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Significance of Developmental Science under Assimilation of the Digitalization of the Ukrainian Economy

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Abstract

The article discusses the development of the digital economy, especially how it affects investment flows. Particular attention is given to the main trend prediction of FDI and forecasts of the growth rate of FDI in the global economy. It is statistically proved the correlation between the GDP of the country and FDI flows. It is also demonstrated the development and importance of the global expansion of digital companies. The paper provides three crucial elements of the strategy for the upgrowth of the digital economy.

The article deals with the development of the agro-industrial complex in the conditions of the development of digitalization of the economy, the experience of introducing the digital economy into the agrarian sector of developed countries and the possibility of its application in the agriculture. It was proposed to expand the scope of application of the digital economy at the expense of public investment, the formation of new structural elements in the form of associations and associations.

Keywords: GDP, Development of Science, Digital Economy, Science Reform, MNC, Correlation, Growth Drivers, UNCTAD, Adaptation to Conditions of The Digital Economy, Cognitive Model, Foreign Direct Investments.

INTRODUCTION

Globalization processes have influenced the mechanics and geography of investing. Today, financial and investment are being implemented schemes that require the involvement of virtually all market participants and the transformation of the structure of national economies of the world. Undoubtedly, investment processes play an important role in the development of the national economy of any country in the world.

At the current stage of global development, there is a shift away from the traditional economy and an increase in the share of the digital economy. These circumstances contribute to the rapid development of business and country in general, the digitalization of the economy contributes to its growth and transformation from commodity to digital, eradicating corruption and integration into the network of developed markets. The problem of digital economy development in third world countries and countries develop, due to the lack of system public policy.

In this regard, there is a need to form an information system that meets the requirements of the digital economy and satisfies the information needs of the concerned parties. The relevance of the study is primarily due to the role of informatization in the process of developing a socially-oriented regional economy. Today, the activities of any enterprises and organizations, various institutions and government agencies are impossible without information and communication technologies, which, in one way or another, are connected with all spheres of social life. Informatization processes are gaining momentum in all structural elements of the agro-industrial complex: planning and management, production and transport, banking and financial operations, the media industry, healthcare and education, sciences society and cultural environment.

LITERATURE REVIEW

The development of the digital economy and problems of growing digital inequality is in the focus of attention of many researchers all over the world, including R. Bukht, R. Heeks [6], T. Elmasry [11], Olena Yushkevych & others [14], S. K Gupta & other [16] and Sergey & other [17].

Considerable attention was paid to the problems of digital economy development and its connection with FDI by foreign and domestic scientists, namely: P. Drucker, S. Kolyadenko, I. Karcheva, Y. Pivovarov, K. Skinner, E. Toffler, V. Fishchuk, K. Schwab. UNCTAD and UN reports were analyzed during the writing of the paper.

However, the complexity, multidimensionality, and ill-structuredness of problems associated with countries' adapting to the digitalization of the economy require applying the cognitive approach, which allows investigating complex ill-structured problems.

METHODOLOGY

The research is based on the study of modern advances in the field of digitalization when making investment and management decisions by the AIC subjects. The attainment of this goal is ensured by using critical analysis of literary sources, general scientific methods of a systematic approach, analogy methods, design, abstract-logical and statistical-economic methods.

The purpose of the article is to study the peculiarities of the interaction of GDP and FDI flows, to reveal the essence of the digital economy in the context of its impact on investment flows, as well as to analyze FDI trends and their growth rates in the world economy.

RESULTS

A major trend in the development of the global community is the reorientation of the digital economy and its increasing impact on investment. It is the development of computer technologies, especially information and telecommunications that is helping to create and spread the so-called digital economy around the world. More than half of households worldwide have the potential to join the digital economy.

