



Civil and Industrial Construction Markets in Russia

Analysis of Investment Prospects and Risks

Konstantin Fedorov

BACHELOR'S THESIS
October 2024

International Business
Finance and Accounting

ABSTRACT

Tampereen ammattikorkeakoulu
Tampere University of Applied Sciences
International Business
Finance and Accounting

KONSTANTIN FEDOROV:
Civil and Industrial Construction Markets in Russia
Analysis of Investment Prospects and Risks

Bachelor's thesis 30 pages, appendices 11 pages
October 2024

Since the outbreak of the Russian-Ukrainian war in 2022, the Russian construction market has experienced significant fluctuations, exacerbated by problems that arose during the 2019 Covid-19 pandemic, which disrupted labor and resource supplies. In addition, internal factors such as mobilization and inflation have further destabilized the market, leading some experts to foresee stagnation as a possible outcome. Given the important role of the construction market in the economy, these developments are of great interest to current and potential market participants.

The purpose of this thesis was to study the civil and industrial construction market of Russia in terms of those events that have a significant impact on the industry, to analyze these phenomena using relevant theoretical practices and concepts, and finally, based on the analysis of the prospects and risks associated with the development of the two markets, to draw a conclusion about which of the two industries is better for companies to invest their resources in. The research used excerpts from studies, articles, opinions of other authors, statistical data from authoritative sources, and comments from an expert interview conducted with the head of a company working in the construction industry.

The results of the study demonstrated that the industrial construction market, due to the increased need for import substitution and the establishment of trade relations with Asian countries, is the most promising direction, while the civil construction market has shown the least long-term resistance to inflation and the demographic crisis, and therefore investing in this direction will be associated with greater risks.

Key words: construction market, Russia, civil construction, industrial construction

CONTENTS

1	INTRODUCTION	5
1.1	Aim and contribution	5
1.2	Methodology	6
1.3	Interview.....	7
2	THEORETICAL CONCEPTS.....	8
2.1	Civil Construction	8
2.2	Industrial Construction	9
2.3	PEST.....	9
2.4	Price-to-rent ratio	9
2.5	Mortgage Affordability Index	10
2.6	HeadHunter Index.....	11
3	PEST: SITUATION DEVELOPMENT SINCE 2022.....	13
3.1	Sanctions	13
3.2	Import Substitution and New Construction Opportunities.....	14
3.3	Key Interest Rate and Mortgages Affordability	16
3.4	Demographic Crisis and Labor Outflow.....	21
4	RISKS AND PROSPECTS COLLISION	25
5	DISCUSSION	29
	REFERENCES	31
	APPENDICES.....	35
	Appendix 1. Interview questions and answers, translated by Konstantin Fedorov.....	35
	Appendix 2. Table with MAI calculations.....	40

GLOSSARY

RUB	Russian Ruble
KIR	Key Interest Rate
MAI	Mortgage Affordability Index
P/R	Price-to-rent
LLC	Limited Liability Company
JSC	Join-stock Company
PJSC	Public Join-stock Company
GC	Group of Companies
PEST	Political, Economic, Sociocultural, Technologic

1 INTRODUCTION

After the war between Russia and Ukraine began in 2022, the Russian construction market entered an era of constant fluctuations. Although, according to some analysts, the problems began back in 2019 due to the Covid-19 pandemic, which affected the supply of labor and construction resources from foreign countries. (Prof-resurs, 2022)

Moreover, internal processes began to influence the market situation. According to Ksenia Nikiforyak (2023), the construction market since 2022 was also negatively affected by the mobilization and the constantly rising KIR. The situation began to deteriorate so much that many experts began to consider stagnation the least painful outcome. (Nikiforyak, 2023)

For all countries in the world, the construction market is one of the primary areas that form and support the local economy, and therefore any events that affect the development of this area are big interest to many companies, both those already operating in the market and those who are just planning to enter it.

Within the framework of this thesis, the author sets himself the goal of analyzing the development of the construction market in Russia starting from 2022, identifying various factors influencing the formation of risks and prospects for investing resources, and giving general advice on choosing a development strategy in the market for entrepreneurs for the future based on the work done.

This thesis will split Russian construction market into two submarkets, namely the civil construction market and industrial construction market. The final discussion of this thesis will be based on which of these two branches of the construction market has the greatest potential for the future.

1.1 Aim and contribution

This thesis work will be devoted to the study and comparison of Russian civil and industrial construction markets in terms of investment prospects and risks. The

work objective is to provide a theoretical foundation (definitions, metrics), historical patterns and other external and internal factors influencing the investment potential of markets and possible risks. The result of this study will be the conclusion: which of the two industries should companies invest in at the time of writing.

This study will help companies targeting the Russian construction market to understand the current market situation and based on it build the most promising vector for business development, or to rethink an existing strategy.

1.2 Methodology

This thesis uses statistical data, official positions and statements, opinions, forecasts and general analysis from various sources including other research papers, online journals, official government resources, publicly available information from companies, interviews with industry representatives. Since this work is directly related exclusively to Russian entrepreneurship and most sources will provide an assessment of different statistics in the national currency of the Russian Federation "Rubles" - this currency will be used for visual demonstration of trends.

Within the framework of this paperwork, when studying the topic of civil and industrial construction in Russia, the analysis of the information obtained will be carried out according to the PEST model, that is, the main criteria for assessing the sustainability of the market will be political, economic, socio-cultural and technological.

The sources used will meet the necessary criteria: Currency - reliable sources will be up-to-date and not too old; Institutional Affiliation - the institutions or organizations that publish or endorse the sources are reputable (e.g., academic institutions, government agencies, or well-known media outlets); Neutrality - reliable sources strive for objectivity and present information without obvious bias, favoritism, or agenda; Relevance - The sources will be directly related to the topic being researched and provide in-depth, focused information.

1.3 Interview

During the study of the construction market in Russia, an interview was organized with a competent and experienced specialist, so that his comments and opinions could additionally support the analysis conducted on the already collected data. Nikita Petrov from the company “AkvaEngineering” LLC agreed to answer questions regarding the prospects and risks associated with the civil and industrial construction markets. The interview was conducted via voice call on October 3, 2024. The interview questions and answers are presented in Appendix 1. The interview full recording is in Appendix 2.

Nikita has over 10 years of experience in b2b trading in the construction market in the Russian city of St. Petersburg, in particular providing civil construction projects with building materials. Currently, he holds the position of head of the sales at “AkvaEngineering” LLC, as well as the position of CEO of the North-West branch of “Ekoroll” LLC. Recently, Nikita became a co-founder of a small industrial startup for the production of thermal insulation equipment “T-Engineering” LLC.

2 THEORETICAL CONCEPTS

The following chapter briefly reviews the basics of several selected concepts and metrics used to analyze the construction market. Although there are several other possible metrics, these were selected based on the purpose of this dissertation, which is to help companies evaluate the market in its current state.

2.1 Civil Construction

The most relevant definition of the concept of Civil Engineering in the context of this work is provided by Engineering Company 2K - it includes the construction of non-production facilities such as: residential, office and administrative buildings, educational, health and cultural facilities, housing and communal services and catering, as well as sports facilities, shopping, entertainment and hotel complexes. The most priority area of civil engineering is housing construction. (2K JSC, N.d.)

The most priority area of civil construction is residential construction. According to the analysis of the construction market in Russia by Ilya Shilin (2022), the volume of residential buildings under construction is almost 2 times higher than the volume of non-residential buildings - since 2020, the share of residential buildings in the total volume of buildings commissioned throughout Russia has been more than 60%. The structure of the construction market by types of buildings under construction for 2020 to 2022 is presented in Figure 1. (Shilin, 2022)

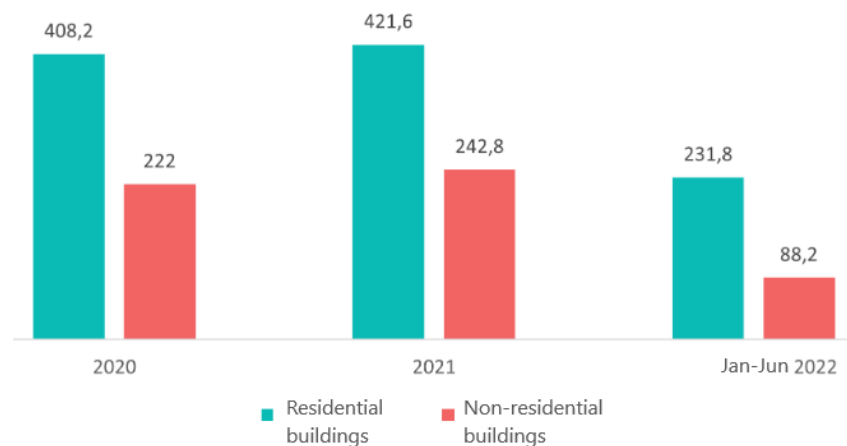


FIGURE 1. The structure of the construction market by types of buildings under construction for 2020 to 2022, in millions of m². Compiled based on data received from Source: Shilin, 2022

2.2 Industrial Construction

According to Ben Sparhawk (N.d.), industrial construction includes facilities related to production: factories, power plants, warehouses, and other highly specialized facilities. The key difference between civil and industrial construction is the purpose: civil construction serves the public, whereas industrial construction supports industrial processes. (Sparhawk, N.d.)

