

FETDE 2020
International Conference on Finance, Entrepreneurship and Technologies in
Digital Economy

DIGITAL ECONOMY AND SOME ASPECTS OF TEACHING
SUBJECTS

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Abstract

The genius of the great Albert Einstein is recognized all over the world. The author of the theory of relativity said that "not everything that can be counted matters and not everything that matters can be counted." However, in recent decades there has been an almost deification of economists and endowing them with the qualities of prophets. The general public in different countries believes in the magic of numbers, perceives the economy as an exact science and expresses enthusiasm for the forecasts it makes. Through the mass media the magic of numbers is now perceived as a scientific basis to foresee and calculate everything. Numerous financial education programs that have been implemented around the world contribute to this as well. Moreover, at present in schools and higher educational institutions the economy is taught as the "exact science - Economics", not as the human science. This article presents two different views on the process of transforming a traditional economy into a "digital" one. These views are full-fledged, as they belong to modern economists and analysts of reputable world financial organizations that are successful and world-famous. Many researchers call this phenomenon the "digital revolution" on a global scale. In addition, the author of the article makes an attempt to catch the connection between the system of teaching economics and the modern pre-crisis state of the world economy. In this case, the problem is considered in the context of determining the feasibility of recognizing the economy as a humanitarian or exact science.

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Keywords: Digital society; digital economy; vocational training; digital transformation; structure of educational disciplines



1. Introduction

The world community perceives the advent of the digital era, the entry into which began in the 60s of the last century, increasingly clear. Not only the universe is changing right now, but also the digital transformation of the world economy is taking place. The World Bank analysts in their report of Davos, 2016 predict a bright future to the humankind, bearing in mind that the entire economy will soon become “digital”. All countries, all markets, all companies and citizens will carry out economic relations with the use of information and computer technology (ICT). All the participants of the economic relations will be firmly linked to the Internet, and all the information they need will be placed and processed in the databases of corporate and personal computers (Varenik, 2016).

The use of the term “digital economy” is absurd — it's like “buttery butter”. The economy has always been and will be “digital” because it relies on various measure units (Malinetsky, 2018). Should we teach students Economics as "human sciences", using the traditional approach, or as "hard sciences". Can the Economics teach today's students what to do today, tomorrow, the day after tomorrow? Is it possible within just several years of training to turn a student into a professional seer, a guru, a prophet who knows the answers to the questions like what will the ruble rate against the dollar be tomorrow and the day after tomorrow; what will the GDP in Russia be tomorrow and the day after tomorrow? Definitely, the negative answer arises, but it must be positive if we perceive the Economics as the hard science and absolutely trust all its calculations. Most economic forecasts of the International Monetary Fund, the World Bank, the top three rating agencies, London City banks, covering a period of more than one year, did not materialize. However, most people believe in these truly magical figures and even try to build their own lives on such a “scientific” basis and “financial literacy” programs for the population. Does it make any sense and is it advisable to accumulate knowledge that is not tested in practice? This knowledge is like a burden that only weights those who have it.

2. Concept, main features and essential characteristics of the digital economy

Although the phrase "digital economy" was first used more than 20 years ago by a scientist from the University of Massachusetts (USA) Nicholas Negrponte, at present its true semantic meaning has rather blurred boundaries. This concept includes a part of economic relations that are realized through the Internet, cellular communications and information and computer technologies. The use of these technologies reduces the number of participants and intermediaries, reduces the time of operations on purchase and sale, lending, payment of taxes and fees, and other payments and settlements (Katasonov, 2017a). The digital economy is the part where people develop and produce such technologies. In a broad sense, it includes users. For example, banks, trading companies, insurance companies (Katasonov, 2017b).

In their publications on the digital society and the digital economy, scientists and teachers wrote that increasing the competitiveness of domestic business and the quality of services provided will follow the increase in labor productivity in all sectors of the economy after the introduction of information and computer technologies. Today, topics about the formation of a digital society and a digital economy prevail in the materials discussed in almost all world economic forums, including in Davos. The topic attracts close attention from international financial organizations. The key messages of the World Bank's promising

report (World Development, 2016a,b), entitled Digital Dividends, illustrate this. Its contents are presented on numerous pages, but it easily fits into three main statements:

- the worldwide spread of mobile communications, the Internet and information and computer technology creates the basis for turning the traditional economy into a “digital” one;
- “digital economy” is developing at an accelerated pace in many countries of the world;
- the development of a “digital economy” contributes to a brighter future. It can occur only with 100 percent coverage on a global scale (World Bank Group, 2016a).

Experts identify three main areas of ICT application: 1) production, where robots will play an increasing role; 2) trade with dynamically developing electronic commerce; 3) the monetary sphere (World Bank Group, 2016b). In the SWIFT information system, which is an international cooperative society (more than nine thousand banks and other organizations from more than two hundred states are members), at least two and a half billion payment orders are carried out annually (Katasonov, 2017a).

