World economy development forecast during the COVID-19 pandemic

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Abstract. More than a decade after the global financial crisis, the world is fighting against the health and economic implications of a new deep crisis caused by the COVID-19 pandemic. Advanced economies entered this crisis with historically low interest rates and public debt whose amount was higher than in the 1960 years. They will recover with a higher amount of public debts. Based on pre-pandemic analysis, this article explores options for policymakers to respond to adverse economic shocks. In 2020-2021, according to the International Monetary Fund, the losses of the world economy will be $ 9 trillion. The gross domestic product (GDP) of Russia will decline by 5.5%. In 2021, the GDP of all countries will grow. In general, the developing economies and expanding markets will lose 1% of GDP in 2020, and in 2021, it will be 6.6%. In 2020, the world trade volume will decline by 11%. The depth and duration of the economic downturn will depend on many factors, including the virus behavior, the public health response, and economic interventions.

1. Introduction
The pandemic has dealt a serious blow to globalization, which has been considered the mainstay of international cooperation in the 21st century. All health systems are working to their limits. Stationary health centers have been that are ready to receive patients with coronavirus have been created against the backdrop of apocalyptic images of empty cities, frozen airports, closed enterprises and organizations, borders and the collapse of the national economy. The pandemic endangers the lives of millions of people. It has created dangers for the most technologically advanced countries. Researchers, analysts, managers and policymakers around the world have been trying to determine expenses of governments. Strong coronavirus drugs (vaccine) are needed both by the global economy and national economies. A large number of people need help and support. To revive the economy, huge funds are required. Equally important is the question of how long this pandemic will last.

2. Methodology
At present, the government are undertaking coordinated efforts to overcome the largest global crisis. The risks are extremely high. That is why we need global cooperation in the field of economic security. We should cooperate to ensure global and daily individual security, that is, security for all people. It may sound trivial, but the pandemic has no boundaries. Therefore, it is impossible to defeat
it by the efforts of one country, even with closed borders, severed transport links and other means of communication between people. Secondly, it is necessary to ensure stable and, therefore, relatively safe operation of the global economy and national economies. The pandemic has created unprecedented challenges for the global economy. The pandemic has affected the entire world. There are countries that have already defaulted on their obligations, and large multinational companies have gone bankrupt. According to the International Monetary Fund, due to the pandemic crisis a decline in the global economy is expected to be three percent in 2020 compared to 2019. The COVID-19 pandemic is causing high and growing human losses worldwide, and the protective measures are seriously affecting economic activities. Effective policies can prevent worse outcomes, and measures to reduce infection and protect lives require investment in long-term human and economic health. As the economic impact is severe in certain sectors, policymakers will need to take significant targeted fiscal, monetary and financial market-based measures to support affected households and domestic businesses. At the international level, strong multilateral cooperation is essential to cope with the impact of the pandemic, including helping countries with financial constraints facing two health and financing shocks, and channeling assistance to countries with weak health systems. This is the largest drop in global GDP since World War II. By comparison, the largest annual decline was 0.1 percent during the most recent global financial and economic crisis in 2008-2009. [1] [2] [3]

What really makes this situation different is that economic considerations have become secondary to medical considerations. The choice of economic measures has turned into a choice between economic growth and human health, which depends on the level of trust in each society. However, a protracted economic recession is fraught with human losses. At least in the short term, GDP will cease to be a critical criterion for assessing the growth dynamics. Moreover, the problem is the duration of recession rather than its scale. A deep but short-term downturn will be followed by a rebound, followed by an increase that may require additional investment. However, prolonged stagnation is more dangerous because it leads to the destruction of infrastructure and degradation of all aspects of life. According to the Ministry of Economic Development, the national GDP will fall by 5 percent in 2020, real incomes of the population are expected to fall by 3.8 percent, and the unemployment rate will rise to 5.7 percent. According to statistics, in April 2019, the working-age population of the Russian Federation amounted to 76 million people, of whom 72.3 million were economically employed. The rest of the population was unemployed (Fig. 1). The Ministry of Economic Development of Russia presented the main parameters of the scenario conditions for forecasting the socio-economic development of the Russian Federation for 2020-2023. [4] [5] [6] [7]

![Figure 1](image.png)

**Figure 1.** The graph shows the values of confirmed cases of infection with the Cavid-19 coronavirus in Russia by days from the start of collecting official statistical information.

