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Knowledge-based economy as a economic development strategy of twenty-first century

The spread of a new type of the knowledge-based economy is one of the most momentous changes that we can observe in the contemporary world. It is a process of gradual transition from material-consuming economy to economy based on information and knowledge. As a result of this, the hitherto competition among countries and regions through material resources is replaced by competing through non-material resources, especially through knowledge connected with the latest achievements of modern science. Therefore, the chances of development of countries and regions in the world today are increasingly determined by human intellectual potential, science and the sphere of research and development which provides innovative solutions, "driving" the new type of economy. The transformation of hitherto material-consuming economy into the "new economy" based on knowledge becomes in the twenty-first century the main challenge for countries and regions, the aim of which is to achieve a high level of socio-economic development and competitiveness.

The term "new economy", used to describe the phenomenon of the indicated transformations, is equivocal and essentially connected with the area of ICTs (Information and Communication Technologies) and takes us to the American land of the second half of the 1990's. That decade ended a particularly long and favorable for American economy and society period of economic boom lasting over ten years (including low inflation and

unemployment, a high rate of the domestic GDP growth, improvement of labor productivity)[1]. At the end of the period an unexpected improvement of the condition of U.S. economy was observed for which it was difficult to find an explanation[2]. Searching for the causes of this change, economists turned their attention to new ICTs implemented at the time by American companies which increased their productivity. The use of ICTs also influenced the improvement of innovativeness and competitiveness of these companies. As it eventually turned out, the indicated technological factor effectively stimulated all branches of American economy, contributing to its rapid growth. The reorientation of economies connected with the increasing participation of new information and telecommunication technologies and the increase in the demand for innovation, observed since then and slowly spreading across the globe, was defined as the "new economy"[3].

Scientific work on changes in the contemporary social and economic spheres, especially related to the phenomenon of the "new economy" and globalization is very rich, constantly growing and is subject to constant revision. Nevertheless, researchers think that satisfactory settlements of many important issues, both fundamental and detailed, related to the "new economy" are still lacking. According to Robert James Gordon, a prominent contemporary American economist dealing with macroeconomics and social economy, the scientific debate about the changes of interest to us is still insufficient, given the scale and quality of challenges provided by the "new economy" and the current times. Good understanding of issues of interest to us (economic development, economic policy, international economic relations, globalization) requires of the researcher both thorough tracing of changes in the socio-economic and political sphere as well as of scientific literature connected with them[4].

The aim of this study is to present theoretical assumptions of the knowledge based economy aspiring to the role of a general economic development strategy of the twenty-first

[1] See J. E. Stiglitz, The Roaring Nineties. A New History of the World's Most Prosperous Decade, W. W. Norton & Company, New York 2003.

[2] Given the temporary, but severe collapse of part of the world economy and the related market turmoil caused by the Asian crisis of 1997-1998.

[3] Other terms were also used to define it: *e-economy*, *digital economy*, *network economy*, *knowledge-based economy or knowledge-driven economy*, which stressed the key importance of knowledge for its development. Prominent economists and futurists (P. F. Drucker, A. Toffler, J. Naisbit) described then the society in which the new economy was born as "post capitalist society", "society of the third wave", "society of knowledge".

[4] We cannot forget that the issue of the "new economy" and transformations connected with it is a very extensive and complex issue which is today analyzed from the position of various scientific disciplines such as economics, sociology or political science. In contemporary times – in the author's opinion – it is no longer possible for economic issues to be dealt with primarily or exclusively by economists. Proponents of this traditional approach belong to a bygone era, both mentally and intellectually, and in this case they should consider their resignation from dealing with economic changes in the contemporary world, including the "new economy" which requires a broad, multidisciplinary approach devoid of dogmatism.

century. The author tries to prove that the "new economy" responding to the changing needs and aspirations of modern societies is becoming the dominant economic development strategy in the contemporary world. It has a growing impact on social and economic development of countries or regions and also conditions the course of economic integration process characterizing the times of globalization. The basis for the study were documents and studies prepared by international economic organizations and public institutions (including the Organization for Economic Cooperation and Development, the World Economic Forum, the World Bank, the European Commission), and treaties dedicated to the issues of interest to us by domestic and foreign authors, among others Alvin Toffler, Daniel Bell, Manuel Castells, Lech Zacher, Peter Ferdinand Drucker, Joseph Eugene Stiglitz, Krzsztof Porwit, Anthoni Kuklinski, Joseph Alois Schumpeter, John Naisbit.

