basic resources and administrative. The basic resources will determine and form the structure of administrative resources. It be financial and economic, material and non-material, labour, technical and technological, informative resources; a difference between them will be determined by the specification of production. Correlation of such resources and orientation of their cooperation changed according to concrete productive situation, active task or strategy of enterprise's development. The special role will play natural resources (organisms, bacteria) because the agroindustrial production is impossible without it, but it is difficult to the estimate.

To the resources of administrative level, it is possible to take organizational resources: programs and technical providing, patents, licenses etc, but the main is an enterprise ability of managerial staff to provide steady and safe development of enterprises through effective use of existent resources of organization. Very often investment and innovative resources complement them, which reflect potential possibilities of enterprise to increase or change of current resources, search and application of new more effective resource combinations. All these elements will be work and determine the specification of enterprise's control system by taking into account its cooperating with objects and subjects of external environment. From their presence will depend on organizational possibilities of enterprise quickly and high quality to react on the changes in external and internal threats with maintenance of the realized development strategy.

The special purpose orientation of enterprises' activity will stipulate the necessity of differentiation of the system of the resource providing with next fixing of the level of effectiveness from using of all types of resource that will allow:

– to analyze and estimate the state of every element of the resource providing;

– to define the sequence of the strategic forming of resources with the purpose of providing the necessary level of economic safety of enterprises in the future;

– to form the system of indexes that will allow to analyze and to correct enterprises' resources in certain moment of time and to define their resource potential in the future;

– to develop resource possibilities and to improve the structure of resources, that will provide the effective functioning, steady and safe development of enterprises on a prospect.

The complex of factors of external, national, regional and internal environment, the estimation of which will enable to create the most effective mechanism of forming of resources, will influence on the system of the enterprises' resources. Factors, which influence on the state of the national and regional resource providing of agroindustrial complex will determine the future of all complex of country and its security. On development and realization of enterprises' possibilities will influence resource possibilities of economic subjects that form external surroundings: competitors, suppliers, state.

The one of basic tasks of enterprises will be an estimation of influence of all factors on forming and development of resource possibilities with the purpose of non-admission of their diminishing in case of negative influences.

Within the framework of the system of strategic management of the enterprise's economic security and its surroundings, it is necessary to examine from position of the resource providing, i.e. aggregates of properties, that defined perspective possibilities of functioning in the conditions of change of external environment, which could not be changed in short period. In this case, economic strength of enterprise security determined by management strategy of its resource providing (fig.1).

According to the strategic and operative aims of management of enterprises resource providing can be defined management functions that will be direct to the increasing of level of competitiveness and economic security on the basis of account of unicity of resources and organizational possibilities by establishment of dynamic balance with an indefinite and unstable environment, prognostication of changes in an external environment, determination of time of adaptation to the changes of external environment. Every enterprise holds heterogeneous resources and has capabilities that could not be change because of complication of their accumulation, but which are used as a source for receiving of profit, inaccessible for the competitors. Taking into account this fact a strategic management of resource providing must be oriented on passing ahead creation and development of such resources and capabilities.

The functions of strategic management of resource providing are:

– the forming of the external and internal resource providing in accordance with the aims of enterprise's development;

– search of new possibilities of increasing of the

external resource providing taking into account changes in an external environment;

– maintenance of economic strength of enterprise's functioning and all agroindustrial complex security in the conditions of increasing of the resource providing.

The functions of operative management are:

– effective use of available resources by their direction in the most profitable directions of enterprise's activity;

– the exposure, estimation and use of factors which influence on the state of the internal resource providing;

– exposure of reserve for increasing of resources due to internal sources.

Certain strategy of management allows correcting the aims of enterprises' resource providing taking into account defining priority directions of development, to choose correct strategy of development, to educe various combinations of possibilities of external and internal environment, to organize the most effective use of available and potential resources.

In spite of obvious advantages, such approach for today is not in use by all enterprises because of absentee of reliable strategic information for the effective forming of resources; orientation on the use only of internal potential resources, but not external; low level of preparation of personnel for realization of strategy through determination and creation of necessary and sufficient resources; absentee of mechanisms of forming of potential resources in conditions of changing market environment.

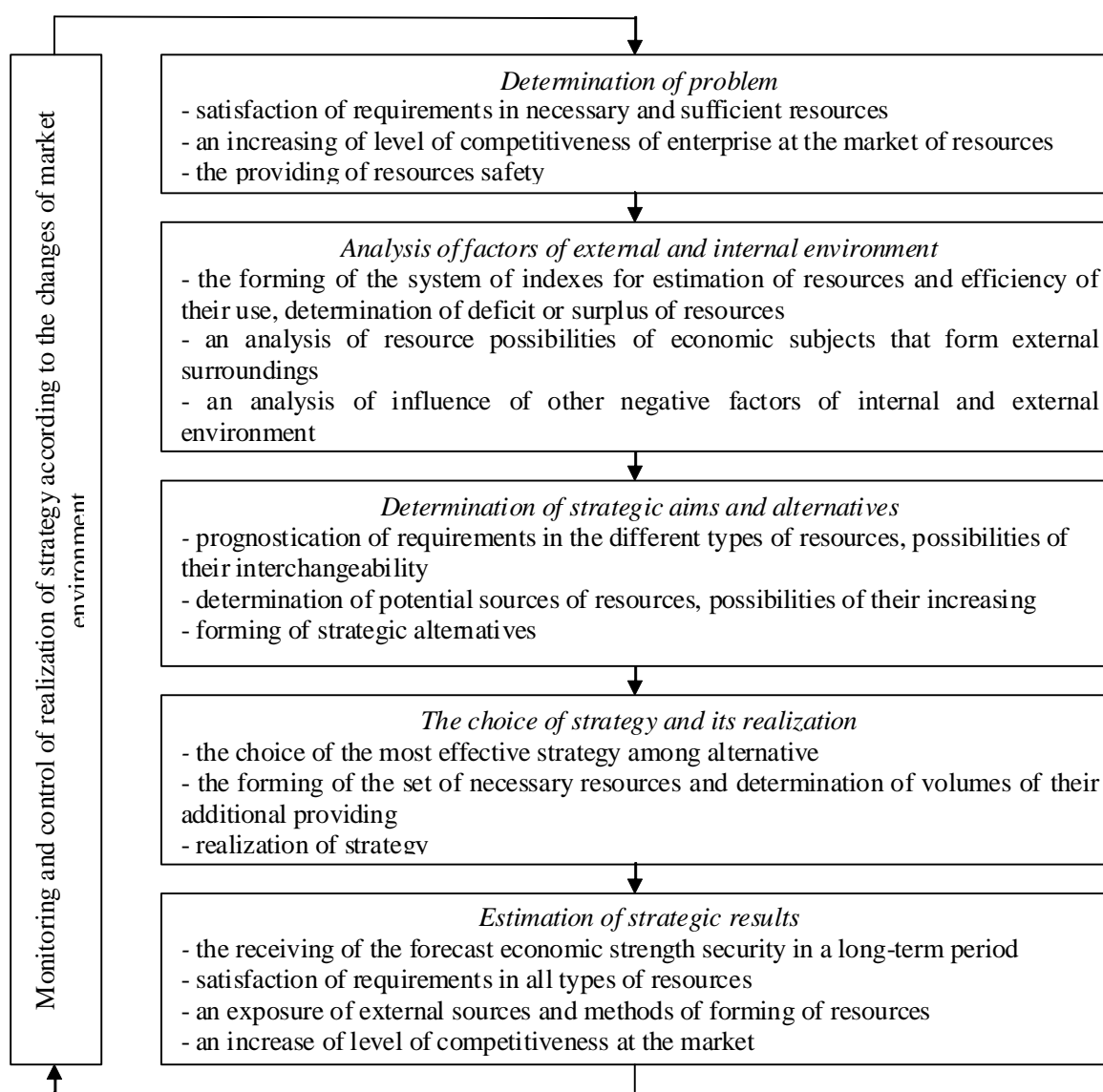**Conclusions and prospects of further development**.

Fig.1. The model of strategic management of enterprises resource providing

The forming of management strategy of the resource providing is based on organizational and informative connections of enterprises with market surrounding that allows to increase maneuverability and to extend the accessible variants of providing by the sufficient volume of different resources; the forming of tasks on development and realization of strategy of resource development in the long-term period on the base of enterprises' possibilities to adapt oneself to the changes of external environment and effectively use the potential resources.

Instability and changeability of internal and external environment require more flexible and rapid adaptation of strategies of enterprise to the influence of external potential threats. Priority will be on the management strategy of resource providing, which will allow enterprises to save the competitiveness in the conditions of strengthening of competitive activity for resources. Perspective direction of further researches will be establishment of indexes of estimation of efficiently use of resources within the framework of realization of certain enterprises' strategy.

References
1. **Bendikov M.** Economic security of industrial enterprise in conditions of crisis development [Text] / M. Bendkov // Management in Russia and abroad. – 2000. – № 2. – P. 17 – 29. 2. **Gusev V. C.** Economy and organization of safety of managing subjects [Text] / V. Gusev, V. Demin, B. Kuzin [and others]. – SP: Piter, 2004. – 234 p. 3. **Kapustin N.** Economic security of industry and firm [Text] / N. Kapustin // Business-inform. – 1999. – № 11 – 12. – P. 45 – 47. 4. **Kozachenko A.** Economic security of enterprise: essence and mechanism of providing [Text]: Monograph / A. Kozachenko, V. Ponomarev, A. Lyashenko. – K: Libra, 2003. – 280 p. 5. **Kuzenko T.** Tactical and strategic planning of economic security of enterprise [Text] / T. Kuzenko // Actual problems of economy. – 2004. – № 3. – P. 142 –151. 6. **Tambovsev V.** Economic security of the economic systems: structure of problem [Text] / V. Tambovsev // Bulletin of Moscow university. Series 6, economy. – 1995. – № 3. – P. 3 – 9. 7. **Shlikov V.** The Complex providing of economic security of enterprise [Text] / V. Shlikov. – SP: Aleteya, 1999. – 139 p. 8. **Ansoff I.** Strategic management [Text] / I.Ansoff. – M.: Litera, 1989. – 358 p. 9. **Milner B**. Theory of organizations [Text] / B. Milner. – M.: Ifra-m, 2000. – 480 p. 10. **Porter M.** Competitiveness [Text] / M. Porter. – M.: Alpina Business Book, 2008. – 715 p. 11. **Rozdobudko V.** Resource ground of economic security of enterprise / V. Rozdobudko // Effective economy [Electronic scientific specialized edition]. – 2010. – № 8. 12. **Chorna A.** Resource providing of economic security of enterprise [Text] / A. Chorna // Bulletin of Khmelnytsk national university. – 2009. – № 4, v.1. – P. 92 – 95. 12. 13. **Chernikov D.** Efficiency of the use of productive potential and national economic results [Text] / D. Chernikov // Economic sciences. – 1981. – № 10. – P. 25. 14. **Belova S.** Productive potential of the developed socialistic society [Text] / S. Belova // Economic sciences. – 1983. – №1. – P. 21. 15. **Abalkin L.** A new type of economic thought [Text] / L. Abalkin. – M.: Economy, 1987. – 189 p. 16. **Fedorin O.** Potential of enterprise: forming and estimation [Text] / O. Fedorin, I. Repina, A.Oleksuk - K.: KNEU, 2005. – 261 p.

Дюбо О. М. Стратегічне управління системою ресурсного забезпечення підприємств АПК

У статті розглядається поняття і модель стратегічного управління ресурсним забезпеченням підприємств, яка дозволяє відкоригувати цілі підприємств з урахуванням визначених пріоритетних напрямів розвитку, обрати правильну стратегію розвитку, виявити комбінації можливостей зовнішнього і внутрішнього середовища, організувати найбільш ефективне використання наявніх і потенційних ресурсів

Ключові слова: ресурси, ресурсний потенціал, ресурсне забезпечення, економічна безпека, стратегія управління ресурсами.

Дюбо Е. Н. Стратегическое управление системой ресурсного обеспечения предприятий АПК

В статье рассматривается понятие и модель стратегического управления ресурсным обеспечением предпритяий, которая позволяет откорректировать цели предприятий с учетом опеределенных приоритетных направлений развития, выбрать правильную стратегию развития, выявить всевозможные комбинации возможностей внешней и внутренней среды, организовать наиболее эффективное использование наличных и потенциальных ресурсов

Ключевые слова: ресурсы, ресурсный потенциал, ресурсное обеспечение, экономическая безопасность, стратегия управления ресурсами.

Dyubo E. N. Strategic Management of the Resources System of Agricultural Enterprises

The article is devoted to analyses of a concept and model of strategic management of resources of enterprises, which allows to correct the enterprises' aims by taking into account defined priority directions of development, to choose correct strategy of development, to define various combinations of possibilities of external and internal environment, to organize the most effective use of available and potential resources.

Key words: resources, resources' potential, resource providing, economic security, strategy of resources management.

I. A. Aleksandrov, L. O. Kravets

UDC 502.13

I. A. Aleksandrov,
Dr. Hab. (Economics),
L. O. Kravets,
post-graduate student,
Donetsk National University

ANALYSIS OF THE APPROACH TO MARKET MECHANISM OF ENVIRONMENTAL QUALITY MANAGEMENT

It is evident that ecological system loses its recreation potential due to excessive anthropogenic load. The inhibitory factor is a lack of active economical and ecological mechanisms of nature management and absence of effective means of management of this process. Due to this fact the scientific studies, aimed at improvement of existing and development of new mechanisms of environmental quality management that create perspectives of stable society, become very significant. However creation of market relations in Ukraine requires new theoretical statements and adaptation of the approaches to formation of market mechanism of environment quality management with new paradigm, which *is the object of the article.*

Theoretical and practical study of this filed is carried out by many domestic scientists: Galushkina T. P. [1], Lukjanihin V. A. [2], Sadekov A. A. [3], Golyana V. A. [4], Balatsky O. F. [5], Veklich O. A. [6], Sinyakevich I. M. [7], Melnik L. G. [8].

For grounding of the approach to environmental quality management it is necessary to determine the complex of paradigmatic, syntagmatic and pragmatic structures and mechanisms, which are the basement of strategic management and compete between each other or in organization of life and human's activity [9]. For today, four the most significant approaches, which made a great contribution to development of the theory and practice of control, are discovered: situational, systematic, process and approach from a respective of determination of different schools [10 p, 58 – 94]. Thus, *approaches of different schools to management include the* following:

– School of scientific management – search of the most efficient use of human and material resources, herewith the mechanistic understanding of a human, it's place in organization and the essence of its activity was the predominant one. The founders of the school consider that they may improve a lot of work operations, aiming at their effective fulfillment, by means of observation, measurement, logics and analysis.

– Classical (administrative) school considers the problems of improvement of organization in general as opposed to the school of scientific management that studied separate production activities and management as a universal process that consists of several interrelated functions, such as planning and organization.

– School of psychology – the essence of the school of humans' relations includes management of interpersonal relationships and use of psychology and sociology .

– Quantitative school of management includes replacement of verbal thoughts and descriptive analysis by models, symbols and quantitative values. The use of quantitative methods allows increasing of the efficiency of management solutions.

At the same time, process approach considers management as a process-series of interrelated continuous acts, known as management functions. Every function represents the process as it also consists of series of interrelated acts.

Systematic approach to the management is based on that fact that any organization is a system consisting of parts, every of which has its own aims, and situational approach in the management is aimed at binding of management methods and solutions with certain situation. For these purposes the situations are studied, systematized and recommendations are developed for every such situation.

However, under the influence of technological development and increasing of the role of labor management and its administration the existing classical approaches are supplemented by adapted approaches, including: administrative, procreative, dynamic, synergetic, integration, marketing, normative, purpose-oriented, objective, functional, behavioral and quantitative [11]. Every separate approach doesn't ensure completely methodological characteristics of the study and is not fully adequate for making of effective management decision taking into account development trends of modern markets. That's why it makes sense not to use abovementioned approaches in their pure form but to go by combined approach – systemic and functional, functional and structural, special purpose program and system purpose approach.

The determinations of the essence of

Table 1.

**Characteristics of classical approaches to management**

Approaches	Sign
1	2
Functional	The essence is determination of the elements of interaction of different subjects or elements and determination of their place and meaning (function) .
Dynamic	It includes carrying out of retrospective analysis of objects' behaviors, determination of cause-and-effect relation and prediction of the development of the object in temporary aspect.
Administrative	It determines the order of management organization; this the form of formal and bureaucratic management that are realized through orders and directions.
Purpose-oriented	The system of methods and methodologies that ensure paramagnet orientation of management activity aimed at final results taking into account special and economic characteristics.
Behavioral	It is focused on study and interpretation of management process from there respective of predominant value of their behavioral characteristics
Quantitative	It ensures analysis of qualitative parameters of management by use of quantitative methods and qualimetry methods.
Normative	It determines norms in quality management, recourse intensity and effectiveness of the use of resources, special development, protection of environment etc.
Integration	It is aimed at use and strengthening of interrelations between individual subsystems and elements of management system;
Reproductive	It is aimed at constant reproduction of production in order to meet market demands.
Objective	It is aimed at reproduction of existing system (object) through execution of additional studies and their implementation in practice.
Synergetic	This approach studies events as self-organizing systems rise and change of which are based on random processes in their critical, unstable states.
Marketing	This method is aimed at consumers' demands, market segmentation, prediction of life cycle of future periods.
Structural	It studies dependence of subjects' behavior taking into account their state, place and role in the structures.
Systematic and functional	This method is aimed at investigation of the events as a certain systems and determination of functional relations of elements of the certain system, between systems, their surrounding environment [12].
Structural and functional	It determines structural elements in systemic objects and specifies their role in the system. Every element fulfils it own functions that "works" for functions of general system [13].
Special purpose program	It includes distinct determination of the aims, formation and execution of the program of acts, aimed at achieving these purposes.
Systemic-purpose-oriented	It means scientific determination of system aims, their interrelations, and is represented by creation of effective management systems on the basis of special standards and their further certification [14].

abovementioned approaches have multiple characteristics, shown on the table 1.

All abovementioned approaches are observed at company level and are classical in management science that's why they indirectly relate to the problem of formation of market mechanism of environment quality management. So it is recommended to use the approaches of ecological management, including departmental, resource, pool, klasterial, ecosystem approaches (Fig. 1).

Complex approach includes consideration of the objective rules of functional unity, administrative, and
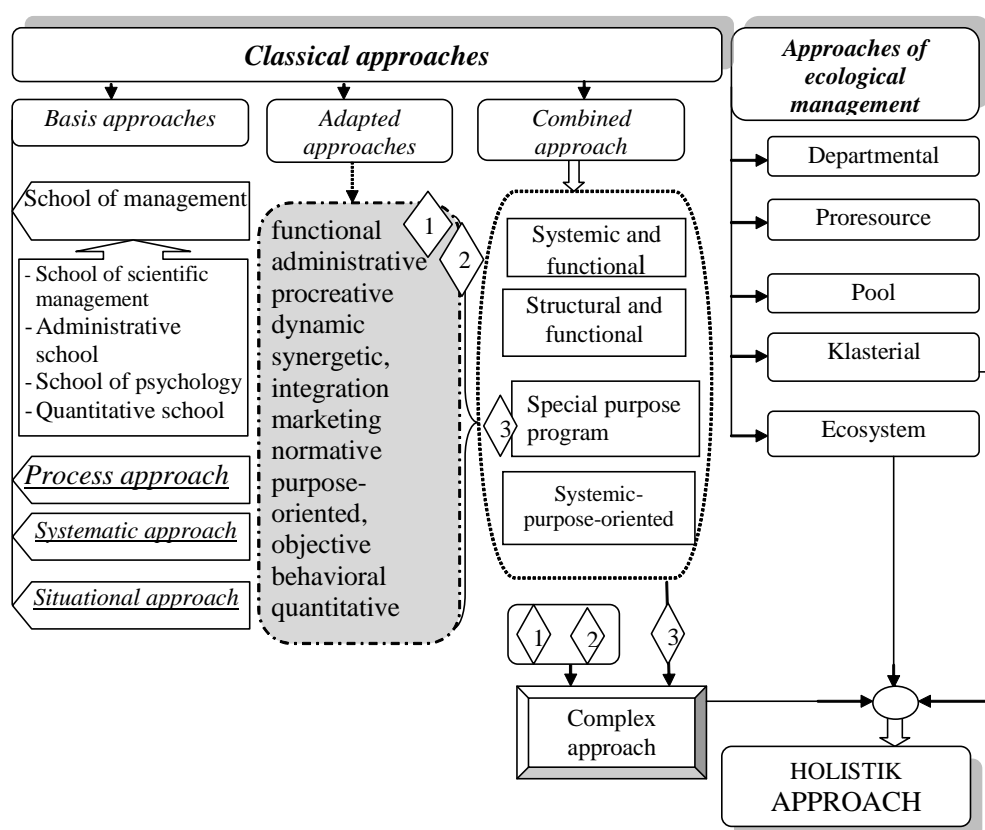
Fig. 1. The approach to market mechanism of environmental quality management

purpose-oriented program approaches in the process of management of economical activity. This is conditioned by the fact that achieving of above-mentioned aims through purpose-oriented program approach is impossible without use of additional administrative means and without centralization of funding function.

Mistakes in placement of the industry, undervaluation of the consequences of economical activity, narrow-departmental approach results in deterioration of the quality of environment. At the same time departmental approach stimulates development of mineral resources, coordinates technological schemes of deposits development, and imposes specific financing of social sphere of life and also measures in the field of environmental protection. It affects the organization characteristics of environmental quality management system [15]. However local governmental bodies continue to deal with ecological problems „in accordance with leftover principle".

Resource approach has historical origin in environmental management and is fixed in corresponding organizational structures. The essence of this approach is represented by the principle that every type of natural resources corresponds to specific form of economic activity with its own management system that directly influences on formation of market mechanisms of

environmental quality management system [16].

At the same time pool approach is characterized by the number of ecological, economical and biological factors. Pool approach is an aggregate of methods in geographical and ecological researches, where aqueous runoff plays a role as the main integrating factor [17]. This approach includes territorial aspect into control of nature management but, considering abovementioned, more likely corresponds to the tasks of environmental quality management. However it is focused on one type of natural resources, where balance settlements take place – water resources [20].

Cluster approach considers territorial and productive combinations of different levels and classes. The necessity of this approach is conditioned by economical transformations: increase of the significance of ecological aspect in the development of economy, complex development of territories instead of specialization, and also historical, national and special peculiarities that determine the necessity of complex development of the territory. Cluster approach takes into account the specific of coordination of environmental protection means and regional peculiarities of municipal organizations and is used as a basis for approval of effective and reasonable decisions with respect to environmental quality management [18].

At the same time ecosystem approach may be described as strategy of complex management of land, water and living resources, aimed at their protection and sustainable use on the basis of equity principle. Thus, it allows balancing of three tasks: protection, sustainable use, equity distribution of profits, which are obtained due to use of biological resources[19].

So, analyzed above-mentioned approaches affect the use of market mechanism of environmental quality management. However it is worth to propose new approach that should include elements of other approaches and consider all aspects of management activity and principles of constant development. This approach is based on complex, cluster and ecosystem approaches and called as "holistic approach" to the formation of market mechanism of environmental quality management (Fig. 2).

In order to achieve the balance and maintain it in a complex system „human – environment" it is necessary to use holistic approaches during formation of market mechanisms of environmental quality management.

