

WORLD ECONOMIC CRISIS: POSSIBILITIES AND THREATS FOR UKRAINE

Vasyl H. Gerasymchuk

National Technical University of Ukraine "Kyiv Polytechnic Institute"

Abstract. *The paper reveals an improving of theoretical approaches, which lead to the development of practical recommendations for strategy development and realization of innovative development for Ukraine in the conditions of integration into the world economic system. Methodological basis of scientific research is a dialectical method of cognition, principles of system analysis, methods of statistical assessment and analysis of information, design, theory of market economy, results of researches of Nobel laureates in the field of economics, conception of civilization changes, globalization, sustainable development, domestic legal framework about innovative development, publication of structural subdivisions of EU, UN, other international organizations. The level of scientific and technical policy in Ukraine is described in the paper. Principal reasons of the negative phenomena are disrobed for development of science and technique in Ukraine: subzero efficiency of domestic R&Ds; failures of public institutions to compete in the sector of patenting and licensing of intellectual ownership rights; lack of development of innovative infrastructure; absence of effective economic stimulus for companies modernization by its top-management (we understand company modernization as replacement of capital productive assets for new technologies); declining of stimulating role of salary for scientists; insufficient support from state authorities, export companies, domestic hi-tech producers for Ukrainian scientists. Structural changes are observed in engineering as a basis of industrial complex of the state including the conditions of economic crisis in 2008–2009. Ukrainian export potential reference-points (products of engineering, metallurgy, chemical industry, agricultural complex) are important while choosing the segments of international markets. The necessity of further expansion of trade and economic cooperation are emphasized with EU countries including the Baltic countries (Lithuania, Latvia, Estonia), with CIS countries, and BRICS countries. Also traditional trade and economic partners, and neighbor-countries are priority for Ukraine especially.*

Keywords: *crisis, efficiency, engineer, export, globalization, industry, innovations, management, strategy.*

JEL Classification: E24, F34, H12.

1. INTRODUCTION

Competitive economy as a guarantee of providing people's welfare. *"Amat victoria curam (Lat.). – Victory loves effort"*

Ukraine is drop behind the developed countries by technological development due to inconsistency of realization and subzero efficiency of public scientific and technical and innovative policy. Ukraine occupied the 73rd place among 131 countries in rating of global competitiveness of the states for 2007–2008 (GCI). Ukraine took the 89th place (3,90 point) among 139 countries in rating of 2011–2010. The countries of the former USSR have been ranked in such sequence: Estonia (33rd place), Lithuania (47th), Azerbaijan (57th), Russia (63rd), Latvia (70th), Kazakhstan (72nd), Ukraine (89th), Georgia (93rd), Moldova (94th), Armenia (98th),

Tajikistan (116th) and Kirghizia (121st). Belarus, Turkmenistan and Uzbekistan are absent in rating of WEF. GDP reached 65.9% in 2010 compared the level of 1990. The GDP increase due to using of new technologies in Ukraine and reached 0.7%. This index arrives at 60–90% in the developed countries (Mazur 2009; Galchinskiy 2011).

The Forbes magazine published a rating of the worst economies in the world (06/07/2011). Among them are Madagascar, Armenia, Guinea, Ukraine and Jamaica. Forbes formed the rating on the basis of official statistics of GDP, inflation for last three years (including the prognoses of IMF for 2012), GDP per capita and trade balance of countries. Ukraine took the fourth place between Guinea and Jamaica. Forbes underlines that the country's richness in mineral resources and fertile lands would make it a leader by the economic indicators in Europe. However, in fact Ukrainian GDP per capita does not exceed the indexes of Serbia and Bulgaria. Annual inflation in Ukraine is about 10%. GDP of country is shorted on 15.1% in 2009. According the data of State Department of the USA, Ukraine does not develop because of the corruption, state maladministration and weak judicial system which do not provide implementation of laws.

