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New Economy: Illusion or Reality? Doctrine, Practice and the OECD Perspective

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Summary

The paper deals in a comprehensive manner with the recent phenomenon of the new economy. Thus, it covers the evolution of the doctrine (as it was drawn from the developments in the USA during the last decade of the XX century), follows repercussions of the downturn in USA in this juncture and, finally, presents the OECD viewpoint on the phenomenon. In particular, the article tries to put in a proper perspective the role of information and telecommunication technologies (ICT) and the ICT sector *versus* other sectors (production and services) within the new economy. At the same time, it questions the rationale of the distinction between the "old" and "new" segments of the economy in this context.

Against the background of previous industrial revolutions, the article presents the analysis of the impact of what is called the "new economy" and describes at length its implications on the multi-factor productivity. It focuses on the importance of other elements than the application of ICT, and the Internet, for the prospects of having a new category: education, governance, enabling legislation citing rich OECD expertise. Not only economic, but also social and cultural (and behavioural) aspects of the current technological progress are widely covered to demonstrate the profoundness of the change underway. It is emphasised that the change is expected to affect both countries and individuals, global and national economies - and companies (transnational and domestic).

Contemporary wave of technological change which consists in amplifying human intellectual capacity (rather than muscles) will undoubtedly bring about deep transformations in the economic growth and living standards (though not necessarily for all countries and not necessarily for all members of society). The article examines - in his light - the justification of an assertion of the existence - here and now - of the new economy. A preliminary conclusion it draws is that - at this stage and given the time lag typical of preceding technological revolutions - we witness the sprouts of the new economy in USA and several other OECD countries. It seems premature to talk about entirely new phenomenon, especially insofar as the business cycle is concerned. Moreover, as it is

argued, a lot remains to be done to arrive at a knowledge-based economy - as the economy of the future. For USA and Europe (EU of today and the enlarged one) and other countries, to avoid the looming "digital divide" which would negatively affect OECD economies as well. What appears to be a decisive factor here is the actual use of ICT - and other modern technologies - outside of the ICT sector itself as well as preparing society (as consumers and producers) to absorb innovations. This is what - in the final analysis - will prejudice the comparative advantage of nations in XXI century and assure the winning position in the fierce competition.

The paper refers also to the links between globalisation and what is called, somewhat simplifying the matter, the ICT revolution - or, rather, the new economy. Aren' t both phenomena in fact two sides of the same coin, after all? Reactions to globalisation (including public protests and politicians' ideas like the Third Way) are also analysed to show the interdependence characteristic of the global village we live in.

On the basis of the rich source base, utilised in the article, conclusions are presented pertaining to the "real nature", or "newness" of the economy in the making. Again, a set of conditions indispensable for its emergence is listed, with one, so often neglected: political environment. The Cold War has pumped in the R & D sector (defence) huge resources, while its end - to which Poland has contributed - permitted to shift funds to civil purposes (peace dividend) and build upon the potential acquired. Nowadays we talk of "borderless economy" that was unimaginable before. Therefore - the article claims - propitious pre-conditions do exist for promoting the economy suitable for the XXI century. It rests with governments and civil society to take advantage of the chance at hand.

„I am heart and soul for progress; it's the changes that I hate.” (Mark TWAIN)

Conceptual scope

Term “new economy” has recently become permanently included in the lexicon of politicians, economists, sociologists and even of an average man on the street. Usually, it is associated with everything which relates to the information and communication technologies (ICT) and, more widely, to technological development and/or adaptation of enterprises’ and households’ strategies, high rate of economic growth, stock exchange expansion, innovative activities, which as a rule are based on the Internet, and finally new companies which attain rapid and spectacular success, make money and have recently experienced an equally rapid and spectacular decline. We do not underestimate the role and scale of this phenomenon and agree with the opinion expressed in the newest IFRI report saying that at the moment the world is witnessing a technological revolution which is almost as dramatic as the industrial revolution of the 19th century (and earlier - J.W.). While the industrial revolution helped men by giving them machines enabling to amplify human physical strength, the present revolution consisting in the qualitative transformation of information has amplified human intellectual potential, playing the role similar to knowledge amplifier¹. However, do we face a new economy?!

At this point, it should be stressed that the term “new economy” is still ambiguous and vague. It is interpreted in numerous ways as far as its conceptual scope is concerned. Moreover, it has been sort of drawn from practice, or - if you like - from the interpretation of reality, notably as an attempt of generalising the experience of the American economy in the last decade of the 20th century. This can be illustrated by the description of the (real) new economy in the 1999 OECD publication which enumerates such phenomena as: greater emphasis on services, growth of investment in intangibles, employment in knowledge-intensive sectors, and, finally, general awareness that “labour in knowledge” requires better education and is better paid². As will be demonstrated below, the new economy is widely considered to - apparently - violate the binding economic rules and empirical knowledge, especially with respect to the business cycles, divide (completely artificially) the economy into the “new” and “old” sectors, and, finally, to have almost magical properties of transforming the material manufacture and services sectors (as the boundaries between them gradually disappear, due to the ICT³).

OECD has for long utilised a clearer concept of knowledge-based economy defined as one “directly based on production, distribution, and use of knowledge and information”. Rapidly growing OECD economies in particular gradually become more and more dependent on effective generation,

* First published in a Polish version by the State Research Committee of Poland in the volume "Knowledge-based Economy as a Challenge for Poland in XXI Century".

¹ JACQUET, Pierre. “Nouvelle économie”: du virtuel au réel”, in: Les grandes tendances du monde. Paris, Dunod pour IFRI, 2000 (RAMSES 2001); p. 27.

² The Future of the Global Economy. Towards A Long Boom ? (Paris), OECD, 1999; p. 82. As early as around 1960, Peter F. Drucker used terms knowledge work and knowledge worker, and in the book published 8 years ago - *knowledge society and knowledge economy*: DRUCKER, Peter F. Post-Capitalist Society. New York, Harper Business, 1993; pp. 6 and 20.

³ More and more often we face the “service-prod” set as described by William Knoke –KNOKE, William. Bold New World. The Essential Road Map to the Twenty-First Century. New York/Tokyo/London, Kodansha International, 1999; pp.120-121.

purchase, distribution, and use of knowledge, which is possible due to the development of their R&D potential and the ICT revolution. Application of knowledge and information use become the basic factor of international competitiveness, and simultaneously contribute to the creation of prosperity and improvement of the standard of living. According to Peter F. Drucker, in the post-capitalist economy the main economic resource (production means) will be knowledge, and value will be generated mostly by efficiency and innovations originating from knowledge use. What is interesting and new is the fact that such knowledge will be used for knowledge itself, not for capital or labour. Thus, we approach a knowledge society (although such a society still does not exist), and - simultaneously - we already encounter the knowledge economy and information capitalism⁴.

The term “knowledge-based economy” is also used by such an outstanding authority as Lester C. Thurow. As he wrote in 1999, in this field nobody was better than the USA; it is the Americans who have invented this game, and they are good at it due to their systemic approach to technological innovation and technological mass education. The American locomotive pulls the world again. However, even in America one can sense innermost anxiety. On the turn of centuries new technologies constitute a new economic world, the foundation of which is created by man-made brainpower industries. Such a new technology, as well as the control over it, become the new basis for prosperity and success, as it used to be the case of control over land, raw materials, and factories. Lester C. Thurow argues that we should not be easily fascinated by the new economy since previous industrial revolutions were also based on inventions, which were as historic as the present one. However, the technologies which now embrace the present third revolution⁵ push us in the direction of globalisation (in the field of purchasing, production and sales), loss of governments’ sovereignty and, finally, exertion of influence by global corporations (however, without any prospect of a global government that would control the global economy, which now already starts to replace national economies and, for the time being, of a world-wide unified policies). Simultaneously, we should take into account the increasing risk and uncertainty (it will be more difficult to maintain such stable values as employment, professional career, and profits; we will face the following cycle: innovations – change – unbalance – rapid transformation – opportunities for growth acceleration – overnight fortune, however not without increased developmental and social imbalances). And what about inequalities? Well, they will intensify, as is the case with every industrial revolution⁶.

The terms “the new economy”, “knowledge-based economy”, “digital economy”, and “network economy” are often used as substitutes and generally concentrate on the scale of the ICT use. However, it seems reasonable to maintain that especially with respect to the new economy the role of determinant should be played not only by ICT and industries with at least average R&D contribution, but also by the implementation of technological policies and social knowledge to the economic activity⁷, and all vital accompanying factors, without which the “sheer” technological progress would mean little: personnel training and new organisational and institutional solutions which enable us to perform effective management (at this point, we do not take into account an impact of political relationships and political stability). During the meeting of management and trade unions

⁴ DRUCKER. “Post-Capitalist Society”, p. 8, 20, 42-45 and 182-188.

⁵ According to Grzegorz Kołodko – the fourth one; cf. KOŁODKO, Grzegorz. Globalizacja a transformacja. Iluzje i rzeczywistość (Globalisation *versus* transition. Illusions and reality). (Warsaw), 7th Congress of Polish Economists, January 2001; p. 8.

⁶ THUROW, Lester C. Building Wealth. The New Rules for Individuals, Companies, and Nations in a Knowledge-Based Economy. New York, HarperCollins, 1999; p. XIII-XVI, 5-8, 13, 17-19, 23, 28, 33-35, 99, 117, 120, 142-143, 239, 277-280.

⁷ Korea and the Knowledge-based Economy: Making the Transition. (Paris), OECD/World Bank Institute, 2000; pp. 31 and 38.

experts on the new economy for education convened within the OECD Labour/Management Programme on November 22, 2000, the above phenomenon was adequately expressed: “the so-called New Economy and the speed of diffusion of ICT are having a growing impact upon businesses. Organisational structures and hierarchies, internal as well as inter-industry divisions of work and production, relations between manufacturers of goods and services, their suppliers and customers are subjects of change. Thus, the economic performance of businesses, the development of productivity, growth and employment, rely more and more on the use of ICT as well as on the development of new skills and competencies”⁸. “Knowledge in itself does not contribute to economic growth. Crucially, it has to be incorporated into the production of goods and services.”⁹ It constitutes a driving force in the development and becomes more and more significant (or even the most significant) factor of economic growth, while ICT and other technologies are only a medium and tool¹⁰. Moreover, such a medium and tool may play a twofold role, since in certain circumstances technologies may also become a barrier in economic expansion¹¹.

The OECD study which so far appears to be the most exhaustive one and which relates to the new economy¹² questions the issue of whether we already face, at least in practice, the phenomenon generally referred to as “new economy”, i.e. the economy based to an unprecedented extent on knowledge. The paper, which we will discuss more thoroughly later, was prepared in spring of 2000 in response to the request of the OECD Ministerial Council made one year earlier. At that time, there were no signs of a looming decline of the long boom in the United States, the economy of which is generally regarded as “the new one” or the new economy’s precursor. In the summer of the same year, the speech by Martin N. Baily, Chairman of the Council of Economic Advisers to (the then) President of USA, reflected such an atmosphere in OECD. According to him, we may speak of the new economy in the USA due to three reasons; firstly, significant acceleration of productivity growth owing to technological development, secondly, increase in the stock exchange value of corporations (which is significant, even if we take into account their over-valuation - J.W.), and thirdly, dynamism with respect to knowledge and intangible capital accumulation, that is R&D, patents, and the Internet use, all the factors contributing to high competitiveness mainly due to the leap in innovations in both “new” sectors and “old” economy¹³.

Undoubtedly, all the aforementioned phenomena occur due to strong entrepreneurship there: the years 1990-1998 saw in the USA the establishment of almost 5.3 million new companies, the majority of which operated in the high-tech sectors and services. Such companies created 1/3 of new jobs¹⁴. However, the fact does not reflect the whole truth; Nobel Prize winning Burton Richter writes that at least half of economic growth in the USA should be attributed to new technologies, which to a great extent took place as a result of previous research financed from public funds (often for military purposes)¹⁵. Nevertheless, information explosion and rapid growth in the role of

⁸ “Human resources in the new economy: challenges and opportunities for education and training”. Report on a joint meeting of management and trade union experts held under the OECD Labour/Management Programme. Paris, OECD, no PAC/AFF/LMP(2000)13, November 22, 2000; p. 5.

⁹ Cities and regions in the New Learning Economy. Education and Skills. (Paris), OECD, 2001; p. 11.

¹⁰ “The Future of the Global Economy”, pp. 79-93.

¹¹ KOŁODKO. “Globalizacja a transformacja”, p. 3.

¹² A New Economy? The Changing Role of Innovation and Information Technology in Growth. Information Society. (Paris), OECD, 2000; p. 92.

¹³ “The New Economy. Remarks by Martin N. Baily, Chairman, Council of Economic Advisers”. (Paris, OECD), 3 VII 2000; p. 1-2.

¹⁴ DALE, Reginald. “U.S. Inventiveness at Risk”. IHT, February 16, 2001.

¹⁵ RICHTER, Burton. “Science & Society: lessons for the 21st century”. Lecture in Italy on October 3, 2000 (from OECD collection); p. 8.

knowledge have contributed to the fact that nowadays fixed assets constitute only 20% of the book value of American companies, while the “remainder” includes human capital and such intangibles as logo, know how, specialised software, and data banks¹⁶. As early as in spring 2000, OECD experts questioned the popular belief that the “new economy” already existed, at least in the US, and that it was able to protect us against periodic fluctuations, at any rate, against deeper ones (even against recession)¹⁷. The events, which had taken place at the end of 2000, confirmed such doubts expressed by OECD.

Before presenting the OECD position, we will quote the off-the-cuff opinions, mainly those of the press at the turn of 2000 and 2001. A comparison of the opinions on new economy and its features among the press on one hand, and the results of research conducted so far by the think tank - OECD - on the other, will show the scope of differences in this matter, and – more importantly – will allow us to form at least a preliminary opinion about where we are.

New economy and the business cycle

The press, mainly in the USA, after the initial surprise caused by a halt in dynamic growth of the American economy that had lasted so many years already, started to admit what few outside the OECD¹⁸ had expected as early as in spring of 2000: „Market events and the US deficit (as if it were something new - J.W.) had already caused some investors and economists to ask whether there ever really was a new economy”¹⁹. „This is the first case of braking the economic downturn for the new economy... The economy ... has become less immune to volatile fluctuations in the attitudes of investors on share and bond markets, and the instability on financial markets has already caused a sharp decline in consumers' confidence and froze the influx of capital to most sector of the new economy... (its) feature is that companies of all types ... invested a lot in efficiency-boosting computers and other devices (sometimes, however, such upgrades were just an imitation and did not count with costs or effects of expenditure²⁰ - „since everyone installs – or upgrades - computers”... - J.W.), which allowed them to increase sales without hiring too many new employees. As a result the increases in sales over the past decade have translated into even bigger increases in profits ... (but now) ... even small reductions in sales can produce big reductions in profits, or wipe them out completely ... Another feature of the new economy has been all the debt taken on by households and corporations to fuel the consumption and investment of the 1990s ... making the economy more (emphasis - J.W.) vulnerable to any downturn”²¹.

¹⁶The Creative Society of the 21st Century. Future Studies. (Paris), OECD, 2000; pp. 47-49.

