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PHENOMENOLOGICAL AND PARADIGMATIC ELEMENTS OF KNOWLEDGE ECONOMY

Some authors deny the existence of knowledge economy confining it to the rhetoric. Other authors point out difficulties in defining it and imperfections in the description, understanding and survey of knowledge, resulting from its untouchable and tacit nature. The third ones admit that knowledge economy is so obvious that more precise definition is not required. This paper provides the arguments to affirm the rightful existence of the knowledge economy term. The subject of research is the analysis and explanation of the major contemporary development tendencies indicating the paradigmatic features of knowledge. The aim is to identify phenomenological and paradigmatic elements which characterize the functioning of the knowledge economy as a positive and revolutionary transformation of business and scientific practice. The starting hypothesis is that significance, application and development of knowledge depends directly on the degree of institutional development, i.e. that knowledge only has power in the developed and pluralistic institutional environment.

Keywords: *knowledge; knowledge economy; paradigm; institutions.*
JEL Classification: D83; O17.

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ФЕНОМЕНОЛОГІЧНІ ТА ПАРАДИГМАЛЬНІ КОМПОНЕНТИ ЕКОНОМІКИ ЗНАНЬ

У статті показано, що певні дослідники ставлять під сумнів реальне існування економіки знань. Інші автори вказують на складність її формулювання та опису. Третя ж група авторів вважає, що економіка знань настільки очевидна, що навіть не потребує опису. Надано низку аргументів на користь існування даного терміну. Проаналізовано основні сучасні тренди розвитку термінології та описано парадигмальні характеристики знання. Виділено феноменологічні та парадигмальні елементи функціонування економіки знань як процесу революційної трансформації бізнесу та науки. Значення, застосування та стадія розвитку економіки знань на окремій території визначаються рівнем її інституційного розвитку. Показано, що найбільш успішно знання розвиваються в умовах розвиненого та плюралістичного інституційного середовища.

Ключові слова: *знання; економіка знань; парадигма; інститути.*
Табл. 1. Рис. 1. Літ. 23.

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ФЕНОМЕНОЛОГИЧЕСКИЕ И ПАРАДИГМАЛЬНЫЕ КОМПОНЕНТЫ ЭКОНОМИКИ ЗНАНИЙ

В статье показано, что ряд исследователей ставит под сомнение реальное существование экономики знаний. Другие авторы указывают на сложности в её формулировке и описании. Третья же группа авторов полагает, что экономика знаний настолько очевидна, что даже не нуждается в описании. Представлен ряд аргументов в пользу существования данного термина. Проанализированы основные современные тренды развития терминологии и описаны парадигмальные характеристики знания. Выделены феноменологические и парадигмальные элементы функционирования экономики знаний как процесса революционной трансформации бизнеса и науки. Значение, применение и стадия развития экономики знаний на отдельной территории во многом

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определяются уровнем институционального развития. Показано, что успешнее всего знания развиваются в условиях развитой и плюралистической институциональной среды.
Ключевые слова: *знание; экономика знаний; парадигма; институты.*

1. Introduction

Knowledge and fundamental and applied science have always changed the world for better. That is the only way to resolve the majority of developmental issues. In the last 15 years, the significance of numerous issues related to knowledge and knowledge management has been rapidly growing both in business and academic research. Success and stability of modern companies predominantly depend on the continuity of innovation. It has also been caused by a shortened life cycle of goods and services. Economic growth and development depend on the continuity of technological innovation that changes the structural characteristics of socioeconomic relations. In all these fields, knowledge is an obligatory component, and that is why, among other reasons, the notion of it being paradigmatic in the "knowledge economy" and social, institutional, economic and technological roots inherent to it has imposed on us.

