

Global Financial Crises: Genesis, Causes, Consequences and Impact on the Global Economy

OLHA YATSENKO¹,
MARIA ALEXANDROVA²,
OLEKSANDR IATSENKO³

ANNOTATION. This article examines the essence, classification, and causes of financial crises. It reviews macroeconomic indicators of global financial crises and systematizes indicators for assessing the influence of macroeconomic variables on financial crises. The features of cyclical economic development are identified, and the macroeconomic consequences of the largest modern global financial crises are studied. Additionally, the genesis of financial crises is considered, particularly their emergence and evolution in the context of globalization and integration of the world economy. The author analyzes the causes of crises, such as financial market instability, imbalances in balance of payments, and the role of financial innovation and regulatory deficiencies. Special attention is paid to the consequences of financial crises, including their impact on employment, inflation, economic growth, and social stability. A comparative analysis of different approaches to overcoming crises, including strategies used in developed and developing countries, is also conducted. The role of international financial institutions in overcoming crises and ensuring the stability of the global financial system is considered. Overall, existing knowledge is systematized, new factors and mechanisms influencing the development of financial crises are identified, and approaches to their analysis and forecasting are updated, providing a deeper understanding of the nature of financial crises and the development of more effective strategies for their prevention and management. The article offers recommendations for preventing and mitigating the consequences of future financial crises, emphasizing the importance of understanding their nature, effective macroeconomic management, and global coordination. The study proposes integrated approaches and practical measures to strengthen financial stability and prevent the recurrence of crises in the future.

KEYWORDS: financial crisis, macroeconomic indicators, economic development, cyclicity, macroeconomic consequences, financial system, global economy

¹ **Olha Yatsenko** — Doctor of Economics, Professor, Professor of the Department of International Trade and Marketing, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine. Sphere of scientific interests: global trade policy, economic diplomacy, agricultural sector, agricultural globalisation. E-mail: yatsenko@kneu.edu.ua, ORCID: <https://orcid.org/0000-0003-4399-2217>

² **Maria Aleksandrova** — Bachelor of International Economics, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine. Sphere of scientific interests: international finance, global economy. E-mail: marija.aleksandrova.1605@gmail.com, ORCID: <https://orcid.org/0009-0003-9701-0386>

³ **Oleksandr Iatsenko** — PhD in Economics, Financial Control Manager at Villeforte Ukraine LLC, Doctoral Candidate at the Department of International Trade and Marketing, Kyiv National Economic University named after Vadym Hetman, Kyiv, Ukraine. Research interests: international trade, agrottrade, trade policy, trade intellectualization. E-mail address: om.iatsenko@gmail.com. ORCID: <https://orcid.org/0000-0002-0388-728X>

Introduction

Today, the global financial system is a complex mechanism that plays an important role in the development of national and global economies, but is also a source of potential surprises and stress. Financial crises at the global level reflect the evolution of the global economy, integration processes and globalisation. The constant development of international economic relations leads to an increase in the spread and complexity of the consequences of financial crises, which cross national borders and become more widespread. Global crises not only temporarily complicate the economic situation, but also pose serious challenges to society that require radical changes. The current crisis is not just financial or cyclical difficulties, but also a significant crisis of a civilisation-wide scale that could lead to a restructuring of the international division of labour and changes in world leadership. Crises have a negative impact on the economy, especially in the years following their occurrence. Recession, inflation, reduced solvency of the population and company bankruptcies are just a few of the consequences of crises. Recovery from a crisis is usually accompanied by a slow economic recovery, but it is during this period that the most effective decisions are made and significant improvements are made in various areas of activity.

A significant contribution to the development of the theory of global financial crises has been made by both foreign and domestic economists, including: A. Schwartz⁴, K. Kindleberger⁵, D. Sachs⁶, G. Minsky⁷, M. Tugan-Baranovsky⁸, O. Baranovsky⁹, A. Chukhno¹⁰ and others. J. Schumpeter¹¹ and A. Korotayev¹² have significantly influenced the formation of the theory of economic development. I. Ped¹³ and A. Laznya¹⁴ studied the

⁴ Schwartz A.J. Real and Pseudo — Financial Crises. 2008. 124 p. URL: <https://www.nber.org/system/files/chapters/c7506/c7506.pdf>.

⁵ Kindleberger C.P. Manias, Panics and Crises, 6th ed. New York: Palgrave Macmillan. 2011. URL: <https://delong.typepad.com/manias.pdf>.

