
GLOBAL FORECASTS

A UNIFIED DEVELOPMENTAL STRATEGY FOR THE GLOBAL WORLD: A NECESSITY AND OPPORTUNITY

Valentina M. Bondarenko

Institute of Economics, Russian Academy of Sciences, Moscow

In the present article we reveal opportunities for the advancement in the solution of the task of obtaining theoretical foundations for working out a unified developmental strategy for the global world. The new paradigm is based on four approaches: defining a single objectively set developmental goal; considering all development processes using the principles of complexity, consistency, and integrity; measuring all development processes through a single indicator – time; and usage of a single criterion for the effectiveness of the development. The suggested paradigm shows the urgent necessity to develop a unified strategy for the development of the global world and also the opportunity and mechanism of its practical implementation. It also gives a new understanding of globalization, which must inevitably replace the existing model.

Keywords: *globalization, new scientific paradigm, unified developmental strategy, goal, complexity, consistency, integrity, interdisciplinarity, time, efficiency criterion.*

Introduction

Nowadays the global world is in search of effective ways to overcome the long-perceived crisis. The crisis phenomena have been intensified by the COVID-19 pandemic. During the pandemics, there have appeared forecasts that economy is likely to face consequences comparable to the Great Depression of the 1930s and the global economic losses from the pandemics may amount to more than 12 trillion dollars (Rambler-Finance 2020). It is obvious today that the overcoming of the crisis related to the pandemics proceeds easier than it could seem; yet this comes at a price. In 2020, due to the states' unprecedented expenditures for the pandemic response, the total public debt of the countries grew to 281 trillion US dollars and now it already amounts 355 per cent of the global GDP. This shows the possible scale of problems emerging in case of outbreaks of new pandemics or of similar global threats.

Today there exist opposite points concerning the world's developmental path in the post-pandemic period. It is quite natural since many proposals have appeared difficult-to-implement due to the lack of mechanisms for their implementation and feedback that characterizes their effectiveness (IA Regnum 2020). But most importantly, all proposals both in Russia and throughout the world are formulated within the framework of the exist-

ing paradigm of socio-economic development whose main vector brings a growing systemic crisis in all spheres. There also has not been performed sufficient analysis of the objective causes of the crises, including the emergence of the COVID-19 pandemic and its consequences.¹ Some authors believe that globalization has become an important mechanism for disease transmission and they consider it is necessary to study the potential impact of COVID-19 on globalization and global health in terms of mobility, trade, travel and the countries most affected by it (Shrestha *et al.* 2020). Others believe that the virus pandemic broke out unexpectedly and it shows that it is necessary to prepare for pandemics, natural disasters and crisis management in advance (Aven and Zio 2021).

The range of viewpoints is huge and still many authors unanimously argue that the world will be different after the COVID-19 pandemic ends (Delios, Perchthold, and Capri 2021; Aven and Zio 2021; Zameer, Shahbaz, and Vo 2020). The world will certainly change. What will it be like? That is what we are going to speak about in what follows.

What will be the Global World and What do We Know about the New Developmental Paradigm?

Nowadays, in all countries of the world new strategies are being developed aimed at overcoming the global crisis. Since the analysis of these strategies is beyond the scope of the article, we will briefly give examples of the most high-profile strategies, which are much talked and written about. The authors of some of these strategies believe that the coronavirus has created conditions for the emergence of the basis on which their concepts, plans and generally new foundations of the world order can be implemented.

First of all, this is the strategy presented by Klaus Schwab in his report at the World Economic Forum (January 2020) and then in the book published in collaboration with the journalist Thierry Malleret and entitled 'The Great Reset' (Schwab and Malleret 2020: 212). In simple terms, the basic components of this conception are the following:

- 'The Great Reset' will imply that capitalism will take a different form. It is supposed that these changes will be managed by large financial and other multinational companies and global actors. At that, corporations are supposed to take more social responsibility and to actively participate in public life for the sake of more justice and common good, thus, actually starting to replace nation-states.
- Digital technologies will increase their impact which will actually mean the creation of a worldwide network of total digital control;
- The process will presumably take the direction of increasing automatization and robotization of jobs, of widening use of AI technologies in all spheres of economy and life; while people who lose their jobs will be paid UBI (universal basic income);
- Green technologies should be developed and implemented in order to completely abandon hydrocarbons.

