European Research Studies Journal
Volume XXVIII, Issue 4, 2025

pp. 940-951

Financial Market Security Management in Conditions of Global Economic Instability

Submitted 19/09/25, 1st revision 14/10/25, 2nd revision 26/10/25, accepted 20/11/25

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Abstract:

Purpose: *The purpose of the article is to provide a comprehensive analysis of the determinants of contemporary economic instability and to identify mechanisms and tools for managing financial market security in conditions of growing global, technological, and systemic threats. The article also presents promising practices and prospects for developing financial security architecture at both national and international levels.*

Design/methodology/approach: *The study uses a critical analysis of the literature, a comparative analysis of financial regulations, and a review of reports from supervisory institutions (European Central Bank (ECB), European Securities and Markets Authority (ESMA), International Monetary Fund (IMF), Bank for International Settlements (BIS)). A systemic approach to market risk assessment and a qualitative analysis of crisis management examples from recent financial crises were employed. The research problem was formulated as follows: How do contemporary economic, regulatory, and technological conditions affect the level of financial market security and the effectiveness of supervisory tools? The research hypothesis posits that effective management of financial market security necessitates the concurrent strengthening of the regulatory framework, the development of analytical tools, and adaptation to new technologies, as only their simultaneous use enhances the financial system's resilience to crises.*

Findings: *The analysis indicates that contemporary financial markets operate in an environment of permanent instability, where systemic, credit, and liquidity risks mutually reinforce each other. Despite growing global integration, the stability of financial institutions is strongly dependent on the quality of supervision and the adequacy of regulatory tools. FinTech, AI, blockchain, and regtech technologies enhance the effectiveness of supervision, but at the same time, they generate new areas of risk, particularly in the realm of cybersecurity.*

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Examples of crisis response measures following the COVID-19 pandemic and the collapse of selected systemic banks demonstrate that rapid coordination between regulators is crucial in preventing crises from escalating.

Practical implications: *The study's results highlight the need to strengthen the macroprudential framework, develop tools utilising data analytics, enhance the cyber resilience of the financial sector, and further enhance crisis management mechanisms. Regulators and supervisory institutions can utilise the article's recommendations to strengthen the stability of the economic system.*

Originality: *The originality of the article lies in the integration of three perspectives: macroeconomic, regulatory, and technological, which allows for a more comprehensive picture of financial security. The conclusions and recommendations presented are based on both regulatory analysis and practical international experience, which highlights their practical applicability.*

Keywords: *Financial security, systemic risk, FinTech, financial regulations, macroeconomic stability, financial supervision.*

JEL codes: *G011, G18, G28.*

Paper type: *Research article.*

1. Introduction

Contemporary financial markets operate in conditions of exceptionally high volatility and increasing vulnerability to both economic and geopolitical shocks. Global economic instability, resulting, among other things, from the consequences of the COVID-19 pandemic, the war in Ukraine, changes in the monetary policy of the largest economies, energy crises, and dynamic shifts in international trade, means that countries' financial systems are facing new challenges in the area of stability and security.

The interdependence of markets, the accelerating digitalisation of the financial sector, and the high mobility of capital mean that local disturbances can quickly turn into global crises, which increases systemic risk and hinders effective stabilisation measures.

In such conditions, financial market security management, understood as a set of regulatory, supervisory, analytical, and organisational measures aimed at maintaining the stability of the economic system and minimising the effects of potential financial crises, becomes crucial. Adequate market supervision, appropriately designed early warning mechanisms, proper risk management, and developed intervention instruments are becoming essential elements in protecting both the interests of the state and market participants.

The growing importance of financial technologies (FinTech), the automation of investment processes, and digital market infrastructure further complicate the security management process, introducing new areas of risk, particularly cyber threats.

This article aims to present the key determinants of contemporary economic instability and to analyse the mechanisms and tools used to manage the security of financial markets in these dynamically changing realities. The remainder of the study will also aim to identify the most significant challenges and opportunities for the development of financial market security systems, with a particular emphasis on the role of new technologies and international regulations.

The article thus represents an attempt to provide a comprehensive overview of the process of ensuring financial stability in times of global economic turmoil.

2. The Determinants of Contemporary Economic Instability and the Security of Financial Markets

Contemporary economic instability stems from overlapping shocks, including the recovery from the COVID-19 pandemic crisis, the war in Ukraine, trade tensions, the energy crisis, persistently high inflation, and dynamic fluctuations in the prices of energy commodities and food products.