That knowledge is paradigmatic has always, and particularly today, been undisputable for many reasons, but primarily because of dominant importance of knowledge for the future and versatile sustainable development of mankind. Another reason is the number of theoretical concepts that include knowledge, such as: a) the concept of knowledge as the only unlimited resource and a key factor of sustainable development, b) the concept of knowledge as a product, because the production of knowledge is the most important determinant of modern economy, c) the concept of codified knowledge, which is becoming the most important component of economic relations, d) the concepts of "knowledge economy" and "knowledge society" as the most important consequences of the development of information society and e) the concept of "new economy" as a disputable theoretical and methodological structure, found in the jargon and articles of many authors and, conditionally speaking, is synonymous to "knowledge economy".

Unlike historically and methodologically undisputable paradigmatic knowledge, it is necessary to perform a critical and informed analysis of whether it is justified to attribute the quality of being paradigmatic to "knowledge economy" as well, in the view of the prolonged discussions among the researchers about the terminological and phenomenological contents ot the term. The purpose of this study is to consider and analyze attempts to explain practical character of modern paradigmatic attribute of "knowledge economy".

It is evident that economic and social reality is changing and becoming more and more complex at a rapid pace. Changes rush one after another. New relations are being established and developed among individuals, firms, organizations and states. Complexity, uncertainty and changeability of the environment are the only permanent components in the life of an organization. In such circumstances, viability of any business system requires knowledge, application of knowledge and constant learning. That is also the reason for accepting without any doubt the idea of practically paradigmatic "knowledge economy".

The thinking about the actual functioning of the post-industrial type of economy – "knowledge economy" has led to two significant questions: firstly, is "knowl-

edge" economy", in theoretical terms, indeed a new paradigm or not, and secondly, which are the key (institutional or other) conditions that determine the significance and role of knowledge and "knowledge economy" in the modern society? The answer to the first question lies in our conviction that the "knowledge economy" creates a new paradigm, but exclusively in strategic management (Draskovic, 2003) and a part of economic reality, in terms of a need for a paradigmatic change in the way of thinking and behaviour of economic entities. The answer to the second question is the result of our studies over many years of respective neoinstitutional economy and implementation of its positive ideas and results in practice in developed economies. Notwithstanding all other necessary conditions, we have come to the conclusion that the nature of institutional environment and institutional changes is crucial in identifying the significance and the role of knowledge in a state or an economy. We have also come to the conclusion that usual indicators published by the World Economic Forum, the World Bank and some other institutions that prefer global character and scope of study are not sufficient for an objective examination of an impact of institutional development on the level of knowledge in individual countries. The reason for such thinking and conclusions is the fact that the formation of specific institutional structures and institutional environment demands deeper and more complex critical analysis of numerous and heterogeneous factors, among which particularly the impact of informal (alternative) institutions on socioeconomic reality, their actions, consequences and anti-developmental character.

2. Is there a paradigmatic "knowledge economy"?

Each stage in the development of human society has had its paradigm with relevant criteria and values. Each new historical period required (often a pragmatic) change in thinking and behaviour. It basically boiled down to adjusting to civilization norms, achievements and challenges. Progress has long been seen as a continuous process of development of knowledge and science, followed by multidisciplinary innovation and creation of new structures and organizations of the economy and society. It is believed that future belongs to economic growth and sustainable development, which will be implemented based on the productive use of knowledge and constant innovation (and by no means the growth of the so-called "innovation industries", as some authors misinterpreted). There is no dispute that economics (as a science and an industry) has always been based on knowledge. But knowledge until recently was not so developed and crucial to all economic activities and society in general, nor has ever before social and economic development depended on knowledge to such an extent. This is important especially through the prism of the need to solve the pressing issues between economy and environment, which determines the fate of mankind.

