

Contemporary global economic crisis: Some conclusions for Russia and BRICS (taking into account Kondratieff long waves)

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Abstract

The article is devoted to the origins of contemporary economic crises (2008–2020). The author suggests a relatively novel approach to the study and forecasting of the economic life of the BRICS countries and other regions within the framework of the modern Kondratieff long waves hypothesis.

The author recalls that in the mid-twenties, after analyzing the results of a sufficiently deep crisis in 1920–1921, Kondratieff drew a conclusion that even more destructive perturbations in the world economy were approaching (having thus predicted the Great Depression of 1930s). In particular, Kondratieff wrote about the downswing phase of a long wave – a long turbulent period of economic instability (a period of deep economic crises).

According to some Russian economists, today's preservation of the downswing phase was correctly predicted in the framework of modern modifications of Kondratieff's theory. Based on the hypothesis of long waves, the author predicted the global economic crisis of 2008–2010 in 2006, and in the summer of 2014, he predicted many turbulent years for Russia (in particular, economic crises). The author warned of a possible aggravation of the global situation in early 2019, and such aggravation happened in 2020.

Taking into account Kondratieff long waves, some new risks for the BRICS countries are analyzed in this article. In particular, the author argues that by the end of 2020, Russia's real GDP may considerably shrink. In 2020, Russia seems to be able to take into account and use the previous experience of other BRICS countries which largely succeeded in mitigating external shocks in 2009 (for example, the experience of China and India).

Keywords: BRICS countries, economic cycles and crises, Kondratieff long waves.

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Introduction

Today the global coronavirus pandemic leads to a decrease in the external demand for Russian oil and natural gas. In 2020, a risk of Russian economy's high dependence on external environment became more obvious (as it was in 2009). In 2009, Russia felt the crisis later than developed countries. However, its development was deeper. In 2009, the fall in Russia's GDP was among the most tangible declines as compared to developed countries and other BRICS countries. Recessionary tendencies in Russia were exacerbated by a build-up of unresolved modernization problems and lack of improvement in quality growth.

Is it possible that the situation in 2020 is approximately the same? Is the Russian economy repeating what happened to it in 2009?

March and April 2020 recorded a decline in business activity in Russia. The deterioration of conditions for the development of the Russian economy is primarily associated with the following main factors:

- a) decreased demand for Russian exports;
- b) lower world prices for oil and natural gas;
- c) activity in Russia due to coronavirus pandemia.

According to the Bank of Russia's forecast (as of May 2020), in the 2nd quarter of 2020, annual GDP growth rates will become negative. In its forecast calculations, the Bank of Russia assumes that the annual economic growth rate will remain negative in the second half of 2020, and by the end of 2020, Russia's real GDP may decline by 4–6% (YOY) (Monetary Policy Report, 2020, p. 6).

The government of Russia started to ease the restrictions on economic activity and travel of individuals in June 2020, and this will pave the way for economic recovery. However, taking into account the experience of the previous deep recession (2009), we can conclude that there still persist the main risks associated with the following factors: a downturn in global prices for oil and gas and other Russian export commodities; high exchange rate volatility; narrowing domestic demand; deterioration in the banking sector; growing unemployment, and social and economic instability.

The author suggests a non-customary approach to studying and forecasting the economic life of Russia and the BRICS countries in the context of the current crisis within the framework of Kondratieff long waves. The author warned about the global economic destabilization in 2006 (Lohmachev & Tatuzov, 2006) and the deep global crisis of 2008–2009. He also wrote about the global economic instability in the early 2019 (Tatuzov, 2018, 2019), and such a crisis happened in 2020. Based on the theory of Kondratieff long waves, in the summer of 2014, the author correctly predicted many difficult years for the Russian economy (Ershov et al., 2014).

The main objectives of the article are:

- a) to make a brief description of some important modern approaches to long waves;
- b) to propose a scientific analysis of the nature of the observed economic crisis (2008–2020) in many countries, including the BRICS countries (taking into account Kondratieff waves and the author's long-term experience in the Russian business and banking sphere);

- c) to develop some potential tools for BRICS to jointly solve many urgent economic problems;
 - d) to illustrate the necessity of transferring to a new economic paradigm (in Russia).
- The article puts forward some ideas as hypotheses, so the text can be debatable.

