

THE NEW PERSPECTIVE OF SUSTAINABLE DEVELOPMENT APPLICATIONS

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Abstract:

The new models of economic development have to express a view on the risk management of synergistic and of existing natural resources, but also on the impact of digital technologies open up new horizons to identify resources and transition towards another type of economy. Human civilization must respond with a holistic global problems faced, and identify the challenge of developing intelligent solutions in the context of the growing role of artificial intelligence built into most human activities. Economic reality is reshaping itself which influences new mechanisms of coexistence of the virtual space with the physical.

Key words: Smart economy, sustainable, data, natural resources.

JEL Classification: I3, O1, O2

1. A perspective of new technology above economy system

A concept of decreasing yields, which characterises the tangible capital and transforms the accumulation of capital is the main source of technical progress. It is suggested that there is an internalisation of costs, limiting investment at a threshold of internal and marginal efficiency; on the contrary, a concept of increasing yields shows that the firm may benefit from knowledge or experience of other firms, a recipe, a blue print, etc., without internalising costs of production of their own.

Under these conditions, the growing globalization as a deregulation and the integration of global markets for capital, goods and labour, increasing competition and technological revolution based heavily on the nature of General Purpose Technology of information and communication technologies seem to constitute a new identity to the new economy, with changes of duration in the unemployment-inflation trade-off towards a decline of unemployment without inflation increasing trend in the direction of the return to a golden age (Baily, 2002).

From this angle, the explanations and perspective on the economy are a permanent temptation for economists, providing a concept for the new economy that engages the transformations of products and processes at all levels of the economy. But instead encounter far greater observation difficulties (van Ark, 2005) and thus raise doubts, to which Stiroh (2000) expressed as follows: „Until someone finds compelling evidence of spillovers and productivity gains, the importance of those ideas should be considered cautiously” (Stiroh, p. 10). Similarly, Schreyer (2000, p. 8) argues that the ability to interpret the technological factor as an index of the benefits derived from the use of large-scale ICT (information and communication technologies as GDP) such as positive externalities, spillovers, scale revenue and technological progress, especially under the appearance of obtaining correct results. At the same time, van Ark (2002) insists that the most powerful explanations of economic growth are those that combine investment, efficient use of resources, invention and innovation with a focus on institutional, historical and political factors.

2. Risk management from the perspective of sustainable development

Sustainable development solutions in future decades can be laid down on the basis of the specific issues facing the global economy. The top 10 risks in terms of impact faced by humanity at present, according to Global Insight Report Risks, World Economic Forum 2015 (p. 4) are: Water crises, the Spread of infectious diseases, Weapons of mass destruction,

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Interstate conflict, Failure of climate change adaptation, Energy price shock, Critical information infrastructure breakdown, Fiscal crises, Unemployment or underemployment, Biodiversity loss and ecosystem collapse.

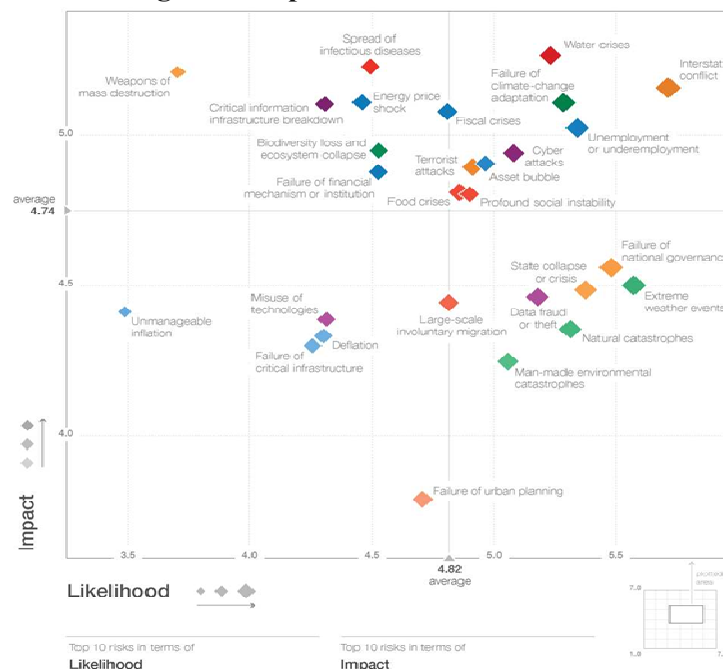
It is inevitable to deepen economic development issues in holistic terms, analyzing the way in which can interfere and impact on political economy and medical phenomena, planetary ecosystem functioning failures and climatic imbalances. Also, because of the high probability of the water crisis, we require a new view on resources and demographic growth. From this perspective, water is a resource whose exhaustion threatens the existence of all plant species and animals, including of mankind.