¹⁷“Is There a New Economy ? First Report on the OECD Growth Project”. (Paris), OECD, May 12, 2000, no ECO/CPE(2000)9; p. 2.

¹⁸ One of the exceptions was Paul Krugman (although he claimed that American economy apparently developed „new immunity to inflation”) - KRUGMAN, Paul. „Trouble in the Rearview Mirror”. IHT May 8, 2000 and Knight Kiplinger who questioned - still before the cold shower in the guise of the crisis in South-Eastern Asia, the thesis of removal of business cycles by the new (American) economy, predicting however a flattening of cycles and shorter and milder recessions - KIPLINGER, Knight. World Boom Ahead. Why business and consumers will prosper. Washington, D.C., Kiplinger Books, 1998; p. 67-68. It is no coincidence that in the last decade many important studies were published, devoted to economic boom, of which a few we quote here. It is hard to resist the impression that “doomsayers” have replaced the „boomsayers” these days...

¹⁹ PFAFF, William. „U.S. and EU Economies May Be Moving in Separate Directions”. IHT, December 29, 2000.

²⁰ „L'Amérique s'est intoxiquée avec les hautes technologies”. Le Figaro, January 1, 2001.

²¹ PEARLSTEIN, Steven. „With the Downturn, Many See New Frailties in the New Economy”. IHT, December 26, 2000. He points out that many economic historians have reached the conclusion that the new economy will act much like economies of the 1890s and 1920s, than a more stable industrial economy after the World War Two. It should be noted that all three were to an extent based on (the then available) knowledge... Not so convincing is

It is slightly ironic that the thorough computerisation of the economy has, amongst others, dramatically shortened the time of reaction to first signs of crisis as decrease in demand for new economy components – computer parts and equipment²², and the cold shower came from the same direction, and fast, as the economic growth: from the new economy²³. *The Economist* assesses that the long-lasting boom in America partially originated in the psychological effects of soaring share prices, especially those of *high-tech* companies: shareholders (nearly a half of households in the US) felt wealthier, which generated demand and resulted in an economic boom²⁴. However, we should not put all the blame on „uncurbed individual consumption”: it was the companies whose shares were quoted high and which had until recently had easy access to credits (albeit more and more expensive). They invested crazily in electronics (over the first three months of 2000 - 21% into new hardware). This investment has collapsed at the end of the year and the overhang, difficult to utilise in a recession, combines with surplus inventories of finished goods in warehouses and with retailers, which complicates any attempts to revive the economy²⁵.

„After some short-lived euphoria assuming that the new economy had banished the business cycle – stated chief economist of Morgan Stanley Dean Witter & Co. of New York, Stephen Roach – the current slowdown shows that „the business cycle is alive and well”²⁶. In simple terms, „new technology has never been a match for the forces that periodically overwhelm the economy: high interest rates, falling profits, shrinking consumer demand, plunging share prices, too much debt, frightened lenders, and all of this is happening today”²⁷. And the knowledge-based economy – according to *Wall Street Journal* a year ago – was supposed to face no growth barriers! ²⁸ The last year research of managers' attitudes, conducted by Merrill Lynch, revealed that the majority of them believed that the new economy was a guarantee of constant and inflation-free growth²⁹. Besides, it was not only Americans who believed in (their) permanent success: the world started to take American prosperity for granted, a *perpetuum mobile* to bless everyone with growth and welfare³⁰. New technologies, no doubt, contributed to the many years' growth in efficiency, but did not – according to Robert Samuelson – create a new economy, nor did they sweep away cyclical volatility; moreover – as he put it - ”The uncertainties and risks accumulate. They mock the promised calm of the new economy. It cannot be said to have died, because it never existed”³¹. So, even if it does exist – it does so in an embryonic form; only after a few more decades the ITC and all changes ascribed to the new economy will reach households and companies and institutions will acquire some stability³². The new economy will continue to develop, albeit slower in the context of the falling growth rate or even a hard landing of American economy³³.

the suspicion that all in all companies will continue to invest in innovations, which could alleviate the recession - cf. UCHITELLE, Louis. „Return of Old-Style Business Cycle Tests the New Economy”. *IHT*, December 20, 2000.

²² IGNATIUS, David. „One World, All Connected to Greenspan’s Brain”. *IHT*, January 15, 2001.

²³ ROBIN, Jean-Pierre. „La nouvelle économie survivra”. *Le Figaro*, January 16, 2001.

²⁴ „Don’t say „new economy”. *The Economist*, January 6, 2001; p. 69.

²⁵ PEARLSTEIN, Steven. „Top Suspect in U.S. Slowdown: Equipment Cuts”. *IHT*, February 21, 2001.

²⁶ BUERKLE, Tom. „Amid the Slowdown, the Risk of Ugly Surprises”. *IHT*, December 20, 2000. A similar opinion has been included in an analysis in *TIME* - cf. COHEN, Adam. „This time it’s different” *Time*, January 8, 2001; p. 15.

²⁷ UCHITELLE.

²⁸ KRUGMAN, Paul. „The New Reality Is Old Economy Shortages”. *IHT*, January 3, 2001.

²⁹ MOTTE, Muriel. „Une année sous le signe des illusions de la nouvelle économie”. *Le Figaro*, December 29, 2000.

³⁰ IGNATIUS. „One World”

³¹ SAMUELSON, Robert. „The „New Economy” Was Foolish Optimism”. *IHT*, January 3, 2001.

³² „The Creative Society”, p. 144.

³³ SMADJA, Claude. „Wake up to globalisation: The sequel”. *TIME*, January 29, 2001; p. 46.

Reginald Dale was right to say that „now the risk is that the pendulum will swing too far in the other direction, with the sceptics ignoring some of the real changes that took place in the 1990s, especially during the decade's second half”. Even if the computer revolution and the Internet cannot match grand discoveries of the late 19th and early 20th centuries and do not deserve the name of an “industrial revolution” – as Robert Gordon says in a paper published by the National Bureau of Economic Research (USA), the efficiency effect of the technological progress in the last decade in the US is undeniable, but comparable, according to research by the Centre for Strategic and International Research on Washington, to years 1948-1973 and 1917-1927³⁴. The efficiency effects of new technologies always emerge with some delay – emphasises Alan Greenspan, and, besides, the figures from government statistics, especially referring to efficiency in services, are rather lowered³⁵. However, in Lester C. Thurow's opinion, if the measurements were not mistaken, the last decade of the 20th century and in general the third industrial revolution (in the USA) cannot boast any peculiar growth in efficiency – as opposed to creating market value (the stock exchange bubble). This stems from a relatively slower pace of companies' investments in work tools, and of the state's investments in the production infrastructure, and from the low saving rate among companies and consumers. Partially – also from educational weakness as well as moving the employment to less - by definition - efficient services (where, additionally, efficiency is difficult to measure); all this at least sets off the pro-productivity effect of the technological advance and downsizing³⁶.

Little wonder then that „many now appear to believe that the 'new economy' was a myth all along”³⁷ or that the magnificent decade was only a result of coincidence of growth stimuli and good monetary policy of the Federal Reserve, and not an invented “new economy”. Furthermore, the decade brought many stresses, just to mention the “stock exchange bubble” (in comparison with the expansion of the 60s, the total growth of quotations during the 90s was 6 times bigger!)³⁸. Such reactions were excessive, anyway: e.g. the cuts in interest rates of January 3, 2001, made by the Fed resulted in an upswing in share prices, including high tech companies (the NASDAQ index grew by nearly 15 %), and in the dollar exchange rate, the demand for which, in relation to the run for shares, had much more profound impact than the reverse effect of interest rate cuts (with rates of the European Central Bank unchanged)³⁹. The reactions – of that magnitude – proved to be short-lived and speculations of chances of a recession in the US did not stop. Another reduction of interest rates introduced by the Fed nearly a month later increased the likelihood of a “soft landing”, but – according to *The Economist* - the effect may be a W-shaped recovery, not a V-shaped one – i.e. after the present fall there may be a quick next one, much deeper, as manipulations of interest rates do not liquidate disproportions in the economy and finance, including the still-too-high share prices (and “empty” consumer demand derived from the conviction of being rich). And these disproportions must sooner or later surface⁴⁰.

³⁴ DALE, Reginald. „Checking New-Economy Claims”. *IHT*, 19 I 2001. Between 1917-1927 productivity grew by some 3.8 % annually, while in the last five years of the discussed decade - by 2.9 %.

³⁵ KIPLINGER, pp. 43-44.

³⁶ THUROW. „Building Wealth”, p. 37-40, 210-217 and 274.

³⁷ „Don't say”, p. 69. We could collect more myths here: in the period 1959-1995, by 1973 productivity grew in the USA by an average of 3 %, later – i.e. ... since the launch of computers – by half of that; since 1996 it almost reached the previous level, by was it only due to the ICT ? - cf. JACQUET. „La nouvelle économie”, p. 37.

³⁸ *Ibidem*, pp. 29-30.

³⁹ „Interest-Rate Move Gives Dollar a Lift”. *IHT*, January 4, 2001. Two days earlier experts assessed that Greenspan would find it difficult to save American economy and a serious growth in share prices was unlikely - MORGENSON, Gretchen. „Greenspan to the Rescue? It Won't Be Easy”. *IHT*, January 2, 2001.

⁴⁰ „Wishful thinking?” *The Economist*, February 3, 2001; p. 20.

Discussions as to the possible course of a cycle – and the likelihood of a recession – in the American economy have just begun: will it be L-shaped (pessimistic variant) instead of a V or U-shaped one, this in spite of efforts on the part of the Fed which cannot fast and radically level out the external disproportions, such as the trade deficit of USD 450 billion annually, as well as internal disproportions. We may also fear a self-sustaining mechanism: if there are rumours that recession is at hand, people start to be scared, stop to buy, producers curb production and fire personnel who in turn reduce consumption, the gossip of lay-offs spreads, etc.⁴¹ The trend disturbance that took place at the end of 2000 may spur a chain reaction whereby the level of confidence among investors and consumers, who not always (especially the latter) follow rational premises and possess the knowledge of the real condition of economy, takes on additional significance.

The optimistic opinion of President Bill Clinton, in the annual January report to the Congress, that “the new economy (in the USA) is for real”, is linked to a willingness to emphasise the positive heritage of his administration⁴². Does this, however, mean that if recession comes we should bury the alleged paradigm of the new economy or even put the blame on the new economy? In other words, go to the other extreme (here we omit the notion, popular these days, of threats posed by new technologies, including the ones that lie at the foundation of the new economy, such as genetics, biotechnology, nanotechnology, robotics to mankind, the prophet of which – decades after warnings of Stanisław Lem from Poland – became as of April, 2000, Billy Joy, a computer guru from *Sun Microsystems Inc*⁴³; this notion merits a separate article and it would distract our attention from the main line of analysis).

At the same time, it simply turns out that, contrary to opinions prevalent over the last couple of years, the notorious new economy, arising spontaneously within globalisation – for it is not implemented based on a blueprint – may also strengthen, not only weaken an economy's resilience to cyclical volatility. This in itself constitutes a warning not to give in to the temptation of blind imitation of the American new economy that operates under special conditions (with its elevated internal migration rate, high propensity to risk taking and founding new companies, etc.). Anyway, transplanting American experiences to many OECD countries may prove very difficult if not at all impossible⁴⁴.

Moreover, we should bear in mind the *par excellence* labour-saving character of innovations that is the foundation of the new economy; albeit in the case of the USA many innovative start-ups mushroomed, many more than collapsed⁴⁵, and unemployment (at least since recently) has significantly fallen, in some areas there were even shortages (but of skilled employees). This does not have to mean that the pattern will repeat elsewhere. It is also unlikely that even the developed countries, not to mention the developing ones, should wish and/or be able to make such significant investment in innovations, as the USA did in the passing decade. Apart from that, even in the archliberal USA it was not only the market and spontaneous (bottom-up) technological advance that contributed to the “new economy” effect: an important, and neglected in this case, role was played by ... the state that contributed to the increased dynamics of the private sector by creating legal framework, competition and fiscal regulations conducive to innovation, but also quite directly, by

⁴¹ PEARLSTEIN, Steven. „Curve of a Slowdown Is a Matter for Debate” i CARLSON, Peter. „Hyping the Recession: Begin Your Panic Now”. *IHT*, February 9, 2001.

⁴² DALE. „Checking”.

⁴³ MARTIN, Mitchell. „Technology's Little-Headed Prophet”. *IHT*, October 23, 2000.

⁴⁴ „A New Economy?”, p. 79.

⁴⁵ There are many opinions that the process embodies the Schumpeterian theory of creative destruction and emergence of future leaders - cf. JACQUET. „Nouvelle économie”, p. 31 and SACHWALD, Frédérique. „Les fusions-acquisitions, instruments de la destruction créatrice”, in: “Les grandes tendances du monde”; pp. 53-54.

large orders in military and space sectors, or supporting research in high-tech industries⁴⁶. Martin N.Baily admits frankly that while the new technologies are born in the private sector (and usually remain private property, with tendencies towards monopolisation⁴⁷ - J.W.), „government (in the USA - J.W.) has a key role in the establishment of the infrastructure of the new economy”⁴⁸.

Developmental and institutional implications of the new economy

In a document prepared by the Business and Industry Advisory Committee (BIAC) to OECD for a meeting with the OECD Liaison Committee with International Non-governmental Organisations, devoted to relations between innovativeness and the global growth, there are warnings against the temptation on the part of politicians to embrace the new economy as a revelation, without much consideration of interdependencies between the “new” growth factors and the “old” knowledge, and what may be social reactions (indifference or resistance) to a fast pace of investing in state-of-the-art technologies and its consequences⁴⁹.

Little wonder, then, that this time the trade union “branch” of the OECD, TUAC, appeals for developing social principles that would be binding in a global economy, reminding of the fragile equilibrium between the components of the tripartite paradigm, promoted in 1996 by the General Secretary of OECD, Donald J. Johnston (economic growth, social progress and political stability). Instead of the much-praised deregulation, the governments should, according to TUAC, take care of managing the globalisation and building upon its common values and agreed upon principles. Otherwise, there is no chance to steer clear of more and more violent social protests, while after Seattle the time has come to bridge divides⁵⁰. The globalisation prompts changes and punishes the resilient, and the technological revolution (including the Internet revolution) cannot be stopped, „the problem is how to change, but changing cultures and values is not easy”⁵¹. Globalisation, focused on ICT and by no accident dating back to the end of the Cold War, connects the world and gives countries and individuals an opportunity to get their share in the international labour division: both technologies and information have democratised thanks to ICT. However, in the competitive run it is easier to fall behind than it is to catch up⁵².

The awe caused by the beneficial, nearly magical, effects of the new economy has resulted in that the “traditional”, “old” economy, mainly the manufacturing sector, has begun to be regarded as something obsolete and in the realm of “*passé récent*”. In spite of this, it is there that ICT is applied, apart from the truly fast developing services sector that generates in the most developed economies up to 3/4 of the GDP (manufacturing now in USA holds merely 16 % of generated GDP). Most of R&D conducted in the private sector take place in the material manufacturing. The latter remains even today a pivotal competitive factor in the world economy (and a stronghold of national

⁴⁶ *Ibidem*, p. 35.

