

Improvement of production and economic activity efficiency as a basic condition for ensuring of domestic production international competitiveness

Alexey V. Tebekin 

ORIGINAL ARTICLE

Doctor of Technical Sciences, Doctor of Economics, Professor

Moscow State Institute of International Relations (University) of the Ministry of Foreign Affairs of Russia, Moscow, Russian Federation

E-mail: tebekin@gmail.com

Abstract. The importance of production and economic activity increasing efficiency is basic condition for achieving the country technological sovereignty and the international competitiveness of domestic production. Therefore, the conditions of tightening market competition in the post-industrial economy determine the relevance of the presented research. Moreover, the collective West makes serious efforts to restrain the intensity of research and development processes in the Russian Federation. They introduce anti-Russian sanctions, including those aimed at limiting the access of domestic enterprises to the latest world scientific developments and technologies and, accordingly, at restricting the sales market for domestic products. Subsequently, the increasing the intensity, effectiveness, and efficiency of domestic enterprises development by enhancement their production and economic activities. The purpose of the research is to identify the issues of improving domestic enterprises operating efficiency as a component of the economic security and country international competitiveness in terms of their effective solutions. Identifying a set of problems allows ones to improve the efficiency of production and economic activity of domestic enterprises. Therefore, the most realistic way to improve their competitiveness, based on increasing labour productivity using the principles of scientific organization of labour, is to increase the profits by reducing the duration of the production and sales cycles. The practical significance of the obtained results concerns with their using by federal and regional authorities for development as so as implement their mechanisms for improving the efficiency of production and economic activity as a basic condition for ensuring international competitiveness of domestic production.

Keywords: increasing efficiency; production and economic activity; basic condition; ensuring international competitiveness; domestic production

JEL codes: D24, E24, J24, O47

DOI: 10.52957/2782-1927-2024-5-2-4-13

For citation: Alexey V. Tebekin. (2024). Improvement of production and economic activity efficiency as a basic condition for ensuring of domestic production international competitiveness. *Journal of regional and international competitiveness*, 5(1), 4.

Introduction

Nowadays, the importance of production and economic activity increasing efficiency is basic condition for achieving the country technological sovereignty and the international competitiveness of domestic production. Therefore, the conditions of tightening market competition in the post-industrial economy determine the relevance of the presented research.

At the same time, the traditional main goal is to ensure the national economy growth above the global average (approximately + 4% of GDP per year). Moreover, it contains in all strategic economic development programmes, i.e., «Strategy 2020», «Strategy 2030», etc.

The collective West makes serious efforts to restrain the intensity of research and development processes in the Russian Federation by imposing anti-Russian sanctions, including those aimed at limiting the access of domestic enterprises to the latest world scientific developments and technologies and, accordingly, at restricting the sales market for domestic products.

Hence, the increasing the intensity, effectiveness, and efficiency of domestic enterprises development by enhancement their production and economic activities.

The purpose of the research is to identify the challenges of increasing the production and economic activity efficiency as a basic condition for achieving the country technological sovereignty and domestic production international competitiveness.

Methods

The methodological basis of the research consists of scientific works devoted to the problems of industrial and economic activities of enterprises efficiency improving: Yemelyanov G.V. [7]; Zhaksybaev K.R., Sinkevich N.N., Murykh E.L., Limareva I.G. [8]; Izmalkova I.V., Zvyagina N.N., Polennikova G.I., Tatarenko L.Yu. [10]; Karimova K.S. [11]; Karsuntseva [12]; Mazhul Yu.A. [13]; Mikhailov K.D., Polyushko Yu.N. [14]; Prozorova L.Yu. [17]; Shakina Yu.V., Kazaryan M.T. [23], Shcherbakova S.A. [24], etc.

The scientists give relevant information, analytical and research materials on the problem of ensuring the country technological sovereignty and the domestic production international competitiveness [1, 2, 5, 9].

Results

An analysis of challenges and threats composition to the country's economic security highlighted in Decree of the President of the Russian Federation on May 13, 2017 No. 208 "On the Strategy of Economic Security of the Russian Federation for the Period up to 2030"¹ shows those relations to ensuring the efficiency of production and economic activities in the national economy.

However, the challenge of ensuring the domestic enterprises production and economic activities efficiency. It is largely determined by the level of their development innovation.

The USSR was a recognized world leader in terms of innovative development (the share of R&D costs was the largest one worldwide except the USA and consist about 5% of GDP). Nowadays, the Russian Federation significantly retains the world leaders in these indicators, both in absolute and relative terms.

According to UNESCO, in pre-pandemic 2019, Russia was inferior to the world leader (the USA) in terms of R&D financing in nominal terms (\$ bn USD) by more than 14.5 times; to the world leader in terms of the share of the country's GDP allocated to R&D (South Korea) by almost 4 times².

Indeed, the issue of the Russian Federation innovative development has been repeatedly posed in strategic policy documents.

The goal in the Concept of Long-term Socio-Economic Development of the Russian Federation for the Period up to 2020 (also known as «Strategy 2020») was set to «transition the Russian economy from an export-based raw material to an innovative socially oriented type of development»³.