Complex approach
Administrative and politic management through orders, directions and determination of interaction elements of different subjects with aiming on achieving of determined goals.

Cluster approach
It considers the activity of economic agents as complementary network of institutions interrelated during formation of additional value , that is like a vital activity of the groups of living organisms

Ecological systems
It means determination of interrelations not only inside natural systems but also integration of their natural relations with social and economical aims and tasks of environmental quality management.

Holistic approach is aimed at the organization of management and integration of natural relations with social and economical aims of economic agents as complementary network - through orders, directions that are necessary for increase of environmental quality
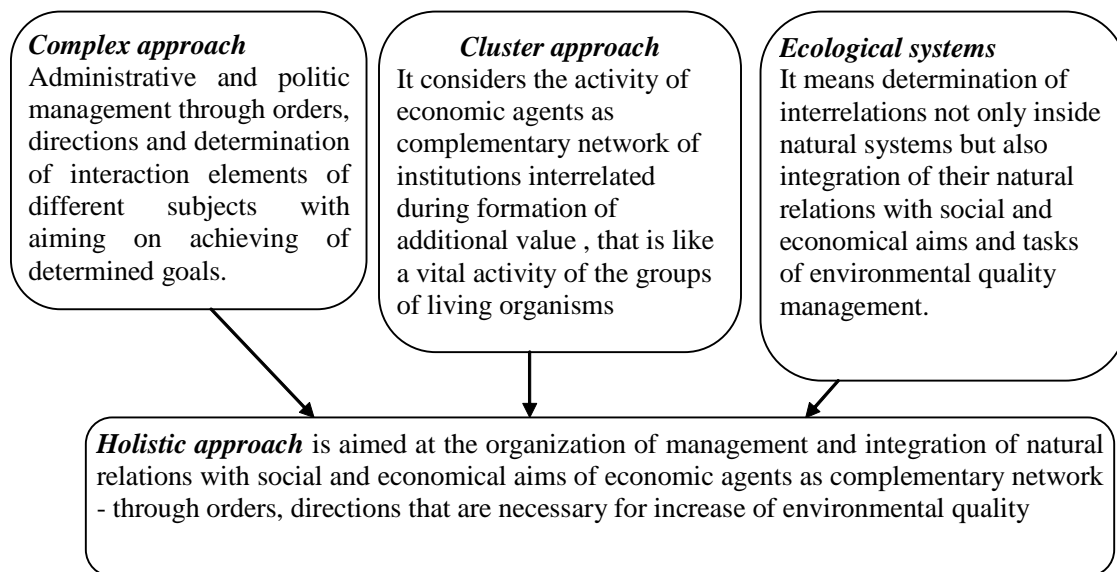
Fig. 2. The essence of holistic approach to formation of market mechanism of environmental quality management

References

1. **Галушкіна Т. П.** Екологічний менеджмент та аудит рекреаційних територій (концептуальні засади та організаційні механізми): Монографія / Т. П. Галушкіна – Одеса: Видавництво ТОВ „ІНВАЦ", 2006. – 184 с. 2. **Лук'янихін В. О.** Екологічний менеджмент в системі управління збалансованим розвитком: Монографія / В. О. Лук'янихін – Суми: ВТД „Універсальна книга", 2002. – 314с. 3. **Садеков А. А.** Механизмы эколого-экономического управления предприятием: мон. / А. А. Садеков. – Х. Издательский дом „ИНЖЭК", 2004. – 224с. 4. **Голян В. А.** Інституціонально – економічні механізми регулювання природокористування // Формування ринкових відносин в Україні. – 2006. – № 2. – с. 24 – 29 5. **Балацький О. Ф.** Екологічний менеджмент: проблеми і перспективи становлення/О.Ф.Балацький // Економіка України. – 2000, № 5. – С. 236 – 242. 6. **Веклич О. О.** Удосконалення економічних інструментів екологічного управління в Україні / О. О. Веклич // Экономика Украины. – 2008. – № 9. – С. 65 – 74. 7. **Синякевич І. М.** Концепція щодо формування системи інструментів національної екологічної політики [Текст] / І. Синякевич // Экономика Украины. – 2002. – № 7. – С. 70 – 77. 8. **Мельник Л. Г.** Экономика и качество окружающей природной среды / О. Ф. Балацкий, Л. Г. Мельник, А. Ф. Яковлев. – Л.: Гидрометеоиздат, 1984. – 190 с. 9. **Советский** энциклопедический словарь: / Гл. ред. – А. М. Прохоров; редкол. А. А. Гусев и др. – 4-е – М.: Советская энциклопедия, 1987. – 1600 с. 10. **Кнорринг В. И.** Теория, практика и искусство управления: Учебник для вузов по специальности „Менеджмент" / Кнорринг В. И. – М.: НОРМА, 2001. – 528 с. 11. **Райзберг Б. А.** Управление экономикой / Фатхутдинов Р. А., Райзберг Б. А. – М.: ИНФРА-М, 1999. – 783 с. 12. **Андрушків Б. М.** Основи менеджменту/ Б. М. Андрушків, О. Є. Кузьмін. – Львів, Видавництво „Світ", 2004. – 294 с. 13. **Дафт Р.** Менеджмент./ Р. Дафт – СПб.: Изд. „Питер", 2000. – 612 с. 14. **Дойль П.** Менеджмент: стратегия и тактика./ П. Дойль– Спб.: Изд. „Питер", 2003. – 560 с. 15. **Разумихин Н. В.** Природные ресурсы и их охрана/ Н. В. Разумихин. – Л.:

Изд-во Ленингр. гос. ун-та, 1987. – 269 с. 16. **Титен-берг Т.** Экономика природопользования и охрана окружающей среды./ Т. Титенберг – М.: Олма-Пресс, 2001. – 591 с. 17. **Кейз Д.** Использование водных ресурсов речных бассейнов / Д. Кейз // Доклады Британско-советского семинара по водным ресурсам и сточным водам. – М, 1988. – С. 215 – 232. 18. **Біла С. О.** Державне регулювання екологізації виробництва в Україні: реалії та перспективи [Текст] / С. О. Біла // Наукові праці Донецького національного технічного університету. – Випуск 33-2 (128). – До-нецьк : ДонНТУ, 2008. – С. 19 – 26. – Серія економічна. 19. *UNEP*/CBD/SBSTTA/11/7 31 August 2005. http://www.biodiv.org/doc/meetings/sbstta/sbstta-11/official/sbstta-11-07-ru.doc) 20. **Александров І. О.** Підходи до реалізації принципів сталого розвитку в охороні транс-кордонних водних ресурсів / І. О. Александров, О. В. Половян, М. Ю. Тарасова // зб. наук. пр. – К.: ВПЦ „Київський університет", 2008. – Вип. 15. – С. 153 – 163.

Александров І. О., Кравець О. О. Аналіз підходів до ринкового механізму управління якістю навколишнього середовища

У статті досліджено еволюцію класичних підходів до управління для формування ефективного механіз-му. Запропоновано класифікацію підходів до управ-ління, а також холоністичний підхід екологічного ме-неджменту, щодо підтримки екологічної рівноваги шляхом застосування ринкового інструментарію.

Ключові слова: підхід, еволюція підходів, класи-фікація підходів, холоністичний підхід.

Александров И. А., Кравец Е. О. Анализ под-ходов к рыночному механизму управления качеством окружающей среды

Исследовано эволюцию классических подходов к управлению для формирования эффективного механизма. Предложена классификация подходов к управлению, а также холонистический подход эколо-гического менеджмента по поводу поддержания эко-логического равновесия путем применения рыночно-го инструмента.

Ключевые слова: подход, эволюция подходов, классификация подходов, холонистический поход.

Aleksandrov I. A., Kravets L. O. Analysis of the Approach to Market Mechanism of Environmental Quality Management

Evolution of classical approaches to management was studied in order to form effective mechanism. The classification of approaches to the management as well as holistic approach of ecological management relating to maintenance of ecological balance through use of market instruments was proposed.

Key words: the approach, evolution of approaches, classification of approaches, holistic the approach.

UDC 336.76

V. I. Lyashenko,
Dr. Hab (Economics),
Y. I. Tulku,
Post-graduate, Institute of Industrial Economics,
National Academy of Sciences of Ukraine, Donetsk

QUASI-TANGIBLE ASSETS OF MODERN NEO-INDUSTRIALISM AND NECESSITY OF CREATION OF ADEQUATE MECHANISM OF EXCHANGE FOR THEIR TRADING

The modern market of intellectual property is too heterogeneous and varied. These are objects of industrial property (inventions, useful models, industrial patterns, trade names, selection achievements, trademarks, service marks, protected designation of origin) and objects of copyright (work of science, literature, performing activity of artists, sound record, radio and TV programs, computer programs, data bases, integrated circuit topographies), know-how, etc. The rapid growth of intellectual property market is observed in the developed market economies during last few decades. So far we have just indicated this problem in Ukraine.

What makes foreign producers register the rights on intellectual property? What makes foreign states stimulate the development of its market? And why it can be profitable for Ukraine right now?

The statement that, modern economic system is in the process of changing the development paradigms from industrial to so called postindustrial, is generally accepted today.

It is considered that the postindustrialism is determined by the acceleration of the process of informatization of society and economics and has the following features:

– the services as a priority of the industrial process;

– the technological base of industrial activity is high technologies, not the labor-intensive technologies and energy intensive technologies;

– the time is being considered as a new factor of competition, since getting the competitive advantage depends on speed of getting the information;

– knowledge are main factor of producing of goods (in particular, the knowledge, which are used due to science);

– information and knowledge are main objects of management, therefore the companies that deal with the information faster and more qualitatively become the leaders;

– the companies value depends more on existence of estimated intangible assets, they are considered as one of main parts of companies assets and primary resource in competitive activity [6;7].

At the same time some authors (S. Gubanov, Z. Grandberg, A. Zinov'ev, V. Avagjan, M. Kalashnikov and others) are quite careful and very critical in the definition of modern period of development of society as postindustrialism era, and some of the authors completely deny it. This also concerns questions of the dominant role of intangible assets in additional value creation and formation of capitalization on macro- and micro level.

Therefore, for example, S. Gubanov criticizes the long-standing perception of modern era as a postindustrial. The author is forming his arguments on the bases of classical political economy and at the same time he acknowledges the priority of changes in productive forces of society – firstly, changes in the real sector.

It is pointed out that even in the most economically developed countries the problems of electrification and mechanization of work are still not resolved, and moreover the overall transition to the system of automatic machines is not complete yet. That is why even the leading countries have a long way to completion of the first faze of industrialization [4].

Thus the author highlights the second faze of industrialization, which gets the name of „neoindustrialization”. The prefix „neo” is explained by the author as following: on the basis that the main product of industrial production is electricity, today it is accompanied with microprocessor. It is accessible to public and used everywhere. It allows to substitute the cooperation of separate machines for organically unified system of automatic machines [4].

V. Avagjan confirms that „informational” or „postindustrial” era does not mean the deindustrialization; the term postindustrialism has social, not production meaning and represents the era of such level of development of productive forces, when released labor forces find guaranteed employment and revenue in other non-production spheres in the process of scientific-technological progress; the author consider, in this context, that one of main tendencies of modern society development is that the system with the industry as a variable appears, and the sum of its production is going to infinity, but the sum of personnel is going to zero, and this leads to increasing of share of so-called „parasitizing” sectors of economy, that have only indirect attitude to real sector.

M. Kalashnikov agrees with previous statement in his article „Postindustrialism: the end of myth”, where

he stands that the economy of financial services, which is quite speculative, have replaced the productive economy, that requires the innovations, new technologies and inventions [5].

In this article the author suggests to consider the modern stage of economic and social development as a process of neoindustrialization, because namely the needs of development of real sector are the determinants of scientific-technological progress, capabilities of social sphere, performance improvement of education, etc.

The most complete and laconic definitions of neoindustrialism are represented in Nekrasov V. and Nekrasov S.' works. Thus, the theory of neoindustrialization [8] suggests the formation of science-based and humanitarian provided technologies on the basis of new physical principals in informational and financial „covers" that will allow creating new quality of citizens.

„The most important neoindustrial value becomes nation's knowledge, natural common sense and the scientific genies of the nation" [9]. Such development is possible only in case of existence of powerful scientific and intellectual potential, serious technological base and demand on qualified labor force.

The theory of neoindustrialism was suggested by Nekrasov S. as an alternative for post-industrialism conception.

Considering the development of modern economic systems in the context of technological modes, it should be mentioned that today, highly-developed representatives of the world economic system belongs to the fifth technological mode. That means that highly developed electronic and computer industry, optiko-fiber technique, software, telecommunications, robotics industry and other high-technological, mainly non-productive industries are highly developed. Moreover these countries are forming the basic conditions for the sixth technological mode establishment, which is characterized by development of nanotechnologies, molecular biology, new usage of natural resources, laser technique, etc.

Today it is a great challenge for governments to involve the process of creating the legal, institutional, infrastructural and other conditions for an effective transition to the sixth technological mode with the least costs, because it will give more opportunities for sustainable economic development and increasing of general quality of people's life within the country.

In turn, the companies should adapt their managerial, productive and other systems for these conditions and lay emphasis on innovational development.

Today the development and commercialization of innovations is possible only with the financial support of institutional investors, commercial banks and other credit-financial organizations.

In this context the value of economic system'

capitalization is rising in long-term perspective; it makes the system more holistic, homogeneous and adaptive for changing environment and persistent for external threats.

According to O. Jaremenko, Doctor of Economics „the historical mission of capitalization of economic entities during the market transformation consists of following important moments":

– Firstly, it gives the access to modern technologies and provides their functioning.

– Secondly, the corporative culture as a part of general modern culture in wide sense is being formed by the capitalization of economic entities.

– Thirdly, the capitalization of economic entities creates the system of extra impetuses and interests in a form of profit, reduces the costs, which are a vital factor of technological changes and rising of national competitiveness.

– Fourthly, the capitalization of economic entities is forming an adequate qualified management.

The capitalization of companies gives the access to capital assets of financial market, promotes more rational consumers behavior, gives the opportunity of getting credit resources for current and long-term budget solutions optimization" [13].

In the general sense capitalization is considered as a process of turning the factors of production into capital; turning the net profit (or additional value) into capital; using the profit for business expansion; investment in assets that will bring payoff in the future, etc. The key points of these definitions are the „productive factors" „capital" „profit" „assets" or „resources". All terms are interdependent and cooperative [2].

As it was mentioned before in the article the companies' value in the „new" economy is increasingly associated with intangible assets. Intangible assets which have no classical feature – tangible essence, play an important part in profit earning.

In such context the following questions emerge: capital formation using intangible assets, the problems of their adequate valuation; and a capability of intangible assets, in general, to become a basic factor of sustainable economic development.

As L. Baruh fairly points out, the role of intangible assets in the modern economy is hard to overvalue. The average index „capitalization/ net assets value" for the 500 biggest companies of USA is constantly rising since early 1980-th and has reached 6,0 in march, 2011 [2]. In other words only one dollar from 6 dollars of market value is fixed in the companies' balance sheet, but other 5 dollars are the intangible assets.

In recent years therefore an emphasis was laid on intangible assets in the financial market and their important role was recognized in the business development and financial performance.

The term „intangible assets" is being defined in

different ways. It is used in accounting, economics and jurisprudence. In a wide sense non-material assets are considered as specific assets, that are intangible, can be used in a long-term perspective and can give a profit. The consistence of such assets is various too [3].

R. Rejli and R. Shvajs [12] emphasize six features which the object should have for being attributed to the category of intangible assets:

– asset should be easily identified and have recognizable description;

– should have legal status and come under legal defense;

– to be an object of intellectual property rights and have the opportunity to be assigned according to law;

– to have some physical evidence or demonstration of its existence (contract, license, clients database, set of financial reports and so on);

– to be created or appear in identified time period or as a result of an identified event;

– to be liable to destruction or to cease to exist in identified time period or as a result of an identified event.

In the early 1990-th there were a lot of discussions about different aspects of intangible assets, a lot of articles were published and a lot of controversial arguments among different scientific fields took place.

Just then the economists confirmed their great potential for companies' capitalization. Thus different views on definitions of this term, its features and a problem of their classification are the most disputable moments, which lead to different perception of their utility and necessity.

P. Polujan and A. Otyrba in their article „The mystery of intangible assets" make a wide and well-reasoned review of questions that were mentioned above. These are questions of fair estimation of intangible assets, and companies' capitalization correlated with it, and also created by the intangible assets.

The authors consider that if we'll investigate the financial-economic technologies of capital formation, which were used in Japan in 1970 – 1980-th and in USA in 1990-th, we can learn that rapid growth of capitals in these countries was caused mostly by estimating and accounting innovations.

Innovations promoted transition of intellectual activity products into intangible assets with very high cost and then into stock and financial capital [11].

The increase of assets' value allowed corporations to make a follow-on offering proportionally to the size of newly-created assets. Shares that appeared on the financial market were functioning as goods. Therefore the new mass of commodities on huge amounts (for those times) appeared from nowhere [11].

In authors' opinion, some kind of cycle has been formed – corporations created mass of commodities in the form of shares, the government issued money, and as a result the so called „financial bubble" has appeared, that has promoted highly intensive capital formation.

Main reason for that is motivation of economic entities, in other words for what purposes were those financial technologies used – for greedy personal gain and deception or for purposeful innovations-based investment process.

It is important to note that the financial resources emitted should be invested in real sector development, because a resultant gap, some correlation or proportion cannot increase all the time. Otherwise this lead to the situation described above.

In this context, reasoning of S. Alferov is also interesting. He shows some correlation between all kinds of financial resources and intangible assets.

He considers that the basis of financial-economic crisis was debt issues („debit receipts") that were invested in capital, against which shares were emitted. The authors make an analogy of disparity (potential – real result) of coming perspectives: will it be just monetary or made through a new product, and he supposes that there are no warranties, neither with intangible assets nor with financial instruments. The author believes that today's crisis can lead to change of paradigm in the world financial system. The return to so called „normal state" is not going to happen any time soon [1].

Therefore the author in the article makes the suggestion that derivatives, securities, based on debt issues that have no ensured in an appropriate manner are very easily set to zero and promote new wave of future „zeroing".

At the same time intangible assets have the same quality of being set to zero and promoting „zeroing" (in the case when, for instance, the business reputation is ruined – all the last stages of the capitalization progress are also ruined).

The intangible assets as well as financial resources have obligations of an effective realization (transformation) of their potential into real product. Intangible assets could be considered as an analog of derivatives, but they have one difference. Real derivatives have credit-financial basis, but intangible assets are concerned with real production. These are the criteria of real productive intangible assets, though they still have features of derivatives. And the result of intangible assets' capitalization will depend on usage of investment funds, i.e. on „human factor", on society's condition. At that there are no guaranties that market of intangible assets won't be the next speculative market of derivatives [1].

In this article the author suggests however to think about a possibility of using a new format of assets. Their essence and features should be adapted to modern conditions.

In this regard, the term „quasi-tangible assets" is provided. In author's opinion this term appears in the neo-industrial stage of the world economic system and is more reasonable and adequate capital forming factor.

In different vocabularies the term „quasi" is defined as follows:

– (lat. quasi means a sort of, as if, as it were, approximately) prefix. Word-formative item, that is forming nouns with the meaning of difficulty, ostensibility of that is called the motivate noun;

– in complex words: as if, for instance, quasi thinker – a person that is presenting himself as a thinker, but is not that one in real; in music: „much as it is…".

– the first part of the complex words, that have such meaning as pretended, not real, for example quasi revolutionary, quasi talented, quasi specialist;

– almost, close (for example, quasi optics) [10].

So, quasi-tangible assets appears at the intersection of terms „tangible" and „intangible" assets, because of some features it cannot be referred to any of categories (fig. 1).

Consequently, it is almost tangible and at the same time cannot be named like that.

Quasi-tangible assets represent the assets, which do not have a material form, but if the investments and the effective management will be provided, they can give extra revenue; and at the same time they can be connected with some physically existent object.

The necessity of such category of assets is paid of mostly in the countries, where the innovation system is on the forming stage and the amount of investment resources is not enough for innovations development and introduction.

In this case such asset can be used as a resource for investment attraction into an innovation project on different stages, directly up to innovative idea.

The main mission of quasi-tangible assets is to let company to raise the volume of collateralized property for necessary credit resources attraction on every stage of development and implementation of innovations (from idea, development of a project, and plan of realization to a working start-up and further process of commercialization). This becomes possible through recognition of quasi-tangible assets in addition to capital funds and intangible assets (fig. 2).

Business ideas, pre-project business offers, complete business-plans, business projects with managerial team (start-up),innovative business ideas, technical developments, technology concepts (unpatented) – all these terms can be conditionally united in the category „quasi-tangible assets".

Introduction of the term „quasi-tangible assets" should be accompanied by the development of conditions and mechanisms of attraction of investment resources. This is necessary for minimization of speculative factor, decreasing risks of their inadequate subjective estimation, providing progressive innovative development of companies and economic system in general.

It should be mentioned that the asset's value is defined by the market in the first place. The more mature the market environment is, the more adequate estimation of assets will be. As it faithfully noted in the article of P. Polujan and A. Otyrba, for making the asset to function as capital, the appropriate environment should be created, especially the legal environment, normative infrastructure, financial mechanisms [11]. For the purposes of solving described questions the exchange mechanisms are suggested. The question is about working out the concept
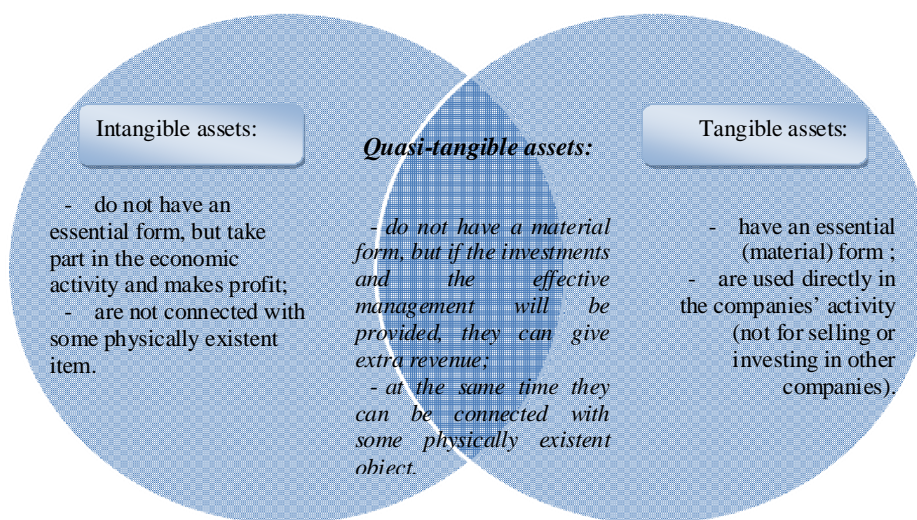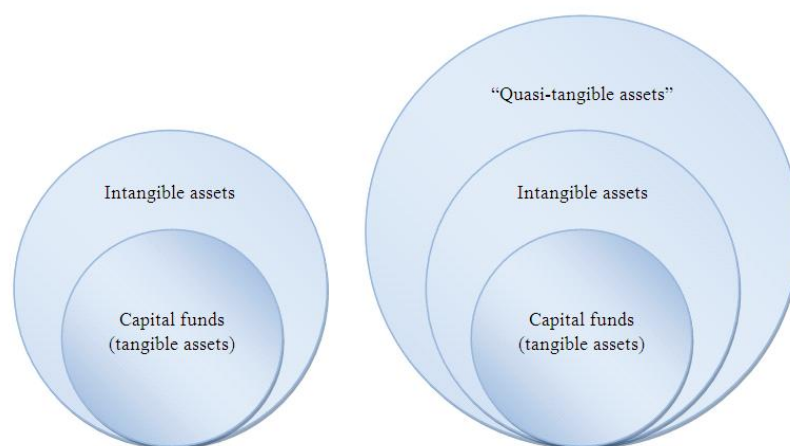

Fig. 1. The specification of entities' assets in the period of neo-industrial economic system' formation

Fig. 2. The amounts of attracted resources depending in components of capitalization (traditional and alternative point of view)

Table 1

Main features of quasi-tangible assets' exchange

Main tasks of the exchange	Potential exchange' members	The characteristic of classification of trading assets
– to ensure enforcing contracts, that were signed on the exchange; – to provide complete and relevant database of innovative projects, that require investments (because the government has constant communication with research organization, patent offices, etc.); – to ensure equal access to the information about licensing, patenting and other questions concerning statutory and regulatory aspects of intellectual property; – to provide norms and standards, that give an opportunity of fair estimation of assets and projects; – to be an investor or so-investor of the project if it is needed.	– the assets' owner (entrepreneurs, researchers, research organizations, and so on); – investors (individuals, legal entities, including public investors); – special funds of guaranteeing credits; – funds of support of entrepreneurship; – consultants of the various directions (marketing, management, law, consultants for technical issues, etc.); – outsourcing companies; – brokers (agents) of investors, owners of assets, managing directors and consultants.	the territory (where it is planned to perform the project); – division of knowledge, sector of industry, etc.; – scale of the project and required investments; – a stage of study of the project (idea, availability of the business plan or the feasibility statement, an operating startup, etc.); – conditions of involved investments (credit resources, the strategic investor, etc.).

of quasi-tangible assets' exchange as one of fundamental elements of the market infrastructure for activation of processes of innovations' commercialization and formation of complete, effective innovative system.