⁴⁷ „Who owns the knowledge economy ?”. *The Economist*, April 8, 2000; p. 17. Further on property of knowledge - cf. *Knowledge Management of Learning Society*. (Paris), OECD, 2000; p. 12-18.

⁴⁸ *Op.cit.*, p. 5-6.

⁴⁹ „Note by BIAC to OECD on Innovation and Global Growth. (Paris), OECD, no OECD/NGO(2000)2, November 21, 2000; p. 8.

⁵⁰ „Note by the TUAC to the OECD: Building Social Rules for the Global Economy - The OECD’s Role”. (Paris), OECD, no OECD/NGO(2000)1, November 8, 2000; p. 1 and 5.

⁵¹ IGNATIUS. „One world”.

⁵² FRIEDMAN, Thomas L. *The Lexus and the Olive Tree*. Understanding Globalisation. New York, Farrar/ Strauss/Giroux, 1999; p. XV-XVI, XIII, 18, 53-58 and 355 and KENNEDY, Paul. *Preparing for the Twenty-first Century*. New York, Random House, 1993; p. 298.

security)⁵³. At the same time, over-investment in computers and communications (in the USA) has resulted - *nolens volens* – in under-investment in capital-intensive industries, such as energy and oil processing that may become - and they do - bottlenecks, even at the outset of the 21st century.⁵⁴

Martin N. Baily also reminds that most jobs and GDP are generated in traditional sectors and it is them that drive the new economy to the extent they themselves change under its pressure⁵⁵. The reverse is also true: it is the manufacturing in USA that was the first to get into the claws of the recession, with less competitive exports due to a (still) strong dollar, increasing costs of labour and excessive optimism last year as well as accumulation of inventories; and yet it is the manufacturing sector that consumes services "saturated" with ICT and the sector's staff (only 15% of workforce, as a matter of fact) make customers. Additionally, the situation in the sector exerts an influence on the morale of investors and consumers in other industries⁵⁶. Generally, the recently popular distinction between the old and new economies is senseless – points out *The Economist*: the most important feature of the new economy is not the shift towards the high-tech sector, but the way and range of ICT boosting efficiency of all components of the economy, especially "old economy" companies (the delay in effects in the form of growth in efficiency is also characteristic, similarly to the introduction of steam engine and electricity, although in the case of the ICT the time lag may prove shorter)⁵⁷.

Additionally, an increasingly popular opinion on globalisation may also be referred to the new economy (without globalisation, we would not be talking now about a new economy): (a) ICT have become a driving force of globalisation and have facilitated the opening up of the world, whereas the internationalisation of production of goods and services allowed, in turn, an expansion of the ICT, (b) the future socio-economic welfare depends on effective search for new ways how on a global scale the winners should compensate the losers of the changes, in other words, how to avoid inter- and intra-systemic clashes. To put it in a yet another manner, how to prevent an imminent digital divide⁵⁸. So far, little has been done to cope with the consequences of shifts between the winners and the losers (practically, the affluent and the poor, haves and have-nots), i.e. the less numerous wired, knows, inforich and the very many (some 2/3 of the world's population never used a phone) unwired, know-nots, infopoor.

The question is not only limited to the humanitarian aspect. If the new technologies and investments based on them do not find market applications, if there are distortions in the functioning (and transparency) of global commodity, service, technology, and equity markets, instead of stimulating the development, advancing to the new economy may actually stop it - and provoke a prolonged stagnation. The future of this economy depends on the range of its benefits: if only a narrow elite should take advantage of them (winner takes all), and the fate of the rest should get

⁵³ FINGLETON, Eamonn. „Quibble All You Like, Japan Still Looks Like a Strong Winner”. *IHT*, January 2, 2001.

⁵⁴ KALETSKY, Anatole. „Upsurge in the US is now more likely than recession”. *The Times*, January 16, 2001. Stopping to invest in the ICT may even have a beneficial effect, for it will level the created disproportions, and it does not have to stop economic growth at all.

⁵⁵ *Op.cit.*, p. 4.

⁵⁶ „Manufacturing: not making it”. *The Economist*, January 27, 2001; pp. 49-50.

⁵⁷ „The New Economy. A Survey”. *The Economist*, September 23, 2000; pp. 13-14. Cf. „JACQUET. „Nouvelle économie”, p. 27-28 and 38.

⁵⁸ Cf. e.g. DUNN, David E. „The Knowledge Divide: where some angels dare”. (Paris), OECD Observer No. 223, October 2000; p. 55-57. Since the beginning of time, only now we can see it better, there has always been the problem of access to civilisation's benefits (globalisation, new economy)... Claude Smadja even talks of increasing gaps – wealth, knowledge and digital gaps, which together threaten to fragmentarise the planet - cf. SMADJA. „Wake up to globalisation”, p. 47. Cf. also BUERKLE, Tom. „Digital Divide Hits Labour Market”. *IHT*, January 24, 2001.

worse, the global growth will come to a standstill.⁵⁹ Hence many authors, including Grzegorz W. Kołodko⁶⁰, call for redistribution of profits to “losers”, which smacks of... the notorious New international Economic Order from a quarter of a century ago, which remained on paper, though. We should, however, remember that each technological revolution leaves winners and losers on the battlefield, only under present circumstances, i.e. globalisation, also those might suffer who have no impact on the course of events⁶¹.

Speaking at a recent session of APEC, in November 2000, American Trade Secretary (Secretary of Transportation in the new administration), Norman Mineta, admitted that while the USA owed most of the growth in the number of jobs and efficiency to the technological revolution, the revolution had not reached many poorer strata, and it is of concern (to many American corporations from the vantage point of sales volumes) that many countries remain outside its beneficial influence⁶². Both globalisation and the new economy, its core component or basis, imply a higher level of risk for both individuals and companies; we could venture to say that it is an inevitable feature of the present stage of the triumphant capitalism, even if we should euphemistically call it a nicer name of the “Third Way”⁶³. For governments, they imply deep, already started reforms in the public administration and in communications with citizenry, under circumstances of the underlying loss of monopoly of governments for serving their national community⁶⁴, and at the same time a return to an active form of administration⁶⁵.

The whole thing boils down (apart from domestic governance) to the issue of developing a chiefly multilateral governance of interdependence, starting from the global level (rules of the game not only in inter-state relations, but also e.g. transnational corporations', named globocorps by William Knoke, behaviour⁶⁶) - and all the way down to the local level. Claude Smadja calls for reinventing that governance and making the governments aware of their new role: regulator of business operation conditions⁶⁷. It was by no means by chance that the final communiqué of the annual ministerial session of the OECD Council was titled: „Shaping globalisation/Maitriser la mondialisation”⁶⁸. In the last edition of *Politique étrangère*, Pierre Jacquet and Frédérique Sachwald state that globalisation and technological progress (engine of the new economy - J.W.) call for improvement of governance of their interactions due to high costs of adaptation among the less privileged, erosion of social solidarity and promotion (whether intentional or not) of the approach “an individual the king”⁶⁹ (a similar conclusion was reached, as far as such an approach is concerned, by the Council for Excellence in Government, USA, and a similar Canadian institution: one should count with the fact that citizens will have more and more say, and ICT will facilitate communications with government⁷⁰). The benefits of globalisation, firmly connected with technological progress, and the

⁵⁹ „The Future of the Global Economy”, pp. 17, 31 and 106-108.

⁶⁰ KOŁODKO. „Globalizacja a transformacja”, pp. 23-24.

⁶¹ KENNEDY, p. 71.

⁶² „Bridging the Gap In Technology - Q & A: Norman Mineta, U.S. Commerce Secretary”. *IHT*, November 11, 2000.

⁶³ „Koniec polityki - rozmowa z Francisem Fukuyamą” (End of politics - a conversation with Francis Fukuyama). *WPROST*, December 3, 2000. On the Third Way – cf. the author’s paper titled „The Visions of Globalisation (comparison of neoliberal versus social-democratic policy frameworks)” for a conference of the Ebert Foundation in Warsaw, May 11-15, 2000: „Trzy wyzwania XXI wieku” (Three Challenges of 21st Century), pp. 5-6.

⁶⁴ *Government of the Future*. Governance, (Paris), OECD, 2000; pp. 30-33 and 144-147.

⁶⁵ „The Creative Society”, pp. 145-149.

⁶⁶ KNOKE, p. 144.

⁶⁷ SMADJA. „Wake up to globalisation”; p. 47. Cf. also KIPLINGER, pp. 21 and 119-126.

⁶⁸ *Shaping globalisation*. *OECD News Release*, no PAC/COM/NEWS(2000)70, June 27, 2000.

⁶⁹ JACQUET, Pierre, SACHWALD, Frédérique. „Mondialisation: La vraie rupture du XXe siècle”. *Politique étrangère*, no 3-4/2000; pp. 598 and 609-610.

⁷⁰ „Government of the Future”, p. 26-27.

level of its stability hinge on the method of managing it and the institutional framework on the national and international scale within which globalisation processes take place and are “managed” (shaped and controlled, as much as possible)⁷¹.

The principles of operation of the new economy should be a subject of international arrangements⁷²: if not through binding decisions, then at least (OECD speciality) generally respected guidelines. The already mentioned ministerial communiqué referred to the Growth Project initiated in the previous year within which research on sources of growth in OECD countries was conducted, in particular on the issue whether we really are witnessing the new economy and what adjustment measures are needed in the economic policy and to what we owe many years of uninterrupted economic growth in a number of countries, including Poland that was mentioned in the document. Ministers of OECD countries admitted the importance of innovations, research and ICT as a driving force of efficiency, employment and growth. Apart from reforms and restructuring they also recognised that signs of the “new economy” (quotation marks in the body of the communiqué -J.W.) are most visible in the USA, but they are also present in other OECD countries. Their point of view was not limited to the impact of ICT: apart from opportunities created by the dynamics of the “new economy”, also very important are: the level of macroeconomic and social policy, openness and flexibility of domestic and international markets, institutional solutions and the quality of regulations, finally preventing the “digital divide” that might result in backwardness of the Third World countries, fall of their demand, and other threats (local wars, growing drugs, migrations)⁷³. In other words, in spite of the continuing popularity of liberals' slogan – deregulation, OECD and other organisations also recommend wise regulation, not passing the steering wheel to the invisible hand of the market that may turn out to be blind and, unintentionally, cruel and damaging...

It is worth quoting Douglas C. Worth, BIAC Secretary General⁷⁴, even before we dwell upon definitions of the new economy as a phenomenon and arising doctrine: - “What is really new in what is being referred to as the “new economy” is the remarkable velocity with which investment, innovation and change are moving through the global marketplace ... The absorption of technology broadly into businesses and industry is the turbocharger that is driving productivity and making economy waves”. However, quick changes always bring with them the risk of destabilisation, and thus require doubled efforts on the part of authorities (regulatory reform, improvement of management at all levels, uniformisation of game rules, as mentioned), particularly in the face of anxiety of vast masses and “talking back” NGOs accusing the authorities and business (including transnational corporations) of ignorance, negligence or even mischievous plans⁷⁵. Besides, all hitherto revolutions, without any exception, brought both threats and risks (as well as violent protests) and opportunities and/or promise...⁷⁶ A recipe for successful economic performance - and growth - consists in an ability to combine good level of readiness to implement ICT with the adaptability of the labour market and regulatory framework in the economy. The OECD research shows a positive correlation of those three factors with growth and labour productivity not only in the USA, but also in

⁷¹JACQUET, SACHWALD, p. 611.

⁷² JACQUET. „La nouvelle économie”, p. 43.

⁷³ „Shaping globalisation, p. 3-4. Cf. also „A different, new world order”. *The Economist*, November 11, 2000, pp. 109-112.

⁷⁴ WORTH, Douglas C. „Investment in Institutions”. *BIAC on Alert*, September 21, 2000; p. 1-2. D.C.Worth point to the role of the OECD as an institution supervising and improving market economy.

⁷⁵Cf. also the already-mentioned paper of the author for a conference of the Ebert Foundation in Warsaw, pp. 2-3 and „Anti-liberalism old and new”. *The Economist*, October 21, 2000; p. 110.

⁷⁶ „The New Economy”, p. 21-23.

Ireland, Denmark, Austria and the Netherlands⁷⁷. Incidentally, the productivity grew in the 1990s in 5 OECD countries faster than in the USA with its higher dynamics of technological progress⁷⁸.

At the same time, according to a non-formal group of ambassadors that assessed the International Futures Research Programme of the OECD⁷⁹ - all seems to indicate that we head towards "convergence to diversity" which is to reflect an only seemingly contradictory tendency towards greater heterogeneity at a local level and a simultaneously growing homogeneity at a global level.

New economy in Europe?

Until recently many sources, not only American, approached Europe with contempt for its backwardness in switching its economy to a new path. They have been pointing out to its structural drawbacks – unemployment more than double than America's, inflexibility of labour, commodity and capital markets, weakness of the Euro against the dollar, overlooking however the pro-productivity reforms introduced, maybe too slowly, in the Old Continent and more flexibility of the labour market⁸⁰. According to an expert on comparative advantages, Michael Porter, it is surprising why Europe has been lagging so much behind the USA. The reasons must have probably been too much government intervention in the economy, too few stimuli to achieve a higher efficiency of management, continued attempts at reconciling the capitalist system with the requirements of social harmony⁸¹.

At the same time, slowing down the growth rate and speculations of a recession in the USA, in connection with the disdained Euro making up for part of the losses, resulted in a change of attitude in comparisons of both economies. Referring to OECD studies, Reginald Dale explains that the Old Continent need not fear the new economy; quite on the contrary, it should learn from the USA who knew how best to utilise the fruit of the technological revolution on which the new economy is based. The latter does not lead, as Europeans fear, to increasing the social stratification, and in net terms provides for a growth in jobs⁸². Europe (EU) is predicted to achieve advantage in the "upcoming second era of the Internet" – a boom of cell telephony and interactive TV; even now in terms of Internet access Europe has almost caught up with America, and European branches of American ICT corporations make much larger profits⁸³. Not to mention that Europe invests

⁷⁷ Note by BIAC to OECD on Innovation...; p. 2 and 23-24. BIAC suggests further OECD research on the impact of innovations on economy.

⁷⁸ JACQUET. „Nouvelle économie”, p. 28.

⁷⁹ *Informal Group of Ambassadors on the OECD International Futures Programme (IFP): Summary Notes from the Third Meeting on November 6, 2000.* (Paris, OECD), November 9, 2000. Cf. also „Letter from 2050”. *International*, December 1999, also "Conference 2 on 21st Century Economic Dynamics: Anatomy of a Long Boom. Key Points of the Discussions". Frankfurt, OECD, December 2-3, 1998 and the author's remarks to it dated October 11, sent to Ebert Foundation in Warsaw.

⁸⁰ „Old world, new economy”. *The Economist*, September 2, 2000, p. 17 and SCHWEITZER, Geneviève. „Mieux organiser "l'espace européen" de la recherche". *Le Figaro*, April 6, 2000.

⁸¹ DROZDIK, William. „Old World Reinvents Itself as Model for New Economy”. *IHT*, February 19, 2001.

⁸² DALE, Reginald. „Europe Need Not Fear „New Economy”. *IHT*, May 16, 2000. Similar opinions are shared by authors of „The Future of the Global Economy” – cf. p. 81. However, among those who have been excluded by the technological revolution, some will find a better job after some training, while some will continue to live in the backwater (ibid, p. 108).