2.3 PEST

PEST analysis, according to Will Kenton from Investopedia (2024), is an effective strategic management tool that allows you to determine the state of the industry's macroenvironment and find both the main factors that hinder the development of the industry and those that have a positive impact on the situation in the industry. PEST analysis is used by organizations to assess the existing political, economic, socio-cultural and technological conditions for market development in order to extract benefits, as well as to prepare for crisis situations. (Kenton, 2024)

The purpose of the PEST analysis in this work is to determine which of the two branches of the Russian construction business has the greatest investment prospects and which has the greatest risks.

2.4 Price-to-rent ratio

The price-to-rent ratio (P/R ratio), according to Marshall Hargrave (2021), demonstrates how much the housing market is overvalued, how much more profitable it is to buy real estate or rent it. (Hargrave, 2021)

$$P/R \text{ ratio} = \frac{\textit{Median property price}}{\textit{Median yarly rent price}}$$

Trulia (N.d.) created three different ranges to determine general ratio values: 1-15 indicates buying is better than renting; 16-20 indicates that it is generally better to rent than to buy; 21+ indicates that it is always better to rent than to buy.

This indicator in the context of this work will demonstrate how much preferable this or that type of real estate will look in the eyes of the customer, which will directly affect their demand. (Trulia Inc, N.d.)

2.5 Mortgage Affordability Index

The mortgage affordability index represents the number of full square meters on the primary or secondary markets that the average citizen can buy with a mortgage. The index is calculated considering the average cost of a square meter of housing, the average interest rate, the median salary, as well as the loan amount under the lending terms, namely the percentage of the down payment and the monthly annuity payment. (Gustova, 2024, a)

In the formula, one of the main steps is calculating the loan amount. To use it, it is needed to know the amount of the annuity payment, annuity factor, loan amount, the loan term and the interest rate. (Gazprombank JSC, 2024)

$$X = a \times S$$

X - annuity payment

a - share of annuity payment from income

S - median monthly salary

$$K = \frac{\left(\frac{r}{12} \times \left(1 + \frac{r}{12}\right)^{T \times 12}\right)}{\left(1 + \frac{r}{12}\right)^{T \times 12} - 1}$$

$$L = \frac{X}{K}$$

K - annuity factor

L - loan amount

r - annual interest rate on the mortgage

T - loan term

$$T = \frac{L}{1 - d}$$

T - Total cost of the apartment

d - down payment

$$MAI = \frac{T}{C}$$

MAI - area of the apartment in full square meters (mortgage affordability index)

C - cost per square meter

The use of this indicator in the context of the study is important because using price-to-income ratios alone to determine housing affordability is often insufficient, and consideration of mortgage loans and mortgage rates is a necessary addition. (Gudell, 2012)

2.6 HeadHunter Index

The HeadHunter Index is a publicly available system for online monitoring of the Russian labor market. It is useful for active participants in the labor market, employers and job seekers, as well as for the media, government agencies, and analysts. The following key parameters are available in the system: Vacancy dynamics: change in the total number of vacancies and demand for employees from employers; Resume dynamics: shows how the number of job seekers' resumes available on the market has changed in general; Competition level — hh.index shows the shortage of specialists through the ratio of the number of active resumes to vacancies; Offered and expected salaries in the region, indicated in vacancies and resumes on the hh.ru website: show what remuneration employers are willing to pay, and what level of remuneration job seekers expect from them. (HeadHunter GC, N.d., a)

$$hh.index = \frac{\text{Number of active resumes}}{\text{Number of active vacancies}}$$

HeadHunter (N.d.) created three different ranges to determine general index values: less than or equal to 1.9 - acute shortage of applicants; 2.0 - 3.9 - shortage of applicants; 4.0 - 7.9 - moderate level of competition for jobs, healthy ratio between employers and job seekers; 8.0 - 11.9 - high level of competition for jobs, employer market; greater than or equal to 12 - extremely high level of competition for jobs. (HeadHunter GC, N.d., a)

3 PEST: SITUATION DEVELOPMENT SINCE 2022

Russia and Ukraine have been in a full-scale war for almost three years now, which has had a significant impact on all sectors, including the construction industry. The military actions have caused major changes in the economic and socio-cultural spheres in many regions of the country. In this context, the construction industry is also experiencing significant transformations and challenges that need to be studied in order to be understood.

The consequences of the outbreak of war and their impact on Russian markets can be described as a "domino effect" - one circumstance provokes the emergence of another and business, as well as the customer, must come to terms with the results of these events.

This chapter will separately analyze all the phenomena due to which current entrepreneurs are forced to make a choice of direction for their development.

3.1 Sanctions

The cornerstone of the problems in the construction sector are trade and economic sanctions imposed by foreign countries. Since Russia is closely connected with other sectors of the national economy, the difficulties arising in these sectors are reflected in the financial and economic situation of the Russian construction industry.

V. Melnikov in his study *Impact of sanctions on the construction industry of Russia* (2024) believes that in connection with these transformations, sanctions affect related industries (restricting supplies of equipment, spare parts, software), which will be felt in construction in one way or another. In addition, the construction industry experiences the direct impact of sanctions, which corresponds to their nature: it means that they create pressure effects on certain industries both directly and indirectly, and the effect of their impact is always "delayed". The impact of sanctions on the construction sector of the Russian economy is schematically presented in Figure 2. (Melnikov, 2024)

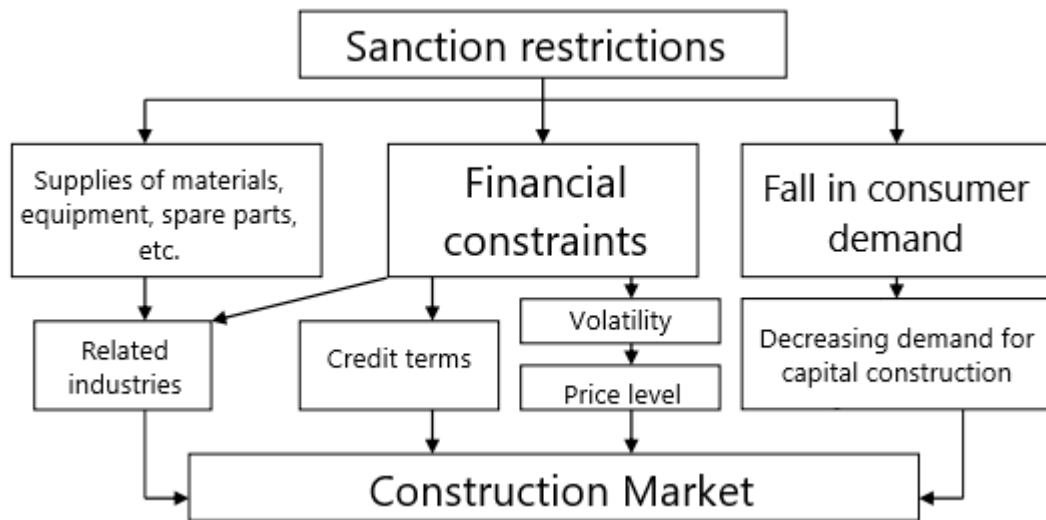


FIGURE 2. The impact of sanctions on the construction sector of the Russian economy. Source: Melnikov (2024), translated by thesis author

When asked about the impact of trade sanctions on the construction industry, Nikita Petrov stated in an interview (Appendix 1) that the availability of this or that necessary product has not suffered, but the situation has greatly increased their prices, which is why many began to refuse expensive building materials in favor of cheaper, domestic ones. Moreover, according to Nikita, the introduction of sanctions at the very beginning provoked a strong panic, which is why companies began to maniacally buy up all available foreign materials with a reserve for the future, while it was still easy and cheap.

3.2 Import Substitution and New Construction Opportunities

The introduction of trade sanctions on Russia did not deal a special direct blow to the construction industry, but within the framework of the entire economy, this decline in imports (Figure 3) is felt quite strongly - many things used in industrial activities are simply not produced in Russia. For example, office paper produced at the Svetogorsk Pulp and Paper Mill in early 2022 stopped producing white paper precisely because, according to Svyatoslav Romanov (2022), the chemical bleach with which paper becomes white is simply not produced in Russia and they stopped importing it from abroad due to sanctions restrictions. (Romanov, 2022)

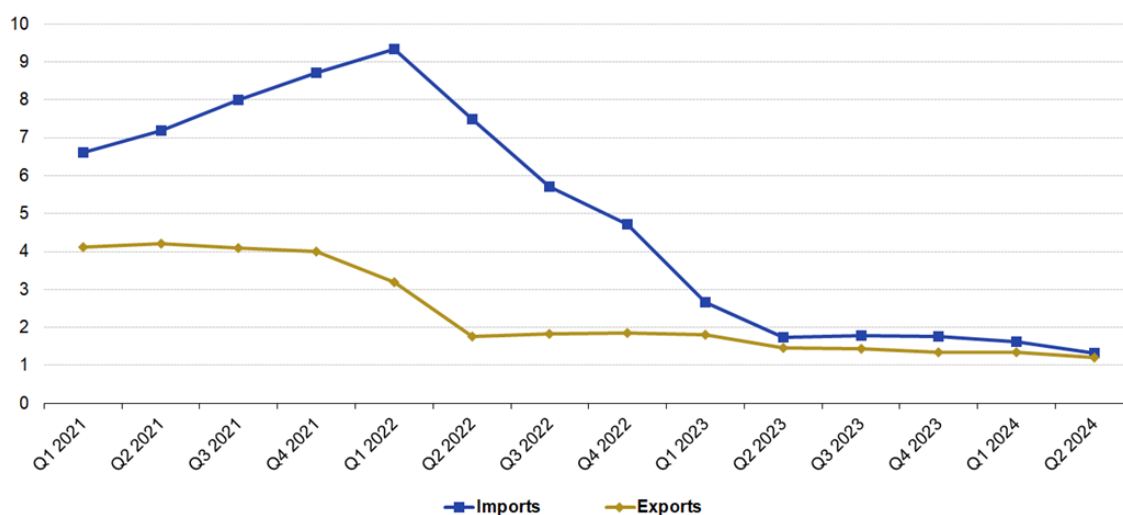


FIGURE 3. EU trade in goods with Russia, Q1 2021 to Q2 2024 (% share in extra EU trade, seasonally adjusted) Source: Eurostat (online data code: ext_st_eu27_2020sitc)