An exchange generally provides an interaction of supply and demand and thus creates the market. It's important to note that in this case the concept of exchange is transformed a little and includes only part of traditional features. For instance, the exchange will represent an electronic trade platform of the items, described above. The investors and developers will have a possibility to communicate with each other, and at that their communication will accompanied by help of accredited consultants (marketing experts, lawyers, managers, etc.).

The peculiarity of this exchange mechanism is that in its basis the public-private partnership is laid. If the innovations are implemented effectively the innovative sector is quite profitable. At the same time it has quite high risks and makes the investors be very careful.

Another peculiarity is that projects expect profits in long-term perspective. The classification of trading assets, challenges for government and potential exchange' members are shown in table 1.

Therefore, the exchange will promote not only commercialization of innovations, but also will form an effective market environment, attractive investment climate and improve an entrepreneurial culture. The quasi-tangible assets can become an additional possibility of rising business capitalization level, but based on the brand new principals, which are adequate to modern tendencies of society' development.

References
1. **Алферов С. А.** Капитализация НМА, инвестиционные механизмы и состояние социума (О наших смыслах – 3) // http://www.trinitas.ru/rus/doc/0230/003a/02301044.htmhttp://www.trinitas.ru/rus/doc/0230/003a/02301044.htm 2. **Барух Л.** Нематериальные активы: управление, измерение и отчетность / Л. Барух. – М.: ИД „Квинто-Консалтинг", 2003. – 240 с. 3. **Белышева И. В.** Нематериальные активы компании: классификация и учет / И. В. Белышева, Н. А. Козлов // Акционерное 148 общество: вопросы корпоративного управления. – 2008. – № 4. – С. 32 – 41. 4. **Грандберг З.** Неоиндустриальная парадигма и закон вертикальной интеграции // http://institutiones.com/general/903-neoindustrialnaya-paradigma-i-zakon-vertikalnoj-integracii.html 5. **Калашников М.** Пост-индустриализм: конец мифа // http://www.apn.ru/publications/article22839.htm 6. **Комков Н. И.,** Иващенко Н. П. Институциональные проблемы освоения инноваций // http://institutiones.com/innovations/1507-osvoenie-innovacij.html 7. **Курумчина А. Э.** Дискуссионность проблемы манифестации будущего на примере всемирных универсальных выставок // Социальная психология. Вестник КРСУ. – Том 7. № 5. – 2007. – С. 112 – 115. 8. **Некрасов В. С.** Модели неоиндустриализма в поисках национальных стратегий развития: уроки России // Академия Тринитаризма. // http://www.trinitas.ru/rus/doc/0230/002a/02300004.htm 9. **Некрасов С. Н.** Философия будущего: 250 взглядов на новизну. – Екатеринбург: ИМИР, 2003. – С. 295. 10. **Определение** понятия квази- // http://dic.academic.ru/dic.nsf/lower/15294 11. **Полуян П.,** Отырба А. Тайна нематериальных активов: рациональная магия или хитрый блеф? [Электронный ресурс]: http://www.apn.ru/publications/article18042.htm 12. **Рейли Р.** Оценка нематериальных активов / Р. Рейли, Р. Швайс. – М.: ИД „Квинто-Консалтинг", 2005. – 792 с. 13. **Яременко О. Л.** Капитализация экономики: проблемы и перспективы // http://www.ief.org.ua/IEF_rus/ET/Kapitalizaciya306.pdf.

Ляшенко В. І., Тульку Я. І. Квазіматеріальні активи сучасного неоіндустріалізму та необхідність створення адекватного биржового механізму для торгівлі ними

У статті автори відзначають недосконалість існуючих фінансових інструментів, які викликали фінансово-економічну кризу, і роблять припущення про те, що є альтернативна можливість отримання додаткових фінансових ресурсів для розвитку компаній. Одна із цих можливостей – використання нового формату активів для капіталізації компаній. Також описано фінансовий механізм для використання даного активу.

Ключові слова: нематеріальні активи, капіталізація, нео-індустріалізм, біржа квазі-матеріальних активів.

Ляшенко В. И., Тульку Я. И. Квазиматериальные активы современного неоиндустриализма и необходимость создания адекватного биржевого механизма для торговли ними

В этой статье авторы отмечают несовершенство существующих финансовых инструментов, которые вызвали финансовый экономический кризис, и делают предположение о том, что есть альтернативная возможность получения дополнительных финансовых ресурсов для развития компаний. Одна из этих возможностей – использование нового формата активов для капитализации компаний. Также в статье описан финансовый механизм для использования данного актива.

Ключевые слова: нематериальные активы, капитализация, нео-индустриализм, биржа квази-материальных активов.

Lyashenko V. I., Tulku Y. I. Quasi-tangible assets of Modern Neo-industrialism and Necessity of Creation of Adequate Mechanism of Exchange for Their Trading

In this article the authors insist on imperfection of existent financial instruments, which caused the financial-economic crisis and suppose that there is another possibility for companies to get extra financial resources. One of those possibilities is using a new format of assets for companies' capitalization. The financial mechanism of their trading is also suggested.

Key words: intangible assets, capitalization, neo-industrialism, exchange for quasi-tangible assets.

UDC 330.34(477.62)

I. V. Khadzhynov,
PhD (Economics),
National Institute for Strategic Studies (Kyiv)
T. S. Medvedkin,
PhD (Economics),
Institute of Economy of Industry of NAS of Ukraine (Donetsk)

PROBLEMS AND PROSPECTS OF INNOVATION DEVELOPMENT IN ECONOMY OF OLD-INDUSTRIAL CENTERS (ON EXAMPLE OF DONETSK REGION)

Ukraine is on the industrial stage of development, with a low level of progressivity of material production. The transition to post-industrial society based on advanced development is a complex process of interaction between traditional and new economies. Western civilization, reaching a high level of capital accumulation, simply shifts the industrial sector from North to South and from West to East. Ukraine still has no prerequisites non-industrial sector because of the immaturity of other sectors. Thus, the development of innovative industry that produces liquid products, along with new economy that emerges will be based innovation model country.

Problem analysis and the development of cities in Ukraine devoted few publications. Major cities in Ukraine is five times more than the regions. However, scientists regionalists justify their conclusions mainly on the analysis of regions, not cities. This is explained very simply. The basic accounting unit in Ukraine is a region. All statistics are published mainly in areas that allows researchers to conduct comparative analysis only in that direction. Statistical agencies do not consider necessary to rely on the most important cities of regional indicator – gross value added, and based on it – gross regional product. However, the city is more stable unit than the area.

Analysis of recent research and publications. Innovative solutions to the problems of the subject of many works of local scientists: I. Aleksandrov, M. Herasymchuk, V. Geyets, V. Hobta, N. Chumachenko, which is the solution of many problems. However, innovation continues to deteriorate. The purpose of this article is to identify and find ways to solve the most significant problems of innovation: regional, tax incentives.

In 1990, light industry was dominating industry in Donetsk, its share of 22.9%, followed by engineering (20.4%), the third – metallurgy (12.9%). In 2011, the situation changed radically. Light industry occupies in industrial output less than 1%, and became the leading iron and steel, whose share increased to 25.3% in 2011 significantly increased in 2011, the share of food industry 13,2% (in 1990 – 9.5%), the share of engeneering decreased to 6.9% in 2011.

In 1990, the share of mining industry in the total industrial production of Donetsk was 10.8% and in 2011 it increased to 20.8%. But this does not mean that coal production has increased, in contrast, coal-mining was decreased almost in twice, just a fewer times decreased share of other economic activities.

It has changed and the structure of the economy of the city. Thus, if in 1990, industry accounted for 72.1%, construction – 21.4%, agriculture – 0.3%, services – 6.2%, in 2011 industrial production – 45.66%, construction – 5.72%, agriculture – 0.54%, services – 48.08%.

The analysis shows that in 2000 – 2005, compared with 1990 in the industrial structure of the city has undergone profound changes: in times the share of light industry was decreased, decreased the proportion of the chemical industry, machine building, the share of industry and metal processing, food industry. Donetsk the city of developed light industry and machinery turned into the city of steel. The number of workers employed in industry for 2000 – 2005 has grown by 10.5 thousand people. The majority of the working population was employed in the mining industry in the production and distribution of electricity, gas, water and in mechanical engineering. It should be noted that the number of employees of mining industry for the period decreased by 12.45%. The increased number of employees in the following activities: production and distribution of electricity, gas, water – 38.39%, food industry – at 23.66%, metallurgy and metal processing – at 17.45%, manufacturing of machines and equipment – 15.01%.

The value of gross fixed investment characterizing features of each type of economic activity. The largest share of gross investment in fixed assets of investment across industries in the food industry – 35.42% and 35.22% respectively in 2000, 2011, metallurgy and metal processing – 34.08% in 2000 and 19.27% in 2011, the mining industry – 18.81% in 2000, 18.44% in 2011. Gross value added in total economy of the city has increased over the period 2000 – 2011 was 10.5 times, including in the mining industry in 8,1 times the production and distribution of electricity, gas and water in 6.7 times. Volume of production (works, services) for the same period increased in 2.47 times, indicating progressive phenomenon in the city's economy. However, for many types of economic activity value of GVA is clearly insufficient, as evidenced by low compared with developed countries wages and unprofitable fifth of the city's enterprises.

Rationale and results of forecasting. Many economic activities (mining, metallurgy and metal processing, manufacture of coke, refined products,

I. Khadzhynov, T. Medvedkin
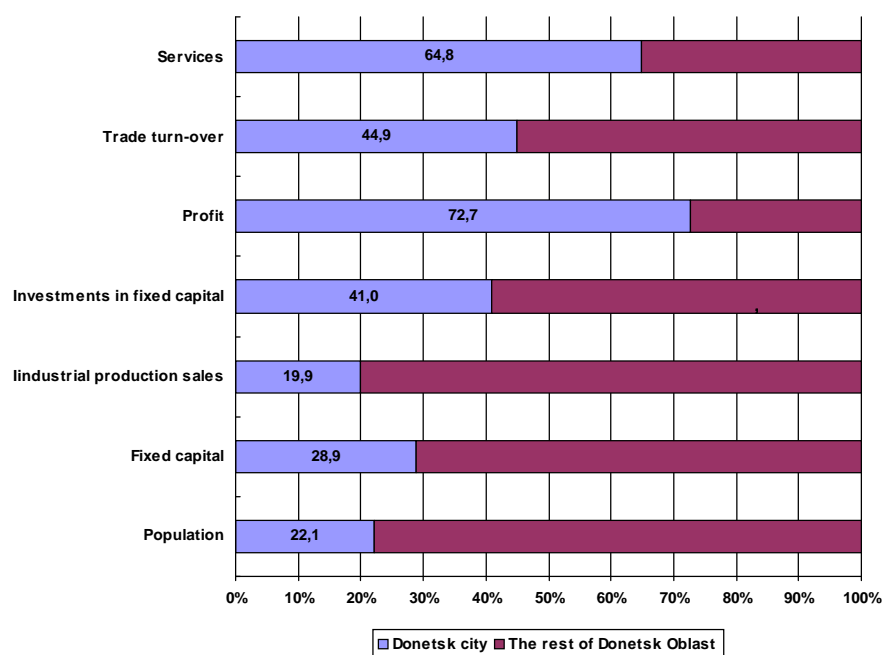
Fig. Share of Oblast centre (Donetsk) in all-Oblast indicators in 2011

chemicals, etc.). Whose share is 50% of the volume of production is environmentally harmful, low-and partially unprofitable. These circumstances underlying the forecast options for development of heavy industries.

Prediction of coal mining in general and in the context of the types and in use (coking, energy), based on the prevailing situation objectively with the development of mining assets made in two versions of each of the mines until 2026. In each version of considered key indicators of industrial activity coal enterprises: power, mining and coal reserves, investments, productivity, cost of one ton of coal and others.

We stopped on the pessimistic mining industry in Donetsk, where its share in the industry decreased from 15.8% to 3.5%. Coal output in 2025 compared with 2005, reduced by more than half, and the number of people employed in this sector will be one third of the number of employees in 2006. Formulation of output per 1 employee increased from 20.2 thousand to 30.6 thousand.

Steel has become one of the predominant industries in the region, first came after the crisis. But industry for the city and the region creates big problems. Among them a high load on the environment, increased consumption of energy associated with both their high unit costs in the production of metals, and the use of outdated technologies in the field, high consumption of raw materials production and the associated increased demand transportation services; adverse conditions most of the workers employed in the industry, and several others.

Actions to improve the environment should be directed either to close hazardous industries or the introduction of technologies that lead to the reduction of harmful emissions and recycling of waste. Criteria for decision making may be the importance of the enterprise for the region and the presence or prospect of cleaner production, replacing it.

The success of socio-economic development largely depends on the concept of metallurgical enterprises. They provide tax revenues and employment much of the population, and provide a stable demand for coal, have an impact on the work of other companies, primarily engineering and construction companies. Metals - the main export commodity of the region.

In the forecast period, employment in the industry by introducing new technologies will decline.

For modernization of metallurgical production to date, to replace 1 USD value of old assets need at least 6 USD own money in the metallurgical industry retooling clearly lacks. The limited financial resources do not allow for retooling in the industry rapidly.

In recent years, the share of the Donetsk region in total expenditures on innovative activity was at least a quarter of total spending in Ukraine for this purpose. It can be concluded that the Donetsk region strives to enhance its competitive advantage.

Conclusions and conditions of development options that recommended:

1. The presence of a strong production capacity, liquid industrial products can assert that the city development strategy must be industrially oriented. Industrial development will create momentum revival other branches of material production and non-production areas. The better they will work, so will be more significant contributions to the city budget, increased consumer demand and thus will be able to solve many social problems that have accumulated in the cities.

2. The current environmental situation in the city is a major limiting factor that determines the specific industrial development of the region. Therefore, the most important goal of industrial development should be to reduce the anthropogenic impact on the environment and

create conditions for the reproduction of environmental resources. This will be achieved by using economically reasonable and technically made resource and environmentally friendly, low-waste technology; commissioning of highly efficient water treatment.

When making decisions on the development and distribution of productive forces in the cities must comply with the following principles:

rejection of new construction and expansion of existing facilities of environmentally hazardous industries;

maintain or slightly increase existing environmentally hazardous industries is only possible if increased spending on environmental measures. Growth costs of restoring ecological potential to outpace the growth of industrial production;

growth of existing cleaner production to outpace growth in industrial production;

construction, extension, reconstruction of industrial enterprises are only possible on a new technological basis, ensuring environmental safety;

in the structure of industrial production the share of environmentally hazardous industries must continually decrease.

3. The current attack on environmentally harmful production in the next five years is almost impossible (the production out of the crisis and form the basis for the revival of other sectors). However, need further gradual „greening" of the tax system by expanding the tax base and tightening environmental legislation. Environmental payments should remain in the local budget.

Need to develop ordinances cities where secure special ecological status of the city, the relationship with the companies on this issue and register it with the Ministry of Justice of Ukraine. Possible adoption of the law of Ukraine.

4. Selection of priority economic activities should take into account a balanced (complex) development of the city. Besides the pollution should focus on in the mutual supply of products, the level of qualification that release, sex and age structure of the population, etc. World foreign experience shows that the dynamic development reached regions formed as industrial clusters, combining interdependent organizations (industrial companies, research centers, infrastructure organizations etc.). Therefore, it is necessary to clustering of industrial enterprises in the city. Companies that were not included in the industrial, scientific and technical clusters and pollute the environment should not be considered a priority.

5. To solve many social problems that have accumulated over the years, it is necessary to change the system of forming the city budget. Solutions: requires redistribution of revenues between the center and sometimes in favor of the latter.

6. Creating with state export business groups and consortia.

At the same time as the main export industries is seen not raw, and manufacturing industries. In the first place, with real Ukrainian situation is the primary raw material processing industry (including metallurgy, chemical industry, machine building and metalworking).

These industries are mostly competitive on the world market, export breakthrough here requires minimal internal organizational work and financial investment, and depends mainly on the achievements of foreign agreements that resolved WTO.

7. Consider renovation operation priority development areas as innovation and investment growth points.

References
1. **Амоша О. І.** Проблеми розвитку підприємництва на територіях зі спеціальним режимом інвестування / О. І. Амоша // Меркурій. – 2002. – № 2 (134). – С.20 – 21. 2. **Геєць В. М.** Трансформація моделі економіки України: ідеологія, протиріччя, перспективи / В. М. Геєць, Б. Є. Кваснюк, М. І. Зверяков. – К.: „Логос", 2009. – 500 с. 3. **Walker S.** Experience from Coal Industry Restructuring, IEA Coal Research Report CCC / 48. – London, 2011. – 256 p. 4. **Wu Yin.** Restructuring: Realistic Choice of the Coal Sector During the „Tenth Five-Year-Plan" Period, China coal. – Beijing, 2011. – № 8. – P. 34 – 48.

Хаджинов І. В., Медведкин Т. С. Проблеми і перспективи інноваційного розвитку економіки старопромислових центрів (на прикладі Донецької області)

Стаття розкриває ситуацію в великих промислових містах України. На засадах проведеного аналізу визначено певне коло ризиків й проблем, а також були запропоновані рекомендації щодо їх розв'язання.

Ключові слова: великі промислові центри, інноваційний розвиток, старопромисловий регіон, промисловість.

Хаджинов И. В., Медведкин Т. С. Проблемы и перспективы инновационного развития экономики старопромышленных центров (на примере Донецкой области

Статья раскрывает ситуацию в больших промышленных городах Украины. В результате проведенного анализа определен определенный круг рисков и проблем, а также были предложены рекомендации относительно их сокращения и решения.

Ключевые слова: крупные промышленные центры, инновационное развитие, старопромышленный регион, промышленность.

Khadzhynov I. V., Medvedkin T. S., Problemsand Prospects of Innovation Development in Economy of Old-industrial Centers (on Example of Donetsk Region)

The article reveals the situation in the major industrial cities of Ukraine. The analysis identified a specific range of risks and challenges, as well as recommendations on the proposed reductions and solutions of them.

Key words: large industrial centers, innovative development, old-industrial region, industry.

O. P. Burmatova, T. V. Sumskaya

UDC 330.341.1:322.14

O. P. Burmatova,
PhD (Economics),
T. V. Sumskaya,
PhD (Economics),
Institute of Economics and Industrial Engineering of the Siberian Branch
of the Russian Academy of Science, Novosibirsk, Russia

INNOVATIVE ASPECTS OF PRODUCTION ORGANIZATION
ON THE LEVEL OF THE LOCAL PRODUCTION SYSTEMS: WORLD EXPERIENCE[1]

In recent years in the world of regional development much attention is paid to the functioning of the local production systems (LPS). This was particularly relevant in the context of the global economic crisis, when the survival of the regions at different levels of development and the extent depends on the capabilities of their self-development, good governance and providing a variety of public and private institutions.

Local production systems are widely understood – it can be regions of different types and rank, including municipalities, industrial centers and industrial nodes, territorial-productionl clusters, free economic zones, a variety of innovative combinations, regions of new development, etc. [1]. In spite of this broad definition of LPS they should have a number of essential characteristics, of which the main ones are the economic viability of the territory (especially the presence of the economic potential, the necessary and sufficient for self-development), manageability (the presence of the subject for management of given territory) and institutional factors (the presence of the institutional mechanisms underlying decision-making on the area and providing, in particular, the training of qualified personnel, conducting research and innovation, tax, financial, organizational and other support for development).

Among the variety of forms of LPS important place belongs to this, which allow to strengthen innovation and investment sector of the regional economy, providing greater competitiveness of its industries. Among these LPSs are primarily technoparks and technopolises.

In Russia, which recognized the need to move on the path of building an innovative economy, there is much interest to foreign experience of the implementation of technoparks and technopolises, the main purpose of which, in our opinion, is the foreknowledge and advance of various innovations.

High-technology branchs have high rate of scientific and technical progress. The rate of new inventions and entirely new areas of research, which sometimes become independent branches of scientific knowledge, increases the rate of obsolescence of existing equipment and technology. Following devaluation of permanent capital causes a significant increase in costs and falling competitiveness. Therefore, manufacturers have high interest to the scientific knowledge, they are interested in contacts with science. In addition, high technologies do not constitute a separate and isolated clusters. In many cases they are connected and enrich each other. But for their complex using fundamental research, opening new fields of application of new processes, principles and ideas are necessary.

Over the last 25 – 30 years, developed countries have gained considerable experience of innovation. There were various forms of the introduction of scientific developments in production, among which of particular interest is the organization of production in the formation of industrial parks and technopolises. Technopark is agglomeration of high-tech firms, grouped around a large university, institute, laboratory. The main objective of the park is reducing the time of introduction of scientific ideas into practice. Parks have special infrastructure (buildings, constructions, telecommunications), which along with certain tax benefits is available to new firms. Technopolis are scientific-industrial towns, placed near a major industrial center, based on a tight integration of the scientific base and a diversified production structure. The idea of building technopolises originated from Japan in the early 80s.

The first university technology park appeared in 1947 in the United States in Boston. Ten-year experience of its work, and of other parks, appeared after it, was so successful that since the seventies of the twentieth century number of industrial parks began to skyrocket.

Despite significant differences in economic conditions in different countries, there is one universal cause of organizing of industrial parks in universities. This reason lies in the fact that for the most favorable conditions for development universities create multi-system funding for their activities. The first principal component of this system is the state (federal) funding for training and research activities. The second component is the completion of the budget by performing

of university scientific research. The third component is conducting of educational activities on a commercial basis (commercial reception, a variety of educational services). The fourth component is industrial activity of a technical college. Fifth are International Relations, funding for international programs, sponsorship and so on [2].