⁸³ MARKOFF, John. „New Pecking Order as Europe Steals Davos Show”. *IHT*, January 31, 2001. Europe's weakness is companies' attitude towards risk, different than in the US: they wait for new regulations and encouragement, they fear making mistakes.

hundreds of billions of Euro abroad in direct and portfolio investments, mainly in the USA⁸⁴, stimulating the new economy there... Positive changes in Europe do not escape from the sight of the “competition”. „The old world reinvents itself as model for new economy” – is the title of an article by a journalist of the *International Herald Tribune*. He writes that Europe is no longer threatened by the fate of a museum of industry, it catches up fast and starts to be a beachhead of new economy, and even a global leader in some areas as interactive TV or mobile telephony, high-tech areas spring up around universities and the breaking up of traditional monopolies and easing tax burdens relieves entrepreneurship and encourages to compete⁸⁵.

A study by the Washington based Competitiveness Council titled „American Competitiveness 2001” (the authors include Michael Porter from the Harvard Business School) warns that USA advantage in the area of inventiveness and fast implementation (commercialisation) of innovations thaws in favour of Europe and other emerging innovators such as Israel, Taiwan, Singapore, South Korea. The advantage was based to a large extent on state-sponsored R&D, often related to the defence industry during the Cold War, and these shrank⁸⁶. Even 20 years ago - writes Burton Richter – new technologies came chiefly from long-term research in industry (huge corporations); now industry escapes not only research, but even long-term development programmes – under pressure of competition and deregulation, leaving the stage to the state which should invest more in science – proportionately to the rate of growth of part of the knowledge-based economy. Otherwise, the US may easily lose its competitive edge⁸⁷. The authors of the study appeal for “revival of the national commitment to innovation”⁸⁸.

Let us now come back to Europe. Also Lester C.Thurow believes that it has splendid starting conditions for implementing the new economy, it surpasses the USA and Japan in terms of good education, both of elites and general education. It lacks however an agent of change: entrepreneurship, including the courage to leave the old behind and start anew, moving away from low productivity sectors (e.g. in favour of Eastern Europe whose cheap labour it fears, instead of using it to its advantage), conditions for founding new companies and expansion of small companies (the big ones are generally resistant to change and have little penchant for R&D, small ones cannot afford it; today small is no longer beautiful, but small that develops fast into big; and Europe's priority is the growth in flexibility in industry: both enlarging the companies and downsizing), overcoming reservations to copying catch-up technology, which allows to skip development stages⁸⁹. It is the lack of that agent of change in a society deprived of the inclination to individual competition (uprooted especially in the ex-USSR) that had to lead to the collapse of communism as an economic system; this role could not have been played by a central planner⁹⁰.

At the Lisbon summit in March, 2000, the European Union, impressed by the then flourishing American economy, chose as a strategic objective for the first decade of the 3rd millennium passing to dynamic and highly competitive knowledge-based economy, remembering however the need to increase the number of jobs and protecting social cohesion⁹¹. The recent failures of the American

⁸⁴⁸⁴ ROBIN, Jean-Pierre. „Les Européens ont investi 739 milliards d'euros à l'étranger en 2000”. *Le Figaro*, February 23, 2001.

⁸⁵ DROZDIK, ibid. Cisco Systems Inc. assesses that European Internet-based industry will grow from USD 53 billion in 1999 to USD 1,200 billion in 2004.

⁸⁶ DALE. „U.S. Inventiveness”.

⁸⁷ RICHTER, pp. 10, 13-14 and 17.

⁸⁸ DALE. „U.S. Inventiveness”.

⁸⁹ THUROW. „Building Wealth”, pp. 73-74, 86-94, 97-98, 147, 232-234 and 250-252.

⁹⁰ *Ibidem*, p. 237.

⁹¹ Cf. speech of UE commissioner, Pedro Solbes Mira, at a UE conference in Stockholm in November 2000, on European economic policy, p. 1.

economy have chilled the enthusiasm to imitate all American solutions, and also emphasised certain advantages of Europe – in spite of its relative (as against the USA) backwardness in ICT, swiftly reduced, though, and the already mentioned inflexibility of markets – as well as a giant bubble of over-priced shares, not allowing the “old economy” to shrink too fast, which could result in bottlenecks (e.g. in the energy industry), better social safety nets – so crucial during recessions, not to mention a crisis. In short, the European economy, or - rather - that of the European Union with the Euro zone as its hardcore, seems to be better prepared to face a slowdown than the USA, as well as to shoulder the effects of a potential recession in the USA (UE exports to the USA is a mere couple per cent of its GDP)⁹².

However, it is not the time to sit back on the laurels. The European Commission warns that Europe (i.e. the "15") must improve competitiveness to use its potential and become a model for the world. To do this, the only way is to overcome bottlenecks in ICT skills and in sectors of the new economy by emphasising education, R&D and absorption of *avant-garde* technologies; a European Research Area is also planned to be established to integrate the so far dissipated efforts in the field⁹³.

Hence caution in the EU circles when using the term “new economy”: commissioner Pedro Solbes Mira talks ironically about “a concept of a new economy” which some observers already see in the USA with its long-lasting prosperity and positive growth trend in labour productivity; he questions statements that ICT themselves are able to exert a lasting and significant influence upon the level of economic activity, and the "new economy" - to lead at the same time to a constant growth in production, permanent reduction of structural and cyclical unemployment, and the equalisation of the cycle. Larger investments in the ICT are necessary, and so are accompanying expenditures, adjusting and optimal utilisation of new expensive technologies. All this remains in the hands of entrepreneurs, but governments of the "15" and the EU itself should create favourable conditions and incentives, as well as support the society's capabilities of absorbing and generating knowledge by education, R&D, increased patent protection, training on methods of using the ICT, etc.⁹⁴ Also the European Central Bank believes that it is premature to talk about a new European economy (i.e. a EU economy – J.W.), as Europe lags behind the USA in expenditure on R&D and investments in ICT, in spite of far-fledged restructuring and liberalisation, making its labour markets more flexible, and thus preparing for innovations⁹⁵.

Remarks on the implications of the evolution of events in the USA do not refer only to Europe. In spite of the observed approach of cycles in different parts of the world as an effect of globalisation, generated, amongst others, by ICT, so far there is no uniform cycle in all world economy. What is more interesting, recession in the USA - if and when it comes - need not cause the famous “cold” elsewhere. Most economies (including the EU) but even many of those outside the OECD area do not depend so much anymore on imports from the USA (more on direct investments

⁹²McALLISTER, J.F.O. „Old world virtues”. TIME, January 8, 2001; p. 19-20 and „L'Amérique”. Cf. also PFAFF. „US and UE”: reference to opinion of the governor of Bank of France and probable successor of Wim Duisenberg in ECB, J.C.Trichet, that the old rule: „when America sneezes, Europe catches a cold” has ceased to be binding, for the benefit of the world economy, incidentally. Should this result from the fact that, as Duisenberg claims, the new economy has not yet reached Europe? - cf. SCHMID, John. „ECB Expects Growth To Remain Robust”. HIT, December 15, 2000. *The Economist* explicitly describes Europe as an island of stability, due to much lower indebtedness of companies and households and a lower share of stocks in companies' assets - cf. „When America sneezes”. The Economist, January 6, 2001; pp. 66-67.

⁹³ „La Commission fixe dix priorités pour Stockholm dans le but de promouvoir la croissance et l'emploi”. Bruxelles, February 7, 2001, no IP/01/170; p. 1-3. Fund for integration of research in Europe and creating the Space will amount to almost Euro 20 billion.

⁹⁴See the statement by Pedro Solbes Mira, pp. 2-4.

⁹⁵BUERKLE, Tom. „Restructuring Pays Off in a Stronger Europe”. IHT, January 24, 2001.

in the USA). The fall of shares of high tech companies on the American market and - in turn - in Europe and Asia is not going to affect too badly their economies, since the share of such companies in the creation of the GDP is there several times lower than in the USA (a few in comparison to America's 25%)⁹⁶. Commissioner Erkki Liikanen at a conference in Copenhagen, titled: „eEurope: information society for all” on February 1, 2001, said it was already time for the Internet bubble to burst and only healthy dot-coms should remain on the battlefield (market), and that a readjustment of the new economy (in the US) did not change the objective of basing EU economy on knowledge⁹⁷. This does not mean, of course, that prosperity in USA is irrelevant to the world, including the developing countries and oil producing countries; the point is that internal national, sub-regional and regional demand is stronger and stronger as a factor determining the growth rate.

New economy: first sober assessments

Let us here make use of the cold and balanced, as usual, opinion of *The Economist* in its survey of the new economy: „IT (actually ICT - J.W.) is revolutionising the way we communicate, work, shop and play. But is it really changing the economy? The ultra-optimists argue that IT helps economies to grow much faster, and that it has also eliminated both inflation and the business cycle. As a result, the old rules of economics and traditional ways of valuing shares no longer apply (similar to the growth rate ceiling imposed by inflation - J.W.). Cybersceptics retort that sending e-mail, downloading the photos of friends or booking holidays on-line may be fun, yet the Internet does not begin to compare with innovations such as the printing press, the steam engine or electricity.... Whom to believe? ... The truth, as so often, lies somewhere in the middle”⁹⁸.

Computerisation and the Internet have revolutionised to a lesser extent and less pervasively, the day-to-day life than previous inventions, and to a larger extent, but less than one would believe, the organisation of production processes. Computerisation and the Internet have contributed to improvement of productivity and to a decade of fast, but not necessarily stable, growth with low inflation in the USA. Still, the ICT revolution has just begun and its range is geographically limited (within society itself – even in America). Anyway, the technological progress does not cancel economic laws, does not do away with development cycles. Maybe it does flatten the cycle a little bit and makes the fall softer, preventing a recession, maybe it reduces inflation by intensifying price competition (but due to the stock exchange effect it proved a lightly inflationary in the last decade). Maybe it allows achieving a higher growth rate without the need to slow it down for fear of inflation⁹⁹. It is however much too early to jump into such conclusions. The technological progress is no cure-all for all the ailments of the economy; it can help very little without a healthy economic and financial policy, access to markets, and finally capability of promoting and spreading innovations¹⁰⁰.

Nonetheless, extremely dynamic development of the ICT sector and atypical expansion in the whole economy with low unemployment and inflation gave rise to a view that classical systems

⁹⁶ „When America sneezes”, pp. 65-67.

⁹⁷ LIIKANEN, Erkki. „eEurope: An information society for all”. Paper for the conference „From Business to e-Business”. Copenhagen, February 1, 2001; pp. 1-2 and 6.

⁹⁸ „The New Economy”, p. 5-6. The benefits of the IT revolution IT (ICT - J.W.) may even match those connected with the introduction of electricity, but just as in the previous two centuries they do not justify the explosion of share prices on Wall Street (p. 6). On limitations of the Internet -cf. „What the Internet cannot do”. *The Economist*, August 19, 2000, p. 9-10 and „The failure of new media”, *ibid*, p. 57-59.

⁹⁹ COHEN. „This time it's different”, p. 18 and JACQUET. „Nouvelle économie”, p. 32.

¹⁰⁰ „The New Economy”, p. 6 and 9. According to the so-called „new growth theory” by Paul Romer from the 80s, changes in technologies are a pivotal growth factor whose efficient pace depends, however, on the government and companies (*ibid*, p. 9-10).

and mechanisms are no longer pertinent. It has turned out that the effect of reducing inventories thanks to computerisation was overestimated: the ratio of inventories to sales, which is an indicator of the time goods remain unsold, in spite of good inventories management, is the highest now in America since May 1999, as the ages-old principle that a consumer's trust is the most important is still dominant (the dollar exchange rate is no worse indicator whose level seems to reflect the confidence in the new economy)¹⁰¹. The fact that the new economy does not liquidate – as can be seen – cyclical volatility (maybe it smoothes it, at best), should not be prematurely interpreted as its discredit, as this was not the objective of implementing ICT in the first place, nor such were initial expectations. And since such was the popular opinion for a long time, people started to take it (mostly by mistake) as the main characteristic of the present technological revolution. But the value of this economy should be looked for in its impact on the productivity of production factors (this also refers to services)¹⁰² – labour and capital (i.e. the so-called *multi-factor productivity*) and in the potential of accelerating development on this path¹⁰³. Not in the expected levelling of business cycles and the alleged impact on short-term cycle fluctuations, nor even in the contribution of fast growth of the ICT sector and ICT share in services to generating the GDP.

Are we to reach any reasonable doctrine of the new economy, it has to be based on medium and long-term categories and respect the tested truths of economics referring to the multi-factor productivity¹⁰⁴. The assessment of the new economy, its impact and perspectives should by no means be performed from the vantage point of the accompanying share exchange fluctuations, but from the viewpoint of intensifying innovations (i.e. raising the propensity to innovate), creating jobs (in net terms), ability to modify economic (in production and management) and social practices and behavioural patterns¹⁰⁵. All this, if it takes place, will have a lot more gravity than direct benefits from implementing ICT for the productivity in the sector and outside it. On the other hand, as Pierre Jacquet rightly says – it is still too early for a well-grounded assessment, whether it is so, as the observed technological revolution (not only the Internet, it is an exaggeration to liken it to milestone inventions of the 19th century!) is characterised by time lag, just as the previous ones. Hence, we should postpone any final assessment of the effects of the technological revolution underway, and of the new economy. It is not enough to just re-equip the economy (the ICT dimension). We have to shift it in a different trajectory. Similarly, we should change our ways of thinking. This, in turn, requires the authorities to get seriously involved in the phenomenon of the new economy – managing ICT applications and technological progress (and controlling hazardous paths), reforming the education, creating conditions for uninhibited development of all (harmless) new technologies; this refers mainly to countries other than the US, including Europe, for which the existing gap may be not only a challenge, but also an opportunity¹⁰⁶.

New economy: first rules

¹⁰¹ COHEN. „This time it's different", p. 16.

¹⁰² ROBIN. „La nouvelle économie”.

¹⁰³ THUROW. „Building Wealth”, p. 37-38. Productivity (and income) effect of innovations depends on the institutional abilities and changes to „squeeze” more out of production factors (pp. 50-52).

¹⁰⁴ „Don't say”, p. 69.

¹⁰⁵ COHEN, Élie. „La nouvelle économie dans les turbulences boursières”. *Le Figaro*, January 8, 2001 and JACQUET. „Nouvelle économie”, p. 42.

¹⁰⁶ *Ibidem*, p. 40-43. Cf. also Cities and Regions in the New Learning Economy. Education and Skills. (Paris), OECD, 2001.

We may quote four characteristics of the “New Economy”, after a special edition of TIME, with significant implications to business, society and individuals¹⁰⁷:

1. Accompanying massive injection of ICT increases productivity of economic activities, creates new products and services, changes the nature of corporations, their attitude towards employees, customers and suppliers,
2. Does not, unfortunately, sweep away the old business cycle,
3. Involves a clear shift of power from producers to consumers,
4. Its impact has cumulative effect, and there is a brutal trade-off between quicker prosperity and greater insecurity that saves no-one – neither blue collars, nor managers, as both have to adjust to the new reality.