So, the economy of Ukraine is characterized by the insignificant volume of GDP per capita, by the largeness of national debt, by the low level of quality of people life, by sustainable tendency for reduction of quantity of population, by brain drain, by ineffective use of natural resources, by intensifying of ecological problems. The structure of economy is characterized by the energy intensiveness and labour intensiveness productions, lack of development of internal market, subzero competitiveness of national production, weakness of the state administration of the economy, worsen the prospects of development of its innovative system, removes Ukraine from the group of developed countries (Grigoryev *et al.* 2009).

2. GLOBALIZATION AS A PARADIGM OF TRANSFORMATION PROCESSES IN THE WORLD ECONOMY. “*Mundus vult decipi [ergo decipiatur]* (Lat.). – *The World wants to be deceived, [so let it will be deceived]*”

The Paradigm of globalization changes in the civilization structure represents mobilization of world resource potential in the way of its rational using in modern time. Globalization generates some difficulties for interpretation and solving problems of political, economic, technological, informative, social and cultural, moral, religious, ecological character in development of humanity. Globalization is accompanied by the distribution of liberal democracy, market values predomination in economy, integration processes in the world economy, transformation of the system of production and labor-market, technological updating accelerating, revolution of mass media, dictate of ideology of consumption and enriching.

Globalization is used, first of all, by the world economic leaders for its strengthening and sufficiency (Chirkov 2005; Klinov 2008; Zgurovsky, Gvishiani 2008; Yankovskiy *et al.* 2009). 45.8% of the global GDP is related with G-7. Remaining part of global GDP is produced by other 226 countries. 90% of all world wealth is concentrated in North America, Europe, Japan and Australia. The ratio of income inequality for Western countries and the same index for other countries of the world differs 100 times. 10% of adult population from developed countries concentrate 85% of world wealth; in the hands of the richest pea pole (1 % of world population) concentrated 40% of world wealth. The half of population of the world is below the poverty line and owns only 1% global wealth (Dickanov 2005; The World... 2006). The 7.8 billions of habitants of the planet (90% population) will behave to the poor countries in 2025 by the estimations of UNO. Each country has to find the most successful strategy of improvement of the people's welfare. During first decade of independence of Ukraine seven priority reforms of

socio-economic development of the country were announced (Skolotyaniy 2011), but nobody feel results of its in Ukraine.

3. SOCIAL DEVELOPMENT COULD BE PROVIDED IN CONDITION OF MORAL DOMINATION ONLY. *“Ibi pote populous, ubi leges valent (Lat.) – The people there are can prosper [only], where the laws are thriving”*

The moral is one of the basic methods of behavior of a man in society. The moral embraces life orientations and principles, aims and reasons of acts and relations. Moral basis defines limit between good and bad, honor and ignominy, justice and injustice, norm and abnormality, mercy and cruelty. The atmosphere of moral in society is reflecting on the level of corruption. The concept of “corruption” includes: “excessive payments, opaque financial structures and offshore areas”. According to data of Transparency International Ukraine took the 146th place in world rating by the level of corruption in 2009 (2,2 point). In 2008 it was the 134th place (2,5 points according to the ten-point scale of “honesty of power”). Ukraine shared the 146th place with Russia, Zimbabwe, Kenya and Cameroun. An oligarchy plays far from being a positive role in forming of the moral phenomenon in Ukraine. The oligarchy is the form of rule by the state, on which power is concentrated in the hands of narrow circle of persons (oligarchs) and reflects their individual interests instead of the public. The first is Aristotle, which used a definition “oligarchy” in a value of “power of rich”, contrasting the oligarchy and aristocracy here. It is difficult to disagree with opinions of M. Honchar: “Base principle of essence and development of Ukrainian (*originally to the form, but not on meaning!*) oligarchy is parasitizing in the economic organism of country”. Therefore, development of Ukraine as state neither in industrial nor in post-industrial sense did not take place in a decade which is completed. The financial rise of few oligarchic business-conglomerates is occurs in the “zones of growth”, first of all, in a gas industry, chemical industry and metallurgy due to the positive conjuncture of foreign markets and models of doing business with tax avoidance. A situation in Ukraine could be described by formula: cheap raw material and power resources which are included in a production chain + subzero payment of labor is charges on power efficiency + model of unprofitableness of enterprises + offshore zones + corruption = maximal income to oligarchs + minimum of taxes for the state + graft of public persons and parliament delegates + cheap beer with entertainment (TV shows, series, football and other spectacles for “little Ukrainians” (Honchar 2010). The situation needs to be changed.