The study does not cover extensive issues of the transformation of modern economy and the associated construction of the new type of knowledge-based economy. This is another attempt to respond to certain selected issues that arise in the long lasting debate on the prospects for economic and social development in the modern world.

The essence of the new economy

At the core of the "new economy" is an observation to the effect that traditional economic factors, such as land, natural resources, labor and capital, though still have essential meaning in economic activity and affect the possibility of economic development of countries and regions, yield slowly to knowledge, the meaning of which steadily increases, so that it becomes the most important factor of production, and the main source of wealth[5]. According to experts of the issue "[...] knowledge [...] is much more than just another, critical factor of production [...] it is a source of renewal and a binder that connects and coordinates other factors of production"[6]. The term the knowledge-based economy (KBE) used to define the new direction of modern economies refers to the concept of "information society" and the famous theory of technological waves of Alvin Toffler, an American sociologist and

[5] In the previous stage decisive factors for the socio-economic development were primarily raw materials and labor forces (the cheapest possible), developed technical infrastructure, good organization and efficiently functioning transport (now - highly qualified employees, universities and research centers, IT infrastructure and conditions conducive to the development of modern and innovative economy which are created by central and local authorities).

[6] R. Schwartz, E. Kelly, N. Boyer, The Emerging Global Knowledge Economy, [in:] The Future of the Global Economy - Towards a Long Boom?, OECD Publications, Paris, 1999, p. 80 For P.F. Drucker "[...] the shift from one knowledge to the wealth of its disciplines gave knowledge the power to create new society. This society must be ordered according to the criterion of specialized knowledge and according to the human resources having knowledge and being specialists"(P.F. Drucker, Post capitalist Society, Wyd. Nauk. PWN 1999, p. 44)

futurologist. According to Toffler, modern economy is postindustrial economy, economy of the third wave, in which the basic role is played by information and knowledge. The changes noted by Toffler, while describing the "third wave" were, in his opinion, caused by a technological revolution and resulting information technologies, shaping of global economy and also increasingly closer links between modern economy and science[7].

According to prominent American sociologist Daniel Bell, one of the founders of the concept of post-industrial society, the post-industrial era is characterized by extremely dynamic social and economic changes which have irreversibly changed the realities of contemporary societies. They were particularly affected by the technological revolution of the second half of the twentieth century, associated with the dynamic development of electronics (esp. utility one), the advent of computers, new ICTs and the establishment of a global network - the Internet. The technological revolution resulted in the fact that that currently people cannot imagine living without free exchange of information and free communication. They have became one of basic values which are slowly fitting into a catalog of the individual's basic rights of in the world today[8].

According to Paul Michael Romer, an American economist, until recently, the rational use of material resources has been considered the essence of management. Economists have focused primarily on issues of allocation and subdivision improvements of processes of processing of material resources into material, recognizable tangible effects (describing and improving the process of processing material goods into new material goods). The "new economy" based mainly on information and knowledge puts more emphasis on the attributes of the human mind, which are partly codified (explicit knowledge) and partly non-codified (hidden knowledge). The basis of the current management becomes "[...] the creation and use of new ideas in the techniques of processes and ideas introducing new processes with new effects which give, for example, new utility functions to manufactured products or rendered services"[9]. The source of success in the times of the "new economy" is not located in the allocation of scarce resources but in the creation of new knowledge giving ideas, the implementation of which increases the effects of management[10]. Processes of globalization, which significantly increase the influence of knowledge on economy, have essential impact

[7] See A. Toffler, The Third Wave, Państwowy Instytut Wydawniczy, Warsaw 1997.
[8] A clear confirmation of this were the recent protests against the ACTA agreement (Anti-Counterfeiting Trade Agreement), concerning the just fight against violations of intellectual property and counterfeit goods trade, however, seriously violating civil liberties, including communication freedom connected with the Internet.
[9] See. K. Porwit, Features of knowledge based economy, [in:] A. Kuklinski (ed.) Knowledge-based economy. The challenge for Poland of the twenty-first century. Komitet Badań Naukowych, Warsaw 2001, p 115.
[10] Ibidem

on the spread of the "new economy", which is fostered by ICTs (they lead to the extension of the range of the information connections as well as to the acceleration and reduction of their costs on the global scale)[11].