In December 2020, the Vatican in collaboration with representatives of the world's 27 largest corporations, banks and funds put forward the concept of a strategy called 'Inclusive Capitalism'.² The main goal of inclusive capitalism, set by the Council, is the growth of the social good for the humankind and achievement of happiness and prosperity.

On the Council's website, one can find the so-called Manifesto for Inclusive Capitalism which contains not a plan (which is absent), but only the principles:

- *equal opportunities* to achieve prosperity and living standards for all people, regardless of gender, ethnicity, religion or age;
- *fair results* for those who have the same opportunities and use them equally, including for the future generations and for those members of society whose circumstances do not allow them to fully participate in the economy;
- *trust* between interested parties in building inclusive capitalism, acting responsibly, transparently and faithfully, and taking prompt and fair responses in the event of a conflict with core values;
- ensuring the *swiftness and sustainability* of inclusive capitalism in the long term by encouraging innovation and progress.

Another concept of reconstructing capitalism is called the Green New Deal. However, it is not new and was actually developed during Obama's presidency.³ Currently, this program is used by the left-wing and left-liberal thinkers and politicians. The goal of the New Green Deal is to launch an ambitious modernization program based on green technologies and create millions of jobs, as well as achieve carbon neutrality for the United States by 2030 and turn the country into the world leader in the field of renewable energy.⁴ Biden's administration program makes an extensive use of this conception.

However, all these strategies lack criteria to assess the validity of the set goals and consequences of their implementation. In a number of cases, the mechanism for implementation is also unclear while the costs seem rather high or they are technologically impossible now. Thus, the global or national planning has not any unified, systematic, integrated, and holistic approach to analyze all aspects of development and find solutions that will ensure that not only individual countries but the whole world will get out of the crisis in the shortest possible time. In addition, currently developed scientific theories, including the economic ones, still fail to offer any effective mechanism to eliminate crisis phenomena, all the more prevent them. Moreover, from the perspective of a narrow disciplinary knowledge it turns out impossible to clearly justify the outlines of the future global system, or a single strategy and mechanism for achieving this future which appears incomprehensible. That is why there are reasons to argue that neither of the strategies may be implemented and help achieving the expected results!

Of course, to propose a comprehensive plan one should take into account the trends and regularities of development in the past. However, one cannot return the past especially because of a rapidly changing reality. These processes are notably accelerated by the rapidly developing digital technologies and technologies of the fourth industrial revolution – Industry 4.0, or as the adherents of the scientific legacy of Nikolay Kondratiev denote them, technologies of the Sixth Kondratieff wave (Grinin, Korotayev, and Tausch 2016; Grinin and Korotayev 2016; Grinin L., Grinin A., and Korotayev 2017; Grinin 2019, 2020a). In their research, Kondratiev's followers argue that development is a cyclical process, in which crises are an inevitable condition for the transition to a new cycle (Bondarenko 2011). Thus, as Leonid Grinin (2020b) writes,

The crisis can be considered as a part of an economic cycle when the potential for growth becomes temporarily exhausted. Hence there occurs a forced re-establishment of proportions which are more compliant with the available opportunities for the social system. We consider crisis as a part of cycle, within which structural contradictions and incongruences in society become tempo-

rally unsurpassable. Later they are partially resolved which creates opportunities for a new cycle to start (for details on the nature of economic crises see Tugan-Baranovsky 1954; Mitchell 1927; Schumpeter 1939; Haberler 1964 [1937]; Bernanke *et al.* 1998; Minsky 2005; Grinin 2010; Grinin and Korotayev 2012; Grinin *et al.* 2016).

