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**THE EFFECT OF FINANCIAL LEVERAGE IN
ASSESSING SOURCES OF INVESTMENT FINANCING
ЭФФЕКТ ФИНАНСОВОГО РЫЧАГА В ОЦЕНКЕ
ИСТОЧНИКОВ ФИНАНСИРОВАНИЯ ИНВЕСТИЦИЙ**

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Abstract. Attracting debt capital of financing for investment activities of industrial organizations requires an assessment of the level of their use to generate additional income. According to the authors, a factor model of the financial leverage effect can be used for these purposes, which allows assessing how efficiently and rationally an organization borrows funds to increase profits. The research in one of the largest industrial companies in the country allows us to conclude that high interest rates on loans are not covered by the level of profitability of investment projects implemented. For sustainable business development, management needs to ensure the search for new management solutions and tools in financing the investment activities of the organization.

Аннотация. Привлечение заемных источников финансирования инвестиционной деятельности промышленных организаций требует оценки уровня их использования для получения дополнительных доходов. По мнению авторов, для этих целей может быть использована факторная модель эффекта финансового рычага, позволяющая оценить, насколько эффективно и рационально организация заимствует средства для увеличения прибыли. Проведенные исследования в одной из крупных промышленных компаний страны позволяют сделать вывод о том, что высокие процентные ставки по кредитам

не перекрываются уровнем доходности реализуемых инвестиционных проектов. Для устойчивого развития бизнеса менеджменту необходимо обеспечить поиск новых управленческих решений и инструментов в финансировании инвестиционной деятельности организации.

The object of research JSC «Vityaz», a large multidisciplinary organization that currently specializes in the development and manufacture of electric charging stations, color LCD televisions, household appliances, medical equipment, special technological equipment and devices, construction products, thermal energy generation. The products manufactured by the company, the services rendered, the work performed are represented in almost all types of economic activity.

The main areas of investment activity of JSC «Vityaz» are repair, replacement, maintenance, reconstruction and modernization of worn-out production facilities, purchase of new equipment, tools, transport and investments in intangible assets. There are investments in long-term financial investments, the structure of which is represented by investments in the authorized funds of its own subsidiaries and securities of two banks.

In order to assess how efficiently and rationally the company borrows funds to make a profit, the effect of financial leverage was calculated, which is one of the indicators for evaluating the effectiveness of the company's investment activities.

This indicator reflects the level of additional return on equity with a different proportion of the use of debt capital. The effect of financial leverage (DFL) is determined by the formula:

$$DFL = (1-t)*(ROA-r)*(D/E)$$

where the t – the income tax rate, the coefficient; ROA – return on assets, %; r – average calculated interest rate for a loan, %; D – the average amount of debt capital for the period; E – the average amount of equity for the period; $(1-t)$ – tax corrector, based on this coefficient, the level of return on capital decreases, taking into account taxation; $(ROA-r)$ – differentiation of financial leverage, that is, a decrease in return on capital as a result of paying interest on a loan; (D / E) – the leverage of the financial lever, that is, the ratio of debt to equity.

Data for calculating the effect of financial leverage are obtained from the company's financial statements. Some indicators, such as the average annual amount of equity and debt capital, as well as the average annual amount of assets are calculated based on their average balances at the beginning and end of the reporting period. The data is presented in the table 1.

The calculations show that the effect of financial leverage has a negative value, which is caused by the fact that the (ROA) return on assets is lower than the average calculated interest rate for the loan, that is, the company cannot provide such efficiency to compensate for the use of the loan. This fact took place both in 2019 and 2020. The negative value of the DFL indicates that payments for the use of loans are made at the expense of equity, that is, debt capital is used inefficiently. However, a decrease in the

negative value of the coefficient in 2020 by 6.27 % is a positive factor and leads to a decrease in the fall in return on equity. Thus, in 2019, a decrease in equity due to credit funds occurred by 15.26 % or by 4,209 thousand rubles ($27\,583 * (-15.26 \%)$), and in 2020 by 8.99 % or by 2,921 thousand rubles. ($32\,494 * (-8.99 \%)$).

Table 1 – Calculation of the effect of financial leverage

Indicators	Symbol	2019	2020	Deviation
The average annual amount of equity, thousand rubles	E	27 583	32 494	4 911
The average annual amount of debt capital, thousand rubles	D	28 474	27 506	-968
Average annual amount of assets, thousand rubles	A	80 092	86 283	6 191
Financial leverage, coef.	D/A	1.032	0.846	-0.186
Profit before taxes, thousand rubles	P	2 457	6 332	3 875
Taxes on their profits, thousand rubles	T	379	10	-369
The level of taxation, coef.	t	0.18	0.18	-
Return on assets, %	ROA	3.07	7.34	4.27
Interest payable, thousand rubles	IP	5 060	4 368	-692
Average calculated interest rate for the loan, %	r	21.10	20.3	-0.8
The effect of the financial leverage	DFL	-15.26	-8.99	6.27

Compiled by the authors.

All this points to the inefficient use of debt capital, which means that the company's management should make such management decisions that would help attract the most profitable investments for them, as well as investing in effective investment projects.