There is no single definition of the KBE satisfactory for all. According to experts from OECD, the Organisation for Economic Co-operation and Development, the knowledge-based economy is the economy, which "[...] is directly based on the production, distribution and use of knowledge and information"[12]. According to representatives of the Ministry of Economy of the Republic of Poland, the KBE is the economy, in which knowledge is a main factor of productivity and economic growth before labor, capital, raw materials and energy[13]. An interesting attempt to define the KBE is proposed by Rafał Żelazny, according to whom the knowledge-based economy is economy "[...] based on an increasingly larger share of knowledge and information in achieving an economic aim, which is reflected in the development of knowledge-based technologies (in particular ICTs) and their expansion in all areas of management, contributing, on the basis of feedback from progressive globalization, to the modification of the hitherto valid economic regularities"[14]. R. Żelazny draws attention to the fact that thanks to knowledge there arise new branches of economy based on ICTs used for quick collection, storage, processing and use of information, which leads to a change in the rules of operation of business entities and determines the results of operations of these economic entities[15].

In today's society, knowledge and information have become a source of a strategy and transformation of society, which is the same as capital and labor in industrial society[16]. Therefore, in order to understand the "new economy" one must first understand what knowledge is and what its importance for the current transformations is[17]. Until recently, we have attached the greatest importance to codified scientific knowledge, expressed by means of

[11] Ibidem

[12] The Knowledge-Based Economy, General Distribution The Organisation for Economic Co-operation and Development OECD / GD (96) 102, Paris 1996, p. 7, http://www.oecd.org/dataoecd/51/8/1913021.pdf (access: 10.04.2012).

[13] See. E-Poland. The plan of actions for the development of information society in Poland in 2001-2006", Ministry of Economy, Warsaw 2001, p. 5

[14] R. Żelazny, New Economy. Myths and Reality. From fascination to scientific knowledge, [in:] T. Bernat (Ed.) Problems of economic globalization, the Polish Economic Society, Szczecin 2003, p. 88.

[15] See ibidem, p.87.

[16] See D. Bell, The Technique of Communication, [in:] A review of foreign forecasting literature, A series of the Committee of the Polish Academy of Sciences Poland 2000, Wrocław - Warsaw 1983.

[17] The term "knowledge" is commonly used, although it does not have a single definition. Knowledge cannot be equated with data, information, or skills. Scientific literature points to four phases of its processing: data → information → knowledge. Knowledge is a properly ordered and interpreted collection of information. From the economic point of view, knowledge should be treated as information or as assets (an economic good which is traded in the market).

formal language. It is provided first of all by scientific and research institutions, and transmitted by educational institutions. Codified knowledge is accumulated in various publications. It is explicit and publicly available knowledge. According to eminent expert on knowledge and knowledge management, professor Ikujiro Nonaki, the type of explicit, codified, widely available knowledge is only a part of the knowledge and the tip of an iceberg (the majority of which is hidden under water, remaining invisible).

According to Paul Romer, three types of factors are responsible today for generating economic effects; material factors (hardware), codified knowledge and non-codified knowledge. Codified, explicit, software knowledge is structured and written knowledge that occurs for example in the form of books, technical projects. It is the knowledge of facts (called know-what), or knowledge of scientific principles and theories explaining the reality (called know-why). Both types of knowledge are codified and easy to measure. In turn, non-codified knowledge (called tacit / venture knowledge), unspoken, hidden knowledge exists in people's minds and expresses human skills, talents and experiences, conditioning at the same time the possibility of acquiring codified knowledge. Hidden knowledge encompasses, on the one hand, the capacity and the ability to perform tasks (called know-how), is the expert's knowledge, accumulated in the form of experience, hidden in people's minds, and therefore not easily accessible, with limited transfer in society, on the other hand, this knowledge includes the attributes of skills and abilities to carry out specific tasks, as well as knowledge and skills of people who are experts in specific areas (called know-who, so-called knowing "who know what"), providing the ability to identify persons who are experts[18]. The type of non-codified knowledge (know-how and know-who) is difficult to scale, measure, and disseminate. It is difficult to present and communicate hidden knowledge in a formal way (for this reason, we encounter difficulties during the codification of the KBE)[19].

