Банк России

WHY INDUSTRIAL COMPANIES ARE SHUNNING INVESTMENT: SURVEY RESULTS

Analytical Note

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Abstract

This paper presents the findings of a survey of industrial enterprises which was conducted in 2019 at the request of the Bank of Russia.[1] The main goals of the survey were to study the mechanisms of how businesses take investment decisions, to identify the sources of financing investment in non-financial assets and to determine the factors that constrained the companies' investment activities in 2016–2018. The methodological basis for the study was a similar survey of private businesses conducted by the Bank of England in 2017.

According to the survey, around 50% of the respondents noted that the level of investment in 2016–2018 was insufficient. A little less than 50% made sufficient investments, according to the businesses surveyed.

The investment behaviour of the companies during the surveyed period was characterised by *a relatively low sensitivity of investment to loan rates*. This is explained by the fact that almost 80% of the companies made investments due to the need to replace fixed assets, which was often unscheduled. In addition, as the economic uncertainty and geopolitical risks remained high, after 2016 businesses tended to implement projects that offered maximum liquidity and quick returns on the money invested. However, the aspects of long-term planning and the time value of the money utilised for project implementation were largely ignored.

The own funds of enterprises were the main source of financing for investment. Bank loans were used by less than 50% of the companies surveyed. The respondents' estimates of the required hurdle rate of investments (10.4% for the sample, on average) exceeded the weighted average cost of equity and debt capital existing in 2016–2018 (9.0%). Formally, this confirms that the businesses did have financial incentives to implement their investment opportunities.

At the same time, *the enterprises noted the deficit of own funds as the main constraint on their investment growth*. Unavailability of internal funds may be linked to financial or economic factors. The economic factors are explained by the companies' low profitability, by insufficient competitiveness and by limited demand for their products.

Almost all producers (90%) who were unable, in their opinion, to make sufficient investment *were influenced at the same time by factors that constrain financial resources and by other factors of a non-financial nature*. The main *financial difficulties* of such companies in raising debt financing were due to the limitations on the amounts and periods for which the borrowed funds are raised. However, only 20% of the enterprises believed that credit money was expensive and did not apply for a loan for this reason. The main *non-financial obstacle* to

[1] As a result of the survey, 495 questionnaires were obtained from enterprises representing various industries. Although, in general, the study reflects various industries quite well, the sample was not representative in terms of small- and medium-sized businesses and mainly targeted large enterprises. However, this limitation does not seem essential, since it is large business that is the main locomotive driving investment and the growth of the Russian economy.

investment was the highly uncertain economic situation, which could be linked to a lack of understanding of development prospects and to the increasing geopolitical instability.

Therefore, in a situation where investments in the replacement of fixed assets have a relatively weak sensitivity to loan rates and the non-financial limitations on the investment activities of enterprises are very important, merely reducing the nominal and actual interest rates in the economy and simplifying access to debt financing may turn out to be insufficient to accelerate investment growth in the industrial sector.

However, reduction of the cost of loan resources allows companies to lower their debt burden by saving on interest payments and to improve their financial results. As a consequence, highly efficient companies will likely direct more funds to paying dividends, while inefficient and over-credited companies will somewhat improve their credit quality but will remain inefficient.

In such an environment, the liberalisation of monetary policy tends to stimulate consumer demand and the internal demand for financial assets (through increased risk appetite), but at the same time jeopardises financial stability. This is likely to cause production to grow using existing capacities rather than expansion, while inflation pressure in the economy will somewhat increase.

Policies aimed at maintaining macroeconomic stability and, first and foremost, at keeping inflation at a low level improve the conditions for investment activities by expanding the planning horizon. However, the numerous accumulated structural problems cause stagnation in productivity and a shortage of competitive enterprises by suppressing the willingness to invest. These problems cannot be solved by monetary policy measures.

In order to stimulate the growth of investment activities, the economy needs, in the first place, structural changes and non-financial measures which will facilitate the improvement of the business climate and the development of competition, including measures to reduce the share of public sector in the economy.

Introduction

A favourable investment climate is a key condition to ensure sustainable economic growth. The monetary policy pursued by the Bank of Russia influences the conditions for investment activities. At the same time, investment growth rates may also be constrained by structural factors. In this context, it is important to understand whether the insufficient investment of business is a result of the existing financial limitations or is rather caused by structural problems. This study attempts to explain the investment behaviour of companies using the survey data.

The questionnaire to survey the enterprises was developed on the basis of a similar survey conducted by the Bank of England.[2] This makes it possible to compare the results obtained for Russia with those of the British survey. In addition, including questions in the questionnaire that have already been tested considerably improves the adequacy of the results obtained.

The survey of the enterprises, in the form of a questionnaire, was conducted in the spring of 2019. As a result of the survey, 495 questionnaires were received. The reference period, which formed the basis for the analysis of the companies' investment activities, included the years 2016–2018. This period is interesting for analysis because, despite a recovery of positive investment dynamics starting from 2017, the economy still showed the repercussions of the previous years' recession. In view of this, it is important to identify what constrained the growth of the investment activities of business.

This paper is structured as follows. The first section describes the sample of enterprises. The second section presents the behavioural typology of companies when they take investment decisions. The third section considers various sources of financing for investment. The fourth section assesses the level of sufficiency of the investments made by the companies during the surveyed period. The final section analyses potential obstacles that help explain why enterprises did not make sufficient investment.

1. Characteristics of the sample

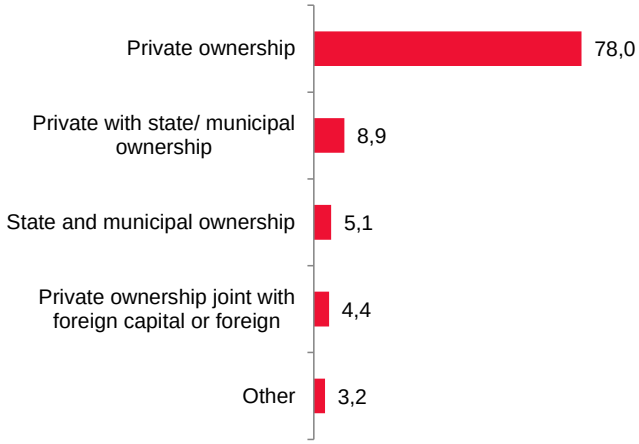
The survey covered enterprises engaged in the manufacturing industry: companies in the manufacturing and mining sectors operating in various regions of Russia. Firms representing the fuel and energy sector were not included in the sample because their number was not sufficient to obtain representative results.

[2] In November 2016, the Bank of England polled private enterprises to study the process of how businesses take investment decisions. The online questionnaire was sent to 4,600 enterprises in various sectors of the economy, apart from agricultural, mining and utilities companies. As a result, 1,220 questionnaires (26%) were received. Only 50% of them specified the level of the specialist who completed the questionnaire. The final sample of the Bank of England includes manufacturing enterprises (26.2%), construction (8.8%), financial sector (8.0%), and market (31.6%) and business services (25.5%) companies.

The sampled selection was based on a panel of enterprises that regularly participate in market surveys of the industrial sector. This ensured that the respondents were at the executive level (around 90% of the respondents were top executives or the heads of economic units). This made it possible to obtain responses that were as competent as possible regarding the way companies take investment decisions.

Since our survey was aimed at identifying potential reasons why businesses do not invest sufficiently, an important criterion for sample quality was that private companies should be represented in it. Out of the surveyed companies, 78.0% were private enterprises and 8.9% were mixed companies (private with state participation). Public and municipal companies accounted for 5.1%, while companies with foreign capital made up 4.4% (*Figure 1*).

DISTRIBUTION OF THE SAMPLE BY FORM OF OWNERSHIP (%)* *Figure 1*



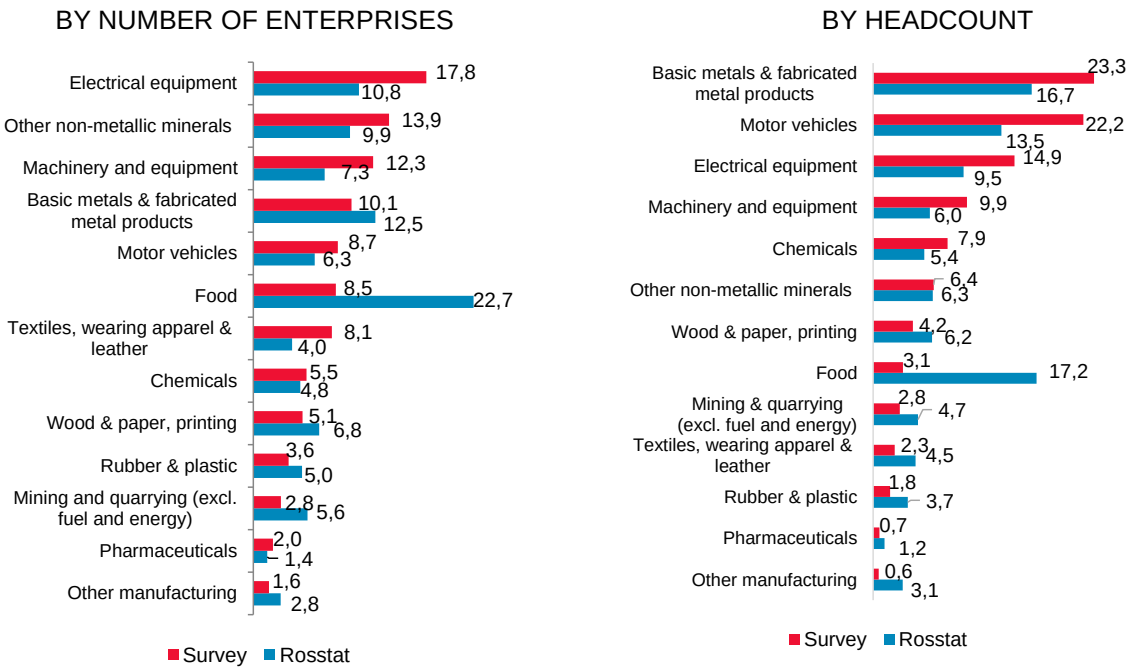
** 0.4% of the companies did not respond to this question.*

Source: firm-level survey.

The distribution of the sample by industry is biased compared to the structure of the Russian industrial sector existing in 2018 (in terms of the number of enterprises and their headcounts), due to the food industry and some other types of activity (*Figure 2*). The survey was not representative of small- and medium-sized businesses and mainly targeted large enterprises, which are the main locomotive driving investments and the growth of the Russian economy.[3] Out of the total sample population, 29% of the companies were small- and medium-sized enterprises with up to 250 employees; 46% were large enterprises with headcounts ranging from 251 to 1,000; and 25% were major enterprises with over 1,000 employees (*Figure 3*). These specifics of the surveyed sample population should be taken into account in interpreting the conclusions drawn and extrapolating them to the Russian industrial sector as a whole.