1. The history of long-wave theory

1.1. Kondratieff long waves

In the 19th century, the economic science discovered a 7–12 year cycle which was named after Juglar (Juglar, 1862). In the 20th century, some other cyclic waves were discovered in the dynamics of economic indicators. In 1923, Kitchin published an article about a 40-month cycle resulting from a study of USA and UK statistics from 1890 to 1922 (Kitchin, 1923). In the 1930–1940s, Kuznets discovered 16–25 year fluctuations in the construction industry (Kuznets swing) (Kuznets, 1930, 1931, 1966).

Also in the 1940s, Shumpeter noted the existence of long cycles connected to innovations (Shumpeter, 1934, 1939, 1949). This term was supposed to explain reasons for economic changes. An impetus for economic development in the longer term arose in connection with such large-scale innovations as the creation of the steam engine, railway construction, the invention of the internal combustion engine, etc.

However, initially the theory of long waves was created and developed by Nikolai Kondratieff (Kondratieff, 1984, 1989). Many issues, as well as the whole subject of long waves, remain debatable today. But the hypothesis of long waves can be used successfully as a general empirical reference point. (We can propose here only a very brief and simplified form of Kondratieff theory.)

In 1925, Kondratieff wrote that the modern economic theory knew only cycles lasting 7–11 years, but in real life, along with these cycles, there seemed to be other cycles of economic dynamics lasting about 48–55 years (Table 1). Kondratieff named them the “big cycles of conjuncture” (long waves of economic dynamics) and attributed them to the development of capital accumulation. The beginning of the recovery coincides with the moment when the formation and accumulation of capital reach such a level at which it becomes possible to make profitable investments of capital with the purpose of creating basic productive forces and radical re-equipment. According to Kondratieff, the rate of capital accumulation weakens, particularly in connection with the aggravation of the social struggle and external conflicts. The strengthening of these factors causes turns in the dynamics of economic development and its slowdown.

Table 1. Long waves in Kondratieff’s works (covering events before 1920)

	Upward wave	Downward wave
Cycle 1	<i>from the end of 1780s – beginning of 1790s to 1810–1817</i>	<i>from 1810–1817 to 1844–1851</i>
Cycle 2	<i>from 1844–1851 to 1870–1875</i>	<i>from 1870–1875 to 1890–1896</i>
Cycle 3	<i>from 1890–1896 to 1914–1920</i>	<i>from 1914–1920</i>

Source: (Kondratieff, 1989, p. 197).

So, Kondratieff discovered the existence of *long upward waves* and *long downward waves*. According to Kondratieff, an *upward wave* is a long period of relatively stable economic growth, and a *downward wave* is a *long unfavorable period of economic instability and relatively deep economic crises*. According to Kondratieff, *downward waves* are characterized by *increased level of depth* in comparison with ordinary cyclic crises. (These ordinary crises during *downward wave* of a “long cycle” become stronger.)

1.2. Some new classifications of long waves

In the mid-twenties, after analyzing the results of a sufficiently deep crisis of 1920–1921, Kondratieff concluded the beginning of a *downward wave* (approximately in 1920–1921) and the approach of even more destructive perturbations in the world economy (thus predicting the Great Depression of 1930s). Can we assume the similar situation in 2008–2010, or say that the start of a *downward wave* (approximately in 2008–2010) leads to even more destructive perturbations in the world economy in 2020? (Table 2).

Table 2. New long waves (development of events after 1920s, according to some works of contemporary economists)

	Upward wave	Downward wave
Cycle 3	<i>from 1890–1896 to 1914–1920</i>	<i>from 1914–1928/29 to 1939–1950</i>
Cycle 4	<i>from 1939–1950 to 1968–1974</i>	<i>from 1968–1974 to 1984–1991</i>
Cycle 5	<i>from 1984–1991 to 2008–2010</i>	<i>from 2008–2010</i>

Source: (Grinin et al., 2012, p. 26).

The modern classification proposed about 10 years ago (!) by the contemporary economic science (Korotayev & Tsirel, 2010; Grinin et al., 2012) has a *clear verification due to the further turbulent development of global events in 2010s and in 2020*. So, we can assume the existence of Kondratieff Long Cycle 6 – in particular, the existence of a *downward wave* starting approximately from 2008 – as a general abstract trend in the development of the contemporary world economy.