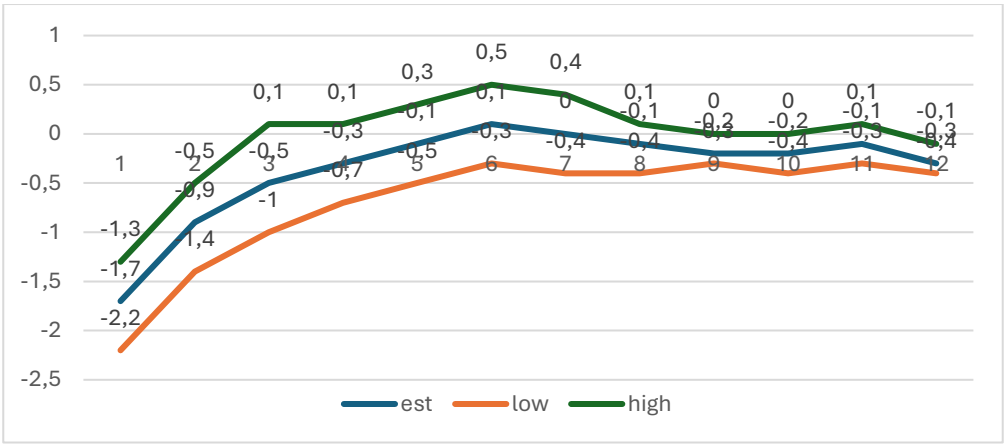
Despite the existence of excess production capacity in relation to effective demand (Kołodko, 2021), the implementation of unconventional anti-crisis policy instruments has limited its use, which, in view of the decline in revenues from the sale of goods and services, has led to a sharp loss of financial liquidity by enterprises Figures 1 and 2 show the cross-border side effects of foreign uncertainty. Figure 1 shows the impact of an increase in the real value of foreign currencies.

Reports by the International Monetary Fund indicate that since the pandemic, macroeconomic uncertainty has remained high, and political and geopolitical turmoil (trade wars, regional conflicts, sanctions) significantly increase the risk of a sharp correction in financial markets (https://www.imf.org/). Figure 2 presents indicators of global economic policy uncertainty for the period 2010-2024.

These indicators, which measure the level of monetary policy uncertainty on a worldwide scale, reflect significant fluctuations in investor and business confidence in the stability of the macroeconomic environment.

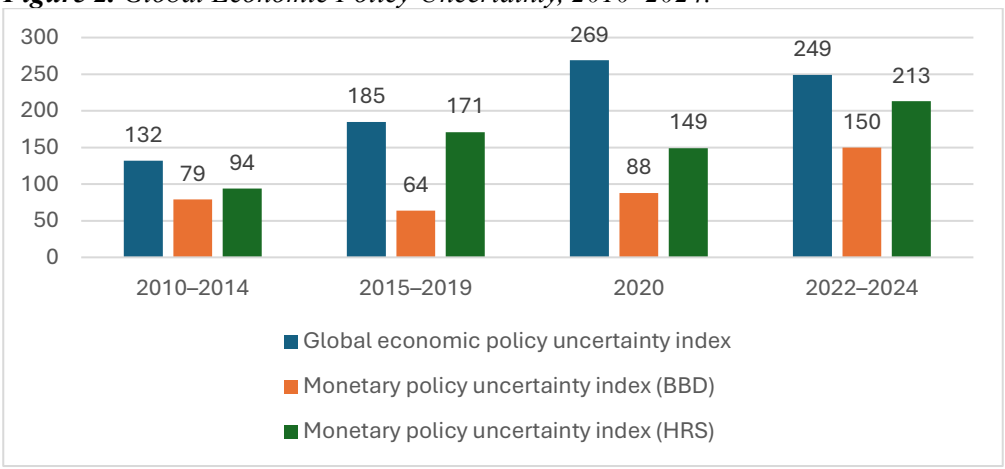
The spikes in the indicator are particularly noticeable during periods of escalating armed conflicts, global health crises, and in the wake of sudden changes in the monetary policy of major central banks. This situation forces market participants to be more cautious in their investment decisions, highlighting the importance of effective risk management.