4. UKRAINIAN INDUSTRIAL COMPLEX GROWTH TRENDS. *“Nil sine magno vita laboredit mortalibus (Lat.). – Life gave nothing to the mortals without large labour”*

The country can be developed only with the developed industry and developed modern engineering, which suppose development of engineers as key drivers of technical progress among personnel. During 1990–1999 the economy was in depression. Catastrophic, regressive, destructive transformation processes became its main reasons in public consciousness, moral, policy, right, economic relations. Beginning from 2000 Ukrainian average annual economy growth rate consists of approximately 7%. In the end of 2008 GDP obtain the value which consist of 70% of GDP of 1990 (1999 – 62%). The volumes of GDP reached 80.5% in 2008 compared to GDP in 1991. Further was a crisis. In 2008 the total GDP in Ukraine was about 179.5 billion USD. According to the IMF data, the index was equal to 115.7 billion USD in 2009. Real fall of GDP amount 35.6% after taking into account the dynamics of currency exchange rate presence. The worst fall of GDP in Europe and one of the worst in the world was in Ukraine. A State statistic agency published a value of GDP diminishing in 15.1% in relation

to fall of GDP in Ukraine in 2009 in national currency. In 2008 GDP per capita in Ukraine equaled 3.9 thousand USD, in 2009 it was 2.5 thousand USD. For comparing GDP per capita in Belarus was 5.1 thousand USD; in Russia – 8.9 thousand USD; in Poland – 11.1 thousand USD in the same year.

The crisis of 2008–2009 showed the considerable misbalance of development of the world economy and structural backwardness of the Ukrainian economy, which characterized with unavailability to counteract for the demand fluctuation and competition intensifying on global raw material market. In 2009 the most difficult tests was perceived by the industrial complex. Falling of industrial production volume attained 21.9%. It level felled to the value of 2003–2004 years. According to results of 2009 falling consist of: in metallurgy – 26.7%, in chemical and petrochemical industry – 23.0%, in machine building – 44.9%, in food industry – 6.0%. The almost double diminishing of machine-building production is related, foremost, with the considerable falling of investment demand in internal market. Ukrainian domestic products except some of them are uncompetitive both at the world and at internal markets. A reduction of R&D expenditures is one of the principal reasons. A lot of industrial enterprises stopped innovative activity completely. The general volume of industrial products which has innovation feature consists of 4.8% only. Its share on the world market of high-tech products is 0.05–0.1% only (in Russia – approximately 1%). Inattention to the innovations and engineering labor results in the decline of quality of products, deceleration of the extended reproduction process conquered earlier market positions.

Structural changes happening in the last decade are characterized by serious technological lag. For the goods production of third technological mode is 58%, fourth – 38%, fifth – only 4%. The state of engineering is characterized by the extraordinarily low level of technological processes. It is more than in two times below than in European countries. Level of automatization and complex mechanization is almost three times below of the level for industrial developed countries. An economic obsolescence of production assets in machine-building consists of 65–75%. The physical wear of capital production assets is on 26% exceeds a threshold value. Middle age of technological equipment and equipment consists of about 30 years. Density of machine-building products as bases of innovative development of Ukrainian economy is below in 2–3 times from the level of developed countries. The branch structure of Ukrainian industry is much overloaded with the production of primary sources of raw materials and semi-finished products. In the issue we will not research development (?) of space industry trends, shipbuilding, aircraft building and instrument-tools production. It's not encouraging.

At the same time, there are barriers of political, organizational, financial, legal character on the way of innovative development. Oddly, there is no Ministry of industrial policy among 16 ministries of Ukrainian Government as a result of the last structural transformations – administrative reform.

