



Business profitability and monetary policy of the state

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Abstract

The author examines the features of the management policy and the monetary policy of the state on the profitability of the activities of Russian public companies (business profitability). The tightening of the monetary policy of the state (in particular, the growth of the key rate of the Bank of Russia without reference to the return on assets) may negatively affect the profitability of economic activity. The indicator of dividend payments is a signal for shareholders and potential investors. In addition, dividend payments are an indicator of the financial limitations of companies. Financial constraints are associated with the problem of adverse selection of financing - the choice of a source of financing taking into account its price. Effective management of current assets will allow rational use of them as an additional source of investment. The indicator of the contribution of management or internal growth allows you to evaluate external factors: market fluctuations, macroeconomic features, as well as the actions of financial speculators. This indicator establishes the real contribution of management to the value of the company. Systematic unprofitability of the company's economic activity is a consequence of short-sighted financial policy or erroneous strategic decisions on the part of management. Management acts in accordance with fiduciary duties of integrity and reasonableness in the interests of the company and its shareholders expecting an increase in the value of the business. Therefore, the management decision should be made from the position of maximising market capitalisation. Then Russian public companies will act in the logic of a precautionary motive, saving a significant part of the funds for subsequent investment in priority projects under conditions of financial restrictions and sectoral sanctions. The growth of sales provides additional opportunities for the company to invest. The Wald, Breusch – Pagan and Hausman tests were carried out in order to identify an adequate forecasting model.

Keywords: internal growth, monetary policy, financial constraints, dividend payments, precautionary motive, business profitability, financial policy.

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企业收益率与国家货币政策

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摘要

本文考虑了与俄罗斯上市公司盈利能力相关的管理政策和国家货币政策的特点。国家货币政策的紧缩 (特别是在不参考资产回报率的情况下提高俄罗斯银行的关键利率) 可能会对经济活动的盈利能力产生不利影响。股息支付指标是股东和潜在投资者的信号。此外, 股息支付是公司财务限制的一个指标。财务限制与资金逆向选择问题相关——当融资来源的选择基础与其价格。有效管理流动资产将允许其合理使用作为额外的投资来源。管理或内部成长贡献指标允许您评估外部因素: 市场波动、宏观

经济特征以及金融投机者的行为。该指标显示管理层对公司价值的真正贡献。企业经济活动的系统性无利可图是短视的财务政策或管理层错误的战略决策的结果。管理层按必须照诚信与合理原则行事，符合公司及其希望增加业务价值的股东的利益。管理决策应主要从市值最大化的立场出发。那么俄罗斯上市公司在金融限制和部门制裁的情况下将以预防动机 (precautionary motive) 的逻辑行事，节省可观的资金用于优先项目的后续投资。销售增长将为公司容许额外的投资机会。为了确定适当的预测模型，进行了沃德 (Wald)、布伦斯和帕甘 (Breusch-Pagan) 及豪斯曼 (Hausman) 检验。

关键词：内部成长，货币政策，财务限制，股息支付，预防动机，企业收益率，金融政策。

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Introduction

The constraining factor in the economy is the reduction in investment in fixed assets. This is due to the rise in the cost of credit resources, which significantly limits investment demand. To revive investment activity, it is necessary to reduce the key rate of the Bank of Russia.

As noted in the National Security Strategy of the Russian Federation¹, in order to achieve the goals of the country's economic security, among other tasks, it is necessary to protect and encourage investment, as well as stimulate the use of domestic sources of investment.

In fact, money market rates influence other interest rates in the economy and the prices of financial assets, determining the decisions of economic entities regarding saving and investing. Easing or tightening monetary policy translates into the economy.

Key rate – the interest rate on the main operations to regulate the liquidity of the banking sector; it is the main universal indicator of the monetary policy pursued by the Bank of Russia.

The increase in the key rate and sectoral sanctions by the US and the EU against the banking sector lead to a sharp deterioration in the Russian financial market. An additional imprint is imposed by sectoral sanctions from the US and the EU against Russian public companies (in particular, the oil and energy sectors, which are included in the sample of the present study).

Changes in the state's macroeconomic and monetary policy (in particular, the operational benchmark of the Bank of Russia's exchange rate policy expressed in national currency or an increase in the cost of credit resources due to an increase in the key rate by the Bank of Russia without reference to the company's profitability) may adversely affect the profitability of a business, regardless of whether it sold products for export or in the domestic market².