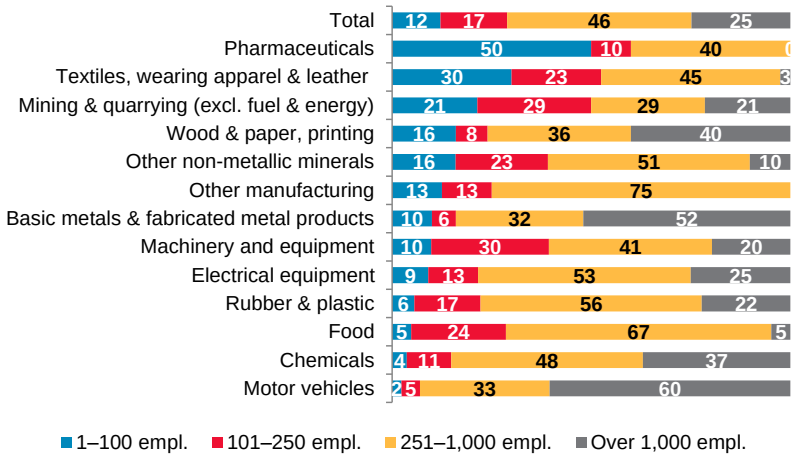
[3] See the analytical note of the Bank of Russia 'Industrial sector productivity: growth drivers' (November 2019): https://cbr.ru/Content/Document/File/98189/analytic_note_20200120_dip.pdf.

INDUSTRY-LEVEL DISTRIBUTION OF ENTERPRISES ACCORDING TO SURVEY FINDINGS AND ROSSTAT DATA, 2018 (%) *Figure 2*



Sources: authors' estimates based on Rosstat data, firm-level survey.

SAMPLE DISTRIBUTION BY NUMBER OF ENTERPRISES OF VARIOUS SIZES (%) *Figure 3*



** 0.4% of the companies did not respond to this question.*

Source: firm-level survey.

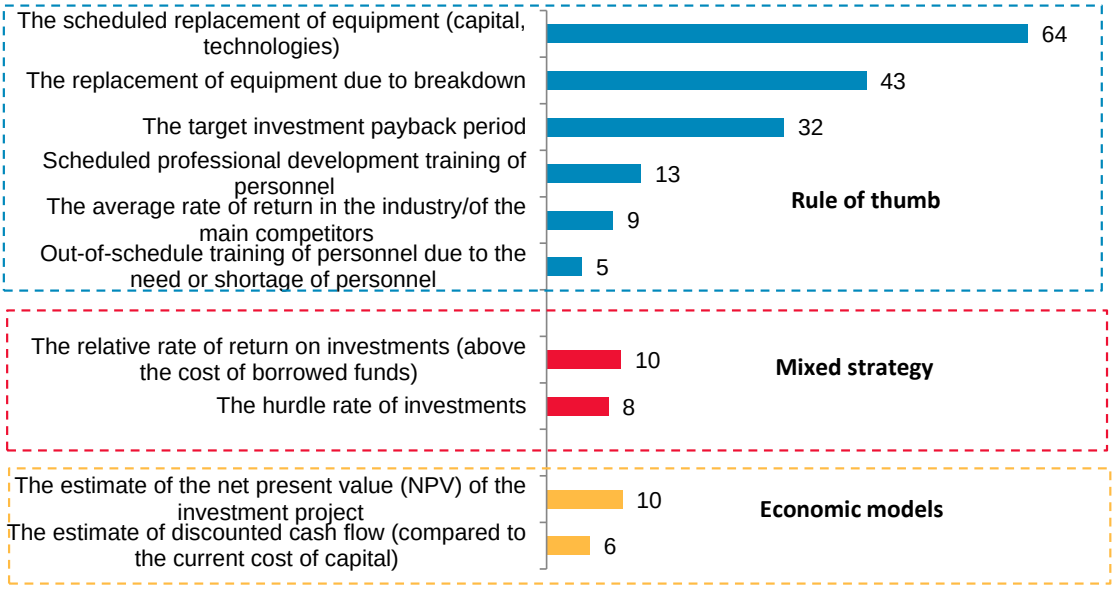
2. How are investment decisions taken?

In order to identify the specifics of how Russian industrial enterprises take investment decisions, various response options were proposed to the companies to check which ones were relevant to them in assessing the need to implement investment projects in 2016–2018. The largest share (around 80%) noted that, during the surveyed period, the reason for investment was the need to replace equipment, whether as a scheduled replacement (64% of

the companies) or due to breakdowns (43%) (*Figure 4*). This means that investments were mainly driven by necessity and were aimed at maintaining and renewing existing capacities. The third meaningful criterion for assessing the practicality of investment was the target value for the payback period (32%). In other words, it was the shortest possible payback period for an investment project that mattered rather than its rate of return. The companies' desire to engage in projects with maximum liquidity is most likely explained by the highly uncertain economic situation in the country over the recent years and the constantly changing environment in the foreign markets under the conditions of sanctions.

TARGET VALUES TO WHICH ENTERPRISES REFERRED WHEN TAKING INVESTMENT DECISIONS IN 2016–2018
(Share of the total respondents, %)

Figure 4



Source: firm-level survey.

In general, one can identify three types of behaviour of companies in taking investment decisions: behaviour in line with economic models, behaviour guided by rules of thumb and a mixed behavioural strategy.[4] The enterprises of the first group make investments guided by *economic models*, which are based on the use of discounted cash flow indicators. The enterprises of the second group take investment decisions based on *rules of thumb*, i.e. they invest only if the investment project meets certain criteria, for example, a predetermined payback period, a target frequency of equipment replacement, or a rate of return in accordance with the industry level or the level of main competitors, etc. A separate group may be distinguished to include enterprises that invest if the project meets a certain hurdle rate[5] or if the rate of return on investments exceeds, by a certain value, the rate for which they can borrow funds. Such company behaviour *corresponds to a mixed strategy* since it is not clear

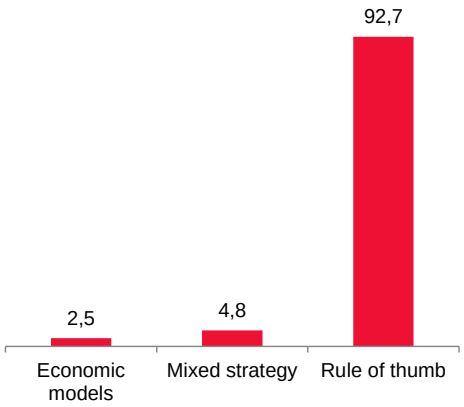
[4] The enterprises were able to choose several response options. That's why the distribution by type of behaviour was made in the following manner. First, all enterprises were selected that chose only economic models as their answer. Out of the remaining enterprises, those that chose a mixed strategy were selected. The remaining enterprises were classified as enterprises that took decisions based on rules of thumb.

[5] The hurdle rate means the minimum rate of return per year which the company requires from a new investment project. In other words, it is the current cost of capital and the risk premium for the use of such capital.

whether the hurdle rate is determined according to rules of thumb or economic models or by a combination of the two methods.

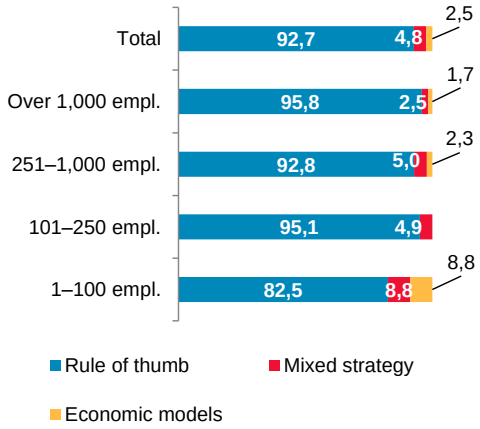
The survey findings showed that, *in 2016–2018, the surveyed Russian industrial companies took investment decisions mostly based on rule-of-thumb behavioural models (93% of the respondents), which determined the relatively low sensitivity of such investments to loan rates (Figure 5)*. In response to decreased loan interest rates, these enterprises are not likely to increase investments or product output. This behavioural model prevailed for enterprises of various sizes (from 83% for small businesses to 96% for major companies) (*Figure 6*). Methods of evaluating projects based on discounted cash flow principles (economic models) were employed by a little over 2% of the companies. Around 5% of the companies were guided by the principle that the projects should meet a certain hurdle rate (mixed strategy).

MECHANISMS FOR TAKING INVESTMENT DECISIONS (%) *Figure 5*



Source: firm-level survey.

MECHANISMS FOR TAKING INVESTMENT DECISIONS, BY SIZE OF ENTERPRISE (%) *Figure 6*



Source: firm-level survey.

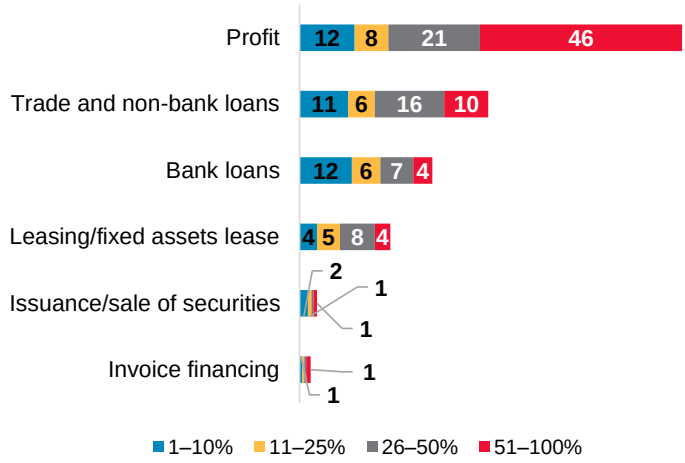
In the survey of the Bank of England, the British companies tended more extensively to use modern evaluation methods: economic models (25%) and mixed strategies (35%). Only 40% of the companies chose a simplified approach to investment based on rules of thumb. However, the identified peculiarities of the Russian companies in taking investment decisions may be a result of the unfavourable economic environment in 2016-2018. This period was characterised by relatively low investment activity where the number of long-term large-scale projects that required the use of complex discounted methods based on the time value of money was limited. The high economic uncertainty and geopolitical risks during this period determined the high demands of businesses in terms of the liquidity of their investments and the desire to engage in projects that were able to ensure, first and foremost, a quick payback on the money invested. The low share of debt capital in investment financing also reduces the willingness to use discounted methods based on the financial leverage effect. In addition, the choice of criteria to assess the practicality of investments is affected by the low level of implementation of financial management at Russian companies.