In Ukraine more than 400 legislative and normative acts were accepted and supposed innovative activity activation from 1991. But its results do not infuse optimism. A quantity of employees in innovative sector was reduced to 3.3 times during period of 1991–2009 in Ukraine. This index grew up 2 times in USA and Western Europe and 4 times in South-East Asia. Quantity of researchers in engineering in Ukraine diminished in 3.5 times. At the same time same amount increased in 5.6 times in political sciences, in 3.5 – in legal sciences. Development of new technologies diminished in 14.3 times. The amount of innovative industrial enterprises reduced (from 56.0% to 13.0%) in 4.3 times. In Russia its density consist of 10.0%, in Poland – 16.0%, in EU countries – 60.0% in average (Solovyov 2004; Egorov 2006; White Book ... 2008).

Present state of Ukraine by value of innovative index confirms to value of 2006 (by the level of R&D development). Ukraine entered last fourth group of countries, which named “backward

countries”. Consequently, emergency measures are needed to be done for Ukraine for passing to the group “medium innovator”.

Explanations of the indicated phenomena are: inconsistency of realization of internal and external economic policy; absence of single strategy of innovative development; subzero efficiency of domestic R&D sector; subzero activity of public research institutions in patenting and licensing of intellectual ownership rights; low level of innovative culture of society; ineffectiveness of influence of the system of education on for increasing of innovation introduction efficiency; lack of development of innovative infrastructure; absence of effective economic stimulus for updating by managers of fixed production assets and for investment in innovative potential development; decline of stimulant role of payment of labor of innovators; insufficient support from the side of the state, exporters and domestic hi-tech producers (Popovich 2005; Petrenko 2006; Malitskiy 2007; Malitskiy *et al.* 2008).

5. KEY REFERENCE-POINT OF THE STATE IS LIFETIME AND LIFE QUALITY OF ITS CITIZENS. “*Salus populi suprema lex (Lat.) – Wealth of people let come a higher law*”

Different strategies, which developed and implemented last time, have different time points of 2017, 2020, 2039. It is necessary for strategy development, of course, for long-term period (10–20 years). There is another suggestion according time reference-points: 80 years. Why? Expected lifetime of citizens of Japan, Spain, Italy, Israel, Norway and other high developed countries hesitates within the limits of 80 years. In fact more expensive thing for each of us is life expectancy and quality of life. So, all strategies of development of each country under power of presidents, kings, premiers, princes, governors etc. must be oriented, on our opinion, for life expectancy – 80 years. 80! Or it could be more. Unfortunately, time life of Ukrainian people does not increase, and goes down: from 71 (1970) to 69 (2010). Quantity of population of country for the last 20 years declined to 45 million from 51.

Ukraine took a 45th place in the world rating by the human development index (HDI) in 1991. According to the data of 2008, country occupied 76th place from 177 countries only. According to Report on Human Development of 2010, Ukraine occupied the 69th position among 169 countries. First 10 countries in HDI rating in 2010 were Norway, Australia, New Zealand, USA, Ireland, Liechtenstein, Netherlands, Canada, Sweden and Germany. The Eastern Europe and Central Asia have a relatively high level of profits per capita. People in the countries of this region earns 11 462 USD / per year. The index is varied from 20 thousand USD in countries, which are the members of the European Union (Slovakia and Czech Republic) to less than 3 thousand USD in Tajikistan and Kyrgyzstan. In Ukraine GDP per capita is approximately 6 535 USD. We will mark that GDP per capita in the USSR in 1990 was 9130 USD.