And despite all efforts, it appears impossible to eliminate this cyclical nature of economic development (Grinin 2020b). And this is true! The major problem (which I already thoroughly described in my other works) is that all these phenomena are a natural product of the currently dominating developmental paradigm. In other words, this developmental paradigm makes it impossible to avoid crises and inequality, while natural resources are exhausted and the number of environmental and climate disasters and other negative phenomena is increasing (Bondarenko 2014a). Therefore, it is essential to change for a new developmental path with a unified developmental strategy.⁵

Meanwhile, there have been rather long debates concerning the necessity and opportunity of shifting to a new developmental paradigm. Some authors believe that the elaboration of a new paradigm is an extremely urgent issue since the current system of human development fails to meet the today's realities (Barrera, Saura-Mas, and Blanco 2018). Scientists mostly consider the transition to a new paradigm within a particular sphere, but there are few studies that address the change of the developmental paradigm of the human community in general. For example, in the *World Futures* journal there was published an article written by one of the authors of the report to the Club of Rome, Erwin Laszlo, entitled 'Evolution: The new paradigm'. Thus, already at the end of the twentieth century Laszlo considered the formation of a new paradigm in the context of evolution of the human community. One should say his study still remains relevant (Laszlo 1987: 151).

In 2013, the *Cadmus* journal published an article 'In Search of a New Paradigm for Global Development' (Šlaus and Jacobs 2013). The authors justify the necessity for the humankind to move to a new development paradigm from the economic growth which is depleting the world's natural resource base at an alarming rate threatening with long-term catastrophic climate changes. The scarce resources intensify competition between countries. The authors also emphasize that the humankind is driven by conflicting and contradictory goals that obviously lead to unsolvable problems. According to the authors of this article, the current paradigm of global development is based on a number of false assumptions and principles. They used to be useful in the past, but now they pose serious obstacles for the global social, economic and political progress. In other words, there are many reasons why the current developmental paradigm does not provide optimal solutions (Šlaus and Jacobs 2013). In this context, we should also mention the report of the Club of Rome 'Come On!', which was published at the end of 2017. It presents a strong criticism of modern capitalism and its crisis. And the report also calls for a transition to an alternative economy that should strive for sustainability and common good, rather than growth and profit maximization (Weizsäcker and Wijkman 2017). But, unfortunately, despite the fact that the report also speaks about the need to form a new development paradigm, the chosen philosophy and worldview do not give any specifics of the transition to an alternative economy or to a new developmental paradigm and the mechanism for their implementation.

Therefore, if we summarize the above viewpoints, it becomes clear that they fundamentally prove the necessity to work out a new paradigm for the development of the human system, due to the following reasons:

- the economic growth is depleting the world's natural resource base at an alarming rate, threatening with long-term catastrophic climate change;
- the scarce resources intensify the competition between countries and lead to endless crises;
- globalization eroded the restraints and makes states increasingly vulnerable to destabilizing influences from beyond national borders;
- the proliferation of nuclear and other weapons poses new threats to national and regional security;
- the humankind is driven by conflicting and contradictory goals that lead to clearly unsolvable problems;
- there are many reasons why the current developmental paradigm does not provide optimal solutions.

The Necessity to Search for a New Scientific Paradigm

Some authors argue that a new scientific paradigm is necessary for the formation of a new developmental paradigm since numerous problems have common features: they all go beyond the narrow disciplinary boundaries of modern knowledge. These problems are interrelated and interdependent and cannot be solved via partial sectoral approach. Taken either as a whole or relative to each other, they become a coherence of interrelated problems. In other words, there are numerous reasons why the current paradigms do not provide optimal solutions.⁶

Today, the coronavirus has become the factor that contributes with incredible speed to the destruction of the established order and existing development paradigm since there have occurred dramatic and irreversible changes in the way people work, study, spend money and much more, as well as changes in the very essence of the economic system. The coronavirus has made it clear that the dogma about the primacy of shareholders' interests in order to maximize profits is not working any longer (Lane 2020). This confirms the fundamental conclusion that the world urgently needs fresh thinking in order to formulate a new scientific paradigm that must be based on a new ideas and principles for their practical implementation.

Garry Jacobs notes that existing scientific theories do not meet modern realities (Jacobs 2017). Fred Phillips in his article 'The Globalization Paradox' writes that globalization in its current form works against sustainability. However, in his view, the reasons for this phenomenon lie in the 'corporate short-term approach, incompatible with long-term sustainable development.' But at the same time, he writes about the necessity to form a paradigm focused on the principles of sustainable development implying the application of such methodological tools that allow viewing the past and present from the future perspective (Phillips 2018).