Knowledge economy has created new business rules. Knowledge and transfer of knowledge have become the dominant source of innovation and competitive advantage. Open virtualization of economy, its dematerialization and denationalization have become a common business practice. Market value of the shares of some companies is hundreds of times greater than their annual profits. Fast and strong scientific and technological development in the field of information, communication, transport and other technologies has emphasized the role and importance of knowledge (conditionally speaking: intellectual capital). But, looking from the aspect of a new

paradigm, it seems that the "knowledge economy" deserves that title only in terms of the formation of entirely new economic reality, skills and organization in conducting business, and new nature, structure and organization of the firm. Anyway, the contractual approach has relativized the role of a company as a "black box" entered into by the resources that are then combined and leave it as finished products. Knowledge economy raises new questions for economic science, of which perhaps the most contradictory one is this: why is it that, within the company as a market entity, there are more and more non-market relations (intra-firm exchange)? It implies another important question: how much of economic reality is essentially a "real" market economy? According to some data, intra-firm exchange accounted for about 30% of the world trade two decades ago. Nowadays it is much more.

No matter whether more or less paradigmatic significance is given to the "knowledge economy", in the period of its formation significant and revolutionary changes occurred, which are scientifically monitored, analyzed and studied. Economic science and economic reality have long since stepped into a new era, which can be characterized as pluralistic, institutional and economic synergy. It is based on the evolution of complex, dynamic, open and virtual business systems based on the principles of flexible self-organization, equitable and "floating" (mobile, temporary) partner cooperation and limited autonomy. It can be expected that rapid changes of economic reality (influenced by "knowledge economy"), the structure of contradictions, priorities, systems and value criteria will have a significant impact on the development of many new trends of economic thought.

The advantage of "knowledge economy" in relation to the standard (traditional) economy based on the principle of alternativeness of resources and choices is that the exchange of knowledge leads to its multiplication in which no one has anything to lose. This brings a radical, even paradigmatic change to theoretical approach to the process of exchange. The main problem to solve and regulate appear to be intellectual property rights. This requires an upgrade of the existing neoinstitutional economic theory of property rights. Knowledge and innovation have become key elements of the concepts of society, economy and sustainable development.

In terms of theory, the knowledge economy paradigm is not only highly questionable, but also unsustainable. Because there are no objective elements that prove its existence. Traditional laws, principles and categorical apparatus of economic science still work and apply. However, "knowledge economy" objectively acts as a new historical and socioeconomic environment, which (in conjunction with globalization as its generator) relativizes even national sovereignty, the institute of state regulation and applicability of any known economic theory in explaining some of its phenomena.

Unfortunately, a detailed critical analysis of economic reality can cause suspicion even about assigning the epithet of being practically paradigmatic to "knowledge economy", due to the fact that in certain cases it significantly reduces choice as the essence of the economy, by creating top competencies for individual privileged economic agents (monopolists), and by spurring intra-firm exchange and network partnerships, which in a way represents a modern sophisticated "naturalization" of commodity and money flows and limits the market competition. However, the paradigmatic attribute of "knowledge economy" is reflected in a practical sense in the fact

that high technologies have direct impact on economic environment and changed some common laws, primarily market ones. Since a good network can produce goods virtually at zero marginal costs and network products have external effects for users, in particular cases some network resources bring about non-traditional responses of individual supply and demand. Still, modern economic theories must solve the same complex tasks in the circumstances of "knowledge economy" and the dynamic changes that it initiates.

In terms of practice, IT, telecommunication, innovation, organization, globalization and other developments and manifestations that make knowledge economy "new", are not questionable, even in the paradigmatic sense. The latest technical and technological revolution has large, even unforeseeable economic consequences. The most important one is perhaps the creation of basic infrastructural requirements for the so-called post-industrial era, which makes many differences (geographical, temporal, cultural, ethical, political, ideological, institutional, infrastructural etc.) relative and verifies the theory of convergence (but not economic convergence).

There is another important phenomenon in the knowledge society, relating to the creation of new monopolies, such as "Microsoft", but based on knowledge and innovation. C. Shapiro (1999) demonstrated that a combination of the effects of economies of scale on the supply side and the demand side reinforces monopolistic tendencies. In addition, there is also an interesting paradox here: monopoly in the information product market increases the volume of production, performance and product quality, and significantly reduces costs! For example, the first hard disk of 5Mb cost 50,000 USD in 1956. From the early 1980s to the present time, the price fell from 20,000 for 0.1 GB hard disk to 300 (1000 GB). In the period of 30 years (1980–2010), the price of 1Mb was reduced from 200 USD to 0.0003, or by 666,666 times! And in the period from 1956–2010 – as many as 33.3 million times!