Herewith, the objective was Russia to «occupy 5-10% of the global market for high-tech goods and intellectual services in 5-7 economic sectors»⁴.

The next goal of the country innovative development was set in the Decree of the President of the Russian Federation on May 7, 2018. No. 204 «On National Goals and Strategic Objectives of the Development of the Russian Federation for the Period up to 2024», concerning the «acceleration of the Russian Federation technological development» and «increasing the number of organizations implementing technological innovations to 50% of their total number»⁵.

However, in the Decree of the President of the Russian Federation on July 21, 2020. No. 474 «On the

¹ Decree of the President of the Russian Federation on May 13, 2017 No. 208 "On the Strategy of Economic Security of the Russian Federation for the period up to 2030». URL: <https://www.garant.ru/products/ipo/prime/doc/71572608/> (Accessed 20.03.2024).

² World Heritage List Statistics. URL: <https://whc.unesco.org/en/list/stat> (Accessed 20.03.2024)

³ The Concept of Long-Term Socio-Economic Development of the Russian Federation for the period up to 2020. Approved by Decree of the Government of the Russian Federation No. 1662-r on November 17, 2008. URL: <http://static.government.ru/media/files/aaooFKSheDLiM99HECrygytjmGzrnAX.pdf> (Accessed 20.03.2024).

⁴ The Concept of Long-Term Socio-Economic Development of the Russian Federation for the period up to 2020. Approved by Decree of the Government of the Russian Federation No. 1662-r on November 17, 2008. URL: <http://static.government.ru/media/files/aaooFKSheDLiM99HECrygytjmGzrnAX.pdf> (Accessed 20.03.2024).

⁵ Decree of the President of the Russian Federation on May 7, 2018 No. 204 «On National Goals and Strategic Objectives of the Development of the Russian Federation for the period up to 2024» (with amendments and additions). URL: <https://base.garant.ru/1937200/?ysclid=ltfhclvcx0920336403> (Accessed 20.03.2024).

National Development Goals of the Russian Federation for the Period up to 2030» the goal of innovative development has changed into «ensuring the Russian Federation among the world ten leading countries in terms of R&D»⁶.

However, current global economic crisis is not only a threat but also is a transition to more effective national development. Indeed, scientific and technical development are the components of development determining the state capabilities and prospects of the state globally (Fig.1).

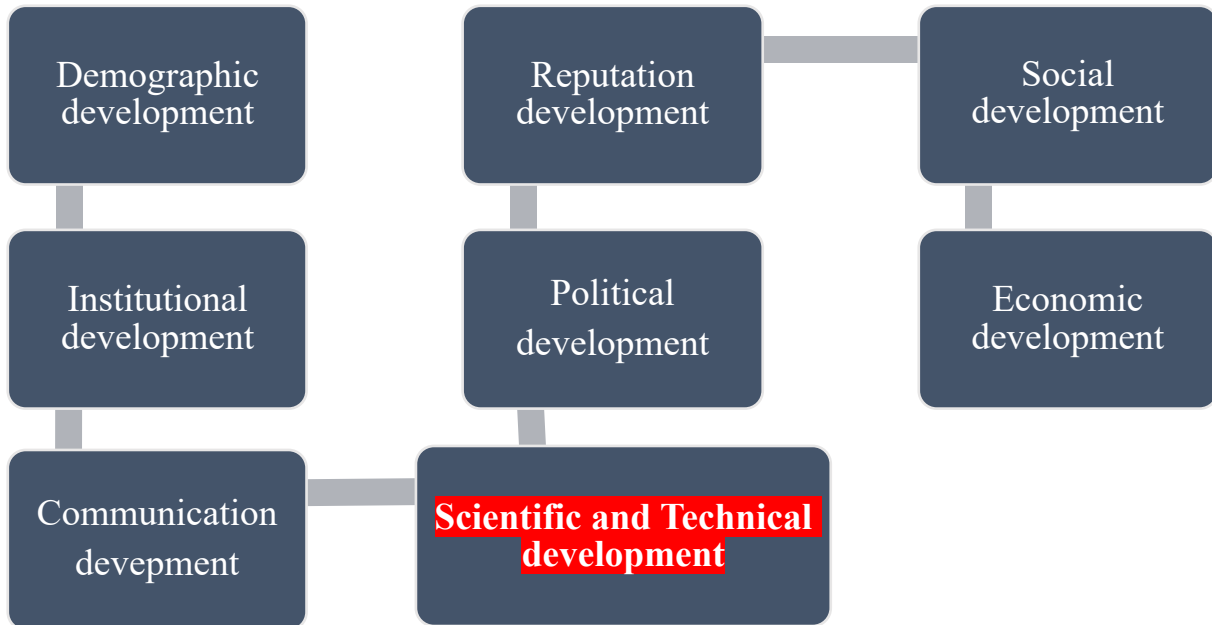


Figure 1. The components of state development determining the capabilities and prospects worldwide

Source: composed by the author

Recently, the market features of the national economy development are characterized by:

- withdrawal of many foreign companies from the Russian market;
- excuse of market niches;
- opportunities for domestic companies to occupy those vacant market niches.

Indeed, sharp excuse of market niches in the domestic economy, due to the withdrawal of Western companies from the Russian market causes contradiction between tactics and strategy to handle with this challenge.

