



THE IMPACT OF INNOVATIVE ACTIVITY AND INVESTMENT ON THE FINANCIAL STABILITY OF BUILDING MATERIALS INDUSTRY ENTERPRISES

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ABSTRACT

This article analyzes the role of innovative activity and investment in ensuring the financial stability of building materials industry enterprises. Taking into account the sector's distinctive characteristics — high capital intensity, high demand for energy and raw materials, and cyclical dependence on the construction market — the mechanisms through which innovation and investment affect financial stability indicators are revealed. Alongside theoretical aspects, the article also offers practical recommendations for improving the financial condition of enterprises.

Introduction

In today's economy, the competitiveness and long-term stability of industrial enterprises are directly linked to the extent to which they develop innovative activity and how effectively they attract investment resources. The building materials industry occupies a special place in this respect, as it is one of the foundational sectors ensuring the infrastructural development of a country's economy. Enterprises producing cement, brick, concrete mixtures, reinforced concrete structures, insulation, and finishing materials have a direct impact not only on the construction sector but on the sustainable development of the entire national economy.

Building materials industry enterprises are characterized as a sector with high fixed-asset intensity, high demand for energy and raw material resources, and dependence on the cyclicity of the construction market. Under these conditions, innovative activity and investment become one of the key factors determining not only the competitiveness of enterprises but also their financial stability. On the one hand, innovations make it possible to reduce costs, improve product quality, and enter new markets; on the other hand, they require substantial financial resources and give rise to a certain degree of financial risk.

For this reason, providing a scientific basis for the impact of innovative activity and investment on the financial stability of building materials industry enterprises, identifying the mechanisms of this impact, and developing practical recommendations is a matter of pressing scientific and practical importance.

The purpose of this article is to identify the channels through which innovative activity and investment affect the financial stability of building materials industry enterprises, to analyze their interrelationship from both theoretical and practical perspectives, and to develop scientifically grounded proposals for enhancing the financial stability of enterprises.

Within the scope of this research, the following tasks were defined: first, to identify the distinctive characteristics of the building materials industry as a sector; second, to provide a theoretical basis for the mechanisms through which innovative activity and investment affect financial stability indicators; third, to conduct a practical analysis describing this impact; and

fourth, to develop scientifically grounded proposals for improving the financial stability of enterprises.

Literature Review

The impact of innovative activity and investment on the financial condition of enterprises has been widely covered in economic literature. In particular, J. Schumpeter, one of the founders of innovation economics theory, interpreted innovation as the main driving force of economic development and introduced the concept of "creative destruction." According to this theory, enterprises achieve long-term competitive advantage by replacing old technologies with new ones through innovative activity.

In the field of financial stability theory, numerous scholars have shown that an enterprise's financial stability can be assessed through the composition of its assets and liabilities, the ratio of equity to debt capital, and liquidity and solvency indicators. In investment theory, the effectiveness of investments has been shown to be closely tied to the structure of their financing sources, the payback period of the project, and the level of risk involved.

Research by Uzbek economists also gives special attention to modernizing the building materials industry, attracting foreign and domestic investment into the sector, and introducing energy- and resource-saving technologies. At the same time, studies that comprehensively analyze the direct impact of innovative activity and investment specifically on financial stability indicators remain insufficient, which further underscores the scientific relevance of this topic.

Sectoral Characteristics of the Building Materials Industry

The building materials industry differs from other manufacturing sectors in a number of distinctive ways. First, in this industry the share of fixed assets relative to working capital is considerably higher, which determines the large weight of long-term assets in the financial structure of enterprises. Second, the production of cement, lime, brick, and similar products requires high-temperature technological processes, which increases demand for energy resources and significantly raises the share of energy carriers in the enterprise's cost structure.

Third, demand for building materials is directly linked to the volume of construction and installation works, mortgage lending conditions, and the general macroeconomic situation, which demonstrates that the sector has a pronounced cyclical character. Any downturn in the construction market immediately affects the sales revenue of building materials manufacturers, and consequently their financial stability as well. Fourth, environmental requirements in the sector are becoming increasingly stringent — compliance with international and national standards for waste reduction and carbon dioxide emission cuts requires enterprises to make additional investments.

The characteristics listed above make managing innovative activity and investment in building materials industry enterprises a more complex and responsible task compared to other sectors. An incorrectly made investment decision here can negatively affect not only the individual enterprise but the development of the entire regional construction sector.

Research Methodology

The research employed general scientific methods of economic analysis — logical analysis and synthesis, comparison, a systemic approach — as well as statistical-economic methods for evaluating financial indicators. In assessing the financial stability of building materials industry enterprises, the following main groups of indicators were analyzed: the financial autonomy (independence) ratio, current and quick liquidity ratios, the ratio of working capital coverage by own sources, return on assets and return on equity (ROA, ROE), and the financial leverage ratio.

The level of innovative activity was assessed using indicators such as the share of innovative products, the share of expenditure on research and development (R&D), and the proportion of new technological equipment within total fixed assets. Investment activity was examined in terms of the volume of fixed-capital investment and the structure of its financing sources (own funds, borrowed funds, government subsidies, foreign investment).

Main Directions of Innovation in the Building Materials Industry

Innovations implemented in the building materials industry can conditionally be divided into several groups. Technological innovations — automating the production process, introducing energy-saving furnaces and drying equipment, and applying digital control systems. Product innovations — developing new types of building materials, such as lightweight concrete, composite materials, and products with improved thermal insulation. Environmental innovations — recycling waste, using secondary raw materials, and introducing technologies that reduce carbon dioxide emissions. Organizational and managerial innovations — optimizing logistics and supply chains, and introducing digital management and monitoring systems.