In his message to the Federal Assembly on December 1, 2016, President of the Russian Federation Vladimir Putin justified the need to adopt a large-scale program to introduce a new technological direction in the development of the country, which professional economists call the digital economy in the modern world. They were invited in parallel to develop serious measures to protect against cyberattacks that could come down from the West. The likelihood of such attacks increased significantly after the adoption of economic sanctions. At the same time, the President acknowledged that the widespread use of digital technologies carries significant risks to the viability of the government, to the sustainability of the financial system and other elements of the infrastructure.

Based on the idea of a "digital economy", the authors of the WB report predict that humanity will receive "digital dividends", like many other authors of studies on this subject. For example, they will act as an increase in labor productivity and competitiveness by reducing production costs, reducing poverty and unemployment, up to the onset of a crisis-free future for humanity (Bobilev & Soloveva, 2016).

Lone scientists and entire companies are trying to assess the scale of the “digital economy” with the determination of its share in the whole world, as well as in summarizing indicators of not only countries, but also regions. The Boston Consulting Group (BCG) is recognized by the authoritative expert in the field of “digital economy” in the world.

In their 2017 Report on the level of development of the digital economy in the Russian Federation, analysts from The Boston Consulting Group emphasized that this topic began to have a fairly high, even priority, place in the government’s priorities agenda. They expressed the hope that the most desirable scenario of “intensive digitalization” to enter a competitive sustainable trajectory, which was voiced earlier, will be realized. Analysts believe that in this case, the added value will be 5-7 trillion rubles per year, and the share of the digital economy in GDP will reach 5.6% by 2021, which will mainly occur due to the digitization of industries. According to their data, from 2016 to 2017, the indicators of the development of the digital economy in Russia have slightly increased, and the share of the digital economy in GDP is already 2%, which is 10% higher than the 2015 value. In 2010-2016 the average annual growth rate was 104.8%, however, it is still lower than that of the leaders (Scandinavia - 6–7%, the United States and the United Kingdom - 8–9%). At the same time, the growth in dollar equivalent turned out to be lower than the growth in ruble equivalent, due to the impact of devaluation.

According to BCG analysts, Russia began to actively and systematically develop relevant initiatives after the approval of the Digital Economy of the Russian Federation program on July 28, 2017. It includes five core areas that form the foundation for the further development of digitalization: infrastructure, information security, personnel and education, regulation, research and development. An autonomous non-profit organization (ANO) Digital Economy was created along these lines, the founders of which included Mail.Ru Group, Yandex, Rambler & Co, MegaFon, VimpelCom MTS, Rostelecom, Sberbank, 1C, Rostec, Rosatom, Russian Post, as well as the Skolkovo, VEB Innovations funds and the Agency for Strategic Initiatives. All this testifies to the transition of quality when carrying out the state policy of Russia to a new level and means:

- inclusion of business in the formation of the agenda for detailing specific activities and goals of the digital economy program;
- formation of specific operational plans in line with specific (pilot) projects in various industries and regions, the results of which will be markers of success (Polunin & Boutenko, 2017).

However, BCG assesses only the level of development of the use of digital technologies in the economy and does not assess how well these technologies have ensured the economic development of a country. Similar questions arise with respect to the WB report, since its assessment of the macroeconomic effect contains controversial points. First of all, this is what the assessment was made on the basis of indicators of companies operating in the field of information and computer technologies: development, production and trade. This may mean that the specific weight of the ICT sector has been calculated (production of software and hardware for computers, cellular communication services, the Internet, etc.), which develops only technical means for companies from other industries that carry out electronic commerce, electronic banking, etc. d. The highest growth rates of Internet banking services are observed in the Scandinavian countries. In Finland, Norway and Sweden, 95% of banks provide such services. In the United States, only 15% of the largest banks do not provide Internet services (Moluch.ru., 2020). There is no reliable and universal methodology for calculating value added, which can rightfully be recognized as a digital economic activity created by all participants.

The authors of the WB report cite the following data on the cumulative contribution of the entire “digital economy” in economically developed countries:

- 1995 - 1999: the equivalent of 3% of GDP;
- 2005 - 2009: the equivalent of 1% of GDP;
- 2010 - 2014: the equivalent of 1.8% of GDP.

They also recognize that the predominant part of this contribution is accounted for by the growth of capitalization of the ICT sector companies themselves. For the entire period from 1995 to 2014, about 20% of the total GDP growth, which was due to the “digital economy”, was provided by companies and entire industries - ICT consumers. Thus, the conclusion suggests itself that IT companies, and not society, receive the main “digital dividends”. First of all, these are American companies, since 8 of the 14 largest hi-tech companies in the world are in the USA. In reality, this means that the contribution of the “digital economy” to 7% of GDP represents the aggregate capitalization of the giants of the ICT sector promoted over the decades (Skidelsky, 2016).