⁶ Jeffrey D Sachs, Steven Radelet. The East Asian financial crisis: Diagnosis, remedies, prospects. Brookings Papers on Economic Activity. 1998. 1-90 p.

⁷ Minsky H. P. Financial instability revisited: the economics of disaster in board of governors of the Federal Reserve System, reappraisal of the Federal Reserve discount mechanism. 1972. Vol.3. Washington D. C. 95-136p.

⁸ Tugan-Baranovsky, M.I. Periodic industrial crises. History of English crises. General theory of crises. Ukrainian economic thought: a textbook / ed. S. M. Zlupko. 2007. pp. 400 — 450.

⁹ The essence and types of financial crises. *Finansy Ukrainy*. No. 5. 2009. 3-20c. URL: http://nbuv.gov.ua/UJRN/Fu_2009_5_2.

¹⁰ Modern financial and economic crises: nature, ways and methods of overcoming. *Ekonomika Ukrainy*. 2010. No. 1.

¹¹ Schumpeter J.A. Theory of economic development. A study of profits, capital, credit, interest and the economic cycle. Kyiv: Kyiv-Mohyla Academy Publishing House. translated from English by V. Stark. 2nd ed. 2014. 401 c.

¹² Korotayev A.V., Tsirel S.V. Spectral Analysis of World GDP Dynamics: Kondratieff Waves, Kuznets Swings, Juglar and Kitchin Cycles in Global Economic Development, and the 2008-2009 Economic Crisis. Structure and Dynamics. 2010. Vol. 4 (1). 57 p. URL: <https://escholarship.org/uc/item/9jv108xp>.

¹³ World financial and banking crises: features and causes of occurrence. Electronic scientific professional edition "Effective Economy". 2012. No. 7. URL: http://nbuv.gov.ua/UJRN/efek_2012_7_3.

¹⁴ Financial crisis: causes and impact on the world economy. *Economic journal "World of Finance"*. 2012. No. 2. p. 54-62. URL: http://nbuv.gov.ua/UJRN/svitfin_2012_2_7.

consequences of the global financial crises and their impact on the global economy.

Despite the considerable scientific achievements in the study of global financial crises, many aspects remain unresolved and require further elaboration. The purpose of the article is to study the genesis of global financial crises, identify their main causes, analyse the consequences and assess their impact on the global economy.

Essence, classification and causes of global financial crises

Today, the issue of financial crises is of particular importance. The causes of crises can be diverse, and understanding them requires different approaches. Experts, managers and businessmen have different ideas about the nature of this phenomenon. The huge losses and diverse causes of crises show that this complex phenomenon requires systematic analysis and attempts to avoid them. Crisis is an integral part of the life cycle of any system, including the financial one. It defines the limits of development and stimulates change, helping to achieve a new equilibrium. However, during a crisis, it becomes impossible to perform the functions of the system and difficult to maintain its qualities. Instability and a violation of the system's integrity arise, leading to a deterioration of the equilibrium. In general, it can be said that "crisis" is a multifaceted economic term, the understanding of the essence of which is constantly evolving and progressing¹⁵.

Currently, the most common approaches to defining the nature of the crisis include the following:

1. crisis as a natural process in the life of the system;
2. crisis as a disturbance in the equilibrium of the socio-economic system;
3. crisis as a significant problem or situation with a high probability of negative consequences.

Thus, a financial crisis can be viewed from the point of view of its origin, type and stage of development. Among the many Western economists who have made a significant contribution to the development of the theory of financial crises, it is worth mentioning A. D. Schwartz, K. P. Kindleberger, G. F. Minsky, D. D. Sachs, and among Ukrainian economists – M. I. Tugan-Baranovsky, O. I. Baranovsky, A. A. Chukhno, and others. Since the 1930s, financial crises have been occurring more frequently and have become more destructive. Modern theoretical concepts that explain financial crises are mainly based on the study of events that occurred in the United States in 1930-1933, in the Middle East in 1997-1999, in Latin

¹⁵ The essence and types of financial crises. *Finansy Ukrainy*. No. 5. 2009. 3-20 p. URL: http://nbuv.gov.ua/UJRN/Fu_2009_5_2.

America in 1988, in Scandinavian countries in 1988, and during the world-famous crisis of 2008¹⁶.

Despite the extensive research in this area, economists' views on financial crises remain diverse. Global financial crises are a complex phenomenon closely related to economic crises. Different schools of thought have their own approaches to identifying and explaining the causes of financial crises. For example, modern monetarists, such as A. Schwartz, believe that crises arise from the disruption of the banking system mechanism caused by bank panic and loss of confidence in banks. She recommends that central banks maintain solvency by providing liquidity to maintain asset prices¹⁷.