Currently, many authors emphasize the urgent need to develop a new paradigm for the development of the global world which is to be based on new knowledge and new scientific paradigm that meets the demand of the time – the era of global transformations. However, at the same time, one should recall what Thomas Kuhn wrote in his

book 'The Structure of Scientific Revolutions'. He argued that the scientific paradigm as a system of fundamental concepts and theories that guide for some time the development of science arises only in a developed science, when the academic community is ready to accept a particular concept or theory as a basis for research (Kuhn 1962).

Thus, briefly summarized, the necessity to formulate a new scientific paradigm is based on the following assumptions:

- numerous problems have common features: they all go beyond the narrow disciplinary boundaries. They are interrelated and interdependent and cannot be solved by a partial sectoral approach;

- the approaches to different problems depend on contradictory demands, priorities and interests. Taken either as a whole or related to each other, they appear as a coherence of interrelated and complex problems.

In order to identify the objective causes of the above-mentioned and other problems, I have developed a new methodological toolkit which may become the basis of a new scientific paradigm (Bondarenko 2008a, 2008c, 2011).

The Scientific Paradigm: A Novel Approach

The paradigm that will be presented below allowed the author of the present article to justify the methodology of predicting the future from the future and determine the developmental patterns for the whole human community (Bondarenko 2014a, 2014b).

As a result, it was established that there are only two opposite paradigms of the human system development:

- the paradigm of indirect relationship between production and consumption which is the source of all crises;

- the other paradigm implies that all conditions for development can be created without crises. This is the paradigm of a direct relationship between production and consumption.

Our new approach allowed understanding that:

- in the context of the technological revolution and rapid introduction of various digital devices and other twenty-first century technologies, the goal will be achieved only if the Digital economy is considered as economy of real-time coordinated interests of the state, business, society and interests of every individual person and there is a direct relationship and interdependence between all of them;

- in the immediate development paradigm and the mechanism coordinating interests of state, business and society with the interests of every person should be elaborated with maximum diversity a) at local level through the transition to a new model of living arrangements; and b) in real time by digitally controlled personalized production on demand and without producing any extra products;

- within the immediate development paradigm, the mechanism for coordinating interests appears the practical implementation of a new paradigm, when a human becomes the goal of development.

All this may be achieved primarily through the understanding that in its development the humankind objectively pursues the *overall goal* of satisfying the highest need of every person to become perfect not only in physical and intellectual, but also in spiritual terms. And on this basis, become a happy person with a high level of consciousness.⁷ This is the first postulate of the new paradigm.

Its second postulate is that the development of a global society must be considered in terms of *integrity, systemic approach, complexity and on the basis of combining all kinds of knowledge into a single interdisciplinary knowledge*.⁸ Within the new scientific paradigm developed by the author, the interdisciplinary approach used in conjunction with holistic, systemic, and complex approaches gives a significant effect only if there is understanding of the need to achieve an objectively set development goal. It makes it clear that this is the only way to eliminate chaos and increasing uncertainty in the understanding of all developmental problems and to minimize in time and space the search for solutions to these problems.

The third and fourth postulates of the new scientific paradigm state that everything is analyzed via single indicator of 'time' and via 'single criterion of effectiveness' of the human system development – 'time period between' the identified goal and the reality where the world is located. The shorter is the 'time between', the closer the humankind and every individual approach the realization of the goal. And if the 'time between' increases (and increases to different extent for everyone), it will mean increasing chaos, uncertainty and complexity, as well as the fact that all parts of a single community, all countries of the world and individuals will be in different temporal spaces 'between' and they will be difficult to agree with each other and to coordinate their different interests.

The Necessity to Develop and Implement a Unified Developmental Strategy for the Global World

The practical application of all four postulates in an inseparable unity made it possible to understand that we obtained a new scientific paradigm whose application makes it possible to identify and prevent the causes of crises, environmental disasters and other negative phenomena.

Thus, we see that any developmental problem of particular country of the global society is the most urgent need to develop a new model of life order (Bondarenko 2008b, 2019). It means that this is a problem of an inevitable change of the dominating developmental paradigm which generates a crisis with all the destructive consequences.