Academician Akaev, Rector of LMSU Sadovnichij, and other Russian economists, who have considerably developed Kondratieff’s ideas, proposed factorial analysis of the BRICS dynamics in the landscape of the world trends taking into account long waves (Sadovnichij et al., 2014, Sadovnichij et al., 2014). In the last decades, a new theory of long-term technological development was created in the works of academician Glazyev, who also developed Kondratieff’s ideas. It described this process as successive replacement of large complexes of technologically linked productions (i.e. technological patterns) (Glazyev, 1993, 2016).

The life cycle of a technological pattern covers about one century, and the period of its domination in economic development lasts from 40 to 60 years (this period is being gradually reduced as scientific and technological progress accelerates, and as the duration of research-and-production cycles shortens). To date, in the world technological

development (since the industrial revolution in England), supporters of this approach single out life cycles for five technological patterns which consistently replaced each other (Table 3).

Table 3. Technological patterns

Pattern No.	1	2	3	4	5
Key factor	Textile machines	Steam engine, machine tools	Electric motor, steel	Internal combustion engine, petrochemistry	Microelectronic components
Domination period	1770–1830	1830–1880	1880–1930	1930–1970	<i>From 1970 to 2010</i>

Source: (Glazyev, 1993, 2016).

The growth of conflicts between the leading countries due to the crisis of the 1930s resulted in the disaster of World War II, and the arms race after the crisis of the 1970–1980s led to the collapse of the former USSR. According to Glazyev, growth of government expenses acts as an important stimulus for the transition to a new long wave based on a new technological pattern, and today a reproductive system of the new, sixth technological pattern is being formed. (It is necessary to consider, in particular, the development of nanotechnologies as a reference point of the sixth technological pattern.)

The contemporary global economic crisis is also accompanied by an aggravation of trade, military, and political tensions. Although the latter are restrained from sliding into major military conflicts, the risk of transition to a new technological pattern through militarization, which is characteristic of developed countries, brings on serious threats to the world and must be taken into account by the BRICS countries.

1.3. Is a downward wave continuing?

It is possible to generalize and illustrate in a simplified way the theory of Kondratieff and his followers by means of *crisis points* (“long cycle”). There is a stable tendency that is clearly visible: each new deep crisis occurs *approximately 35–45 years after the end of the previous crisis*. In a very simplified form, crisis points of a long wave (according to the modern followers of Kondratieff’s theory) are: 1847–1948, 1889–1893, 1929–1933, 1974–1975, and maybe 2008–2020.

According to some supporters of Kondratieff’s theory, *the current world economic crisis is a process of replacing the dominant technological pattern*. The surge and fall in energy products prices, the global financial turmoil in 2008–2020, deglobalization, Brexit, and the global coronavirus pandemic in 2020 are probably signs of the final phase of the life cycle of the previously dominant way of production and life (in general). *The necessity of a structural reorganization of the world economy and lifestyle in general in many countries (on the basis of the new pattern) is becoming evident due to COVID-19 and the deep global economic crisis in 2020.*

In this connection, some parallels can be drawn. In particular, the contemporary economic crisis can be compared with the crisis of 1929–1933 and the crisis of 1974–1975. So, in 2008–2010 and in 2020, the global economy may be confronted with the same common threats that pushed the world into the Great Depression of the 1930s and into the deep economic crisis of 1974–1975. With deep crises we cannot rule out potential double shocks, as was the case, for example, in 1920–1921 and in 1929–1933; in 1969–1971 and then in 1974–1975, etc. The crisis of 1974–1975 was followed by another decline in 1980–1982. The economic crisis of 2008–2010 is followed by the deep economic crisis in 2020.

The works of Kondratieff and his followers give a clear answer: the world crisis that began in 2007–2008 was the starting point of *the long adverse period of economic instability and relatively deep economic crises (downward wave)*. However, *is the global economic crises of 2020 the end point of this long adverse period of economic instability, or just a new phase of the downward wave that will continue?* This issue, as well as the whole subject of long waves, remains debatable. The long waves hypothesis can also be used successfully, but only as a general empirical reference point. (This is so because the long wave theory has not been accepted by many economists, and we do not yet fully know the true causes of the long waves.)

