

IMPACT INVESTING AS A "BASIC INNOVATION" FOR THE GLOBAL ECONOMY AND FINANCE SYSTEM POST-CRISIS TRANSFORMATION

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Abstract

The current stage of the global economy development deeply impacted by the 2008-2009 years financial and economic crisis has the character of restructuring the entire economic and finance system and economic relations. The crisis is only a part of new global economic structure emerging. The article considers the "innovation pause" hypothesis, ICT role in the pathway to an economic recovery and its ability to provide a platform for helping to solve world economic, social and environmental challenges as well a turn to a new driver or "basic innovation" for global development, which is most likely Impact Investing. In medium term it should bolster the global finance, thereafter it will form a new cycle of modernization processes worldwide and be involved in the establishment of a new "technological setup" (new GPTs). Current trends in the development of innovative processes indicate decoupling in the types of innovations. We put forward a hypothesis that technological development or technological advance itself, as a key driver of global economic growth, is exhausted. Consequently, in the long term the development of industrial technologies will be slow. At the same time the priority will take some ways of social sphere capitalization that involves the introduction of new forms of financial and organizational innovations, which is Impact Investing. It would appear that modernization of the social sphere worldwide would be the basis of a new global economic and financial structure. It involves wider and deeper distribution of ICT infrastructure, opening up of new markets for the introduction of financial innovations and technologies.

Key words: global economy and financial crisis, post-crisis development of the world economy, impact investing, modernization, general purpose technologies (GPT), technological setup, innovation, technology, ICT

INTRODUCTION: A PLATFORM FOR HELPING TO SOLVE WORLD GREATEST ECONOMIC AND SOCIAL CHALLENGES

The world economy is still feeling the longer-term consequences of the 2008-2009 global financial and economic crisis. The leading indicators of national economies cannot reach pre-crisis levels [Hall, 2014; IMF WEO, Apr. 2015, IMF WEO, Oct. 2014]. Today we have still had extremely weak growth of GDP for advanced economies, European sovereign-debt crisis, and lack of fundamental changes in banking and financial markets, while there is a slowdown of sustainable growth in China, India and some other developing countries. Advanced economies led global economic growth prior to the financial crisis with "emerging" and "developing" economies lagging behind. The crisis completely overturned this relationship. The International Monetary Fund found that "advanced" economies accounted for only 31% of global GDP while emerging and developing economies accounted for 69% of global GDP from 2007 to 2014¹.

For an explanation of the processes arising today in the global economy, academics and thinkers draw different theories, paying attention to various negative factors and many of them point out exhaustion of the existing structure of the financial sphere [Stiglitz, 2008; Stiglitz, 2010; Foster and Magdoff, 2009; Koshovets and Frolov, 2014]. Others believe that the most consistent study of the current state of the world economy is on the basis of the cyclical development theory, which got its start from

¹ See International Monetary Fund, World Economic Outlook Database, October 2014: GDP list of countries. Data for the year 2014. - <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/weoselgr.aspx>

Joseph Schumpeter, Nikolay Kondratieff and Simon Kuznets [Schumpeter, 1939; Kuznets, 1940; Mensch, 1979; Korotayev A.V., Tsirel, S.V., 2010]. These theories represent the development of the world economy in the form of a serial replacement of large complex technology-related industries that we term as "technological setup". The engine of economic growth is found in *general-purpose technologies* (GPT) or *basic innovations* [Bresnahan and Trajtenberg, 1995; Helpman, 1998; Mensch, 1979]. They differ from regular technologies /innovations, especially in the fact that they have a very wide range of applications and with appropriate modifications can generate a whole bush of new derived technologies or innovations, thereby affecting many sectors of the economy. Thus, the core of a certain technological setup is GPTs that form a complex of technology-connected industries and are named the "key factors".

By today, there have only been life cycles of five technological setups, including the dominant in the modern economy structure the fifth setup, which is mostly based on communication and Internet GPTs. However, we agree with the wide spread statement that the fifth technological setup or the GPT driven modern information and computing technology (ICT) Revolution is nearing the limits of its growth and is actually in the final phase of its life cycle. They generate no more a sufficient number of new derived technologies that would ensure the growth of production efficiency considerably. Meanwhile, it seems that new GPTs have not appeared yet².