The new scientific paradigm appeared capable to offer an effective mechanism for its implementation both in the short and long term (Bondarenko 2018). The studies have shown that while within current indirect development paradigm the use of technologies of the fourth technological revolution determines the emergence of numerous threats and risks up to the apocalypse, within the new direct development paradigm, it may become a necessary condition for its formation.

All countries of the world with increasing speed implement various achievements of Industry 4.0, especially artificial intelligence (AI), the Internet of things, biotechnologies, neurotechnologies, *etc.* Basing on the understanding of the laws of the human system development, this determines that development can take the path of forming different possible models of global society. But only one of them can provide conditions for the formation of a model of crisis-free development that will serve the interests of societies, business and every individual in full harmony and unity.

This model relies on the production based on digital technologies (*e.g.*, home 3D printers) meeting in real time the individuals' personalized but maximally diverse needs. Eventually, the 3D printers allow reducing the long chain of stores, warehouses, ven-

dors and dealers scattered around the world. In other words, with a home 3D printer this whole chain becomes unnecessary since having appropriate materials; one can print almost any product for personal needs. The 3D printer is a home factory, at that a universal one which does not have a narrow specialization of the old machines. The 3D model scheme can be ordered from a specialist (designer, fashion designer, *etc.*) living on the far side of the planet. Today, in the situation of the pandemic, it is the production chains with narrow specialization and division of labor and distributed around the world that have turned the most vulnerable actor of the global development. Therefore, additive technologies are the only possible basis for solving global problems, in particular saving all types of resources, solving environmental problems, stopping negative climate changes and preventing natural disasters, destructive real, information and biological wars. This will allow every person to spend more time on self-realization and self-improvement. Everybody will be interconnected in a single mechanism, coordinating interests in a real-time environment.

But along with acceleration of the introduction of Industry 4.0 technologies, especially digital technologies, the COVID-19 pandemic has given impetus to the growing awareness of the necessity for an accelerated change of the existing developmental paradigm (Le Monde 2020). Indeed, it is not for nothing that the heads of more than 180 American companies have called for not considering profit as the main goal and working not only for investors, but also for the whole society and for the local communities (Dilts 2019).

Conclusion. The Prospects of Development and Implementation of a Unified Developmental Strategy for the Global World

The above described model of the unmediated developmental paradigm is a new model of order at local levels. The driver of its implementation is the mechanism of the real-time coordination of interests of state, society and business with the most diverse interests of people in the self-government mode at this level. Therefore, with minimal expenditures of all resources, including human and natural resources, the root cause of the systemic crisis is eliminated. All this formed the basis of the author's proposals for the development and implementation of the Megaproject 'Territory of the Advanced Development: Everything for a Person' (Bondarenko, Ilyin, and Korotayev 2017). The development of a Megaproject for the entire world can be carried out by an international interdisciplinary group of scientists and practitioners, united by collaboration in the Internet, perhaps, under the auspices of the United Nations.

Therefore, globalization in the mediated developmental paradigm will exhaust itself and move to a completely different level of the unmediated developmental paradigm where personalized production aimed at meeting the needs of people at local level. The relations between people at the information level will remain global so that the production capabilities could be endlessly modified without producing superfluous products. It is just within this model that it will become possible to implement all the reasonable proposals contained in Schwab's report, as well as in the concepts of the Vatican and the Green New Deal, and they will contribute to the real achievement of the well-being for every person!

Funding

The study has been supported by the Russian Foundation for the Basic Research (project № 19-010-00809).

NOTES

¹ For example, Leonid Grinin writes that ‘Another important, in some ways even the most important point of the current situation is the well-directed and coordinated behavior of the media (both national and global), which suggests the presence of powerful and primarily supranational forces that try to use the epidemic for their own purposes and interests’ (Grinin 2020b).

² Council for Inclusive Capitalism with the Vatican. URL: <https://www.inclusivecapitalism.com/>.

³ The name is associated with the name of the largest governmental program known as the ‘New Deal’ which was initiated by President Franklin Roosevelt to overcome the Great Depression.