3. Sources of investment financing

Investments can be financed out of own funds, debt, or equity capital from the sale of shares. *In 2016–2018, the overwhelming majority of the surveyed Russian industrial companies financed their investments out of their own funds. The companies raised bank financing less actively compared to their foreign counterparts (with Great Britain taken as the example)*.[6]

Out of the total sample surveyed, 87% of the companies used accumulated unallocated profit as the source for investments (*Figure 7*). Among those, 46% covered over 50% of their investments out of their own funds. According to the survey of the Bank of England, internal resources were also the main source of financing, with around 80% of the respondents using them. The findings obtained are fully in line with the pecking order theory, according to which businesses follow a hierarchy of sources of financing. According to this theory, in the first place, businesses prefer internal funds as the cheapest source of financing, and only then do they use more expensive debt and equity capital (Majluf and Myers, 1984; Corbett and Jenkinson, 1997). Enterprises that are able to use their own funds to cover their investments in full, or to a greater extent, gain considerable competitive advantages and favourable growth opportunities from the decreased costs for raising additional capital and from reduced risks.

SHARES OF INVESTMENTS FINANCED FROM VARIOUS SOURCES IN 2016–2018 (Share of the total respondents, %) *Figure 7*



Source: firm-level survey.

Bank loans are the second most important source for financing investments: 43% of the surveyed Russian companies chose this option (*Figure 7*). Only 10% out of them used bank loans to finance over 50% of their investment needs. In Great Britain, bank lending is a more widely spread source for financing investment projects and the share of companies that use it as the main source to cover investments is higher (around 60% and 15%, respectively).

[6] The resources of the survey do not enable us to analyse how the dependence of investments from internal sources of financing changed compared to external sources. The low share of borrowed funds can presumably be explained by the low investment activity in 2016–2018 and the lack of capital-intensive investment projects against the background of economic and geopolitical instability.

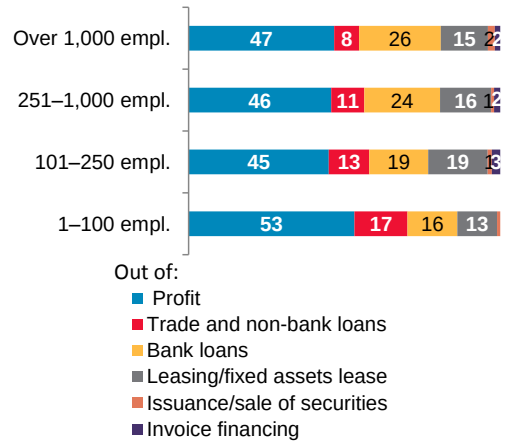
Alternative sources of debt financing are leasing and fixed assets lease, as well as trade and non-bank loans (including loans from family members and friends). These sources were used by Russian companies less frequently (chosen by 29% and 21% of the respondents respectively) (*Figure 7*).

The least popular ways to raise financial resources are invoice financing (invoice discounting/factoring) and the issuance of securities (*Figure 7*). Apparently, this is due to the insufficient development of the Russian corporate securities market, especially the equity capital market.

The structure of a company's sources of investment financing is affected by the scale of the company. The survey findings showed that major companies (with headcounts over 1,000 employees) are more likely to use bank lending. As bank lending is not readily available, small businesses (with headcounts below 100 employees) tend to borrow funds more often through trade and non-bank loans or to finance investments out of their own funds (*Figure 8*).

SOURCES OF INVESTMENT FINANCING IN 2016–2018, BY SIZE OF COMPANY
(Share of respondents, %)

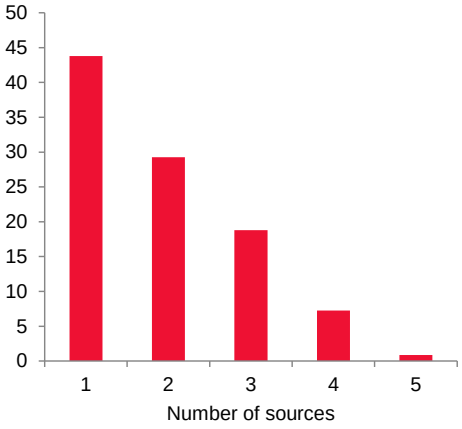
Figure 8



Source: firm-level survey.

NUMBER OF SOURCES OF INVESTMENT FINANCING USED (%)

Figure 9



Source: firm-level survey.

The findings of our survey show that *the level of diversification of the sources that business chooses to finance its investments is low*. Of the surveyed companies, 44% used only one source to attract investment funds, 48% used two or three sources and only 8% of the respondents used four or more sources (*Figure 9*). According to the Bank of England's survey, 20% of the companies relied on a single source, 40% on two or three sources and 30% financed their investments out of four or more sources.

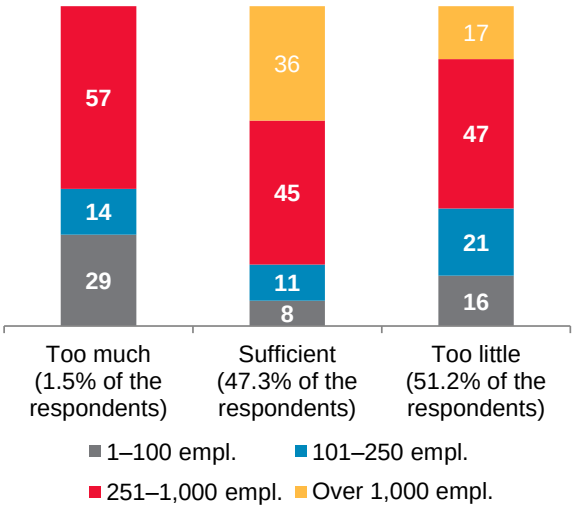
4. Does business invest insufficiently?

During the survey, we attempted to obtain companies' assessments as to whether their investments during 2016–2018 were sufficient. *A little over one half of the companies (51.2%) noted that they invested insufficiently; 47.3% made sufficient investments; 1.5% believed that the investments during this period were too high (Figure 10).* Among the companies with a

sufficient level of investment, the share of very large companies with headcounts of over 1,000 employees is relatively high (36%). At the same time, among those who experienced an investment deficit, the share of small- and medium-sized enterprises was high (37%).

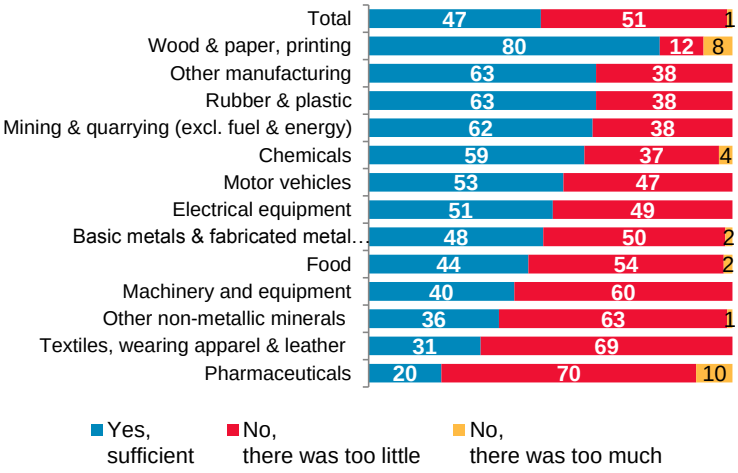
The subjective assessments obtained should be interpreted with caution. The companies may believe that they have invested insufficiently, however, the relatively low level of investment may be explained by objective factors pertaining to a lack of structural incentives at that time for investment growth in specific industries. According to the survey findings, enterprises with an insufficient level of investment (with their share exceeding 50%) prevailed in a number of industries: in the pharmaceutical, textile, wearing apparel and leather, construction materials, machinery and equipment, and food industries (*Figure 11*). While the potential in the food industry to increase investments in 2016–2018 had already been virtually depleted owing to active investments made in previous years as part of import substitution, in other industries, which are characterised by a high share of imports, the opportunities to compete with imported products, along with the weakening of the ruble, could have pushed investment growth up. However, the low market attractiveness, caused by low profitability and increased credit risk, or by unclear growth prospects for the industries, constrained the growth of private investment in these sectors (ACRA, 2018).

ASSESSMENT BY COMPANIES OF WHETHER INVESTMENTS WERE SUFFICIENT IN 2016–2018 (%) *Figure 10*



Source: firm-level survey.

ASSESSMENT BY COMPANIES OF WHETHER INVESTMENTS WERE SUFFICIENT IN 2016–2018, BY INDUSTRY (%) *Figure 11*



Source: firm-level survey.

The taking of investment decisions is influenced by the ratio of the profitability of the investments made and the cost of their financing. According to the responses of the companies, over recent years, the attractiveness of investments in the industrial sector has somewhat increased. The surveyed companies noted that the expected rate of return on future investment projects grew to 12.0% from 10.9% for the projects implemented in 2016–2018 (*Figure 12*). In order to evaluate the cost of financing, we use the indicator of weighted average cost of capital (WACC), which includes the cost of own and borrowed sources of financing, taking into account their shares in the total cost of capital.[7] This indicator amounted to 9.0% in 2016–2018 on average. Therefore, both the actual and expected profitability of investments during this period exceeded the cost of financing.