It must be borne in mind that excessive debt financing worsens the financial position of the company, and also leads to an increase in the degree of its financial risks and adversely affects financial stability, reducing the level of equity³.

Some authors noted that companies use their internal cash reserves for their subsequent investment in assets [Almeida et al., 2014]. H. Almeida et al. [Almeida et al., 2021] found that a company's financial limitations are associated with its high cash level (an element of investment resource).

R. Korajczyk and A. Levy [Korajczyk, Levy, 2003] consider the impact of macroeconomic conditions on the choice of funding source (taking into account financial constraints). They conclude that companies that are not financially constrained issue equity rather than debt when macroeconomic conditions are favourable.

S. Chang et al. [Chang et al., 2018] also consider the impact of macroeconomic factors and company characteristics on its issuing activity. They note that companies, regardless of financial constraints, carry out an additional issue of shares. At the same time, financially limited organisations issue shares much more than financially unlimited firms.

H. Almeida et al. [Almeida et al., 2016] studied the impact of dividend payments (an indicator of financial constraints) on a company's monetary policy. Their results showed that the dividend payout ratio is a metric for assessing a company's liquidity. In other words, with the help of this indicator, the company can manage the profitability of the shares.

The monetary form of capital, being the most liquid and mobile, allows the enterprise to use funds for the purpose of technical, technological and organisational improvement of production, investment in relevant projects, which ultimately increases the capitalisation of the company.

The works mentioned above did not take into account the impact of the contribution of management, sales, and the state's monetary policy on the profitability of the company's activities.

The indicator of the contribution of management or internal growth allows you to identify external factors: erroneous market estimates, macroeconomic factors, the actions of financial speculators. This measure represents the intrinsic part of the company's value addition and establishes management's real contribution to market

¹ The Decree of the President of the Russian Federation of July 2, 2021 No. 400 "National Security Strategy of the Russian Federation". <http://www.kremlin.ru/acts/bank/47046>.

² Resolution of the Eighth Arbitration Court of Appeal dated September 21, 2022 in case No. A81-10275/2017. <https://clck.ru/32RPsx>.

³ Resolution of the Ninth Arbitration Court of Appeal dated August 27, 2021 in case No. A40-325813/2019. <https://clck.ru/32RPvf>.

capitalisation. Competent financial policy testifies to rational management in the field of profitability of the company. Otherwise, risky transactions and poor management can lead to a decrease in the value of the company and the welfare of its shareholders⁴.

The value of the company is actually the indicator by which its financial position, stability in the market of certain goods (works, services), business profitability, attractiveness to buyers, as well as the welfare of the shareholder are assessed. Negative financial results of the company's economic activities are the result of unreasonable financial policy or erroneous strategic decisions on the part of management, which does not correspond to the economic interests of the organisation and its owners⁵.

In relation to the behaviour of the leader, certain criteria have been developed. We are talking about the principle of good faith (*estoppel*) and the rule ‘*venire contra factum proprium*’ (no one can contradict their own previous behaviour), according to which a change by a party of its position to the detriment of a participant (shareholder, supplier), who previously reasonably and in good faith relied on the opposite behavior such party, deprives the head in the case under consideration of the right to object.

By virtue of the international principle of *estoppel*, which is recognised by the Constitution of the Russian Federation (we are talking about the observance of the principles and norms of international law – part 4 of Article 15 of the Constitution of the Russian Federation), the party is deprived of the right to invoke objections in relation to previously committed actions and transactions, as well as accepted decisions if the behaviour was evidence of its reality.

The current legislation and established court practice do not allow connivance with regard to controversial and dishonest management behaviour that does not correspond to ordinary commercial honesty (the *estoppel* rule). Such conduct is, in particular, conduct that is inconsistent with the prior statements or conduct of a party, provided that the other party reasonably relied on them in its actions.

The manager acts in accordance with his fiduciary duties in good faith and reasonably in the interests of the company and its shareholders, who expect to increase the value of the company⁶. In turn, the management decision should be made primarily from the standpoint of maximising the value of the business, since not only the absolute financial result of the operation of the enterprise (net profit), but also relative indicators (profitability of assets, investments, sales indicators, risks) to a greater or lesser extent affect to maximise the value of the business

and can be considered as independent goals at a certain stage of the organisation's activities.