Of key importance for the development of knowledge-based economy is the latter type of knowledge, i.e. non-codified knowledge, which is associated with the life and activity of specific individuals. This knowledge is invaluable in creating innovative ideas, products of high technology that characterize the "new economy". Hidden knowledge has now a specific material value and is one of the most important equities. According to Michael Polanyi, the resources of hidden knowledge owned by people substantially exceed what they are able to

[18] The presented, detailed classification of knowledge *know-what*, *know-why*, etc, was introduced by B. Lundvall and B. Johnson in the 1990s, see. B. Lundvall, B. Johnson, The Learning Economy, "Journal of Industry Studies" (1994), vol. 1, no. 2, pp. 23-42, B. Lundvall, The economics of knowledge and learning, [in] J.L. Christensen, B. Lundvall (ed.), Product innovation, interactive learning and economic performance, Research on Technological Innovation, Management and Policy 8, Elsevier, Amsterdam, 2004.

[19] See. K. Porwit, op. cit

express and convey, its potential is great and still not used properly. Tacit knowledge is activated in a collision with explicit knowledge expressed and stored in a formal way, most frequently it is transferred metaphorically, analogously and therefore direct contacts of people are the best form of its communication[20].

As a result of the reorientation of modern economy, to a larger and larger extent based on knowledge, we can observe the emergence of two new key categories - knowledge workers and a knowledge-based company. According to Peter Druker, a knowledge worker is a person who "[...] uses his intellect more than his manual skills, [...] it is a person who knows how to allocate knowledge in order to use it productively"[21]. Knowledge workers focus on additional training and gaining experiences which they use in their workplace, they are producers and distributors of knowledge, they are involved in information processing and handling of technically advanced equipment (especially IT). In turn, knowledge-based companies are business entities which base their operation on knowledge, subordinate their structures to knowledge and aim at the creation of added value which is a direct result of the use of knowledge. Companies of this type try to base their operation on this new type of employee[22].

Taking into account the changes in modern economy, the basis of which has become knowledge and innovation, experts of the issue believe that the source of economic success currently lies not in the allocation of rare resources, but in the creation of new knowledge that provides ideas, the implementation of which increases the value of management effects. Such attributes of knowledge, serving these functions, occur potentially in abundance and are not subject to rarity restrictions, as is the case with material resources. In addition, the use of the existing stock of knowledge does not lead to its depletion, and may even contribute to enlarging and improving its quality, because during the use of knowledge new experiences are gathered, which enrich these resources. It leads to an optimistic assumption that the knowledge-based economy can enjoy long-term periods of growth. This assumption is still under discussion and it has its opponents[23].

[20] The agency of other people in the process of transferring this knowledge, as well as replacing it with ICTs, is insufficient for the effective communication of hidden knowledge.
[21] P.F. Druker, Post capitalistic Society, PWN, Warszawa 1999, p. 6; see also his The Effective Executive, Harper Business, New York, 1993.
[22] See P.F. Druker, Post capitalistic Society, p. 175.
[23] See R. Żelazny, New Economy: Myths and Reality. From fascination to scientific knowledge, [in:] T. Bernat (ed.) Problems of economic globalization, the Polish Economic Society, Szczecin 2003, pp. 87-104; A. Wojtyna, Does traditional economy allow you to understand the "new economy"? [in:] G. W. Kołodko (ed.) The new economy and its implications for long-term growth in post-socialist countries, Wydawnictwo Wyższej Szkoły Przedsiębiorczości i Zarządzania im. Leona Koźmińskiego, Warsaw 2001, pp. 31-51.

Building knowledge-based economy involves extensive use of innovation and promotion of innovativeness as such. It is about creating an environment conducive to the creation and implementation of innovations by various entities, as well as about building social climate which promotes innovative attitudes. The very concept of "innovation" is not clearly defined. Disputes among scientists are raised both by understanding what is innovative in specific innovative solutions, as well as a moment in which the effects of human creativity become innovations. In general, innovations are the result of gathered information and knowledge formed on the basis of it, used then in a practical way by specific entities[24].

Until recently, the issue of innovation has been examined primarily on the level of production, manufacturing. However, innovation is not only the introduction of new products and new production methods. For our considerations it is particularly important to have a broader view of innovation, capturing it, on the one hand, as an effect of actions, as a result of which various novel goods and services arise, on the other hand, as a process that involves not only the final result, but also all the actions prior to the creation of the innovation (the emergence of a idea, research and development and design, production, marketing and ultimately the propagation of the innovation). Therefore, a dynamic innovation process can be described as a series of interactions from the emergence of the innovation idea to its implementation and dissemination, the aim of which is a product, technological, organizational and social change, it is characterized also by a new way of applying science and technology, which aims to provide the market success to the entity implementing the innovation[25]. This approach to innovation helps us understand how important role innovation plays in the construction of the "new economy".