⁴ Green New Deal <https://plus-one.ru/ecology/green-new-deal>.

⁵ The term ‘paradigm’ derives from the ancient Greek word παράδειγμα, which is translated as ‘an example, model, and pattern.’ As is known it was Thomas Samuel Kuhn (1962) who introduced this term into the academic discourse. According to Kuhn, paradigms are the widely recognized scientific achievements which give the scientific community a model for setting and solving problems for a certain time.

⁶ In particular, the contemporary economic paradigm is based on outdated economic theories and assumptions, like, for example, the infallibility of free market. So these theories ignore the obvious fact that unregulated markets, like other institutions, are neither free nor fair. (Jacobs 2014).

⁷ In 2011, the UN General Assembly adopted Resolution No. 65/309 ‘Happiness: towards a holistic approach to development’, which noted that ‘happiness as a universal goal and aspiration embodies the spirit of the Millennium Development Goals... unsustainable patterns of production and consumption can impede sustainable development’ (UN 2011).

⁸ For example, in the journal *Futures* Helen Bridle and her colleagues write that one of the most progressive and modern approaches is the interdisciplinary approach which is necessary ‘to maximize the potential benefits of interdisciplinarity for future research activity’ (Bridle *et al.* 2013).

REFERENCES

- Aven, T., Zio, E. 2021. Globalization and Global Risk: How Risk Analysis Needs to be Enhanced to be Effective in Confronting Current Threats. *Reliability Engineering & System Safety* 205: 107270. DOI: 10.1016/j.ress.2020.107270.
- Barrera, J., Saura-Mas, S., and Blanco, A. 2018. Transperformative Education: Toward a New Educational Paradigm Based on Transdisciplinarity and Artistic Performativity. *World Futures*: 275–297.
- Bernanke, B., Gertler, M., and Gilchrist, S. 1998. *The Financial Accelerator in Quantitative Business Cycle Framework*. NBER Working Paper No. 6455. Cambridge, MA: NBER.
- Bondarenko, V. M. 2008a. Forecasting the Future through the Prism of a New Cognitive Methodology or Predicting the Future can only be from the future! In Fetisov, G. G., Bondarenko V. M. (ed.), *Forecasting the Future: A New Paradigm* (pp. 220–270). Moscow: Publishing House Economics.
- Bondarenko, V. 2008b. Information Society, Innovation and Long-Term Strategy of Russia, Part 1 and 2. *Informatsionnoye obshchestvo* 5–6: 109–114; *Informatsionnoye obshchestvo* 1 (2009): 78–83. *Original in Russian* (Бондаренко В. Информационное общество, инновации и долгосрочная стратегия России. *Информационное общество*, № 5–6: 109–114; *Информационное общество*, № 1: 78–83).
- Bondarenko, V. M. 2008c. A Glimpse from the Future on the Formation of a strategy for the Development of Russia, or does Russia have a Non-resource Future. *Bulletin of the Institute of Economics of the Russian Academy of Sciences*, 1: 116–129. *Original in Russian*