To determine how the DFL has changed due to each component, you can use the method of chain substitution and calculate the conditional indicators of the DFL:

$$\begin{aligned} \text{DFL con 1} &= 0.82 * (3.07 - 21.10) * 1.032 = -15.26 \% ; \\ \text{DFL con 2} &= 0.82 * (7.34 - 21.10) * 1.032 = -11.64 \% ; \\ \text{DFL con 3} &= 0.82 * (7.34 - 20.30) * 1.032 = -10.97 \% ; \\ \text{DFL con 4} &= 0.82 * (7.34 - 20.30) * (27506 / 27583) = -10.60 \% ; \\ \text{DFL con 5} &= 0.82 * (7.34 - 20.3) * 0.846 = -8.99 \% . \end{aligned}$$

The total change in the DFL due to all factors is 6.27%, including due to:

$$\begin{aligned} \text{the level of taxation:} & -15.26 - (-15.26) = 0 \% ; \\ \text{the level of return on assets:} & -11.64 - (-15.26) = 3.62 \% ; \\ \text{loan interest rate:} & -10.97 - (-11.64) = 0.67 \% ; \\ \text{the level of debt capital:} & -10.60 - (-10.97) = 0.37 \% \\ \text{the level of equity:} & -8.99 - (-10.6) = 1.61 \% . \\ \Delta \text{ DFL} &= 0 + 3.62 + 0.67 + 0.37 + 1.61 = 6.27 \% . \end{aligned}$$

As it can be seen from the calculations, the level of taxation in 2019 and 2020 has not changed. The income tax rate remained at 18 %, so this factor had no effect on financial leverage. The company itself cannot influence this indicator, since the rate is set by the state.

As for the financial leverage differential, that is, the difference between the return on assets and the payment for debt capital, the higher the value of this indicator, the more pronounced the positive effect of the financial leverage. It was the increase in return on assets in 2020 compared to 2019 by 4.27 % that gave some positive effect in reducing the negative value of the DFL, which led to its change by 3.62 %. And the reduction of the loan interest rate in 2020 compared to 2019, due to the reduction of the refinancing rate by the National Bank of the Republic of Belarus, by 0.8 %, led to a change in the DFL by 0.67 % for the better.

The leverage of the financial lever shows how the leverage is affected by the share of debt capital. The value of the leverage in 2019 and 2020 was 1.032 and 0.846, respectively. Both values are higher than the recommended value of 0.7, which means that the company risks losing its financial stability. In 2020, this value approached the recommended one, since the ratio of debt capital and equity shifted towards a slight increase in equity, although there was still an excess, which means that the risk of financial stability remains. As a result, due to a decrease in the level of debt capital, the financial leverage increased by 0.37 %, and due to an increase in the level of equity, the financial leverage increased by 1.61 %. The fact that equity capital in 2020 began to occupy a greater share compared to financial obligations, on the one hand, indicates the beginning of stabilization in the company, and on the other hand, that the company no longer uses new financial instruments, and, perhaps, does not fully reveal its development potential.

JSC «Vityaz», being an open joint stock company, the authorized capital of which is divided into shares, has the opportunity to change the structure of its capital. Competent management of its stake, access to Russian or international capital markets, by targeted sale or through IPO, the use of various sources of financing, all this will help the company not only to get cheap money for its development, financing of real investments, but also to attract foreign investment in its business. Also, in order to attract cheap money, the company needs to continue to actively participate in various government programs and projects funded from the budget.

Factor analysis of the effect of financial leverage also revealed a number of problems, but also showed directions for improving the efficiency of the company's investment activities. In order for the effect of financial leverage to be positive, the company needs to increase the return on assets (ROA) so that it is higher than the interest rate on loans and borrowings. To this end, JSC «Vityaz», in addition to negotiating with banks to reduce key rates, must:

- increase profits (by increasing prices and /or reducing costs, increasing the share of products with higher profitability in the assortment, ensuring a rational ratio between income and expense growth (the former should always overtake the latter), etc.);
- ensure a relative decrease in the value of all assets (in relation to revenue);

- increase the profitability of sales;
- increase the level of capital return;
- increase asset turnover;
- increase the share of the active part of fixed assets.

If the positive effect of a financial lever determines its differential, then it is possible to strengthen this effect by properly managing the leverage of the financial lever, by planning and achieving an optimal ratio of debt and equity.

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DEVELOPMENT OF ENTREPRENEURSHIP IN THE REPUBLIC OF BELARUS

РАЗВИТИЕ ПРЕДПРИНИМАТЕЛЬСТВА В РЕСПУБЛИКЕ БЕЛАРУСЬ

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Ключевые слова: предпринимательство, малый и средний бизнес, анализ развития, статистические данные.

Abstract. Entrepreneurship plays a significant role in the country's economy. The number of jobs grows, the contribution to the country's GDP and to the Social Protection Fund increases, and the monopoly decreases. The selection of goods and services increases. The more competitive enterprises, producing the same products are, the higher the level of competitiveness and quality of goods become. This article presents statistics on the dynamics of the development of small and medium enterprises in the Republic of Belarus, describes the main directions and advantages of entrepreneurship over large business.

Аннотация. Предпринимательство играет важную роль в экономике страны: увеличивается количество рабочих мест, вклад в ВВП страны, взносы в ФСЗН, уменьшается монополия. Для потребителей увеличивается выбор товаров и услуг. Чем больше конкурентоспособных предприятий, производящих одну и ту же продукцию, тем выше уровень конкурентоспособности и качество. В данной статье представлена статистика динамики развития малого и среднего предпринимательства в Республике Беларусь, описаны основные направления и преимущества предпринимательства над крупным бизнесом.