Demographic evolution models have to be developed and modified, even according to political decisions. Thus, if you it will decide to terminate suspend the one-child policy in China (<http://www.agerpres.ro/externe/2015/10/30>), the population of this country will be able to increase by 57 million people over the next 15 years, as estimated in the year 2030 to reach 1.450 billion inhabitants, compared to 1.393 billion (UN predictions). This demographic growth will render an increase in consumption of natural resources, primarily water, not only because of natural increase, but also by increasing the percentage of the population with a higher living standard in the next 15 years.

In terms of prediction (likelihood), the report quoted (Global Risks Insight Report 2015, World Economic Forum 2015, p. 4) identifies the top 10 risks: Interstate conflict, Extreme weather events, the Failure of national governance, State collapse or crisis, Unemployment or underemployment, Natural catastrophes, the Failure of the climate-change adaptation, Water crises, Data theft, fraud or Cyber attacks. Synthetic analysis of data places it among the political factor that can significantly affect the direction of evolution.

Instead of being a market corrector, social policy becomes, in the frame of this new European discourse, an optimization tool for the adaptation of the system of social protection from market forces. This new approach of the European social model starts from the idea of an European political Project which aims building a European identity.

Figure 1. Top 10 risks in terms of Likelihood








Source: The Global Risk Landscape 2015, GLOBAL RISKS INSIGHT REPORT 2015, WORLD ECONOMIC FORUM 2015, pg. 4.

Regional conflicts may move other phenomena that were not detailed in the report, such as human migration from the Middle East. Frontex- the European Agency for border surveillance (<http://www.digi24.ro/Stiri/Digi24/Extern>) announces that, from the beginning of the year 2015 and to date, 630000 emigrants have arrived in Europe, which represents the phenomenon with the greatest breadth, since World War II. The magnitude of this phenomenon of relocating population has important economic consequences, both for the countries in Western Europe which are targets of the migratory phenomenon, and for countries that are in transit, consequences which must be taken into account when analyzing trends and creates scenarios of evolution in the economy. In consequence, structural mutations will occur at the level of the economic instrument, both in terms of behaviour, as the attitude towards work, values and principles right in the antithesis to a behavioral model of european social type, but also at the level of an economic Act, through changes in labor relations, generated by an increase in labor market pressures. In fact, these pressures will result in reductions in the level of wage, with direct repercussions on the level of population, in terms of well-being. A new approach to european social model advances the idea of a productive social policy applied to the various social models in Europe (Hay, Watson, Wincot, 1999), to promote flexicurity, partnership, enhancing labour force activity, etc. Such a concept involves a social policy stance rather towards encouraging the individual to survive in the context of an economy that has become ever more dynamic, than to use its capability of the individual as cause for action to correct market forces.

Given the fact that economic constraints become more evident, it requires an upgrade - favorable to innovation activities - to a new capitalist model. The main idea is that solidarity was institutionalized so much that it diminishes people's desire to adapt their behaviour to the economy's demands. Therefore, it is necessary to shift from passive support to the active involvement of people, to insert people in the process of society modernization. The purpose of institutions in this context is to provide tools (ability to look for labour force on the market, flexicurity), which allows individuals to find ways to adapt to changing economic and social conditions (Balaceanu, 2012).

Figure 2: Smart-City Applications Can Help Cope with Scalability of Smart Cities

	 Energy	 Transport	 Water and waste	 Social	 Buildings
ICT-based systems/apps/services	Smart meters and demand response	Intelligent transportation and smart parking	Smart water meters	E-government	Home, building and energy management systems
	Electric vehicle infrastructure	Tolling and congestion charging	Distribution network control, leak detection, GIS	Remote social infrastructure (health, education)	Home entertainment and communication
	Distributed generation integration	Public transport system information sharing	Storm and flood management	Safety and security	Smart consumer appliances and devices
	Consumption visualization and behaviour change	Car and public transport sharing	Consumption visualization and behaviour change	Social city apps	Peer-to-peer room sharing portals
Non-ICT	Renewable- and co-generation	Low emission vehicles and new public transport	New water purification methods	Green hospitals	Energy-efficient building design and refurbishment

Source: Expanding Participation and Boosting Growth: The Infrastructure Needs of the Digital Economy, World Economic Forum, Prepared in collaboration with The Boston Consulting Group, March 2015

At the level of organization, information and communication technologies enable increasingly complex administration data bases, which causes changes in both the production system/services, as well as in all operational and management mechanisms of the community, including in their marketing activities.

