

What Does the Pandemic of Covid-19 Tell Us About Economic Security as a Factor of Competitiveness? An Exercise on China

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The outbreak of the coronavirus in China became the leading, not least dangerous event in the global economy in 2020. The virus was officially registered on December 31, 2019 (beginning of the outbreak), and the World Health Organization (2020) has been recording the statistics of its dissemination starting on January 21 2020. The risk of global epidemics became true by March 2020, according to the World Health Organization. Medical science is now being actively looking for the vaccine or an effective cocktail of known medicines. The task of economics is to evaluate the causal connections of its emergence and dissemination. The coronavirus will exert vivid consequences for the Chinese economy – not in terms of its GDP potential, but of China's economic security and national competitiveness. Section 2 of this paper shows the data on economic security and competitiveness of countries of the OECD with relatively low military expenditures, the share of which in the structure of GDP constitutes 1.5% in Brazil, 1% in South Africa, 1.8% in the UK, and 1.0 in China (as of year-end 2019). We also analyze data for the OECD countries that show high military expenditures: 4.3% in Israel, 3.9%

in Russia, 3.2% in the USA, and 2.4% in India (World Bank, 2020). Section 3 gives the results of the calculation and analysis of cross-correlation of the indicators of economic security and the signs of global competitiveness of BRICS countries as of year-end 2019. Section 4 concludes.

The World Economic Forum calculates the global competitiveness index at 4.0, which reflects the economy's attractiveness for doing business and living.

Materials and method

The issues of economic security and its influence on economy's competitiveness are widely studied, e.g., Amaral and Quintin (2020), Andersson and Andersson (2019), Andornino (2019), Balas and Kaya (2019), Gibson (2019), Gregson and Crang (2019), Inshakov et al. (2019), Martin de Almagro and Ryan (2019), Nam and Park (2020), Popkova (2018), Popkova and Zmiyak (2019),

Sergi et al. (2019a and 2019b), Sohn (2019), and Taylor (2020). However, the notion of economic security does not have a clear definition in economic literature – only its separate manifestations have been studied. These include the level of militarization of the economy through the prism of direct and indirect military threat and military expenditures of the national state budget. For its measuring, the Institute for Economics & Peace calculates the index of peacefulness (militarization domain). The manifestations also include the quality of life, which determines internal economic security through the prism of macro-economic and social stability, and ecological situation and threats. Numbeo also calculates the quality of life index. In the context of the Fourth industrial revolution and the digital economy, a new phenomenon appeared – i.e., cybersecurity. It reflects the level of economy’s protection from digital and information threats (the International Telecommunication Union develops a global cybersecurity index). Attention is now paid to the economy’s competitiveness in international statistics and analytics. The World Economic Forum calculates the global competitiveness index 4.0, which reflects the economy’s attractiveness for doing business and living.

Economy’s competitiveness is assessed by specialized expert & analytics organizations, of which Moody’s is one of the most respectable ones. In essence, it assigns sovereigns ratings to countries. A statistical indicator of investment attractiveness is the volume of direct foreign investments (outward FDI flows), calculated by the OECD. For experimental purposes, we investigate the influence of the indicators of economic security and the indicators of competitiveness of BRICS countries’ economies with the help of the method of correlation analysis. Considering the epidemiological nature of the current coronavirus crisis of the global economy system, we analyse the statistics and perform correlation analysis of the healthcare indicators – hospital beds per 1,000 people and share of healthcare expenditures in the structure of GDP – with global competitiveness and direct foreign investments. The necessary statistical data are in Table 1.

Table 1. Indicators of economic security and competitiveness, 2019.

Military expenditures	Countries	Rating of investment attractiveness Moody's (special scale)	Militarization domain, points (the lower the better)	Cyber security index, shares of 1 (the higher the better)	Quality of life index, points (the higher the better)	Hospital beds per 1,000 people	Current health expenditures, % of GDP	Global competitiveness index, points (the higher the better)	Volume of direct foreign investments, USD million (the higher the better)
			X1	X2	X3	X4	X5	Y1	Y2
low	Brazil	Ba2: Non-investment grade speculative	2.211	0.577	105.65	11.77	2.2	60.9	4,576.5
	South Africa	Baa3: Lower medium grade	1.882	0.652	131.97	8.11	2.8	62.4	1,470.9
	UK	Aa2: High grade	2.555	0.931	162.71	9.76	2.8	82.0	41,415.2
	China	A1: Upper medium grade	2.016	0.828	102.81	4.98	4.2	73.9	22,729.9
high	Israel	A1: Upper medium grade	3.880	0.783	149.94	7.31	3.1	76.6	6,117.0
	Russia	Baa3: Lower medium grade	3.252	0.836	102.31	5.27	8.2	66.7	1,679.0
	USA	Aaa: Prime	3.073	0.926	172.11	17.07	2.9	85.6	-68,407.0
	India	Baa2: Lower medium grade	2.566	0.719	108.63	3.66	0.7	61.4	2,605.0

Sources: compiled by the authors based on Institute for Economics & Peace (2020), International Telecommunication Union (2020), Moody (2020), Numbeo (2020), OECD (2020), World Economic Forum (2020).