Thus, in 2022, the main processes of import substitution began. According to an article from the electronic journal B2B Global (2023), 176 manufacturing enterprises were commissioned throughout Russia in 2023. This boost in the construction of factories is associated with the implementation of government programs for the development of industry and the attraction of investments, which is precisely connected with the problem of a shortage of products on the market due to sanctions. New production facilities will contribute to the development of local infrastructure. To ensure the production and delivery of goods, it is necessary to develop the transport network and build roads, airports and railway stations. This will improve the region's transport links, promote the development of the logistics sector and the creation of new jobs, and improve the quality of life and income of the population. (B2B Global, 2023)

Technological transformation and digitalization will be one of the main development trends in Russian industry for many years. Industrial development in recent years has been accompanied by the introduction of new technologies, including automation, artificial intelligence, robotics and "smart" production. This requires the construction of new modern enterprises capable of working with new technologies, as well as the restructuring and modernization of existing ones. (RBC, 2024)

Another important driver of industrial construction development is the emergence of new partnerships. According to Alexey Antonov (2023), in the context of changing geopolitical conditions, Russia has intensified trade and economic relations with China, India and other Asian countries. This required the construction of new industrial facilities to adapt logistics and increase production volumes for export to eastern markets, which also to some extent requires the construction of civil engineering projects. (Antonov, 2023)

According to Nikita Petrov (Appendix 1), there are still many gaps in the Russian economy that are not so easy to solve through import substitution. However, thanks to the reorientation of the economy to the domestic market and countries loyal to Russia, the situation has been stabilized and import substitution continues to develop and support many industries. Nikita also notes that despite the current situation, even some European companies continue to operate on the Russian market, for example, the well-known French chain of home improvement and garden supplies stores Leroy Merlin, although many of them already exist in a slightly different form, because they are also forced to adapt to the current circumstances.

The industrial construction market is developing at an impressive rate. The relevance of import substitution provides Russian businesses associated with the construction market with the opportunity to organize active long-term sales of their products and services, since not only new plants are constantly being built, but also existing industrial enterprises are constantly expanding, modernizing, and maintaining.

3.3 Key Interest Rate and Mortgages Affordability

The first stage of the impact of sanctions on the construction market was the difficulties in trading using foreign currency, which is why the exchange rate of the Russian national currency "RUB" began to fall, and as a result, the inflation rate began to rise. To maintain the balance of inflation, the government must raise the key interest rate.

The KIR is the main instrument of the monetary policy of the country's central bank, according to Olga Kopytina (2024). It is the interest rate that determines

the minimum cost of money in the country and affects lending rates, deposit rates and the size of coupons on circulating bonds. By changing the KIR, the central bank affects the level of inflation and the exchange rate. For example, if the KIR increases, loans and deposits become more expensive and inflation is contained. (Kopytina, 2024)

Maria Ivatkina (2024) says that it is also important to understand that the KIR is the minimum at which the main government bank issues loans to private commercial banks, which in turn provide loans to individuals and legal entities at an interest rate even higher than the key rate. (Ivatkina, 2024)

According to the Central Bank of Russia (2024), as of the end of September 2024, the KIR is 19% per annum. A graph comparing the change in the actual and expected inflation rate in relation to the KIR from 2020 to the present is presented in Figure 4. The trend shows that despite all attempts to reduce the inflation rate to the desired 4% by raising the KIR, actual inflation continues to grow.

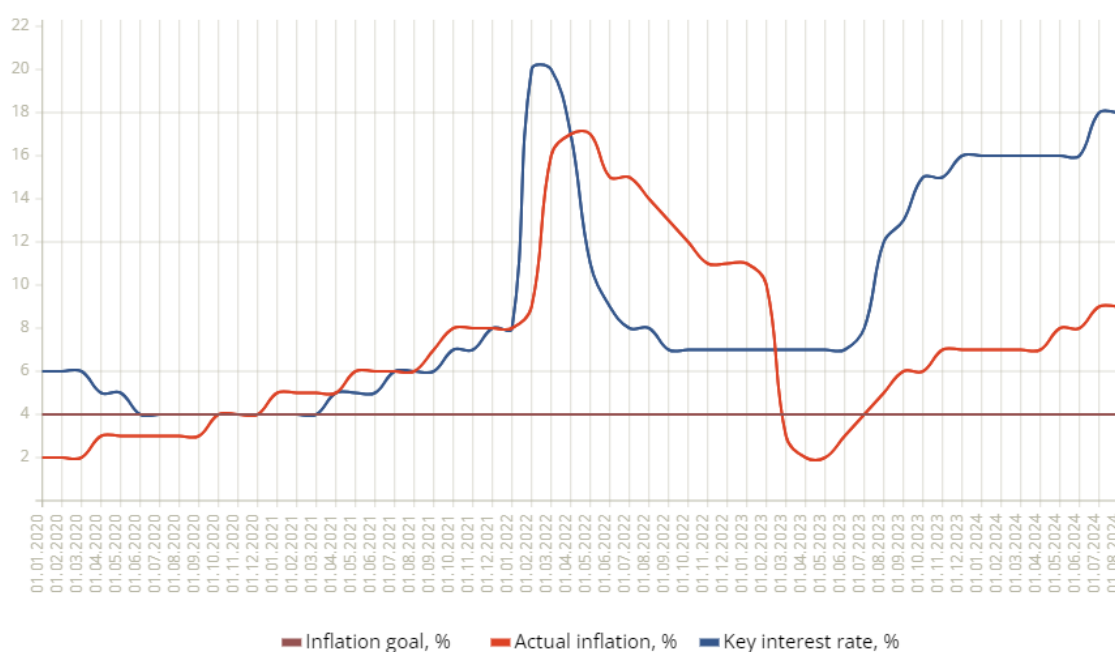


FIGURE 4. The key rate of the Bank of Russia and inflation. Compiled based on data from Source: Central Bank of Russia (2024). Made with Livegap Charts

It is obvious that raising the KIR directly harms businesses, which find it more difficult to take out a loan for development or service this loan. The key point in context of this research is that high KIR also negatively affects the demand for real estate among ordinary customers.

The issue of mortgage affordability, according to the analysis of Elena Korsunskaya from CIAN real estate company (2023), has three indicators, which are commonly called the rules of conscious mortgage "30/30/3". If servicing a mortgage loan costs a person no more than 30% of his salary, the down payment is no more than 30%, and the final apartment costs no more than three annual salaries of the borrower - such a mortgage is considered the least burdensome. (Korsunskaya, 2023)

However, the rules of conscious mortgage will not always work simultaneously, especially in the current difficult times for the mortgage lending market, borrowers must deal with sacrifices. To understand the current situation in the mortgage market and identify the vector of its development, it was decided to conduct a study, which will determine the purchasing power of borrowers. The calculations were based on the MAI formula including a 30% monthly payment, 30% down payment, and an average mortgage term of 20 years. Data on median wages, average annual mortgage rates, and the cost of one square meter of housing were taken from open statistical sources from Frank RG and SberIndex. The result of the calculations of the MAI from January of 2020 to August 2024 are presented in Figure 5. Table with MAI calculations presented in Appendix 2.

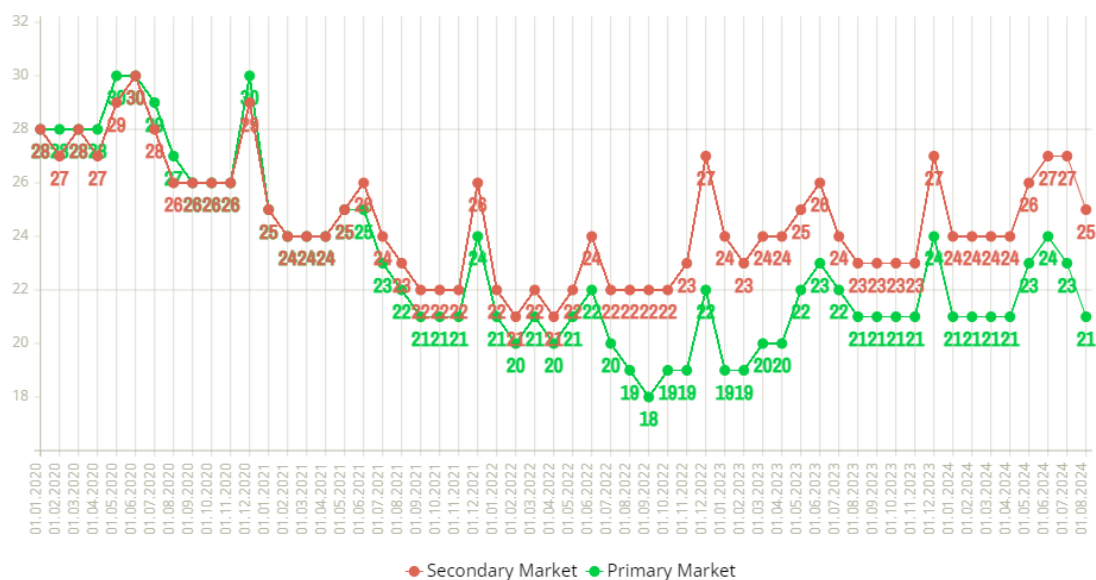


FIGURE 5. MAI calculations result in m², from January 2020 to August 2024. Compiled based on calculations (Appendix 3). Calculations data Source: Frank RG, SberIndex (a, b, c). Made with Livegap Charts

As the study showed, real estate on the primary and secondary markets is becoming more and more unaffordable every year - since 2020, primary real estate has lost 7 square meters in affordability, and secondary housing has lost 3 square meters. It is also worth noting that the average mortgage rate on the primary market for the period presented at 5.77% is so low largely due to the availability of preferential programs for repaying most of the loan at a standard interest rate from the government.