Economists believe that, regardless of whether we consider innovation in the context of the functioning of business entities, regions or countries, it has a clear impact on improving their competitiveness. Each of the mentioned entities has specific possibilities of collecting knowledge and its use, which depends among others on human, scientific and

[24] For J.A. Schumpeter, a forerunner of research on innovation, innovation is a function composed of creative thinking and action, and a new solution becomes an innovation only when it is implemented. An innovation is introducing a new product or a new method of production, opening of a new sales market, gaining new sources of raw materials and half-finished products, as well as the implementation of a new form of organization, hence different types of innovations: technical, technological, marketing or organizational (see J.A. Schumpeter's theory of economic development, PWN, Warsaw 1960).

[25] See E. Szal, U. Zdanio, Innovativeness in Regional Knowledge Based Economy on, [in:] M. Czerniejewska-Rutkowska and E. Karasiński (ed.), Innovativeness as a Window to the World, Łódzkie Towarzystwo Naukowe, Łódź 2004, p. 101.

technical resources[26]. One of the main objectives of the knowledge-based economy is to create and implement innovative ideas, thanks to which tangible financial benefits can be achieved. Competitive fight in the conditions of the "new economy" is reduced to as soon as possible generation and implementation of as many innovative solutions as possible with the help of which it is possible to generate profits. Particularly important is the rate of implementation of the innovative solutions. In the conditions of the free flow of information, the possibilities to effectively secure knowledge having a specific material value (scientific research results, implementation works) are severely limited. Competitive fight is reduced among others to buying information, ideas and ready solutions, and also to obtaining them in a not fully legal or even illegal way (theft of intellectual property). Therefore, nowadays it is not so important to effectively conceal knowledge having a particular value as is its rapid and most efficient commercial use (otherwise a market gap will be filled in by the competition).

To the most important determinants of the KBE we should include: human capital, education, R & D institutions, financial and creditor institutions, information society, ICT infrastructure and the universal language of contemporary interpersonal communication (the English language)[27].

The theoretical basis of economic planning

The implementation of effective economic policy is not possible without good economic planning, which should take into consideration different scenarios of the impact on the socio-economic sphere and take into account the effects caused by them. Economic planning is a procedure involving the deliberate and systematic processing of economic and technical information and the construction of internally coherent concepts of an action strategy (including the present restrictions and conditions) in order to obtain the best ways of achieving designated targets[28]. Economic planning is today the subject of interest not only of business entities and public authorities of countries, but to a greater extent, of economic,

[26] Raising of the economy innovativeness level is mainly affected by technological progress, changing expectations of consumers of goods and services, as well as the increasing competition in the market, see. F. Krawiec, Managing of an innovative product and service project, Wydawnictwo Diffin, Warsaw 2000, p. 22.

[27] The construction of KBE is possible due to the unlimited exchange of information and knowledge facilitated by ICTs and the Internet. This communication, on the global scale, is made possible thanks to the English language. Just like in previous epochs, and in the area associated with them defining the "range" of the then world and interpersonal communication, Greek, Latin or French dominated, the modern world also has its "koine dialektos", which is the English language. It is the language of the twenty-first century, the language of the future, the language of the post-industrial era, the language of the "new economy".

[28] See B. Winiarski, Economic Policy and Economic Planning, [in:] B. Winiarski (ed.), Economic Policy, PWN, Warsaw 2006, p. 91.

transnational in nature organizations, which in the context of globalization undertake regulatory missions and try to create international economic policy.

Economic planning on a national basis is the process of creating and making decision that involves all the participants of the economic scene in the country and is inextricably linked with the planning of government's revenue and expenditure within the budget[29]. It is a macroeconomic planning, covering the whole national economy, its complex relationships with the environment, as a rule taking into account a longer time horizon. In modern times, this planning definitely goes beyond the socio-economic sphere and includes politics and international relations. Theoretically, in democratic countries, with free market economy, the state authorities have full freedom in shaping economic policy. In practice, we see that this is a purely illusory assumption. In the context of globalization, including the spread of the "new economy", the state authorities in their economic planning increasingly need to take into account the changing social or economic as well as political conditions, in practice accepting the opinions, recommendations, or even arbitrary settlements of large companies and supranational organizations affecting the economic sphere on the global scale (big banks, the most important economic organisations, international corporations)[30].