- (Бондаренко В. М. Взгляд из будущего на формирование стратегии развития России, или есть ли у России несырьевое будущее. *Вестник Института экономики РАН*. № 1. С. 116–129).
- Bondarenko, V. M. 2011. Global Processes and Their Dynamics: Two Paradigms of Development. *Journal of Globalization Studies* 2 (2): 80–88.
- Bondarenko, V. 2014a. Transition to Crisis-Free Development: A Myth or Reality? *World Futures* 70: 93–119.
- Bondarenko, V. M. 2014b. *Crisis-Free Development: Myth or Reality?* 2nd ed., rev. and add. Moscow: LENAND. *Original in Russian* (Бондаренко В.М. *Бескризисное развитие: миф или реальность?* Изд. 2-е, перераб. и доп. М.: ЛЕНАНД).
- Bondarenko, V. M. 2018. Structural Modernization in the formation of the digital economy. *World (Modernization. Innovation. Development)* 9 (2): 172–191. DOI: 10.18184/2079–4665.2018.9.2.172–191. *Original in Russian* (Бондаренко В. М. «Структурная модернизация цифровой экономики. *МИР (Модернизация, Инновации, Развитие)* 9 (2): 172–191).
- Bondarenko, V. M. 2019. Possible Models of Development of the Digital Economy: Vision from the Future. *Theoretical Economics* 5: 38–49.
- Bondarenko, V. M., Ilyin, I. V., and Korotayev, A. V. 2017. Transition to a New Global Paradigm of Development and the Role of the United Nations in this Process. *World Futures* 73 (8): 511–538. DOI: 10.1080/02604027.2017.1357941.
- Bridle, H., Vrieling, A., Cardillo, M., Araya, Y., and Hinojosa, L. 2013. Preparing for an Interdisciplinary Future: A Perspective from Early-Career Researchers. *Futures* 53: 22–32.
- Delios, A., Perchthold, G., and Capri, A. 2021. Cohesion, COVID-19 and Contemporary Challenges to globalization. *Journal of World Business* 56 (3): 101197. DOI: 10.1016/j.jwb.2021.101197.
- Dilts, E. 2019. Top U.S. CEOs Say Companies should Put Social Responsibility above Profit. *Reuters*, August 19. URL: <https://www.reuters.com/article/us-jp-morgan-business-roundtable/top-u-s-ceos-say-companies-should-put-social-responsibility-above-profit-idUSKCN1V91EK?feedType=RSS&feedName=topNews>.
- Phillips, F. 2018. From My Perspective: The Globalization Paradox. *Technological Forecasting and Social Change* 143: 319–320. DOI: 10.1016/j.techfore.2018.06.016.
- Grinin, L. E. 2010. The Verbal Model of the Ratio of Long Kondratieff Waves and Mid-term Juglar cycles. In Korotayev, A. V., Malkov, S. Yu., Grinin, L. E. (ed.), *History and Mathematics: Analysis and Modeling of Global Dynamics* (pp. 44–111). Moscow: LIBROKOM. *Original in Russian* (Гринин Л. Е. Вербальная модель соотношения длинных кондратьевских волн и среднесрочных жюгларовских циклов. В: Коротаев, А. В., Малков, С. Ю., Гринин, Л. Е. (ред.), *История и Математика: Анализ и моделирование глобальной динамики*. М.: ЛИБРОКОМ. С. 44–111).
- Grinin, L. E. 2019. Kondratieff Waves, Technological Paradigms, and the Theory of Production Revolutions. In Grinin, L., and Korotayev, A. (eds.), *Kondratieff Waves: Spectrum of Opinions* (pp. 95–144). Volgograd: Uchitel.
- Grinin, L. 2020a. Kondratieff Waves, Technological Modes, and the Theory of Production Revolutions. In Grinin, L., and Korotayev, A. (eds.), *History & Mathematics: Investigating Past and Future* (pp. 30–79). Volgograd: ‘Uchitel’ Publishing House.