Against the most recent slowdown in America's growth at the turn of 2000 and 2001, a set of the New (American, of course) Economy rules - under slowdown - was drawn¹⁰⁸:

1. What goes up fast can come down even faster: this relates particularly to the securities market that is not the cause of such tensions in the “old” economy;
2. Wall Street and Main Street now intersect: since as many as 49% of American households hold shares, a boom on the stock exchange is perceived by many consumers as a wealth effect and an opportunity to increase consumption, which is a strength of the new economy as long as there is no sway in consumers' confidence and, the more so, fall of share prices (similarly act investors who invest more when shares are expensive and less when they are cheaper);
3. Slower times don't always mean unemployment lines: the fired employees find a new job relatively easily (until recently - J.W.);
4. It's a small world after all maybe too small: whereas earlier in many parts of the world the cycle was not uniform, in the new world economy securities markets are synchronised, and companies in many parts of the world – interconnected and evolving jointly;
5. Sometimes there's just nothing left to buy, it is hard to know what to buy: the new economy has modernised supply to such an extent that substitution demand weakened, even with high consumers' and investors' confidence;
6. The boom's gone on so long we've forgotten what a recession looks like (and that it may come – J.W.): since the last more serious recession in the US took place nearly 20 years ago, a whole generation of bankers and businesspeople has had nothing to do with it.

New economy – OECD approach

Let us now pass to discussing assessments of the OECD contained in its leading studies of the new economy. It can be safely assumed that, as to date, the Organisation continues to be an oracle in the field and the primary source of doctrine. Other sources have to count with those assessments. Six studies published between 1999 and 2001 deserve to be listed, albeit prepared still before the collapse of the growth rate of American economy: the already-mentioned (1) „A New Economy? The changing role of innovation and information technology in growth. Information society”, (2) „The Creative Society of the 21st Century. Future Studies¹⁰⁹”, (3) „The Future of the

¹⁰⁷ SMADJA. „Wake up to globalisation”; pp. 46-47.

¹⁰⁸ COHEN. ”This time it's different”, pp. 15-18.

¹⁰⁹ Op.cit.; 197 p.

Global Economy: Towards a Long Boom?"¹¹⁰, along with (4) the yearbook „Science, Technology and Industry Outlook. Science and innovation"¹¹¹ as well as (5) „Knowledge Management in the Learning Society"¹¹², and (6) „Cities and Regions in the New Learning Economy"¹¹³, both out in the series „Education and skills”.

The first one of these sources was created upon request on ministers of OECD member states, gathered at the annual (ministerial) session of the Council in spring of 1999 to examine the causes of disparities in growth rates and economic performance as well as to ascertain factors and policies conducive to long-range sustainability of growth, including fast technological innovations and a growing impact of the knowledge society¹¹⁴. The authors of the report make a reservation it is still provisional, and that a comprehensive analysis will be presented at the next (mid-May 2001) session. They admit that it was to a large extent inspired by what has been going on in the US, but it also encompasses the entire OECD area. They directly refer to a debate on the “new economy” and the dilemma stipulations whether such has in fact emerged, even in the US alone. The report revolves around a thesis that the connections between technological progress, innovations and growth (it concentrates on those two growth factors, with full awareness of the multitude of sources of growth and the role of external and internal growth environment such as markets, institutions, legislation, migrations, level of education, etc.) have changed significantly in the 90s. It attempts to prove that some countries of the area have better adapted to the new situation than others, reaping the benefits of innovation, and thus fared much better than others.

With much caution the authors state¹¹⁵ „the long period of expansion (in the US - J.W.) coincides with huge investment in, and diffusion of, ICT and its application. The term ‘new economy’ has been coined to mark the association of non-inflationary sustained growth with high investment in ICT and restructuring of the economy”. However the term, used widely in the recent years, and referring to the operation of American economy, especially its part connected with ICT, means different things to different people and reflects only a shared belief that the economy works differently today and that it has adopted the three interconnected features:

- the new economy may (my emphasis - J.W.) imply higher growth trend due to the acceleration of growth of the multi-factor productivity;
- the new economy may (my emphasis - J.W.) affect the business cycle due to reducing inflationary pressures by massive utilisation of ICT under circumstances of increased global competition (radical opinions claim that the new economy has removed the phenomenon of business cycles);
- in the new economy the sources of growth are (my emphasis - J.W.) different, since the spread of application of ICT brings returns to scale, network effects and externalities.

It is not however clear – they prophesise – to what extent American economy (not to mention other economies) has really entered a new era and whether it has really broken free of the multi-factor macroeconomic instability, and more so, whether it allowed to remove business cycles¹¹⁶.

¹¹⁰ Op.cit.; 197 p.

¹¹¹ Science, Technology and Industry Outlook 2000. Science and Innovation. (Paris), OECD, 2000; 258 p.

¹¹² Knowledge Management in the Learning Society. Education and Skills. (Paris), OECD, 2000; 257 p.

¹¹³ „Cities and Regions”; 147 p.

¹¹⁴ „OECD Council Meeting at Ministerial Level. Paris, May 26-27, 1999. Communiqué”. OECD document No. PAC/COM/NEWS(99)52; p. 2, item 5.

¹¹⁵ „A New Economy ?”, p. 17.

¹¹⁶ *Ibidem*.

It is not the right place to develop a thorough analysis of differences in GDP growth rates in various OECD countries and the underlying reasons. However, the already-mentioned observation has confirmed that a number of OECD countries enjoyed both labour and the multi-factor productivity higher than in the US in the discussed decade, although the US saw an acceleration of the growth rate at the end of the decade, not being able to come to the leading position, though¹¹⁷. The above-average (in the US, among others) growth in multi-factor productivity was a result of many causes, including the effects of investments in technological and organizational innovations, disembodied technology and technological progress (including ICT), embodied in new machines and equipment. Innovations and changes in technologies proved no doubt to be the most important “new” growth factor, however they went beyond ICT, and sometimes even preconditioned the achievement of benefits from implementing ICT. The contribution of those innovations is hard to assess accurately, but it showed a growing tendency, no doubt. It could not have been otherwise. Investment in this domain was constantly growing (especially in the second half of the decade), including expenditure on R&D (also in services sectors, especially services to businesses), in conjunction with advantageous shifts in the structure – from military to civilian and from government to companies (but there mainly for development) as well as expenditure on software and education. The arising growth of productivity not only offers direct economic effects but also spillover effects by utilisation and diffusion of innovations, with a multiplying character, on the condition, however, of companies’ ability to efficiently master acquired or generated innovations (organizational changes, additional training¹¹⁸). As a result, we may talk about increasing – not only in the US – the impact of innovations and technological progress on indicators of economic growth, as well as on the balance of payments (pro-export character of innovations), or even on valuation of companies, higher for those investing in R&D and applying innovations¹¹⁹.

As is commonly known, one of the secrets of the success in the area of pro-growth innovations in USA in the last decade was the change in their nature (shift of emphasis from traditional fields to new sectors) and strengthening the already buoyant American entrepreneurship. A less-known factor, facilitating the creation (net) of a large number of new companies, investing in innovations more than the “old” ones, was a more efficient system of financing new companies, including the emergence of a capital market for venture investments. Albeit the scale of the phenomenon is still limited, we should not forget that this is about seed money, about access to venture capital funds, with higher risks but also higher yields. In the case of success such ventures are often connected with the process of “creative destruction” and “reinventing itself”¹²⁰. Experience teaches that this is the most difficult part. Those that grow and mature (and how many large companies of today, as Microsoft or Intel, were still in the cradle yesterday!), will not have problems with loans, will raise capital from public offerings of shares. Others will be decimated. The process will however be lubricated and start-ups, so important for the dynamics of innovations, will have an opportunity of proving its case.

In the Anglo-Saxon system of more flexible connections between business and financing sources, described as an outsider system, as against the European and Japanese insider system, ambitious and inventive companies' tasks are easier, and innovativeness stands better chance, also because bigger role is played here by capital markets than conventional and conservative sources

¹¹⁷ *Ibidem*, pp. 22-25.

¹¹⁸ This explains differences in effects between countries with similar ICT intensity - *ibidem*, p. 62.

¹¹⁹ *Ibidem*, p. 27-32. The acceleration of the innovation rate in the OECD area is proven by the patent data: the number of patents grew fastest in the ICT and biotechnology areas (p. 29). Additionally, company-level research cycle gets shorter and shorter (p. 32).

¹²⁰ THUROW. „Building Wealth”, p. 24.

(banks)¹²¹. The operating mechanisms of the Anglo-Saxon system, characterised by flexibility (a little bit at the cost of stability due to higher risks assumed – something-for-something principle), seem to better respond to current needs, i.e. the new economy, and operation under circumstances of ever-increasing competition. They also seem to better match those countries, as Poland, whose potential in the area of entrepreneurship and innovations is still by far unutilised, if not dormant – in spite of harbingers of a new, knowledge-based economy as a pass to a leading position, not peripheries of a global economy of the 21st century. In the finalised 6th Review of Polish Economy, OECD says that we have to do with a nascent but vibrant “new economy” in Poland, which is evidenced by a growth in demand and supply of goods and services with high contents of ICT, even if as of now they largely remain marginal in the economy and society, among others because of still inadequate communications; OECD has been expecting an improvement in the innovativeness and a wider application of R&D, as announced by the government¹²².

A key feature of the transpiring processes, not only in the US, was a greater involvement of companies (business) in R&D (with a strong commercial flavour J.W.). Although in the OECD area the share of R&D financed by business in relation to GDP in 1998 fell in 15 countries when compared to 1990, and increased in 13 (including the US, but not spectacularly), “interaction between the science system and the business sector is more prominent than in the past”¹²³. Companies more and more often finance university or public laboratory research. The science-industry (companies) relations were closest in Anglo-Saxon countries, in Canada and Denmark. In many OECD countries the number of researchers and scientists in the total number of personnel grew, which contributed to improving employees' skills. Inter-company and international mobility (Achilles' heel in Poland – J.W.) of skilled employees, scientists and researchers grew as well, stimulating transfer of technologies¹²⁴.

As far as the impact of ICT, regarded as a driving force of growth (the sector has been drawing most investment, especially in the USA and especially after 1995 - in the Internet), and basic growth factors - manufacturing and labour productivity, we may discern two parallel areas: new sectors, such as e-commerce (both business-to-business and business-to-consumer) and new applications and benefits in traditional sectors. This in turn generated demand for new hardware and software within ICT, as well as another wave of their impact on the economic growth, strongest in the US, Canada and the UK, although weaker than in relation to the multi-factor productivity (up until 1996; then the situation changed). In other leading OECD countries the impact was less accentuated. Previous (2000) report of the Council of Economic Advisers of the President (USA) reminds that in the growth of productivity a key role was played not so much by those sectors that produced computers, but by the common application of those cheaper and more powerful machines in industry and elsewhere, including the state budget sector¹²⁵.

So, regardless of whether one accepts the thesis of existence of the new economy in some OECD countries, a knowledge-based economy, or an information economy, the new wave of innovations, arising mainly from application of the ICT, permeates economies of the OECD area (although not all of them are ready yet to reap the harvest), contributing to increasing their multi-

¹²¹ „A New Economy”, pp. 32-36.

¹²² 2000-2001 Annual Review - Poland (draft Economic Survey of Poland). (Paris), OECD, February 22, 2001, no ECO/EDRC(2001)8; p. 60-62. The Review approves of deregulation in the telecommunications industry as of January 1, 2001, in the form of lifting TPSA's (Polish Telecom) monopoly and quotes government declaration of July 2000 on the planned improvement of innovativeness of the Polish economy by 2006.

¹²³ „A New Economy”, p. 43. Cf. also pp. 27 and 42-48.

¹²⁴ *Ibidem*, p. 43-47. This was assumed by Peter F. Drucker - DRUCKER. „Post-Capitalist Society”, p. 84.

¹²⁵ „A New Economy”, pp. 49-62.

factor productivity. This means that benefits of innovations, including the ICT, for the economic growth are preconditioned on a set of different factors and policies in the area of competition principles and regulatory reform¹²⁶, liberalisation of trade, foreign investments and telecommunications, conditions for the Internet and e-commerce operation, supporting new innovative companies, intensity of science-industry (services) connections, taxpayers' support for R&D, including basic sciences, development and improvement of human capital. Hence, in OECD opinion, a pivotal role is played by pro-innovation policy of the state towards business and institutions financing pro-innovation projects, subsidising the education and selected research areas with high risk that will not be initiated by the private sector, finally strengthening the collaboration between science and business and stimulating knowledge diffusion (on a national and international scale) as well as taking care of education of employees¹²⁷. In short, it is up to governments to create conditions conducive to innovations and creation of new, attractive products and processes (and services), or to make it all more difficult.

Selecting the right policy at the government level, taking into account specific national interests, is by no means easy. The foundations of the new economy are only being laid down. Effects of such a policy (or lack or negligence thereof) will surface later. A balanced package of measures to correctly, i.e. supporting competition and innovations, steer companies, financial institutions, the public sector, R&D, and the system of education is a *sine qua non*. Without this it is no use dreaming of the benefits of the ICT and innovations in general.

The second of the mentioned OECD reports refers to an extremely important dimension of the new economy – the social one. It assumes a growing social diversity and a move away from mass production and consumption (of goods and services) and from a generally uniform lifestyle (this is incompatible with the “American model”, or a “macdonaldisation”), an assumption certainly right in relation to wealthier countries, and within them – to richer social strata. Only a knowledge-based (innovative) economy will be able to meet such challenges. This is owed to its capability of a far-reaching and relatively inexpensive diversification of the offer (supply) not only for a specific individual customer, but also of the offer labour (a final breakaway from “fordism”) and managing free time (demand for information).

This opinion of OECD is borne out by Knight Kiplinger and William Greider. New information technologies differ from the previous ones in an ability to multiply man's intellectual potential, instead of muscle power. Computers have undermined the rationale of mass production, though still not everywhere; a revolutionary implication of the ICT is the change in the character of labour, consumption and welfare – but within industrialised societies¹²⁸. At the same time, in different parts of the world, mass production will continue to flourish, albeit more modern (“knowledge-

¹²⁶ The first OECD review of this reform in Poland has been scheduled for mid-2001.

¹²⁷ „A New Economy”, pp. 73-78. The governments should also bear in mind threats such as the mentioned digital divide (on a national scale) and the related phenomenon of social exclusion.

¹²⁸ GREIDER, William. *One World, Ready or Not*. The Manic Logic of Global Capitalism. New York, Simon & Schuster, 1997; p. 28 and 329, and KIPLINGER, p. 347-366. Jeremy Rifkin claims, on the other hand, that the technological revolution – automation and computerisation – simply excludes people; he even quotes Vassily Leontieff's comparison of humans to horses eliminated by tractors - *The Case Against the Global Economy*. And for a Turn toward the Local, ed. Jerry Mander & Edward Goldsmith. San Francisco, Sierra Club Books, 1996; p. 108-109. Saying that man's role as an important production factor diminishes because of this, they both skip the position of knowledge as a factor (p. 109). The demand for unskilled labour falls, in favour of *knowledge workers* (cf. FILAS, Agnieszka. „Umarza klasa”(The dying class). *WPROST*, October 15, 2000; p. 32. With the fall of communism, technologies have pushed man (and skills - J.W.) to a central position in the capitalist system - THUROW. „Building Wealth”, pp. 132, 237 and 279.

intensive”) and more competitive, which will be enforced by the ever-growing economic and technological interdependence, deepened by international investments and trade.