The main impact of the digital economy on investment is manifested through the activities of MNCs. When MNCs adopt digital technologies, their operational activities are transformed and, as a consequence, the effects that their affiliates have on the host economy. The digital economy is creating completely new markets for companies that do not require significant financial costs to build a distribution network or overly demanding promotion. In practice, this means that MNCs that use digital technologies with fewer assets abroad get more sales revenue. Yes, technology companies for the ratio of foreign sales to foreign assets are very "light" companies.

At the same time, another rule applies to traditional MNCs: the share of the proceeds from the sales of a company generated abroad is more or less equal to the share of the company's foreign assets [11]. Telecommunication companies are expected to have the lowest metric by nature of your business: the telecommunications sector is always "heavy" on assets. This situation pushes traditional companies to implement digital solutions into their operations, because it helps reduce costs, reach new markets and increase overall efficiency. It is worthwhile to refer to the UNCTAD "TOP 100 MNC" rating and to analyze the main statistics. In particular, if we divide the companies in this rating into three categories (technology, telecommunication and traditional), we will see that from 2010 to 2016 technology companies have increased their assets by 11%. At the same time, telecommunications and traditional companies are up 1% and 0% respectively. In terms of operating income, technology companies are again ahead of the 5% increase from 2010 to 2016. Other categories, in general, show a decline compared to 2010 – minus 2%. A similar situation is observed in the aspect of increasing the number of employees. Technology companies saw an increase of 5%, while other companies did not show significant growth (telecommunications - 1%) or decreased at all (traditional companies – minus 2%) [17].

Thus, it can be argued that digital companies today are showing more effective performance. Today, there is no doubt that this trend will continue in the coming years.

The introduction of digital technologies is transforming global supply chains. Chains are becoming more dispersed as companies no longer require large investments in production to achieve

their production goals. This claim can be misleading that the digital economy is reducing FDI. This is not the case, and the digital economy, by contrast, is opening up more opportunities to invest, for example in large infrastructure digital projects or small digital start-ups [6].