2. Transfer to the new world economic paradigm during the contemporary global crisis

2.1. General global trends (V, W, L – approaches)

According to some leading economists and politicians, such as Krugman and Medvedev (Krugman, 2008, 2012; Medvedev, 2018), there has actually been no important economic recovery after the 2008 global economic crisis. The specific features of the 2000s and 2010s, compared to previous decades, are, among other things, relatively low global inflation (despite high oil prices) and serious problems faced by major currencies. The 2008–2010 crisis was preceded by problems related to long-term dollar depreciation; and today euro, in its turn, sometimes is also facing significant problems.

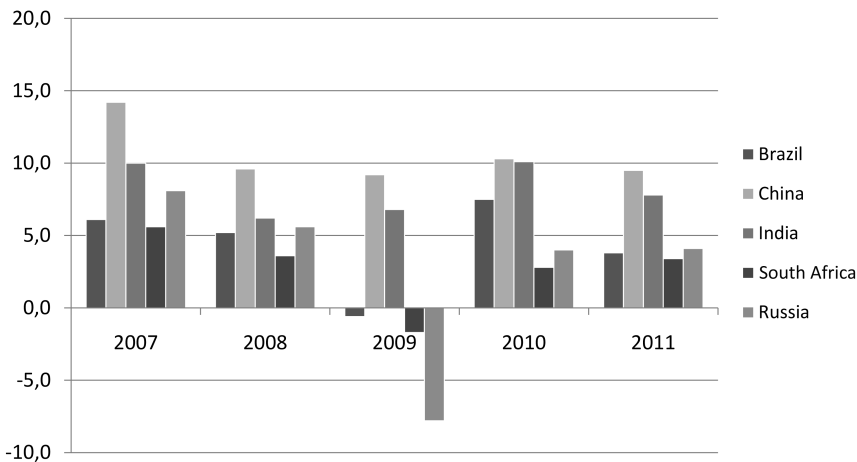
In 2008–2010, anti-crisis management was complicated by high openness and liberalization. Thus, in-house transfers of multinational enterprises (MNE) and free capital flows between countries hinder implementation of measures to get out of the crisis. The intensive artificial stimulation of the ultra-optimal liberalization by developed countries made it difficult for less developed states to implement their sovereign economic policy. Peripheral economies increased their dependence on raw material export incomes, inflow of foreign financial resources and technologies, and their economic structure was formed accordingly.

After analyzing the results of the rather deep crisis of 1920–1921, in mid-1920s, Kondratieff came to a conclusion that even more destructive global economic upheavals

were coming, and thus predicted the Great Depression and the possibility of double shocks. *Can we interpret all that happens in the global economy in 2020 as a certain second wave of the previous global crisis (2008–2010)?* (We'd like to remind that in 2010s, there were discussions about what form the post-crisis recovery of the global economy would take: V – a decline followed by substantial recovery; W – a second wave scenario, or L – a downturn followed by a multiyear depression.)

Although a number of reputable economists and politicians prefer the L-scenario as a global approach (Krugman and Medvedev), one should not ignore the second wave (W) theory as a theoretical analysis instrument for the contemporary global economic crisis. This theory (as well as the L-scenario) allows us to doubt the overly-optimistic post-crisis recovery forecasts, while the W-scenario in this situation may also be realistic. It is evident that the world economy *is experiencing two deep recessions – in 2009 and in 2020 (W, in a simplified version, i.e. the second wave scenario).*

We also remember that in 2009, the economic recession in Russia's GDP was the most deep in relation to the BRICS countries (in some BRICS countries, there was no economic recession in 2009). In 2020, Russia seems to be able to take into account and use the previous experience of other BRICS countries which succeeded in mitigating external shocks in 2009 to an important degree (for example, China and India where the state plays a significant role in the economy). (Figure 1).



Source: (IMF Real GDP Growth database, 2020).

Figure 1. Real GDP growth rates for BRICS countries in 2007–2011 (%)

However, if we take the work of Kondratieff and his followers as the starting point, it is clear that the global crisis that started in 2007–2008 was not the end point of deep instability, but a new adverse phase that has a continuation (for example, in 2020). Given the experience of previous global economic upheavals, can there be deferred negative effects and new crisis waves after 2020? *Qui vivra verra!*¹

¹ Time will tell! (*Fr.*)

2.2. The necessity of transferring to the new economic paradigm (in Russia and other countries)

Some experts believe that the global economic crises of 2008–2010 and 2020 does not fit into the concept of a normal economic cycle (7 to 12 years long, as a rule). Taking into account the theory of Kondratieff long waves, the rapid spread of COVID-19 in 2020 could probably be connected with high global economic and political instability and conflicts in many previous years (among other well-known factors).