Indeed, the apparent steady slowdown in the global economy after the crisis of 2008-2009, as well as a slow creep into a new wave of the crisis, significantly decelerated the development of new technologies including possible GPTs as it is seen from weak or sluggish growth rates of investment in R&D sector (see fig.1).

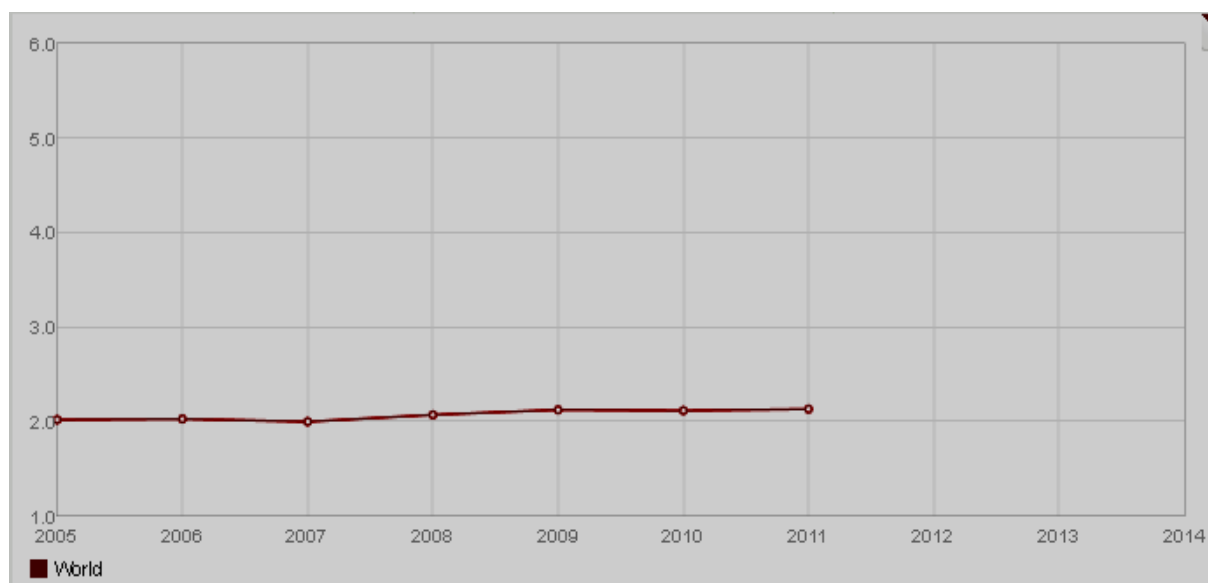


Fig.1. World Expenditures for R&D (% of GDP)³

As it is shown on figure 2, in 2013, the R&D investment recovery trend of companies based in the EU was less prominent than that observed in the period 2010-2012. In terms of net sales and profitability, the EU companies showed a short recovery period in 2010-2011 and then weakened again, especially

² Over the past decade, two industries have accounted for half of all R&D spending: healthcare and computers. Other resource-intensive industries include autos, and software.

³ Source: UNESCO Institute for Statistics. Expenditures for research and development are current and capital expenditures (both public and private) on creative work undertaken systematically to increase knowledge, including knowledge of humanity, culture, and society, and the use of knowledge for new applications. R&D covers basic research, applied research, and experimental development.

regarding the growth rate of net sales. The US companies continued to show an R&D investment growth similar to the level prior to the crisis but also continued to show a very low rate of growth of net sales over 2012 and 2013 [European Commission, 2014]. Thus, there are no obvious signs of post-crisis recovery investment boom to drive economic growth as it is supposed in cyclical development theory.



Fig.2. Annual Growth rates of R&D Investment and Sales⁴

In this regard, the expert community has spread the "*innovation pause hypothesis*", according to which the formation of a new technological setup is delayed indefinitely [Polterovich, 2009]. It is expected that after the "pause" a new sixth technological setup will arise, which is likely to be based on the convergence of biotechnology, nanotechnology and information technology. Practically, in the short term, only the most pressing problems of global technological development will be solved.

