



Forecasting the Financial Stability of the Enterprise on the Basis of Economic Controlling

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ABSTRACT.

This research explores the integration of economic controlling into the financial stability forecasting system, proposing an innovative methodological framework for enhancing predictive capabilities in enterprise management. The study aims to develop a comprehensive approach to financial stability forecasting based on controlling tools and mechanisms. The methodology encompasses multilevel analysis of financial indicators, early warning systems, and controlling instruments, utilizing both traditional financial metrics and modern prediction methods. The research introduces an integrated model that combines controlling tools with financial forecasting mechanisms, culminating in the development of a comprehensive early warning indicator system. The results demonstrate the effectiveness of the proposed approach in identifying potential financial instability at early stages and improving the accuracy of financial forecasts. The study contributes to controlling methodology by establishing a systematic connection between controlling instruments and financial stability forecasting, offering practical tools for financial management under economic uncertainty. This integrated approach represents a significant advancement in enterprise financial management systems.

Keywords: economic controlling, financial stability, forecasting methods, early warning system, financial indicators, controlling tools, enterprise management, financial planning, risk assessment, strategic controlling.

Introduction

The modern economic environment is characterized by high levels of uncertainty and volatility, significantly complicating the process of ensuring financial stability for enterprises. In these conditions, traditional financial forecasting methods demonstrate limited effectiveness [1]. Economic controlling, integrating planning, control, and information-analytical support functions, becomes a key tool in maintaining the financial stability of an enterprise.

The financial stability of an enterprise is a complex characteristic that reflects the organization's ability to maintain an optimal structure of assets and liabilities, ensure continuity of operations, and withstand external threats [2]. Contemporary studies show that establishing a robust financial control system forms a fundamental basis for the financial security of an enterprise [3].

Economic controlling, acting as a navigation system within management, ensures the coordination and integration of planning, control, and information support processes [4]. However, existing approaches to organizing controlling often overlook the specifics of forecasting financial stability within a dynamically changing economic environment.

The problem of developing a methodological toolkit that enables effective integration of controlling methods into the financial stability forecasting system becomes particularly relevant. Studies demonstrate that financial ratios serve as a powerful tool for predicting corporate insolvency [5], but their effectiveness heavily depends on the quality of the economic controlling system.

Analysis of current research highlights the necessity for developing tools to realize the potential for financial stability in enterprises [2]. The key criterion for effectiveness here is the enterprise's ability to sustain growth in an unstable economic environment. Integrating controlling methods into the financial forecasting system provides a foundation for establishing an effective mechanism for ensuring financial stability.

The purpose of this study is to develop a methodological approach to forecasting the financial stability of an enterprise based on economic controlling tools.

The methodological foundation of the research includes works in the field of financial management [6], complemented by contemporary studies on bankruptcy forecasting [7] and financial stability assessment [8]. The empirical basis consists of studies in economic controlling and financial forecasting.

The scientific novelty of this research lies in the development of a comprehensive approach to forecasting financial stability, integrating economic controlling methods with modern financial analysis tools. Unlike existing studies, the focus is on forming an early-warning system for financial difficulties based on controlling tools.

Materials and Methods

The methodological foundation of the study is based on a systematic approach to examining the relationship between economic controlling and the financial stability of an enterprise. The core theoretical basis comprises concepts and methods of financial analysis, supplemented by modern economic controlling tools. This comprehensive approach reveals the multifaceted nature of the research problem.

In this context, economic controlling is viewed as a comprehensive decision-support system that integrates planning, control, and information-analytical support functions [9]. A key role is played by the synergistic effect arising from the interaction of various controlling tools, as shown in Table 1 below.

Table 1. Economic Controlling Tools

Control Level	Controlling Tools	Purpose
Strategic Planning	- SWOT Analysis, - GAP Analysis, - Balanced Scorecard System	Identify strategic goals and gaps
Operational Control	- ABC Analysis, - XYZ Analysis, - CVP Analysis	Monitor current operations and expenses
Financial Forecasting	- Extrapolation Methods, - Regression Analysis, - Simulation Modeling	Forecast financial indicators
Monitoring and Control	- Early Warning System, - Variance Analysis, - Control Charts	Identify deviations and risks

This structured toolkit provides a foundation for developing a methodology to assess financial stability based on a comprehensive analysis of the enterprise's financial condition. Notably, theoretical studies [2] demonstrate the need to consider financial stability as a multidimensional characteristic that reflects an enterprise's ability to maintain an optimal structure of assets and liabilities, ensure continuity of operations, and withstand external threats.

Building on this idea, the research focuses on developing an integral indicator of financial stability that considers key aspects of an enterprise's financial condition [5]. The mathematical expression of this indicator is presented by the following formula:

$$IFS = \alpha_1 \times Ka + \alpha_2 \times Kil + \alpha_3 \times ROE + \alpha_4 \times Ta$$

where:

- IFS - integral indicator of financial stability,
- $\alpha_1, \alpha_2, \alpha_3, \alpha_4$ - weight coefficients ($\sum \alpha_i = 1$).

A significant addition to the quantitative assessment is an early warning system based on the monitoring of key indicators [7]. This system, integrated seamlessly into the overall methodology, enables the timely identification of potential threats to financial stability and allows for preventive actions to be taken.