To examine the situation from the third rule of conscious mortgage, which assumes that the least burdensome mortgage will be the one whose cost does not exceed the sum of three annual salaries, additional calculations were made. They showed that at the current salary lags behind the price of an apartment by 40% - for comfortable servicing of a mortgage, a borrower's salary should be two times bigger.

The situation is further aggravated by the fact that, starting in July 2024, the preferential mortgage program at 8% for the purchase of real estate ceased to operate. Thus, according to reports from the statistical service Dataflat (2024), in the first month after the cancellation of preferential mortgages in the capital region of Russia, almost 40% fewer real estate sales transactions were made than in June, and developers' revenues decreased by 30%. The data presented in Figure 6

shows that June has become the busiest month in terms of sales due to the desire of a huge number of people to get housing under the ending preferential program.

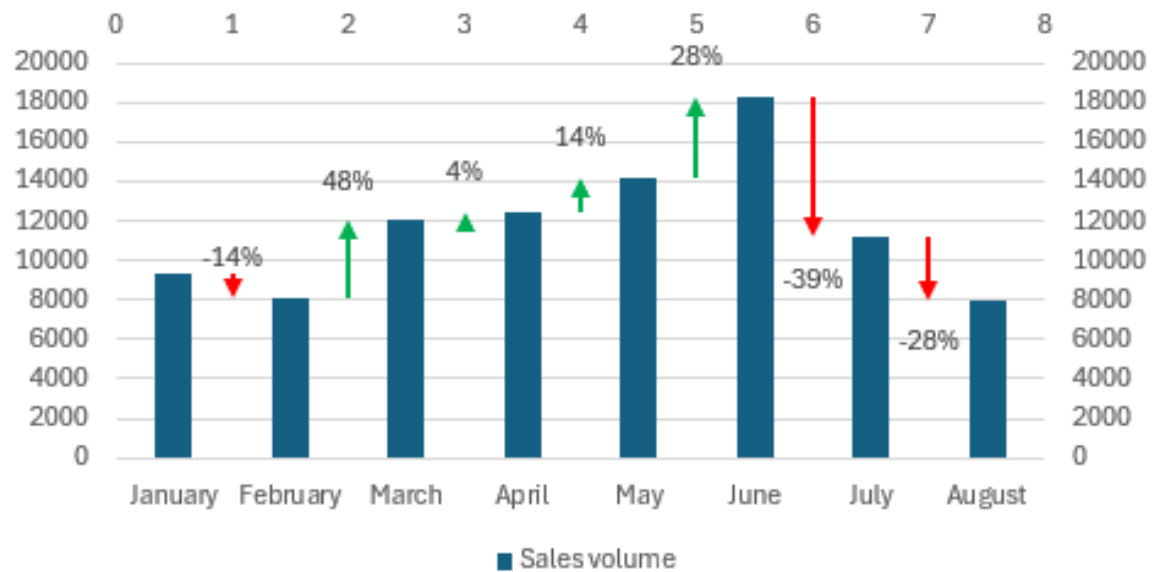


FIGURE 6. Change in sales in the capital region of Russia for 2024 up to and including August. Compiled based on data from Source: Dataflat (2024)

The overvaluation of the real estate purchase market is indicated by its comparison with the rental market. Dmitry Taganov, head of a large Russian real estate company INKOM-Real Estate, in an interview with Natalia Gustova from RBC-Real Estate (2023), states that from 2018 to 2023, the cost of a budget one-room apartment increased by 54.2%, while the minimum rental cost of a one-room apartment increased by only 25%. (Gustova, 2023)

Based on the data provided, calculations were made to determine the dynamics of the P/R ratio (Figure 7). Calculations show that for five years now, a real estate bubble has been in place in the Russian capital region. This has prompted customers to give preference to settling in existing housing rather than new housing, which has reduced the demand for civil engineering projects.

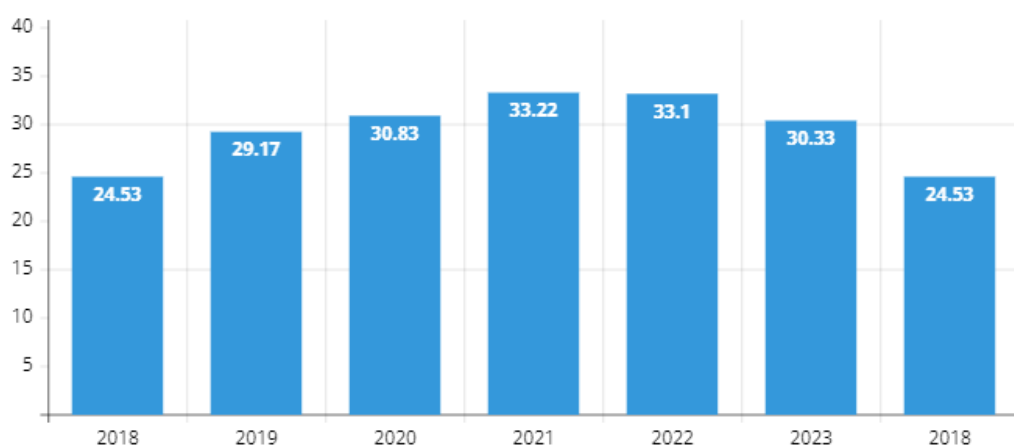


FIGURE 7. P/R ratio from 2018 to 2023. Compiled based on data from Source: Gustova (2023). Made with Livegap Charts

According to expert surveys by Natalia Gustova (2024, b), new housing construction projects will be hit hard by the cancellation of the preferential program. Everything will ultimately depend on effective demand, which determines the volume of supply on the market, but if the current trend continues, the volume of construction will decrease, and the civil housing construction market will degrade. (Gustova, 2024, b)

In an interview (Appendix 1), Nikita Petrov agrees that due to the cancellation of preferential programs and the growth of rates, demand for apartments in new buildings has indeed fallen. However, he believes that this trend only concerns that part of the population with a medium-low income level. In his experience, demand for premium apartments will continue to be quite high.

3.4 Demographic Crisis and Labor Outflow

The demographic crisis in Russia has a detrimental effect on the development of both civil and industrial construction.

Mikhail Khorkov from the RBC portal (2016) believes that the real estate market demand, and consequently the civil construction market, will suffer greatly from the consequences of the demographic crisis. The main buyers of housing in recent years have been young people and families aged 20 to 35, born in the 70s and 80s. However, the number of this generation is decreasing. According to Rosstat forecasts, by 2025 the number of people in this age group will decrease

from 34 million to 24 million, which will reduce the number of potential buyers of housing. Young people, who were the main driving force of the real estate market, are becoming rare. Developers, guided by the successes of previous years, continued to build one-room apartments and studio apartments, which were in high demand among young families. However, the reduction of this age group will lead to oversupply in this segment. As a result, this market will experience excess supply and decreased demand. Older families in need of better housing conditions are less likely to move frequently. They are more attached to certain areas, which makes it difficult for development projects to target new areas or suburbs that used to attract mobile youth. (Khorkov, 2016)

It is logical that both the construction of new production facilities and the further organization of production activities require large human resources. According to statistics from the open labor market analytics service HeadHunter (2024), the hh.index as of August 2024 is 3.5 points. If we look specifically at statistics by professional areas, then for the industrial production and construction sectors these indicators will be 2.3 and 3, respectively. These statistics show that there is a shortage of personnel in the markets, which means that in an attempt to attract new workers, companies will increase wages, which will increase the budget for construction projects, which will again force companies to increase real estate prices, which will affect customer demand. (HeadHunter LLC, 2024, b)

The shortage of personnel can also be affected by the popularity of the profession in the chosen industry. According to a survey by the Internet portal MoeObrazovanie (N.d.), which compiled a rating of three hundred professions depending on their popularity among applicants, the specialty "Builder" took only 260th place. These statistics show that the majority of future young specialists are not attracted by the prospect of obtaining a working specialty. (MoeObrazovanie, N.d.)

According to Maxim Trishin (2024), the situation in which young people do not want to get a working specialty has been going on since the beginning of the 21st century, when many factories were closing, people left enterprises, retrained and found themselves in other industries, such as emerging fashionable and prestigious areas in the field of jurisprudence. Also, over the past 20 years, a stereotype

has formed and become established that the profession of an engineer is thankless - they work a lot, and they are paid little. (Trishin, 2024)

The main question in the context of the demographic crisis and its impact on the construction industry is whether the negative trend will persist or not. Demographic statistics on the General growth of the permanent population from 2010 to 2023 compiled based on data obtained from the Statistical Data Showcase of the Federal Government Statistics Service Rosstat are presented in Figure 8. These statistics already demonstrate a rather deplorable demographic situation. Even if we pay attention to the fact that such a sharp population decline in 2020-2022 is associated with the COVID-19 epidemic, the figure of three hundred thousand human losses in 2023 still represents a big problem.