Let us question, what does such a "pause" mean in fact? For now, it is obvious that possible technologies of the sixth technological setup require constantly rising expenditures in R&D. It appears that before they begin to serve as a driver for a new wave of economic growth, they will require considerable time to develop and, most importantly, very large investments to realize. Therefore, in order to ensure the essential financial and technological base to arise for successful development of new GPTs, it is necessary at first to extend economic growth mechanisms based on the development

⁴ Source: The 2014 EU Industrial R&D Investment Scoreboard European Commission, JRC/DG RTD.

It should be noted that there is a characteristic industrial specialization of EU and US companies that persists after the crisis. It points to a concentration of EU companies in medium-high R&D intensity sectors, in particular in Automobiles & Parts with total domestic and world R&D shares in this sector of 25.7% and 49.7% respectively. US companies on the other hand dominate in high R&D intensity sectors, particularly in ICT industries with total domestic and sector world R&D shares of 44.5% and 62.7% respectively. US companies operating in high R&D intensity sectors (with the exception of the Aerospace & Defence sector) invest more to the ICT sectors like Software, Semiconductors, Computer Hardware, Internet and Computer Services and to the health-related Biotechnology sector. In 2013, the overall amount of R&D investment in high-tech sectors of the EU companies was €61.9 billion, well below the total amount invested by their US counterparts, €142.6 billion [European Commission, 2014].

of the fifth setup technologies, especially through ICT. This is possible on the way of their wider use in different spheres of human life and distribution in world regions still insufficiently covered by ICT.

Indeed, focusing on the transformational opportunities posed by the global economic turmoil, the 2009 World Economic Forum Annual Meeting in Davos declared that ICT can play a vital role in the pathway to an economic recovery, and that digital revolution can form the foundation of a sustainable global economy as ICT has an to deliver an economic growth dividend. According to them, ICT will provide "a platform for helping to solve some of world greatest economic, social and environmental challenges" and for that reason the main urgent purpose is to build ICT worldwide infrastructure in order to "the real-world economics will be applied to the ICT ecosystem" [World Economic Forum, 2009].

ICT AND A TURN TO A NEW DRIVER FOR GLOBAL DEVELOPMENT

The fifth technological setup was formed in the early 1970s and is associated with the development of microelectronics, computing, information and communication technology (including fiber optic and satellite communications), the "gas revolution" in the power industry and chemistry. At the level of the general social processes, it was accompanied by such phenomena as:

- The crisis of nation-states as a result of the emergence of global media, global information and ideological resources, alongside with *global corporations*;
- The emergence of *global financial institutions* as a result of technical opportunities for lightning-fast transfer of financial resources;
- The spread of outsourcing in global production. Such things appeared, like the specialization of certain countries in the production of goods from various technological levels and the "*financialization*" of businesses.

It should be noted that ICT is a driver of economic growth, not by itself, but through the sale of products and services based on them. In fact, ICT had laid the foundation for a whole range of management innovation to change the system of production and business. For example, many software and hardware solutions were designed specifically for the task of managing the lifecycles of complex technical objects.

We suggest that the extensive development of different ICT services can be exhausted in the medium term. However, ICT still have certain deployment capacity, as they will enable to cover many public life spheres where ICT will be in demand, for example, for the purpose of society modernization including medicine, education, the environment, housing and utilities, business management and complex processes control.

Today an obstacle for wider coverage of socially important spheres by ICT is commercial unattractiveness. For example, the model of public health in most developing countries suggests almost profitless healthcare sector or lower return then investors can expect or in comparison with other areas of ICT application. The same problem is observed in the spheres of education, the environment and so on. To step over this "threshold" that has occurred in the way of economic development based on the further expansion of the fifth setup technologies, it should be formed entirely new models of development for socially important spheres. This primarily includes introduction of new financial schemes to attract investment in these areas. In other words, for the development and wide distribution of socially relevant technologies, a crucial role will play new principles of financing.