Another important factor in evaluating the profitability of a company's activities is the rate of sales growth. In a tough competitive environment and changing external circumstances, in order to ensure maximum liquidity of the company for the timely fulfillment of obligations to creditors, the budget, and suppliers, it is necessary to release working capital from inventory and receivables⁷. In other words, we are talking about the fact that the sales growth rate is a necessary factor for assessing the effectiveness of the use of investments in working capital. Sales growth opens up additional opportunities for the company in terms of investment directions.

The third factor influencing the financial result of the company is the monetary policy of the state represented by the Bank of Russia. As noted above, the tough policy of the Bank of Russia (an increase in the key rate) may lead to an increase in financial risks and adversely affect the financial position of an economic entity. Then Russian public companies will act in the logic of a warning motive (*precautionary motive*), saving a significant part of the money for subsequent investment in projects, taking into account their priority. In other words, as a precautionary measure, Russian companies are creating an internal cash reserve in order to offset losses associated with shocks that affect financial results.

Finally, another important factor affecting the profitability of a company is the indicator of dividend payments. This indicator is a reliable information signal regarding the prospects for future profits. Dividend payments are also an indicator of the financial limitations of companies. Companies faced with financial constraints are exposed to the problem of adverse selection of funding (choosing the source of funding in terms of its price). The payment of dividends should not result in the company raising additional debt financing or other costs that worsen its financial position.

1. Research methodology and data sampling

To assess the impact of internal growth, the key rate, sales and other characteristics of the company on business profitability (profitability of economic activities) 24 public Russian companies from 10 sectors of the economy were selected: agriculture (production, processing and sale of agricultural products), oil and gas complex (oil and gas industry), food industry (production and processing of poultry meat, pork and mixed fodder), ferrous and non-ferrous metallurgy, mechanical engineering (production

⁴ Decision of the European Court of Human Rights dated 07.11.2002 in the case *Olzhak v. Poland*. <https://clck.ru/32RRAv>.

⁵ Resolution of the Ninth Arbitration Court of Appeal dated November 18, 2020 in case No. A23-6808/2016. <https://clck.ru/32RRHb>.

⁶ Ruling of the Supreme Court of the Russian Federation dated June 8, 2021 No. 305-ES21-9270. <https://clck.ru/32RRQq>.

⁷ Resolution of the Fifteenth Arbitration Court of Appeal dated April 23, 2019 in case No. A53-1473/2017. <https://clck.ru/32RRWw>.

of parts and accessories for cars and engines), electric power industry, construction (general construction works), trade (retail trade in food and non-food goods), transport (transportation through pipes, maritime transport), telecommunications (communication services). The sample included public Russian companies with a total income of more than 10 billion rubles.⁸ The selection criterion is the availability of reports in accordance with international financial reporting standards. The company's shares must be traded on the stock market. The information about organisations was obtained from annual financial statements, issuers' reports, data on corporate websites, as well as data from PJSC Moscow Exchange. Key rate data was taken from the website of the Bank of Russia. The sampling period is 2018–2021. The number of observations for each company varies (for some companies – 2018–2021, for others – 2019–2021), so the data is unbalanced. Econometric calculations were made using the statistical package Stata.

When evaluating the econometric model, a dependent variable (explained variable) was used - the profitability (profitability) of assets (an indicator that assesses the profitability of a business).

As independent (explaining) variables were selected: the tangibility of assets, the overall level of dividend payments. We use these independent variables proposed in [Frank, Goyal, 2007; Chang et al., 2018; Almeida et al., 2021]. In addition, three independent variables are included in the model: the internal growth rate (the impact of management on business profitability), sales growth, and the key rate of the Bank of Russia.

Return on assets (ROA) (%) – the ratio of profit after tax (net profit) to the total value of assets.

The tangibility of assets (PPE/A) is calculated as the ratio of fixed assets to total assets. This indicator allows you to evaluate the source of funding.

The overall level of dividend payments (Dividend) is defined as the ratio of the amount of dividends paid to the total amount of assets. This indicator influences the

behaviour of potential investors (includes an informational signal about the share price); it is also an indicator of financial constraints (because net income is the source of dividends and funds directed to the formation of various funds and capital growth of the company). Financial constraints arise from external shocks to the supply of capital – an asymmetry in the reliability of information between investors and the company. Management has more information than a potential investor.