„Science Park" – a form of integration of science and industry – are classified as regional scientific and industrial complexes. In the development of „science parks" are clearly seen two phases: the 60s when there was a majority of „science parks" in their „homeland" – the U.S. – and there were rudimentary forms of the Western European countries - Britain, France and Germany. In the 80 years since the beginning of which was formed the second generation of „science parks" in the U.S. and Western Europe, „science parks" appeared in countries where there was none before (in Japan and other Asian countries), the variety of „Parks" replenished with new varieties [2]. „Science Park" can be roughly summarized in three models – American (U.S., UK), Japanese, and mixed (France, Germany).

The American model of industrial parks (U.S. and UK) has three types: 1) Scientific and technological parks; 2) „research parks", differ from the first by that their innovations are developed only to the stage of technical prototype; 3) „incubators" (USA), and innovation centers (in the UK and Western Europe), in which universities „are home to" start-up companies by providing them with a relatively modest rents the land, accommodation, access to laboratory equipment and services.

The largest and the most famous park of the United States is Stanford (Silicon Valley). It is located on the University lands leased for a term of 51 years to high-tech companies, interacting with the university, which have a lot of engineers and researchers as professors. The park was declared a filled in 1981 – 80 companies and 26,000 employees. Among the companies there are three major agencies U.S. Geological Survey, hyper-giants of Electronics (IBM, Hewlett Packard), aerospace company („Lock-Hid"), chemical and biotechnological companies [2]. Since the early 80s in Western Europe has spread a new for these countries form of technology parks, focused on the needs of small high-tech enterprises – innovation centers, similar to American „incubators." Their mission is to connect ideas and inventions with entrepreneurs and capital, to attract public and private funds to provide „start-up period" for new innovative companies [3]. Functions of innovation centers cover different stages of the innovation process, in particular promoting the transition from an experimental production to commercial development of new products. One do not always require the creation of new companies. Very often innovation centers provide assistance to researchers-entrepreneurs in sale of licenses for the new product to manufacturers. A number of innovation centers are run by local authorities, and the larger belong to the European Network based in Brussels. It brings together about 40 innovation centers. Linking innovation centers in different countries, the European Network facilitates cross-country technology trade to firms.

„Science parks" of France can serve as an example of a mixed model of „science parks", focused on the Japanese and the U.S., in particular, the largest of them, „Sophia Antipolis" [3] (located on the Riviera, an area of over 2,000 hectares by the mid-80's land was sold to companies and research organizations, and the maximum number of employees referred to – about 6000 people).

The Japanese model of „science parks", a technopolis, in contrast to the parks, involves the construction of entirely new cities, focusing the research in pioneer and advanced science-intensive industries and industrial production. In addition, an important feature of technopolises is that they attach great importance to the construction of social infrastructure, great attention is paid to progressive ideas of urban development, the combination of beautiful architecture with the natural environment, local traditions and everyday comfort.

The project „Technopolis" in Japan was adopted in 1983. The impetus for the formation of the concept of Japanese technopolises were the difficulties that the country was going through after the second energy shock that occurred in 1979. Heavy industry in Japan was in a depressed state, and the traditional policy of the government has not given results. Small businesses, which employed 90% of the labor force, suffered bankruptcy.

New developments in the Japanese economy of the early 80's. (structural re-building, aimed at eliminating the existing territorial and sectoral imbalances, the transition to intensive economic growth model based on the use of the achievements of NTP, soft tech development, etc.) have forced the government to radically revise many of the strategic direction of its policies and to make a factor of STP key not only to general economic, but also in the regional plans [4].

The basis of each technopolis is the so-called incubator of new technologies (or research center). Technological Incubator in the industry is a technique used by the Government for the establishment of enterprises that have a key influence on the growth of venture capital industries and technology development. In different countries the term „incubator" has several different shades. For example, in the U.S. – it is large firms that help small businesses get on their feet. In Japan these are small firms that are able to quickly develop new projects.

At a certain resemblance to the foreign and national research complexes technopolises differ significantly from them. If, for example, the American technoparks are usually based on one or two technologies and industries technopolises have a broader techno specialization. In the technopolis creation of the rapid development of knowledge-intensive base industries should then give an impulse to progressive growth of the economy of certain regions and the country's economy as a whole [5]. That

is, from Technopolis the growth impulse should be transferred to a specific area (hinterland) and then to develop the country's economy as a whole. Thus, the technopolis is a form of territorial organization of the economy, which is based on scientific center that acts as the „incubator" for new ideas. These ideas should be picked up later by experienced companies of the belt introduction, which put them into finished products, and develop technology to produce it. Furthermore, this technology is transferred to large industrial enterprises. The advantages of such a connection – at a rapid introduction of scientific achievements in life, and their commercialization (Fig. 1).

In fact, the development of the concept of technopolis in Japan meant the use of the principles of polarized development, but qualitatively different, modern level. Having similar to the previous regional programs target – „discharge" areas of concentrated industry, primarily the Pacific industrial belt, attracting capital and production capacity to the province – the project „Technopolis" fundamentally differs by method of tasks realization [4].

Appointment of Technopolis is to:

1. to adapt the existing industrial structure of regions to a more flexible response to the emergence of technological innovations, ie increase the share of knowledge-based industries, to stimulate the development of scientific and research organizations working in the interests of these industries, encourage the development of educational institutions that train professionals for them;

2. to stimulate socio-economic development in the relatively backward regions through the revitalization of high-tech industries in these regions;

3. to unload the large metropolitan areas (Tokyo and Osaka) by inference beyond them most of the high-tech industries;

4. to assist small and medium-sized companies to enhance their technical capabilities and competitiveness of their products.

The implementation of a technopolises is carried out through the establishment on regional level of close contact between the three parties of the formation of Technopolis: local authorities, local scientific capacity and private capital. The integration of these forces is necessary to carry out a joint policy of complex regional development. Basic requirements for the Technopolis development policy are as follows [5]:

1. The program of development of each technopolis should be part of a unified state program on socio-economic development, ie, provides coordination of the interests of the state and region.

2. A consideration of the latest achievements of science and technology inside industrial production in, ie STP defines a factor of economic growth.

3. Training of specialists should be carried out by a local university or college. That is, technopolis should be hosted in a city, which has at least one university.

Each industrial complex, in turn, should be based on two foundations: a research center and developed infrastructure (fig. 2). Research Center is designed to identify new areas of science and technology (predicted NTP), to develop and introduce new technologies into production, to train highly qualified professionals. The infrastructure should provide the efficient production and research activities. It should ensure the promotion of ideas to finished products and products – to consumers. Emphasis is placed on high-speed means of transport, the advantages of which lie in the fact that the production of high-tech industries, which should be developed in the technopolis is much smaller per unit of value and, accordingly, the share of transportation costs in the cost of production is lower. In addition, high-tech production is not dependent on the bringing up of large masses of raw materials such as heavy industry and chemical industry. At the same time, the speed and in-time delivery of raw materials and finished products is crucial.

The adoption of the concept of technopolis as a basis for regional policy was followed in Japan by the legislative embodiment of this fact, ie, establishing a legal mechanism for regulating the development and implementation of the technopolis project. The law on the technopolis was adopted in Japan in 1983. According to this law for each technopolis a plan should be developed. Preparation of this plan is carried out by local authorities of the region in which it is expected to place a particular technopolis. The plan of technopolis should define: the geographic size of Technopolis (an area reserved for the technopolis should not exceed one thousand hectares), the specific objectives of the industrial complex, based on the use of new technologies, the main indicators of long-term planning of construction and operation of industrial and socio-domestic infrastructure, including means of communication, the financing of private enterprises, which accommodation is necessary for industrial development of the of the region.

Thus, the general requirements for each technopolis are as follows: a low degree of territorial concentration of production and population, the city of a type which could become an industrial center, the presence of at least one higher education institution (university or college), in which the curriculum should include courses to study the development of knowledge-based industries of different specialties, well-developed transportation network, the presence of crossings and airports.

Accordingly, when evaluating each project of technopolis one should analyze the following questions: 1) whether technopolis can be based in the area, and 2) whether the plan of Technopolis corresponds to main areas of national development, and 3) whether a realization of this plan gives the greatest effect on this very area.

Creating a Technopolis covers an extended period of time and place in four stages: the preparatory stage, the creation of basic infrastructure, the development of Technopolis, the commercial stage. State regulation
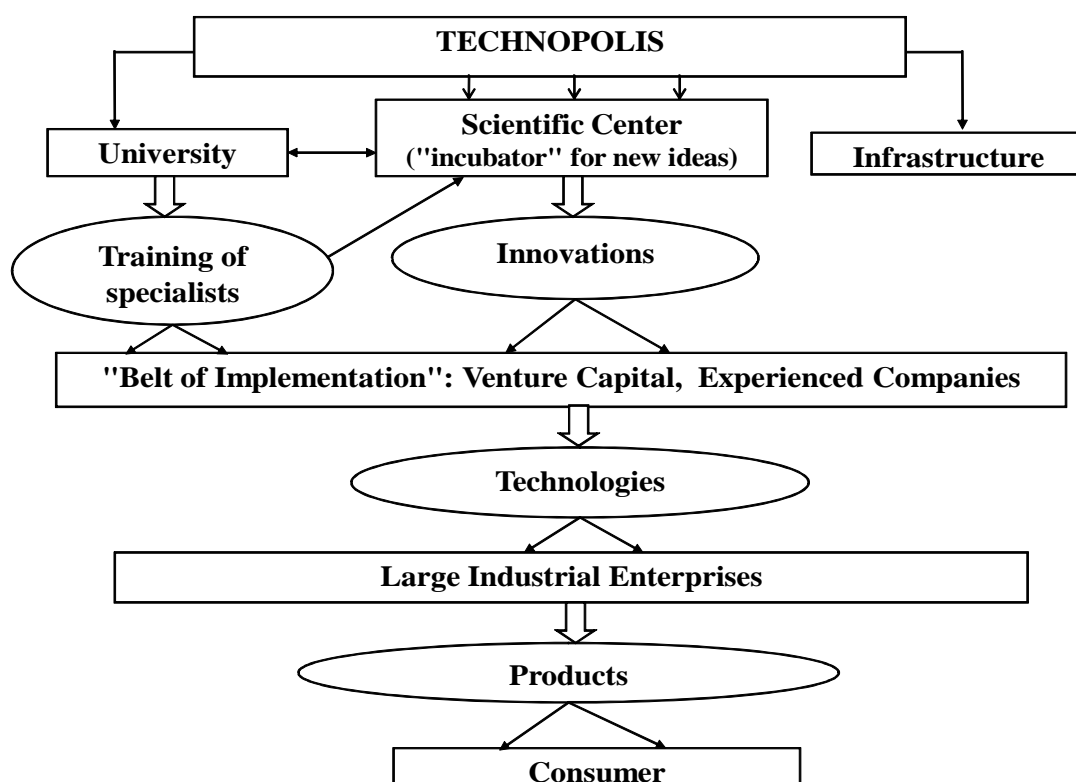
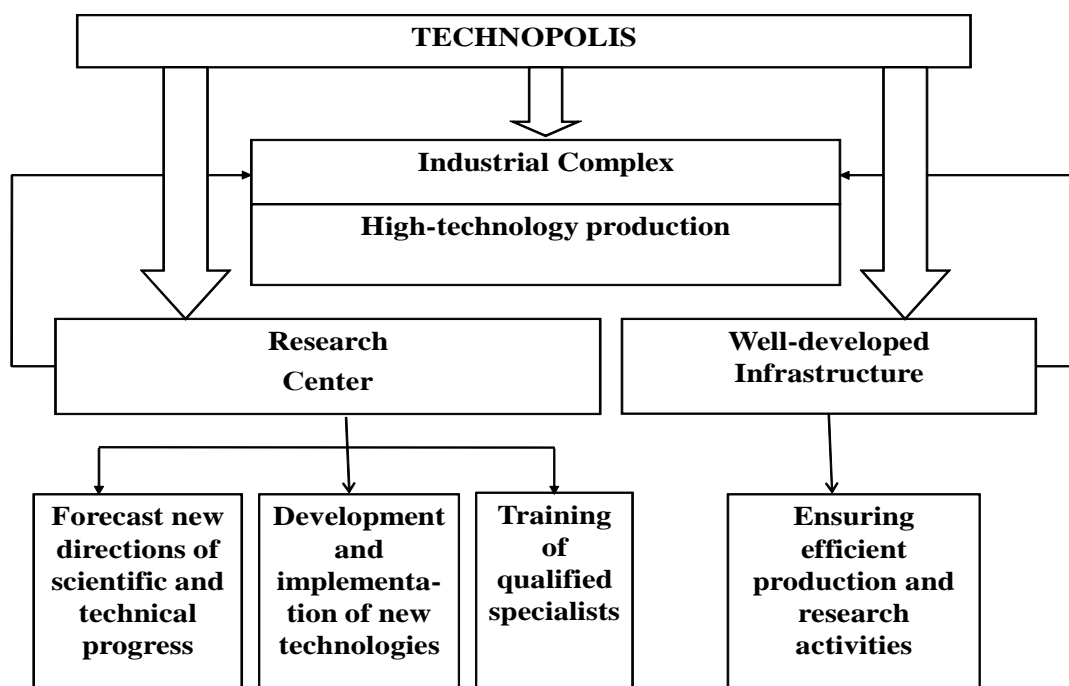**Fig. 1. The Organization of Production in the Technopolis**

Fig. 2. The General Structure of Technopolis

measures on the establishment of techno can be divided into two groups [6]: the control measures used by federal agencies and the control measures used by regional authorities.

The control measures used by federal agencies include such measures of direct regulation, as: approval of specialization and a technopolis program, financial participation in the creation of technopolis basic infrastructure, funding for national research programs on the development of key high-tech products and technology, special loans to specific scientific and technical projects, which are returned only in the case of commercial success of new technology or product, the placement of government research laboratories in the technopolis, partial funding of basic research at universities and other research organizations of technopolis, financial support for the new priority industries, providing them with special purpose loans; accommodation of government (including military) orders, etc.

Measures of indirect regulation include: the promotion of R & D (ie special tax credits, accelerated depreciation of assets, preferential leasing of public funds, etc), promotion of innovation, namely, a partial exemption from taxation of risky business, education, tax-exempt insurance reserve funds, the provision of subsidies, etc.; free access to the equipment and patents that are in public ownership, the creation of public consultation, information, and other service centers and services, assistance in training and retraining of personnel, provision of an agreement with private banks to provide organizations and enterprises technopolis preferential loans, promotion of integration of researchers and manufacturers in the unions and associations, the conclusion of agreements on joint scientific and technological projects and the various agreements among them, the adoption of temporary exemptions in the legislation (limiting competition law, protection of the domestic market, the new high-tech products, etc.).

The main trend in contemporary politics of state regulation of the processes of creation and functioning of the Technopolis in developed countries is gradual replacing of direct measures (including financial) management by indirect methods, promotion of private investments in the technopolis in reducing the share of public investment.

Japanese economy is also characterized by a tendency to a gradual reduction of government regulation and expansion of local governance by regional authorities. In the planning and construction of technopolises principal role, as it has been already noted, is given to local authorities. For example, prefectures and cities are developing programs to create technopolises and allocate up to two thirds of funds for their construction. This is explained by the fact that on the ground it is know better how and what to do. The Central Authorities should deal with strategic and structural issues, the development of

measures to support R & D system and knowledge-intensive industries in the economy.

The control measures used by regional authorities include such measures of direct regulation, as the development and implementation of a technopolis program, funding the construction of basic infrastructure (including transport and information networks), funding priorities for STP, the key for the region's scientific and technological projects; creation of advisory and financing of regional centers, centers of technical manuals, non-profit organizations to retrain staff.

Indirect regulatory measures that are used by regional authorities, are providing benefits to local taxes, the establishment of low prices on land and real estate for science and technology and industrial companies in the technopolis, the rent of funds hold in the regional property, discounts on electricity used by companies, the allocation of credits and the establishment of tax relief to a priority for the technopolis kinds of scientific, technical and industrial activities, companies in transition to a new specialization, providing low-interest loans to companies located in technopolis, the creation of regional funds for respecialisation assistance, development of priority directions of scientific and industrial activities, venture capital firms, moving of professionals, companies and capital from other areas, ensuring of equal access to the use of common structures technopolis, technical, information, counseling and other assistance to the regional information, advisory and financial centers, centers of technological leadership.

The government finances the project „Technopolis" mostly indirectly. Only about 1.5 billion yen are allocated to technopolises annually from the central budget. At the same time, the „Law of technopolis" provides for the project participants a fairly substantial tax and credit incentives to encourage business and research activities in the Technopolis. Thus, during 5 years from the beginning of the program a system of accelerated depreciation for the high-tech companies was introduced, which allows companies to deduct the first year and 30% of the cost of equipment and 15% of the value of buildings and structures. In addition, the first 5 years in Technopolis a tax on new investment in equipment is reduced by 30% and up to 15% – a tax on buildings and structures. There are also full or partial exemption from tax on capital equipment for research and development. It is permitted to include in the column „loss" of companies the budgets of new legal entities.

Special financial assistance is provided to small and medium-sized firms involved in the program. A corporation, financing small and medium-sized companies, provides them loans on favorable terms – a rate of 2.7% per annum with maturity of 15 years. Moreover, if under normal conditions the loan recipients must form groups of at least 20 companies, in this case this requirement is reduced by half. By estimates of

MITI, the average cost of building a technopolis is about 550 billion yen ($ 2.4 billion).

Efficient formation of technopolises is impossible without external support, ie without the participation of the state (in particular through the development of the state regional programs). The Japanese realized that Silicon Valley could not have come if there were not the large-scale programs of U.S. Department of Defense and NASA. At the same time limiting the scope of the impact of the economic life of the center to the regions in Japan meant the simultaneous strengthening of its information, coordinating functions.

The concept of creating of technopolises in Japan's regional policy is attempt to recreate the concept of „polarized" development on a higher level corresponding to the era of rapid development of scientific and technological revolution. In general, the idea of technopolises as a regional research and production systems that promote economic development in peripheral regions is certainly rational. Similar complexes with different names have become increasingly widespread in many industrialized countries.

Foreign experience of the formation of industrial parks and technopolises seems to be very useful for Russian conditions [7]. This is particularly important considering the economic crisis and focus on an innovative path of development.

At the same time, creating an innovation economy in Russia, including the development of innovative local production systems, such as technoparks and technopolises, faces a number of difficulties, without overcoming of which the hope for success is problematic. The main difficulties, in our view, should include the following.

1. Highly monopolized market and, consequently, the low level of competition, in which the large companies-monopolists are not interested in innovation. Task of the state – the creation of a competitive environment and incentives for the development and implementation of innovations. It is especially important to create conditions for attracting private investment to innovation sector, as only public funding, not nearly enough. As the world practice in developed countries shows, private investment in innovation is much higher than the state. It seems that the problem stimulate innovation could become an important tool for public-private partnerships.

2. Weak applied science, its significant collapse in the post-Soviet period put constraints on the introduction of innovations in the production and commercialization of innovations. The problem of development and implementation of innovative projects in Russia is not new and is primarily concerned with the existing system of economic management and long-term prediction lag and the lack of proactive. Without the development of a strategy and guarantee business is difficult to navigate in the innovation space.

3. The absence of a coherent long-term national science and technology policy, the uncertainty of priorities in innovation. Without such a policy and clarity of the perspectives to expect that the business will invest in innovation to occur. Should be defined at the state level strategic directions of scientific and technological development in the light of global trends and national reserve, capabilities and needs. In addition, for the priorities of innovation should be designed system of maximal preferences, including financial, fiscal, technological, social, and others, as well as for its legalization.

4. Not formed a legal environment and the general „rules" to stimulate innovation, security of return on investment, intellectual property protection, the relationship between the investor and the owner of an innovative idea. In foreign practice, these tools are created and operate efficiently, including tax and other incentives to venture capitalists, which stimulates private investments in high technologies.

5. Inflexible tax and financial policies of the state in the field of innovation, not containing instruments of their incentives, including purely symbolic benefits for developers of innovation, lack of tax incentives for private investors and funds, high lending rates for the projects, not included in the cost of R & D costs, etc .

6. The presence of various administrative and other barriers of development and innovation, in particular venture capital business, especially small and, accordingly, the large financial risk for him. High levels of corruption hinders innovation activation at all stages of innovation until the building permit and connecting companies to infrastructure (water supply and sanitation, power grids, etc.).

Thus, it is a necessary to form the mechanism of the state of development and innovation, including the interrelated elements of the economic, legal, institutional and other nature, working to encourage investment in innovation.

Overall attractiveness of technoparks and technopolises for enhancing regional development in Russia is not only the possibility of strengthening investment and innovation sector, the possibility of interaction of science and industry, restructuring the economy in the direction of promoting a transition to the preferential development of high-tech industries and, as a consequence, reduce production costs and improve the competitiveness of industries, but also in raising the general level of socio-economic development and improving the lives of people in their territory.

References

1. **Lombardi M.** The evolution of local production systems: The emergence of the 'invisible mind' and the evolutionary pressures towards more visible 'minds'. // Research Policy, 32(8), 2003. – P. 1443 – 1462. 2. **Белорусов А.**, Вовченко В. Перспективы развития мирового рынка высоких технологий. // Белорусский

журнал международного права и международных отношений. – 2002. – № 2. (Belousov A., Vovchenko V. Prospects for the development of the world market of high technologies. // Belarusian Journal of International Law and International Relations. 2002. – № 2.). 3. **Откуда** взялись технопарки. // Инновационный портал уральского федерального округа: http://www.invur.ru. (The origins of technoparks. // Innovative portal of Ural Federal District: http://www.invur.ru.). 4. **Тимонина Л. И.** Япония: опыт регионального развития. – М.: Наука, 1992. – 125 с. (Timonina L.I. Japan: the experience of regional development. M., 1992. – 125 p.). 5. **Бурматова О. П.** Территориальная организация населения: Учебно-методический комплекс. – Новосибирск: СибАГС, 2001. – 120 с. (Burmatova O. P. The territorial organization of the population: tutorial complex. Novosibirsk: SibAGS, 2001. – 120 p.). 6. **Евсеенко А. В.**, Зверев В. С., Унтура Г. А. Процессы регионального научно-технического развития. – Новосибирск: ИЭиОПП СО РАН, 1993. – 220 с. (Evseenko A. V., Zverev V. S., Untura G. A. Processes of regional scientific and technological development. Novosibirsk. 1993. – 220 p.). 7. **Сумская Т. В.** Функционирование технополисов и технопарков за рубежом и уроки для России. // Вестник НГУ. Серия: Социально-экономические науки. – 2007. – Том 7, выпуск 1. – С.14 – 24. (Sumskaya T. V. Operation of technopolises and technoparks abroad and lessons for Russia. // Bulletin of the NSU. Series: Social and Economic Sciences. 2007. Volume 7. Issue 1. – P. 14 – 24.).