We put forward a hypothesis that technological development or technological advance itself, as a key driver of global economic growth, is exhausted. We agree with Vernon Ruttan, who finds that military and defense-related procurement has been a major source of technology development and technological advance of XX century. The current technological landscape would look very different in the absence of military and defense-related contributions to commercial technology development

and it would have occurred in the absence of military procurement but significantly slowly [Ruttan, 2006]⁵].

Besides, many technologies that were established in the mid XX century are still effective, but the financial return from the majority of new technologies is of much concern. Revolutionary new technologies, which are likely to become new GPTs, for example, nanotechnology, biomedical technologies, or new energy technologies are emerging, too costly or currently have very limited commercial capacity. The task of developing and implementing these technologies on a large scale will be too complex and demanding in terms of resources, for the market to drive this on its own [Larsson, 2009; David and Foray, 2008]. Moreover, financial corporations provides funding and select relatively small amount of derived technologies and innovations. Contrariwise, as it is seen from the historical view GPTs are developed by research institutions and large companies, in cooperation with the state.

Thus, if the investment in new GPTs is too expensive, low-profit and requires support from the state, private capital will seek for new engine for its further growing, multiplying and enlarging. It seems that financial innovations have been gradually replacing technologies as such engine and impact investing is most likely a new "basic innovation" found to re-launch global economic growth.

We distinguish between technology and innovation as an innovation is not a novel device, it is generally considered a process that brings together various novel ideas in a way that they have an impact on economy and society. Moreover, we claim that it is necessary to discern between "innovation" as emergence and development of new industries (the definition of Schumpeter) and "innovation" as cycle of capital extended development, which *uses new technology as permanent resource for its growing*. Thus, formation of high-technology industries, national innovation systems and modernization processes are common in nature and based on the emergence and development of new forms of capital [Frolov, 2012].

We claim that current trends in the development of innovative processes indicate decoupling in the types of innovations. In the long term the development of industrial technologies will be slow. At the same time the priority will take some ways of social sphere capitalization that involves the introduction of new forms of financial and organizational technologies (better to say "innovations"), known as "Impact Investing". We suggest that the fifth technological setup based on ICT marked a turn for a new driver for global development – financial and management technologies, for which ICT serves as a kind of infrastructure. This infrastructure provides opportunities for further spread of financial innovation and for private capitals deployment to the social sphere in both developed and developing countries alike [Erasmus, 2008].

Thus, it would appear that modernization of the social sphere worldwide would be the basis of a new global economic and financial structure. It involves wider and deeper distribution of ICT infrastructure, including opening up of new markets for the introduction of financial innovations and technologies. This is confirmed by the fact that after the crisis of 2008-2009, the world's financial giants began to develop new financial innovations, calling them social innovations designed to transform social services all around the world, rather than seek to invest in new GPTs and industrial spheres. Thus, the "innovation pause" might actually mean a "pause" in GPTs development in favor for financial innovations. Overall, this pathway of development will determine whether the sixth technological setup will take place and what shape it will have.

⁵ Thus, according to Ruttan, military and defense-related procurement affects R&D of interchangeable parts and mass production, military and commercial aircraft, nuclear energy, computers and semi-conductors, the Internet, the space industries. All of them are GPTs.

IMPACT INVESTING: ITS KEY PRINCIPLES AND PURPOSE

Since the late 2000s, a new wave of "organizational", "investment" and "financial" innovations has been forming for far-reaching development of new technologies in socially important spheres, which are in demand among broad groups of population with a low paying capacity. All of them can generally be reduced into different forms of project financing on an international scale. Such innovations are intended to lead large corporations to solve socially important tasks, alongside focusing on their key function, which is profit-making [Hayat, 2014]. Michael Porter, a prominent American economist, who enunciated the conception of "shared value", is an ideologist of this conception [Porter and Kramer, 2011]. A wave of financial and organizational technologies, which is being formed on the basis of this principle, has been collectively named as impact investing. Such terms as social investing and responsible investing etc. are also quite often seen.