The current problems of the real sector of the economy, the labor market, the social sphere and the banking sector are unprecedented in nature, and standard approaches to the analysis of economic and financial crises are inapplicable. Factories are closed not due to the low competitiveness of companies or products. They are closed due to non-economic decisions. In addition, under quarantine conditions,
the maximum restrictions apply to the service sector, where production chains are usually simple and short (small business and services). Therefore, the recession may be limited to the period of regulatory decision-making, and the economic recovery will begin quickly, unless new waves of the epidemic lead to another round of forced restrictions. Finally, the third shock is associated with a decrease in the international demand for a wide range of domestic goods due to a slowdown in the global economy. A similar situation was observed in 2008-2009 during the global financial and economic crisis. The current decline in Russian exports becomes evident when comparing it with the previous one. The current decline in global trade and demand is due to restrictive measures and a temporary break in economic and logistics ties. Therefore, the duration of the crisis may be limited by the duration of strict quarantine measures, after which the demand will recover. There is also a threat of a new pandemic that could deliver a devastating blow to the global economy comparable only to a world war. The rate of demand recovery depends on the state of the global economy before the introduction of restrictions associated with the pandemic. Therefore, if the pandemic gradually subsides, the depth of the recession after the first round of restrictions is unlikely to increase and the subsequent return to the natural level of demand may be quite quick. However, it is unlikely to exceed the pre-crisis level of demand and trade.

The current unfavorable situation can provoke another financial crisis in one or several countries. This, in turn, will put pressure on the Russian financial and foreign exchange markets and provoke a further decline in demand for Russian exports. The likelihood of an economic shock increases over time, and the risk will be higher in 2021. The government has approved the 2021 anti-crisis plan. In autumn and winter, it is planned to accelerate the deregulation of the economy. Communication with the government agencies will be digital. In the social area, they promise to strengthen the targeted monetary assistance. For example, by April 2021, a new method for calculating the average per capita income of a family will be introduced to assess the need for support. In addition, it is planned to use the COVID-19 epidemic to their national advantage, to develop light industry due to falling imports and improve domestic tourism due to closed borders. The government provides support to individuals and companies to avoid a sharp drop in the supply and demand and prevent poverty. The economy should be reset and, if necessary, national projects should be implemented in an adjusted form. At the next stage, a new model of economic growth, saturated with structural reforms, should be launched. However, the pandemic makes it difficult to forecast the development of economic processes.

3. Results and discussion

It should be noted that several principles of social and economic policy have been predicted for the first stage of economic recovery. Firstly, the gradual elimination of restrictions, provided that the health care system is ready and properly equipped to fight the pandemic, that is, the domestic market is saturated with drugs. Secondly, it is necessary to support people, employees and individual entrepreneurs. This implies the need to reform the Russian labor legislation, and regulate the distance employment. Thirdly, it is necessary to stimulate the supply by reducing the cost of doing business. Small businesses may need additional support during the quarantine. Fourth, it is necessary to improve supervision in all economic sectors. Fifth, it is necessary to preserve budgetary obligations, including the volume of investment. The state support should be commensurate with economic losses and a decrease in the population's income. The reality will be more complex, and adjustments will be required at the initial stage of crisis overcoming. When tackling the pandemic and the associated economic crisis, it is important to implement long-term goals and objectives. The uncertainty and unpredictability of the global economy have reached their highest point. With the help of scientific achievements, the stage of formation of new socio-economic institutions and mechanisms based on the latest technological solutions is visible. Digital technologies will undoubtedly become the most important factor in socio-economic and political development in the post-pandemic world. The economic efficiency that comes with digital technology cannot be bought at the price of digital totalitarianism. Production processes in new conditions is a separate issue. [8] [9] [10] [11]
Many business standards need to be revised to reflect epidemiological risks, which is likely to increase economic costs. At the same time, digital technologies can offset these costs, but this will create a need to develop new structural and institutional solutions. Regulatory "punitive" measures do not recede into the background. On the contrary, their relevance is growing sharply, since digital technologies make us to abandon outdated forms of supervision that impede the social and economic growth. The pandemic has placed new demands on sectors that directly determine living conditions, such as education and health, work and recreation, incentive systems, etc. It is necessary to rethink the long-term role of digital technologies in all of these areas and make sure they derive significant benefits from them, since the human capital (or human potential) is a key driver of 21st century competition (Fig. 2). [12][13]

![Workers at risk by sector](image)