The indicator of internal growth or the impact of management on business profitability (g) is fundamental. This indicator allows you to eliminate external factors (erroneous market estimates, macroeconomic aspects). It represents the internal part of the company's value growth and allows to identify the real contribution of management to the company's value [Daniel, Titman, 2006]. This indicator is calculated as

$$g_{i,t} = \log\left(\frac{ME_{i,t}}{ME_{i,t-3}}\right) - \log(r_{i,t-3,t}),$$

Where ME is the market capitalisation, r is the logarithm of the average stock return. The Russian stock market is unstable (especially under the conditions of external sanctions). The long-term period is considered as three years or more. This period makes it possible to take into account negative shocks (externalities) that may affect stock returns. Also, the indicator of internal growth allows you to assess the warning motive, that is, the readiness of the organisation to switch to internal sources of financing (in particular, internal cash reserves) in the face of financial constraints. Russian public companies that faced with financial constraints, are exposed to the problem of adverse selection of financing, that is, the choice of a source of financing, taking into account its price.

Sales growth (%) is defined as the ratio of the change in revenue to the amount of revenue at the beginning of the period.

Key rate of the Bank of Russia (Rate) (%).

All independent variables are lagged. The lag is one year. Descriptive statistics is presented in Table. 1.

Table 1
Summary statistics

Variable	Average	Standard deviation	Minimum value	Maximum value
Return on assets	7.716	9.913	-18.9	44.1
Asset tangibility	0.455	0.242	0.02	0.89
General level of dividend payments	0.041	0.051	0	0.22
Internal growth	0.071	0.207	-0.5	0.67
Sales growth	10.073	18.319	-55.4	66.5
Key rate of the Bank of Russia	6.355	1.457	4.25	7.75

⁸ The Order of the Federal Tax Service of Russia dated May 16, 2007 No. MM-3-06/308@. SPS "Consultant Plus".

On average, the profitability of assets is 7.7% of total assets. The value of fixed assets averages 45.5 kopecks for each ruble of total assets. The average value of dividend payments is 4.1 kopecks for each ruble of total assets. The influence of management on business profitability is determined by an average of 7.1 p.p. On average, annual sales growth is 10%.

2. Evaluation and analysis of the model

Consider a regression model that evaluates the impact of internal growth, key rate, sales and other company characteristics on business profitability:

$$ROA_t = a_0 + a_1(PPE/A)_{t-1} + a_2(Dividend)_{t-1} + a_3(g)_{t-1} + a_4(Sales)_{t-1} + a_5(Rate)_{t-1} + \varepsilon_t$$

where t is the time period for the company, a_0 is the free term of the regression equation, a_1, a_2, a_3, a_4, a_5 are the regression coefficients, ε is the error of the regression equation.

For the model, panel data analysis was carried out to evaluate three types of regressions: end-to-end, with a random effect, and with a fixed (established) effect. When comparing end-to-end regression with regression with fixed effects, the Wald test was used; when comparing

end-to-end regression with regression with random effects – the Breusch-Pagan test, when comparing regression with random effects with regression with fixed effects – the Hausman test. Testing was carried out to select the most adequate (qualitative) model with respect to forecasting (Tables 2, 3).

The most appropriate model for assessing the impact of internal growth, key rate, sales and other company characteristics on business profitability is a pass-through model (individual effects are not related to the selected independent variables). In addition, to improve the accuracy of the forecast, the regression model was tested for adequacy, heteroscedasticity and multicollinearity (robustness).

To test the model for adequacy, a Ramsey test was performed at a significance level of 5%. During testing, a significance level of 78.30% was revealed. The main hypothesis about the correct specification of the original model is not rejected. The model is adequate.