Impact investing backbone is project financing, based on "*exchange of access*" to resources and excluding direct borrowing of financial means. This means that one of the project's participants provides access to some resource, controlled by them, for shared use by all project participants, who also provide access to their resources, and in return, receives a share in their property. What can be looked at in terms of resources include natural resources, minerals fields, technologies, innovative industrial processing and equipment, transport corridors as well as assets, licenses, managerial solutions, competences, and even domestic demand. In this way, all the elements necessary to implement a project are given an estimation in accordance with which profit is distributed between the participants. As a result, considerable savings should be derived on transactional financial expenses as direct money transactions are excluded from the interaction system of project participants [Balkin, 2015]. It is particularly significant for projects aimed to development and operation of complex engineering and manufacturing products and facilities.

It should be noted that the impact investing conception in particular implies development of new financial technologies, tools and standards. Furthermore, it suggests formation of a new layer of management and intermediate structures to provide investors of the world periphery with access to the spheres of technologically developed economies that were unavailable to them before.

The described principle of innovative financing can be taken as a basis for implementation of far-reaching infrastructure projects, such as the Silk Road, which is going to be pushed forward by the People's Republic of China. The advantage of such infrastructure projects is that they will not be financed by only one country but by a conglomerate of state and private financial structures. Moreover, such global infrastructure projects themselves will contribute to an accelerated industrial modernization and reindustrialization of developing countries. The following inclusion of developing countries in such global development schemes will allow switching to a micro-level and distribute of impact investing technologies "lower" for the purpose of local infrastructure modernization, including housing and public utilities systems renovation or building and so on. This means, as well to introduce the developing countries to new principles of life style and consumption corresponding to certain worldwide standards, for example, healthcare delivery and so forth.

It is worth emphasizing that regardless of the application sphere of impact investing, the principle of assured financial return of the project will be kept for the benefit of investors. Massive resources, necessary for implementation of new technologies in socially important spheres, will be provided only on the condition that they are for investment purposes.

A classical model of impact investing is microfinance, which historically developed as a financial innovation designed to solve the problems of development and poverty alleviation in the developing countries [Levenson Keohane, 2013]. In the case of microfinance, usually women take micro-loans to the amount of 10-15 dollars to set up in business. Indeed, for a loan they can produce handmade products (clothes, utensils, meals), not only to meet the needs of the family, but also for sale. As a result, developing countries are involved to various artificially made local markets of "micro financial services" to be used by millions of poor customers. However, as one can see from a historical point of view, microfinance is not an impact investing, as its founders pursued merely social goals [Yunus, 2008]. Nevertheless, microfinance as a successful financial innovation actually kick-started

development of a range of new innovative financial strategies and schemes, including products based on them. Their goal is to make a profit from the spheres of household and social life all over the world that have not been opened up and developed by financial capital [Feigenberg, Field and Pande, 2011; Kutney, 2013].

Another case of development of household and related basic economic activities spheres of Asian or African countries by the financial sector is when a large banking structure, fund or corporation invests in infrastructure building (for example, a mobile network) without expecting an instantaneous return. The real expectation is that respective needs will be formed among potential users on the way of their involvement in economic activity as well in the production of goods for domestic market, and then corresponding infrastructure services considerably facilitate this activity.

Taken as a whole, impact investing is the first step to development of an entire class of institutional technologies. Their goal is the growth of social efficiency through transactional cost management. A positive capacity of impact investing consists in focusing these financial innovations on purposeful capitalization of projects aimed to achieve socially important goals. In other words, we are talking about such spheres, which are of or are going to be of social value through the course of implementation of modernization projects for benefit of nearly all the population of one or another country or the world as a whole.

Overall, impact investing serves as a unique technology, with the help of which project relations are constructed between investors (transnational corporations) and different beneficiaries (commercial, corporate, state, social structures). Gradual conversion of social values in cost is the essence of newly constructed relations based on these technologies.

THE SYSTEMIC CRISIS CHALLENGES AND THE FUTURE OF FINANCIAL INNOVATIONS

The following fact gives evidence as to what extent a new technological (or rather financial and innovative) trend is promising. In 2009, a range of international financial institutions and transnational corporations established the Global Impact Investing Network international organization (GIIN)⁶. Its governing body includes the representatives of the largest international financial structures such as J.P. Morgan, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, Prudential, UBS and many others. The funds of the Rockefellers, Ford, the MacArthur's and the Omidyars, alongside American and British government entities are taking an active part in development of the methodology and standards of impact investing. On the figure below is given some estimates of the potential size of the impact investing market. As it is seen the market is expected to be large, but actually, the potential has not yet been fully achieved.