6. PRIORITIES HAVE TO BE IN DEVELOPMENT OF INDUSTRIAL COMPLEX.

“*Quidquid agis, prudenter / agas et respice finem (Lat.) – Whatever you do, do it wisely and do not lose sight of the goal*”

The raw material share of production potential in Ukraine is related mainly on export (foreign demand). It results domestic industry extraordinarily dependency upon the conjuncture of foreign market and in the extremely inefficient using of limited natural resources. In Ukraine structural changes come forward the indicator of the state of scientific and technical potential in economy. It could be traced, in particular, on the changes of GNP structure. Density of industrial manufacturing in GNP during period of 1985–2007 diminished from 41.4 to 31.0%, agriculture –

from 19.4 to 9.0%, building – from 8.5 to 5.4%. Density of transport and telecommunications increased – from 6.3 to 14.6%, trade and logistics – from 6.0 to 27.2%. For period of 1990–2007 density of products of machine-building and metal processing in branch structure of Ukraine declined from 30.5% to 13.4% (Economic development ... 2005).

According to Conception of industrial complex development of Ukraine for period until 2017 creation of institutional, infrastructural and economic principles of structural transformations is supposed. V. Heyts emphasized that the basis of the economic system and maintenance of the national sovereignty of Ukraine, have to become large a business. It means inevitability of subsequent concentration of capital and necessity of construction of new mutual relations between the state and business in order that the country did not grow in “country of shopkeepers and small shopkeepers” (Heyts 2005; Liberalism and ... 2011). Industrial complex of Ukraine can be competitive in that case if the system is a single unit: from MNC to large, middle and small business. Until that Ukrainian companies were not found in annual ranking of the world's biggest companies Fortune Global 500. It is difficult to influence on a state of affairs of international markets in interest of small producers. It is almost impossible.

7. VECTORS OF TRADE AND ECONOMIC INTERESTS OF UKRAINE. *“Qui bene distinguit, bene docet (Lat.). – He who distinguishes well, learns well”.*

Ukraine has affairs of economic collaboration and development with majority of the world countries. Today such countries amounted – 207. The general strategic partners of Ukraine consider: 1) Russian Federation; 2) European Union; 3) USA. Together with these countries-prize-winners, in our opinion, it is necessary to add: 4) neighbor-countries (mutual lane and water borders); 5) countries-members of EurAzEU (Belarus, Kazakhstan, Kirghizstan, Russia, Tajikistan and Uzbekistan); 6) BRICS (Brazil, Russia, India, China, and South Africa); 7) countries-traditional partners (countries of former USSR, including the countries of the Balkan Peninsula). The basic partners of Ukraine in international trade are: Russia, Germany, Turkmenistan, China, Turkey, Poland and Belarus. Political interests of Ukraine have to be closely conformed to economic interests (Assel 1999; Cook 2007; Korinev 2001; Convergence of... 2010; O’Shaughnessy 2002; Revenko 2009; Tsigankova 2011).

The balance of foreign trade in 2006 had the positive value. The volume of export exceeded the volume of import. Presently the situation is reverse. We have the negative balance in realization of export-import operations with foreign partners in the last few years (2007: –7.2 b USD; 2008: –13.5 b USD; 2009: –5.7 b USD; 2010: –9.3 billions USD). It testifies to activation of commodity turnover obviously not in favor of our state. We will analyze the state of commodity turnover between Ukraine and EU by the index of balance, i.e. differences between the volume of export and import. E.g. 2001: +0.7 b USD, 2002: +0.7 b USD; 2003: +0.9 b USD; 2004: +1.7 b USD. Data for next years in euro are 2005: - 5.4 b EUR; 2006: –9.0 b EUR; 2007: –9.7 b EUR; 2008: –10.8 b EUR; 2009: –6.4 b EUR; 2010: –6.0 b EUR. Commodity turnover of Ukraine and EU in money expression grew up approximately to 35 b EUR in 2010. This amount is smaller than 20 billion USD in 2005. In two-way trade each partner is interested in own benefit. Clearly, the benefit reaches due to opposite side losses. Ukraine, unfortunately, continues to come forward as raw material supporter of Europe and as high and mid-tech European products consumer with the huge capacity market, which wide opened for European supporters. Domestic market of Ukraine has high consumer potential and occupies the 39th place in the world on the level of GDP by PPP. We emphasize that export of USA, EU, Japan provide 12% of GDP only. The developed countries care first of all about domestic market. The export of developed countries is orientated on the developed countries.