Preparing economic plans we rely both on existing conditions and resources, as well as on activities, the aim of which is to transfer the existing economic conditions and to increase economic resources. In the letter case, particularly important in the context of building the knowledge-based economy (transforming traditional economy in the "new economy" and essentially changing the operating conditions of the economic sphere), special attention should be paid among others to the impact exerted on contemporary economy by science, new technologies and highly qualified personnel on the market. The preparation of economic plans always requires the designation of specific objectives and assigning to them the appropriate means of implementation. The optimal economic plan should achieve realistic goals by means of the fewest number of measures.

In connection with the fact that economic planning refers to the future, it will be always marked by risk. In spite of the properly carried out activities related to the preparation of a specific plan, we cannot be entirely sure of its success due to the random factor. Risks

[29] See P. Sulmicki, Economic Planning and Management, Państwowe Wydawnictwa Ekonomiczne, Warsaw 1978, p. 91.

[30] An example of a subject realizing planning and economic policy in the transnational dimension is the European Union which is, on the worldwide scale, an exceptional example of effective implementation of economic integration of states. Concrete effects of economic planning connected with it can be the development strategies: the Lisbon Strategy (2000-2010) and the Europe 2020 strategy (2010-2020).

associated with economic planning can be at most seriously limited by basing the forecasting used in it on scientific principles. The obtained set of rationally justified forecasts pertaining to the interesting category of events in the near or distant future is able to provide relatively high quality and accuracy of economic planning. Therefore, very important for the effectiveness of the prepared plans is their "flexibility" which allows to modify them in progress. Particular attention in economic planning is directed today to changing demographics, including population migrations, the development of science and technology, and political and international relations[31].

Knowledge-based economy as a strategy for economic development

Initiated under the overwhelming influence of the information revolution of the twentieth century the transformations of modern economies have clearly qualitative and system nature. Everything indicates that these changes are permanent, irreversible, as shown at least by their global reach. Reorientation of modern economies is a challenge both for economies and economists, as well as for entrepreneurs and leaders of a growing number of countries wishing to build modern and competitive economies in the current conditions. According to the author of this study, we can see more and more clearly that the concept of activities connected with the construction of the new type of economy based on knowledge and innovation, setting new directions for economic development and requiring the application of new methods of operation in the economic sphere, as well as the inclusion of new forms of impact on the social and political sphere, becomes a dominant economic development strategy for the twenty-first century[32].

Professional economic planning is the basis for the currently created and implemented development strategy. One of the basic and at the same time the greatest difficulties associated with it - as has already been pointed out – is the changing environment of the economic sphere, which affects both the activity of individual business entities, as well as the functioning of national and regional economies. Economic development of interest to us, in accordance with its definition, is a long-term process of changes in economy, encompassing both quantitative changes in economy (economic growth: growth of production, employment, investment, consumption and other economic values), and the related changes of a qualitative

[31] Chapter 2 prepared on the basis of B. Winiarski's study, Economic Policy and Economic Planning, [in:] B. Winiarski (ed.) Economic Policy, PWN, Warsaw 2006, pp. 90-100.

[32] At the same time knowledge-based economy can be regarded as a new type of economic development strategy which the author postulates to name - the "new economy" strategy. In scientific literature until now five types of development strategy have been specified (liberal, open economy, industrialization, agricultural development, redistributive strategies).

nature. Thinking about the strategy of action we take into consideration the constantly realised process of preparing and carrying out activities which lead to achieving specific objectives, taking into account the existing conditions, time and place[33]. Building of the knowledge-based economy, which consists of a number of specific, coordinated actions to achieve the objectives of the "new economy" may be regarded as a leading contemporary economic development strategy. The KBE understood as a development strategy will be in this case a concept of broad impact on the social, political and economic sphere aiming at the stimulation of the economic growth and overcoming underdevelopment and poverty, leading to changes in the social, economic and civilization situation on the area covered by the range of the new type of economy. The KBE has features that in the author's opinion, justify regarding the related economic development path as a development strategy in the times of globalization: I. It is a breakthrough in the social and economic sphere, II. It spreads despite many difficulties and high expectations it poses, III. It responds to new needs of contemporary societies and their economies, IV. It aims at reducing regional disparities in socio-economic development in the world, V. It makes it possible to overcome the influence of limitations resulting from shortages of material resources (esp. natural ones) on economic development, VI. It has spread worldwide and is accepted in different cultures and political systems (with the exception of some changes which it postulates and introduces).