On the one hand, to quickly fill the resulting market gaps, it is necessary to quickly solve the import substitution challenge. It was achieved, also, by implementation of parallel import technology⁷.

On the other hand, to localise the dependence on import supplies, a strategic challenge of foreign goods import substitution with domestic ones has arisen. It causes the challenge of ensuring the country technological sovereignty⁸, primarily in defense industries⁹.

As a result, the domestic economy faced the following set of organizational and economic challenges in terms of import substitution, achieving the country technological sovereignty, and domestic production

⁶ Decree of the President of the Russian Federation on July 21, 2020 No. 474 «On the National Development Goals of the Russian Federation for the period up to 2030». URL: <https://base.garant.ru/74404210/?ysclid=ltfhelsly5448465522> (Accessed 20.03.2024).

⁷ Order of the Ministry of Industry and Trade of the Russian Federation on 19.04.2022 No. 1532 «On Approval of the List of Goods in Respect of which the Provisions of Subparagraph 6 of Article 1359 and Article 1487 of the Civil Code of the Russian Federation do not Apply. Registered with the Ministry of Justice of Russia on 06.05.2022 No. 68421. URL: <https://www.consultant.ru/law/hotdocs/75082.html?ysclid=ltfpw892ar393805891> (Accessed 20.03.2024).

⁸ On Approval of Priority Directions of Technological Sovereignty Projects and Projects of Structural Adaptation of the Economy of the Russian Federation and the Regulations on the Conditions for Classifying Projects as Projects of Technological Sovereignty. Decree of the Government of the Russian Federation on April 15, 2023 No. 603. URL: <http://static.government.ru/media/files/8JsiO5kSItJA1g5IHhGd5qiQVACelECn.pdf> (Accessed 20.03.2024).

⁹ Putin called for ensuring the independence of defense developments from foreign components. URL: <https://tass.ru/armiya-i-opk/4573656> (Accessed 20.03.2024).

international competitiveness:

- focus on parallel imports;
- focus on substitution of Western imports with eastern ones;
- focus on the expectation of foreign companies' comeback;
- low domestic competition.

According to the Secretary of the Security Council of the Russian Federation N. Patrusheva, «parallel imports helped to stabilise the situation in the Russian market. However, the further use of this mechanism should be justified, since it prevents the development of domestic design. Moreover, the absence of justification for further use of the parallel import mechanism, which has largely fulfilled its role in stabilising the situation on the goods market, does not contribute to increasing innovation activity in the real sector of the economy».

A huge organisational and economic challenge of achieving country technological sovereignty is the structural imbalance in the national economy due to state quasi-monopolistic capitalism model implementation. It causes low domestic competition.

Indeed, it is a relevant issue. In the global economy, the normal form of the business pyramid of small and medium-sized businesses contribution to the GDP is 60%. However, the pyramid of domestic business has only 20% of small and medium-sized businesses contribution to the GDP.

The transformation of the business pyramid in the domestic economy from a normal form to an inverted one is a consequence of state quasi-monopolistic capitalism model implemented in the national economy. According to this modes, quasi is a kind of monopoly: almost every region or industry of the country has a single main producer of goods, works, services. This producer is controlled by government agencies, and at least has the possibility of comfort functioning. Although, this mode of functioning is a kind of preference.

Establishing of such preferences in favour of selected companies destroys the competitive environment could be formed by small and medium-sized businesses in almost any industry and region. According to Hernando De Soto, it might cause the appearance of «vicious circle of the shadow economy» [6].

The results of previous studies allowed us to obtain a detailed scheme of the «vicious circle of the shadow sector» by Hernando De Soto. It is shown in Fig. 2 [20].

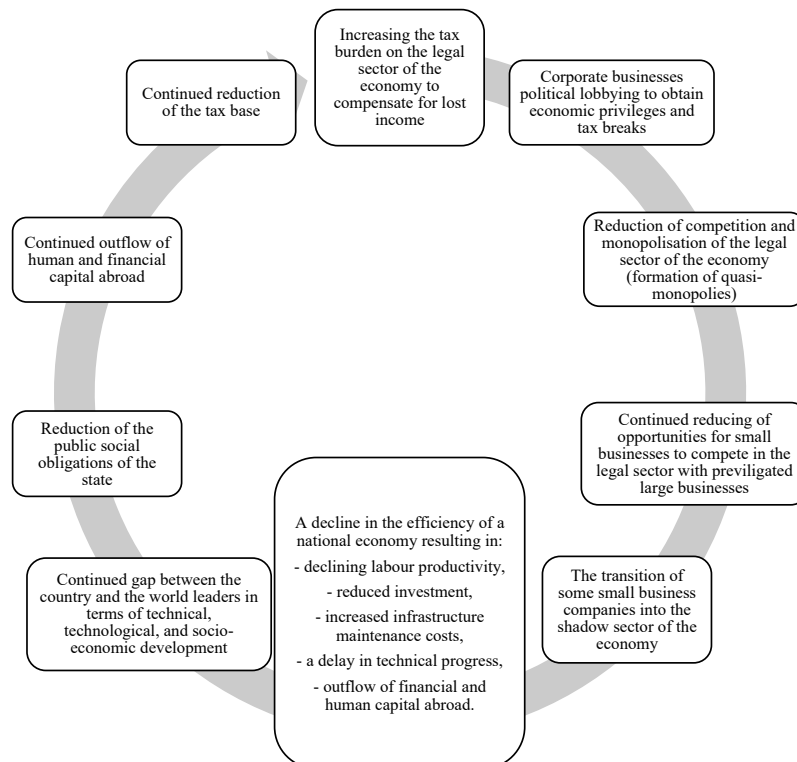


Figure 2. A detailed scheme of the «vicious circle of the shadow sector» by Hernando De Soto

Source: [20]

The detailed form of the inverted pyramid of business in the domestic economy (by contribution to the

country's GDP) is shown in Fig.3.