The whole issue of long waves still remains open, while the ability to predict within this concept is not insignificant. So, we need to have a dogma-free analysis of all potential hypotheses and scenarios. Only with this approach, the evolution of the above-mentioned concepts, including that of the world-famous Russian economist Kondratieff, might allow us to set up more accurate forecast benchmarks and build long-term strategies in a more efficient way.

The current global crisis (2008–2020) has shown shortcomings of the existing institutions, both at the micro-level and in the macro-aspect (from the state and global perspectives). We should also consider the possibility of new changes in economic policy (as some post-crisis events in the past have shown). (Table 4). For example, after the global crises, there was a transfer to Keynesianism, that is, to the increasing role of national states in the 1930s, to monetarism (weakening of the role of the state) – in the second half of the 1970s, etc. In addition, during the crises in 1929–1933 and 1974–1975, similar to the current one, the recovery from the depressive economy was accompanied by a surge in military expenses, with a significant part of it being invested in the development of new technological capacities.

Table 4. Transfer to the new world economic paradigm during deep crises

Years	Economic Approaches
1929–1933	Keynesian mechanisms, growing role of the state
1974–1975	Monetarism, liberal economy
2008–2020 (?)	Neo-Keynesian approaches (?), increase of state regulation (?), protectionism (?), deglobalization (?), crash of regional integration (such as, for example, Brexit) (?)

Source: author's hypothesis.

The global economy is now quite different from what it was in the 1970s, and even more so from what it was during the Great Depression. New factors are emerging which contribute to the growth of destructive potential. In the new global environment, the transmission of crisis effects and contagion effects are multiplied.

In the first decade of the 21st century, the growing role of external factors in the economy and international synchronization of cyclic development were to some extent associated with the disintegration of the USSR and CMEA. According to many economists, in the past, the internationalization processes were hampered because the Soviet economy was extremely closed, and the CMEA was a “collective autarchy”. It also applies to China

which in the past sought a closed economy, but in a few decades, it is taking steps to become more involved in global processes.

The course of international cyclical development before the global economic crisis of 2008–2010 has an essential salient feature – its synchronization on an international scale. As a result, the time lag between entry and exit from various cycle phases (including depression) is reduced, and trends in the dynamics of different countries become similar and almost parallel in some segments. First internationalization and then globalization led to a high level of economic interdependence of various countries (before the global economic crisis of 2008–2010). In this sense, there is a difference from a number of crises in developing countries (as well as in Russia) in the 1990s which have not rendered such a destructive effect on a global scale.

Is the world economy in 2020 repeating what happened to it in 2008–2010? The particularities of the 2000s (as compared to the previous decade) are reflected in low world inflation (despite high oil prices) and a strong downward trend in the dollar. In the second decade of the 21st century, global inflation was relatively low, the euro and the dollar were unstable, but there were also relatively new processes of deglobalization (James, 2017). For example, the role of FDI in the global economy has considerably declined. Thus, the share of global FDI in world GDP fell from 5.4% in 2007 to 1.4% in 2018 (during 2010s, the share of global FDI in global GDP approximately fell by half – from 2.8% in 2010 to 1.4% in 2018; World Bank FDI database, 2020).

However, despite the deglobalization and the relatively low level of economic interdependence of various countries, in 2020 (as in 2008–2010), there is a high level of synchronization on an international scale of cyclical development of the economy in many countries (in particular, due to the similar for many countries restrictions on economic activity and travel imposed by the World Health Organization).

It is interesting that the period of increased instability began with the onset of the global financial and economic crisis of 2008–2010, and in 2020, the situation deteriorated sharply. We emphasize that the problem lies not only in the coronavirus but also in the instability of the economic growth observed in recent years in many countries (including Russia), which was noted by international organizations before the start of the COVID-19 epidemic (World Economic Outlook, 2019, pp. 1–2, 39–41).

2.3. Some new risks for the BRICS countries

Financial difficulties make it more possible for many countries (for example, the BRICS countries) to use protectionist measures. International rules of the game require world participants to give their assurances that protectionism is unacceptable. However, these approaches may differ on the country level. Given the intensifying regulation and growing instability, the issue of direct or indirect forms of protectionism will constantly be in the focus of attention of national regulators.