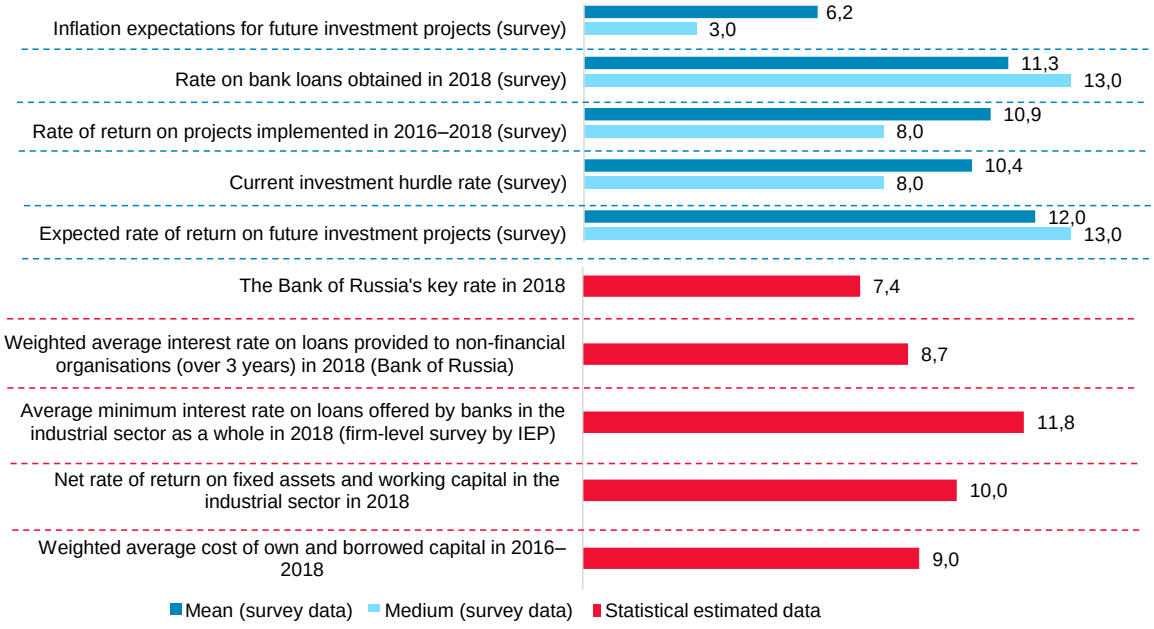
The accessibility of bank lending to companies as the main source of borrowed funds has improved over the recent years. According to the Bank of Russia's statistics, the weighted average interest rate on bank loans provided to non-financial companies (irrespective of their type of activity) in rubles for a period exceeding three years decreased from 13.1% in 2016 to 8.7% in 2018. However, on average for the period, this rate turned out to be higher (10.8%) than the weighted average cost of capital (9.0%) we calculated (*Figure 12*), since a

[7] *Weighted average cost of capital: WACC = Re × (E/V) + (Rd1 × d1/v + Rd2 × d2/v) × (D/V) × (1–t), where:*
Re is the rate of return on equity capital (the evaluation of Thomson Reuters Equity risk premium based on the StarMine ERP model);
E/V is the share of own capital in the total cost of capital for the company (Rosstat, P-3 form);
Rd1 is the average short-term (from 1 to 3 years) and long-term (over 3 years) interest rates on bank loans (Bank of Russia data), weighted by the shares of short-term and long-term obligations, respectively, in the total obligations of the companies (Rosstat data, P-3 form);
d1/v is the share of companies that use bank loans to finance investments (the survey data);
Rd2 is the aggregated weighted average index IFX-Cbonds (which describes the Russian market for corporate bonds for the 30 most liquid corporate bonds);
d2/v is the share of companies that use the issuance/sale of securities to finance investments (survey data);
D/V is the share of debt capital in the total cost of capital for the company (Rosstat data, P-3 form);
t is corporate profit tax (20%).

considerable share in its structure is attributed to cheaper own capital, which is the main source for Russian companies to finance their investments.

The industrial enterprises in our survey reported higher interest rates on bank loans obtained by them in 2018 (11.3% on average), compared to the Bank of Russia's data on the weighted average interest rate on loans for a period over 3 years (8.7%) (*Figure 12*). The data of the market surveys conducted on a regular basis by the Institute for Economic Policy (IEP) show comparable results, according to which the average interest rate on bank loans in the industrial sector in 2018 amounted to around 11.8%, having decreased from 15.5% in 2016 (*Figure 13*). This difference is determined by the methodology for calculation: the average rate weighted by loan volume may be lower than the average indicator if the enterprises largely obtained loans at a lower interest rate. The conditions on which financial resources are provided are affected by the level of credit risk, which is clearly uneven for companies engaged in different types of activity. The more expensive bank loans for industries with low credit quality determine the relatively high average interest rate in the industrial sector as a whole. The market surveys conducted by the IEP confirm that, in 2016–2018 loans at higher rates were offered to manufacturers of textile products and apparel, machinery and equipment, construction materials, electronic and optical goods, as well as pharmaceuticals (*Figure 14*). These are the industries that, according to our survey, were dominated by enterprises that had, in their opinion, an insufficient level of investment.

COMPARISON OF THE ENTERPRISES' INDICATORS BASED ON THE SURVEY AND STATISTICAL DATA (%)* *Figure 12*



** The average interest rate on bank loans for the industrial sector in 2018 (data of IEP market surveys).*

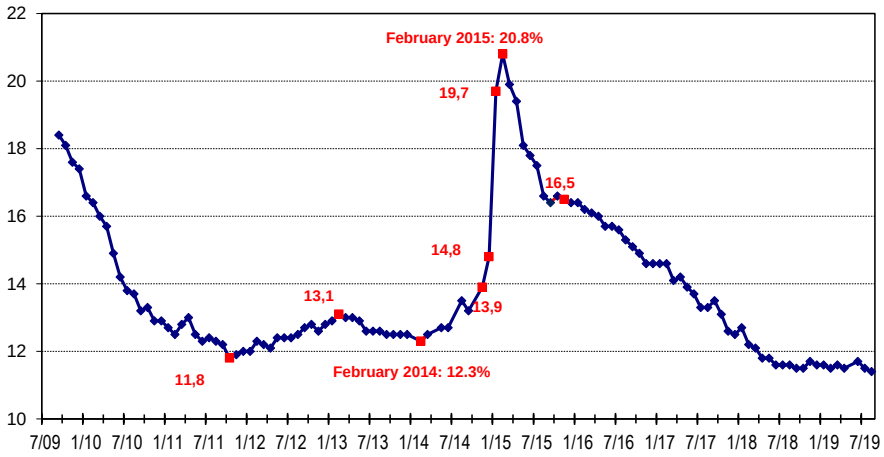
The weighted average interest rate on bank loans (longer than three years) to non-financial organisations in 2018 is the annualised weighted average interest rate calculated based on the annual interest rates set in the loan agreements and on the volumes of loans provided during the reporting month (Bank of Russia data).

The net rate of return on capital (fixed assets and working capital) in the industrial sector in 2018 is the data of the enterprises according to Rosstat's P3 Form for January–December 2018.

Sources: Firm-level survey, Rosstat, Bank of Russia, Thomson Reuters, Cbonds, authors' estimates.

AVERAGE MINIMUM RATE ON RUBLE LOANS OFFERED BY BANKS TO INDUSTRIAL ENTERPRISES IN 2009–2019
(% PER ANNUM)

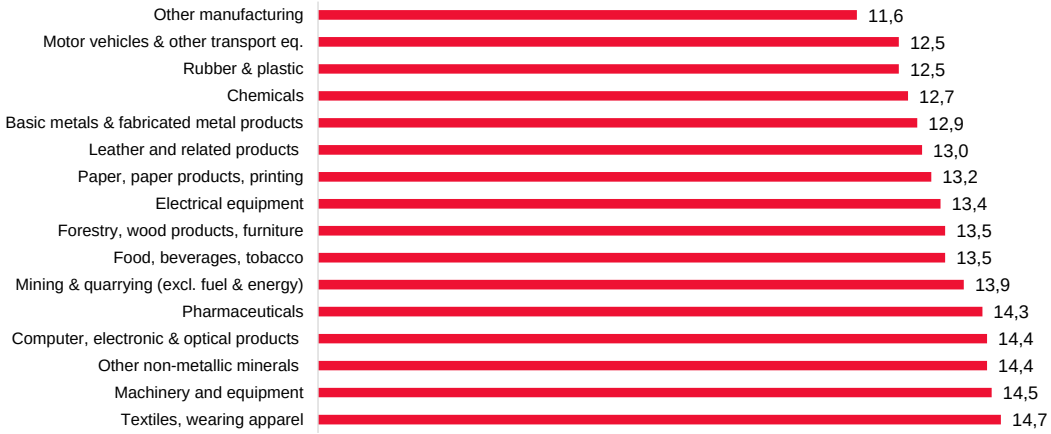
Figure 13



Source: Institute for Economic Policy.

AVERAGE MINIMUM RATE ON RUBLE LOANS OFFERED BY BANKS TO FIRMS IN VARIOUS INDUSTRIES ON AVERAGE
IN 2016–2018 (% PER ANNUM)[8]

Figure 14



Source: Institute for Economic Policy.

The main reference showing whether investments are practical is the hurdle rate. According to the Bank of England's survey, weak investment activity of enterprises along with a decreasing cost of capital may be explained by a relatively high hurdle rate on investments (the British companies assessed this rate at 12%), which is a sign of either elevated risk or business' perception that the cost of finances is much higher than it actually is.

[8] Oil and gas companies, as well as oil refining companies, have been excluded from the sample of the industries surveyed in this survey and are not represented in the graph.

Our survey findings do not confirm this hypothesis. As of the time of the survey (the spring of 2019), Russian enterprises assessed the hurdle rate at 10.4% (with the expected rate of return on future investments being 12%). This almost correlates with Rosstat data on the net rate of return on capital (fixed assets and working capital) in the industrial sector in 2018 at 10.0%. Therefore, unlike in Great Britain, the hurdle rate does not seem to be overestimated against the weighted average cost of capital (9.0%).

5. Causes of insufficient investment

Where the enterprises note that the level of investment is insufficient, it is important to understand whether the deficit of financial investments is a result of the existing financial limitations or is caused by obstacles triggered by problems in the real economy. To identify the reasons for insufficient investments, the questionnaires listed (similarly to the Bank of England's questionnaire) factors that might have constrained the investment activity of business in 2016–2018. The firms were invited to choose up to five of the most significant factors out of the list.