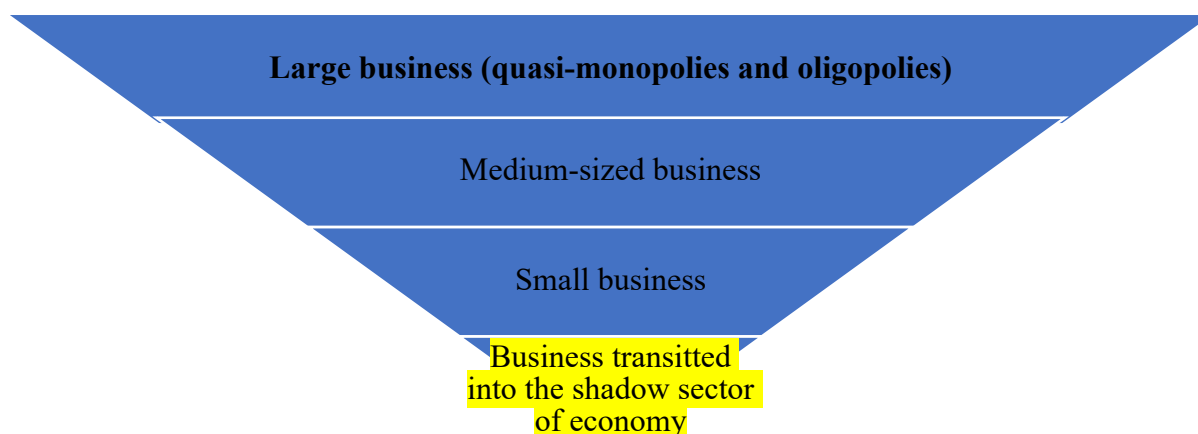


Figure 3. The detailed form of the inverted pyramid of business in the domestic economy (by contribution to the country's GDP).

Source: composed by the author

Therefore, the inverted pyramid of business in the domestic economy (by contribution to the country's GDP) shown in Fig. 3 is an unstable physical structure. Hence, transition of small and medium-sized business into shady ones due to compliance with established (or rather actually implemented) business requirements for these companies costs them more than circumvention of these requirements [6].

Indeed, the main organizational and economic issue of implementing import substitution processes and achieving technological sovereignty for the domestic economy is low domestic competition due to the implementation of state quasi-monopolistic capitalism model. We consider this model in terms of Rusnano activity. Since 2010 Rusnano is a kind of a quasi-monopoly in the field of advanced nanotechnology, which is a core part of the emerging sixth technological order.

On November 19, 2021, Rusnano informed about the onset of a technical default of the company. According to D. Medovnikov, director of the Institute of Innovation Management at the Higher School of Economics: «The development Institute should help the entrepreneur develop and serve him. Firstly, Rusnano interfered in the work of the companies very actively. Sometimes the representatives of Rusnano replaced the vacancies of those companies¹⁰.

For instance, D. Medovnikov notes: «This is the style of a predatory aggressive corporation, not a development institute»¹¹.

Moreover, the expected result of Rusnano activities as a quasi-monopolistic structure was obvious to specialists before its operation began in 2011.

The director of the Institute of Market Problems of the Russian Academy of Sciences, academician N. Ya. Petrakov noted: «Either charlatans or American spies will come to Skolkovo»¹².

The key problem of increasing the efficiency of production and economic activities in the interests of achieving technological sovereignty of the country is the action of the so-called «Bermuda Triangle» of the Russian economy (Fig.4) [21].

For instance, key interest rate plays a crucial role in the development of the national economy (Fig.4). We refer to its model representation based on analogy with the band theory of solid conduction (Fig.5).

An illustration of the impact of the Central Bank's key interest rate growth on reducing the possibilities of industrial activity of enterprises, by analogy with the band theory of solid conduction (Fig.5) is shown in Fig.6.

¹⁰ The story of the failure: Anatoly Chubais or how Rusnano wastes 280 billion rubles. URL: <https://www.kp.ru/daily/28362.5/4510611/> (Accessed 20.03.2024).

¹¹ The story of the failure: Anatoly Chubais or how Rusnano wastes 280 billion rubles. URL: <https://www.kp.ru/daily/28362.5/4510611/> (Accessed 20.03.2024).

¹² Nikolai Petrakov: «Either charlatans or American spies will come to Skolkovo.» URL: <https://www.business-gazeta.ru/article/32844> (Accessed 20.03.2024).