As a result, in many countries today we may expect a return to active government participation in the economy. BRICS must take into account that the significance of both international and supranational regulation at the level of governments and central banks,

integration groups, and other international organizations is likely to increase. The level of emerging global risks suggests that BRICS, as an association of five major emerging national economies and an important international organization, should use the entire range of all potential tools, both vertically and horizontally, which will allow to neutralize new risks and increase the chances of post-crisis growth.

The international economic organizations (IMF, World Bank, WTO, and others) may address the issue of fighting protectionism, with a special emphasis on protectionism as an inadmissible form of trade policy. Obviously, it is desirable for the BRICS countries that the possibility of applying an independent trade policy (i.e. protectionism) should not be excessively limited. (It also concerns the lack of consistency in the implementation of regulatory actions in the Russian economy.)

There is also another important global threat. Excessive international liquidity in the world today may lead to an increase in risks associated with the US dollar and the Euro. In general, it has shown important systemic fluctuations in recent years. Thus, any new possible worsening of the economic situation in the US and the European Union, as well as possible new dollar and euro injections, make the future of the US dollar and the Euro more complex. In some situations (for example, in the case of a pessimistic scenario), one cannot exclude the case when developed countries will use all possible tools to shift the center of gravity of the crisis from developed countries to other countries (i.e. the BRICS countries) with subsequent global tensions.

Today, some fundamental factors have come into play – the BRICS countries must take into account the risks of developing negative economic trends abroad. Overall, the main threats to economies of the BRICS countries are still represented by external risks. For example, a slump in the European economy and a slowdown in the economic growth in developed countries (particularly, in case of the pessimistic scenario) may result in lower commodity prices and other negative consequences for the Russian economy.

Over the year, the Russian economic structure deteriorated, with the economy becoming more dependent on external demand. Even though in June 2020, the government of Russia will start to ease the restrictions on economic activity and travel, it is still too early to talk about any stable positive changes. In Russia and in many other BRICS countries, there is still a risk that several indicators may show unfavorable trends.

For example, global recessionary processes and the rapid spread of COVID-19 have adversely affected the Russian economy. According to many forecasts, in 2020 we will have a considerable deterioration of some indicators in the Russian economy compared to the previous year:

- decrease in real GDP
- decrease in industrial production (especially in the manufacturing sector)
- federal budget deficit
- decrease in investments
- reduction of real disposable household income
- growth of inflation
- high volatility of the ruble exchange rate
- rising unemployment.

In particular, given the growing fluctuations of the ruble exchange rate, it is possible that inflationary trends may occur in Russia in the short, medium and longer periods. All types of inflation have substantial economic and social effects; and these effects are usually adverse:

1. Devaluation of savings is detrimental to recipients of fixed incomes (pensions, wages, salaries, and interest on bank deposits).
2. There is a decrease in the actual value of time deposits, insurance policies, fixed-rate annual rents, etc. Inflation also redistributes income between borrowers and lenders in favor of the borrower.
3. In general, economic relations are distorted, and many risks in long-term lending and investing processes become higher. For example, liquid funds can flow into short-term speculative transactions, including transactions aimed at preserving the purchasing power of monetary resources.
4. Inflationary expectations could lead to a constant rise in prices, which, in the absence of appropriate mechanisms and tools of control, may result in constant rising inflation and social tensions.

The government's optimal pricing policy will contribute to both slowing down the inflation rate and building an efficient market economy with the maximum possible use of the price mechanism to make the national economy more competitive. However, with the monopolistic ("imperfect") structure of some Russian markets that has taken shape in the past decades and has remained unchanged to this day, the pricing practice often leads to excessive enrichment of certain companies and individuals at the expense of the population and the entire economy, rather than to improved production efficiency.

In this situation, it is necessary to enhance the role of the anti-inflationary policy which, among other things, should provide for a more efficient utilization of budgetary funds; take measures to increase supply of some goods and services; stabilize the ruble exchange rate; take measures to reduce costs and modernize enterprises; make organizational improvements, enhance infrastructure, stimulate investment activities and competition.