⁶ See list of GIIN supporters on <http://www.thegiin.org/cgi-bin/iowa/aboutus/supporter/index.html>.

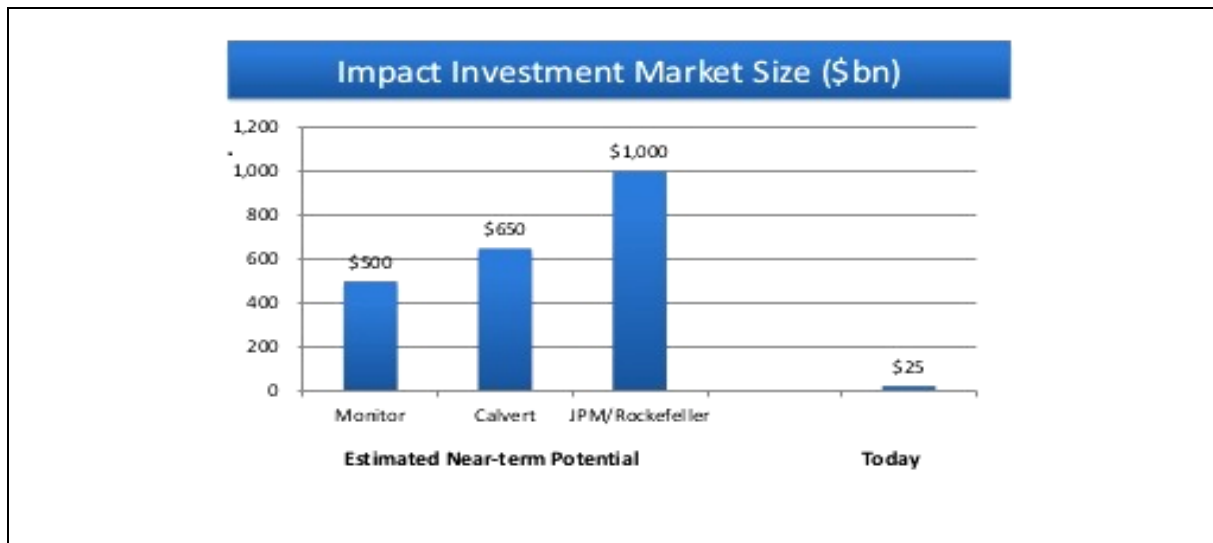


Fig.3. Estimates of the potential size of the impact investing market⁷

However, in the nearest future, a new market of impact investing will begin being formed; an essential financial and organizational structure will start being created, and so on. Thus, in June 2014 at a recent round table in Washington at the White House, the pool of representatives of major banks, corporations and charitable foundations including Prudential Financial Inc, Capricorn Investment Group, Omidiyar Network and others, have promised to invest more than 1.5 trillion dollars in different impact investing projects that tackle pressing problems at the national and global level [Auguste, Kalil and Greenblatt, 2014]. For example, Prudential Financial commits to building a \$1 billion dollar impact investing portfolio by 2020 to eliminate barriers to financial and social mobility. The McKnight Foundation and Rockefeller Brothers Fund both will dedicate 10 percent of their endowment assets to impact investment, including mission-related investing, deploying \$200 and \$84 million respectively. The Capricorn Investment Group will deploy \$100 million over three years in sustainable real assets, including renewable energy and energy efficiency. The John D. and Catherine T. MacArthur Foundation and the Ford Foundation will make impact investments to expand energy efficiency and to increase economic mobility respectively.

We put forward for consideration the hypothesis that the point at issue is that the largest financial transnational corporations are looking for ways for further development of the financial sphere in the post-crisis period and new ways to restart global economic growth, especially in conditions when technologies are not a standalone driver of economic development and profit making anymore. The reason is that economic and financial structures that were established after the Second World War, as well as schemes of technological development of the world economy based on them have reached their limits, and the crisis of 2008-2009 revealed it.