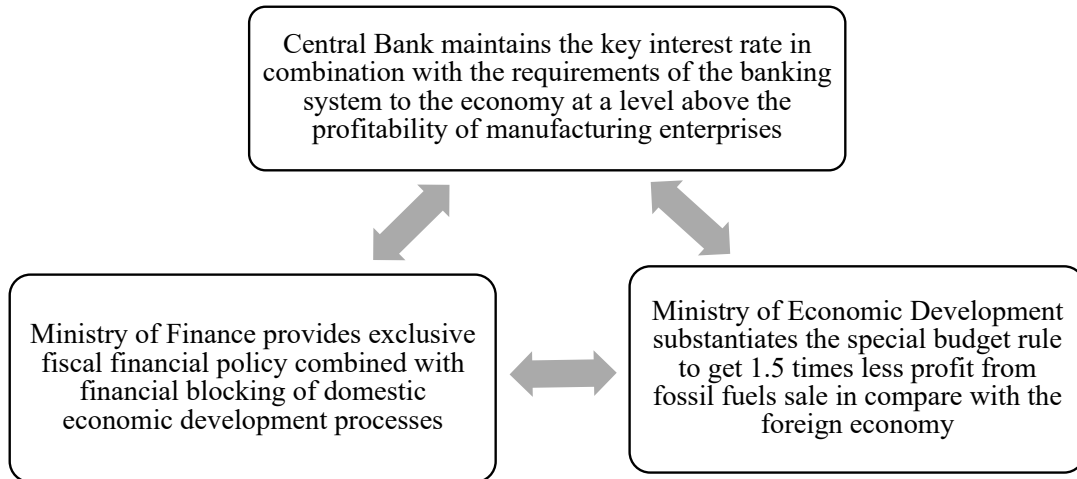


Figure 4. The Bermuda Triangle of the Russian economy

Source: [32]

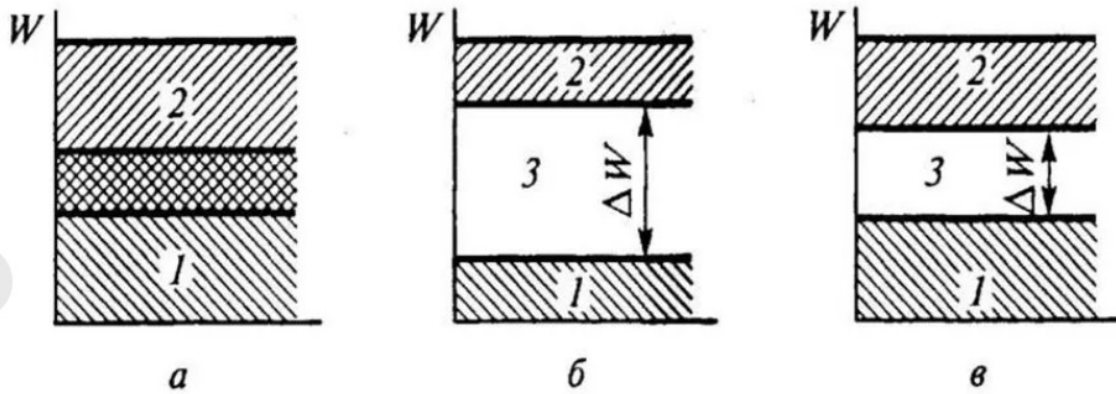


Figure 5. A model representation of the key interest rate role in the national economy development, based on analogy with the band theory of solid conduction, including: a) conductors, b) dielectrics, c) semiconductors

Symbols: 1 – valence band; 2 – conduction band; 3 – band gap width ΔW

Source: composed by the author

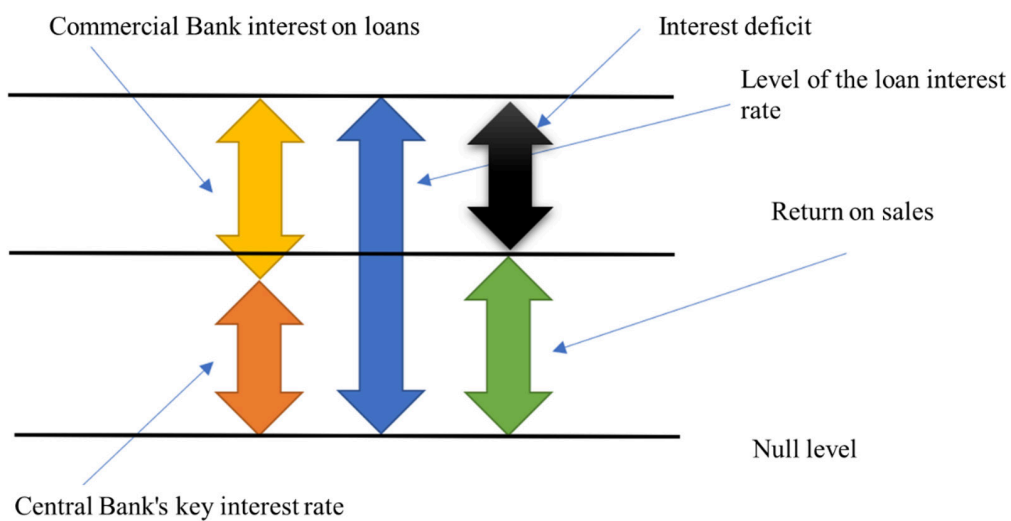


Figure 6. An illustration of the impact of the Central Bank's key interest rate growth on reducing the possibilities of industrial activity of enterprises