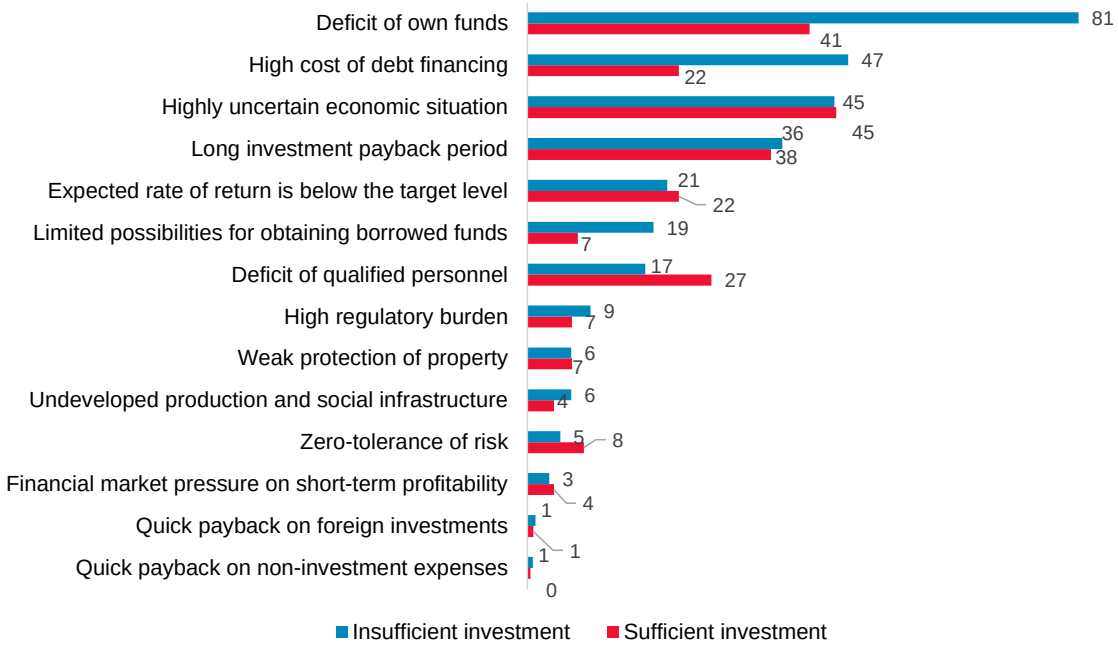
In general, the constraining factors may be conventionally divided into obstacles of a financial and of a non-financial (economic) nature.[9] The factors of the first category pertain to limited access to financing and the priority of using funds for non-investment purposes. The second group of limitations relates to the uncertainty of the economic situation, the low payback on investments, inertia in the investment behaviour of firms and other factors. Deficits of own funds should be distinguished separately. On the one hand, a deficit is a financial limitation, while, on the other hand, this factor may be classified as an economic obstacle, since the size of own funds is determined by the profitability of the enterprise, including its competitiveness and the demand for the products manufactured by it.

The survey findings show that *the main limitation on investments is the deficit of own funds*. This factor was noted by 81% of the firms with an insufficient level of investment (*Figure 15*). Among other obstacles, the leaders by far were the high cost of debt financing (mentioned by 47% of the firms), the highly uncertain economic situation (45%) and the long investment payback period (38%). The remaining obstacles to investment growth were chosen by no more than 20% of the respondents.

According to the Bank of England's survey, the deficit of own funds is also the most widely spread obstacle for firms with a limited volume of investment. This factor is followed by limited possibilities for obtaining borrowed funds. Therefore, unlike British companies, it is the cost of financing rather than access to debt financing (which is ranked number six in terms of importance) that seems to pose a serious issue to Russian businesses.

[9] The financial limitations include: high cost of debt financing, limited possibilities for obtaining borrowed funds, and pressure exerted by the financial market on short-term profitability. The non-financial limitations include: deficit of qualified personnel, higher/quicker payback on foreign investments, higher/quicker payback on non-investment expenses, undeveloped production and social infrastructure, low expected profitability compared to the target level, long investment payback period, highly uncertain economic situation, zero tolerance for risk, high regulatory burden and weak protection of property.

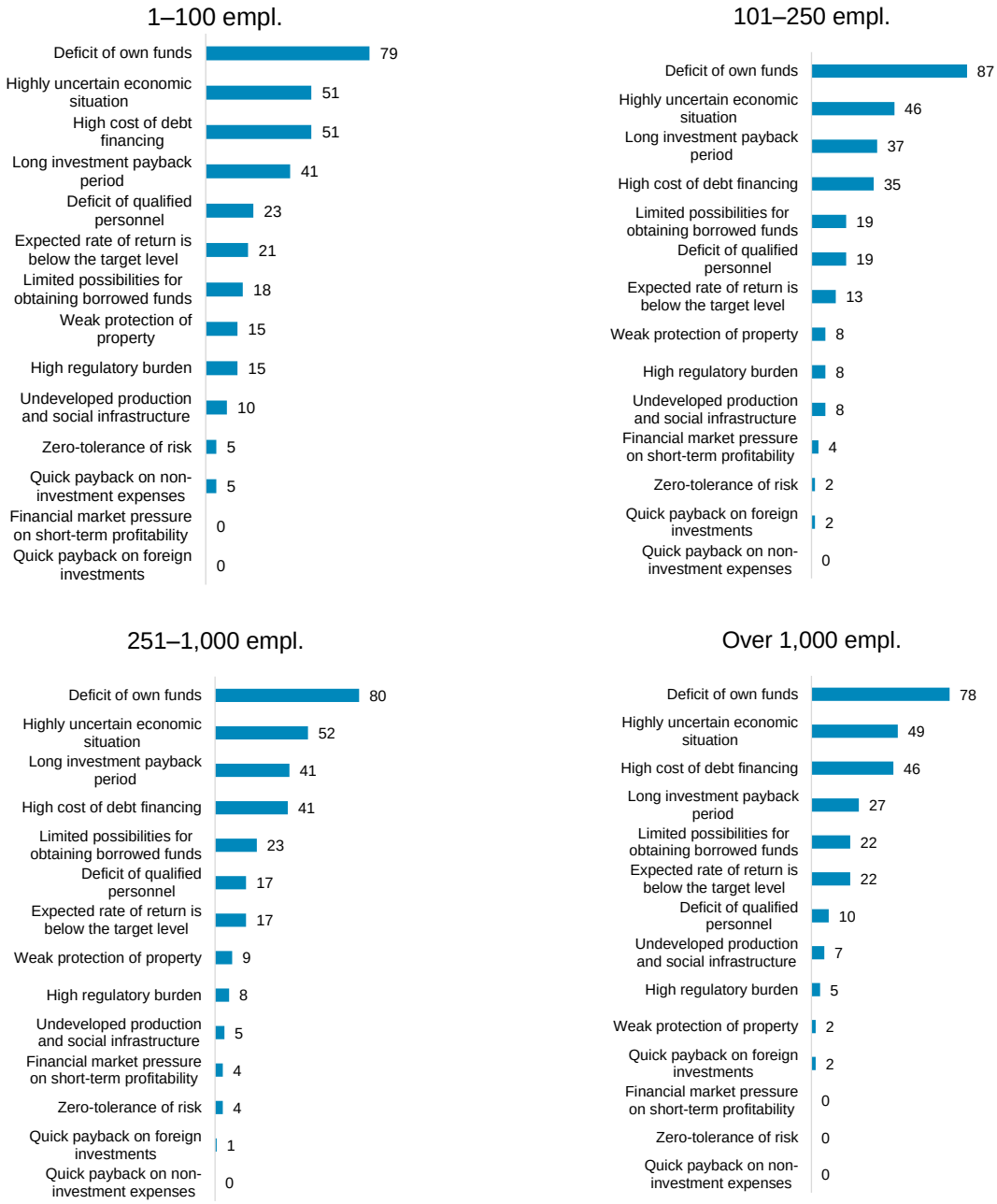
FACTORS CONSTRAINING THE INVESTMENT ACTIVITY OF COMPANIES IN 2016–2018 (SHARE OF RESPONDENTS, %) *Figure 15*



Source: firm-level survey.

Small businesses experience greater pressure from factors constraining investments. This is manifested in the degree of influence exerted by secondary limitations. For instance, a long payback period for projects, a deficit of qualified personnel, weak protection of property and high regulatory burden are less relevant to large companies with headcounts exceeding 1,000 employees, but are more acute for small- and medium-sized enterprises (*Figure 16*). Moreover, small companies with headcounts under 100 employees encounter, as a rule, a considerably greater number of investment obstacles. Among small companies that did not invest sufficiently, around 49% experienced four or more constraining factors (*Figure 17*). In the group of major companies, the majority (70%) pointed to two or three obstacles and only 18% of such respondents noted that their investment growth was constrained by four or more obstacles.

FACTORS CONSTRAINING THE INVESTMENT ACTIVITY OF COMPANIES WITH AN INSUFFICIENT LEVEL OF INVESTMENT IN 2016–2018, BY SIZE (SHARE OF RESPONDENTS, %) *Figure 16*



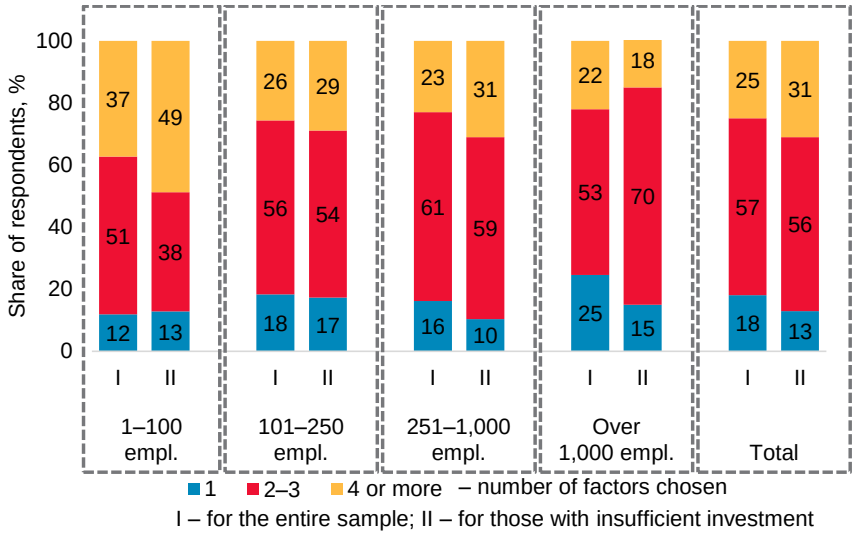
Source: firm-level survey.

Given the division of the investment-constraining factors into financial and non-financial categories, one can say that 91.5% of the companies with insufficient investments had at least one serious obstacle pertaining to limited financial resources; 98.8% faced obstacles of a non-financial nature and around 90.3% of the companies noted both types of limitation (*Figure 18*). This shows that, *in order to stimulate production investments in the Russian industrial sector, structural policy measures are needed in the first place, including measures aimed at improving the business climate.*

The influence of non-financial factors constraining the investment activity of companies in Great Britain is also very significant: 84% of the companies with limited investments were

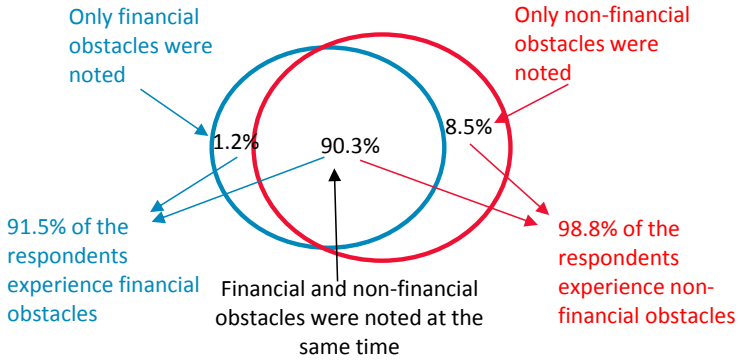
influenced by such factors. The negative effect of financial obstacles was noted by 61% of the companies, and around 50% of the respondents experienced constraints of both categories.