"Knowledge economy", by some of its discrete manifestations, goes around all known paradigms of theoretical economics, even neoinstitutional. This happens in a paradoxical way: leading (privileged) players are forcing to a maximum degree their own freedom of choice, based on the access to new technologies, limiting the choice of others, who do not have the same access. Of course, this has nothing to do with the theoretical economy. This can be interpreted as a new (practical) paradigm of domination and exploitation, which is to some extent generated in global competition. It is essentially a question of group-partnership competition and top competencies of the most developed in relation to others, supranational institutionalization and control, as well as overcoming numerous differences (because of dominating economic interests), while retaining and forcing the most important difference – in economic development and power. This difference, unfortunately, turns into a monopolistic (if not an imperialistic?) competency as the highest form of competitiveness.

3. Indicators of level of institutional building and level of "knowledge economy"

Given the two proven facts: a) that institutional development has a positive effect on economic growth and development and b) that economic development directly (through incentives and heavy investment in education and scientific research) and indirectly (through good conditions: payments to scientists, communications, information, statistics etc.) impacts the growth of expertise and innovation, we can logically and syllogistically conclude that there is the following relation with a strong

feedback: institutions – economic development, investment in knowledge – increasing knowledge (Figure 1).

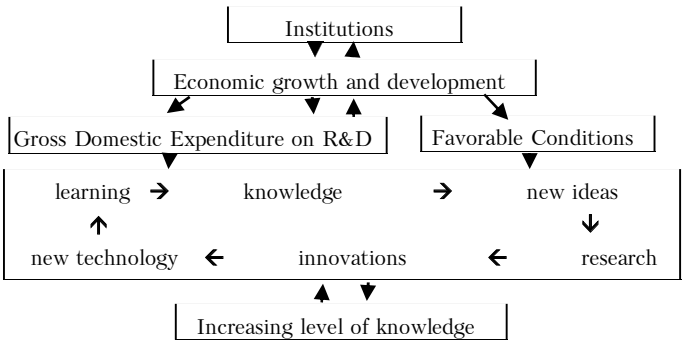

Figure 1. **Development formula for "knowledge economy",** *developed by the authors*

This relation can be analyzed in a variety of ways. But the specified directions of impact on economic reality have become very obvious and significant, and the term "knowledge economy" came into use. The term was meant to describe a dominant phenomenon and its corresponding features in the countries with developed institutions, infrastructure and generation of innovation. This can be analyzed and proved by comparing abundant data available on the Internet. Some of it is presented in Table 1.

Table 1. **Comparative review of KEI and GCI indices (for institutions, item 1) according to the 2012 rankings**

Country	KEI rank	Institutions rank	Country	KEI rank	Institutions rank
Sweden	1	6	Iceland	16	23
Finland	2	3	Austria	17	25
Denmark	3	14	Hong Kong	18	10
Netherlands	4	7	Estonia	19	30
Norway	5	8	Luxembourg	20	9
New Zealand	6	2	Singapore	23	1
Canada	7	11	Qatar	54	4
Germany	8	16	Un. Ar. Emir.	42	12
Australia	9	18	Czech Rep.	26	44
Switzerland	10	5	Hungary	27	55
Ireland	11	19	Russia	55	53
US	12	41	Ukraine	56	132
Taiwan	13	26	Slovenia	28	58
United Kingdom	14	13	Croatia	39	98
Belgium	15	27	Serbia	49	130

Sources: KEI and KI indices of KAM, 2012, p. 1-4; The Global Competitiveness Report 2012 - 2013, pp. 16-17