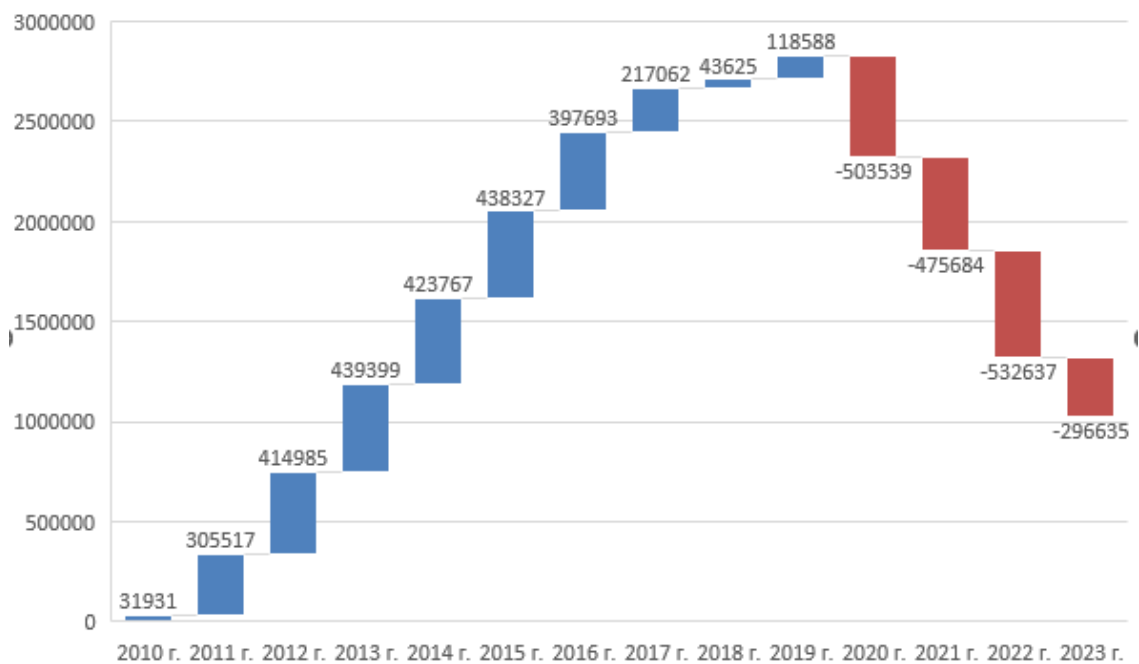


FIGURE 8. Demographic statistics on the General growth of the permanent population from 2010 to 2023. Compiled based on data from Source: Rosstat (2024, a)

The overall picture becomes even worse if we look at the demographic forecasts of the same Rosstat (2024, b) presented at Figure 9, then the demographic crisis will remain unresolved until 2046, albeit with successful attempts to slow down the process of decline, compensating for the natural population decline due to migration growth.

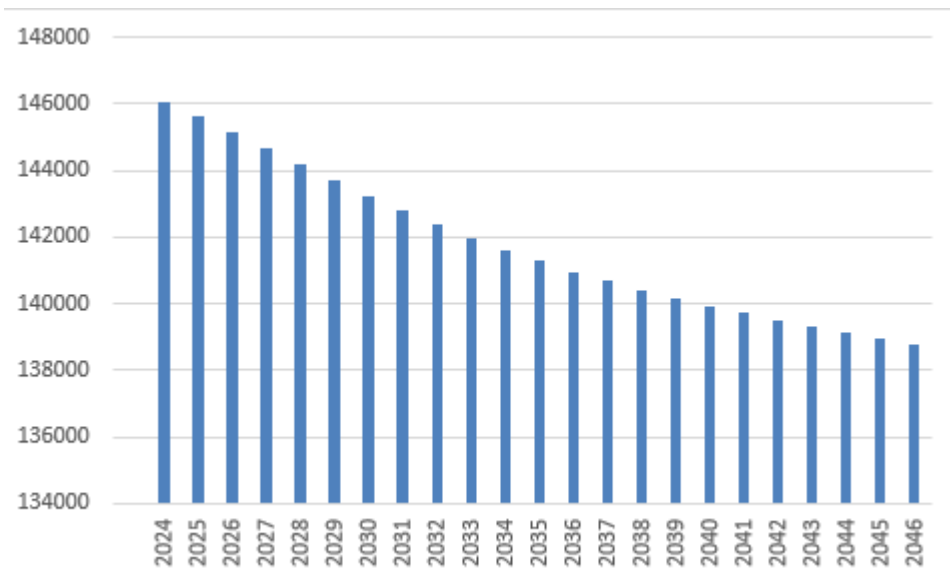


FIGURE 9. Moderate population forecast for early 2024-2046, in thousands. Compiled based on data from Source: Rosstat (2024, b)

4 RISKS AND PROSPECTS COLLISION

Since the purpose of this thesis is to compare the prospects and risks of development of two markets, it was decided to form a PEST-matrix based on the analysis performed, which lists and briefly explains the main factors influencing the development of markets, and to assess them in relation to the strength of their influence.

Based on the study of concepts, theoretical works and applied analytical articles set out in the second part of this thesis, as well as based on an interview with an industry specialist, the author, having collected and structured the information, distributed the factors into groups and designated the elements included in each group.

To assess the strength of influence of each element in a particular group of factors, a scale from 1 to 3 was used. The minus and plus signs allow to indicate whether a certain factor has a negative or positive effect on the development of the construction industry. The assessment scale is presented in Table 1.

TABLE 1. Factor assessment scale

Description of influence	Assessment Grade
Weak - virtually no change in the factor will result in significant changes in the industry	1
Moderate - may partially affect the economic efficiency indicators characterizing the prospects of the submarkets	2
Significant: any changes in the factor will significantly change the prospects of the submarkets	3

The matrix formed based on the results of the PEST analysis, conducted considering the assessment of the impact of external environmental factors on the industrial construction market, is presented in Table 2.

TABLE 2. PEST Analysis of Industrial Construction market in Russia

Factors	Assessment	Comment
Political factors		
Political pressure	-2	Sanctions, being the main reason for the emergence of other factors influencing the development of the industrial construction sphere, have the strongest influence. In many ways, sanctions have determined and still determine the course of further development of the industry. However, to suppress the negative effects of sanctions, the industrial construction, unlike civil construction, market was able to find new ways to develop.
Government support	+2	The government is strongly interested in the development of import substitution and therefore actively invests in its own projects and provides preferential programs for individuals.
International cooperation	+3	In the context of changing geopolitical conditions, Russia has intensified trade and economic relations with China, India and other Asian countries. This required the construction of new industrial facilities to adapt logistics and increase production volumes for export to eastern markets.
Economic factors		
Change in exchange rates	-3	The difficulties that arose with trading using the Russian national currency provoked an increase in inflation, making the construction process increasingly expensive.
Interest rates	-2	The deterioration of credit conditions does not allow businesses to comfortably take out debt for the creation and maintenance of a business. Startups are especially burdened.
Import substitution	+3	The shortage of imported goods has prompted the Russian economy to restructure itself to produce its own goods, as a result of which the number of industrial construction projects has increased many times over and continues to grow.
Growing competition	+2	The active development of the industry attracts new players to the market, generating active competition, forcing companies to constantly evolve, requesting new construction services.
Sociocultural factors		
Labor outflow abroad	-2	The desire to receive more money for work provokes labor migration abroad. In the industrial construction sector, the situation is aggravated by the fact that someone will also have to work at newly built production facilities. The problem can also be partially attributed to political factors, since a significant part of the workforce has migrated abroad precisely because of the beginning of the military confrontation between Russia and Ukraine and the fear of being drafted into the military.
Professional development	-2	The shortage of personnel is further reinforced by the fact that the younger generation is not eager to work in the construction industry. In the industrial construction market, the shortage is particularly slow in keeping up with the pace of development of the industry.
Customer mobility	-1	Sociocultural changes, such as people's attachment to certain regions or their reluctance to move, can make it difficult to develop industrial facilities in new or less developed areas.

Technological factors		
Digitalization	+3	Adaptation of new digitalization technologies requires the construction of new modern enterprises capable of working with new technologies, as well as the restructuring and modernization of existing ones

The results of the analysis of the civil construction market are presented in Table 3.

TABLE 3. PEST Analysis of Civil Construction market in Russia

Factors	Assessment	Comment
Political factors		
Political pressure	-3	Sanctions, being the main reason for the emergence of other factors influencing the development of the civil construction sphere, have the strongest influence. In many ways, sanctions have determined and still determine the course of further development of the industry. Unlike the industrial construction sector, civil construction has found virtually no new opportunities for itself in the face of sanctions pressure.
Government support	+1	The government is trying to maintain demand in the civil construction market by developing preferential programs. However, their effectiveness in the long term is questionable.
International cooperation	+2	In the context of changing geopolitical conditions, Russia has intensified trade and economic relations with China, India and other Asian countries. In order to support the overall infrastructure centered around industrial projects, the construction of civil buildings will remain relevant.
Economic factors		
Change in exchange rates	-3	The difficulties that arose with trading using the Russian national currency provoked an increase in inflation, making the construction process increasingly expensive. As a result, developers, in order to compensate for their losses in construction, increase real estate prices, which subsequently affects demand.
Interest rates	-2	The deterioration of credit conditions does not allow businesses to comfortably take out debt for the creation and maintenance of a business. Startups are especially burdened.
Purchasing Power	-3	Uncomfortable lending conditions, combined with the fact that the growth of citizens' salaries does not keep pace with the growth of real estate and mortgage prices, reduce purchasing power, forcing people to refuse to buy housing, which affects the number of new civil construction projects.
Sociocultural factors		
Customer preferences	+1	Changing customer preferences towards high-quality and comfortable housing will push developers to improve their projects, which will benefit competition and overall development.
Changes in Demographics	-3	The demographic crisis in the long term not only reduces the number of workers involved in construction processes, but also the number of potential customers.