8. CONCLUSIONS. “*Quod erat probandum (Iam.). – Which was what we approved*”

1. Management improvement have to provide motivation for new knowledge generating, development of integral innovative infrastructure, systems of technologies transmissions, activation of innovative scientific researches, increasing of technological production level. It is necessary to create favorable terms for activation of activity of all participants of innovative process: from idea of research to the commercialization of production.
2. According to forecasts of achievements of science and technique, it is able to give the powerful impulse of development of world economy. There are three aspects are distinguished: to find out progressive directions of development of innovations in near future; it have to be orientated in the spheres of the most effective use of innovations; it is important to define priorities of direction of investments in the perspective sectors of science and technique.
3. There are must be moral foundations in basis of economic transformations. A moral defines life orientations and principles, aims and reasons of acts and relations.
4. The general strategic partners of Ukraine should be: 1) Russian Federation; 2) European Union; 3) USA. It should be added to the row: 4) neighbor-countries (mutual land and water borders); 5) countries-members of EurAzEU (Belarus, Kazakhstan, Kirghizstan, Russia, Tajikistan and Uzbekistan); 6) BRICS (Brazil, Russia, India, China, and South Africa); 7) countries-traditional partners (countries of former USSR, including the countries of the Balkan Peninsula: Serbia, Bulgaria, FYROM, Greece etc.).
5. The special attention has to be emphasized to organizational and economic management mechanisms of innovations. It should be theory and practice of the programming. It is necessary to have a special purpose going near a decision very important for a country, for society problems requires the presence of authoritative leader (strategist) and programs (strategies) with providing of its command corresponding administrative and financial powers. Effective strategy of development of the national innovative system will allow substantially promoting the competitiveness of Ukraine, time life and quality of life of its citizens.

REFERENCES:

- [1] Convergence of Economic Models of Poland and Ukraine: monograph. Scientific editors D. Lukyanenko; V. Chuzhykov; M. G. Wozniak. Kyiv: KNEU, 2010. 719 p. ISBN 978-966-483-339-1.
- [2] Dickanov, J. 2005. Trends in World Income Distribution, in Third Forum on Human Development. Paris, 17–19.01.2005. 12 p.
- [3] The World Distribution of Household Wealth. By J. B. Davies (Canada), S. Sandstrom (Finland), E. N. Wolff (USA). December 2006. 26 p. Available from Internet: <<http://www.wider.unu.edu>>
- [4] White Book Intellectual Property Rights in Innovative Economy of Ukraine. Compilers: Androshuk, H. O.; Demianenko, O. V.; Zhylyayev, I. B.; Saharova, I. V.; Taran, S. V. Kyiv: Parliamentary Publishing House, 2008. 448 p. ISBN 978-966-611-639-3.
- [5] Zgurovsky, M.; Gvishiani, A. 2008. The Sustainable Development Global Simulation: Quality of Life and Security of the World Population (2005–2007/2008). Kyiv: Publishing House “Polytekhnik”. 336 p. ISBN 978-966-622-299-5 (eng).
- [6] Ассель, Г. 1999. Маркетинг: принципы и стратегии. Москва: ИНФРА. XII, 804 с. ISBN 5-86225-882-5.
- [7] Гальчинский, А. 2011. За пределами капитализма, Экономика Украины 9: 4–16.
- [8] Геец, В. 2005. Некоторые сравнительные признаки трансформационных моделей