NUMBER OF INVESTMENT-CONSTRAINING FACTORS CHOSEN (SHARE OF RESPONDENTS, %) *Figure 17*



Source: firm-level survey.

FINANCIAL AND NON-FINANCIAL FACTORS CONSTRAINING INVESTMENTS AT COMPANIES WITH AN INSUFFICIENT LEVEL OF INVESTMENT (SHARE OF RESPONDENTS, %) *Figure 18*



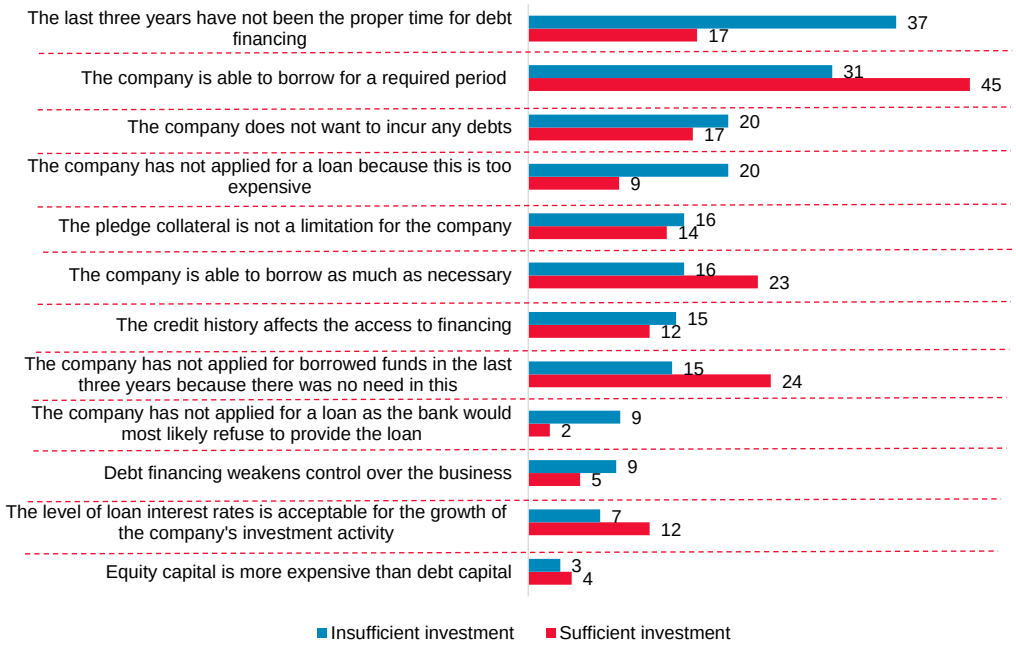
Source: authors' calculations based on the Bank of Russia's survey.

Below we will consider in detail potential explanations for the companies' behaviour that may constrain their investment activity. This is far from being an exhaustive list of examples. However, according to the Bank of England's analysts, this list includes the most widely spread causes of insufficient investment. The first two causes, which are limited access to financing and non-investment use of funds, are of a financial nature, while the remaining causes are non-financial. Each of the five explanations provided below is assessed based on a comparison between the responses of the firms that make insufficient investments and the responses of those who invest sufficiently. It is the differences in their behaviour that make it possible to explain the investment decisions of the enterprises.

Limited access to financing

Our survey shows that the enterprises with insufficient investments face various financial difficulties more often than other companies. *The main problems of such companies in obtaining debt financing are due to the limitations on the volume and periods for which the borrowed funds are raised.* Eighty-four per cent (84%) of the respondents noted that they were unable to borrow as much as they needed, 69% had limitations in terms of loan period, and only 20% believed that credit money was expensive and for this reason did not apply for a loan (*Figure 19*). Therefore, the aforementioned high cost of debt financing as an obstacle to investment (which is relevant for 47% of the respondents) may be explained by the insufficient financial stability of a company and the unclear market attractiveness of the industry the company represents, which causes credit institutions to account for elevated credit risks in the interest rates offered on the debt obligations of such borrowers.

ATTITUDE TO DEBT FINANCING OF COMPANIES WITH SUFFICIENT AND INSUFFICIENT INVESTMENTS IN 2016–2018
(SHARE OF RESPONDENTS, %) *Figure 19*



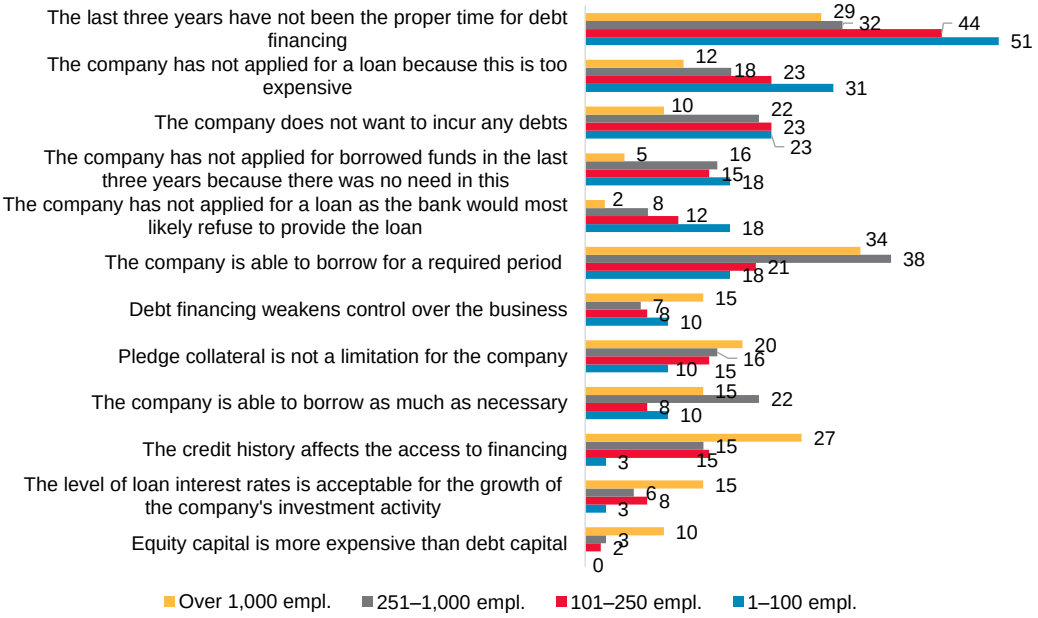
Source: firm-level survey.

Pledge collateral represents a problem that is equally important to companies with either sufficient or insufficient investments. Only 14% and 16% of the respondents in each group, respectively, believe that pledge collateral does not create any obstacles to obtaining a loan.

Enterprises with insufficient investments did not raise debt financing since, unlike companies with sufficient investments, they believed that the years *2016–2018 were an unfavourable time for this* (37% against 17% of the respondents; *Figure 19*). The limited use of debt financing could be due to deliberate policies of companies to reduce their debt burden during that time, to high loan interest rates or to low investment incentives during that period.

The described *problems of a lack of access to debt financing are mostly relevant to small businesses*. They more often reported that the surveyed period was not the most suitable period to raise debt financing (51%); they pointed to the high cost of borrowed funds (31%) and experienced considerable limitations in terms of loan periods (82%) (*Figure 20*).

ATTITUDE TO DEBT FINANCING OF COMPANIES OF DIFFERENT SIZES EXPERIENCING INSUFFICIENT INVESTMENT IN 2016–2018 (SHARE OF RESPONDENTS, %) *Figure 20*



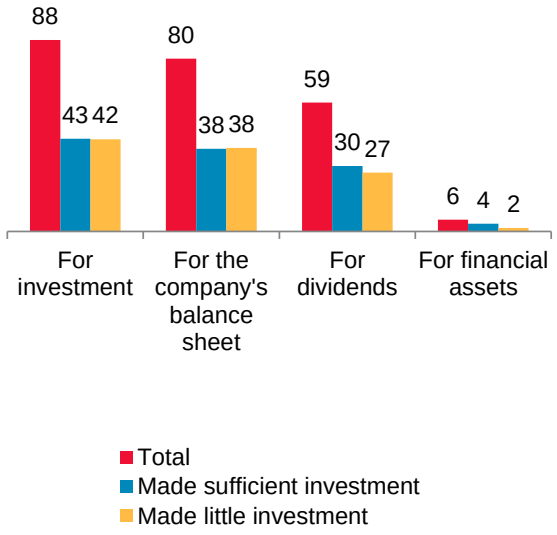
Source: firm-level survey.

Preference to use funds for non-investment purposes

Companies may prefer to direct available funds to an activity that offers a quicker rate of return in shorter periods, rather than to make investments (Orhangazi, 2008; Lazonick, 2007; Milberg and Winkler, 2010). A quicker payback may be achieved by acquiring financial assets (bonds, including M&A transactions). Other areas for utilising profit include keeping money on the company's balance sheet and making payments to shareholders. The allocation of profit between these areas depends on their profitability and the companies' preferences and priorities.

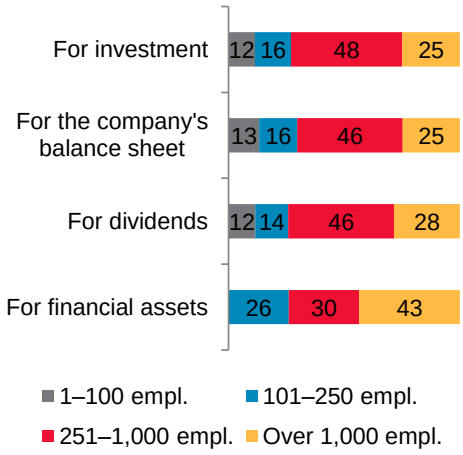
The survey findings show that the companies' interest in non-investment use of their funds to achieve a higher rate of return in shorter periods is not a limitation on investment activity. No more than 4% of the companies (whether with sufficient or insufficient investments) noted that the higher short-term yield on the financial market is an obstacle to investments (*Figure 20*). Only 6% of the enterprises used profit to acquire financial assets, which may be due to insufficient development of the financial market in Russia (*Figure 21*). On the contrary, the Bank of England's survey shows that a high share of the companies with insufficient investments are interested in obtaining short-term profit: 80% among public companies and 40% among private companies.