Labor outflow abroad	-1	The desire to receive more money for work provokes labor migration abroad. The problem can also be partially attributed to political factors, since a significant part of the workforce has migrated abroad precisely because of the beginning of the military confrontation between Russia and Ukraine and the fear of being drafted into the military.
Professional development	-1	The shortage of personnel is further reinforced by the fact that the younger generation is not eager to work in the construction industry.

Technological factors		
Digitalization	+1	Digitalization of the production of building materials makes them more accessible for civil construction needs.
Technological development	-1	The main construction technologies create conditions for improving the quality of construction services, but require significant financial investments from construction companies, which again forces them to increase real estate prices, which reduces purchasing power.

5 DISCUSSION

Having analyzed the current state of the industrial and civil construction markets in Russia, caused by sanctions, and having examined the mechanism of sanctions pressure, it was concluded that the current situation has a negative impact on the financial and economic situation in the industry. Factors that impact the civil and industrial construction markets both positively and negatively are also identified.

Considering the results of the study conducted using the PEST analysis method, the author of this research paper concludes that the industrial construction market in Russia currently and in the long term has the greatest potential for development and profitability, therefore, enterprises associated with the construction market are recommended to mobilize all their reserve resources and invest them in joining the industrial construction sector.

At the same time, the civil construction market is changing towards decreasing long-term sustainability, and based on the analysis of the situation, there are practically no prerequisites for its growth and development. The market is saved mostly only by the fact of legislative support from the government and the fact that the industry, which is gaining momentum, requires infrastructure support from the civil sector. In general, further development depends very much on whether the general Russian economy can cope with inflation and falling demand, but there are no obvious prerequisites for this yet, and until then, investing resources in the civil construction market will be associated with great risks.

But to be fair, both markets are facing problems from the same sources. Constantly worsening credit conditions are putting existing and especially new construction companies at risk. Changes in demographics and other socio-cultural trends, although predictable, are putting all construction market players in a difficult position.

Speaking about the general construction market in Russia, the most important direction of modern economic policy in Russia remains the development of an anti-sanction strategy, which should integrate all industry decisions related to the

development of the economy in the context of sanctions pressure, create conditions for import substitution, and stimulate domestic producers of building materials and construction equipment.

In modern conditions, the only direction for the development of the future state of the construction industry market is the reorganization of activities with an emphasis on self-sufficiency and the development of its own production processes. The current sanctions situation has emphasized the high dependence of the industry on imported goods, the exchange rate, as well as the general instability in the face of crisis factors.

The trends towards reorganization and restructuring of activities with subsequent formation of own production of products necessary for construction activities, re-orientation to the domestic market, and increased stability in relation to the exchange rate are becoming quite positive.

REFERENCES

2K JSC. Гражданское строительство. Civil Engineering. N.d. Read on 07.09.2024. Translated by Konstantin Fedorov. <https://ik2k.ru/otrasli/grazhdanskoe-stroitelstvo/>

Antonov, A. 2023. Бизнес с азиатскими странами и БРИКС: направления и тренды – 2023. Business with Asian countries and BRICS: directions and trends – 2023. Article on the electronic journal of the news agency «РЖД-Партнер» LLC. Published on 14.02.2023. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://www.rzd-partner.ru/logistics/comments/biznes-s-aziatskimi-stranami-i-briks-napravleniya-i-trendy-2023-/>

B2B Global. 2023. В 2023 году в России введено в эксплуатацию 176 новых крупных заводов. In 2023, 176 new large plants were commissioned in Russia. Article on the tender aggregator of the «Глобал Сервисез» LLC company. Read on 21.09.2024. Translated by Konstantin Fedorov. <https://bbgl.ru/news/22214>

Central Bank of Russia. 2024. The key rate of the Bank of Russia and inflation. Online showcase of statistical data of Central Bank of Russia. Statistics up to and including September 2024. Read on 17.09.2024. Translated by Konstantin Fedorov. https://cbr.ru/hd_base/infll/?UniDbQuery.Posted=True&UniDbQuery.From=01.01.2019&UniDbQuery.To=07.10.2024

Dataflat. База данных продаж и цен новостроек Москвы и Санкт-Петербурга и всех регионов России. Database of sales and prices of new buildings in Moscow and St. Petersburg and all regions of Russia. N.d. Statistics up to and including August 2024. Read on 27.09.2024. Translated by Konstantin Fedorov. <https://www.dataflat.ru/>

Eurostat. 2024. EU trade with Russia - latest developments. Statistics up to and including second quarter of 2024. Statistical article by Eurostat. Published in August 2024. Online data code: ext_st_eu27_2020sitc. Read on 07.09.2024. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU trade with Russia - latest developments](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=EU+trade+with+Russia+-+latest+developments)

Frank RG. Mortgage data from the Frank RG statistical agency. N.d. Statistics up to and including August 2024. <https://frankrg.com/data-hub/category/mortgage>
Gazprombank JSC. 2023. Как рассчитать аннуитетный платеж и стоит ли гасить кредит досрочно. How to calculate annuity payment and is it worth paying off a loan early. Educational article on a website by «Газпромбанк» JSC. Published on 28.04.2023. Read on 28.09.2024. Translated by Konstantin Fedorov <https://www.gazprombank.ru/pro-finance/credit/kak-rasschitat-annuitetnyj-platezh/>

Gudell, S. 2012. Comparing Price-to-Income Ratios to Affordability Across Markets. Zillow Research article. Published on 29.06.2012. Read on 07.09.2024. <https://www.zillow.com/research/comparing-price-to-income-ratios-to-affordability-across-markets-2871/>

Gustova, N. 2023. Аренда VS покупка: как изменились цены на жилье в Москве за 5 лет. Rent vs. purchase: how housing prices in Moscow have changed over 5 years. Article on the information and news portal of the «РБК» GC. Published on 27.07.2023. Read on 27.09.2024. Translated by Konstantin Fedorov. <https://realty.rbc.ru/news/64b929aa9a7947b1cbcac780>

Gustova, N. 2024, a. «Абсолютное дно»: доступность жилья в России упала до минимума за 10 лет. "Absolute rock bottom": housing affordability in Russia has fallen to a 10-year low. Article on the information and news portal of the «РБК» GC. Published on 19.06.2024. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://realty.rbc.ru/news/6672c9b09a7947d59e3bec9a>

Gustova, N. 2024, b. Срывы сроков и заморозки: чем грозит отмена льготной ипотеки. Missed deadlines and freezes: what are the consequences of the cancellation of preferential mortgages. Article on the information and news portal of the «РБК» GC. Published on 13.08.2024. Read on 27.09.2024. Translated by Konstantin Fedorov. <https://realty.rbc.ru/news/66b5fcf29a79475c6819cc3f>

Hargrave, M. 2019. How to Use the Price-to-Rent Ratio. Online article on the educational and information portal dedicated to finance "Investopedia". Updated on 22.03.2021. Read on 08.04.2019 <https://www.investopedia.com/terms/p/price-to-rent-ratio.asp>

HeadHunter. 2024, b. Динамика hh.индекса. Dynamics of hh.index. Statistical calculations by HeadHunter GC. N.d. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://stats.hh.ru/>

HeadHunter. a. Что такое hh.индекс? Какое значение считается нормальным для рынка? What is hh.index? What value is considered normal for the market? Description of the open labor market analytics service by HeadHunter GC. N.d. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://stats.hh.ru/about>
https://www.megaresearch.ru/news_in/analiz-rynka-stroitelstva-v-rossii

Ivatkina, M. 2024. Ключевая ставка 18%: почему Банк России ее повысил. Key rate 18%: why the Bank of Russia raised it. Article on the information and educational portal «Моифинансы.рф». Published on 26.07.2024. Read on 14.09.2024. Translated by Konstantin Fedorov. <https://xn--80apaohbc3aw9e.xn--p1ai/article/klyuchevaya-stavka-pochemu-bank-rossii-ee-povysil/>

Kenton, W. 2024. What Is PEST Analysis? Its Applications and Uses in Business. Online article on the educational and information portal dedicated to finance "Investopedia". Updated on 27.02.2024. Read on 05.09.2024. [https://www.investopedia.com/terms/p/pest-analysis.asp#:~:text=PEST%20analysis%20\(political%2C%20economic%2C,more%20competitive%20in%20the%20market](https://www.investopedia.com/terms/p/pest-analysis.asp#:~:text=PEST%20analysis%20(political%2C%20economic%2C,more%20competitive%20in%20the%20market)

Khorkov, M. 2016. Как демографическая ситуация изменит рынок недвижимости России. How the demographic situation will change the Russian real estate market. Article on the information and news portal of the «РБК» GC. Published on 07.06.2016. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://realty.rbc.ru/news/577d08669a7947e548ea4286>

Kopytina, O. 2024. Что такое ключевая ставка и на что она влияет. What is the key interest rate and what does it affect. Article on the information and news portal of the «РБК» GC. Published on 13.09.2024. Read on 15.09.2024. Translated by Konstantin Fedorov. <https://www.rbc.ru/quote/news/article/5e3a99f59a79471fa29eccae>