K. Kindleberger links financial crises to business cycles and economic disruptions caused by external factors such as wars, new technologies and changes in government policy. Along with G. Minsky, he emphasises that the terms "financial crisis" and "currency crisis" are synonymous, but differ in that a "currency crisis" is the initial stage of a financial crisis that leads to a sharp decline in asset prices and bankruptcies in the financial and non-financial sectors¹⁸.

M. I. Tugan-Baranovsky also correlates the emergence of financial crises with economic ones¹⁹. A. A. Chukhno believes that the cause of financial crises is the discrepancy between the new conditions of economic development and the existing mechanism of production regulation by the monetary and financial system²⁰. O. Baranovsky argues that a financial crisis is a prerequisite for significant qualitative and structural changes in the economic system, which can lead to the destruction or failure of the national financial system and world markets²¹. According to the doctrine of D. D. Sachs, massive capital outflows cause panic in financial markets, which leads to a sharp rise in interest rates, depreciation of national currencies and bank failures²².

Therefore, we can say that the term "financial crisis" describes a situation of sudden loss of a significant share of the market value of certain financial assets. This phenomenon causes significant changes in the economic system, can disrupt its balance, stop development, change the shape or even destroy the financial systems of individual countries or global markets. Financial crises are

¹⁶ Financial crises: analysis of the causes and mechanisms of their manifestation. Bulletin of Lviv Polytechnic National University. No. 698: *Problems of Economics and Management*. 2011. 112-118c. URL: <https://ena.lpnu.ua:8443/server/api/core/bitstreams/e40ae55b-37e9-4e3b-b473-0f1c33149a7c/content>

¹⁷ Schwartz A.J. Real and Pseudo — Financial Crises. 2008. 124 p. URL: <https://www.nber.org/system/files/chapters/c7506/c7506.pdf>.

¹⁸ Kindleberger C.P. *Manias, Panics and Crises*, 6th ed. New York: Palgrave Macmillan. 2011. URL: <https://delong.typepad.com/manias.pdf>.

¹⁹ Tugan-Baranovsky, M.I. Periodic industrial crises. History of English crises. General theory of crises. Ukrainian economic thought: a textbook / ed. S. M. Zlupko. 2007. p. 400 — 450.

²⁰ Chukhno, A. A. (2010). Modern financial and economic crises: nature, ways and methods of overcoming. *Ekonomika Ukrainy*. 2010. No. 1. 4-18 pp.

²¹ The essence and types of financial crises. *Finansy Ukrainy*. No. 5. 2009. 3-20 c. URL: http://nbuv.gov.ua/UJRN/Fu_2009_5_2.

²² Jeffrey D Sachs, Steven Radelet. The East Asian financial crisis: Diagnosis, remedies, prospects. Brookings Papers on Economic Activity. 1998. 1-90 p.

manifested in the financial sector and financial markets through a sharp rise in interest rates, an increase in the number of troubled banks and financial institutions, a rise in non-performing loans, a significant reduction in lending and an increase in bankruptcies. The activities of banks and financial institutions are becoming unprofitable, and they are mainly engaged in speculative operations without investing in development. A significant decline in securities and delays in settlements can also be observed.

Thus, a financial crisis can be defined as a crisis that:

1. covers financial markets and institutions, monetary circulation, credit, international finance, and public, municipal and corporate finance.
2. has a negative impact on economic activity and welfare in the medium and long term.
3. is manifested in the financial sector and financial markets, international finance, monetary circulation and public finance.

Defining a financial crisis requires looking at its causes and consequences. The main factors usually include a decline in exports, falling real estate and stock prices, and a sharp decline in lending and GDP. The causes of crises arise in various sectors of the economy and are often associated with structural changes in its development. Crises can be triggered by economic and political instability, a decline in a country's competitiveness, corruption and other factors. Any causative agent of a financial crisis affects the economic mechanism through cause-and-effect relationships between economic variables that occur sequentially and lead to a crisis²³.

A review of recent financial crises reveals that they are usually triggered by the emergence of new innovative products or a sudden increase in demand for real estate, which stimulates a speculative boom and risky operations by banks. This leads to problems with loan repayments for companies and households, forcing them to sell off assets to clear their debts. The excess supply over demand causes asset prices to fall. According to Kindleberger, the financial market remains in a state of chaos until market participants realise that their assets are undervalued, which hinders trading, and until the authorities take measures to restore confidence in financial institutions²⁴. G. Minsky points out that credit growth causes a boom, which increases the money supply in the economy²⁵.