AREAS OF PROFIT UTILISATION IN 2016–2018 (%) *Figure 21*



Source: firm-level survey.

AREAS OF PROFIT UTILISATION BY SIZE OF COMPANY IN 2016–2018 (%) *Figure 22*

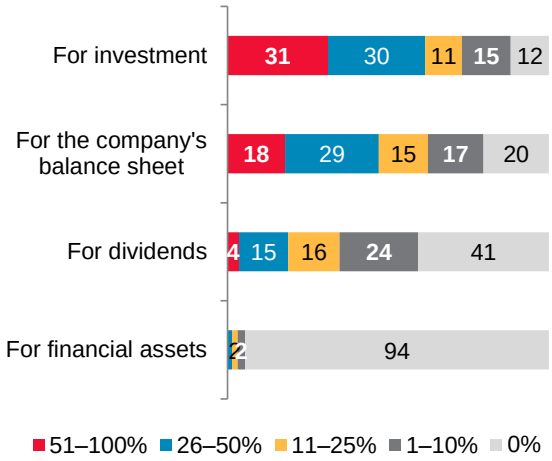


Source: firm-level survey.

The companies in our sample population noted that, *in 2016–2018, they used, as a rule, earned profit (after interest and taxes) to make investments (88% of the respondents) or to keep it as monetary funds on the company's balance sheet (80%).* Profit was used by 59% of the enterprises to pay dividends to owners and shareholders (*Figure 21*). There were no notable differences in the behaviour of the firms that had insufficient investments compared to the firms with sufficient investments. In addition, no considerable differences were noted in the responses of companies of different sizes in terms of the areas of profit utilisation (*Figure 22*).

This finding is in line with the above conclusion that the dominant role in financing investments was played by the own funds of the companies. One third of the companies invested over 50% of their profit (*Figure 23*). At the same time, the fact that 47% of the respondents retained over one third of earned profit on their balance sheets (*Figure 23*) shows that, in a situation where the use of debt capital was limited, the producers either accumulated own funds on their balance sheets to invest them subsequently or adopted a wait-and-see attitude since, during the economic and geopolitical instability in 2016–2018, investment incentives were low.

SHARE OF FUNDS ALLOCATED OUT OF PROFIT TO VARIOUS AREAS IN 2016–2018 (Share of respondents, %) *Figure 23*



Source: firm-level survey.

Enterprises are unwilling to make investments in an uncertain environment

As the uncertainty of future conditions increases, even if enterprises see lucrative investment opportunities, they may decide not to invest, or to postpone investments, until a more favourable macroeconomic environment evolves (Bloom, 2009; Bloom, Bond, Van Reenen, 2007; Dixit, Pindyck, 1994). If competition is low, this effect may manifest itself more vividly: in a less competitive environment, enterprises are more likely to make investments and spend money on innovations. This type of behaviour is quite reasonable and expedient from a business perspective; however, it might not be the optimal approach from a macroeconomic perspective.

The survey findings show that *elevated uncertainty of future economic conditions was the main non-financial obstacle to investments in 2016–2018* (reported by 45% of the respondents with sufficient and insufficient investments alike; *Figure 15*). This explains the behaviour of the companies that did not allocate profit earned to finance investments, but rather accumulated monetary funds on their balance sheets in expectation of better conditions. The uncertainty of the economic situation remains an important cause of weak investments for firms of all sizes, which may be linked to the economic recession of the previous years (McKinsey Global Institute, 2012).

Other factors of uncertainty may include a deficit of qualified personnel. This problem is most relevant for enterprises with a high level of investment (27%), which, as equipment upgrades and new technologies are implemented, need to use more qualified labour. As for companies with insufficient investments, the low qualifications of personnel constrain investment for 17% of the respondents.

The less important limitations on investment activity, which pertain to the uncertain business conditions in the country, include high regulatory burden (for 9% of enterprises with insufficient investments), undeveloped industrial and social infrastructure (for 7%) and weak protection of property (for 7% of the respondents).

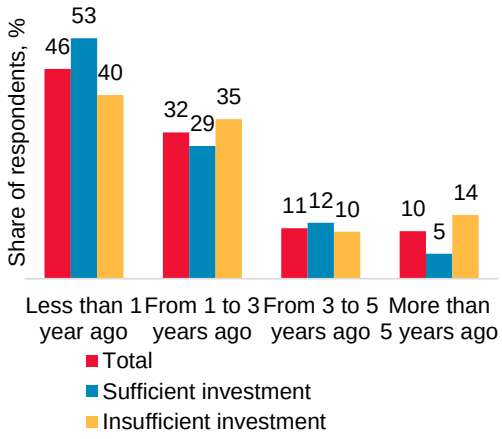
Behavioural inertia of companies can constrain investments

Investments may be constrained by the behavioural inertia of companies. This can take place if companies do not revise the target indicators they use in taking investment decisions.

The survey showed that around 50% of the companies show inertia in taking investment decisions. Only 46% of the respondents revised their target investment indicators less than one year ago (*Figure 24*). This behaviour is even more characteristic of companies that invested a lot (53%), first and foremost, large and major companies (*Figure 25*). Investment targets were revised less than three years ago by 32% of the respondents. This group is dominated by small and medium companies. The remaining 21% of the respondents changed these parameters more than three years ago.

WHEN WERE THE TARGET INDICATORS USED IN TAKING INVESTMENT DECISIONS LAST REVISED?
(SHARE OF RESPONSES, %)

Figure 24

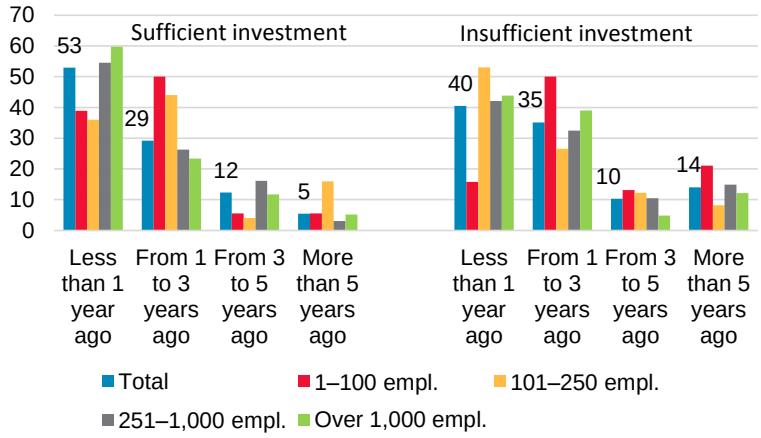


Source: firm-level survey.

At the same time, when the companies revised their investment targets, they left them unchanged in 47% of instances (*Figure 26*). Furthermore, the more often the companies revised their investment targets, the higher was the share of those who did not change them. This is a sign that, *for the majority of companies, the target indicators they use in taking investment decisions remain robust* in spite of the observed decrease in interest rates in recent years.

In these conditions, enterprises become less sensitive to the reduced cost of financing. As a result, *the effectiveness of the credit channel of monetary policy decreases, especially when it comes to investment lending.* However, reduction of the cost of loan resources allows companies to lower their debt burden by saving on interest payments and to improve their financial results. As a result, highly efficient companies will likely direct more funds to paying dividends, while inefficient and over-credited companies will somewhat improve their credit quality, but will remain inefficient.

WHEN WERE THE TARGET INDICATORS USED IN TAKING INVESTMENT DECISIONS LAST REVISED, BY SIZE OF COMPANY (SHARE OF RESPONSES, %) *Figure 25*



Source: firm-level survey.

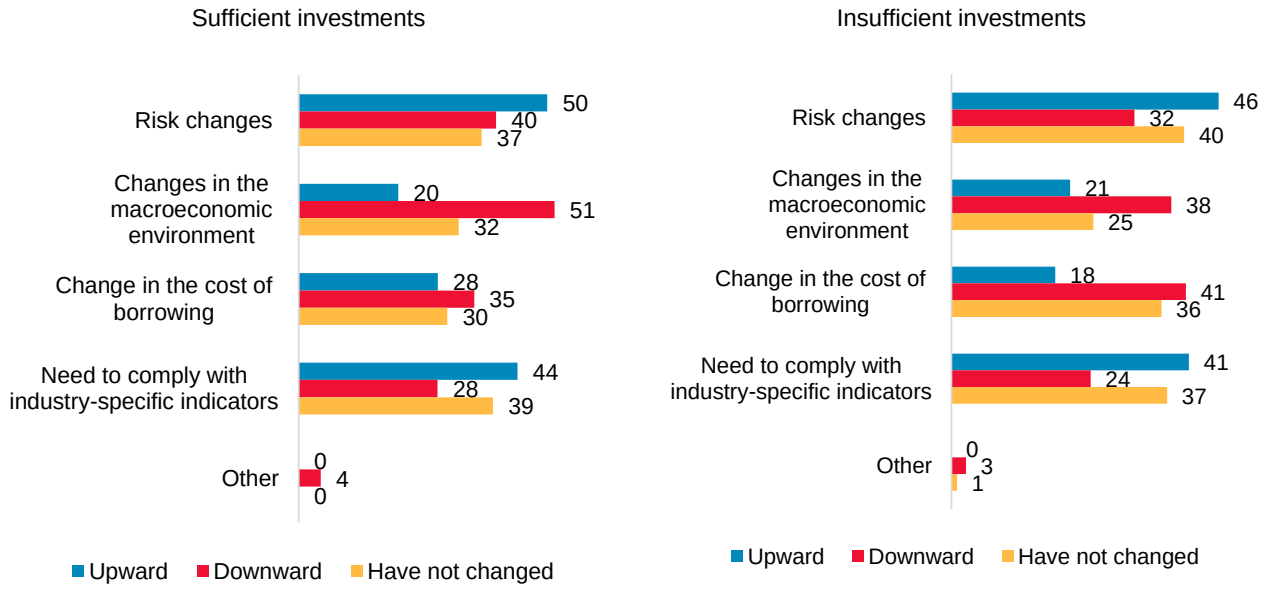
However, business is still adapting to the monetary policy pursued, which is aimed at decreasing inflation and maintaining it at a stably low level. Among the enterprises that have adjusted their investment benchmarks (especially during the last three years), 34% of the respondents now consider lower profitability or a slower payback acceptable (*Figure 26*). The decreased cost of borrowing, as inflation anchored at around 4% and the GDP was growing, was the main factor that predetermined such company behaviour (*Figure 27*). On the contrary, after revision, 19% of the companies toughened their investment targets by setting higher profitability or shorter payback periods for projects. They were influenced, most of all, by the increased risk of foreign exchange rate changes and the need to meet industry targets or the criteria applied by their main competitors in terms of the profitability of investment projects in the industry (*Figure 27*).