Korsunskaya, E. 2023. Квартира в ипотеку: сколько надо зарабатывать, чтобы купить жилье в кредит. Apartment on mortgage: how much do you need to earn to buy housing on credit. Article on the portal of advertisements for sale and rent of residential, suburban and commercial real estate «ЦИАН.РУ» LLC. Published on 19.09.2023. Read on 26.09.2024. Translated by Konstantin Fedorov. <http://surl.li/kwbzts>

Melnikov, V. Impact of sanctions on Russia's construction industry: current state and prospects of industry development. Economic and Social Research. 2024. No. 1 (41). P. 39—51. Read on 20.09.2024. Translated by Konstantin Fedorov <https://cyberleninka.ru/article/n/vozdeystvie-sanktsiy-na-stroitelnyuyu-otrasl-rossii-tekushee-sostoyanie-i-perspektivy-otraslevogo-razvitiya>

MoeObrazovanie. Престижные профессии по мнению абитуриентов. Prestigious professions according to applicants. The rating was compiled by the educational portal MoeObrazovanie.ru. N.d. Read on 30.09.2024. Translated by Konstantin Fedorov https://moeobrazovanie.ru/reiting_professii_top_300

Nikiforyak, K. 2023. Как год СВО откорректировал рынок жилья на юге России. How the year of the “SMO” adjusted the housing market in the south of Russia. Article on the business portal Expertsouth.ru. Published on 06.02.2023. Read on 04.09.2024. Translated by Konstantin Fedorov. <https://expertsouth.ru/articles/kak-god-svo-otkorrektiroval-rynok-zhilya-na-yuge-rossii/>

Prof-resurs. 2022. Что изменилось в сфере строительства в 2022 году? What has changed in the construction industry in 2022? Industry blog of «Проф Ресурс» Group of Companies. Published on 28.03.2022. Read on 04.09.2024. Translated by Konstantin Fedorov. <https://prof-resurs.ru/news/stroitelstvo/tpost/7tx7kbhja1-cto-izmenilos-v-sfere-stroitelstva-v-20>

RBC. 2024. Цифровизация на производстве — ключевые тренды в 2024 году. Digitalization in production - key trends in 2024. Article on the information and news portal of the «РБК» GC. Updated on 14.03.2024. Read on 25.09.2024. Translated by Konstantin Fedorov. <https://www.rbc.ru/industries/news/65f2ce8a9a79472218673b81>

Romanov, S. 2022. Почему изменилась офисная бумага. Why Office Paper Has Changed. Article on the information and news portal «Царь-град». Published on 18.04.2022. Read on 20.09.2024. Translated by Konstantin Fedorov. https://spb.tsargrad.tv/news/byla-belaja-stala-zhjoltaja-pochemu-izmenilas-ofisnaja-bumaga_532480

Rosstat. 2024, a. Общий прирост постоянного населения. Total growth of permanent population. Online showcase of statistical data of the Russian Federal Governmental Statistics Service «Росстат». Statistics up to and including 2023. The showcase was launched on 18.06.2019. Read on 25.09.2024. Translated by Konstantin Fedorov. <https://showdata.gks.ru/report/278934/>

Rosstat. 2024, b. Изменение численности населения по вариантам прогноза. Change in population size by forecast variants. Demographic forecast of the Russian Federal Governmental Statistics Service «Росстат». Published on 29.12.2023. Read on 26.09.2024. Translated by Konstantin Fedorov. <https://rosstat.gov.ru/folder/12781#>

Sberindex. a. Median monthly wages. Economic statistics and open data by «Сбербанк России» PJSC. N.d. Statistics up to and including August 2024. <https://sberindex.ru/en/dashboards/median-wages>

Sberindex. b. Real estate selling prices, primary market. Economic statistics and open data by «Сбербанк России» PJSC. N.d. Statistics up to and including August 2024. https://sberindex.ru/en/dashboards/real_estate_deals_secondary_market

Sberindex. c. Real estate selling prices, secondary market. Economic statistics and open data by «Сбербанк России» PJSC. N.d. Statistics up to and including August 2024. https://sberindex.ru/en/dashboards/real_estate_deals_primary_market

Shilin. 2022. Анализ рынка строительства в России. Analysis of the construction market in Russia. Overview of construction and real estate markets on the website of a Megaresearch marketing agency. Published on 13.09.2022. Read on 07.09.2024. Translated by Konstantin Fedorov.

Sparhawk, B. What Is Industrial Construction? N.d. Read on 07.09.2024. <https://stevensec.com/blog/whats-is-industrial-construction>

Trishin, M. 2024. Молодежь не хочет учиться на инженеров и рабочих. Россия стала страной юристов? Young people do not want to study to become engineers and workers. Has Russia become a country of lawyers? User article on an open online platform by «Дзен Платформа» LLC. Updated 30.01.2024. Read on 29.09.2024. Translated by Konstantin Fedorov <https://dzen.ru/a/Zbfzu0hPFgQWLNNY>

Trulia Inc. Trulia.com Introduces Rent vs. Buy Index. N.d. Read on 27.09.2024. <https://www.trulia.com/newsroom/press-releasesitem106111/>

APPENDICES

Appendix 1. Interview questions and answers, translated by Konstantin Fedorov

Recording of interview: <https://youtu.be/ExGu3v9mLLU>

Question 1: To what extent have sanctions affected the availability of construction materials and equipment?

Answer to question 1: Well, the sanctions have certainly affected the availability of construction materials to a certain extent, and this is probably reflected mainly in the price, because it is still possible to bring one or another product to any request, roughly speaking, to satisfy the commissioner's needs, but it just costs other money. And often even people and companies that have a fairly good financial situation refuse more expensive options in favour of more affordable ones. I would also say that at the initial stage, in fact, the sanctions even provoked such an avalanche-like demand when the same building materials were bought in bulk and raked out of the warehouses of suppliers in Russia to the maximum, because we all knew that they would be needed in the future - then they might not be available. There was a certain wave of panic, so to say. Then the chains were somehow logistically set up, the business was reoriented, local representative offices were opened, there were top managers of various companies that supplied materials under other names, but nevertheless, it all somehow works, so this problem, one might say, has been solved.

Question 2: What progress has the construction industry made in terms of import substitution and where are the gaps remaining, which still rely heavily on imports?

Answer to question 2: In fact, the construction industry, like all others, has made great progress in terms of import substitution. There has been a reorientation to the domestic market and to the markets of "friendly" countries, which help us with this or that material, namely the Asian market is a priority. China, for example. In fact, even European brands are still on the market, for those who are interested. And some, such as, for fairly serious example, Leroy Merlin, in fact, did not leave the market, and this allows it to open a new store, this is a slightly different network, DIY, not B2B, but nevertheless, it can open its new stores and earn and set some records for profit, revenue, and so on, representing European brands as well. The company's management simply made such a decision and continued to work. Gaps? Well, in our sphere of engineering solutions for internal engineering systems of heating, water supply and ventilation, I think that there are no such obvious gaps left that cannot be filled with a domestic product or a product from "friendly" countries that is quite affordable. I can't say frankly about other spheres. Yes, I know that there are certain difficulties with the elevators, for example, which were previously offered by "higher" brands and were then used, as if a reorientation occurred, that is, they were replaced, but how well did it go? -well, this is the real question. Key point is that the replacement was carried out, but still there was a loss in quality.

Question 3: Given the current economic climate and import substitution issues, how sustainable is the growth of the industrial construction market in Russia?

Answer to question 3: The growth of the industrial construction market is stable, quite stable, I would say. Obviously, big money is being poured in now, investments are coming there forcedly, voluntarily, but this fact remains a fact. Therefore, I would say that the next five years will definitely pass under the auspices of the growth of the industrial construction market. It is difficult to say what will happen next, it will depend on the geopolitical situation, but I think that the situation has changed in this direction anyway, in the development of our own industrial direction, the resumption of some production, machine tools and so on.

Question 4: How has the rise in key interest rates affected the financing of construction projects, especially in terms of overall project feasibility and cost management?

Answer to question 4: In fact, I would not say that financing construction projects is in any way difficult at the moment, but there is a tendency to count money more carefully. That is, where before the same commissioners paid money quite frantically, without going into details, they gave it to the next companies in the chain, general contractors, contractors, subcontractors, and so on. Now they have become more rational in their spending. So they themselves often like to study the grounds, understand the real situation with prices and no longer allow themselves to be burdened too much - they give it to people further down the chain. Now, in any case, if we talk about construction projects, let's say, in the housing sphere, in any case, construction is carried out through Escrow accounts, the bank finances the project in this case, people buying apartments put money in Escrow accounts, and these Escrow accounts are available after the building is completed. Banks have no problems with money, they lend it for construction projects and in any case, construction projects, one way or another, even long-term construction projects that are being completed now, are still profitable. That is, the price of housing in any case allows you to earn money from it. If we talk about industrial projects, then, it seems to me, there are answers in the previous question, since this topic has become relevant again, then, of course, investments are big, so there are absolutely no problems with financing there.

Question 5: What trends are emerging in the civil engineering market in terms of housing demand and project finance given the decline in mortgage availability?