As stated by the author, the KBE can be regarded as a strategy of economic development of the twenty-first century. This does not mean, however, that it is, or will be available in the future to all countries interested in this path of development (for example, it will not be available for the countries of the Third World). Primarily developed countries and some developing countries have a chance to build the KBE, as the "new economy" requires a certain technical and human capacity (infrastructure, high technology, skilled human resources, R & D sphere). Conditions of "entering" on the development path associated with the KBE are demanding. It has to therefore be assumed that also in the future, developmental, technical and civilization progress will be focused in the developed, rich countries, and that they will be the greatest beneficiaries of the advantages generated by the "new economy". What role can, therefore, be reserved for other actors of the world economic scene, that is for underdeveloped countries? Most likely, they will play "a supporting role" for the developed countries which will have managed effectively to carry out the transformation associated with

[33] A development strategy is a way of affecting aiming at the stimulation of economic growth and the break of the vicious circle of underdevelopment and poverty which leads to changes in the socio-economic situation on the given area.

the construction of the KBE and for transnational corporations cumulating benefits resulting from the "new economy". Probably few of the countries of the 'second-line' will with time gain a chance to get out of the "vicious circle" of underdevelopment, backwardness and poverty, and enter the development path of the "new economy". For those who are unsuccessful, the role of "a marginal player" does not necessarily mean total degradation, because also those countries (not all) will be able to benefit from the KBE, of course, to a limited extent.

The described situation also applies to business entities. Not all of them will be able to become a knowledge company and to realise the assumptions of the "new economy". The realities of KBE, and especially the associated innovative and technological pressure even today make "natural selection" among business entities, dividing them into those which follow the path of the KBE, and those that will be able to operate according to previous rules. This does not mean that the latter ones are worse or unnecessary. These entities are fundamentally different from each other and in a way belong to two economic dimensions which will exist in parallel for a long time in the inevitably changing world. In the twenty-first century, on the economic scene there will still be a place for both categories of business entities but the entities operating according to the KBE assumptions will be the avant-garde and will increasingly play the leading role in the economic sphere. Even today we can see that, most of all, highly developed and richest countries and companies and transnational corporations originating from them (U.S., Japan, France, Sweden, the Netherlands, Germany, the United Kingdom) count in the global economic race largely associated with the construction of the "new economy"[34].

A very important factor for transformations we consider, and the one we must not forgot, is a political, constitutional factor. It concerns values and organizational order brought by the democratic rule of law with strong, free-market economy. Only a democratic system and free market economy are able to provide the best conditions for the implementation of the new economic development strategy connected with the construction of the KBE. The lack of high democratic standards, including respect for human rights and full freedom of communication, hinders the functioning of healthy civil society, capable of initiative and dedication, constituting a foundation of the epoch-making transformations of interest to us.

[34] Compare The Global Competitiveness Report 2011-2012, K. Schwab (ed.), World Economic Forum, Geneva 2011, p. 15 (The Global Competitiveness Index 2011-2012 Rankings and 2010-2011 Comparisons, http://www3.weforum.org/docs/ EF_GCR_Report_2011-12.pdf, (access 15.04.2012); Top 100 Global Innovators, Thomson Reuters 2011 (http://top100 innovators.com/top100, (access: 15.04.2012).

Concluding remarks

KBE sets promising directions for the socio-economic and civilization development in the contemporary world. It gives a chance for broader development of many countries and societies, as already evidenced by many examples of countries that have reached success by building the new type of economy (the Scandinavian countries, Asian tigers). As already noted, benefits resulting from the KBE will not be available for all countries and business entities interested in this path of development, due to high costs and technological standards, which are connected with the construction of this type of economy. In connection with this, the advancement of the KBE and its impact on the social, economic and political life of societies are, and will be highly geographically varied for a long time. However, it appears that the socio-economic development trend presented in the study, which is already a characteristic feature, a business card of the twenty-first century, is a permanent direction. There are many indications that this direction of development will determine the development of human civilization in the coming decades, and perhaps even in the following centuries.