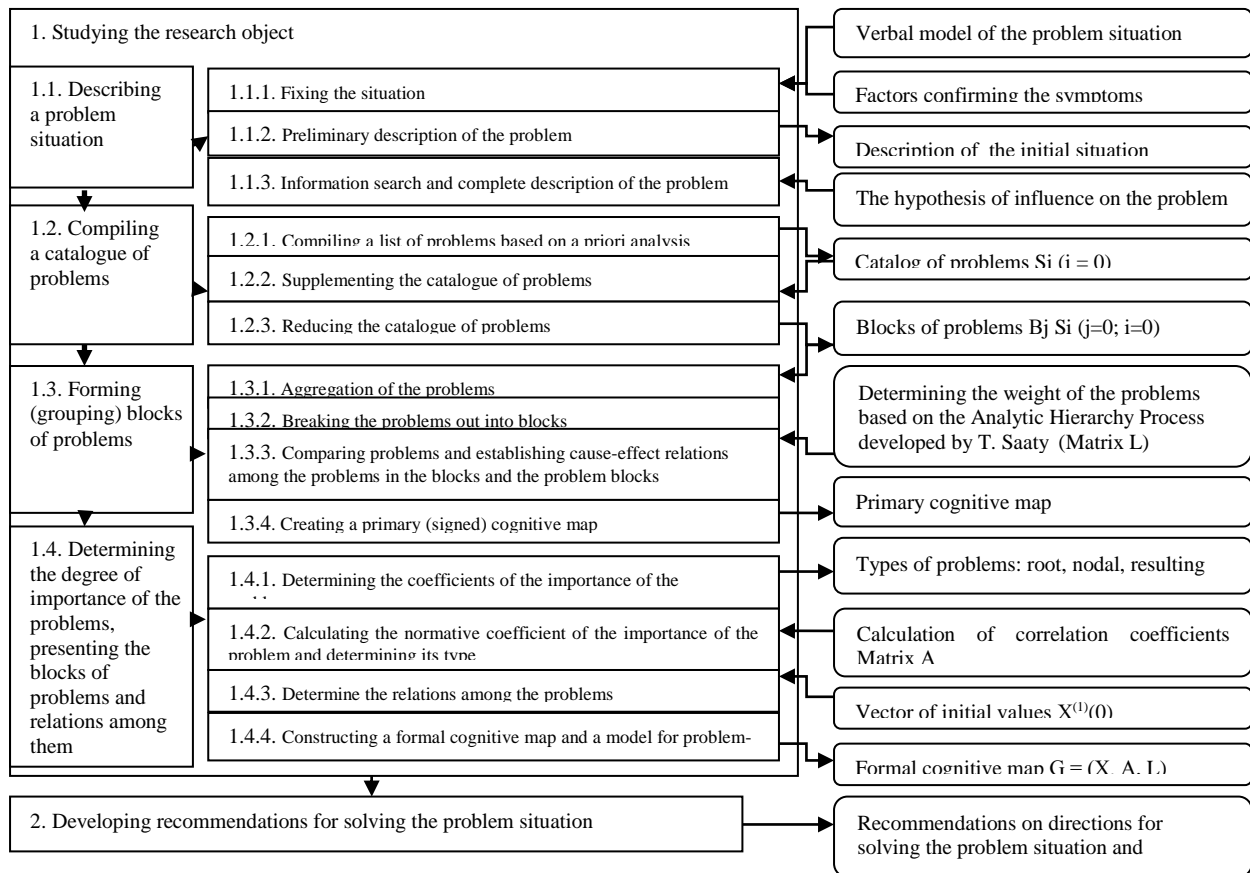


Fig. 1. The block diagram of the methodological approach to studying problems of development of science under conditions of adapting to the digitalization of the economy

Many countries, understanding the prospects and importance of the digital economy, have developed specific plans for the digital economy in their country. But most of these strategies are flawed because they either do not address foreign investment in the digital economy at all or focus solely on digital infrastructure investment, round. According to UNCTAD, a successful strategy should cover three elements: investment in infrastructure, in digital firms and the digitization of other firms across sectors. These elements are interrelated. For the digital economy to function effectively, you must first create an infrastructure within which the digital economy can exist. But the infrastructure itself is not enough - we need those economic entities that will start their business in the digital economy. This is where digital companies invest first. The last element – investing in universal digitization – is necessary to avoid creating an imbalance in the economy when only one sector of the economy will develop rapidly and all others will stagnate. All three elements in the complex can ensure the creation and effective functioning of the digital economy.

In particular, such growth expectations are driven by the resumption and growth of economic growth in the regions of the world and the increase in profits and economic activity of multinational corporations (MNCs). Moreover, the stability of stock markets and the growth of international trade will also have a positive impact on FDI flows.

It is worth noting that on a global scale, the digital economy accounts for about 22% of world GDP, which is indicative of the gradual digitization of all sectors of the economy, especially developed countries, as well as developing countries. In particular, according to the annual China Development Report, the country's economy is already 30% digitized. Exactly the digital economy is

a driving force for economic growth and plays a stimulating role in accelerating the country's industrialization process. Technology development and computerization are helping China to emerge from the "middle-income trap" and adding new advantages to international competition [10].

It is argued that FDI growth is driven by increased economic growth. To test for correlation, we analyzed the relationship between GDP and FDI flows in China, which is a major donor and the recipient of investment in Asia. Stat soft software used to plot correlations between GDP and investment inflows and between GDP and investment outflows. They show that there is indeed a positive correlation between variables. Moreover, the correlation coefficient obtained is statistically significant ($p = 0.05$). In general, if you include additional variables, you can further improve the reliability of the model.