Бурматова О. П., Сумська Т. В. Інноваційні аспекти організації виробництва на рівні локальних виробничих систем: зарубіжний досвід

У статті проаналізовано можливості й обмеження впровадження інновацій в управління регіоном на рівні локальних виробничих систем (ЛВС). Подано коротке трактування ЛВС, виділено їх основні ознаки. Наведено огляд формування інноваційних ЛВС в світовій практиці, включаючи США, країни Західної Європи і Японію. Показано специфіку таких форм організації виробництва і науки на території як технопарки і технополіси. Основний акцент зроблено на впровадженні інноваційних принципів економічного розвитку у вирішення регіональних соціально-економічних проблем на прикладі Японії. Наведено аналіз реалізації проекту „Технополіс" в Японії, показана специфіка японської моделі „наукових парків", званих технополісами, наведено характеристику основних результатів. Показано основні труднощі практичного впровадження і функціонування інноваційних локальних виробничих систем в умовах Росії.

Ключові слова: інноваційна економіка, регіональна політика, локальні виробничі системи, технополіси, технопарки, венчурний бізнес, наукоємкі технології, структурні перетворення економіки.

Бурматова О.П., Сумская Т.В. Инновационные аспекты организации производства на уровне производственных систем: зарубежный опыт

В статье проанализированы возможности и ограничения внедрения инноваций в управление регионом на уровне локальных производственных (ЛПС) систем. Дана краткая трактовка ЛПС и выделены их основные признаки. Приведен обзор формирования инновационных ЛПС в мировой практике, включая США, страны Западной Европы и Японию. Показана специфика таких форм организации производства и науки на территории как технопарки и технополисы. Основной акцент сделан на внедрении инновационных принципов экономического развития в решение региональных социально-экономических проблем на примере Японии. Дан анализ реализации проекта „Технополис" в Японии, показана специфика японской модели „научных парков", называемых технополисами, приведена характеристика основных результатов. Показаны основные трудности практического внедрения и функционирования инновацион-ных локальных производственных систем в условиях России.

Ключевые слова: инновационная экономика, региональная политика, локальные производственные системы, технополисы, технопарки, венчурный бизнес, наукоемкие технологии, структурные преобразования экономики.

Burmatova O. P., Sumskaya T. V. Innovate Aspects of Pproduction Organization on the Level of the Local Production Systems: World Experience

The paper is devoted to the problems of possibilities and limitations of innovation in the area is managed at the level of local production (LPS) systems. A brief treatment of LPS is given and their main features are identified. The authors give an overview of formation of innovative LPS in the world, including the U.S., Western Europe and Japan. The specificity of such forms of organization of production and science in the territory as technology parks as technopolises is shown. The main focus is on the implementation of innovative economic development principles to the solution of regional socio-economic problems in the case of Japan. The analysis of the implementation of the Project „Technopolis" in Japan is given, the specificity of the Japanese model of „science parks", a technopolis, is shown, characteristics of the main results is given. Authors showed the basic practical difficulties in the implementation and operation of innovative local production systems in Russia.

Key words: innovation economy, regional policy, local production systems, technopolises and technoparks, venture capital, high-tech industries, the structural transformation of the economy.

S. V. Knyaz, N. H. Heorhiadi, Y. S. Bogiv

UDC 65.014.1+658.3108+334.012.82+551.509.313.1

S. V. Knyaz,
PhD (Economics),
N. H. Heorhiadi,
Dr. Hab (Economics),
Y. S. Bogiv,
Postgraduate, Lviv Polytechnic National University

TRANSFER POTENTIAL AND PROGRAMS OF INNOVATIVE DEVELOPMENT

Definition of the problem. Despite a multitude of patterns of successful enterprise functioning in the framework of innovative structures the theoretical substantiation and methodology of formation and realization of the transfer potential of the innovative enterprises development, particularly those intending to launch a new or join an existing innovative structure, need further investigation. Today, the issues of transfer potential formation and realization have not been formalized as yet which, in most cases, is the reason for a high riskiness of transfer relations formation, difficulty drawing financial resources, irrational managerial efforts in finding and employing increase reserves as well as an increase in the transfer potential realization level of an innovative enterprise. Current theoretical, methodological and applied outcomes in the field of technologies transfer, innovative products, financial resources etc. are characterized by fragmentariness, non-systematic notions about causal and consequential relationships in the formation and application of industrial enterprises transfer potential which, in its turn, demands the elaboration of methodological, conceptual, and applied propositions as to formation and application of the transfer potential of the innovative enterprise development.

Analysis of the latest researches and publications. In most scientific works that touch forming and realization of transfer potential of innovative development of enterprises, paid attention to the economic ground and organization of transfer of technologies, introduction and service of the systems of transfer of information, to the methods of authentication of level of innovative development and others like that. Existent theoretical and applied works in the field of the transfer of technologies, innovative products, financial resources and others like that characterized by fragmentaryness, nonsystemness of presentations of

researchers about causal copulas in forming and use of transfer potential of industrial enterprises.

The object of the paper is processes of forming and use of transfer potential of innovative development of enterprises.

Research results. With no exception, all economic activity entities are participants of transfer[1] relations (Fig.1).

Notes: conventional designations: P_1, P_2,…,Pn – structural subdivisions of an industrial enterprise; b_1, b_2,… – business partners, complete products consumers included; O_1,O_2…On – bodies of local authorities.

A great many of input and output information flows, financial and material resources, complete products and technologies is the permanent subject of coordination of organizations' economic interests. Today, there is a great amount of transfer systems which enable legitimate, safe, economically beneficial interaction of economic activity entities. Nevertheless, there is some evidence that the availability of these systems and the information on them is a necessary but not a sufficient condition of an innovative development of organizations [2-4; 6; 8; 18; 19]. The major factors hindering an innovative development of enterprises and limiting their interaction with other economic activity entities result from a low level of the transfer potential of the innovative enterprise development (TPIED)[2].

The lack of the systemic theoretically grounded propositions and methodological instruments of its formation and application results in an underdeveloped market of innovative products and technologies. The rate of innovation commercializing by domestic enterprises is dozens times slower than that in developed countries. According to the official statistics, no more than 11 percent of industrial enterprises implement innovations in Ukraine, meanwhile 60 – 80 percent in the USA, EU and Japan.

---

[1] Transfer (Latin *transfer–* move from one place, job, position etc.) the term usually identified with the process of transferring certain assets, skills, knowledge etc. from one economic activity entity to another both at charge and free of charge.

[2] TPIED is the aggregate of possibilities of accumulation, on the transfer terms, intellectual property rights, technologies, innovative products, financial and other resources as well as transferring them to consumers, business partners, bodies of local authorities etc. in the framework of the realization of innovation development programs.
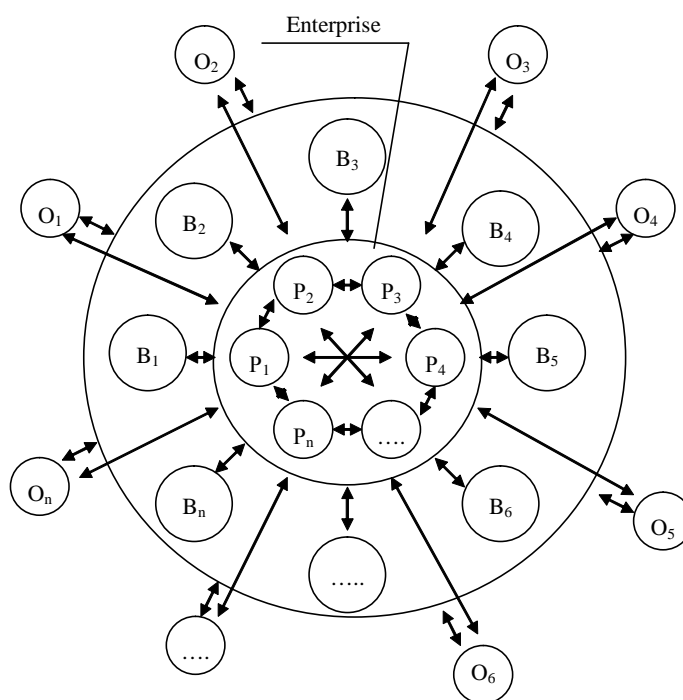
Fig.1. An industrial enterprise as a transfer relations participant

In recent years, alternative sources have provided information on the availability of the innovative potential of industrial enterprises as well as the level of their innovative development. The methods of estimating these parameters differ critically [1; 5; 9; 13]. To avoid subjectivity and fragmentariness at the innovation potential estimation as well as to promote the innovation development of domestic industrial enterprises, the indices adopted to the input and output data of EU research & innovation scoreboard, particularly those concerning the micro-level, have been employed. The computation of these indices demonstrated that among the total amount of enterprises under investigation the three groups of enterprises can be formed. The enterprises with a high level of both innovation potential and innovation development belong to the first group (*Kredmash* Public Company, *Peretvoryuvach / Transformer/* Public Company, R&D Institute; *MATS* Concern Private Company, *Motor Sich* Public Company, *INTER PET* LLC, *Mining Engines* Private Company). The second group was made up of the enterprises with a high level of innovative potential but a low level of innovation development. Here belong *ViAZ* State enterprise, *Electron* LLC, *Lutsk Automobile Plant* Public Company, *Lutsk Bearing Plant* Public Company. The third group covers the enterprises with low levels of both innovation potential and innovation development. These are *Lviv Locomotive Repair Plant* Public Company, *Drohobych Automobile Cranes Plant* Public

Company, *Genichesk Machine Building Plant* Public company, *HalytskyAutoPlant* Public Company.

The first and the second groups of the enterprises identified are of major interest. Since the enterprises with relatively similar levels of innovation potential are characterized by different levels of innovation development it is obvious that the traditional parameters of the innovation potential estimation may be, as a rule, non-sufficient and narrow.

Taking the above into consideration, the industrial enterprises have been analyzed according to their transfer potential for an innovative development. This has been preceded by TPIED parameterization considering the following features: transfer objects; means and terms of transfer. The multitude of these parameters can be formally presented in the following way [13,15]:

$$
\left.
\begin{aligned}
\mathbf{U} P_t^n &= \bigcup_{i=1}^{4} x_i \cup \bigcup_{j=1}^{6} y_j, \\
x_i \in \mathbf{U} P_t^n &\Leftrightarrow \exists \bigcup_{i=1}^{4} x_i \in P_t^n, x_i \in \bigcup_{i=1}^{4} x_i, \\
y_j \in \mathbf{U} P_t^n &\Leftrightarrow \exists \bigcup_{j=1}^{6} y_j \in P_t^n, y_j \in \bigcup_{j=1}^{6} y_j,
\end{aligned}
\right\} \quad (1)
$$

where: $\mathbf{U} P_t^n$ multitude of indexes characterizing TPIED, parts of a unity,

n – the total number of indexes characterizing TPIED,

$\overset{4}{\underset{i=1}{\mathbf{U}}} x_i$ – multitude of indexes characterizing the transfer possibilities of the internal enterprise setting, parts of a unity,

i – a feature to estimate the transfer possibilities of the internal enterprise setting,

$\overset{6}{\underset{j=1}{\mathbf{U}}} y_j$ – multitude of indexes characterizing the transfer possibilities of the external enterprise setting, parts of a unity,

j – a feature to estimate the transfer possibilities of the external enterprise setting.

As shown above, it has been suggested to compute TPIED on the basis of internal and external transfer possibilities identification. Internal enterprise transfer possibilities reflect the indices: transfer objects diversification; communication support of transfer; a guarantee of private property rights to transfer objects; transfer patterns diversification. It is reasonable to estimate transfer possibilities of external enterprise setting by means of indices of: transfer activity of off-shore structures, local innovation structures, venture financial organizations; diversification of financial resources transfer systems; development of advertising-searching transfer systems as well research-technological cooperation; the dependence of innovation commercialization on the intellectual property rights transfer.

A cluster analysis of the aggregate of the enterprises under investigation has been carried out as based on the computation of the TPIED indices as well as the identified level of innovative development. The results obtained are shown in Fig.2 [13,15]. Two groups of the enterprises are presented. One of them is characterized by high levels of transfer potential and innovative development. The enterprises with low levels of transfer potential and innovative development belong to the second group. The consideration of the fact that the innovative potential of both groups is identical makes it possible to claim that the level of the enterprises' innovative development depends linearly on the level of their transfer potential.

Notes: clusters have been constructed by means of a sphere method formalized by clast_iomorph_trek applied program. Conventional designations: 1) Kredmash Public Company – IED level (0,9),TPIED level (0,98); 2) Peretvoryuvach/Transformer Public Company, R&D Institute – IED level (0,62), TPIED level (0,74); 3) MATS Concern Private Company – IEDlevel (0,87), TPIED level (0,59); 4) *Motor Sich* Public Company - IED level (0,59), TPIED level (0,96); 5) I*nterPet*LLC – IED level (0,73), TPIED level (0,69); 6) *Mining Engines* Private Company –IED level (0,52), TPIED level (0,72); 7*) Iveko Motor Sich*LLC – IED level (0,56), TPIED level (0,62);

8) ViAZ State enterprise – IED level (0,29), TPIED level (0,12); 9) *Electron* LLC – IED level (0,36), TPIRD level (0,46); 10) *Lutsk Automobile* Plant Public Company – IED level (0,29), TPIED level (0,35); 11) *Lutsk Bearing Plant* Public Company – IED level (0,12), TPIED level (0,29); 12) Lviv Locomotive Repair Plant Public Company – IED level (0,12), TPIED level (0,44); 13) *Drohobych Automobile Cranes Plant* Public Company – IED level (0,38), TPIED level (0,32); 14) *Genichesk Machine Building Plant* Public company – IED level (0,48), TPIED level (0,11); 15) *HalytskyAutoPlant*Public Company – IED level (0,48), TPIED level (0,47).

The conducted research proved that in the process of TPIED formation and application there may arise some contradictions (liquidity insurance and profitableness of the entities of the innovation development when the expansion of their sources of financing needed; minimization of the expenditures on the innovation activity aimed at employees' motivation increase and information support improvement; retaining the private property right of the enterprise as well as its solvency insurance when the activity expansion demanded; maximization of the total volume of production and sales when the minimization of expenditures on products or technologies modification demanded as well as the possibilities to maneuver a profit share are limited. Their critical analysis demonstrated that all the indices characterizing the above contradictions are constituent elements of the financial stability of the enterprise and investment profitability directed into the innovative enterprise development. These parameters have been proved to be crucial for the development of transfer relations between enterprises. The essential dependence of TPIED on financial stability and investment profitability put into the innovative enterprise development has been grounded by statistical observation during 2007-2011 as well as by computation of the linear correlation index (0,9966). The indices of financial stability and investment profitability put into the innovative enterprise development can be formalized as shown below [13, 15]:

$$\left. \begin{array}{l} \mathbf{U} E_{f_z}{}^n = \overset{2}{\underset{i=1}{\mathbf{U}}} F_{y_i} \cup E_i, \\[2mm] F_{y_i} \in \mathbf{U} E_{f_z}{}^n \Leftrightarrow \exists \overset{2}{\underset{i=1}{\mathbf{U}}} F_{y_i} \in \mathbf{U} E_{f_z}{}^n, F_{y_i} \in \overset{2}{\underset{i=1}{\mathbf{U}}} F_{y_i}, \end{array} \right\} \quad (2)$$

where: $\mathbf{U} E_{f_z}{}^n$ multitude of the indices characterizing financial stability and innovation profitability put into the innovative enterprise development, parts of a unity; $\overset{2}{\underset{i=1}{\mathbf{U}}} F_{y_i}$ – multitude of the indices characterizing
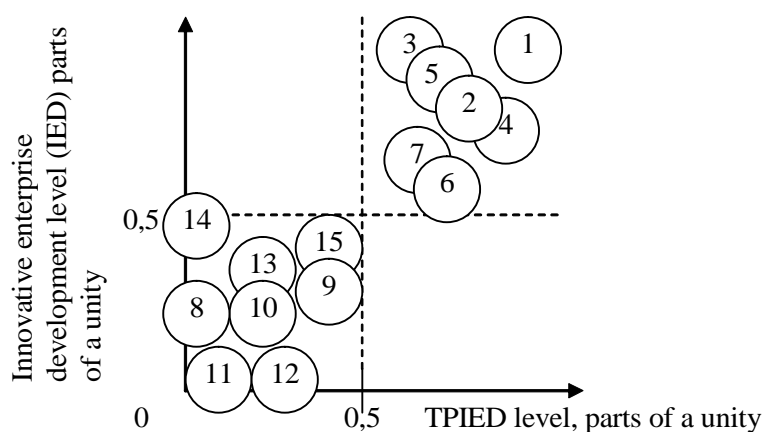
Fig.2 Constructed clusters

the financial stability of the enterprise, parts of a unity; $F_{y_i} = f(O_{vb}, K_y)$, where: O_{vb} – balance currency circulation, parts of a unity; K_y – index of the enterprise solvency, parts of a unity; E_i – investment profitability put into the innovative enterprise development.

The following formula has been suggested to estimate the investment profitability, put into the innovative enterprise development [13-15]:

$$E_i = \frac{W_p(1 - R_n) - W_k(1 + C_V)}{P}, \quad (3)$$

where E_i – investment profitability put into the innovative enterprise development, parts of a unity; W_p – enterprise assets increase as a result of the realization of investments, hryvnyas; R_n – index of deviation risk at some level of enterprise investment attractiveness (calculated on the basis of the identification level of information completeness, timeliness and objectivity used by the entities of the investment activity), parts of a unity; W_k – expenditures on accumulation resources for investment realization, hryvnyas; C_V – index of variation expenditures on investment realization, parts of a unity; P – volume of invested costs, hryvnyas.

The lack of the aimed impact on TPIED results in the irrational realization of their functions and inefficiency. When planning and organizing the TPIED, motivating creative search and innovation realization, controlling and regulating the TPIED level, enterprises are able to achieve the set goals on the basis of rational and creative application of their own and drawn resources, innovative products and technologies.

TPIED control has an information basis, i.e. it is based on the accumulation, procession and application of the data on TPIED indices value changes and factors affecting them. Achieving the expected values may cause some contradictions. As a result, getting the expected values of some indices managers obtain worse values of

other indices. This complicates the innovative development program realization and increases the riskiness of TPIED formation and application. The counteraction to these contradictions by means of applying conventional managerial strategies does not provide positive results. TPIED control demands applying the priorities diversification strategy which resists the contradictions following the TPIED formation and application and promotes expected positive indices changes. The priorities diversification strategy should be considered as a functional strategy which is a component of a higher order strategy. Thus, such strategies are to be elaborated on the decomposition basis. The formation of a new or choosing an existing strategy from a number of alternative ones is to consider internal and external enterprise setting factors having an effect on TPIED. These factors, in spite of their certain autonomy, are interrelated. Thus, on the one hand, setting TPIED goals as an internal setting factor is influenced by the tendencies on local, regional and world markets, conjuncture, a competition level etc. On the other hand, market segmentation, the level of demand for a certain product and its price depend on such internal setting factors as the maturity of heuristic managerial systems, the ability of activity entities to develop creative ideas and commercialize innovations promptly adapting communicative, intellectual and other possibilities to the needs and possibilities of consumers and business partners etc. Therefore, the elaboration of TPIED priorities diversification strategy is to consider the interrelations of TPIED internal and external setting factors as well as innovation process phases of the innovative enterprise development program. As a result of the research conducted it is claimed that the innovative development programs at different phases of the innovative process are characterized by different priorities. Thus, at the stage of conducting R&D and research-construction activities

Table 1.

**Outcomes of the change of TPIED and IED levels resulting from the realization
of TPIED priorities differentiation strategy**

Enterprises	Increase of TPIED and IED levels in the reported period as	
	TPIED	IED
Kredmash Public company	0,01	0,06
MATS Concern LLC	0,05	0,02
Peretvoryuvach (Transformer) R&D Institute Public Company	0,03	0,08
*Element-peretvoryuvach*LLC	0,07	0,04
*Electron*LLC	0,02	0,02
ViAZ State enterprise	0,03	0,08
*Lviv Locomotive Plant*Public Company	0,04	0,07

the priority is given to their loss-free. At the stage of manufacturing and consuming the priority is given to the maximization of profitability, at the stage of innovation products improvement and modification – a longer life of an innovation product.

The consideration of this feature may promote the acceleration of the invested costs compensation, the decrease in the riskiness of the resources portfolio formation, the timeliness of identifying TPIED level increase resources and the rationality of making managerial decisions on their application,

Table 1 shows the outcomes of the change of transfer potential and innovative development levels at the analyzed enterprises as a result of the realization of the TPIED priorities differentiation strategy.

Thus, the realization of the actions foreseen by the TPIED priorities differentiation strategy in the cross-section of each phase of the innovative process during 2007 – 2011 has provided an additional TPIED level increase which had a positive effect on the IED level increase.

Conclusions. The application of the priorities differentiation strategy of TPIED realization belongs to the class of under-formalized tasks. The reason is the amount of assumptions of the prospective state of the

external setting and uncertainty of the state of the innovative development program realization. To sum up, to achieve the TPIED goals in the structure of the integrated enterprise managerial system it is necessary to set up a local sub-system of information support of the innovative development management. The realization of this task is the most rational on the basis of making decision support systems. But, despite some advantages of these systems, the best results are achieved in the dialogue mode between users and the system. The increase in costs of their total automation is irrelevant. The optimal variant is the realization of measures related with professional training of managers who are good at modern information technologies, methods and patterns employed in the decision making systems since it enables the control entities to correlate algorithms and terms of application set in them. Such an approach will promote the optimization of expenditures on management systems formation and TPIED indices.

References
1. **Androsova O. F.**, 2007. Transfer tekhnolohiy yak instrument realizatsiyi innovatsiynoyi diyal'nosti: Monohrafiya / Androsova O. F., Cherep A. V. – K. : Kondor. – 356. 2. **Articles** of Agreement: Article VI:

Capital Transfers // www.imf.org. 3. **Association** formed to transfer longevity risk to capital markets...// www.lifesettlement.posterous.com 4. **Association** of european businesses in the russian federation // www.konnov.com 5. **Bazylevych V.**, 2008 Intelektual'na vlasnist': kreatyvy metafizychnoho poshuku: Monohrafiya / Bazylevych V., Il'yin V. - K.: Znannya. – 687 s. 6. **Bekhradnia B.**, 2004. Credit Accumulation and Transfer, and the Bologna Process: an Overview. -Higher Education Policy Institute, Full Report. – 54. 7. **Hovhalenko V.** Mezhdunarodnыy salon yzobretenyy kak ploshchadka dlya transfera tekhnolohyy // www.podrobnosti.biz 8. **Departament** innovatsiy ta transferu tekhnolohiy // www.mon.gov.ua 9. **Dzyuba P. V.**, 2006 Transferne tsinoutvorennya u finansoviy systemi TNK: Avtoref. dys... kand. ekon. nauk: 08.05.01 / P. V. Dzyuba – Kyyiv: Natsional'nyy universytet im. T.Shevchenka. – 20. 10. **ECTS** Users' Guide: European Credit Transfer and Accumulation System and the Diploma Supplement. – Directorate-General for Education and Culture. 2004. – 45 r. 11. **European** and Asian Credit Transfer System. The view from a Canadian University Perspective – Summary of Case-Study Findings and Workshop Discussions. -Association of Universities and Colleges of Canada. 2000. – 12 p. 12. **Zakon** Ukrayiny „Pro derzhavne rehulyuvannya diyal'nosti u sferi transferu tekhnolohiy" N 143-V vid 14.09. 2006 r. 13. **Knyaz' S. V.**, 2010. Otsinyuvannya system transfernoho zabezpechennya rozvytku innovatsiynoyi diyal'nosti mashynobudivnykh pidpryyemstv / S. V. Knyaz' // Rehional'na ekonomika: naukovo-praktychnyy zhurnal. – #1. – P.53 – 63. 14. **Knyaz' S. V.**, 2010. Transferne zabezpechennya rozvytku innovatsiynoyi diyal'nosti mashynobudivnykh pidpryyemstv / S. V. Knyaz' // Problemy nauky: mizhhaluzevyy naukovo-praktychnyy zhurnal. – #9. – P. 25 – 28. 15. **Knyaz' S. V.**, 2010 Transfernyy potentsial innovatsiynoho rozvytku mashynobudivnykh pidpryyemstv: [Monohrafiya] / S.V.Knyaz' // L'viv: Vydavnytstvo Natsional'noho universytetu „L'vivs'ka politekhnika". – 332 p. 16. **Credit** Where Credit Is Due. Canadian Universities and Asian Credit Transfer System. – Association of Universities and Colleges of Canada. 2000. – 16 p. 17. **Nakaz** Ministerstva osvity i nauky Ukrayiny „Poryadok derzhavnoyi reyestratsiyi dohovoriv pro transfer tekhnolohiy ta vedennya Derzhavnoho reyestru dohovoriv pro transfer tekhnolohiy" # 409 vid 14.05.2008. 18. **Rozporyadzhennya** Kabinetu Ministriv Ukrayiny „Pro peredachu MON povnovazhen' na zatverdzhennya poryadku vedennya Derzhavnoho reyestru dohovoriv pro transfer tekhnolohiy" # 252-r vid 6.02.08. 19. **Typove** polozhennya pro strukturnyy pidrozdil z pytan' transferu tekhnolohiy, innovatsiynoyi diyal'nosti ta intelektual'noyi vlasnosti ministerstva, inshoho tsentral'noho orhanu vykonavchoyi vlady // www.kmu.gov. ua. 20. **The GMSA** Credit Accumulation and Transfer Scheme. – Final Document. GMSA (Greater Manchester strategic Alliance), 2005. – 41 p.