- экономики Украины и России, Экономика Украины 5: 4–19. ISSN 0131-775X.
- [9] Гончар, М. 2010. Олигархономика Украины. Российская газовая подушка, Зеркало недели 18(798): 8. 15 мая 2010 г.
- [10] Григорьев, Л.; Агибалов, С.; Салихов, Г. 2009. Украина: Раздвоение трансформации, Вопросы экономики 3: 125–142. ISSN 0042-8736.
- [11] Економічний розвиток України: інституціональне та ресурсне забезпечення: монографія / О. М. Алімов, А. І. Даниленко, В. М. Трегобчук та ін. 2005. Київ: Об'єднаний ін-т економіки НАН України. 540 с. ISBN 966-02-3726-X.
- [12] Егоров, И. Ю. 2006. Наука и инновации в процессах социально-экономического развития. Киев: ИВЦ Госкомстата Украины. 338 с. ISBN 966-8998-15-4.
- [13] Клинов, В. 2008. Мировая экономика: прогноз до 2050 г., Вопросы экономики 5: 62–79. ISSN 0042-8736.
- [14] Коринев, В. Л. 2001. Ценовая политика предприятия: монография. Киев: КНЭУ. 257 с. ISBN 966-574-271-X.
- [15] Кук, П. 2007. Креатив приносит деньги. Пер. с англ. С. С. Гуринович. Минск: Гревцов Паблицер. 384 с. ISBN 978-985-6569-17-6.
- [16] Либерализм и модернизация (по материалам «круглого стола»), Экономика Украины 8(597): 4–25. 2011. ISSN 0131-775X.
- [17] Мазур, О. А.; Шовкалюк, В. С. 2009. Технологічні парки. Світовий та український досвід. Київ: Прок-Бизнес. ISBN 978-966-8381-46-1.
- [18] Малицкий, Б. 2007. Прикладное наукознание. Киев: Феникс. 464 с. ISBN 978-966-651-455-7.
- [19] Малицкий, Б. А.; Попович, А. С.; Оноприенко, М. В. 2008. Обоснование системы научно-технологических и инновационных приоритетов на основе «форсайтных» исследований. Киев: Феникс. 91 с.
- [20] Мехонцева, Д. М. 2001. Универсальная теория самоуправления и управления. Прикладные аспекты: социология, политология, право, экология: монография. 2-е изд., перераб. и доп. Красноярск: Изд-во «Универс», ПСК «Союз». 416 с. ISBN 5-87748-217-3.
- [21] Отчет о человеческом развитии 2010 года. Глобальный сайт ООН [Электронный ресурс]. Режим доступа: <<http://www.un.org.ua/ua/information-centre/news/1243>>.
- [22] О'Шонесси, Дж. 2002. Конкурентный маркетинг: стратегический подход. Пер. с англ. под ред. Ямпольской. СПб.: Питер. 864 с. ISBN 5-88782-305-4.
- [23] Петренко, В. П. 2006. Управление процессами интеллектопользования в социально-экономических системах. Ивано-Франковск: Новая Звезда. 352 с.
- [24] Представительство Украины при Европейском Союзе. Торговля между Украиной и ЕС [Электронный ресурс]. Режим доступа: <<http://www.ukraine-eu.mfa.gov.ua/eu/ua/30989.htm>>.
- [25] Попович, О. С. 2005. Науково-технологічна та інноваційна політика: основні механізми формування та реалізації. Київ: Фенікс. 226 с. ISBN 966-651-233-5.
- [26] Ревенко, А. 2009. “Минус двадцать”, о которых много кто говорил, Зеркало недели 25(753): 1, 6. 4 июля 2009 г.
- [27] Сколотяный, Ю. 2011. Станет ли новым прологом нынешний грустный итог?, Зеркало недели 29: 1, 7.
- [28] Соловьев, В. П. 2004. Инновационная деятельность как системный процесс в конкурентной экономике (Синергетические эффекты инноваций). Киев: Феникс. 560 с. ISBN 966-651-133-9.

- [29] Цыганкова, Т. М. 2001. Управление международным маркетингом. Киев: КНЭУ. 132 с. ISBN 966-574-236-1.
- [30] Чирков, В. Г. 2005. Эффе́ктометрия. Киев: Феникс. 240 с. ISBN 966-651-188-6.
- [31] Янковский, Н. А.; Макогон, Ю. В.; Рябчин, А. М. 2009. Инновационные и классические теории катастроф и экономических кризисов: монография. Под ред. Ю. В. Макогона. Донецк: ДонНУ. 331 с. ISBN 978-966-639-405-0.