We accept the hypothesis that the current crisis was triggered by a surplus of financial capital. Consequently it should place the current events and process in global economy within a broader crisis of monopoly-finance capitalism and agree with those who consider the 2008 crash and subsequent recession as a systemic crisis —one that has been gestating for several decades [Foster, Magdoff, 2009]. We suggest that in the systemic sense, a global economic system is a synthesis of realms ("layers"), which historically emerge, reproduced themselves, and interact – local economies (material conditions of life), world economics, global finances, and financial assets. Each new configuration of the above-listed components within the scope of every cycle of economic development is *unique*. Moreover, this unity is active and agile in its essence, and its growth in the beginning of the cycle of its development is relatively balanced: economics stimulates the development of local economies, and finances raise the levels of activity in economics. However, the capital develops faster than its

⁷ Source: "From the Margins to the Mainstream". World Economic Forum. Sept 2013.

fundamental material productions and this causes new disproportions to store and then to surface. Therefore, ultimately, under each configuration, certain conditions are shaped which are "external" to historically established types of capital and wealth and their particular development, and these conditions cause each global critical juncture or a regular crisis.

From that point of view world crises should be studied as the processes that destroy such configurations (temporary syntheses) of self-reproducing and interacting realms. Upon the end of each world crisis, which partially eliminates disproportions related to the overproduction of different types of capital, a new synthesis evolves and enables global economics and finances to grow. This happens due to growth of a certain segment of businesses based on material productions and due to taper of local economies and households, which are not yet capitalized [Koshovets, Frolov, 2014].

However, the crises themselves are characterized by devaluation of all wealth types. This includes curtailment of commodity manufacturing along with a likely deflation, as well as funds devaluation; and then devaluation of all types of productive capital, including banking one, which is manifested in the interest rate increase and growth of borrowing cost with view to eliminating risks, and finally financial asset devaluation that is stock market decline [Frolov, Koshovets, Ganichev and Tsipko, 2011]. It is therefore quite logical that when the crisis of 2008-2009 signaled the exhaustion of the existing finance system the processes of restructuring and formation of a new configurations has begun. The essence of these processes is to search new schemes and ways for finance to develop new yet uncapped areas. It seems that impact investing is the most promising way to launch a new cycle of global economic development and define the economic system to come. Moreover, it is likely the path following which capitalism will reinvent and reinvigorate itself [Kaletsky, 2010].

Consequently, no wonder that the largest financial transnational corporations represented by GIIN are actively developing specific methods for project financing that are based on the conception of impact investing. Their goal is to ensure deployment of private capitals and technologies under the conditions of the current deficit of financial resources in the world regions that have not been capitalized yet, and where domestic resources do not exist for payment of different public goods, infrastructure development, new technological solutions etc. Therefore, one might expect that new principles of project financing will become a primary way for expansion of some technologies of the fifth technological setup to such spheres of society and everyday life where they could not enter before due to unattractiveness for investment.

It should be noted that since the impact investing principle presupposes mutual "offsets" between participants (stakeholders) who "invest" their resources in the project, the matter of how and who will evaluate these heterogeneous and unequal "investments" made by the participants in the final allocation of shares in the project and the distribution of its future "profit" is of great importance. Nevertheless, it is obvious that in the final allocation of shares in such projects, educational and medical innovations or "management technologies" will be more highly appraised than natural resources. This way, for example, a certain African country – a stakeholder of certain "social" project – will receive no more than 5-10 percent in it, so it will get a specified share of ownership of its natural resources.

Thus, in fact, impact investing is a form of transnational lending for social budgets of states on the security of their natural resources or infrastructure. In that way, African or Asian or some Eastern European country invited to participate in such a project will pay with its minerals, lands and other resources for the establishment or modernization of its social infrastructure, for social or technological benefits, infrastructure projects (mobile networks, the Internet etc.), medical and educational innovation, provided by the global private financial institutions. The developed countries will pay for these public good, for example, to deliver affordable housing and healthcare for low-income communities with its administrative resources and budget funds. Consequently, such massive impact investing will be implemented under the adequate state assurances, and public officials are expected to make smart regulatory, procurement, tax and other policy interventions.