According to OECD experts, the already slightly outdated industrial capitalism will thus coexist along with the knowledge-based economy and society. Some countries, as transition economies or emerging economies, stand a unique chance of skipping a developmental stage, straight to the target model of new economy. This, however, calls for profound reforms in governments' policies towards individuals, companies, self-government, associations, etc., aiming generally at their strengthening and empowerment, and at the same time protecting society from negative phenomena accompanying globalisation, such as growing inequalities (according to Richard Jolly of UNDP, we may talk about a *global inequality*; disproportions between countries continued to grow over the last, easy to say, 200 years, and it was no different inside most countries) as well as from other threats to social cohesion – and from unwanted or even criminal utilisation of knowledge¹²⁹. At the same time, it is a challenge to intergovernmental organisations, responsible for developing rules of the game in the global village, whose role has been contested after Seattle, and to whose fora the defence of national interests (not only monopolised by governments, and far always correctly interpreted) will move¹³⁰.

An interesting *pendant* to the quoted forecasts of social evolution in the 21st century are views of Geoffrey M. Hodgson included in the discussed study. He assumes an ever-growing complexity of production and consumption patterns as well as knowledge intensification necessary for that both as a foundation of economy but also for the utilisation of free time. Machines, including the intelligent ones, contrary to Smith's suppositions, and especially to Marx's and Harry Braverman's (the so-called *deskilling scenario*) will not eliminate the need for man's productive creativity. On the contrary, with a *knowledge growth scenario*, the demand for improvement of skills will grow rapidly and not just mechanical skills (fordism), but creative ones. Knowledge will often be needed for the mere consumption act to occur, not to mention its rationalisation. Even in this sphere insecurity will grow, besides, along with the implementation of technological progress (e.g. genetically modified food). In the production (plus services) sphere, a trend will also be dominant towards diversity and individuality, as well as relying on knowledge as a pivotal premise of competitiveness, even if unwanted side effects take place, such as technological unemployment or desired effects, such as computer-forced changes in work and management organisation (towards better motivation, commitment, competence, with disappearing distinction between an employee and a manager and “flattening of structures”; according to Peter F. Drucker, the knowledge-based economy has rendered the accepted pillars of management and work organisation completely obsolete, and companies of tomorrow will desperately need reengineering¹³¹).

The price of knowledge and other intangible assets as “input” will grow in comparison to other factors, including cheaper and cheaper computers, and the deficit of specialists, already seen, will be accompanied by reduced number of jobs for unskilled workers. All this has a chance to remake traditional socio-economic structures (and property, different for knowledge and for material production factors), as well as political power arrangements and institutions related to them (intra-national but also trans-national, e.g. transnational corporations of tomorrow) and the international division of labour (redistribution of production between developed and developing countries that take over from the former production tasks of even complex goods, including hardware and

¹²⁹ „The Creative Society”, pp. 7-24 and 79-82.

¹³⁰ *Ibidem*, pp. 116-125.

¹³¹ DRUCKER, Peter F. „Management's New Paradigms”. *Forbes*, October 5, 1998; pp. 152-176 and by the same author „Post-Capitalist Society”, p. 89.

software, not just simple tools or “dirty industries”). As a result, knowledge – its generation, access to it and utilisation – will determine the position of a country and welfare of its citizens – concludes Geoffrey M. Hodgson, warning against marginalisation due to underestimation of knowledge¹³².

On the other hand, Geoff Mulgan warns that the extraordinary dynamics of the “new knowledge-based economy” is still not accompanied by comparable social dynamics, i.e. we have to do with a mismatch between processes taking place in the economy and in society¹³³. Almost all developed societies face similar challenges – adaptation to the requirements of the knowledge-based economy and a number of social tensions whose venting will force to initiate multi-faceted reforms and adopting a holistic attitude, instead of solving problems one by one. He gives the first position among factors that drive the changes, just as Ruud Lubbers and Jolanda Koorevaar – to knowledge and technology (broader than just ICT)¹³⁴. Moreover: Geoff Mulgan claims that a distinctly different breed of capitalism has emerged, dominated by companies “producing” intangible products or applying them in practice, although still fluid and little understood, still not enjoying a comprehensive interdisciplinary analysis. This “new capitalism” must part with ultra-liberal or even neo-liberal government principles (to which we owe, to a large extent, the unstoppable advance of globalisation), towards a greater, but respecting free market principles, state interventionism, for which adequate institutions have to be established and / or the existing ones thoroughly reformed¹³⁵.

The third work, prepared under the auspices of the ambitious OECD *InterFutures Programme*, led by Wolfgang Michalski, contains a number of remarks worth mentioning in the context of the new economy. The authors believe that a shift towards the dominance of knowledge as both input and output and a structural feature of economy and society, is already underway (albeit in only a few countries - J.W.). They believe that among factors of long-run economic dynamism – as a global scale tendency - most important are technological progress and institutional solutions as well as social aspirations as a driving force behind innovations. That long-run growth does not appear here devoid of business cycle fluctuations or large unemployment areas. The more so that we should count with a growing insecurity, inseparable from the constant change. However, fluctuations should become softer. A more serious threat may be hidden somewhere else – in setbacks in economic policy that may bring about serious consequences, e.g. protectionism¹³⁶. The most ambitious scenarios of such growth assume, as a growth engine, improved productivity thanks to new technologies, but along with liberalisation of trade, protection of intellectual property and acceleration of the flow of “progress-bearing” foreign direct investments, apart from profound changes in the socio-economic policy¹³⁷.

The OECD yearbook devoted to the perspectives of science, technology and industry is a rich data bank from which the Secretariat gathered analytical information for the first two discussed studies – and on which it based its conclusions. The general opinion: OECD countries together achieved significant progress on the way to a knowledge-based economy. The growing significance of generation, diffusion and application of knowledge was reflected by structural changes in

¹³² „The Creative Society”, p. 89-110. Cf. also GREIDER, p. 28 on pro-individualistic and anti-egalitarian effects of the ICT, its forcing of higher skills, flexibility, and decentralisation of decision-making.

¹³³ „The Creative Society”, pp. 133-134.

¹³⁴ In other variables he includes demographics, global trade, marginalisation/involvement, environment, system of values - *ibidem*, pp. 137-143 and 175-176.

¹³⁵ *Ibidem*, pp. 144-145.

¹³⁶ „The Future of the Global Economy”, pp. 11-16 and 62-63.

¹³⁷ *Ibidem*, p. 170-189. This means *Growth Leader* scenarios – emphasis on the latest inventions connected with application of the existing technologies, *Growth Shift* (or *Follow The Leader* - J.W.) – implementation of *catch-up technologies* and transfer of best practices; *Growth Clusters* – innovative explosion of small-scale ICT applications.

economies of the OECD area (though not all - J.W.). They were earmarking more and more funds on R&D, increasing the share of business and civilian spending (this refers roughly to the last decade). Investments of both sectors – public and private – were facilitated in the US but also in Europe by venture capital. Networking intensified, also cross-border, contributing to the deepening of the international character of R&D¹³⁸.

The pro-innovation policy in many OECD countries was aimed at preparing a transition to the new economy, reforming higher education and promoting continuous upskilling, increasing funds for basic research, creating leading knowledge centres (*centres of excellence*), supporting new areas such as biotechnology, finally helping start-up firms, improving working conditions for science and facilitating its connections with industry. Interministerial councils for scientific policy and technological innovations were founded, top level sessions were convened (Australia, USA), foundations were laid for long-run development plans in the field, governments consulted researchers employed by companies – all this out of concern for optimisation and making innovation systems more flexible¹³⁹.

As a result, in the OECD area the expansion of knowledge-based sectors continued, i.e. technology-intensive and / or human capital-intensive sectors, and the utilisation of the ICT and the Internet stimulated the process. The level of involvement in innovations, measured with financial and human resources spent on R&D was, however, very diversified in the area, mostly proportionately to the level of affluence of a country, albeit a reverse correlation was also observed. Furthermore, the correlation between expenditure on R&D and per capita GDP increased, and some countries, such as Finland, Japan, Korea and Sweden invested more (over the OECD average) in R&D than what might be suggested by their per capita GDP (the indicator was expenditure on R&D divided by GDP). It is interesting to compare general expenditures and companies' expenditures (data as of 1999): the share of the latter in the former in the US was 0.76 in the US, 0.71 in Japan, 0.63 in the EU, and only 0.41 in Poland and 0.39 in Hungary; there was a characteristic correlation that the less affluent a country, the larger the share of the government in general expenditure (only Portugal scored lower than Poland – 0.23). It is a consolation that the share of exports with high or medium/high contents of technology grew fastest in Poland and in catch-up economies. So, the driving force spreading larger and larger circles of innovations was increasingly the market. Innovations took on a global character and range, and owed more than before to interactions with science¹⁴⁰.

The growth in the multi-factor productivity may be linked in countries leading in such changes (Scandinavia, Australia, USA) to increased innovations and ICT, especially when they were implemented along with changes in the organisation of work and increasing the necessary skills. It is important that this higher innovativeness was forced by the market, more than before, awarding new or improved products and services, apart from government policy supporting the competition, e.g. by strengthening the science-industry collaboration. It turned out to be extremely difficult to balance the proportions in support from public funds, especially by means of direct subsidies or tax relieves, companies' R&D (optimum ranged around 13% of expenditure); furthermore, it turned out that the

¹³⁸ „Science, Technology and Industry”, p. 11-13. Previous OECD yearbook - dated 1999 – was titled: „Science, Technology and Industry Scoreboard”.

¹³⁹ *Ibidem*, pp. 13-14 and 22-23.

¹⁴⁰ *Ibidem*, p. 23-29, 51 and 59. On page 29 of the yearbook one can find a table with data – in breakdown by OECD countries – presenting their gross national and corporate expenditure on R&D (in USD PPP). There we can see a significant advantage of the US over the EU. Poland in both categories is in the last six. Cf. also table on p. 31 with R&D implementers and financing sources.

efficiency of such support grows if it takes place within long-term programmes and is accompanied by the facilitation of creation and operation of co-operative networks¹⁴¹.

An interesting issue is related to OECD recommendations referring to science, technology and innovative policy formulated in the 1998 paper on technology, productivity and workplaces' creation and the recommendations included in the EDRC guidelines (OECD Economic Development Review Committee) with respect to reviewed countries. They have been grouped in the yearbook in six collective and quite universal areas. They are accompanied by an assessment of their relevance for individual OECD countries¹⁴²:

- stimulate technology diffusion and bonds between universities and enterprises;
- strengthen the evaluation of technological and innovation policies;
- strengthen and reform the science base;
- enhance the efficiency of incentives for business R&D;
- facilitate the growth of new technology-based firms (including promotion of venture capital and incentives for start-ups);
- strengthen frameworks for policy formulation and implementation.

In this juncture, the table of technological performance indicators in the OECD countries is worth analysing. Firstly, the USA is not a leader in the R&D expenses (with respect to GDP) since it is behind Sweden, Japan, and Finland. Secondly, as far as R&D business expenses (also with respect to GDP) are concerned Sweden is in the leading position, and Japan and Finland spend as much as the US. Thirdly, the business share in total national R&D expenses is higher in Japan, Korea and Ireland and almost the same in Sweden and Switzerland. Fourthly, indicators characterising scientific potential such as the number of researchers per 10,000 employees, scientific publications per a GDP unit or foreign patent applications per USD 1 million of government R&D expenses, demonstrate a considerably different pattern: (respectively Japan, Finland Iceland, Sweden, Norway; Sweden, Finland, Switzerland, New Zealand, Great Britain and behind - only at 11th – 13th position - USA and France; Norway, Finland, Denmark, Sweden, New Zealand, and USA in the 15th position)¹⁴³. The above results show disparities in the use of this potential and the pragmatic approach towards the R&D sector taken by the USA.

The OECD asserts that scientific, technological, and innovative policies have undergone considerable changes in the last decade. Namely, the direct support from public funds has decreased, while the emphasis on effectiveness of R&D expenses increased, and, consequently, so did the emphasis on their commercialisation. As has been mentioned, there has also been an increase in the role of market mechanisms stimulating innovations and public/private partnerships, as well as interest in the network creation. However, there is still a lot to be done. The OECD will continue its work on best practices in the field of strengthening the science and innovation systems. Subsequently, it will pass on recommendations on to governments seeking to transform their economies into the knowledge-based economies¹⁴⁴.

¹⁴¹ *Ibidem*, pp. 14-19 and 97.

¹⁴² *Ibidem*, pp. 59-62. The table on p. 61 shows that one recommendation was given to the USA, Germany, Finland, Canada, Australia, Holland, and New Zealand (Denmark and Great Britain did not receive any). As many as four recommendations were given to Japan, while six recommendations were given to Mexico, Poland, Spain and France. However, during the period of 1997-1999 many "poor students" including France, Japan, Mexico, and Spain (excluding Poland) made significant headway.

¹⁴³ *Ibidem*, p. 62.

¹⁴⁴ *Ibidem*, pp. 63-94.

From the conceptual point of view, all modern economic theories depict the role that transformations in technologies play with respect to the economic growth. However, their approaches differ from each other. Namely, the neo-classical theory considers such transformations to be exogenous and linked to the multi-factor productivity, and is not able to satisfactorily explain and measure the power of impact. The *new growth theory*, in turn, regards such transformations to be endogenous, differentiates their components, and finally recognises the increased return of technological development (including ICT) and mutual relationships between creative destruction and innovations (such destruction may sometimes be preceded by “creative confusion”, search for new solutions, and brain storming). The *evolution theory* is similar in that respect since it claims that such transformations result from information asymmetry and market (competition) imperfections. Moreover, the latter theory states that knowledge is being accumulated along technological trajectories specified (designated?) in a non-linear way and in interaction with non-market institutions (organisations, social norms, and regulations)¹⁴⁵, a reasonable observation.

The OECD strongly believes that innovations are necessary to effectively compete in the world economy undergoing quick globalisation and play significant role with respect to the adaptational regulatory reform. Government policy faces serious challenges. It is not enough to create a pro-innovative environment for enterprises, to strengthen scientific base with a sizeable contribution of the public sector (the budget) and to stimulate co-operation between public and private sector in the field of R&D. On the top of it, we have to confront such policy dilemmas as: development of basic research (national and transnational companies will not do it, although they will willingly benefit), personnel education (taking into account the global brain drain); supervision over compliance with fair competition rules in view of the temptation to benefit from successful innovations on the part of the companies already “in the network”; access to technologies; the degree of investors’ intellectual protection which would not excessively reduce social benefits; innovations’ impact on social harmony (in the form of deepened inequalities or even marginalisation); unwanted side effects of technologies with respect to health, preservation of cultural diversity; and - generally - for the sake of the future of society¹⁴⁶.