Князь С. В., Неоргіаді Н. Г., Богів Я. С. Трансферний потенціал і програми інноваційного розвитку

У статті розглянуто сутність поняття „трансферний потенціал". Це поняття трактують як сукупність можливостей із акумулювання на умовах трансферу активів, а також їхньої передачі бізнес-партнерам під час реалізації програм інноваційного розвитку. Увагу приділено також процесу формування трансферного потенціалу і його оцінюванню з позиції теорії множин.

Ключові слова: трансфер, інноваційний потенціал, прибутковість, фінансова стабільність.

Князь С. В., Георгиади Н. Г., Богив Я. С. Трансферный потенциал и программы инновационного развития

В статье рассматривается сущность понятия „трансферный потенциал". Это понятие трактуется как совокупность возможностей из аккумулирования на условиях трансфера активов, а также их передачи бизнес-партнерам во время реализации программ инновационного развития. Внимание уделяется также процессу формирования трансферного потенциала и его оцениванию с позиции теории множеств.

Ключевые слова: трансфер, инновационный потенциал, прибыльность, финансовая устойчивость.

Knyaz S. V., Heorhiadi N. H., Bogiv Y. S. Transfer Potential and Programs of Innovative Development

The essence of the concept „transfer potential" is considered in the article. This concept is interpreted as a set of business opportunities on storage conditions on transfer and transmission business partners asset management experience, information, etc. during innovation development programs. Attention is paid also the logic of building evaluation method transfer potential with using of the set theory.

Key words: transfer, innovation potential, profitability, financial stability.

Management of Labour

UDC 331.5(4)

V. Georgieva,
D. A. Tsenov Academy of Economics,
Svishtov, Bulgaria

PRIORITIES OF THE NATIONAL LABOR AND EMPLOYMENT POLICY OF THE REPUBLIC OF BULGARIA IN THE CONTEXT OF THE „EUROPE 2020" STRATEGY

The common European employment policy implemented in the European Union and the development of labor relationships are guided by a long-term vision for economic and social progress. Separate European countries have relative independence in their national policies, based on the specifics of labor relationships and their regulation, in general however, the joint efforts are focused on predefined objectives, in pursuit of which the EU employs a variety of tools tested in practice within the Union during the years.

The European employment strategy is based on the policies for accelerated and sustainable economic growth of member countries, the structural reforms and accelerated implementation of novel technologies in order to create more and better jobs, improve competitiveness of national economies and further develop the European social model.

In conformity with the Europe 2020 strategy, the headline targets are achieved through the stimulation of measures to fulfill the following three key indicators until 2020:[1]

– 75% Employment rate – age group 20 –64;

– The share of early school leavers should be under 10% and at least 40% of 30 – 34 years old should have completed a tertiary or equivalent education;

– at least 20 million people out of the risk of poverty or social exclusion.

Sustainable employment growth is the most efficient way of combining upward economic development and policies for social inclusion, integration of vulnerable groups in the labor market, enhancing equal opportunities and equality between men and women, as well as solidarity between different generations. In this respect, efforts should be focused in the following directions:[2]

· improving the fitness for employment of the labor force as well as its adaptability through forms of life-long learning that are accessible to all people;

· active labor market services for integrating vulnerable groups and individuals deprived of their right to work;

· proactive labor market policy, facilitating the transition between different stages of employment;

· enhancing corporate social responsibility across all its dimensions.

The following **initiatives** aimed at achieving the three fixed indicators are part of the Europe 2020 strategy:[3]

– Youth on the move (for young people willing to study and work abroad).

– Agenda for new skills and jobs (in conformity with the structural challenge of the European labor markets).

– European platform against poverty and social exclusion (aiding EU countries in the fight against poverty).

The „Youth on the move"[4] initiative lays out the following key objectives:

· Increasing employment rates among young people by providing opportunities for successful entry in labor markets.

· Encouraging employment mobility in other countries of the Union.

· Raising the percentage of young people with high qualifications.

· Stimulating entrepreneurship and providing favorable conditions.

The „Youth on the move" initiative aims to improve education and work opportunities for young people, reduce high unemployment rates and increase employment. All this concurs with the broad EU target to achieve employment rate of 75% for the active population (20 – 64 age group) through a larger degree of consideration for youth's needs, encouraging more young people to take advantage of EU scholarships for education abroad, stimulating member countries to

---

[1] ec.europa/social/blog servet?doklad=6991&langl=bg

[2] ec.europa.eu/citizens_agenta/social/_reality_stoctaking

[3] ec.europa.eu\social/main.jsp?

[4] *ec.europa.eu/education/pub/pdf/higher/yom_bg.pdf*

implement measures that facilitate the transition from education to employment.

The Agenda for new skills and jobs aims to achieve the EU targets for reducing the share of early school leavers to less than 10%, as well as achieve active participation by at least 40% of young people in higher or equivalent professional education, and reducing the number of people living in poverty or in risk of social exclusion by at least 20 million by 2020.

This agenda presents a set of specific actions for supporting reforms aimed at improving flexibility and security on the labor market, developing adequate skills necessary for jobs today and in the future, improving the quality of workplaces and guaranteeing better work conditions.

Regardless of the struggle against poverty and social exclusion being primarily a responsibility of national governments, the EU can play a coordinating role by finding good practices and encouraging the exchange of expertise, defining Union-wide regulations and securing the necessary funding.

The basic activities of the European platform against poverty are focused on improving access to work, social insurance, essential services (healthcare, housing, etc.) and education, encouraging innovation in the social sphere related to inventing intelligent solutions during and after the crisis period, especially in relation to more effective and efficient social support, new partnerships between the public and private sector and new means in support of social inclusion and the fight against discrimination.

Member countries bear the main responsibilities related to employment and social policy. Union funding in this sphere is solely intended to support and supplement national efforts.

The European social fund is the primary financial instrument, allowing EU to achieve the targets of the European Employment Strategy and assist the economic and social cohesion by supporting member countries for developing human resources and achieving full employment, stimulating education and training, improving competitiveness and professional mobility of employed people.

Another financial instrument that supports the development and coordination of EU employment policy is the Progress[5] program, which is focused on the following five areas: employment, social inclusion and social protection, working conditions, anti-discrimination, and gender equality.

The responsibility related to the sphere of employment, social issues and cohesion is borne by both the European Union and its member countries. This is manifested in coordinating and monitoring national policies, encouraging the exchange of good practices in areas such as employment, poverty, social exclusion and pensions, lawmaking and law enforcing in areas such as labor markets and coordinating the framework of social security.

The EU manages and stimulates the actions of national governments towards eradicating poverty and social exclusion, reforming their social systems through the exchange of expertise and determining the most effective policies (in the sphere of poverty and social exclusion, pensions, healthcare and long-term care), as well as overcoming challenges related to demographic changes and preparing to face the consequences of population aging through focusing on new opportunities.

EU legislation aims to protect the health and wellbeing of its citizens. Apart from causing harm to individuals and their families, poor working conditions are a serious problem for the EU economy. Measures are taken to prevent discrimination related to race or ethnical origin, religion or beliefs, disabilities, age or sexual orientation. Gender equality is one of the fundamental values of the European Union. Despite inequality is not entirely eradicated, during the past century the Union marks a significant progress, which is primarily attributable to legislation in the field of equality, policy of gender mainstreaming (integrating the perspectives related to gender in all European policies), specific measures in support of women.

Among the encouraging trends are the larger number of women in the labor market and advances related to better opportunities for choice of education and training. Despite all this, gender inequality is still a fact and the weaker sex continues to be mainly employed in low-wage and unattractive sectors and is little involved in making important decisions.

Bulgaria's employment strategy[6], developed on the basis of the European employment strategy is grounded in three key targets:

· achieving full employment;

· creating quality jobs, providing high productivity;

· achieving social cohesion on the basis of securing labor market access and employment for all groups of the active population.

The National plan for action on employment for 2012[7] is an instrument for achieving the targets and

---

[5] *ec.europa.eu/social/BlobServlet?docId=7082&langId=bg*

[6] Passed by the Council of Ministers on 6.11.2003, p. 20

[7] www.mlsp.government.bg\bg\docs\NPDZ-2012.

commitments of our country related to the Europe 2020 strategy and the measures integrated in the National program for reforms 2011 – 2012.

Active labor market policy has a certain impact on the processes of accelerating economic excitement to the degree of having direct influence over job availability. Subsidized employment for the most vulnerable groups of unemployed and providing adequate education means social inclusion as well as social protection for them, an opportunity to receive income and raise tax and social security revenues for the state. Given these conditions, employment depends on the economic sphere and degree of qualification of different groups on the labor market on one hand and congruence between professional skills and competencies of job-seekers and employers' requirements on the other.

According to data by the Employment Agency[8], the past 2011 marks a rise in workforce demand in comparison to the previous year. This is primarily due to the increase of jobs under subsidized employment funded by Operational Programme Human Resource Development and measures under the Employment Encouragement Act.

The highest number and relative share of declared jobs come from the processing industry, commerce, automobile and household machinery repair and state administration. The most sought after professions are tailors, machine operators in tailoring and textile manufacturing. Second to those are positions for administrative and office personnel and positions in agriculture, forestry, fisheries and hunting reserves. Jobs in the processing industry, where workers are required to carry out unattractive tasks in unfavorable conditions and extremely low pay remain lastingly vacant. There are similar offerings in the sphere of commerce as well as in healthcare.

There is a steady tendency of diminishing employment rates, observed during the three years. The average number of employed people aged between 15 and 64 in the first quarter of 2011 is 4.3% less than the same period the previous year.[9] Unemployment remains significant due to the narrow demand for workers and the continuing layoffs of personnel in economic spheres and activities that were impacted by the severe economic crisis with a delay, as well as in small and medium enterprises, some service sectors, etc. At the same time there is a prevalence of job offerings in the sector of unqualified services. Workers with no education are among the first to be laid off and almost no new jobs are created for them despite the economic stir. There are sporadic occurrences of flexible employment forms, which are a „buffer" given the unsteady job demand. Their limited utilization is partially due to the fact that a part of employers prefer the „flexibility" of gray economy. Young people are among the most vulnerable groups on the labor market and as such bear the strongest impact of the economic crisis. Apart from employers cutting them off first, when faced with financial trouble, young people tend to get discouraged quickly and cease to actively search for a job and go out of the labor market. Their weak employment activity combines with a weaker participation in education and vocational training initiatives. A significant part of the young population are unemployed and unoccupied due to a low degree of education and qualifications, which in combination with the lack of work experience and habits is a serious impediment to finding employment and increases the risk of social exclusion. The lower number of young people contingent on demographics and high levels of migration among this group is further negatively impacting the labor market. Efforts are necessary in order to smooth the transition of youth from the school to active labor, such as broadening traineeships and practices in the real sector. They often feel in an information void in regards to work placement. A large part feel demotivated by the offered pay as well as by the working conditions. We have so far not succeeded in instituting the practice of employers investing in the education and qualification of young workers and employees. They turn into a potential employment resource for the gray economy. Inadequate professional skills and real-life experience and lack of profession choices for students at an early age force part of the school graduates to start any job, most often in the service sector or commerce, without requirements to working conditions. The key priorities of the national employment policy are determined in view of economic revival, rise in investments, and ongoing execution of large infrastructure projects and gradual revitalization of domestic demand. These include:

· increasing employment through fast and effective work placement of unemployed both on the primary labor market as well as under programs and measures under the Employment Encouragement Act, including activation of passive and demotivated individuals;

· improving the quality of the workforce through obtaining new qualifications, enhancing the habits and

---

[8] Workforce demand is analyzed on the basis of declared, occupied and free jobs, registered in the labor bureaus in Bulgaria

[9] All indicators cited from the Labor Force Survey (LFS) are calculated as arithmetical means on the basis of quarterly data from the survey conducted by the NSI

skills of employed and unemployed in order to secure the necessary staff for economic restructuring, higher labor efficiency, higher degree of conformity with labor market requirements;

· reducing unemployment in regions of low employment and high number of discouraged people.

Active labor policy prioritizes the following target groups:

– unemployed young people up to 29 years of age;
– unemployed aged over 50;
– inactive people, willing to work including discouraged people;
– unemployed with low or inadequate professional qualifications and lack of skills, including unemployed with low degree of education (incl. Roma individuals);
– disabled people.

Improving the competitiveness of the national economy is a primary objective for the country's development, where the labor force contributes through a higher labor efficiency, which in turn demands more knowledge and skills. In this respect there is ongoing vocational training for employed and unemployed on key competencies.

New forms of flexible employment[10] have a beneficial effect on the labor market, and namely work from home, remote workplaces and enterprises providing temporary employment. Employment opportunities for unemployed people with low qualifications and especially those living in regions with weaker economic development are expected to be narrow. In this respect, regional programs, „Beautiful Bulgaria" project, subsidized employment in community work, employment in projects funded by Operational Program „Regional Development 2007 – 2013" and workplaces under the Rural Development Programme have a significant impact in terms of reducing the number of unemployed.

A positive effect is expected in reference to employment in regions with high unemployment, thanks to the creation of new social service jobs or jobs in other social activities.

Георгієва В. Пріоритети національної політики праці і зайнятості республіки Болгарії в контексті стратегії „Європа 2020"

Національна робоча сила і політика зайнятості, є частиною Європейської соціальної політики, націлюється на поліпшення умов праці, піднімаючи якість життя в країні взагалі, стимулюючи зайнятість і захищаючи соціальні права працівників. Скорочення соці-
альної нерівності в окремих єврорегіонах вимагає у критеріїв оцінки оцінки ступеня соціального розвитку країн, зокрема Болгарії. Тому, соціальна політика – одна з ключових горизонтальних політик ЄС і вивчення коефіцієнта зайнятості і поліпшення якості життя громадян має особливу важливість.

Ключові слова: політика зайнятості, Європа, стратегія 2020, якість життя, соціальні критерії згуртованості.

Георгиева В. Приоритеты национальной политики труда и занятости республики Болгарии в контексте стратегии „Европа 2020"

Национальная рабочая сила и политика занятости, является частью Европейской социальной политики, нацеливается на улучшение условий труда, поднимая качество жизни в стране вообще, стимулируя занятость и защищая социальные права работников. Сокращение социального неравенства в отдельных еврорегионах требует у критериев оценки оценки степени социального развития стран, в том числе Болгарии. Поэтому, социальная политика – одна из ключевых горизонтальных политик ЕС и изучение коэффициента занятости и улучшение качества жизни граждан имеет особую важность.

Ключевые слова: политика занятости, Европа, стратегия 2020, качество жизни, социальные критерии сплоченности.

Georgieva V. Priorities of the National Labour and Employment Policy of the Republic of Bulgaria in the Context of the „Europe 2020" Strategy

The national labor and employment policy, being part of the European social policy, is aimed at improving work conditions, raising the quality of life in member countries in general, stimulating employment and protecting workers' basic social rights. Reducing social inequalities in separate European regions requires evaluation criteria for assessing the degree of social development of member countries including Bulgaria. Consequently, the social policy is one of the key horizontal policies of the EU and studying the employment coefficient and improving European citizens' quality of life is of particular importance.

Key words: employment policy, strategy Europe 2020, quality of life, social cohesion criteria.

---

[10] www.eurofound.europa.eu\pubdocs\2010\091\bg\

UDC 331.108.2

E. A. Podsolonko,
Dr. Hab (Economics),
A. V. Murava-Sereda,
Simferopol

HUMAN RESOURCES FOR KNOWLEDGE ECONOMY

In modern context a considerable portion of GDP in developed economies is generated in intellectual sector of production. According to UNESCO in 20 countries with 95% of the world's scientists involved, per capita income is annually increasing by $ 200; in other countries with the rest 5% - the growth is only 10 dollars per year [1]. Ukraine has accumulated significant amounts of intellectual property. However, the proportion of knowledge-intensive goods and services in Ukraine's GDP is extremely low [2].

According to numerous researchers and analysts one of the reasons for the situation is insufficient security of Human resources in innovation economic development in Ukraine. In the countries with high rates of Knowledge Economy development the costs of Human resources are continuously increasing. It is being done to maintain the security of knowledge-based industries and sectors. These funds are being spent on the formation of a national innovation ideology as a worldview: a system of continuous training of employees of industries and knowledge-oriented sectors is underway, the concept of lifelong learning (LLL) for the wider population has been formed, public contract is formed for professionals representing post-industrial specialties, training of highly qualified personnel is being conducted [3].

Each of the developed countries has chosen its own way of Human resource formation, however, all countries in this group are investing considerable resources in HR security of Knowledge Economy. For the majority of the countries which are at the beginning of building Knowledge Economy a mechanism for selection of potential „growth points" to determine the priority funding in the context of limited resources is essential. Ukraine falls into this category. To select an effective HR security strategy for innovation development of national economies it is essential to have accounting instruments and tools for predicting resource availability in accordance with the relevant structure. Urgent is the development of methods for evaluating and predicting the need for Human resources in Knowledge Economy. As of today an open issue is the structure and regulatory proportions between elements of Human resource structure of Knowledge Economy. An answer to this question will expand the theoretical base of organizational and economic support for building and developing Knowledge Economy.

Thus, the purpose of this paper is to develop theoretical and methodical approaches to improve the organizational and economic support of Human resource security for innovation development of national economies.

The following issues are being solved in this study:
· formalization of Human resource elemental structure for innovation development of economy;
· formation of a system of regulatory relationships between elements in the structure of Human resources for innovation development of economy;
· development of a technique to determine the required total HR security, taking into account the sources of formation and fields of application.

The object of the study is a system of HR security in innovation development of national economy. The subject of the study is the organizational and economical support of national economic innovation development. The works of Ukrainian and foreign [4,5,6,7,8,9] scientists in the sphere of innovation development of economy constitute methodological and theoretical basis of this study. To achieve the objectives of the work common scientific and special methods of research have been used. In the world today the most common method of assessing the level of innovation development of economy is the practice of the World Bank KAM [10] and the methods used to generate reports of the European Innovation Board – „INNO-Policy Trendhart"[11]. The set of indicators used in these methods is as follows:
· Adult literacy rate (% aged 15 years and older),
· The share of professional and technically skilled workers against the total workforce (%),
· The level of training in Math (Grade 8),
· The level of training in Natural Sciences (Grade 8),
· Average duration of training,
· Complete secondary education,
· Higher education,
· Quality of education (Natural Sciences and Math),
· Trained personnel ratio,
· Business education, availability of primary business courses.

This set of indicators sufficiently reflects the current situation , however it is somewhat redundant, and somehow insufficient for management decisions. The indicators of „The level of training in Math (Grade 8)", „The level of training in Natural Sciences (Grade 8)", „Average duration of training" provide information about the quality of potential personnel rather than a quantitative assessment of the current situation. The indicator of „Quality of education (Natural Sciences and Math)" is a weakly formalizable parameter. There has to be more research devoted to the quality of HR security, formalization of criteria of quality, converting them into value form for inclusion into the methods for assessing and predicting HR security. Since these issues are not in

the focus of this study, the analysis conducted by the authors is based on the assumption that the quality of all elements of HR security structure is maximal.

The final list of HR security indicators has been formed by the authors from the standpoint of the process approach – „from the producer to the consumer through the intermediary". It is known that in Knowledge Economy most of the GDP is generated in the intellectual sector, and its growth correlates with an increase in the number of knowledge-intensive goods and services. Thus, formation of innovative economy involves formation of Human resources not only of producers but also of consumers and intermediaries of qualitatively new goods and services. The consumer in terms of Knowledge Economy must get a complete secondary, and still better, a higher education, have a minimum competence in information technology for knowledge-intensive consumer goods and services [12].

A necessary point in Knowledge Economy is the availability of highly qualified intermediaries between the producer and the consumer of knowledge. The function of these intermediaries is Scientific Management, and their task is assessment of commercial potential of industrial and technological projects, proper management of the portfolios. Innovation development of economy is impossible without specialized personnel capable of carrying out professional management of innovation process. In the countries with leading positions in the rankings of Knowledge Economy [8, 10], the training of such specialists started over 12 years ago. A distinctive feature of such specialists is complete training in Natural Sciences, which allows a specialist to evaluate technological, programmatic etc. innovation in terms of its technical and quality characteristics, to determine its place among the analogs on the market; quality business training, which allows to organize the process of commercialization. Employers formed their need for relevant specialists through the government agencies or organizations responsible for the support of innovation

processes at the national and regional levels through outreach activities [13].

Manufacturers of innovative products and services are highly skilled personnel, inventors and skilled workers in high-tech industries. At present there are no methods to clearly answer the question - how many highly qualified personnel are necessary for manufacturing of sufficient innovation product in the period of Knowledge Economy formation. However, there is no doubt that the existence of a „crucial mass of knowledge generators" is a prerequisite for the formation of Knowledge Economy. With this in mind the final list of indicators was formed (Table 1).

There is a number of methodological approaches to assessing the resource potential of various nature, Human resource included [14]:

· Resource-based approach – Human resource is seen as material content of the body of interest

· Cost approach – determining the amount of conformity of available economic resources and the necessary investment costs for implementing the strategy of innovative development.

· Economic approach – based on the cost estimate used in all spheres of public production.

In our opinion the resource-based approach is closer to the purposes of this study. The aggregate necessary HR is the sum of own HR and the HR drawn from the outside:

$$HRagg = HRown + HRout \quad (1),$$

where $HRagg$ - the aggregate HR.