If well balanced, comprehensive anti-inflationary measures taken by the government can produce positive results. In this regard, it is worth repeating that the most important measures listed below also deserve attention:

- reduce tariffs of natural monopolies
- control public spending
- stimulate production (including agriculture) and formulate stable rules for import regulation
- support investing activities and competition
- other.

3. Russia: A desirable departure from the old economic approaches

It seems necessary to review some of the previously mentioned principles underlying macroeconomic policy (with a view to combat inflation), specifically:

- optimal degree of the openness of the Russian economy in general
- acceptable level of its dependence on imported foods
- support of some branches of domestic manufacturers.

Anti-crisis measures and budget deficit in Russia may lead to high inflation and also to a noticeable rise in the volume of domestic and foreign debt of the Russian government both in the short and medium term, and may foster the diversification of debt tools. Broader use of debt policy tools can contribute to the creation of more flexible mechanisms for solving important issues in different areas (budgetary, monetary, social, etc.). At the same time, such policy needs to be well balanced and has to be monitored on an ongoing basis. It's necessary to form and maintain demand for government debt instruments. (The placement of new securities should not cause a "crowding out" effect when financial resources are diverted from other segments of the economy.) As a result, government debt service expenses (both in absolute and relative terms) may grow. The deterioration of foreign economic environment and unfavorable internal economic factors may cause a tangible increase in the domestic and foreign debt service ratio. In the future, this may create an additional burden on the Russian Federation budget.

The old approaches promote *conservation of the export-raw material orientation of the Russian economy*, since an exporter of raw materials by selling currency earnings and receiving the ruble basically forms demand for other economic sectors which are increasingly starting to serve the interests of this sector. *We set a departure from the export-raw material orientation of the economy as an important systemic objective.*

Thus, we may now expect a return to a more active state participation in the economy, both in Russia and abroad, with a broad range of mechanisms used (including some protectionist measures). The importance of international and supranational regulation may also grow. Assuming the role of the European economies and the Euro in Russia's foreign economic relations, the crisis trends in developed economies (primarily, in Europe), if further aggravated, may substantially hold back Russia's development in the near future. In such circumstances, a model that relies on internal growth mechanisms is of a paramount importance. But it is too early to speak about a total departure from the old approaches with external factors predominating as growth drivers.

In the long run, transition to innovative development assumes creation of a "new economy" — a knowledge-intensive economy that must gradually become one of the leading national economy sectors. In the long run, growth rates of the manufacturing industries can potentially exceed the extraction industry growth rates.

However, if certain negative phenomena are observed, particularly in the sphere of investments, the modernized traditional economy sectors (including hydrocarbons, commodity, agriculture, and transport) surely will not have negligible significance. In any case, the regulatory authorities in Russia need to take a number of important steps to improve the situation. Among other things, the investment sector needs such measures as:

- stronger anti-corruption efforts
- fewer administrative barriers
- promotion of tax allowances
- streamlined migration policy

- improvements of the legal and judicial systems
- systemic efforts in enhancing the investment image of Russia.

Due to the high degree of openness of the Russian economy, its development today largely depends on the dynamics of world demand for Russian export goods and foreign investments. Given the current negative trends, in the future the industry needs efficient support to enhance its competitiveness in both the domestic and foreign markets.

We need to bear in mind that in the context of an “open” export-oriented Russian economy based on intensive exports of oil and natural gas, the growth was unstable. For example, the Russian monetary and currency systems were not sufficiently protected against the impact of oil and gas price fluctuations, capital outflow, “currency wars”, “debt crisis”, and other destabilizing external factors. At the same time, approaches to the free-float exchange rate regime increased the volatility of the rouble. To minimize adverse effects and neutralize external shocks, we will need to reckon potential impact of the above factors on economic growth rates, inflation, gold and foreign exchange reserves, and other factors in the coming future. Taking into account the risks of deep economic crises, the inflow of speculative foreign resources should be treated more carefully and consider the duration of stay, origins, sphere of investing (taking into account economic priorities), terms and conditions of repatriation, etc.

However, the new forecasts (as of May 2020) adopted by the Bank of Russia that imply relatively high annual growth rates of the Russian economy in 2021–2022 (1.5–5.0%) and financial stability support to a sensible extent at the expense of internal sources, are noteworthy (Monetary Policy Report, 2020, pp. 6, 14). The trend towards increasing importance of internal economic factors, taken as an implication in Russian official forecasts, may indicate an attempt to move away from the economic model which existed in Russia before the crisis. The actual deep economic crisis in Russia raises hopes for the beginning of a gradual transition to a new model of development (more complex and relatively reoriented from developed countries to the BRICS countries).