Let us now discuss the last two studies belonging to series “education and skills”. The first one is slightly more theoretical but concentrates on the important issue of knowledge management at the threshold of the 21st century. The second one is more practical and concentrates on the position of cities and regions in the educational race. They both refer to the new pre-condition of the new economy that consists in society’s adaptation to such an economy. This can be achieved through life-long learning, crucial to attain a new learning economy. In other words, we will have to face the process of “ploughing” through the educational system. Otherwise we risk to find ourselves on the civilisation and welfare peripheries, where the countries unable to base their economies on knowledge and unable to learn how to implement it will be condemned to “lead a nomadic life”. It is obvious that knowledge production and its creative acquisition and implementation require constant upgrading of skills. Individuals and whole societies deprived of such skills will have to occupy gradually lower place on the social ladder and will finally face technological unemployment as well as social and cultural marginalisation. What is characteristic is the fact that in both studies terms “knowledge-based economy” and “learning economy” are used as synonyms.

The first reminds us that the OECD aims at making the member governments (and others) realise that the role of knowledge and learning is essential for their economic development. It stresses the economic role of education without neglecting its other functions. Their importance gradually

¹⁴⁵ *Ibidem*, p. 99.

¹⁴⁶ *Ibidem*, pp. 116-117.

increases not only in the context of benefiting from, and common creation of, the cultural heritage but also in the context of facing challenges resulting from technological revolution¹⁴⁷. Nowadays, even common and apparently passive TV watching starts to require the skill of TV set programming at first, and then the skill of using its interactive dialogue; at the recent Forum in Davos people alluded to the dangers related to programming of a toaster. They feared that a human being will become the computer's servant, will forever be online - always in, and never out, thanks to the Internet and mobile phones, and finally will not have time for human activities. Such dark visions inspired the president of SONY AMERICA, Howard Stringer, to utter his famous saying „Stop the world, I want to get off'¹⁴⁸.

The study under discussion, similarly to the previous ones, focuses on knowledge understood as the input in material or service production. At the same time, in the guise of innovation, knowledge becomes a valuable output. Such an innovation does not necessarily have to be a new product or process: it may constitute an organisational or institutional improvement. Accordingly, knowledge may be treated as a production asset and may represent a “usual (although very special - J.W.) marketable merchandise”, as a priced object of turnover. Although this approach looks simple, it is also problematic since knowledge being a good cannot be transferred as other goods can. It is not subject to wear and tear as a raw material for production - sometimes is even improved in the course of the production process. Moreover, it often has a public/private character, taking into account the creation, possession and disposal, and consequently gives rise to the dilemma of ownership. Furthermore, it may have either common or strictly local nature, the last aspect resulting in limiting its dissemination. This mixed nature of knowledge proves that the private sector should not always be allowed to take final decisions with this respect since it will not invest in the common good for free or for a part of price. In this sphere, the government should interfere and provide subsidies or its “own production”. The government has to skilfully solve the policy dilemma what should be protected and to what extent, and, on the contrary, what should be made widely available¹⁴⁹.

The problem is even more complicated, if we divide knowledge into four conventional categories: *know-what* which means information about facts, *know-why* which means awareness of causes and rules of operation, *know-how* which means skills, and finally the most recent one - *know-who*, which means the awareness of information sources and ability to establish contacts in order to obtain the necessary expertise. Each category is different from the point of view of their public and private dimension, and real and optimal proportions. It should be remembered that it is difficult to judge what is private and what is public and we rarely deal with the knowledge, which is “strictly public” or “strictly private”. Moreover, the interests of society (represented by the government and non-governmental organisations) and interests of companies forced to fiercely compete usually differ from each other as far as access to knowledge in any form is concerned.¹⁵⁰

“Knowledge is a completely different kind of a ‘good’ than apples or nails” – underlines Jeffrey Sachs with his usual frankness – “consequently, in the new economy we create (we only begin to create - J.W.) the systems and institutions going beyond the definitions of the existing industrial capitalism ... domains, which drive the American economy ..., constitute an exceptional mix of organisational forms. New technologies are created in co-operation of national laboratories, private universities, public foundations, international corporations, etc. ... For the time being, it is hard

¹⁴⁷ “Knowledge Management”, p. 11-12.

¹⁴⁸ FRIEDMAN, Thomas L. “The Wired Serfs May Soon Rise Up in Cyberland”. *IHT*, January 31, 2001. Obviously, the problem refers only to developed countries.

¹⁴⁹ “Knowledge Management”, pp. 12-14 and 21-23.

¹⁵⁰ *Ibidem*, p. 14-18. Cf. also Knowledge Café for Intellectual Entrepreneurship, ed. Stefan Kwiatkowski & Leif Edvinsson. Warsaw, Leon Koźmiński Academy, 1999; pp. 124 -126.

to say whether we still deal with capitalism ... or whether it is a new phenomenon”¹⁵¹. Knowledge, unlike material goods, is not supposed to be used up and constitutes the property of the transferor. Therefore, the scarcity rule in the market system described by Adam Smith is no longer valid in his case. Furthermore, knowledge production may be very expensive while its duplicating and making available may be cheap, which is the case with software, for example. Consequently, the law of increasing incomes and economies of scale will undergo revolution¹⁵². However, due to its specific nature, knowledge, being a special good, requires distinct and balanced protection so that it could be created and be available at a reasonable price.

Knowledge production and use (innovations) require that employees engaged in such processes learn new skills. Moreover, the relationships between co-operating companies and their internal relationships change, new labour organisation and new management structures emerge. Without such factors, the economy would not be able to take full advantage of innovations in the form of an idea or an invention. It becomes harder and harder to draw the dividing line between the “pure” knowledge production and the targeted one (to be applied in the sectors of material and service production as an “external” input) on one hand, and - on the other - one which is created as a side product of a routine economic activity (applied at once and/or commercialised) whether intended in the course of in-house R&D or unplanned. This refers also to learning processes and acquiring necessary skills. Specialised companies are founded to deal in knowledge marketing and serve intermediary between its producers and potential users, as it is not always easy and possible to transfer knowledge directly. Moreover, such a transfer often requires help with respect to learning innovations (including training), a challenge which the “producer” sometimes takes up unwillingly or is unable to take up. In this case, we face the interactive process in which knowledge streams flow also in the opposite direction, that is from its “side” producers and “middle men” to “main” producers¹⁵³.

The OECD clearly believes that the new knowledge-based economy unconditionally requires that such an economy simultaneously transform into a learning economy. Moreover, such requirement entails the lifelong learning since the technology develops incessantly and at an increasingly quicker rate. Accordingly, individuals have to master the skills enabling them to face technological challenges in both professional and private life. It corresponds with the meaning attributed nowadays to the human capital (also called the social capital), according to which it constitutes the factor of production (any production, including services) of decisive importance for comparative advantage and competitiveness of companies and national economies¹⁵⁴, and - thereby - for wealth building in general, as Lester C. Thurow would put it. Hence the role of education.

The last and the most recent among the OECD works concentrates on the analysis of the local tier's new responsibilities to steer and control propagation of innovations, education, productivity and finally improvement in economic performance. The study enriches the previous ones with a significant and practical dimension, among others in the European context, namely, regions' role. It is of interest that while the OECD approaches the new economy very carefully, it confirms without hesitation that a new learning economy already exists. The OECD encourages the governments to support in practice the concept of learning regions and learning cities. The position of a given country in the economic race depends on whether organisations and individuals are able to effectively acquire the key skills enabling them to survive in the new economy¹⁵⁵.

¹⁵¹ SACHS, Jeffrey. “W erze gospodarki wiedzy”(In the era of knowledge economy). *Rzeczpospolita*, May 4, 2000.

¹⁵² “The New Economy”, p. 29-30 and KIPLINGER, pp. 215-216.

¹⁵³ “Knowledge Management”, pp. 23-27 and 41.

¹⁵⁴ *Ibidem*, p. 28-32. Compare also “Human resources in the new economy”, *passim*.

¹⁵⁵ “Cities and Regions”, pp. 3 and 7. Publication was based on the research by OECD Centre for Educational Research and Innovations (CERI).

It is unfortunately impossible to discuss this interesting work in depth in this article, therefore we only select what is relevant for our topic. The new economy is usually associated with globalisation, including transnational knowledge-based corporations. Its future will however be determined by activities "in the field" and increasing or decreasing regional disparities will play a significant role with respect to the result of transformation of the whole economy. Tendencies and volume of such disparities will considerably depend on how effectively individual regions cope with their educational tasks, a condition, which will constitute a decisive factor of their success and capability to adapt to the requirements of the new economy. This refers to both individual and institutional education (organisational learning – company tier) and influences the success of regional (local) systems or spheres of innovations. It is worth noticing that innovations have been thoroughly discussed in relevant literature, although sometimes the authors have not concentrated on their share in creation of the new economy frameworks but, rather, on mutual relationships between education, innovations and development of region's economy. The approach we are interested in includes the role that knowledge and education plays in the economic growth and, most importantly, the key components of social harmony, especially employment¹⁵⁶.

The borders between countries are of no importance in the economy undergoing globalisation. Consequently, comparisons between national innovation systems and their nature become less significant. Differences between regions still exist although they evolve all the time and pertain to the R & D potential, innovations and the scope of related individual and common education. Such a phenomenon is present in the case of both individual countries and regions of various countries which nowadays may (and do) co-operate directly and compete against each other. Despite the possibility to communicate via the Internet, geographical proximity is still important in the case of knowledge production and use. A significant part of innovations and learning has only a local range¹⁵⁷.

At this point, we may pose the question on which tier of national hierarchy the decisions in the aforementioned fields (public intervention) should be taken, and, in practice, how to obtain the desired subsidiarity. It is not only the question of the division of tasks between national and sub-national tiers, but also of the role of supranational tier (such as the UE). We can observe here the decentralisation tendency. The second one consists in multiplication of territorially empowered public/private partnerships and networks of organisations. With the labour-saving character of technological development, effective regional policy should take into account the impact of changes in the region's production structure on employment with respect to "science-intensive" branches. Research demonstrates that the high-tech sectors and sectors with intensive R & D displayed the highest employment dynamics. Therefore, we may draw some policy conclusions referring to individual and common (at the company level) education as well as some referring to incentives to create "learning regions and cities"¹⁵⁸.

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Conclusions and opinions

¹⁵⁶Ibidem, pp. 211. It should be remembered that sometimes the technological development results in the reduction, not the creation, of workplaces (cf. p. 26).

¹⁵⁷ Ibidem, pp. 21-24.

¹⁵⁸ Ibidem, p. 24-27 and 95-121. We can differentiate (only few) leading regions, regions following them, and finally, regions which are not able to fight their backwardness (compare p. 26-27).

Irrespective of the quoted extreme opinions pertaining to the existence - here and now - of the new economy in all is glitter, its sprouts may be clearly seen in few countries only. The *Economist* writes that its fanatics are willing to state that the Internet has brought more economic benefits than the previous technological revolutions did, while sceptics compare the new economy with the stock exchange bubble. Neither fanatics nor sceptics are right. Moreover, we have to reject the claims that the ICT revolution was exclusively American, that the information economy eliminated economic laws and was able to exist very well without any governmental interference¹⁵⁹. Life has already rectified unjustified hopes to the effect that it eliminates periodicity of economic growth. “Booms and recessions” – writes Lester C. Thurow – “happen because investment depends upon the rate of growth of consumption, and even slight changes in the rate of growth of consumption (e.g. as a result of abuse of consumers’ trust - J.W.) can cause big upward or downward movements in investment”¹⁶⁰. Why should the new economy be resistant to these phenomena, encompassing - as it does - a rapid change wand - *ipso facto* - implies an increased uncertainty? Among others, it seems to be conducive to fluctuations of prices, including the production assets (and knowledge!) and prices of stock? Even if new technologies and globalisation should eventually lead to a fall in prices, or at least to their global equalisation, rather downward?¹⁶¹ We will see whether it will be able to flatten the cycle’s course (the first test will be the kind of “landing” or “landings” of the American economy in the current year).

Has the new economy managed to nest at least in the USA? Let us quote a sober opinion of Stephen S. Roach: “The stock market bubble went hand in hand with the hype over the so called new economy in which many business executives decided that open-ended spending on computers and telecommunications equipment was the recipe for higher productivity and instant prosperity ... (while) ... a significant portion of this technology spending can certainly be justified by the dramatic transformation of the economy, there is also evidence of indiscriminate buying technology ... the economy has created an imbalance in America's relationship with the rest of the world ... dependence on foreign capital has never been greater (especially on the capital from Europe; previously it was the USA that used to lead in the exports of capital - J.W.) ... (we can observe) an extraordinary disparity between trends in personal income and spending ... A recession may well be a necessary evil that could keep America on the course of prosperity”¹⁶² (and towards ... the new economy - J.W.)

We can pose the following questions: Will the new economy develop, where will it develop, what effects will it bring, and for whom? Each answer will have a futurologist flavour, despite the fact that the new economy doctrine (if it is not an exaggeration!) has been drawn on the basis of real life. What is significant here is whether we face a really new phenomenon that may foment a revolution not only in the economy, or do we experience simply a set of important improvements which are not even able to obtain the critical mass necessary to achieve this purpose? Or – and this question seems to be far more important – does the technological development *sensu largo* together with indispensable organisational and institutional transformations, which took place during the last decades and those expected in the foreseeable future, promises passage to a new economic set-up beneficial not only for selected countries or social groups but also for individuals' creativity?¹⁶³

¹⁵⁹ “The New Economy”, p.43.

¹⁶⁰ THUROW. “Building Wealth”, pp. 58.

¹⁶¹ *Ibidem*, pp. 62 and 75-78.

¹⁶² ROACH, Stephen S. “Recession Can Be Good for You”. *IHT*, January 5, 2001.

¹⁶³ “The Future of the Global Economy”, p. 16.

Does the so-called Third Way constitute (among others) a shortcut to the new economy? Probably yes, if we take into account the declared aims, especially its social dimension (but we all know it is all too easy to profess aims). However, this rehashed doctrine ignores means to achieve the professed aims. The opinion of four politicians, including two supporters of the Third Way, is more pertinent. According to them, by supporting the empowerment of individuals, strengthening civil society and improvement of the standard of living on a national and international scale, we should concentrate our efforts to make our continent, as far as Europe and the enlarged EU are concerned, the most dynamic knowledge-based economy by the year 2010.¹⁶⁴

We cannot forget about political circumstances, which are exogenous to most countries, although so many authors tend to neglect them as if they were something obvious and not deserving analysis. While the triumphant march of ICT began more or less in the sixties (computers, the birth of the Internet), it was the end of Cold War and of world division into two hostile camps, suspicious towards each other, that caused the global expansion of technological advance and its development, less dependent on military requirements (especially, if we take into account the block created and dominated by the USSR, called "East"). We should not be considered as megalomaniacs, if we stress that it was Poland who considerably contributed to speeding up such transformations and indirectly helped eliminate one of the barriers blocking the new economy development. As late as at the turn of the eighties and nineties favourable conditions had emerged for technologies to create a "borderless economy" and to focus on civil technologies (post-Cold War peace dividend, probably the most sizeable one for the USA)¹⁶⁵. One of the few who does not forget about the weight of political circumstances for globalisation and new economy is Grzegorz W. Kołodko. He takes into account the barriers, which still exist and new divisions of, among others, political nature that, as he warns, together with reviving protectionism may stop the march of globalisation widely regarded as winning and irreversible¹⁶⁶.