Each type of innovation affects financial stability in its own way. Technological innovations, for example, usually require high initial expenditure, but they pay for themselves in the medium term by significantly reducing operating costs. Product innovations, if accepted by the market, improve profitability more quickly by increasing sales revenue and market share, though they carry a higher market risk. Environmental innovations often do not generate direct financial benefit in the short term, but by helping enterprises avoid environmental fines and restrictions and by opening access to international markets, they contribute to long-term stability.

Sources of Investment Financing and Their Impact on Stability

The composition of financing sources for investment projects is an important factor with a direct impact on an enterprise's financial stability. In practice, building materials industry enterprises use the following main financing sources: the enterprise's own funds (retained earnings, depreciation allocations), bank loans and borrowed funds, leasing operations, government subsidies and preferential loans, as well as foreign direct investment and joint ventures.

Investments financed through own funds allow an enterprise to preserve its financial independence, but the limited volume of such funds may be insufficient to fully finance large-scale technological projects. Financing through debt capital, on the other hand, enables large projects to be implemented more quickly, but it increases the enterprise's financial leverage and heightens its vulnerability to changes in interest rates. Leasing, especially when renewing expensive technological equipment, has a comparatively milder impact on financial stability, since it allows initial expenditures to be spread over time.

Public-private partnerships and preferential lending programs play an important role in modernizing the building materials industry, as they allow enterprises to obtain financial resources on terms cheaper than market rates. Foreign investment, in addition to financial resources, also brings advanced technology and management expertise, though it requires special attention to currency risk and corporate governance issues.

Analysis and Results

The impact of innovative activity and investment on financial stability in building materials industry enterprises manifests in two directions — short-term and long-term. In the short term, implementing large investment projects usually puts pressure on an enterprise's liquidity and solvency indicators, since a substantial share of funds is directed toward fixed assets, i.e., long-term assets. This can lead to a reduction in working capital reserves and a temporary decline in the current liquidity ratio.

At the same time, if an innovative project is organized effectively, in the long run the enterprise's profitability indicators improve significantly due to lower costs and higher product quality and range. In particular, introducing energy-saving furnaces and drying equipment can reduce fuel and energy expenditures at cement and brick manufacturing enterprises by several percentage points, which in turn contributes to growth in net profit and profitability indicators.

The directions in which innovative activity and investment affect the main financial stability indicators can be summarized in the table below.

Table 1

Impact of Innovative Activity and Investment on Financial Stability Indicators

Financial Stability Indicator	Short-term Impact	Long-term Impact
Autonomy ratio	Decreases when debt funds are attracted	Recovers as equity grows through profit
Current liquidity ratio	Declines due to reduced working capital	Improves as operating cash flow grows
Profitability (ROA, ROE)	May not change significantly during the project	Increases significantly due to lower costs
Financial leverage	Rises due to debt capital	Normalizes as debt is repaid

The table shows that the impact of innovative and investment activity on financial stability is not uniform — it can manifest as positive or negative depending on the stage of project implementation. For this reason, when planning investment projects, enterprise management must consider not only the expected economic effect but also the project's short-term impact on financial stability indicators.

The composition of financing sources is also of significant importance. If an innovative project is financed mainly through debt capital, the enterprise's financial leverage and risk of bankruptcy increase considerably. Conversely, financing through own funds, government subsidies, leasing, or public-private partnership mechanisms helps minimize the negative impact on financial stability. Practice shows that a mixed financing model for innovative projects — combining own funds, preferential loans, and leasing — is the most optimal option in the building materials industry.

Furthermore, if an innovative project fails (due to technological or market risk materializing), an enterprise's working capital may become "frozen" for a long period, resulting in a sharp decline in financial stability. This is why it is essential to thoroughly analyze the feasibility of innovative projects and assess potential risks in advance before implementation.

Discussion

The results of the analysis show that in building materials industry enterprises, innovative activity and investment simultaneously act as both a source of opportunity and a source of risk for financial stability. Properly managing this dual impact depends on the enterprise's strategic financial policy. In particular, implementing investment projects in stages, diversifying financing sources, and assessing project risks in advance can reduce the negative short-term impact of innovation.

In addition, government support mechanisms aimed at the innovative development of the building materials industry — preferential lending, tax incentives, and the development of

technology clusters — enable enterprises to expand innovative activity while preserving financial stability. Strengthening integration between industrial enterprises, research institutions, and the education system is also an important factor in reducing R&D expenditures and increasing the likelihood of success for innovative projects.

Conclusion and Recommendations

Based on the results of the research conducted, the following conclusions and recommendations can be formulated:

1. Innovative activity and investment are among the main factors ensuring the long-term financial stability of building materials industry enterprises, although they may also have a negative effect on liquidity indicators in the short term.

2. Enterprises should pay special attention to maintaining an optimal ratio of equity to debt capital and diversifying their financing sources when implementing innovative projects.

3. It is recommended that the impact of investment projects on financial stability be assessed in advance through sensitivity analysis and risk-assessment methods before implementation.

4. Using alternative financing mechanisms such as public-private partnerships, leasing, and preferential lending helps reduce the negative impact of innovative projects on financial stability.

5. Developing industry-science-education integration and establishing technology clusters can help reduce R&D expenditures and increase the likelihood of success for innovative projects.

In conclusion, properly and strategically managing innovative activity and investment enables building materials industry enterprises not only to enhance their competitiveness but also to ensure long-term financial stability. This, in turn, has a positive effect on the sustainable development of the country's construction sector and the economy as a whole.

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