Source: composed by the author

Consider financial and economic processes by analogy with the solids conduction. We can note the upper boundary of the valence band (VB_{UB}) as the level of return on sales (R_S) of the enterprises, and the lower boundary of the conduction band (CB_{LB}) as the value of the loan rate (L_R) for enterprises. In the most general form they can be represented as the sum of the Central Bank's key interest rate ($KIR_{CentBank}$) and interest on loans added by a credit institution, for example, a commercial bank ($IL_{ComBank}$) [22]:

$$L_R = KIR_{CentBank} + IL_{ComBank} \quad (1)$$

Indeed, the ideal (or rather normal) economical situation in the economy occurs when the upper boundary of the valence band (VB_{UB}), reflecting the level of profitability of sales (R_S) of enterprises, exceeds the lower boundary of the conduction band (CB_{LB}), reflecting the average loan rate (L_R) for enterprises [22]:

$$R_S > L_R \quad (2)$$

which corresponds to the conductivity in solids of the conductor type.

On the other hand, disadvantaged economic situation occurs when the upper boundary of the valence band (VB_{UB}), reflecting the level of return on sales (R_S) of enterprises, turns out to be significantly lower than the boundary of the conduction band (CB_{LB}), reflecting the average loan rate (L_R) for enterprises [22]:

$$R_S \ll L_R \quad (3)$$

which corresponds to the nature of conductivity in dielectric-type solids.

In fact, that most business entities cannot use loans.

Nowadays, within domestic economy the upper boundary of the valence band (VB_{UB}), reflecting the level of return on sales (R_S) of most enterprises is below the boundary of the conduction band (CB_{LB}), reflecting the average loan rate (L_R) for enterprises [22]:

$$R_S < L_R \quad (4)$$

which corresponds to the nature of conductivity in semiconductor-type solids.

Indeed, this challenge has existed for a long time. In 2015 in report «On urgent measures to strengthen Russia's economic security», academician S. Yu Glazyev noted: «only a fifth of industries have a return on sales above the current level of the average interest rate» (Fig.7) [4].

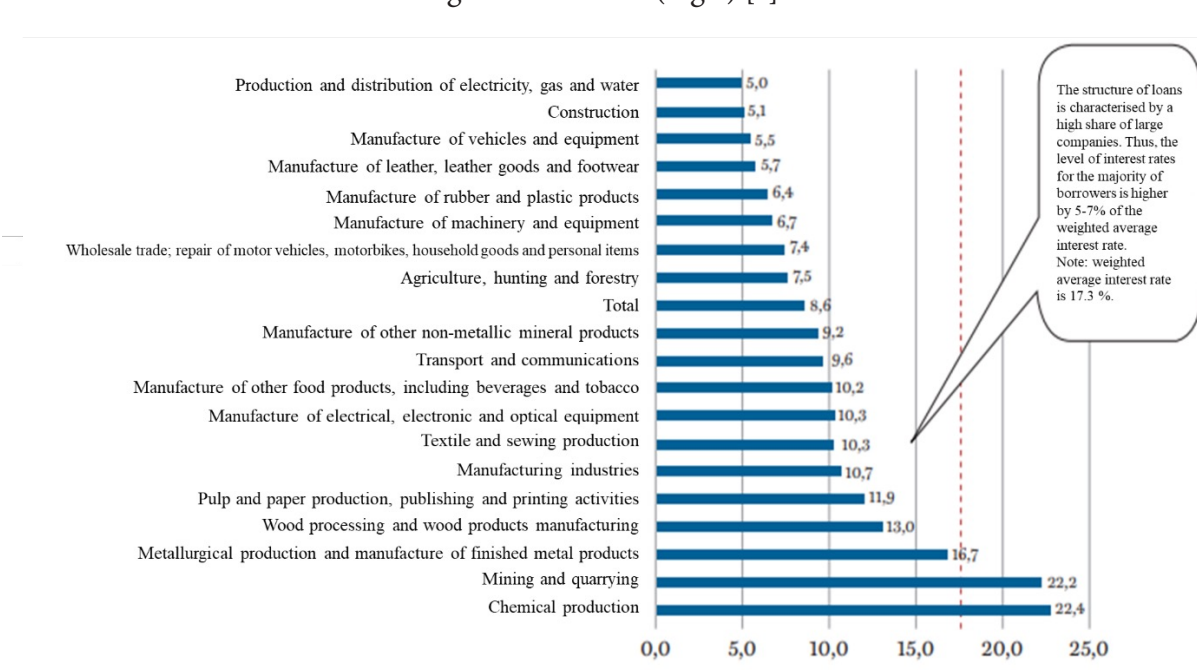


Figure 7. The weighted average interest rate made impossible lending for most non-financial economic sectors [4] (except for extractive industries)

Source: [4]

Conclusions

Therefore, we can consider two development vectors allowing to overcome the challenge of increasing

production and economic activities to achieve technological sovereignty and the international competitiveness of domestic products (Fig.8).