Figure 1. *Effect of an Increase in Foreign Real. Economic Uncertainty (Weighted by Trade) on GaR (Growth-at-Risk).*



Source: *Global Financial Stability Report, International Monetary Fund, 2024.*

Figure 2. *Global Economic Policy Uncertainty, 2010–2024.*



Source: *Global Financial Stability Report, International Monetary Fund, 2024.*

The observed changes in the level of global economic uncertainty have a direct impact on the functioning of financial markets, leading to increased asset price volatility and deteriorating financing conditions for businesses and households (Raczkowski, Komorowski, 2023). Not only are traditional stabilisation tools becoming increasingly important, but so too is the flexibility of financial institutions in responding to a rapidly changing environment.

In addition, the growing role of fiscal policy and international coordination is becoming increasingly crucial in ensuring an effective response to new challenges, such as economic fragmentation and rising trade barriers.

The literature emphasises that the pandemic and the war in Ukraine have caused shocks in both the real economy and the energy sector, resulting in increased financial risk for listed companies, particularly those in the energy sector (Lepczynski *et al.,* 2023).

International supervisory institutions highlight the growing risks associated with high inflation, public sector debt, and a potential "disorderly" correction of asset prices, particularly in the stock and corporate debt markets. In its latest reports, the IMF warns that asset overvaluation and high fiscal deficits in many countries increase the vulnerability of the financial system to shocks.

In contrast, trade tensions and fragmentation of the global economy increase the risk of the crisis spreading between regions. Similar conclusions can be drawn from the analyses of the Bank for International Settlements, which emphasises that growing trade protectionism and "economic fragmentation" increase the likelihood of a global financial panic, especially in government bond markets (https://www.thetimes.com/).

Financial globalisation has led to deep integration of capital, banking, and currency markets, which in "good times" promotes more efficient capital allocation and risk diversification. At the same time, these exact mechanisms increase the system's vulnerability to contagion when shocks in one segment or country spread through portfolio, credit, and liquidity channels to other markets. A review of the literature on financial market integration indicates that growing interdependence increases the co-variability of asset prices and may amplify the wave-like spread of crises (Haddad, 2023).

Empirical research shows that market integration and denser financial networks increase systemic risk—a shock exceeding the absorption capacity of one segment can quickly spread to other countries and asset classes through the network of connections between institutions. Analyses of the spread of systemic risk during the COVID-19 pandemic suggest that stock markets in many countries formed a tightly interconnected network, through which increased volatility and price declines could be transmitted via portfolio channels and investor expectations (Tian *et al.,* 2024).

On the one hand, this means that pessimism can spread quickly, and on the other, it makes it challenging to isolate local crises. Globalisation, therefore, raises the bar for financial market safety management, requiring close cooperation between international regulatory and supervisory institutions (Schinasi, 2025).

3. Mechanisms and Tools for Managing Financial Market Security

Financial market safety management mechanisms and tools encompass a comprehensive set of regulatory, supervisory, analytical, and organisational measures designed to maintain the stability of the economic system and protect market participants from excessive risk. One of the key pillars is the operation of supervisory

institutions at the national, EU, and global levels. The European Central Bank, performing its tasks within the Single Supervisory Mechanism (SSM), is responsible for supervising the largest banks in the euro area, coordinating activities to ensure their capital and liquidity stability (ECB, Annual Report, 2023).

In Poland, this role is performed by the Polish Financial Supervision Authority, which monitors the compliance of financial institutions with regulations, supervises the capital, banking, and insurance markets, and takes intervention measures in the event of threats to the sector's stability (Stępień, 2017, p. 48). At the European level, the European Securities and Markets Authority (ESMA) plays a crucial role in harmonising capital market regulations, coordinating supervisory activities among member states, and combating market abuse (ESMA, Annual Report, 2023).

At the global level, the International Monetary Fund and the Bank for International Settlements (BIS) develop financial security standards, conduct systemic risk analyses, and support countries in crisis management (IMF, Global Financial Stability Report, 2023; Borio, 2017).

An essential element of the security architecture is legal regulations that strengthen the resilience of financial institutions to shocks. The most important of these are Basel III and IV, which establish capital requirements, short- and long-term liquidity standards, and debt limits to mitigate the risk of credit institution failure (Basel Committee, Basel III Finalising Post-Crisis Reforms, 2017-2020).

MiFID II and EMIR, on the other hand, enhance the security of capital markets and derivatives by increasing transaction transparency, enhancing reporting requirements, and regulating the activities of clearing houses (Moloney, EU Securities and Financial Markets Regulation, OUP 2020; Ferrarini, 2018, European Business Organisation Law Review).

The CRD Directive and CRR Regulation establish a prudential framework for banks, outlining requirements for capital buffers, risk management, and resolution procedures (EBA, CRD/CRR Review, 2022), thereby enhancing the resilience of financial institutions to macroeconomic shocks.