- Grinin, L. 2020b. Pandemic, Geopolitics and Recession. *Istoriya i sovremennost* 1 (35): 3–22. *Original in Russian* (Гринин Л. Е. Пандемия, геополитика и рецессия. *История и современность* 1 (35): 3–22).
- Grinin, L. E., Grinin, A. L., and Korotayev, A. 2017. Forthcoming Kondratieff wave, Cybernetic Revolution, and Global Ageing. *Technological Forecasting and Social Change* 115: 52–68.
- Grinin, L. E., and Korotayev, A. V. 2012. *Cycles, Crises, and Traps of the Modern World-System*. Moscow: LKI. *Original in Russian* (Гринин, Л. Е., Коротаев, А. В. *Циклы, кризисы, ловушки современной Мир-Системы*. М.: ЛКИ).
- Grinin, L., and Korotayev, A. 2016. Global Population Ageing, the Sixth Kondratieff Wave, and the Global Financial System. *Journal of Globalization Studies* 7 (2): 11–31.
- Grinin, L., Korotayev, A., and Tausch, A. 2016. *Economic Cycles, Crises, and the Global Periphery*. Cham: Springer International Publishing Switzerland.
- Haberler, G. 1964 [1937]. *Prosperity and Depression: a Theoretical Analysis of Cyclical Movements*. Cambridge, MA: Harvard University Press.
- IA Regnum. 2020. Economists of the Russian Academy of Sciences on the post-pandemic economy: some in the forest, some for firewood. *IA Regnum*, May 19. *Original in Russian* (Экономисты РАН о постпандемической экономике: кто в лес, кто по дрова!). URL: <https://regnum.ru/news/2953790.html>. Accessed February 19, 2021.
- Jacobs, G. 2014. New Paradigm: The Necessity and the Opportunity. *CADMUS* 2 (2): 7–23.
- Jacobs, G. 2017. A New Paradigm of Life and Consciousness. *World Futures* 73 (6): 365–375.
- Kuhn, Th. S. 1962. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Lane, R. 2020. Greater Capitalism: How the Pandemic is Permanently Reshaping Our Economic System for the Better. *Forbes*, May 268. URL: <https://www.forbes.com/sites/randalllane/2020/05/26/greater-capitalism-how-the-pandemic-is-permanently-reshaping-our-economic-system-for-the-better/?sh=254dcb7d71c1>.
- Laszlo, E. 1987. Evolution: The New Paradigm. *World Futures* 23 (3): 151–160.
- LeMonde 2020. ‘Non à un retour à la normale’: de Robert De Niro à Juliette Binoche, l’appel de 200 artistes et scientifiques. *Le Monde*, May 6. URL: https://www.lemonde.fr/idees/article/2020/05/06/non-a-un-retour-a-la-normale-de-robert-de-niro-a-juliette-binoche-de-joaquin-phoenix-a-angele-l-appel-de-200-artistes-et-scientifiques_6038775_3232.html.
- Minsky, H. P. 2005. *Induced Investment and Business Cycles*. Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.
- Mitchell, W. C. 1927. *Business Cycles: The Problem and Its Setting*. New York: NBER.
- Rambler-Finance. 2020. The US analyst on the IMF Forecast: The Economy will Face Consequences Comparable to the Great Depression. *Rambler-Finance*, June 25. URL: <https://finance.rambler.ru/economics/44394157-analitik-ssha-o-prognoze-mvf-ekonomiku-zhdut-posledstviya-sravnimye-s-velikoy-depressiey>. *Original in Russian* (Аналитик из США по прогнозу МВФ: экономика столкнется с последствиями, сравнимыми с Великой депрессией. Рамблер-финансы, 25 июня).
- Schumpeter, J. A. 1939. *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process*. New York – London: McGraw-Hill Book Company Inc.

- Shrestha, N., Shad, M. Y., Ulvi, O., Khan, M. H., *et al.* 2020. The Impact of COVID-19 on globalization. *One Health* 11 [100180]. URL: <https://www.sciencedirect.com/science/article/pii/S2352771420302810>. DOI: 10.1016/j.onehlt.2020.100180.
- Schwab, K., and Malleret, T. 2020. *COVID-19: The Great Reset*. World Economic Forum 91-93 route de la Capite CH-1223 Cologny/Geneva Switzerland.
- Šlaus, I., and Jacobs, G. 2013. In Search of a New Paradigm for Global Development. *CADMUS* 1 (6): 119–120.
- Tugan-Baranovsky, M. I. 1954. Periodic Industrial Crises. A History of British Crises. *Annals of the Ukrainian Academy of Arts and Sciences in the United States* 3 (3): 745–802.
- UN. 2011. *Happiness: A Holistic Approach to Development. Resolution adopted by the UN General Assembly on July 19, 2011*. URL: <https://undocs.org/en/A/RES/65/309>. Accessed October 30, 2020.
- Weizsäcker, E. V., Wijkman, A. 2017. *Come On! Capitalism, Short-termism, Population and the Destruction of the Planet. A Report to the Club of Rome*. New York: Springer. URL: https://batrachos.com/sites/default/files/pictures/Books/Weizsacker_Wijkman_2018_Come%20on.pdf. Accessed June 1, 2020.
- Zameer, H., Shahbaz, M., and Vo, X. V. 2020. Reinforcing Poverty Alleviation Efficiency through Technological Innovation, Globalization, and Financial Development. *Technological Forecasting and Social Change* 161: 120326. DOI: 10.1016/j.techfore.2020.120326.