Conclusions

Kondratieff long waves were successfully used by the author in the business and banking sphere. Thus, taking into account Kondratieff waves, the observed economic crisis (2008–2020) in many countries is primarily associated with fundamental structural factors and systemic errors.

The current global crisis (2008–2020) has revealed the drawbacks of existing institutions, both at the micro and macro levels (from the government and global standpoints). In 2009, crisis management became even more complex in a highly transparent and liberalized world. For example, intra-company transfers within transnational corporations and free capital flows between countries complicate the implementation of recovery measures. However, in 2010s, we saw a wave of protectionism and deglobalization, and the crisis of the European Union (Brexit, a very weak European reaction to the COVID-19 pandemic in 2020, etc.). But the integration process within BRICS has another nature, and so it must be accelerated.

The COVID-19 epidemic and the economic crisis of 2020 have once again demonstrated the importance of future basic scientific research. In particular, it is necessary to continue the study of Kondratieff long waves, taking into account the hypothetical downward wave (a long turbulent period of instability and crises), the effects of the COVID-19 epidemic, and other possible new negative factors. The rapid spread of COVID-19 can probably be seen not as a fundamental cause, but only as a trigger for the global economic crisis in 2020.

We remember that after the global crisis of 1930s, countries started switching to Keynesian approaches in economic policy, i.e. a higher role of the national government. Taking into account Kondratieff waves, the second half of the 1970s can also be described as an important crisis point of long wave, and there was also a transition, but it was a transition to monetarism that assumed a weaker role of the government.

In addition, given the current crisis point of long wave, in the medium and long term, we would like to see in many countries (including the BRICS countries) considerable new changes in macroeconomic approaches, as is the case after particularly deep crises that mark the change in the currently prevailing technological pattern. Such changes may be towards Neo-Keynesian approaches, i.e. stronger regulatory approaches. In some cases, the significance of both international and supranational regulation is likely to increase. Thus, the high level of emerging global risks suggests that BRICS, as an important international organization of the five major developing national economies, should use the entire range of all potential tools to jointly solve many urgent economic problems.

The current global crisis (2008–2020) has revealed new phenomena in the global economy and suggests essential global transformations. In particular, in 2009 and 2020, the global GDP showed a negative growth for the first time since World War II. First internationalization and then globalization have led to close economic interdependencies between different countries (before the global economic crisis of 2008–2020). Despite further deglobalization, contemporary crises have acquired high potential for destructive economic impact. The collapse of the Soviet Union might also have played its role (with a 15–20-year lag), since the previously self-contained Soviet economy and the “collective autarchy” of COMECON had put a drag on internationalization processes. The same applies to China, which previously had always wanted to be a self-contained economy, but a few decades ago started moving towards a higher exposure to global processes.

Russia seems to be able to use the experience of the BRICS countries, which largely succeeded in mitigating external shocks in 2009 (for example, China and India, where the state plays a significant role in economy, took measures to strengthen their internal sources of growth and expand domestic demand – in particular, China). In the context of turbulence inherent in such times, the private sector was unwilling to make long-term investments in the development of radical and quite risky technologies. In China and India, the governments assumed a significant portion of costs required for transition to a new technological pattern, particularly those related to exploration, investment in infrastructure, and personnel training.

In general, decisions taken by the Russian regulators should be based on a more balanced, verified, and risk-free approach towards integration into the Western economy. The reliance on external financial inflows from exports of raw materials and associated risks of contagion from external crises/shocks should in many cases be replaced by mechanisms of economic development based on domestic sources. In a more systemic way, creating domestic sources of growth (based on household and domestic private sector demand) is necessary and should play a major role.

The contemporary economic crisis in Russia gives rise to hopes for the beginning of a gradual transition to a new model of development (more innovative and reoriented from the Western countries to the BRICS countries). Regulators and businesses in Russia and other BRICS countries should be open to using new tools and mechanisms that respond to new challenges. The high probability of a protracted nature of the crisis and its further deepening should be taken into account. It is necessary to consider the use of a wide range of measures and approaches that will make it possible to reverse the current situation.

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