It should be emphasized that the GIIN management take the defining part in the process of impact investing circuit functioning and currently, it builds and determines a set of principles that will be the

basis for mutual "offsets". Moreover, the impact investing principles themselves suggests a mechanism to rearrange ownership of wealth of the countries, which are unable to pay for its technological development and to comply with "world" standards of living and consumption⁸, in favor of global investment centers.

Thus, impact investing expansion will inevitably lead to global redistribution of world resources and spheres of influence in favor of transnational corporations which get involved in the impact investing in proper time and holding the essential technologies.

CONCLUSION: TOWARDS NEW FORMS OF BUSINESS, SOCIETY AND TECHNOLOGICAL DEVELOPMENT

The main drivers of the fifth technological setup, microelectronics, ICT and Internet technologies, have completed their exponential growth; and now there is a tendency of their transformation into a "carrier", a means to transmit other technologies in all spheres of life, including recreation and leisure. Aside from that, it is this type of technologies that will be in-demand for implementation of impact investing projects, and therefore, for proliferation of financial innovations aimed at large-scale modernization of social and economic spheres throughout the world.

We claim that today's crisis that hit the global economics is not a classical cyclic crisis, because, in fact, it has been provoked by the over-accumulation of financial but not production capital. Thus, this crisis is of systematic nature. If this hypothesis is correct, the global economic development should be considered not as a process of sluggish post-crisis recovery, but as a worldwide transformation of the global financial and economic system. The crisis is just one of the aspects underlying the formation of the new global economy in the 21st century and the destruction of the old economic and technological relationships. Therefore, restricting of established economic and financial system will accompany of new technological setup formation.

However, as since the 1970s finances have taken a leading role in global development and today this is the existing financial system that came to the exhaustion of its functioning mechanisms, the reorganization of the current global economic and financial order requires first and foremost development and implementation of financial innovations to serve as a new driving force. Besides, it is necessary for the purpose of maintenance, further development and expansion of the financial sphere itself. Consequently, impact investing is the needed thing; in medium term it should bolster the global finance, thereafter it will form a new cycle of modernization processes and be involved in the establishment of a new technological setup.

We suppose that the sixth technological setup will begin to form between the 2020s and the 2030s and will be localized and not widespread. Taking into account the described trends – rapid development of the impact investing sphere in the medium term and broad capitalization of state, social sphere and economic resources by virtue of them throughout the world it can be expected that the holder of new technologies, whether it is financial innovations or manufacturing technologies, will be transnational corporations mostly and not certain countries or groups of countries.

It is very likely that for each technology of the new sixth technological setup there will be a "parent economy", i.e. a country or a group of countries, where it will be developed by transnational corporations. Meanwhile, new manufacturing technologies and financial innovations will be proliferated and applied throughout all countries the majority of them will be only recipients of these technologies produced within the "parent economies". Nevertheless, in the framework of international cooperation and the establishment of new industries and due to modernization of the social sphere in the recipient countries more developing countries will be involved to form new technological production chains.

⁸ It should be noted that these standards of consumption are actively inculcated to "potential customers" through mass media, cinema and advertising as indispensable standard of life or a desired lifestyle

However, the transnational corporations – the owners of technology – in fact, will determine which countries will participate in the research, development, design and production of new technologies and innovations. Consequently, the majority of the countries will remain technologically and financially dependent; and this dependency will only intensify. Thus, the actual technological inequality and the unevenness of technological development in the world will increase. Yet, social standards, education, health services and such will be leveled out, as management models and financial solutions will be globally standardized.

It is concluded that the new sixth technological setup will actually exist only in certain countries ("parent economies"). The number of such countries will be very limited: for example, the USA (new energy, biomedical technologies, and nanotechnology), Japan (nanotechnology, biomedical technologies, and robotics), EU (nanotechnology), South Korea (biomedical technologies, robotics). Concerning developing countries, especially the poorest ones, they foremost will undergo a new wave of modernization processes. Transnational corporations will determine the direction of its development as well economic and social spheres to be capitalized by virtue of impact investing. Thus, involvement of these countries into the sixth technological setup will be determined mostly by these processes, as well as by the need to accustom them to mass consumption of innovations.

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