Own HR is composed of that used for own purposes and the imported components:

$$HRown = HRins + HRout, \quad (2).$$

To meet the challenges of the present study it is necessary to develop this approach in relation to the element composition, sources of formation and field of applications of Human resources. Table 2 shows the element structure of the Human resource in accordance with the field of application and sources of formation. Rij – quantitative assessment of Human resource

Table 1

The list of indicators for assessment the Knowledge Economy HR security

Field of application	Levels of training (quantitative characteristic)
Knowledge generators	- highly qualified personnel - inventors and researchers - highly qualified employees of knowledge-and science-intensive industries
Intermediaries	- Entrepreneurs with specialized training in the field of innovation - Persons with higher business education of relevant profile - Persons with natural sciences and technical education and retraining in economics and innovation management
Knowledge consumers	- Persons with complete secondary education - Persons with higher education - Persons with competence in information technology

Table 2

The element structure of the Human resource in accordance with the fields of application and sources of formation

Element structure and levels of training		Fields of application and sources of formation			Total
		For own needs	Import	Export	
Generators	- highly qualified personnel	R_{11}	R_{12}	R_{13}	$_n ? R_{1j}^{j=1}$
	- inventors and researchers	R_{21}	R_{22}	R_{23}	$_n ? R_{2j}^{j=1}$
	highly qualified employees of knowledge- and science-intensive industries	R_{31}	R_{32}	R_{33}	$_n ? R_{3j}^{j=1}$
Intermediaries	- Persons with higher business education of relevant profile	R_{41}	R_{42}	R_{43}	$_n ? R_{4j}^{j=1}$
	Persons with natural sciences and technical education and retraining in economics and innovation management	R_{51}	R_{52}	R_{53}	$_n ? R_{5j}^{j=1}$
	- Entrepreneurs with specialized training in the field of innovation	R_{61}	R_{62}	R_{63}	$_n ? R_{6j}^{j=1}$
Consumers	- Persons with higher education	R_{71}	R_{72}	R_{73}	$_n ? R_{7j}^{j=1}$
	- Persons with complete secondary education	R_{81}	R_{82}	R_{83}	$_n ? R_{8j}^{j=1}$
	- Persons with competence in information technology	R_{91}	R_{92}	R_{93}	$_n ? R_{9j}^{j=1}$
…………					
	Other	R_{ml}	R_{m2}	R_{m3}	$_n ? R_{mn}$
Aggregate Human Resource $^{e''}$		$_m ? R_{i1}$	$_m ? R_{i2}^{1}$	$_m ? R_{i3}$	$_{mn} \, ?_{i=1} ?_{j=1} R_{i1}$

i- element in j – field of application/source of formation. As quantitative assessment the absolute values for the population older than 18 are. The final table allows to determine proportions between the components of the available Human resources according to both field of applications/sources of formation, and element structure and levels of training. The n-width and m-length of the matrix can be resized.

To solve the problem of determining the necessary aggregate Human resources, regardless of industry sector, the use a system of regulatory proportions of the structural elements of HR for innovation development of economy is suggested. To obtain regulatory relations it is necessary to make a table similar to Table 2 which will contain the average quantitative values of each indicator Sij in the reference group (for example, leading countries, rapidly developing countries, etc.), where Sij – quantitative assessment of the regulatory Human resources of i-element in j-field of application/source of formation. As a quantitative assessment the absolute values for the population older than 18 is used.

The choice of a reference group can be carried out flexibly in accordance with the given parameters of the analysis. For example, you can form a reference group from among the countries that have achieved high results of innovation development in economy with low domestic purchasing power.

For making management decisions about Human resources for the development of Knowledge Economy, on the basis of tables containing data on the existing and the reference HR, the final table, filled with the planned values for HR Pij, is suggested. The values of the final table are suggested to be formed:

· taking into account the useful effect of the available Human resources A^R_{ij} and the expected useful effect A^P_{ij}, calculated in a standard way, namely the valuation of the resource normalized by the valuation results,

· on the basis of regulatory relations

For regulatory proportions the following recommendations have been laid down:

* in $(A^R_{ij} \leq A^S_{ij}) \cup (R_{ij} \leq S_{ij})$ case $P_{ij} \geq R_{ij}$ is recommended,

* in $(A^R_{ij} \geq A^S_{ij})$ U $(R_{ij} \geq S_{ij})$ case $P_{ij} \geq R_{ij}$ is recommended, but the decision requires further analysis,

* in $(A^R_{ij} \leq A^S_{ij})$ U $(R_{ij} \geq S_{ij})$ case $P_{ij} \leq R_{ij}$ is recommended,

* in $(A^R_{ij} \geq A^S_{ij})$ U $(R_{ij} \leq S_{ij})$ case $P_{ij} = R_{ij}$ is recommended,

In these proportions A^R_{ij} is a useful effect of available Human resources, A^S_{ij} is regulatory useful effect, R_{ij} – quantitative assessment of Human resources of i-element to j-field of application/source of formation, S_{ij} – quantitative assessment of the regulatory Human resources of i-element in j-field of application/source of formation.

If it is not possible to calculate the useful effect for some indicators the formula collapses to a single inequation. As an additional analysis calculation of unit costs per unit of outcome, based on the resulting matrix in value terms, is suggested. The proposed approach, the indicators in the elemental structure and regulatory proportions extend the theoretical and methodological basis of organizational and methodical support of innovative development of national economies. Consideration of the recommendations in the development of strategies and operational plans of innovation development of economy will make it possible to achieve an optimal result. Using the methods of calculation of staffing innovation development of economy will help make justified management decisions and choose areas of concentration of resources for a particular component of Human capacities in terms of the targets and objectives.

References

1. **Martin** Andersson and Charlie Karlsson. Knowledge Accessibility and Regional Economic Growth // Working paper of the Department of Economics & CESIS, Jonkoping International Business School. – 2006. – P. 26. 2. **Schwab K.** The Global Competitiveness Report 2009 / K. Schwab // World Economic Forum – 2009. – 516 p. 3. **Jan Fagerberg**, Martin Srcholec, Bart Verspagen. Innovation and Economic Development // United Nations University Working Paper Series #2009-032 4. **Mindeli L. E.**, Pipia L. K. Conceptual aspects of the formation of Knowledge Economy// The problems of prognostics. – 2007. – #3. – pp.115 – 136. 5. **Untura G. A.** Future investments in the development of Knowledge Economy: All-Russian and regional trends // Region: economics and sociology. – 2009. – #1 – pp.64 – 84. 6. **Ivanov V. V.** Innovation policy in the transition to a Knowledge Economy// Economic science of modern Russia. – 2006. – #1 – pp.47 – 58. 7. **Ilyin N. I.** The formation mechanism of the reproductive structure of the national economy based on knowledge// Vlast – 2006. – #7. – pp.69 – 71. 8. **Measuring** Knowledge in the World's Economies // The World Bank Institute's: Knowledge for Development Program (K4D). – 2009. – P. 12. 9. **Sustainable** economic development in the context of globalization and knowledge economy: Conceptual foundations of management theory and practice // edited by V. Popkov – M.: Economy, 2007. – P. 295. 10. **KEI** and KI Indexes (KAM 2009) – [http://info.worldbank.org/ etools/kam2/kam_page5.asp] 11. **INNO**-Policy TrendChart annual country reports [http://www.proinno-europe.eu/trendchart/annual-country-reports 12. **Chen Derek**, Gawande Kishore. Underlying Dimensions of Knowledge Assessment: Factor Analysis of the Knowledge Assessment Methodology Data // World Bank Policy Research Working Paper 4216, April 2007. – P. 49. 13. **Lee T.** Reflections on the Knowledge Economy. The search for reform and policy of transparency: Publishing documentation of the social sciences, 2002 – V.2. – p. 503. 14. **Trifilova A. A.** Management of innovative development of enterprises, 2003 – M.: Finance and Statistics. – p. 176

Подсолонко О. А., Мурава-Середа А. В. Кадровий потенціал економіки знань

У статті досліджують джерела формування та направлення використання кадрового потенціалу економіки знань. Сформульовано систему нормативних співвідношень для елементів кадрового забезпечення. Запропоновано методику оцінки та управління кадровою забезпеченістю в умовах інноваційного розвитку економіки.

Ключові слова: інноваційний розвиток економіки, організаційно-економічний механізм, економіка знань, кадровий потенціал.

Подсолонко Е. А., Мурава-Середа А. В. Кадровый потенциал экономики знаний

Исследуются источники формирования и направления использования кадрового потенциала экономики знаний. Формулируется система нормативных соотношений для элементов кадрового обеспечения. Предлагается методика оценки и управления кадровой обеспеченностью в условиях инновационного развития экономики.

Ключевые слова: инновационное развитие экономики, организационно-экономический механизм, экономика знаний, кадровый потенциал

Podsolonko E. A., Murava-Sereda A. V. Human resources for knowledge economy

Sources of formation and fields of application of Human resources of Knowledge Economy are investigated . A system of regulatory relations for elements of Human resources is being formulated. Methods of assessment and management of personnel security in terms of innovation economic development is suggested.

Key words: innovation development of economy, organizational and economic mechanism, Knowledge Economy, Human resources.

N. Kushnirovich,
PhD (Economics), Ruppin Academic Center,
D. Ribovsky,
Ruppin Academic Center,
Israel

DETERMINANTS OF VOLUNTEERING AND CHARITABLE GIVING

Introduction. *Theoretic approaches to altruism and its forms.* Altruism and its diverse forms, including volunteering and charity, have been widely studied in the literature. The studies devoted to altruism usually reproduce approaches adopted in sociology, economics, political behavior, sociobiology, etc. Though professional attitudes of scholars differ and shape their definitions of altruism in various ways, most of them distinguish a „costs and benefits" approach. Sociologists define altruism as providing benefits to its recipients, but providing no benefits to the actors and even incurring some costs (Howard and Piliavin, 2000). Wilson (1975) defines it a bit radically as self-destructive behavior performed for the benefit of others. In social psychological work, altruism is, by far, the most prevalent form of pro-social behavior (Collett and Morrissey, 2007). An altruistic act is an intentional act that helps another with no benefit, and perhaps even a cost, to s/he who performs it (Dovidio et al., 2006). According to Bar-Tal (1986), altruism must benefit another person when the benefit is the goal in itself, has to be performed of an individual's free will and with intention, and not for any expected reward. On the contrary, Piliavin and Charng (1990) posit that the actor need not have consciously formulated an intention to benefit the other for an act to qualify.

In economic literature, traditional models view human behavior as purely self-interested (Einolf1, 2010). The dictator game based on „rational choice" models of human behavior with assumptions on self-interest has become widespread (Bekkers, 2007). Economists also regard altruism considering the „giver's" utility function. Altruism means that the first derivate of the utility function of an individual with respect to the material resources received by another agent is always strictly positive. Thus, an altruistic person is willing to forfeit his/her own resources in order to improve the well being of others (Fehr and Schmidt, 2005). However, cooperation, the provision of public goods, volunteering, charitable giving and informal helping behaviors are all difficult to explain in self-interest terms (Einolf1, 2010). A motive-based definition of altruism adapted to a cost-benefit approach was given by Piliavin and Charng (1990, p. 30). According to them, altruism is „behavior costly to the actor involving other-regarding sentiments; if an act is or appears to be motivated mainly out of a consideration of another's needs rather than one's own, we call it altruistic".

Altruistic charitable impulse is usually considered a universal human trait (Maner and Gaillot, 2007). However, it is rather unclear what lies behind this. Besides the theories which emphasize rational action and cost-benefit analysis, there is another approach that explains altruism by pointing to motives, feelings and social ties. The motives for pro-social behavior can be esteem, fear, guilt, social justice and empathy (Banks et al., 2011). Feelings of empathy or guilt are widely discussed in the literature (Mesch, 2009; Piliavin and Charng, 1990; Sargeant et al., 2006), while the esteem motivation is an important factor in the Sargeant model of donor behavior (Sargeant, 1999). Anticipation of improving one's social position as a motive for altruism (Ireland, 2001) can be a result of the expectation of some reciprocity, or paying back received support (Lawson and Ruderham, 2009).

In our opinion, these approaches are not mutually exclusive. In this paper we focus on a broader attitude to altruism, which combines rational choice with feelings and individual motives. Individuals gain utility not only from consumed market goods but also from their feelings (such as empathy or guilt), high esteem and improving their social position as a result of altruistic activity. High quality of wellbeing implies not only a high level of consumption and wealth but also a suitable environment, provision of public and merit goods, and self-satisfaction, whereas self-satisfaction is a function of a sense of accomplishment and public evaluation. Thus, when individuals donate time or money they can be truly „selfish" because this way they increase their common utility; although they concede a certain amount of goods, in total they increase their quality of life and well-being.

In the economic and social sciences, donation of time and money are generally regarded as integral parts of voluntarism. Forasmuch as voluntarism is caused by altruistic motives, the intention to give time and money is commonly discussed as an altruistic action. The chosen resources can take the form of either money or time – or a combination of both. Thus, donation of and donation of time money (volunteering) are the more common forms of altruism. Volunteering is an action that is not easily defined due to the differences in its personal meaning and causes from person to person. In spite of the

difficulties, the UN has defined volunteering as an act that essentially is not performed for any financial gain; rather, it is done from free will, leaving a positive response to a third party as well as to the volunteer (Ironmonger, 2006). Snyder and Omoto (2008) presented a broader definition of volunteering. The supplementary issues of this definition were that the act of volunteering must include reflexive or emergency help or assistance, is spread over a continuous period of time (week, month, year and so on) and not a one-time operation, and includes helping or assisting those who are interested in receiving it. According to Wilson (2000), volunteering is any activity in which time is given freely to benefit another person, group or cause. „As long as the net costs of the volunteer are higher, the volunteer act is purer" (Cnaan et al., 1996).

Consistently with our concept of altruism, some studies on volunteering found that it can be beneficial for the helper as well as the helped (Ironmonger, 2006), as positive effects are found for life-satisfaction, self-esteem, self-rated health, for educational and occupational achievement, functional ability, and mortality (Wilson, 2000). According to Piliavin and Charng (1990), in spite of the fact that volunteers generally have altruistic reasons for participation such as feelings of obligation to the community and wanting to help others, self-oriented reasons such as perceived benefits, gaining job experience, enhancing social status, or simply having social contacts are also very common.

A wide range of studies found a positive relationship between volunteering and donation of money (Drever 2010; Hill, 2012; Ireland, 2001). Because volunteering, like donating money, is a form of formal pro-social behavior, there are many striking parallels between their respective determinants (Bekkers and Wiepking, 2011).

Determinants of volunteering and donation. To date, much research has been conducted in order to examine the effect of different variables on participation in altruistic activities. Gender plays a major role in an individual's life, feelings, expectations and overall behavior; therefore, many studies examine gender differences in volunteering and donation of money. Some of them found that men are driven, as in their paid work, by instrumental rewards, whereas women are driven by social rewards (Gerstein et al., 2004). Most studies revealed that women engage in charity giving (altruism) more than men, and give more of their time and money for charity than men do (Andreoni and Vesterlund, 2001; Rigdon and Levine, 2011), although sometimes the differences were very small and inconsistent. In-depth surveys that include a broad range of questions about volunteering and charity, found that the differences between men and women as to volunteering were rather small (Bekkers and Wiepking, 2006). Some scholars even reported the absence of gender differences regarding motives for volunteering (Bekkers,

2006). The results also vary between countries. In Australia, Japan, England women were more likely to volunteer than men, while in Sweden the results were opposite: men were more likely to volunteer than women, and in Canada no gender differences were observed (Musick and Wilson, 2008).

Most studies showed a positive correlation between age and altruism (Eisenberg and Strayer, 1987; Psychol , 1998). Others state that donation of time and money decreases at higher ages (Brown and Lankford, 1992; Lyons and Nivison-Smith, 2006; Tiehen, 2001). Though the exact age at which it happened varied throughout the studies, it tended to be over the age of 65. Auten and Joulfaian (1996) found that donations were higher among those aged 40 – 84 than among those younger or older.

Marital status, together with age and gender, is one of the determinants that should affect altruism participation, and is mostly found to be related to the incidence of giving and the amount donated (Tiehen, 2001). Both married men and women are more likely to give than their single peers, though only married women (not married men) give higher amounts than their single peers (Rooney et al., 2001).

Research done mainly about family characteristics as determinants of volunteering and charity found that having children and the children's age were factors promoting altruism in both its forms. On one hand, volunteerism can be a predictable part of the social role of the parent (Rotolo, 2000). On the other hand, due to limited free time, the parental role can deter one from volunteering, whereas the economic or rational approach assumes that the presence of children imposes additional costs on the volunteer. Although a number of researchers have shown that the presence of children in a household positively affects the parent's volunteer or charity activities (Banks and Tanner, 1999; Tiehen, 2001), a few researchers emphasized the age of the children. Having children under the age of 5 was a strong promoter for parent volunteerism (Caputo, 1997) especially for women (Rotolo and Wilson, 2007). Duncan (1999) found a positive relationship between the level of giving and having children between the ages of three and ten, but no relationship for those with children outside this age range. However, according to Okten and Osili (2004), the number of children younger than 14 is negatively related to the likelihood of giving and the amount donated.

Throughout the pages of literature, religion was always associated with helping others in need and philanthropy. In accordance, it makes sense that many researchers focused on the ties between religion and altruism (volunteerism and money donation). The relationship between religiosity, giving and volunteering is positive (Monsma, 2007). The more often persons participated in religious services, the higher was their

intention to volunteer and the more hours they gave (Lyons and Nivision-Smith, 2006). Church members were more likely to engage in charitable giving and contributed higher donations (Bekkers and Wiepking, 2011). Bekkers and Schuyt (2008) found that various streams of religion (Catholics and Protestants) had different norms for charity giving and donation of money.

As education is a strong predictor of altruism in terms of volunteering and charitable giving (Wilson, 2000), those who have a higher education are asked to volunteer more often than their peers with a lower education. In addition, volunteers with higher education levels are more likely to be asked to perform volunteer work in „white collar" fields and to hold positions that require leadership qualities. On the other hand, Bekkers (2005) found that some volunteer organizations do not require highly educated individuals. This tendency has also changed with time: in 1975, Van Ingen and Dekker (2011) found that volunteerism was mainly performed by highly educated volunteers, whereas in 2005 the differences nearly vanished. A positive relationship between the level of education and giving was found in many studies (Bekkers, 2006; Brown and Lankford,1992; Lyons and Nivison-Smith, 2006; Tiehen, 2001). This is also true for the sums of donated money: the higher the level of education, the higher proportion of the donation came from the donor's income (Bekkers and Wiepking, 2011).

Altruism is also related to employment. Participating in the paid labor force is time consuming, and job intensity directly affects decisions about leisure spending. Ireland (2001) posits that observability (the need for somebody's contribution to be acknowledged by others), interest (that can be either personal or interest in the group the individual belongs to due to his/her employment status) and approval (being a part of an altruistic act can affect an individual's status, and thus change the close environment's approval) trigger employed individuals to participate in acts of altruism. Khoury and Khoury (1981) found that the happier an individual was with his work, the more helpful he would be toward others and vice versa.

An individual's or a household's monthly net income can affect their decision to participate in an act of altruism. Ireland (2001) emphasized that great family wealth gave a person greater ability to donate more time. Some studies that found a positive relationship between higher net income and the likelihood to give (Rooney et al., 2001), while others found that people with higher net income, did not show a higher likelihood to give than other people (Wiepking, 2007). In addition, not surprisingly, research has shown that individuals with more financial means gave higher amounts of money (Okten and Osili, 2004). The findings regarding the proportion of the donation of the net income are not as unambiguous. Some researchers found that the farther an individual's income is from the

average; his donation would relatively be larger than that of individuals with middle incomes (Hodgkinson and Weitzman, 1996). Other studies revealed a reverse tendency: lower income households donate relatively more and higher income households donate relatively less (McClelland and Brooks, 2004).

An additional factor that is commonly associated with altruism is giving or receiving domestic help. Domestic help is most often regarded as a natural part of altruism. Taking care of children or the elderly are just a few of the examples for ways people perceive domestic help as altruism. Furthermore, receiving domestic help can also affect volunteering and donating because persons who receive domestic help usually have more free time to use for other activities including altruism. Rich people have more opportunities to employ domestic help and also to donate because of larger financial recourses available to them. In this way, receiving domestic help can also be related to donation.

The study. As mentioned above, altruism has many forms and can be perceived in different ways by individuals. This paper addresses two forms of altruism: the contribution of money and the contribution of time – volunteering. We examine the overlap between these two activities and the determinants driving people to donate time or money.

To investigate volunteering and donating, we used the model of philanthropy developed by Barclays Wealth (Global Giving: The Culture of Philanthropy, 2010). This model, which takes two components – money and time – together, divides different countries in the world into four groups according to their population's preferences as to volunteering and donating money. The first group is „Go-Givers" – countries whose population is engaged both in terms of money spent and time given to charities. The second group is „Benefactor Donors" – countries whose population prefer to donate money. The third group is „Volunteer Donors" – countries whose population is more inclined to donate time. And the forth group is untitled; it includes countries in which the percent of both volunteers and benefactors was extremely low. In our study we called this group „Neither Benefactors Nor Volunteers". The study conducted by Barclays Wealth (Global Giving: The Culture of Philanthropy, 2010) found significant differences between countries: Ireland, India, the U.S. and South Africa were in the „Go-Givers" group, South America, Taiwan and Saudi Arabia – in the „Benefactor Donors", and the U.K. and Qatar – in the „Volunteer Donors" group.

The literature review revealed that altruism is commonly expressed in terms of volunteering and donating money. The determinants of volunteering and donating most frequently mentioned in the literature were gender, marital status, having children, religiosity, education, labor force characteristics, total net monthly

207

household income, and receiving domestic help. In our study, these determinants are regarded as factors that are expected to affect altruistic behavior.

Method. *Data.* We used the data of the Social Survey conducted by the Israel Central Bureau of Statistics (ICBS) in 2008. The survey used the Population Register as a sampling frame, which included the permanent non-institutional population of Israel aged 20 and older, as well as residents of non-custodial institutions (such as student dormitories, immigrant absorption centers and independent living projects for the elderly). New immigrants were included in the survey population if they had been in Israel for at least six months. Interviews were conducted with about 7,312 people aged 20 and over, who represent about 4.6 million people in that age bracket.

Measures. In this study volunteering and donating are described in terms of participation and scope. Dependent variables were: participation in volunteering (coded „0" = volunteered in past year, and „1" = did not volunteer in past year), participation in donating (coded „0" = donated money in last 12 months, and „1" = did not donate money in last 12 months), scope of volunteering in terms of total monthly hours of volunteering in last 3 months (categorized on a scale of 1 – 5 where „1" = once; „2" = less than 5 hours; „3" = 5 – 9 hours; „4" = 10 – 19 hours ; „5" = 20 hours or more), scope of donating in terms of sum of money donated in last 12 months, (categorized on a scale of 1 – 4 where „1" = up to 100 NIS; „2" = between 101 – 500 NIS; „3" = between 501 – 1000 NIS; „4" = over 1000 NIS).

Based on the literature review, we defined the determinants of volunteering and donating. Thus, the independent variables in this study are as follows: gender (coded „0" = female and „1" = male), age (a continuous variable measured in years), marital status (coded „0" = not married and „1" = married), having children aged 0 – 5 (coded „0" = no children aged 0 – 5, and „1" = have children aged 0 – 5); having children aged 6 – 17 (coded „0" = no children aged 6 – 17, and „1" = have children

aged 6 – 17), religiosity (categorized on a scale of 1 – 5 where „1" = non-religious, secular; „2" = traditional; „3" = traditional and religious; „4" = religious ; „5" = very religious), education in terms of highest received diploma (categorized on a scale of 1 – 6 where „1" = secondary school completion certificate; „2" = matriculation certificate; „3" = non-academic post-secondary certificate; „4" = BA, or an equivalent degree, including an academic certificate; „5" = MA, or an equivalent degree, including MD; „6" PhD, or an equivalent degree), labor force characteristics (coded „0" = unemployed and „1" = employed), total net monthly household income (categorized on a scale from „1" = 2,500 NIS or less to „10" = more than 24,001 NIS), domestic help (coded „0" = did not employ domestic help and „1" = employed domestic help).