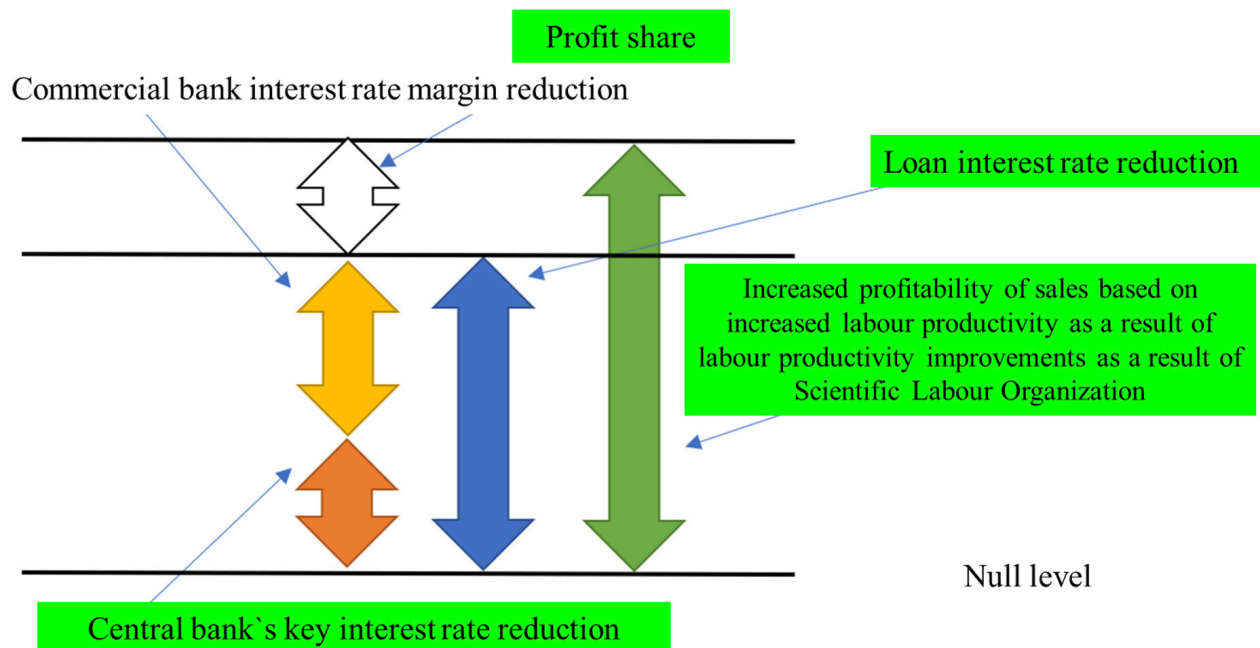


Figure 8. Ways for overcoming the challenge of increasing production and economic activities to achieve technological sovereignty and the international competitiveness of domestic products

Source: composed by the author

On the one hand, it consists in the reduction of the Central Bank's key interest rate, which entails a decrease in the interest surcharge on loans from commercial banks. Consequently, it causes a decrease in the key interest rate on loans for non-financial organizations.

On the other hand, it ensures the return on sales growth based on an increase in labour productivity as a result of Scientific Labour Organization. In the 1920s this principle was formed by A.K. Gastev [3]. Subsequently, Taiichi Ono [15] and Shigeo Songo [18] laid it into the foundation of lean manufacturing concept.

Nowadays, it is not possible to expect a significant reduction in the key interest rate from the Central Bank of the Russian Federation¹³. However, the most realistic way to improve the domestic production competitiveness is to increase labour productivity based on the principles of Scientific Labour Organization. It allows ones to increase return on sales and profits by reducing the duration of the production and sales cycle.

FUNDING

The study was done on a personal initiative.

CONFLICT OF INTEREST

The author declares no conflict of interest.

References

1. Afanasyev, A. A. (2022). Technological sovereignty: the main policies to achieve it in modern Russia. *Voprosy innovacionnoj ekonomiki*, 12(4), 2193-2212 (in Russian).
2. Gareev, T. R. (2023). Technological sovereignty: from conceptual contradiction to practical implementation. *Terra Economicus*, 21(4), 38-54 (in Russian).
3. Gastev, A. K. (1924). *Labour attitudes*. Moscow: CIT (in Russian).
4. Glazyev, S. Yu. (2015). *On the urgent measures to enhance the economic security of Russia and set*

¹³ Central Bank meeting: the regulator will keep the 16% rate. URL:<https://bcs-express.ru/novosti-i-analitika/zasedanie-tsb-regulator-sokhranit-stavku-na-urovne-16?ysclid=ltz5lx4giu664451485> (Accessed 20.03.2024).

the Russian economy on course to priority development. Moscow: In-t kompleksnyh strategicheskikh issled. (in Russian).

5. Goryacheva, T. V., & Myzrova, O. A. (2023). The role and place of technological sovereignty in ensuring the Russian economy sustainability. *Izvestiya Saratovskogo universiteta. Novaya seriya. Seriya: Ekonomika. Upravlenie. Pravo*, 23(2), 134-145 (in Russian).