The test for heteroscedasticity was carried out using the White test. The significance level was 91.56%. The main hypothesis of homoscedasticity is not rejected at the 5% significance level. The hypothesis of the

Table 2

A model that considers the impact of internal growth, key rate, sales and other characteristics of the company on business profitability

Model	Regression					
	Pooled		Random effect regression		Fixed effect regression	
	Coefficient	Standard error	Coefficient	Standard error	Coefficient	Standard error
Asset tangibility	6.680 (1.86)*	3.600	6.680 (1.86)	3.600	6.885 (1.12)	6.146
General level of dividend payments	88.351 (5.23)	16.887	88.351 (5.23)	16.887	63.916 (1.86)	34.359
Internal growth	12.349 (2.96)	4.177	12.349 (2.96)	4.177	11.341 (2.39)	4.741
Sales growth	0.111 (2.22)	0.050	0.111 (2.22)	0.050	0.105 (1.89)	0.055
Key rate of the Bank of Russia	-1.740 (-2.81)	0.619	-1.740 (-2.81)	0.619	-1.723 (-2.71)	0.636
Constant	10.103 (2.49)	4.053	10.103 (2.49)	4.053	11.043 (2.20)	5.012
Number of observations	86	—	86	—	86	—
Determination coefficient R^2 (%)	42.47	—	—	—	19.74	—
F -statistics	11.81	—	—	—	3.49	—
Wald statistics	—	—	59.06	—	—	—

* The $t(z)$ statistics are presented in parentheses, showing the level of significance of the model parameters.

Table 3
Choosing a model for the adequacy (quality) of forecasting

Indicator	Wald test	Breusch-Pagan test	Hausman test
Значение статистики (<i>p</i> -value)	0.59 (0.801)	0.00 (1.000)	1.20 (0.945)
Conclusion	End-to-end regression is preferable to fixed effect regression	End-to-end regression is preferable to random effect regression	Random effect regression is preferable to fixed effect regression

presence of heteroscedasticity is rejected (the hypothesis of the presence of autocorrelation of residuals, leading to a decrease in the accuracy of the forecast, can be rejected).

In addition, a test was carried out for the presence of a relationship between independent variables (multicollinearity – VIF (variance inflation factor), a multiplier that increases the variance). There is multicollinearity in the model if for one of the independent variables the value of the VIF coefficient is > 10 . In this case, the largest value is much lower than 10 ($VIF = 1.19$), the average VIF value for all parameters is 1.11. There is no multicollinearity in the model (the hypothesis of multicollinearity is rejected).

All indicators, except for the tangibility of assets, are significant at a significance level of 5%.

In the context of financial constraints and negative factors (including sectoral sanctions), the management of Russian public companies will be active in achieving business profitability (positive relationship between internal growth, dividend payments and return on assets).

Dividends are a benchmark for potential investors. The growth of dividend payments corresponds to the level of profit in the future (positive relationship between dividend payments and return on assets). The position of the author coincides with the logic of Ch. Ham et al. [Ham et al., 2017]. In addition, it can be said that the growth of dividend payments reflects the reduction in risk [Grullon, Michaely, 2002], taking into account the indicator of internal growth. Dividend payments are an indicator of financial constraints, allowing the company to solve the problems of adverse selection - the choice of a source of financing, taking into account its price.

The management of Russian public companies in the face of financial constraints and tight monetary policy of the Bank of Russia is likely to act in line with the warning motive – focusing on domestic sources of investment financing (positive relationship between internal growth

and profitability). Since the precautionary (saving) motive may be associated with financial instability, companies try to create a cash reserve [Myers, Majluf, 1984].

In addition, a positive relationship between internal growth and business profitability indicates a strong influence of management on the company's financial strategy. Management not only influences the share price, but also adjusts the level of risk taking into account information signals from the markets.

An increase in the key rate worsens investment prospects (negative relationship between the key rate and business profitability).

It is likely that the management of Russian companies will redistribute their own capital through a dividend policy, since dividends can be an investment resource.

Finally, sales growth provides the company with an additional opportunity to increase investment in current assets (positive relationship between sales and return on assets).

Conclusion

The consequences of the monetary policy of the Bank of Russia (in this case, the growth of the key rate, which does not take into account the profitability of Russian business and is not focused on the real sector) negatively affects the investment potential of companies. In line with the warning motive, Russian enterprises will strive to pursue a policy of retaining part of the profits (including redistributing their own capital) for further channeling it into investment projects, taking into account their priority, as well as paying off their debt and adjusting the debt level. Dividend payments, in turn, serve to signal profits to shareholders and potential investors. The management of Russian public companies actively respond to external negative signals by adjusting their financial strategy and implementing a policy of recapitalisation (changes in the capital structure) through the use of internal sources of financing.

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