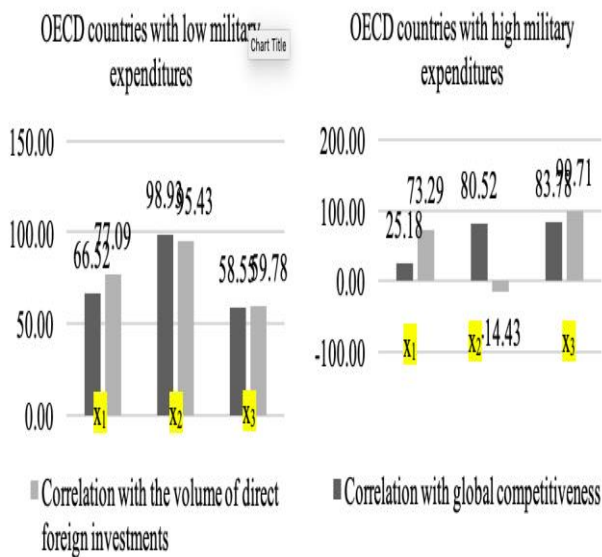
Among BRICS, as of year-end 2019, China had the highest competitiveness (73.9 points) and investment attractiveness (investment rating A1, the volume of direct foreign investments: USD 22,729.9 million – i.e., 68.75% among all countries of BRICS). Economic security of China as of year-end 2019 was also rather high: the moderate value of militarization domain (2.016 points) and high value of the cybersecurity index (0.828), but low (as compared to other countries of BRICS) quality of life (102.81 points).

In achieving the seventeen UN Global Development Goals, countries with low quality of life receive the highest direct FDI

Results

We calculate cross-correlation of the indicators of economic security and the indicators of global competitiveness of BRICS countries as of year-end 2019 (Figure 1& 2).

Figure 1



Source: Developed and compiled by the authors.

Figure 1. Cross correlation of the indicators of economic security and the indicators of global competitiveness of countries with different military expenditures, 2019, %.

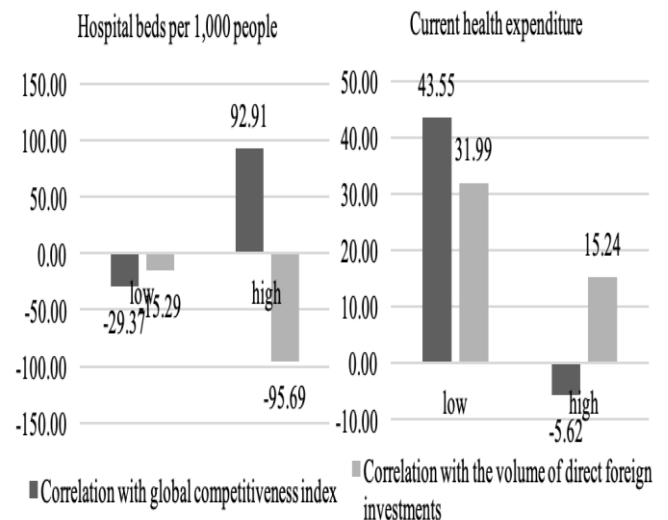
According to the results of correlation analysis (Figure 1), in countries that have low military expenditures (including China), peacefulness increases global competitiveness (correlation – 66.52%) and the inflow of foreign investments (correlation – 77.09%). Cybersecurity increases global competitiveness (correlation – 98.93%) and increases the inflow of foreign investments (correlation – 95.43%). Quality of life increases global competitiveness (correlation – 58.55%) and the inflow of foreign investments (correlation – 59.78%).

In countries that have high military expenditures, peacefulness increases global competitiveness (correlation – 25.18%) and the inflow of foreign investments (correlation – 73.29%).

Cybersecurity increases global competitiveness (correlation – 80.52%) but reduces the inflow of foreign investments (correlation – 14.43%). Quality of life increases global competitiveness (correlation – 83.78%) and the inflow of foreign investments (correlation - 99.71%).

Cross correlation of the healthcare and the indicators of global competitiveness of countries with different military expenditures in 2019 is shown in Figure 3&4.

Figure 2



Source: Developed and compiled by the authors.

Figure 2. Cross correlation of healthcare and the indicators of global competitiveness of countries with different military expenditures, 2019, %.