Analytical tools that support risk monitoring and early detection of threats to financial stability also play a key role. Stress testing enables the simulation of the impact of hypothetical adverse macroeconomic scenarios on the capital and liquidity positions of banks, allowing for the identification of weaknesses in the system (Kapinos and Mitnik, 2018).

Systemic risk exposure assessment models analyse the links between institutions and potential channels for the transmission of financial shocks (Adrian, 2016), enabling the mitigation of contagion risk. Advanced predictive models using machine learning, which can analyse large data sets and identify early warning signs such as increasing

asset price volatility, changes in liquidity structure, or unusual investor behaviour, are becoming increasingly important (Schularick and Taylor, 2012).

Investor protection and deposit guarantee mechanisms are also crucial elements of the safety system, designed to safeguard market participants against losing their funds in the event of a financial institution's failure. In Poland, this function is performed by the Bank Guarantee Fund, which guarantees deposits up to a certain amount and conducts compulsory restructuring processes (Bank Guarantee Fund, Annual Report, 2023).

At the EU level, the European Deposit Insurance Scheme (EDIS) project plays a crucial role in enhancing the resilience of the euro area banking system and mitigating the risk of deposit panics (European Commission, EDIS Proposal and Impact Assessment, 2023). Investor protection mechanisms, supervised by ESMA, enhance confidence in the capital market and mitigate the risk of destabilisation caused by sudden investor reactions.

The entire system of financial market safety management mechanisms and tools creates a multi-layered structure aimed at minimising the risk of crises and ensuring market stability, resilience, and transparency. The integration of supervision, regulation, risk analysis, and protection systems enables more effective detection of threats and implementation of preventive measures, which is essential in the context of increasingly complex and globalised financial markets.

4. Good Practices, Challenges, and Prospects for the Development of Financial Market Security Management

Good practices in the area of financial market security management are increasingly based on the use of new technologies such as FinTech, blockchain, artificial intelligence, and regtech tools. These technologies enable automated reporting, better identification of unusual transactions, more efficient liquidity monitoring, and faster information exchange between financial and supervisory institutions.

Reports emphasise that fintech innovations, with the proper regulatory framework, can increase the efficiency of capital allocation and market resilience, thanks in part to the use of large-scale data analytics and cloud solutions (Basel Committee on Banking Supervision, Digitalisation of finance, 2024). Artificial intelligence and machine learning enable the creation of advanced early warning models, as well as credit and market risk analysis, and more precise customer segmentation.

At the same time, the Financial Stability Board (FSB) highlights the growing importance of so-called regtech – technological tools that support institutions in meeting their regulatory and reporting obligations, thereby enhancing the transparency and quality of data used in supervision (FSB, 2025).

In the coming years, work on central bank digital currencies (CBDCs) and the regulation of stablecoins will also play an increasingly important role, which, if properly designed, could increase the security of the payment system and reduce the risks associated with private forms of digital money.

However, the development of new technologies also generates new categories of risks. Of particular importance are the growing risks of cyberattacks and algorithmic manipulation in financial markets. European Securities and Markets Authority (ESMA) and the European Systemic Risk Board (ESRB) indicate that cyber threats are currently among the key risks to financial stability, and a single incident in key infrastructure (e.g., clearing house, repo, settlement system) can be systemic in nature and lead to severe disruptions in market liquidity (Kopp *et al.,* 2017).

This risk is amplified by the increasing dependence of institutions on external cloud service providers and the high concentration of data processing. In addition, the use of trading algorithms and high-frequency trading creates the risk of amplifying short-term volatility, triggering "flash crashes" and potential market manipulation through coordinated algorithmic strategies.

At the same time, macroeconomic instability driven by trade wars, high inflation, and geopolitical tensions, among other factors, increases the vulnerability of markets to sharp asset price corrections (European Systemic Risk Board, 2024).

Good practices also include internationally developed mechanisms for crisis management and restoring stability after market crashes. Following the global financial crisis of 2007–2009 and the pandemic crisis, the macroprudential framework was strengthened, with more stringent capital and liquidity requirements introduced, and resolution tools developed for systemically important institutions (Yuksel, 2019).

The Financial Stability Board has developed a catalogue of good practices for crisis management groups (CMGs) in relation to global systemically important banks, including procedures for preparing and testing recovery and orderly liquidation plans, information exchange between jurisdictions, and principles of supervisory cooperation (Financial Stability Board, Crisis Management Groups, 2021).