3.1. Analysis and critical overview. If, as a methodological criterion for evaluation of the relationship between institutional development and the level of knowledge, correlation of the rankings of specific (functionally selected) countries in the world is taken (Table 1), they can be divided into 5 groups: a) the countries with a high correlation (difference of 1–5 places): Finland, Great Britain, Russia, the Netherlands, Norway, New Zealand, Canada, Sweden and Switzerland, b) the countries with the

correlation of medium intensity (difference of 6–10): Iceland, Austria, Hong Kong, Germany, Ireland and Australia, c) the countries where there is little correlation (difference of 11–20): Denmark, Estonia, Luxembourg, Belgium and Taiwan, d) the countries where there is a large discrepancy (difference of 21–30): the Czech Republic, USA, Singapore, Hungary, United Arab Emirates, Slovenia and e) the countries where there is an extreme discrepancy (difference of over 30 places): Qatar, Ukraine, Croatia and Serbia.

Analysis of the data in Table 1 shows there is no case of absolute congruence with respect to ranking of individual countries in terms of institutional development and the level of knowledge. Analysis of the 5 groups of countries might trap one into the wrong and uncritical conclusion that there is no significant relationship between institutions and knowledge. Regardless the validity of the offered indicators, it is shown that the top 10 countries include 6 by both indicators (60%), the top 15 countries include 8 by both indicators (53.3%), and the top 20 countries include 14 by both indicators (70%). 4 conclusions can be drawn: first, that there is a strong relationship between institutional development and the level of knowledge; second, that the concentration of observed dependence increases in the sample of 20 countries; third, on the basis of data for Singapore, Qatar and the United Arab Emirates, where institutions are developed, but knowledge is weaker, that institutions have small impact on knowledge – a similar conclusion could be drawn for the US, where there is the opposite case: the low level of institutional development (is it really so?) and a high level of knowledge – and fourth, that in some transition countries (Ukraine, Croatia and Serbia) there is also a noted discrepancy between weak institutions and higher level of knowledge, but at a much lower level than in the US.

This may raise the question of comprehensiveness, credibility, reliability and quality of indicators in Table 1, particularly: a) the Knowledge Economy Index /KEI/, offered by the World Bank, and b) the Global Competitiveness Index /GCI/, offered by the World Economic Forum, in which the first indicator is institutional development (as part of the GCI). Ignoring the fact that for some transition states some of these indicators have not been calculated, we believe that the quality of institutions, especially economic ones (state, market and property regulation) cannot be assessed only by using indirect, general and basically questionable "indicator" ratings. If this could be done in a reliable way by means of indicators, then all the existing extensive studies, analyses and critiques of institutional changes and institutional environments written by numerous economists would be unnecessary.

A special analytical, methodological and practical problem in trusting the mentioned and other indicators (which are available on the Internet and which some authors are consistently and uncritically pushing through their alleged "research analyses and papers") is the inability to ensure uniform measurement of the quality of institutions in a variety of environments. Because, ones are dominated by formal institutions, while others have a quasi-institutional monism with vulgarized and highly interest-based quasi-neoliberal economic policies (which has nothing in common with the neoliberal theoretical model). It is not clear how to measure the quality of institutions (institutional pluralism) in the circumstances of long-term dominance of institutional vacuum and/or quasi-institutional monism. In other words, how one can measure the activity of institutions in a setting of their massive failure and/or lack

of some of them? For that reason, in a couple of articles we have discussed the idea of institutional nihilism in certain transition states. We have defined it as the decades' long reproduction of institutional vacuum, or as a programmed institutional failure and the dominance of alternative (parallel) institutions.

Regarding the considered indicators, two critical comments can be given. First, it is much easier and more reliable to measure, according to certain criteria, the level of knowledge in individual countries than the level of institutional development. Second, in assessing the institutional development of some countries there are too many specific and often heterogeneous impact factors, which cannot be consistently and quantitatively comprised, or defined in terms of unified criteria that would be the basis for reliable measurements and comparisons. For example, it is not possible to determine the influence of informal and alternative institutions. Or, one cannot determine the impact and importance of market regulation in the circumstances of prevailing distorted market structures, which are characteristic of many states.