As shown in Figure 2, the number of hospital beds per 1,000 people (correlation – 92.91%) ensures global competitiveness, but hinders the attraction of direct foreign investments (correlation -95.69%) in countries with high military expenditures. Healthcare expenditures ensure global competitiveness (correlation – 43.55%) and attraction of direct foreign investments (correlation – 31.99%) with countries with low military expenditures.

Hi-tech and cybersecurity decisively influences the decisions of venture investors during the implementation of innovative projects in the sphere of the digital economy. In achieving the seventeen UN Global Development Goals, countries with low quality of life receive the highest direct foreign investments, increase the awareness of their socio-economic position, and lead to solving the current problems of economic security. The outbreak of coronavirus in China might have different socio-economic

consequences. On the one hand, there will be a quick decrease in the population's living standards (in some provinces – e.g., Wuhan, where the outbreak of the coronavirus took place) – in the short-term. Preventive measures, performed by countries of the world for preventing the global dissemination of coronavirus (termination of transport communication with China, limitation of migration, and termination of foreign trade cooperation with China) will strengthen a crisis of the Chinese economy.

One might expect that China will be supplied financial resources – in the form of subsidies – for supporting the Chinese population and restoring the economy.

China is already bearing significant economic losses due to the critical decline of business activity. Early statistics report that transport communications between China and other countries are a minimum, which means a crisis of overproduction for the Chinese industrial economy.

On the other hand, many countries are ready to support China, sharing laboratory tests for finding a vaccine for coronavirus, and Russian scientists perform joint research with Chinese virologists. One might expect that China will be supplied financial resources – in the form of subsidies – for supporting the Chinese population and restoring the economy. Long-term consequences depend on the global community and China's reaction to coronavirus. One scenario envisages a quick increase in the competitiveness of Chinese healthcare because of the creation of a vaccine for coronavirus. China might become the global supplier of the vaccine and receive added investments in the development of healthcare, which will accelerate economic growth.

Another scenario envisages a long-term reduction of competitiveness of Chinese industrial products and China's losing sales markets, mass unemployment, and the formation of new industrial centers in the Asia-Pacific region and beyond it. When considering

this scenario, it is necessary to pay attention to potential beneficiaries from its implementation. Though it has too early studies on coronavirus vaccination and its effective treatment, there are specific first commentaries. Zbaza (2020) doubts about the natural origin of coronavirus. These scholars scientifically substantiated the essential difference of the new coronavirus (2019-nCov) from other viruses that precedes it, and its substantial similarity with HIV.

It should be noted that the international statistics of the World Bank do not have data on the HIV rate in China. Therefore, there might be – theoretically – and random mutation (quick mutation of the new coronavirus has already been scientifically confirmed Meredith, 2020) of coronaviruses and emergence of the new 2019-nCov against the background of high HIV rate in China (which has not been proved). The prominent level of development of Chinese medicine will allow verifying this hypothesis – and if it is confirmed, China will increase its defense, including those at the biological level.

Conclusion

The Chinese economy is experiencing severe consequences from the new coronavirus. Its emergence is ambiguously ranging from a mutation of coronavirus against the background of overpopulation, and questionable quality of food in the Hubei province to a more provocative still unproved artificial creation and dissemination of such a virus, the consequences of the outbreak of coronavirus are also contradictory.

Despite the sizeable socio-economic crisis, the efforts of the global community will lead to the creation of a vaccine and neutralization of the threat in a medium-term horizon. The tourist attractiveness of China might collapse in the short- and medium-term and social tension will keep at bay, China might achieve economic (also competitiveness) advantages.

Firstly, the dedicated and organized work of the Chinese military and doctors will strengthen the patriotism of the Chinese people and will stimulate responsible production and consumption, as well as the growth of labor efficiency and competitiveness of Chinese

products. Secondly, sincere interest, compassion, and readiness to support China – from the global community – allow forecasting the inflow of direct foreign investments into the Chinese economy.

Thirdly, obtaining reputational advantages is possible. Marketing blueprints say that both positive and negative news stimulates the increase of reputation. This might be the case with the victory over coronavirus.

China's competitiveness could grow in the long-term. While China has succeeded halting the epidemic (zero new cases on March 18th) and resuming full production and swing soonest (correlation – 66.52%), we are confident that China will also be able to obtain economic advantages from the crisis of economic security (correlation – 98.93%) and provides a notable example for other advanced countries. The number of hospital beds and healthcare expenditures are significant factors of global competitiveness and attraction of direct foreign investments.

The new experience of China showed that viruses could have disruptive effects on the national economy and national security. Under a constant threat from new virus threats in the long-term, a country with an elevated level of national security could plunge into a profound crisis of security and economy – in a matter of days. Fighting viruses and biological might become a new, mandatory policy direction of modern nations.

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