REVISION OF TARGET INDICATORS IN TAKING INVESTMENT DECISIONS (%) *Figure 26*

Revision of target indicators	Total for the sample				Sufficient investment				Insufficient investment			
	Upward	Downward	Have not changed	Total, %	Upward	Downward	Have not changed	Total, %	Upward	Downward	Have not changed	Total, %
Less than 1 year ago	10	13	22	46	13	14	26	53	8	12	20	40
From 1 to 3 years ago	6	10	16	32	8	8	13	30	5	12	18	35
From 3 to 5 years ago	1	7	3	11	2	7	3	12	1	6	3	11
More than 5 years ago	1	4	5	10	0	2	3	6	2	5	7	14
Total	**19**	**34**	**47**	**100**	**23**	**32**	**45**	**100**	**16**	**35**	**48**	**100**

Source: firm-level survey.

EFFECT OF FACTORS ON CHANGES IN TARGET INDICATORS (SHARE OF RESPONDENTS, %) *Figure 27*



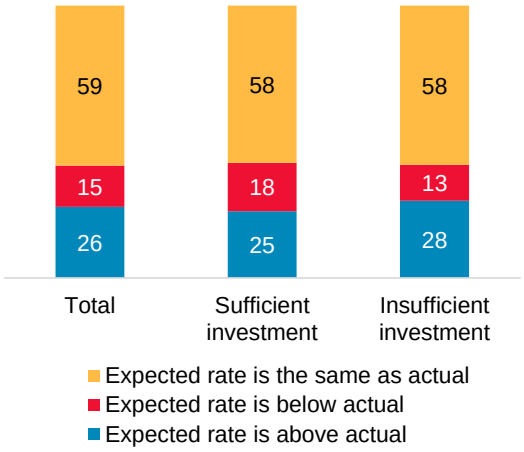
Sources: firm-level survey.

Disappointment in investment results

Companies may abandon production investments if they experience the consequences of economic recession, which brings down the return on previous investments. Enterprises that have invested too little will likely have higher expected rates of return on investments than the rates actually achieved by the companies that have invested sufficiently. Given the time lags in the implementation of investments, the differences between the expected and actual profitability in Russia have presumably manifested themselves only in the last years, affecting the investment plans of some companies. The key question is how this effect is manifesting itself. Companies that have experienced lower profitability than expected may, in the long run, reduce their barrier rates of return down to more realistic levels and continue making investments, or they may keep their current barrier rates and, as a result, reduce or cease future investments.

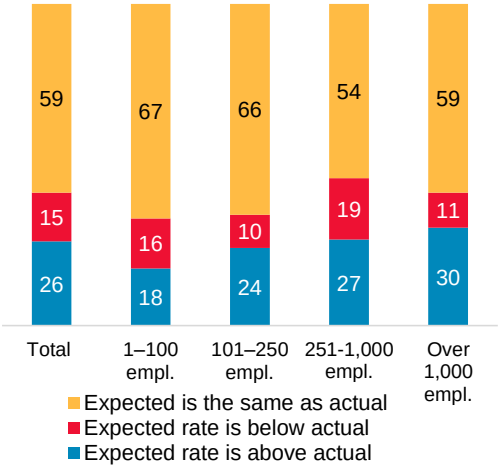
According to our survey, only 26% of the companies reported that their expected rate of return on investments exceeded the profitability achieved from the implementation of recent investment projects (*Figure 28*). This share is a little lower for small businesses (18%) (*Figure 29*). Importantly, there are no differences whatsoever in the responses of the companies who invested little and those who invested sufficiently. Therefore, we have no grounds to assert that the difference between expected and actual profitability held the enterprises back from making investments. For the majority of enterprises (59%), the expected rate of return is in line with the rate achieved on investment projects in 2016–2018.

AVERAGE RATE OF RETURN EXPECTED AND REALISED FROM THE IMPLEMENTATION OF INVESTMENT PROJECTS IN 2016–2018, BY LEVEL OF INVESTMENT (SHARE OF RESPONDENTS, %) *Figure 28*



Source: firm-level survey.

AVERAGE RATE OF RETURN EXPECTED AND REALISED FROM THE IMPLEMENTATION OF INVESTMENT PROJECTS IN 2016–2018, BY SIZE OF ENTERPRISE (SHARE OF RESPONDENTS, %) *Figure 29*



Source: firm-level survey.

EXPECTED AND REALISED RATE OF RETURN ON INVESTMENTS (SHARE OF RESPONDENTS, %) *Figure 30*

	Share of respondents, %	Expected rate of return				
		1–5%	6–10%	11–15%	16–20%	>20%
Rate of return achieved	1–5%	5,0	5,0	1,1	1,4	2,5
	6–10%	1,1	29,2	6,3	0,6	1,1
	11–15%	0,6	5,8	16,0	4,7	1,4
	16–20%	1,4	0,3	3,0	3,9	2,2
	>20%	1,1	0,0	0,6	1,4	4,7

Expected rate is the same as actual
Expected rate is below actual
Expected rate is above actual

Source: firm-level survey.

Thus, the survey shows that, in 2016–2018 investments were mainly of a replacement nature, which explains their low sensitivity to loan rates. If this model of corporate investment behaviour continues, the liberalisation of monetary policy will have only a weak effect on the growth of investments in the industrial sector.

The relatively low investment activity of industrial enterprises in 2016–2018 was due to a combination of a whole number of limitations, which were mainly of a non-financial nature. That is why, in order to accelerate investment growth, it is necessary to solve, in the first place, the structural problems in the economy and to take measures aimed at the improvement of the business climate, the development of competition and the reduction of the share of the public sector in the economy.

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Annex

Firm-level survey questionnaire:

1. Please specify your activity type using the codes of the Russian Classification of Economic Activities (OKVED2).
2. Please specify the current number of employees working at the enterprise.
3. Please specify your type of ownership.

   (Options: 1) 100% state-run and/or municipal; 2) 100% private (no government stake); 3) mixed Russian ownership (private + state/municipal); 4) mixed Russian and foreign ownership or 100% foreign ownership; 5) other).
4. Did your company make sufficient investment in 2016–2018?

   (Options: 1) yes, sufficient; 2) no, too little; 3) no, too much).
5. What factors constrained the investment activity in 2016–2018?

   (Options: 1) deficit of qualified personnel; 2) deficit of own financial funds; 3) higher/quicker payback on foreign investments; 4) higher/quicker payback on non-investment expenses (for instance, mergers and acquisitions); 5) high cost of debt financing; 6) undeveloped production and social infrastructure; 7) expected profitability lower than the target level; 8) long investment payback period; 9) highly uncertain economic situation; 10) limited possibilities for obtaining borrowed funds; 11) zero-tolerance for risk; 12) high regulatory burden; 13) pressure exerted by the financial market on short-term profitability; 14) weak protection of property).
6. Which share of your investment needs in 2016–2018 was satisfied out of: 1) profit after interest, taxes and dividends; 2) all forms of bank loans; 3) trade and other non-bank loans; 4) issuance/sale of securities (shares, bonds, etc.); 5) leasing or fixed assets lease; 6) invoice financing (for instance, invoice discounting/factoring)?

   (Options: 0% / 1–10% / 11–25% / 26–50% / 51–100%).
7. Which share of profit (after interest and taxes) did your company utilise in 2016–2018 towards the following areas: 1) investment financing; 2) payment of dividends to owners and shareholders; 3) retention as monetary funds on the company's balance sheet; 4) purchase of financial assets (including mergers and acquisitions)?

   (Options: 0% / 1–10% / 11–25% / 26–50% / 51–100%).
8. Which of the following statements characterise the situation at your company in 2016–2018?

   (Options: 1) the company is able to borrow for the required period; 2) the company is able to borrow as much as necessary; 3) pledge collateral is not a limitation for the company; 4) the level of loan interest rates is acceptable for the growth of the company's investment activity; 5) equity capital is more expensive than debt capital; 6) credit history affects access to financing; 7) debt financing weakens control over the business; 8) the last three years have not been the proper time for debt financing; 9) the company has not applied for a loan because it is too expensive; 10) the company has not applied for a loan as the bank would most likely refuse to provide the loan; 11) the company

does not want to incur any debts; 12) the company has not applied for borrowed funds in the last three years because there was no need for it).

9. By which target indicators was your company guided when taking investment decisions in 2016–2018?

(Options: 1) the hurdle rate of investments; 2) the relative rate of return on investments (i.e. the profitability by X% above the cost of borrowed funds); 3) the target investment payback period; 4) the average rate of return in the industry or of main competitors; 5) the scheduled replacement of equipment (capital, technologies); 6) the replacement of equipment due to breakdown; 7) the scheduled professional development training of personnel; 8) the unscheduled training of personnel due to production needs or shortage of personnel; 9) the estimate of discounted cash flows (compared to the current cost of capital); 10) the estimate of the net present value of the investment project (NPV); 11) by other factors).

10. What approximate values do the following indicators have: 1) the current hurdle rate of investments (if you use one); 2) the average rate of return on investment projects in 2016–2018; 3) the average rate on bank loans obtained by you in 2018; 4) the expected rate of return if your company obtained funds now for implementing the required investment project; 5) inflation expectations provided for during the implementation period of the given investment project?

(Options: 1–5% / 6–10% / 11–15% / 16–20% / > 20%).

11. When did you last revise the target indicators used in taking investment decisions?

(Options: 1) less than one year ago; 2) more than one year ago but less than three years ago; 3) more than three years ago but less than five years ago; 4) more than five years ago).

12. How did the target indicators change after their revision?

(Options: 1) upward (higher return / quicker payback period); 2) downward (lower profitability / slower payback period); 3) did not change).

13. What are the main factors that affect the revision of the target indicators you use in taking investment decisions?

(Options: 1) a change in risk (for example, inflation risk, risk that the company grows too fast, FX risk); 2) changes in the macroeconomic environment (for example, higher/lower inflation or GDP growth); 3) a change in the cost of borrowing (i.e. interest rates); 4) the need to comply with industry-specific indicators or criteria used by main competitors; 5) other factors).