4. Treatment of knowledge in individual countries

Economic underdevelopment directly affects the treatment of knowledge. One should also add to that the non-existent, incomplete and/or superficial assessment of existing capacity, systems and institutional arrangements in this area and unsound statistics. Without economic development there are no enough resources to invest in education and science, and there is no sufficient level of knowledge. Similarly, if no formal institutions have been built, there is no awareness and desire to invest in knowledge. Practice has shown that few resources allocated to education and science can drain into the non-market (non-competitive, interest-oriented and anti-institutional) channels in the projects that have little to do with their target function. Without significant financial allocations for education (UNESCO recommendation is 6% of GDP) and science (the EU recommendation is 3% of GDP), one cannot expect broader and higher-quality scientific research, and consequently innovation as a proven foundation of competitive advantage.

By comparing the percentage rates of GERD (gross domestic expenditures on R&D) in selected countries in 2009 (OECD, 2009, OECD, 2011, p. 19) with innovation topography (OECD, 2010, p. 30), one can conclude that there is a high level of dependence and correlation. The Broad Based Leaders (Japan, US, Germany, EU-27, OECD, France, Korea, and United Kingdom) are among the countries that invest most in R&D, most of them investing more than 2.5% of GDP. Even most Narrow Leaders/Adopters invest considerably: Israel (4.3%), Finland (3.9%), Sweden (3.2%), Switzerland (3%), and Denmark (3.0%). It is interesting that some Adopters / Followers (Iceland and Estonia) have also invested significantly in R&D. If the analysis includes the level of economic development, measured by GDP per capita achieved (The World Bank, 2012), one can also conclude that in most countries there is a strong dependence between their innovation topography, level of economic development (measured by the level of GDP per capita) and gross domestic expenditures on R&D. This is particularly characteristic of the Broad Based Leaders who have over 35000 USD per capita, except Korea, which has 28000 USD. The situation is similar with published books and articles, where these dependences and averages are only "spoiled" by China, which is ranked just behind the US (OECD Science, Technology and Industry Outlook, 2010).

If we know that only "knowledge countries" are successful with respect to innovation, one may ask a question: why underdeveloped countries allocate so little for knowledge? The answer is contained in a number of published research papers, as well as in a variety of media content. But there is a long way from the critical rhetoric to positive and sustainable practices in this field. It requires large, deep and extensive social, political and institutional reforms. In underdeveloped countries there are insurmountable obstacles on the way to development. One cannot say that it is a lack of awareness about the connection between development and knowledge investment. There are huge interest layers, which have been piling up in the circumstances of institutional vacuum. We have repeatedly proposed institutional pluralism as a possible solution to the transition crisis and its poor account. The paradoxical phenomenon of difficulties with institutional reforms in small countries and economies in comparison to large ones would probably need to be better and more accurately studied. As a special case, one can cite the case of once monistic China, which has convincingly proved that "the colour of cat matters not as long as it can catch mice" and that even recombined and controlled institutional pluralism is much better than its absence and substitution by vulgarized forms of institutional monism.

5. Conclusion

"Knowledge economy" may be seen, among other things, as a step forward into the system of developed and interconnected institutions (institutional pluralism), which regulate economic relations and economic behaviour in a way that favours production, formalization and diffusion of knowledge. World's most powerful (economic, military, political and other) forces invest most in knowledge, have the highest level of economic and institutional development (though some indicators do not show that in all the cases) and have the largest inventory of multidisciplinary knowledge and innovation, which are the appropriate rewards for investment.

There is an urgent need for underdeveloped countries to make further scientific advances in the direction of maximum respect for and better treatment of knowledge. This is not possible without establishing quality and stable institutions. In the field of knowledge and institutional changes, transition is needed from "destructive construction" to "constructive destruction" (Shumpeter). The importance of knowledge needs to be elevated to the highest possible level. Knowledge, education and science should be institutionally regulated and fostered, on the model of developed countries, in order to avoid various forms of its substitution, manipulation, negative selection and unprincipled (mis)use. Because there are great benefits of knowledge economy: economic growth and development, socio-political stability, improved productivity and so on.