Thus, empirical examples prove that there is a positive link between FDI and GDP, so the claim that the resumption of GDP growth in the world is one of the drivers of FDI growth is well-founded. There may be some doubts about economic growth in different regions of the world, but the change is that occur in the economic policies of states, make it possible to make optimistic forecasts. Fiscal policy is expected to soften in the US, while Europe and Japan are likely to have a cyclical momentum. Countries that mainly export raw materials and natural resources will receive additional revenue by raising prices for commodities, especially oil. Moreover, the expansion of international trade, expected at 3.8% compared to 2.3% in 2016, will also have a positive effect. On the other hand, there is a risk of rising interest rates in the world, which can complicate investment financing. In developing countries, this risk may still be accompanied by the risk of devaluation of the national currencies of these countries. All this harms funding. At the same time, it should be noted that investment outflows from developed countries remain weak.

For example, in 2016, the volume of FDI of them declined by 11%, to 1 trillion. dollars, mainly by reducing the investment of European MNCs. Investment from North America remained at the same level as investment from developed countries in the Asia-Pacific region reached its highest level since 2008. Investment flow from developing countries decreased by 1% to \$ 383 billion, an increase in FDI from China, which is now the world's second-largest donor of investment. You can expect some revival in 2018 investments from developed countries in North America, and especially from Europe.

According to a UNCTAD poll, the top ten most promising donor countries are emerging from China, the USA, Germany, the United Kingdom, Japan, India, France, the UAE, Italy and the Republic of Korea; so we see that four out of 10 countries are developing countries. Instead, the top ten recipient countries include the United States, China,

India, Indonesia, Thailand, Brazil, the United Kingdom, Germany, Mexico, and the Philippines. In this list of 10 countries, seven are developing countries. That is, we see that the overall trend remains unchanged: donors are mostly developed countries, and recipients are developing countries [8]. At the same time, China ranks first among the most promising donors. We can expect that in the future, developing countries will increase their presence more and more. A deeper understanding of global investing trends requires considering the world's investment policy.

The annual World Investment Report 2017 addresses this issue in a separate section, which emphasizes that investment policy as a whole is becoming more complex, diverse and volatile. It is worth noting that most countries already have special legislation governing cross-border investments. This legislation often duplicates the rules of international investment agreements. Therefore, when reforming such agreements, it is necessary to take into account the internal rules of individual countries. Also, the number of such agreements continues to grow: at the end of 2016, there were 3,324 of them.

A notable development in investment policy was the adoption by the G20 of the Global Investment Policy Guidelines. This is the first time that different countries with different levels of development have reached a consensus on investment issues. Consistency is even more important when it comes to the second phase of international reform investment agreements, which involves the renewal of old contracts. More than 95% of the total number of contracts were concluded by 2010 and contain some inconsistencies that cause difficulties in the investment protection process [7].

This state of affairs needs effective modernization. The most productive option is when there is a common interpretation of the contractual provisions. Despite the differences in interpretations

between countries, this method can be effective both in terms of time and in terms of the economic costs of its implementation. However, if there is already some dispute over investment between countries that results from the divergent interpretation of individual provisions, then this method is completely ineffective. On the other hand, these methods can be combined, so countries can choose not one way but a whole set that will be used effectively in the context of that particular country. The overriding principle that a country should follow when choosing how to upgrade is the principle of consistency.

Thus, shaping the digital economy is on the agenda of all countries in the global community, as it is an effective basis for developing the country and enhancing its international competition. Current trends in investing indicate that the structure of investor and recipient countries will remain the same.

CONCLUSIONS

The essence of the concept of the digital economy in the context of its impact on investment flows is revealed. The existence of a positive correlation between GDP and FDI flows has been empirically proven. Taking into account the forecasts for the acceleration of world GDP growth, we can conclude that the volume of FDI flows is expected to grow further in 2018. Also, the work demonstrated the development and importance of the expansion of digital companies. For its part, the digital economy creates completely new markets for companies that do not require significant financial costs to build a distribution network or too demanding promotion. Such the benefits of digital economy architecture confirm its relevance and need.

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