Digital infrastructure allows and new forms of social and economic organization, called smart cities (Expanding Participation and Boosting Growth: The Infrastructure Needs of the Digital Economy, Prepared in collaboration with The Boston Consulting Group, World Economic Forum 2015, p 49).

3. The digital economy's support to develop Smart Economy.

The debate on new economy revolves around ICT (Information and communication technology), as well as prerequisite for economy by increasing emphasis on labor productivity and a new approach to human capital looked at from the angle of computerisation process digitalization. Thus, ICT shall be presumed to have the most growth, which would attract reducing unemployment and inflation, the effect or a cyclic response of a positive impact the bid (with a drop in prices for food, energy, insurance and technology).

Smart economy is based on concepts of productivity growth in the services sector, based in particular on re-allocation of factors and more efficient use of ICT (Sharpe 2002; Bosworth and Triplett 2007; Basu and Fernald 2008), suggesting a deep impact of ICT at the level of the production function. The transition from old economy to new economy is taking shape more and more comfortable on the smart economy, both by reforming economical policies in order to incorporate the technology at the level of all sectors of the economy, as well as at the level of principle policies production within the meaning of the phrase: *faster, better, cheaper* (Jorgenson 2004).

In general, the economic growth *boom* overlaps with the investment in ICT, and high rates of growth of investment reflects the full nature of technological new economy; ICT presents itself as type of input at rates of efficiency or marginal products large, with low costs and huge potential for additional applications (organizational) type GPT (General Purpose Technology).

Thus, the new economy is based on the ICT technology, showing low costs and high marginal products; main difference from conventional types of capital is that it indicates high rates of depreciation. In these circumstances, the investment *boom* reflect both rapid decline of high prices and the rates of the efficiency of ICT, supported by technological progress in top levels of high-tech, as well as the fact that entrepreneurs have chosen to change their pattern and replacing ICT with other types of input.

We admit the advantages and disadvantages of this position. A number of economists have sought to suggest that the difference between investment and technological advance, on which a neo-classical conception indicates that an investor can internalise yields return on investment without benefit, in exchange of spillovers benefits, external benefits which are produced elsewhere, without satisfying the entire concept of technology and outputs (increasing), highly associated with ICT at a microeconomical level. Thus, ICT reflects a huge potential for techno-human complementarity, emphasized by the organizational literature and/or the skill based technical change Theory, and historical analogies with General Purpose technology, which marked, past irreversible, the growth of the industrial trend. Economy reflects a major shift toward intangible forms of system inputs and outputs. Thus, to each 1 dollar investment in computers or information technology equipment, managers invest \$10 to reorganise their social systems of information and production to use this new technology as efficient as possible (Zysman and Weber 2000, p. 9).

We support the concept of the new economy based on information and communication technologies in particular and we try to provide a domestic and international perspective on growth and the role of ICT in this increase, taking into account a wider range of topics subsumed under the new economy, such as the smart economy.

The current society focuses on a development model based on innovation and creativity to provide population welfare through rationalising economic resources and especially time. In truth, we are talking about the fact that the economic world expands and time, as a resource, shrinks. This makes the approach on economy to be in line with the reduction in the use of time in productive work units, at an economy's level, in the sense in which the value of resulting products through work doesn't lessen the time of an individual, as the main vector towards the future.

Humanity wants to connect in real time to any event from any point on the globe, to reduce or eliminate any borders, obstacles, limits that could obstruct communication, viewing, linking with facts and actions that could make an immediate or subsequent impact on the individual and society.

4. Conclusion

The new economy is different from the old one, because of the difference between investment and productivity/technological advance that specifies a concept (neoclastic) built-in technology, as well as between the forms of intangible capital, knowledge and/or innovation; the type of difference specific to a unincorporated technology concept, and technological change. By reference to the smart economy, economic growth is supported and driven by the ICT boom in the services sector, by the increase of the share of knowledge-based activities and innovation in the economic instruments, by the developing policies to social inclusion as a support for an increase your inclusive, dynamic, fair and sustainable economies at EU level.

The new economy seems to be solely economic, such as natural management resource, involves not only multidimensional approaches and between institutions, but also to adopt an integrative vision that defines the terms of economic growth and sustainable development, as well as the way in which a transition cost is distributed towards a new kind of Economics.

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