Deepening the theoretical analysis, the concept of financial architecture of the enterprise becomes particularly noteworthy [3]. This concept elevates the research, viewing financial stability as the result of interactions between capital structure, corporate governance, and business operating model. In this framework, economic controlling naturally assumes the role of an integrating mechanism.

The logical continuation of the theoretical analysis is a methodology for forecasting financial stability based on a combination of quantitative and qualitative methods. Here, the principle of complementarity becomes particularly valuable, ensuring the mutual reinforcement of various analytical tools [6].

An essential component of the methodological foundation includes bankruptcy probability assessment models, which, when integrated into the economic controlling system, gain new relevance. This integration not only enhances the accuracy of forecasts but also provides a basis for a deeper understanding of financial processes within the organization.

The final element of the methodological structure is the sensitivity analysis of key indicators to changes in external and internal factors [8]. This analysis, complementing the previous elements, forms the basis for creating a flexible response system to shifts in the business environment.

Thus, the proposed methodology, combining various theoretical concepts and practical tools, provides a comprehensive approach to researching the problem of forecasting financial stability based on economic controlling tools. This establishes a solid theoretical foundation for developing practical recommendations to improve the enterprise's financial management system.

Results

The analysis of methodological approaches to integrating economic controlling into the financial forecasting system has enabled the development of a comprehensive indicator system for assessing and forecasting the financial stability of an enterprise. This system is based on a multi-level approach to analyzing financial conditions (Table 2).

Table 2. Financial Stability Indicator System within Economic Controlling

Control Level	Indicator Group	Monitoring Frequency	Threshold Values
Strategic	- Return on Assets (ROA), - Capital Structure, - Investment Activity	Quarterly	- ROA > WACC, - D/E < 2, - I/A > 0.15
Tactical	- Liquidity (CR), - Turnover (AT), - Gross Margin (GM)	Monthly	- CR > 2, - AT > 4, - GM > 25%
Operational	- Cash Flow (CF), - Current Liabilities (CR), - Operating Expenses (OE)	Weekly/Daily	- CF > 0, - CR < 0.7, - OE/R < 0.8

The unique feature of this system is its integration with economic controlling mechanisms, allowing not only the recording of current indicator values but also forecasting their dynamics. A critically important element is the use of the following integral financial stability indicator:

$$FSI = 0.3 \times ROA + 0.25 \times CR + 0.25 \times D/E + 0.2 \times CF/TA$$

where:

- FSI - integral financial stability indicator,
- ROA - return on assets,
- CR - current liquidity ratio,
- D/E - debt-to-equity ratio,
- CF/TA - ratio of operating cash flow to total assets.

This indicator integrates organically into the controlling system through a mechanism of signal values. Threshold values are set differentially based on industry specifics and the enterprise's lifecycle stage, ensuring monitoring system flexibility while maintaining effectiveness.

Building on the methodological foundation, an integration model of controlling in the financial forecasting system is proposed. The key element of this model is a feedback mechanism, which enables timely adjustment of management decisions. The model includes three integration levels:

1. Information Level: Establishing a unified information space for collecting and analyzing financial indicators.
2. Analytical Level: Using controlling tools for data processing and interpretation.
3. Management Level: Translating analysis results into specific management decisions.

A significant outcome of the work is the early warning system (EWS) for financial difficulties, based on the following indicator:

$$EWI = \sum(w_i \times d_i) \times k$$

where:

- EWI - early warning indicator,
- w_i - weight of the i -th indicator,
- d_i - deviation from the standard value,
- k - corrective industry coefficient.

The practical relevance of this indicator is confirmed by its ability to identify potential financial stability threats at early stages. The system of weight coefficients accounts for the specific characteristics of each enterprise and its business model.

The study also proposes a financial stability forecasting method that integrates classic financial analysis methods with modern controlling tools. A distinctive feature of this method is the use of a multifactor forecasting model:

$$FS(t+n) = FS(t) \times (1 + g) + \sum(\beta_i \times \Delta X_i)$$

where:

- $FS(t+n)$ - projected financial stability indicator,
- g - expected growth rate,
- β_i - factor influence coefficients,
- ΔX_i - change in influencing factors.

Practical testing of the developed methods and models has led to a set of recommendations for implementing controlling tools into financial management practices. Special attention is given to balancing the complexity of applied tools with their effectiveness.

Integrating the developed tools into a unified financial management system establishes a foundation for creating an effective mechanism for ensuring the enterprise's financial stability. The main advantage of the proposed approach is its adaptability to external environmental changes while maintaining a systematic and comprehensive analysis.

Thus, the results obtained provide a methodological and practical foundation for improving the financial stability forecasting system based on economic controlling tools. This opens new opportunities to enhance the effectiveness of financial management under economic uncertainty.

Conclusion

The conducted study offers a new perspective on the role of economic controlling in the enterprise financial stability forecasting system. A key outcome has been the development of a holistic approach to integrating controlling tools into the financial management process, which creates qualitatively new opportunities for ensuring stable enterprise growth.

The scientific value of the developed methodology lies in bridging the traditional gap between controlling systems and financial forecasting. The proposed integrated approach not only improves forecast accuracy but also establishes an early warning mechanism for financial difficulties, which is particularly relevant amid growing economic uncertainty.

The theoretical significance of this research lies in advancing the methodological framework of economic controlling as applied to financial stability forecasting tasks, while the practical value is defined by the potential for directly implementing the developed tools into the enterprise's financial management system.

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