3. Economics as a science: accuracy or magic of numbers and concepts

The representative of the American and world elite economist John Kenneth Galbraith in his life path made a very successful career. He taught at the University of California, Harvard and Princeton, was the founder of the Club of Rome together with Z. Brzezinski, E. Toffler and J. Jourastie. He was an adviser to the American presidents John Kennedy, Bill Clinton and the US ambassador to India. He believes that complex calculations and multifactor models become the basis for incorrect economic forecasts. The “digital economy” forms large volumes of useless information and represents a form of employment for economists themselves (Galbraith, 2009).

Professor at Columbia University Joseph Eugene Stiglitz notes, that the observed rapid growth of the “financial economy” contributes to the inflation of “financial bubbles” and creates a platform for the second wave of the global financial crisis. The hypothesis of rational economic behavior of mankind is not correct, therefore, economic forecasts based on an analysis of past trends always lead to failure. Identifying the risk of a deep recession is much more important than making complex calculations to predict tenths and hundredths of percent of GDP growth even five years in advance.

Well-known American investor John Bogle founded and managed one of the world's largest investment companies, The Vanguard Group. He was a very individual and diversified person and professional, interested in history. In addition, he was a member of the American Philosophical Society and the American Academy of Arts and Sciences (Bogle, 2013). He called it stupid that many people do not betray the value of that which is not quantifiable, and considered economics a very conceptual science. Along with economic knowledge and skills, he attached great importance to the study of history and philosophical thought, and, on the contrary, recalled that during his time at university he was not given a quantitative analysis of attention at all. Bogle (2013) expressed his disagreement with the fact that numbers began to recklessly rule and rule the economy, and all participants in economic activity too trust these figures with the advent of personal computers and the beginning of the information age. Numbers are far from reality, but only its pale reflection. In some situations, numbers can even grossly distort the existing realities that we subject to calculation. For example, stock returns are determined not only by economic factors, but also by human emotions, and the extrapolation of past trends is contrary to rational thinking, since it implies that the future behavior of the stock market will not differ from the past (Katasonov, 2017b).

A British-Russian citizen of Jewish Jewish origin and Baron Robert Jacob Alexander Skidalski expressed concern about the worldwide protest of students against the content of modern curricula, which do not allow them to find answers to the questions posed by the reality in their lives. They demand the abolition of imposing "the world of speculative conclusions" in the approved curriculum and learning style, which they call "autism." Skidalski (2011) expresses concern that disproportionately large attention and a lot of time in the United States and the United Kingdom is devoted to teaching mathematical disciplines in the economics departments of leading universities. As a result, a graduate with honors in economics can graduate, relying only on their success in mathematical disciplines, gaining the required number of points. It is very likely that he did not read a single line from the works of Adam Smith or Karl Marx, Mill or Keynes, Schumpeter or Hayek, during his training did not connect in his head micro- and macroeconomic analysis with a broad context of economic science.

4. Instead of conclusion

In the study, the author relied on the works of the pillars of the modern “market” economy, not only employed in the academic sphere, but also in practical activities. John Maynard Case in his great work "Theory of Employment, Interest and Money" did not put any formal models, always warning his students to abandon attempts to clarify and calculate everything. The famous Austrian economists Josef Schumpeter and Friedrich Hayek never welcomed the view of the economy as a digital machine.

Meeting the current challenges in the field of education will be a balance in the delivery of material in terms of volume and time, as well as conceptual approaches in teaching, both economic theory and special advanced disciplines, can lead to comprehensive training by future economists. In all forms of study and research, it is advisable to study the full range of opinions and consider successful scenarios in the digital or traditional economy.

An important place in high school should be devoted to the study of philosophical thought, starting with the works of great philosophers and economists of the past: Aristotle, who is considered the founder of economic analysis, Emanuel Kant, Adam Smith, John Stewart Mill, John Maynard Case, etc.

Skidelsky (2011) argues that it is a very narrow, limited and one-sided approach to the training of economists in high school constitutes a threat to the economic well-being of society. Most of these programs do not include political science, psychology, philosophy, or history. The learning process is based on the submission of ready-made models based on unrealistic assumptions, and competencies are verified by solving mathematical equations. Students are not taught at all about the use of intelligent tools that allow them to see the real picture as a whole.

Giving too much importance to numbers and digital technologies in teaching is not entirely justified. However, no one denies the significance and usefulness of mathematics and statistics in the formation of rigorous scientific thinking. At the same time, modern curricula in economics are overloaded with mathematical disciplines, the conceptual limitations of which many are not yet aware of.

Acknowledgement

The methodology for calculating digital GDP was developed by BCG in 2010 as part of a joint work with Google to assess the level of digitization of the G-20 countries.

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