The experience of the COVID-19 crisis has shown that swift action by central banks (asset purchase programs, liquidity lines, loosening of capital requirements) and government guarantees for corporate loans were crucial to avoiding mass bankruptcies and a collapse of the banking system, particularly in emerging economies (Eckhold *et al.,* 2024).

Recent reforms, such as the tightening of requirements for globally significant banks following the bankruptcy of Credit Suisse and its subsequent takeover by UBS, demonstrate that countries are willing to increase safety buffers, even at the expense of the profitability and international expansion of the largest institutions.

The prospects for developing financial market safety management involve striking a further balance between innovation and risk. On the one hand, international institutions recognise the potential of artificial intelligence, data analytics, and regtech solutions to increase supervisory efficiency and reduce information asymmetry.

On the other hand, the FSB and other supervisory authorities warn against increasing dependence on external technology providers, the risk of model errors, and the possibility of coordinated disruptions in the event of a failure of large AI systems used simultaneously by many institutions (Financial Stability Board, Monitoring Adoption of Artificial Intelligence and Related Vulnerabilities in the Financial Sector, 2025).

Recommendations for policymakers and regulators emphasise the need to strengthen macroprudential frameworks further, enhance monitoring of the links between the banking sector and non-bank financial intermediaries, develop cyber incident reporting systems, and create stress test scenarios that account for both operational and cyber risks.

In practice, this means the need to build a "smart" security architecture that combines traditional regulatory tools (such as capital and liquidity requirements and prudential supervision) with modern analytical and digital tools, as well as a data-driven risk management culture. Only such an approach will allow decision-makers and regulators not only to respond to crises, but also to prevent them to a greater extent, limiting the social and economic costs of future shocks.

5. Conclusions

The analysis presented in this article clearly confirms that today's financial markets operate in conditions of permanent and multidimensional economic instability resulting from geopolitical, economic, and technological factors. The growing complexity of global economic interconnections and the high speed of capital flows mean that even local shocks can turn into international crises. This necessitates the continuous improvement of supervision, early warning, and crisis response methods.

It has been demonstrated that the primary challenge remains the management of systemic, credit, and liquidity risks, which in today's globalised world are closely interlinked and mutually reinforcing.

On the one hand, globalisation promotes market integration and increases financial efficiency, but on the other hand, it increases contagion and vulnerability to sudden changes in investor sentiment. This means that financial market stability must be treated as a public good, dependent on cooperation between national, regional, and international institutions.

The conclusions drawn from the analysis of security management mechanisms indicate that the EU supervisory system and the global regulatory system are becoming increasingly comprehensive and focused on managing enhanced risk. Tools such as Basel III/IV, MiFID II, EMIR, and CRD/CRR form the foundation of institutional stability, while the development of stress tests, predictive models, and network analysis allows for the early identification of potential sources of crisis.

At the same time, guarantee institutions play a crucial role in enhancing market confidence and serving as a buffer against the spread of panic.

New technologies can significantly enhance the quality of supervision, transparency, and the speed of regulatory responses; however, they also create new sources of risk, particularly in the areas of cybersecurity and the stability of algorithmic trading models.

The growing importance of countries' crisis management capabilities has also been identified, as demonstrated by the 2008 financial crisis, the COVID-19 pandemic, and recent incidents in the bond and systemic banking markets. In light of the analysis, the following conclusions can be drawn:

1. The stability of financial markets has become a key element of national security and requires policies that integrate economic, regulatory, and technological measures.
2. Systemic risk remains a dominant challenge for modern financial systems and requires analytical tools that take into account the network of links between institutions.
3. New technologies represent both an opportunity and a threat, and their effective use requires adequate regulation, supervision, and resilience to cyberattacks.
4. Supervisory authorities must develop the ability to respond quickly, relying on reliable data, automated monitoring systems, and international cooperation.
5. Effective financial market safety management requires a holistic approach combining traditional macroprudential instruments, AI-based predictive models, regtech development, and efficient crisis management mechanisms.
6. The coming years will see an increase in the importance of regulation of the digital asset sector, including cryptocurrencies, stablecoins, and central bank digital currencies (CBDCs), which will determine the new shape of global markets.

Ensuring the stability of financial markets requires not only adapting to dynamic changes but also building systemic resilience based on innovation, adequate supervision, and international cooperation. Only a combination of these elements will reduce the risk of future crises and strengthen the economic security of countries in an era of global uncertainty.

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