6. De Soto, H. (1995). *The Other Way: The Invisible Revolution in the Third World*. Moscow: Catallaxy (in Russian).

7. Emelyanov, G. V. (2017). Ways to improve the efficiency of production and economic activity of the enterprise. *NIRSMSF-2017: Sbornik nauchnyh trudov po materialam studencheskih nauchno-tehnicheskikh konferencij mashinostroitel'nogo fakul'teta*. Minsk: BNTU. Retrieved from <https://rep.bntu.by/handle/data/30539> (accessed 20.03.2024) (in Russian).

8. Zhaksybaev, K. R., Sinkevich, N. N., Murykh, E. L., & Limareva, I. G. (2014). Priorities for extra-increasing of the intensification and efficiency of mining enterprises. *Mezhdunarodnyj zhurnal prikladnyh i fundamental'nyh issledovaniy*, (4), 129-135 (in Russian).

9. Zimovets, A.V., & Khanina, A. V. (2022). Analysis and development of ways to increase the competitiveness of Russian products in foreign markets. *Ekonomika, predprinimatel'stvo i pravo*, 12(7), 1995-2012 (in Russian).

10. Izmalkova, I. V., Zvyagina, N. N., Polennikova, G. I., & Tatarenko, L. Yu. (2023). Analysis and assessment of the activities effectiveness as a key factor to ensure the sustainable position of enterprises. *Vestnik Altajskoj akademii ekonomiki i prava*, (10-2), 181-187 (in Russian).

11. Karimova, K. S. (2022). Issues of increasing the efficiency of the financial and economic activities of the enterprise. *Teoriya i praktika obshchestvennogo razvitiya*, (12), 142-146 (in Russian).

12. Karsuntseva, O. V. (2014). The organisational and economic model of increasing the enterprise production efficiency and economic activity. *Vector nauki TGU*, (1), 122-126 (in Russian).

13. Mazhul, Yu. A. (2019) Improving the efficiency of production and economic activities of the enterprise. *70-ya nauchno-tehnicheskaya konferenciya uchaschihsya, studentov i magistrantov, 15-20 aprelya 2019 Minsk: Collection of scientific papers: at 4 Vol. Vol. 3.* (pp. 513-514). Minsk: BSTU (in Russian).

14. Mikhailov, K. D., & Polyushko, Yu. N. (2021). Improving the efficiency of enterprise production and economic activities based on the innovative projects. *Ekonomika i biznes: teoriya i praktika*, (4-2), 30-34 (in Russian).

15. Ono, T. (2012). *Toyota's production system: moving from the massproduction*. Moscow: In-t kompleksnyh strategicheskikh issled. (in Russian).

16. Potaptseva E. V., & Akberdina V. V. (2023). Technological sovereignty: concept, content, and forms of implementation. *Vestnik Volgogradskogo gosudarstvennogo universiteta. Ekonomika*, 25(3), 5-16 (in Russian).

17. Prozorova, L. Yu. (2015). Some aspects of improving the efficiency of industrial enterprise management in the context of scientific and technological progress. *Nauchno-metodicheskij elektronnyj zhurnal «Koncept»*, 36, 51-55. Retrieved from <https://e-koncept.ru/2015/95602.htm?ysclid=ly79czwqfk593787827> (in Russian).

18. Shingo, S. (2010). *The study of Toyota's production system in terms of production organization*. Moscow: In-t kompleksnyh strategicheskikh issled. (in Russian).

19. Smorgunov, L. V. (2022). Evidence-based policy of technological sovereignty and its design. *YUzhno-rossijskij zhurnal social'nyh nauk*, 23(3), 6-19 (in Russian).

20. Tebekin, A. V. (2022). Detailing the “vicious circle of the shadow sector” by Hernando de Soto in relation to the Russian economy. *Vestnik Moskovskogo finansovo-yuridicheskogo universiteta (MFYUA)*, (4), 22-33.(in Russian).

21. Tebekin, A. V. (2023). Priority directions of the systemic transformation of the national economy. *Rossiya: Tendencii i perspektivi razvitiya. Ezhegodnik. XXII Nacional'naya nauchnaya konferenciya s mezhdunarodnym uchastiem.* (pp. 692-697). Moscow (in Russian).

22. Tebekin, A. V., & Yunusov, L. A. (2023). The value of the key rate as an indicator of the band gap in economic development. *Transportnoe delo Rossii*, (5), 3-7 (in Russian).

23. Shakina, Yu. V. (2016). Factors influencing the increase of the enterprise efficiency. *VIII Vserossiyskaya nauchno-prakticheskaya konferenciya molodyh uchenykh s mezhdunarodnym uchastiem «Rossiya molodaya». Kemerovo, 19–22 aprelya 2016 goda.* Retrieved from <https://science.kuzstu.ru/wp-content/Events/Conference/RM/2016/RM16/pages/Articles/IEU/36/48.pdf> (accessed 20.03.2024).

24. Shcherbakova, S. A. (2016). Ways to improve the efficiency of the enterprise. *Molodoy ucheniy*, (9.2), 63-65 (in Russian).

Received 14.01.2024

Revised 11.02.2024

Accepted 24.03.2024