As Thomas L. Friedman writes, globalisation, which is simultaneously repulsive and alluring, tends to empower us and at the same time ... threatens to dehumanise us. It integrates us without asking for our consent. It carries seeds of self-destruction as well. It depends what prevails.¹⁶⁷. Naturally, the music of the future is the authentic "global economy" operating on the basis of connected vessels. It is hard to specify how distant it is. It is even harder to specify whether Peter L. Berger's prediction will come true that, as the time will pass, the interaction of technological modernisation and economic growth will first increase the differences in incomes and welfare (probably - the present phase - J.W.), then, it will reduce them, and finally they will be partially levelled as a result of political (governmental) intervention. Let us hope that such intervention proves skilful enough and will not hinder growth¹⁶⁸. It is equally hard to foresee the fate of Knight Kiplinger's prediction that the globalisation driven by the engine of new technologies will result in long-term

¹⁶⁴ BLAIR, Tony, KOK, Wim, PERSSON, Goran, SCHROEDER, Gerhard. "Progressive Equation: Globalization + Welfare". *IHT*, September 7, 2000.

¹⁶⁵ FRIEDMAN, p. 7-11 and VOGL, Frank, SINCLAIR, James. *Boom*. Visions and Insights For Creating Wealth In The 21st Century. Chicago/Bogota/Boston/Buenos Aires/Caracas/London/Madrid/Mexico City/ /Sydney/Toronto, Irwin, 1996; p.8-9. New technologies (ICT) not only weaken the role of borders but also the power of governments (p. 9).

¹⁶⁶ KOŁODKO. "Globalizacja a transformacja", pp. 7-8 and 11.

¹⁶⁷ FRIEDMAN. "The Lexus", p. 331-334 i 355. William Knoke writes even about *Placeless Society* – cf. KNOKE, pp. 20-21.

¹⁶⁸ BERGER, Peter L. *The Capitalist Revolution*. Fifty Propositions About Prosperity, Equality, & Liberty. New York, Basic Books, Inc., 1986; pp. 46-47.

stabilisation, accompanied, however, by market fluctuations, and will contribute to shortening of cycles of local market slumps.¹⁶⁹

Globalisation is inevitable, excluding unforeseen events (although protests are endless and it is ... the Internet that simplifies their organisation)¹⁷⁰. Similarly, we cannot expect that the tendency of basing economies on knowledge will be hampered, although at the moment – due to the “digital divide” and simply the civilisation gap, it is hard to assess the scope of this phenomenon, especially in the future. In the same way, we cannot predict shall we, or our descendants, face the birth of a global new economy. By reducing the information and communication costs, ICT help in the globalisation of production (and services- J.W) as well as capital markets. Such globalisation, in turn, enables to enlarge the benefits from the ICT application. Therefore, we may conclude that, to exist, globalisation and the new economy need each other, and they both badly need liberalisation¹⁷¹. The ICT and other pioneer technologies already transforming some national economies, and being able to transform other economies, also constitute the engine of social change¹⁷².

However, taking the down-to-earth approach – the use of such a potential depends on governments (whether they will create favourable conditions, limit negative consequences, or partly prevent such consequences from occurring) and enterprises (whether they will implement innovations and will not be afraid of unavoidable creative destruction of their hitherto activities). The governments (and non-governmental organisations co-operating with or fighting against authorities) are required not only to have the sense of duty but also to demonstrate leadership, reform drive and bold vision, which should all last much longer than politicians’, coalitions’ and governments’ term of office. Not an easy task, though. ICT, in turn, create new opportunities for authorities to establish contact with citizens and - the other way round – for citizens to establish contact with authorities of various levels, gain access to information and consequently, increase transparency in governing. As a result, we will face new and much more intense opportunities of participation than - once in several years - in elections. However, for such circumstances to take place, a pre-condition must be fulfilled: an average man on the street must have the opportunity to be wired¹⁷³!

On the other hand, profoundness of change and its consequences for the society call for increased trust in the government and its reforms the public may fear and not fully understand. Therefore, according to OECD a pro-active approach needs to be demonstrated by authorities, which consists in the anticipating of the citizens' needs. Moreover, we need to take into account gradual loss of governments' monopoly with respect to distributing benefits for the society. Governments will have to bear with other partners engaged in policy formulation and implementation (and on the other hand, traditional organisations such as trade unions as well as national NGOs, interests groups etc. on the domestic scene and externally- international governmental and non-governmental organisations)¹⁷⁴.

The main conclusion of John C. Gannon, chairman of the U.S. National Intelligence Council, expressed in the unclassified study entitled “Global Trends 2015” is the following: “National policies will matter. To prosper in the global economy 2015, governments will have to invest more (already now - J.W.) in technology, in public education and in broader participation in government to include

¹⁶⁹ KIPLINGER, p. 31-32 and 367-375.

¹⁷⁰ “The New Economy”, p. 44.

¹⁷¹ *Ibidem*.

¹⁷² KIPLINGER, pp. 221-265.

¹⁷³ “Korea and the Knowledge-based Economy”; p. 90-91. Here, the first examples of the application of ICT in relationships between authorities and citizens are described.

¹⁷⁴ “Government of the Future”, pp. 21-37.

increasingly influential non-state actors”¹⁷⁵. Governments must not accept the situation whereby other countries’ economies which e.g. rapidly lost speculative capital, are punished at random, which may happen even if such countries have committed no mistake. This may be dangerous, since the losers may rise in revolt (not necessarily an “enlightened” one) while the winners never ponder to whom they owe their success. Yet thus we may completely lose the opportunities for creation of a coherent global economy¹⁷⁶. Also Jeremy Rifkin warns against the revolt (even in Europe) which may be stirred up by citizens frustrated due to job losses resulting from technological innovations and corporate globalisation.¹⁷⁷

Moreover, some new technologies introduced in developed countries or transferred without criticism to the Third World destroy traditional manufacturing and jobs, instead of providing help¹⁷⁸. It is hard to imagine the situation in which the islands of welfare exist for long without any problems among the ocean of poverty. At the same time, the opponents of globalisation are wrong that only rich countries can benefit from technological development, obviously at the cost of the poor¹⁷⁹. Competition forces to transfer production (and service) to locations where there is a potential and the costs are lower, which is to the advantage of the developing countries¹⁸⁰. In order to close the circle, let us add that developing countries constitute sizeable markets for OECD countries. Developing, while especially emerging economies do not threaten the labour markets there but become a stimulus for better operation and even concentration on the most profitable domains¹⁸¹. Many authors, e.g. Grzegorz W. Kołodko and Knight Kiplinger, stress that (respectively): “division which would be more equitable is not only a value in itself (an ethical one - J.W.) but also a condition for maintenance of sustainable growth for the long run” and that permanent (taking into account its tendencies) worldwide boom is very probable but it will not take place without transfer of technologies to poorer countries¹⁸². However, we may pose the following questions: which technologies will be transferred, what will be the consequences and on which conditions such a transfer will take place?¹⁸³

Simultaneously, the EU candidates do not waste their time. They want to follow the same way of the knowledge-based economy, which constitutes their only chance to catch up with EU countries. If we do not follow this way we will lag behind for many years¹⁸⁴. According to Jeffrey Sachs, Poland being among 10 such countries, stands a great chance of developing a knowledge economy and its achievements, and avoid such a phase (he concludes that the countries of the previous socialist block have interrupted their industrialisation on the stage characteristic of the thirties and forties; however, his conclusion is not a revelation since after “liberation” they were forced to adopt the Soviet model from before the World War Two - J.W.). Such countries, especially Poland, are able and have the opportunity to use and multiply the available intellectual heritage and, consequently, achieve success¹⁸⁵.

¹⁷⁵ GANNON, John. “A World Panorama of Troubles Along the 2015 Horizon”. *IHT*, February 2, 2001. Cf. also “The New Economy”, p. 44.

¹⁷⁶ GREIDER, pp. 317 and 321-322.

¹⁷⁷ „The Case Against”, p. 121.

¹⁷⁸ KENNEDY, pp. 12-13 and 64. Often accidentally, the population in the developed countries is affected as well.

¹⁷⁹ „The Case Against”, pp. 108-121.

¹⁸⁰ VOGL, SINCLAIR, pp.19-20.

¹⁸¹ *Ibidem*, pp. 68, 99-100 and 174.

¹⁸² KOŁODKO, Grzegorz W. *Moja globalizacja czyli dookoła świata i z powrotem* (My globalisation, or a trip around the world and back). Toruń, TNOiK “Dom Organizatora”, 2001; p.66 and KIPLINGER, p. 1-7.

¹⁸³ Compare “The Case Against”, p. 47-59 and 344-359.

¹⁸⁴ BIELECKI, Jędrzej. “Polska otadami Unii Europejskiej”. *Rzeczpospolita*, May 8, 2000.

¹⁸⁵ SACHS.

Wolfgang Michalski from OECD is of similar opinion. He asserts that transformation in Poland into a knowledge-based economy and society constitutes one of three key challenges (other challenges are completing the transformation and EU accession). He is right saying that, for the time being, Poland does not cope with this challenge as well as it does with the other ones, although this transformation requires the most thorough structural changes, irrespective of the EU accession date. It is not merely the question of proportions between production and services sectors. It is in the first place that of restructuring within such sectors and enterprises, including the ICT implementation, R&D promotion, replacement of traditional vertical dependence with horizontal team-like structures (network) characteristic of the new economy, replacement of mass production and consumption as well as management with social patterns based on personal responsibility and creativity, coping with increasing social inequalities, creation of flexible framework for application of technologies, and finally actual priority for education¹⁸⁶.

According to the OECD experts of *Interfutures*, technological transformations of the second half of 20th century and the beginning of this century, similarly to the situation at the end of the 19th century, will require from all countries huge non-technical adjustments. Namely, from the point of view of both governments and enterprises, such a requirement will extend to the field of economic and social policies, as well as governance. From the societal point of view, in turn, it will extend to getting accustomed to “permanent change” (and its inherent insecurity) as well as its implications for professional carrier and style of living. In order to promote the new economy, in other words, to develop and use knowledge, society needs a right mix of regulatory chaos (and freedom of operation) and order. On the one hand, excessive control and authority thwarts innovation, but on the other, too much insecurity and disorder hampers rational operations and discourages from assuming risk¹⁸⁷.

However, transformation in politics, institutions and economy structure, as well as actual decentralisation, and social consensus on changes are not enough to bring about the desired new economy (it should be remembered that everybody wants improvement in his/her and others’ standard of living, but ... rejects change, see the motto). Another new, improved and global solutions will also have to be applied in such spheres as protection of consumer rights and rights of privacy, payment safety, identity control, intellectual property protection, and the free market. Otherwise, we will not manage to fully implement the ICT reserves, electronic trade, the Internet, as well as new materials, fuels, energy sources, biotechnological advances etc.¹⁸⁸. Generally, incessantly evolving capitalism creates favourable conditions for use of modern technologies’ potential¹⁸⁹. Let us hope it will evolve taking into account the social dimension!

The Tofflers express the phenomenon in an excellent way: “The key to advanced development may not be the ability of a given country to produce information technologies (and others - J.W.), but the ability to use them in a creative way ... However, economic usefulness of digital technology or other technology limits a given country’s type of culture and institutions. Without

¹⁸⁶ MICHALSKI, Wolfgang. “Economic and Social Policies in Support of Competitiveness in the Global Economy: The Challenges Facing Poland”. (Paris, OECD). Paper for the conference in the Central School of Commerce in Warsaw, September 22-23, 2000; p. 2 and 7-13. According to him, Poland dominates comparatively in the category of small and highly specialised companies. Compare also DRUCKER. “Post-Capitalist Society”, pp. 97-109.

¹⁸⁷ THUROW. “Building Wealth”, pp. 104-105 and 223-231.

¹⁸⁸ *Ibidem*, p. 256-262, “The Future of the Global Economy”, p. 7-9 ,12-13, 30, 34, 42-60 and 64-72. Ineffective *governance* delays growth and hurts particularly the poor - THOMAS, Vinod. “Why quality matters”. The Economist, October 7, 2000; p. 118. Compare also LANDES, David S. The Wealth and Poverty of Nations. New York/London, W.W.Norton & Co., 1998; pp. 59, 301-307 and 523.

¹⁸⁹ BERGER, p. 37. Compare also SOROS, George. The Crisis of Global Capitalism Open Society Endangered. New York, PublicAffairs, 1998; pp. XXVIII-XXIX.

a new society, there will be no new economy, and without new institutions, there will be no new society (my emphasis - J.W.)”¹⁹⁰. Herman Bryant Maynard, Jr. and Susan E. Mehrtens agree with the aforementioned opinion and add another necessary factor: namely, wholly transformed enterprises of the Fourth Wave focused on both individual and global customer service, irrespective of its location¹⁹¹.

It seems that conclusions by Michael E. Porter are still up-to-date. He arrived at them during the search for new paradigm of comparative nations’ advantages. The latter are closely related to modern technologies and abilities to implement innovations, key pre-conditions of improvement in productivity and competition with other countries in the global economy characterised by almost unlimited access to all production factors¹⁹². In this way, in the case of knowledge-based economy, such advantages may be strengthened and/or created from the outset. Rudimentarily, the knowledge-based economy consists of two interlocking skills sets: knowledge creation and its productive implementation. There is no need (and usually, no possibility) to be good at both. It is enough, if a given country concentrates on one set and is not ashamed of imitation (as once Japan did)¹⁹³. However, at this stage, we need a conscious policy – a choice.

In the light of the aforementioned final remarks, the OECD is right in being so cautious when formulating its opinion whether the new (knowledge-based) economy already exists. In other words, whether we already face a new quality allowing us to use the strong term “new economy”, which means that this economy differs from the previous one (the term “knowledge-based economy” is not so attractive but seems to be more appropriate). We may ask the question whether we face “only” the next wave (using Tofflers’ terminology) of scientific and technological revolution, the impact of which is not stronger than that of the previous one. After all, we should remember that search for better solutions has always been the engine for long-term growth. According to the *Economist*, the difference lies in the expansion of the intangibles-based sector called “weightless economy”¹⁹⁴. As may be inferred from this line of thinking, the answer to the question we discuss does not diverge from the OECD opinion. There are some symptoms and features, however, we are far from completion of creation of this new quality. Therefore, at this point, it is difficult to state whether it will take place at all, not to mention whether it will become popular. Nevertheless, we should use all our efforts to accomplish its creation. Otherwise, we will stand to be defeated on the competition battlefield.

¹⁹⁰ TOFFLERS, Alvin and Heidi. “Cud sklonowany” (A cloned miracle). *POLITYKA*, July 22, 2000; p. 56.

¹⁹¹ MAYNARD, Herman Bryant, Jr., MEHRTENS, Susan E. *The Fourth Wave*. Business in the 21st Century. San Francisco, Berrett-Koehler, 1993; pp. 55-60.

¹⁹² PORTER, Michael E. *The Competitive Advantage of Nations*. New York, The Free Press, 1990; p.12-21, 41-53 and 74-80. Following the highest innovation-driven stage, the wealth-driven economy may be of rentier nature and be inevitably decadent (pp. 552-560).

¹⁹³ THUROW. “Building Wealth”, p. 135.

¹⁹⁴ “The New Economy”, p. 29.