**Figure 2.** Affected sectors of the economy from the pandemic.

4. **Conclusion**

The COVID-19 pandemic has paralyzed the global economy and dramatically restrained the economic activities. Global gross domestic product (GDP) can decline by 3.2 percent in 2020. It can recover only in 2021. The global economy is expected to lose nearly USD 8.5 trillion in 2020 and 2021 (Fig. 3). Almost all the countries have experienced a decrease in three indicators (economic growth, per capita income and trade growth) and an increase in three indicators (unemployment rate, budget deficit rate and inflation rate). The rate of changes will exceed the level of 2009, when the international financial crisis occurred. It will lead the world to an economic recession or a global economic depression. The COVID-19 crisis shows that the national economic health and public health are inextricably linked and mutually reinforcing. The economy can quickly become dormant if health problems and uncertainty prevent people from participating in daily activities. The longer uncertainty persists, the more difficult it becomes to return to a normal pre-crisis trajectory. Uncertainty about the future course of the pandemic and its economic and social impact remains high. (Fig. 3).
Figure 3. Possible economic and social consequences.

References

[1] Turkova V N 2018 Corruption and its negative influence on economic, education and healthcare systems RPTSS 2018 International Conference on Research Para-digms Transformation in Social Sciences pp 120-127

[2] Turkova V N, Archipova A N and Kitaev N N 2017 Improper work of Russian law-enforcement agencies as a determinant of corruption-related crimes committed by government officials Proceedings of the International Conference on Trends of Technologies and Innovations in Economic and Social Studies 38

[3] Basova A V and Nechaev A S 2013 Taxation as an instrument of stimulation of innovation-active business entities World Applied Sciences Journal 22(11) pp 1544-1549

[4] Nechaev A S, Ognev D V., Antipina, O.V, Analysis of risk management in innovation activity process. Proceedings of the 2017 International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS 2017 8085883, c. 548-551. (2017)

[5] Barykina Y 2018 Analysis of information support for innovation development IOP Conference Series: Materials Science and Engineering 667 012012

[6] Barykina Y 2018 Risks of long-term leasing transactions for construction industry development. IOP Conference Series: Materials Science and Engineering 667 012011

[7] Rashid H, Ng P L and Cheng H W J 2020 The COVID-19 pandemic puts small developing economies in dire straits UN DESA Policy Brief, No. 64. New York: United Nations Department of Economic and Social Affairs

[8] Rashid H, Vergara S, Afonso H and Pitterle I 2020 Commodity exporters face mounting economic challenges as pandemic spreads: Urgent, pre-emptive measures needed to address twin economic and health crisis UN DESA Policy Brief, No. 60. New York: United Nations Department of Economic and Social Affairs

[9] Kissler Stephen M 2020 Projecting the transmission dynamics of SARS-CoV-2 through the post-pandemic period Science

[10] Nechaev A S, Zakharov S V and Troshina A O 2017 Innovation risk minimization and neutralization methods Proceedings of the 2017 International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS pp 552-555

[11] Nechaev A S, Bovkun A S 2017 Innovation management characteristics of industrial enterprises Proceedings of the 2017 International Conference "Quality Management, Transport and Information Security, Information Technologies", IT and QM and IS pp 72-77

[12] Turkova V N, Archipova A N 2019 Development of digital economy in Irkutsk region International Scientific Conference "Investments. Construction. Real Estate: New Technologies and Targeted Development Priorities-2019"

[13] Turkova V N, Archipova A N 2019 Innovative development of Irkutsk region International Scientific Conference "Investments. Construction. Real Estate: New Technologies and Targeted Development Priorities-2019"
[14] Nikityuk L G 2020 A concession agreement as an effective mechanism for the development of innovative activities in the housing and utilities sector *IOP Conference Series: Materials Science and Engineering* **880** 012099

[15] Nikityuk L 2019 Innovation incentive mechanism in the construction industry. *IOP Conference Series: Materials Science and Engineering* **667** 012067

[16] Nikityuk L G, Tymchuk O G and Evseeva G G 2019 Development of Leasing Operations as a Tool to Fund Innovative Activities in Housing and Public Utilities *IOP Conference Series: Earth and Environmental Science* **272**(3) 032220

[17] Gorbachevskaya E Y, Nikityuk L and Timchuk O G 2019 Features of e-business development in the construction industry. *IOP Conference Series: Materials Science and Engineering*

[18] Timchuk O G and Evloeva M V 2020 Difficulties in transforming the construction industry under the digital economy *IOP Conference Series: Materials Science and Engineering*