This paper warns and urges all relevant social structures, activities and decision-making levels in transition states about the necessity of unconditional acceptance of the knowledge paradigm as a developmental imperative in all social and economic sectors. It argues in a clearly articulated manner that disregarding, avoiding or substituting knowledge would lead us astray, to a crisis and lagging behind in development. Uncritical and inadequate attitude to knowledge is the same as its neglect and denial. Low investment in knowledge produces similar effects. Intellectual capital cannot be created in the environment of knowledge neglect, ignorance and negative staff selection.

"Knowledge economy" is dominated by knowledge, creativity, innovation, skills and originality. This causes change in the integrated development paradigm, both economic and social, which must be accepted by all who sincerely aspire to development. Modern economic activity creates certain ontological assumptions for the formation of the post-industrial paradigm, which is often equated with "knowledge economy". There are also gnoseological assumptions for the new practical paradigm because post-industrial civilization influenced the refinement of the process of acquiring knowledge. One can speak of a technological (information, communication, transport etc.) paradigm, but not an economic one. The former is used in the "knowledge economy", which relies upon it and is dominantly influenced by it. The old economic laws still operate, but not in all cases.

References:

Abramovitz, M., David, P.A. (1996). Technological change and the rise of intangible investments. The U.S. economy's growth-path in the twentieth century. In Employment and Growth in the Knowledge-Based Economy, OECD, Paris, pp. 35–60.

Atkinson, R.D., Court, R.H. (1998). The New Economy Index: Understanding America's Economic Transformation, Progressive Policy Institute, Washington.

Brinkley, I. (2006). Defining the knowledge economy. The Work Foundation, 3, Carlton House Terrace, London.

Brynjolfsson, E., Hitt, L.M. (2000). Paradox lost? Firm-level evidence on the returns to information systems spending. Management Science, 42: 541–548.

Clark, D. (2004). Fritz Machlup – Knowledge Industry. A Brief History of Information and Knowledge, www.nwlink.com.

Draskovic, M. (2009). Znanje kao neograniceni resurs i objekt upravljanja. Montenegrin Journal of Economics, 6(11): 83–90.

Draskovic, V. (2003). Strategija virtualizacije kao proizvod nove ekonomije. Strategijski menadzment, 1–2: 29–33.

Jaksic, M. (2005). Vizija, institucije i privredni razvoj. Ekonomski anali, 163: 63–70.

Jovovic, R. (2009). Role of Learning Organization for Knowledge Creation. Montenegrin Journal of Economics, 5(10): 111–117.

KEI and KI indexes (KAM 2012), www.info.worldbank.org/, downloaded on 11/03/2013.

Kelly, K. (1998). New Rules for the New Economy: Ten Radical Strategies for a Connected World, Penguin Books, New York.

North, D., Thomas, R. (1973). The rise of the Western world: a new economic history. Cambridge University Press, Cambridge.

North, D.C. (1981). Structure and Change in Economic History, New York.

North, D.C. (1987). Institutions, transaction cost and economic growth. Economic Inquiry, 25(3): 418–432.

OECD (2009). Main Science and Technology Indicators 2009/2, December.

OECD (2010). Measuring Innovation: A New Perspective. OECD, Paris, based on Scopus Custom Data, Elsevier, December 2009.

OECD (2011). OECD Science, Technology and Industry Outlook 2010. OECD Publishing.

Romer, P.M. (1986). Increasing returns and long-run growth. Journal of Political Economy, 94: 1002–1037.

Romer, P.M. (1990). Endogenous technological change. Journal of Political Economy, 98(5): 345–399.

Shapiro, C. (1999). Information Rules: A Strategic Guide to the Network Economy. Harvard Business School Press, Boston.

The Global Competitiveness Report 2012–2013 (2012). World Economic Forum, Geneva.

Toffler, A. (1980). The Third Wave, New York.

World Developments Indicators (2012). The World Bank.

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