In order to analyze the determinants of participation in volunteering and donating, and because of the dichotomous nature of the dependent (outcome) variables, multivariate logistic regression was used. For analyzing the determinants of scope of volunteering and donating, we ran multiple linear regressions.

Results. *The relationship between volunteering and donating.* Following a model of philanthropy developed by Barclays Wealth (Global Giving: The Culture of Philanthropy, 2010) mentioned in the previous chapter, we analyzed the frequencies of volunteering and donation of money of the sample population, and grouped respondents according to their preferences (Table 1). The study revealed that the sample population was more likely to donate than to volunteer. Whereas 68.3 percent of the respondents reported that they had donated money at least once in last 12 months, only 19.1 percent reported that they had volunteered. The most common pattern in the sample was the „Benefactor Donors", namely, having donated money in the last 12 months without volunteering activity; 53.3 percent of the respondents reported this pattern. The second most frequent pattern (27.6 percent of the sample) was „Neither Benefactors Nor Volunteers".

Table 1

Volunteer activities and donating money in the past year

Volunteer activities in past year	Donation of money in last 12 months	
	Donated	Did not donated
Volunteered % of total sample	„Go-Givers" 15.0% (n = 1096)	„Volunteer Donors" 4.1% (n = 302)
Did not volunteered % of total sample	„Benefactor Donors" 53.3% (n = 3899)	„Neither Benefactors Nor Volunteers" 27.6% (n = 2015)

15.0 percent of the sample of the social survey was „Go-Givers", both having donated and volunteered in the last year. The smallest part (only 4.1 percent) was „Volunteer Donors", who volunteered without donating.

We found a significant relationship between volunteering and donating (Chi-square = 81.22, Sig. < 0.000). Individuals who volunteered in the last year were more likely to donate than those who did not volunteer (78.4 percent versus 65.9 percent). Although the study revealed a positive significant relationship between volunteering and donating, we found that only 15 percent of the sample was „Go-Givers", both volunteering and donating money. We examined whether there was a relationship between the scope of volunteering (in terms of monthly hours of volunteering) and the scope of donating (in terms of sums of money donated in the last 12 months). Table 2 shows results of the analysis.

The study did not find a relationship between donated sums and hours of volunteering (chi-square test was non-significant); the distribution among the groups was rather even. Thus, the decision to volunteer was related to the decision to donate, but the scope of volunteering did not relate to the scope of donating.

Determinants of participation in volunteering and donating. Results of logistic regressions for participation in volunteering and donating are shown in the Table 3. Both logistic regressions were significant (Sig. < 0.000), thus, the set of the chosen determinants predicted participation either in volunteering or donating. The significant predictors of volunteering were gender, marital status, having children, religiosity, education, net monthly household income and receiving domestic help. Males were 1.19 times more likely to volunteer than females. Non-married persons were 1.34 times more likely to volunteer than married. Having children 0 – 5 years old reduced the willingness to volunteer, but having children 6 – 17 years old increased it. Highly educated individuals

were more likely to volunteer than low educated. The one-point rise in the total net monthly household income only slightly increased the willingness to volunteer. The most salient predictor of participation in volunteering was receiving domestic help for a household member (a child or the elderly); people who employed a worker for domestic help were 1.43 times more likely to volunteer. It was not surprising that religiosity increased the probability to volunteer, so that religious persons were more likely to volunteer than non-religious.

The significant predictors of donating were rather similar to those for volunteering, but their impact was not the same. Females were 1.45 times more likely to donate than males; this result was opposite to volunteering, where males were more likely to volunteer than females. Married persons were 1.63 times more likely to donate than non-married. This result was also the opposite of the finding as to volunteering, since married people were less likely to volunteer than non-married. The third contrary finding was that having children 6 – 17 years old reduced the willingness to donate, although it increased the willingness to volunteer.

The impact of religiosity, total net monthly household income, and employing domestic help on willingness to donate and to volunteer was similar. The higher religiosity and total net monthly household income were, the higher willingness both to volunteer and donate was. The most salient predictor of donating was receiving domestic help, whereas persons who employed a worker for domestic help were 1.67 times more likely to donate than those who did not.

The study revealed some predictors that were significant for donating but non-significant for volunteering, namely labor force characteristics and age. Though we did not find a significant relation between employment and volunteering, being employed was a significant predictor of donating. Employed individuals

Sum of money donated in last 12 months according to monthly hours of volunteering in last 3 months, in percent

Total monthly hours of volunteering in last 3 months	Sum of money donated in last 12 months				Total
	Up to 100 NIS	101-500 NIS	501-1000 NIS	Over 1000 NIS	
Once	19.7	18.8	21.7	14.2	18.3
Less than 5 hours	22.7	19.6	25.0	17.1	20.5
5-9 hours	17.3	19.3	17.5	20.7	18.9
10-19 hours	22.0	22.9	19.2	21.5	21.9
20 hours or more	18.3	19.3	16.7	26.4	20.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%

were 1.56 times more likely to donate than the non-employed. There was a positive relation between respondents' age and donating, a one-year change in respondents' age increased willingness to donate by 1.03.

Determinants of scope of volunteering and donating. Results of multiple linear regressions for scope of volunteering and scope of donating are shown in Table 4. Both regressions were significant (Sig. < 0.000), hence, the set of the chosen determinants predicted the scope either of volunteering or donating. About 21 percent of the variance in the time of volunteering and about 26 percent of the variance in donated sums can be explained by the independent variables of the models.

Table 4 shows that the scope of volunteering was significantly affected by the following independent variables: gender, age, having children aged 6 – 17, and labor force characteristics. Men reported higher monthly hours of volunteering than women. The older the respondents were, the more hours they volunteered. Having children aged 6 – 17 decreased the scope of volunteering. Employed persons volunteered fewer hours than the non-employed did.

The sum of money donated in the last 12 months was significantly affected by almost all independent variables in our set. Men, educated and employed individuals donated larger sums than women, non-educated and non-employed people did. Older

respondents donated larger sums than younger respondents. Persons, who had children up to 5 years old, also reported larger donated sums than others. It was not surprising that the total net monthly household income and employing a worker for domestic help positively predicted the scope of donated sums, because both these factors are evidence of the respondent's high economic status. Religiosity also had a significant positive effect on donated sums, namely, more religious people donated larger sums than non-religious.

Conclusions. The study revealed that the pattern of donating is preferred by the Israeli population more than the pattern of volunteering. Whereas about a half of the sample donated at least some money in the last year, only a fifth of the respondents volunteered in the past year. The most common pattern found in the survey sample was donating money without volunteering activity. Thus, according to the Barclays Wealth philanthropy model, the Israeli population is predominantly „Benefactor Donors", rather than „Volunteer Donors" or „Go-Givers". About a quarter of the population was „Neither Benefactors Nor Volunteers", and was not involved in altruistic activity at all. The study also revealed a positive relationship between volunteering and donation of money; this finding is consistent with the studies of Drever (2010), Hill (2012) and Ireland (2001).

The predictors of participation in volunteering and

Table 3

Results of logistic regressions for participation in volunteering and donating

Determinants	Volunteer activities in past year („1"= Yes, „0" = No)		Donated money in last 12 months („1"= Yes, „0" = No)	
	B	Exp(B)	B	Exp(B)
Gender	0.177	1.194[**]	-0.370	0.691[****]
Age	-0.017	0.983	0.026	1.027[*]
Marital status	-0.296	0.744[***]	0.487	1.628[****]
Having children aged 0 – 5	-0.236	0.790[**]	-0.007	0.993
Having children aged 6 – 17	0.151	1.163[*]	-0.289	0.749[****]
Religiosity	0.294	0.745[****]	0.283	0.753[****]
Education (Highest diploma received)	0.184	1.202[****]	0.020	1.020
Labor force characteristics	-0.007	0.993	0.446	1.562[****]
Total net monthly household income	0.069	1.071[****]	0.182	1.199[****]
Domestic help	0.354	1.425[****]	0.510	1.666[****]
Chi-square	180.383[****]		446.847[****]	

Table 4

Results of multiple regressions for scopes of volunteering (in hours) and donating (donated sums of money)

Determinants	Total monthly hours of volunteering in last 3 months		Sum of money donated in last 12 months	
	B	Beta	B	Beta
Gender	0.160	0.057[*]	0.198	0.094[****]
Age	0.041	0.090[**]	0.024	0.067[****]
Marital status	-0.175	-0.059	0.066	0.028
Having children aged 0-5	-0.002	-0.001	0.075	0.032[*]
Having children aged 6-17	-0.297	-0.105[***]	0.021	0.010
Religiosity	0.056	0.057	0.360	0.441[****]
Education (Highest diploma received)	-0.012	-0.011	0.042	0.054[***]
Labor force characteristics	-0.330	-0.106[***]	0.084	0.035[**]
Total net monthly household income	0.014	0.025	0.095	0.216[****]
Domestic help	-0.069	-0.020	0.238	0.091[****]
R Square	0.212[****]		0.255[****]	

Notes: [****]Sig.<0.000; [***] Sig.<0.005; [**] Sig.<0.05; [*] Sig.<0.10.

the scope of volunteering were rather different. Only gender and having children 6 – 17 years old predicted both participation and scope of volunteering. Men were more likely to volunteer and volunteered more hours than women did. The parents of children aged 6 – 17 were more likely to volunteer, but when they did so, they volunteered less hours than the others. Yet, other predictors of participation in volunteering did not coincide with those of its scope. Whereas the decision to volunteer was positively affected by religiosity, education, net monthly household income and receiving domestic help, and was negatively affected by being married and having children aged 0 – 5, these factors were not found significant for the number of hours devoted to volunteering. Furthermore, age and employment were strong predictors of the scope of volunteering, but not for the decision to volunteer.

However, we found some conformity among determinants of participation in donating and its scope. Gender, age, religiosity, labor force characteristics, net monthly household income and receiving domestic help were significant predictors for both. Men were less likely to donate, but when they did so, they donated larger sums than women. Age was a positive predictor both for the choice to donate and the donated sums: older persons were more likely to donate and they donated larger sums than younger ones. Having children had opposite effects on the donation choice and the scope of donating. Respondents who had children aged 6 – 17 were significantly less likely to donate, but having small children (aged 0 – 5) significantly increased donated sums. The study revealed that the economic status was a strong predictor of donating: employed, high-income individuals and those who were

able to employ domestic help, were more likely to donate and donated larger sums than the others.

We found some striking parallels between determinants of volunteering and donating. However, some determinants positively predicted volunteering, but negatively predicted donating and vice versa. For example, men were more likely to volunteer, but less likely to donate then women. The same was revealed for people who had children (aged 6 – 17). Married persons, on the contrary, were more likely to donate and less likely to volunteer, than non-married. Gender, religiosity, household income and domestic help affected participation in volunteering or donating, whereas gender, age and employment affected their scopes.

In sum, gender, age, having children aged 6 – 17, religiosity, labor force characteristics, net monthly household income and receiving domestic help were salient factors predicting altruistic activity in terms of volunteering and donating money. The most salient of them was gender, significantly affecting all four analyzed dimensions of altruism.

References

1. **Andreoni, J. and Vesterlund, L.** (2001). Which is the fair sex? Gender differences in altruism. *The Quarterly Journal* of Economics, 116 (1), pp. 293 – 312. 2. **Auten, G. and Joulfaian, D.** (1996). Charitable contribution and intergenerationl transfers. *Journal of Public Economics*, 59(1), pp. 55 – 68. 3. **Banks, J. O., Raciti, M. and Gadenne, D.** (2011) Why give? A multi-charity study of motivation. Proceedings of the *Australian and New Zealand Marketing Academy (ANZMAC)*

Conference 2011: Marketing in the age of consumerism: Jekyll or Hyde?, Perth, Western Australia : Edith Cowan University, 28-30 November 2011, pp. 1 – 9. 4. **Banks, J. and Tanner, S.** (1999). Patterns in household giving: Evidence from U.K. data. *International Journal of Voluntary and Nonprofit Organizations*, 10 (2), pp. 167 – 178. 5. **Bar-Tal, D.** (1986). Altruistic motivation to help: Definition, utility and operationalization. *Humboldt Journal of Social Relations*, 13, pp. 3 – 14. 6. **Bekkers, R.** (2005), Participation in voluntary associations: Relations with resources, Personality, and political values. *Political Psychology*, 26, pp. 439 – 54. 7. **Bekkers, R.** (2006). Traditional and health related philanthropy: The role of resources and personality. *Social Psychology Quarterly*, 68 (4), pp. 349 – 366. 8. **Bekkers, R.** (2007). Measuring altruistic behavior in surveys: The all-or-nothing dictator game. *Survey Research Methods*, 1(3), pp. 139 – 144. 9. **Bekkers, R. and Schuyt, T.** (2008). And who is your neighbor? Explaining denominational differences in charitable giving and volunteering in the Netherlands. *Review of Religious Research*, 50 (1), pp. 74 – 96. 10. **Bekkers, R. and Wiepking, P.** (2011). A literature review of empirical studies of philanthropy : Eight mechanisms that drive charitable giving. *Nonprofit and Voluntary Sector Quarterly,* 40(5), pp. 924 – 973. 11. **Brown, E. and Lankford, H.** (1992). Gifts of money and gifts of time: estimating the effects of tax prices and available time. *Journal of Public Economics* , 47, pp. 321 – 41. 12. **Caputo, R. K.** (1997).Women as volunteers and activists. *Nonprofit and Voluntary Sector Quarterly*, 26, 156 – 174. 13. **Cnaan, R. A., Handy, F. and Wadsworth, M.** (1996). Defining who is a volunteer: Conceptual and empirical considerations. *Nonprofit and Voluntary Sector Quarterly*, 25 (3), pp. 364 – 383. 14. **Collett, J. L. and Morrissey, C. A.** (2007). *The social psychology of generosity: The state of current interdisciplinary research.* Report for the John Templeton Foundation Generosity Planning Project. – 45 p. 15. **Dovidio, J. F., Piliavin, J. A., Schroeder, D. A. and Penner, L. A.** (2006). *The social psychology of prosocial behavior*. Mahwah, N.J.: Erlbaum. 16. **Drever, E.** (2010*). 2008-09 Citizenship survey: Volunteering and charitable giving topic report.* Department for Communities and Local Government: London. 17. **Duncan, B.** (1999). Modeling charitable contributions of time and money. *Journal of Public Economics*, 72, pp. 213 – 242. 18. **Einolf1, C.** (2010). Does extensivity form part of the altruistic personality? An empirical test of Oliner and Oliner's theory. *Social Science Research*, 39, pp. 142 – 151. 19. **Eisenberg, N. and Strayer, J.** (1987). *Empathy and its development.* Cambridge University Press. 20. **Fehr, E. and Schmidt, K. M.** (2005). *The economics of fairness, reciprocity and altruism – Experimental evidence and new theories.* Munich Discussion paper No. 2005-20, Ludwig-Maximilians-Universitat Munchen. 21. **Gerstein, L. H.,**

Wilkerson, D. A., and Anderson, H. (2004). „Differences in Motivations of Paid Versus Nonpaid Volunteers." Psychological Reports. 22. **Hill, M.** (2012). *The relationship between volunteering and charitable giving: review of evidence*. Working Paper, Centre for Charitable Giving and Philanthropy (CGAP), Cass Business School. – 8 p. 23. **Hodgkinson, V. A. and Weitzman, M. S.** (1996) *Giving and volunteering in the United States.* Washington, DC: Independent Sector. 24. **Howard, J. A. and Piliavin, J. A.** (2000). *Altruism, in Encyclopedia of Sociology*. Ed. by E. F. Borgatta. New York: Macmillian. 25. **Global Giving: The Culture of Philanthropy** (2010). *Report of Barclays Wealth*. Retrieved from http://www.barclayswealth.com/insights/global-giving-and-the-culture-of-philanthropy.htm 25/09/2012. 26. **Ireland, N. J.** (2001). Status-seeking with voluntary contributions of money and work. *Annales d'Economie et de Statistique*, 63 – 64, pp. 155 – 170. 27. **Ironmonger, D.** (2006). *The economic value of volunteering in Queensland.* A report commissioned by the State of Queensland, Department of Communities. Retrieved 25/09/2012 from http://www.communities.qld.gov.au/resources/communityservices/volunteering/documents/economic-value-of-volunteering.pdf. 28. **Khoury, R. M. and Khoury, D. C.** (1981). Professionalization of police: A question of altruism. *Psychological Reports*, 49(3), Dec, 896-898. doi: 10.2466/pr0.1981.49.3.896. 29. **Lawson, R. and Ruderham, R.** (2009). Integrating fundraising and campaigning, *International Journal of Nonprofit and Voluntary Sector Marketing*, 14, pp. 379 – 386. 30. **Lyons, M. and Nivison-Smith, I.** (2006). Religion and giving in Australia. *Australian Journal of Social Issues*, 41 (4) pp. 419 – 436. 31. **Maner, J. and Gaillot, M.** (2007). Altruism and egoism: Prosocial motivations for helping depend on relationship context. *European Journal of Social Psychology*, 37 (2), pp. 347 – 358. 32. **McClelland, R. and Brooks, A.C.** (2004). What is the real relationship between income and charitable giving? *Public Finance Review*, 32 (5), pp. 483 – 497. 33. **Mesch, D.** (2009). Women and philanthropy: A literature review. Working Paper 4/09, The Center of Philanthropy, Women's Philanthropy Institute, at Indiana State University, 14 p. 34. **Monsma, S. V.** (2007). Religion and philanthropic giving and volunteering: Building blocks for civic responsibility. *Interdisciplinary Journal of Religious Research*, 3, Article 1: www.religjournal.com. 35. **Musick, M. A. and Wilson, J.** (2008). *Volunteers: The social profile*. Bloomington, Indiana University Press. 36. **Okten, C. and Osili, U.O.** (2004). Contributions in heterogeneous communities: Evidence from Indonesia. *Journal of Population Economics*, 17, pp. 603 – 626. 37. **Piliavin, J. A. and Charng, H.-W.** (1990). Altruism: A review of recent theory and research. *Annual Review of Sociology*, 16, pp. 27 – 65. 38. **Rooney, P. M., Steinberg, K. and Schervish, P. G.** (2001). A

methodological comparison of giving surveys: Indiana as a test case. *Nonprofit and Voluntary Sector Quarterly*, 30 (3), pp. 551 – 568. 39. **Rotolo, T. and Wilson, J.** (2007). The effects of children and employment status on the volunteer work of American women. *Nonprofit and Voluntary Sector Quarterly*, 36 (3), pp. 487 – 503. 40. **Rotolo, T.** (2000). A time to join, a time to quit: The influence of life cycle transitions on voluntary association membership. *Social Forces*, 78(3), pp. 1133 – 1161. 41. **Rigdon, M. L. and Levine, A. S.** (2009). *The role of expectations and gender in altruism.* MPRA Paper No. 19372, University Library of Munich, Germany. 42. **Psychol , J. G.** (1998). Effects of age, gender, and participation in volunteer activities on the altruistic behavior of Chinese adolescents. *The Journal of Genetic Psychology: Research and Theory on Human Development*, 159 (2), pp. 195 – 201. 43. **Sargeant, A.** (1999). Charitable giving: Towards a model of donor behavior. *Journal of Marketing Management*, 15(4), pp. 215 – 238. 44. **Sargeant, A., Ford, J. and West, D.** (2006). Perceptual determinants of nonprofit giving behavior. *Journal of Business Research*, 59, pp.155 – 165. 45. **Snyder, M. and Omoto, A. M.** (2008). Volunteerism: Social issues perspectives and social policy implications. *Social Issues and Policy Review*, 2 (1), pp. 1 – 36. 46. **Tiehen, L.** (2001). Tax policy and charitable contributions of money. *National Tax Journal* , 54 (4), pp. 707 – 723. 47. **Van Ingen, E. and Dekker , P.** (2011). Changes in the determinants of volunteering: Participation and time investment between 1975 and 2005 in the Netherlands. *Nonprofit and Voluntary Sector Quarterly,* 40(4), pp. 682 – 702. 48. **Wilson, E. 0.** (1975). *Sociobiology: The new synthesis.* Cambridge, Mass: Harvard Univ. Press. 49. **Wilson, J.** (2000). Volunteering. *Annual Review of Sociology*, 26, pp. 215 – 240.

Кушнірович Н., Рібовськи Д. Чинники волонтерства і добродійності

Метою розвідки є дослідження волонтерства й добродійності як двох складових альтруїзму. У статті досліджений взаємовплив таких видів діяльності, а також розглянуто чинники волонтерства і добродійності. Робота заснована на моделі філантропії, розробленої Барклайс Велс, яка розглядає взаємодію між грошовими сумами і часом, витраченими на добродійну діяльність. Проведене дослідження виявило прямий зв'язок між волонтерством і добродійністю, хоча модель поведінки, що передбачає пожертву грошових сум, переважає над волонтерством. Визначено детермінанти волонтерства і добродійності, а також знайдено паралелі між ними. Основними чинниками, що визначають обидві розглянуті складові альтруїзму, є стать, вік, наявність дітей, релігійність, зайнятість, чистий місячний прибуток і наявність допомоги у

веденні домашнього господарства, а також по догляду за дітьми і літніми людьми.

Ключові слова: добродійність, зайнятість, дохід, діяльність.

Кушнирович Н., Рибовски Д. Факторы волонтерства и благотворительности

Целью данной статьи является исследование волонтерства и благотворительности как двух составляющих альтруизма. В данной статье исследовано взаимовлияние данных видов деятельности, а также рассмотрены факторы волонтерства и благотворительности. Данная работа основана на модели филантропии, разработанной Барклайс Велс, которая рассматривает взаимодействие между денежными суммами и временем, потраченными на благотворительную деятельность. Проведенное исследование выявило прямую связь между волонтерства и благотворительности, хотя модель поведения, предусматривающая жертвование денежных сумм, преобладает над волонтерством. Определены детерминанты волонтерства и благотворительности, а также найдены значительные параллели между ними. Основными факторами, определяющими оба рассмотренных составляющих альтруизма, являются пол, возраст, наличие детей, религиозность, занятость, чистый месячный доход и наличие помощи в ведении домашнего хозяйства, а также по уходу за детьми и престарелыми.

Ключевые слова: благотворительность, занятость, доход, деятельность.

Kushnirovich N., Ribovsky D. Determinants of Volunteering and Charitable Giving

The purpose of this study was to investigate altruistic activity in terms of volunteering and donation of money. The study examined the overlap between these two dimensions of altruism, as well as determinants driving people to volunteer or to donate money. The Barclays Wealth model of philanthropy, that takes the two components – contribution of money and time – together, was used. The study revealed a positive relationship between volunteering and donation of money, whereas the pattern of donating is preferred by the population more than the pattern of volunteering. Some striking parallels between determinants of volunteering and donating were found. Gender, age, having children, religiosity, labor force participation, net monthly household income and receiving domestic help were salient factors predicting altruistic activity in terms of both volunteering and donating money.

Key words: charity, employment, profit, activity.