Answer to question 5: Well, to be honest, this whole story is weird, and it is not yet completely clear. A couple of credit and preferential programs were closed, this year, IT mortgages were cut, they were left only in all regions except Moscow and St. Petersburg, and this is a fairly large layer. They cut the usual preferential mortgage, it ended in June or July of last year. Until this moment, there were already talks about cuts in preferential programs, and one way or another, people were trying to invest money in housing, because for quite a long time now it has been considered a fairly strong currency that does not fall there and allows you to conditionally insure your savings there. Despite the fairly high interest rate on deposits, there was still money, people tried to monetize it with the help of housing. And then, after this period, after the cancellation of certain preferential programs, of course, demand fell, that is, for example, August was completely dead, as I saw some statistics about that. But on the other hand, I communicate with some general managers and even owners of construction companies, and for example, the Element Developing company, a fairly new player on the market in St. Petersburg, they are introducing premium projects now, for the most part, that is, there are locations such as «Moskovsky Prospekt», «Krestovsky Island» and so on - it all costs money, and they have early booking everywhere, everything is being sorted out everywhere, apartments are being booked, conditionally on the first day of sales for 42 billion rubles, that was recently. Therefore, availability has definitely fallen for, let's say, the low-budget stratum of the population, for those who are at the level of small-medium earnings. For those who have money, availability has not affected demand at all, they continue to buy apartments. On the contrary, investments have become more frequent, and real money has begun to stay inside Russia more often, by feeling, than to go somewhere abroad. And in terms of less well-off strata of the population, let's say, yes, of course, availability of mortgages has fallen and, in general, the prospect of buying one's own home.

Question 6: As you know, the issue of demography in Russia is now of paramount importance. According to Rosstat, the total population decline for 2023 was almost 300 thousand people. Is the construction industry feeling the effects of the crisis today?

Answer to question 6: The construction industry, like all other industries, is feeling the strong effects of the crisis. Of course, it is experiencing a certain demand in the labor market. Especially for skilled workers, and even for low-skilled workers, in fact, there is an increased demand. This is an absolutely normal situation here. Not only is there a population decline, but now there are certain fairly strict migrant programs, where conditions are being tightened. Considering that we have a fairly large number of migrants in construction, this also plays a role. Well, the war also leaves its mark - everyone understands that those who worked there on the construction site with their hands are not some super rich people in themselves, in life. Now, when signing a contract (with the military), a fairly large sum of money is paid at once, then a decent salary is paid, if there are injuries or some other stuff, this is also quite expensive. That is why

people often, apparently, choose for themselves to risk going to fight and earn money, to provide for themselves, their families, to earn money for housing, for example. Or stay here, but even sitting in one place, they, of course, all demand a salary increase, even those same migrants, well, because it is clear to everyone that there are few people, there are no fewer people to work, they have to work, therefore employers here are forced to take the path of increasing wages or in some other way.

Question 7: Rosstat (2024) predicts that the population decline will not stop anytime soon. How will the demographic shift affect the civil and industrial construction markets over the next decade?

Answer to question 7: It's hard to say what will happen over the next decade, to be honest. In fact, I think that a lot depends on how the current military conflict ends. It's clear that population decline or growth is a question that won't be resolved in one or two years, so if there is a decline now, it will continue for some time. It's hard to say what will happen over the next decade, but I think that this trend will be quite difficult to reverse. Ideally, to break even or something like that - that would seem to be pretty good.

Question 8: The HeadHunter Employment Index for the construction sector as of August 2024 was 3 points (N.d.), which demonstrates a moderate, but still labor shortage. What strategies are construction companies using to address the labor shortage in the industry, especially when it comes to attracting skilled workers?

Answer to question 8: Well to be honest, the strategy of customers, employers of construction companies to solve the problem of labor shortage is the same. This is an increase in the level of wages and the creation of some more favorable conditions for employees. Or there is often a redistribution of responsibilities, a reduction in some ineffective work units, where responsibilities were smeared. Let's say, there are three areas, one person was previously assigned to each area, a total of three people. Now, let's say, two people work, and then often one, to whom a certain amount is simply added on top for his, let's say, overtime, he works in a more stressful mode, but, in fact, manages to perform the functions of the previous three workers, this is common. Well, yes, the main solution is of course to raise wages and create some specific conditions more favorable for the employee than in competing organizations. Because now everyone knows, knows how and can find another job, especially in conditions of labor shortage in the labor market.

Question 9: How has the broader geopolitical situation, including ongoing military confrontation and political events, affected confidence in the construction market among investors and the public?

Answer to question 9: Trust in the construction market among investors and the public has not changed radically for the worse. It has certainly not fallen, perhaps it has not grown much, but other factors are to blame, including purchasing power. There is still an opinion in society that apartments and housing are a fairly well-established way of investing, and it is easier to invest money there, they will not lose, and maybe even gain. Therefore, investors are also considering this area for investing their funds. I cannot say about industrial construction, but I think that since money is being allocated for this business now, then of course industry is becoming a tastier piece of cake, so to say, for businessmen and for traders. Therefore, I think that the situation here has not changed for the worse in any way. Maybe it has improved a little, but it has not changed for the worse for sure.

Question 10: How are buyer preferences changing, whether in terms of property location, development types or amenities? How do they influence the general approach to civil construction in Russia?

Answer to question 10: Buyers' preferences are, of course, always different depending on the budget. Those who have little money choose the economy segment and their preferences are rather down-to-earth, but location is always a priority, some set of basic amenities for the same parking lots, for separate parking lots, in short, everything related to this area. Therefore, the approach changes to meet these buyers' requirements. I frankly do not see any cheap, completely terrible projects, in which everything is located somewhere very far away, and from an unknown

developer and without any amenities as such, and that someone would buy it for next to nothing. No, there is no such thing.

Now, it seems like everyone is trying to match the price-quality ratio. Of course, not without nuances, there are some difficulties everywhere, but even the economy segment of the project looks quite interesting, and there, including for housing, yes, not only for investing money and then using it as passive income, well, and including for living, if we talk about housing. Therefore, of course, developers also in turn make a certain adjustment to this, try to adapt to the market trend. That is, there is a demand, for example, for some small townhouses now, low-rise. And you look, there are already many times more such projects than, let's say, 5-7 years ago, because people also understand that it is one thing to live in a 17-floor building, and another thing in 4-5, that is, no matter what kind of economy it is, in any case the second option will be preferable.

Question 11: Which segment, civil or industrial construction, is perceived as having the greatest growth potential in the near future. What are the main drivers of this growth?

Answer to question 11: It is difficult to give a definite answer. I think that in the near future, right here now, let's say, industrial construction has the greatest growth potential, perhaps because previously it was not given as much attention as we would like, and now life itself is forcing us to move in this direction. But civil construction is also such a permanent story, never stopping its growth, there has been a certain rollback in the last 2-3 years, yes, and this was actually even before the war, probably since the Covid times. Well, even during this time, some specific local records were updated, there were particularly successful months, and the movement in this direction did not stop, unlike, let's say, the car sector.

Therefore, I think that there may be some kind of rollback in civil construction or such stagnation. Probably everyone is watching how everything will end now, how everything will be resolved. It is clear that one way or another it will end sooner or later, and based on this, everyone will act - what and where to move, in what direction. Civil construction, of course, will also return to normal, especially since the state is now again thinking about some kind of stimulating programs, pushing for the acquisition of real estate, including again some kind of preferential mortgage. Now only family mortgages are in effect and this is a really good tool, but there are quite a lot of restrictions. IT mortgages are also good, but as I already said, this is without Moscow and St. Petersburg, only the Leningrad region and the capital region, well, and the rest of the provincial regions of the country. But in the usual sense, preferential mortgages suitable for everyone are currently on hold. Everyone is waiting, it seems like there is some progress, that the state will be able to offer something in this direction. Well, I don't know, we'll see. If such a preferential program returns to the market, then the turnover in civil construction will return to the states of two or three years ago. Will there be any serious growth there? Right now - hardly. In the next decade - most likely yes. Probably in the second five-year period, let's say, if we estimate roughly. Because the next five years will be spent on stabilizing the situation, and also on finding some new sales channels, increasing demand, increasing the purchasing activity of citizens, and so on.

Question 12: How are industry players mitigating risks and seizing opportunities in light of volatile market conditions caused by sanctions, rising interest rates and business disruptions?

Answer to question 12: Well, to be honest, I don't even know how anyone reduces their risks. The risks are included in the price tag of the construction market players, and it all goes down the chain from top to bottom. Let's say, the commissioner includes this in his profit from the cost of the apartment, the general contractor also includes this in the cost of contracts for other contracting organizations that will work with them based on what they are paid initially. Contracting organizations also want to earn and sit back without work is not really an option, so there is also increased competition there and often people take some contracts to work for the sake of work, roughly speaking, so as not to sit idle, because this will be a hard minus, but at least to work and there conventionally break even, at least, well, in some small profit. And the end buyer - he has nowhere to go, he is acting considering the market conditions, now it seems like a fashionable topic in terms of encouraging all sorts of installment programs, etc. for the purchase of housing. That is, if you have a down payment, you can pay in installments until it is handed over on very affordable terms, which has nothing to do with the key interest rate and so on. Then it is possible to either switch to a mortgage, or pay off, roughly speaking, the full purchase of the apartment, or, as I understand it, sell it there by assignment, let's say, that is, even a certain investment project is still possible. Of course, the interest rate will most likely continue to grow. Most likely, it will be 20 percent in October. What will happen next year is unclear. It is clear that the Ministry of

Finance is indicating a rate of around 25 percent, which will slow down inflation somewhat, and leave it in place, but it is unclear whether it will be adopted. If it is adopted, of course, it will be a certain blow to everything, including construction. That is why I think that they will now sit there and guess what decision to make everyone happy with it. Let's see how it all ends. Construction is a socially significant sphere in any case, it will not go away and in any case the government will support it. But it is difficult to say more precisely, here everything will depend on external factors, among other things.

Appendix 2. Table with MAI calculations

[MAI Calculations.xlsx](#)