The financial crisis in the global market is a complex phenomenon that arises as a result of various cyclical factors and difficulties in the process of financial development itself. It affects all segments of the market simultaneously

²³ Financial crises: analysis of the causes and mechanisms of their manifestation. Bulletin of Lviv Polytechnic National University. No. 698: *Problems of Economics and Management*. 2011. 112-118 p. URL: <https://ena.lpnu.ua:8443/server/api/core/bitstreams/e40ae55b-37e9-4e3b-b473-0f1c33149a7c/content>

²⁴ Kindleberger C.P. *Manias, Panics and Crises*, 6th ed. New York: Palgrave Macmillan. 2011. URL: <https://delong.typepad.com/manias.pdf>.

²⁵ Minsky H. P. *Financial instability revisited: the economics of disaster in board of governors of the Federal Reserve System, reappraisal of the Federal Reserve discount mechanism*. 1972. Vol.3. Washington D. C. 95-136p.

or in turn, covering international institutions, government agencies, corporations and households²⁶. For a deeper understanding of these crises, it is important to classify them clearly and to take into account the different explanations of the causes proposed by researchers in order to achieve a scientific systematisation. Table 1 summarises the classification features of global financial crises.

Table 1

CLASSIFICATION FEATURES OF GLOBAL FINANCIAL CRISES

Feature	Group
Level of international economic relations	International
	Supranational
Coverage of the monetary and financial system	General
	Banking systems
	Credit
	Budgetary
	Credit and monetary circulation
	Debt
	Currency
	Stocks
Factors of outrage	Monetary and financial
	Political
	Economic
	Technological
	Globalisation

Source: developed by the authors based on the data²⁷

Global financial crises can be divided into international and supranational crises based on the level of international economic relations. Based on the coverage of the monetary and financial system, they can be divided

²⁶ Conceptual approaches to the theory of global financial crises. *Black Sea Economic Studies*. 2016. Issue 9(1). P. 26-30. URL: http://nbuv.gov.ua/UJRN/bses_2016_9%281%29__7

²⁷ Shabelnyk T.V., Marena T.V., Shabelnyk M.M. Modern approaches to typology of world financial crises. *Scientific journal "Business Inform"*. 2020. 6-13 p. URL: https://www.business-inform.net/export_pdf/business-inform-2020-10_0-pages-6_13.pdf.

into: general, banking system, credit, stock, budget, debt and currency crises. Recognition of global financial crises also requires taking into account the factors of disturbance. Monetary factors, such as banking system instability, the growth of bad loans, and hyperinflation, can lead to a decline in exports, a drop in stock prices, and a sharp reduction in credit and GDP. Examples of political factors include globalisation of political processes, corruption and political mistakes in government policy. Economic aspects include the rapid growth in demand for real estate, leading to capital flows between industries and the expansion of high-risk banking operations, and technological aspects include innovative technologies and management methods. Globalisation factors include sharp fluctuations in international capital flows and the influence of TNCs in managing these flows.

Thus, the proposed system of classification of global financial crises takes into account the relationship between causes and effects, in particular, the coverage of the monetary and financial system, the level of international economic relations and factors of outrage. The latter activate economic mechanisms of cause and effect, causing global financial crises and contradictions in the functioning of the monetary system. However, as mentioned earlier, there is no consensus in the economic literature on this issue. Some studies argue that over a long period of time, all cases of serious financial instability can be reduced to three main types: banking crises, currency crises, and debt crises (Table 2).

Table 2

TYPES OF GLOBAL FINANCIAL CRISES

Type of crisis	Characteristics
Banking crisis	It occurs when the banking system fails to perform its basic functions: mobilising funds, providing loans, and making payments. Requires government intervention to prevent destabilisation
Currency crisis	It is accompanied by a significant depreciation of the national currency, sharp exchange rate fluctuations, active speculation, a decrease in foreign exchange reserves, and higher credit costs. Typically, the currency depreciates by 10% or more
The debt crisis	It occurs when a country cannot service its public debt or the debts of individuals and legal entities. It can be internal or external. It leads to serious economic problems, such as currency depreciation, banking instability, and significant costs to overcome the consequences of the crisis.

Source: developed by the authors based on the data²⁸

²⁸ Empirical understanding of systemic risks and financial crises in modern society. *Bulletin of Socio-Economic Research*. 2014. issue 3 (54). 6 p. URL: <https://core.ac.uk/download/pdf/147038665.pdf>.

In some cases, different types of crises may occur simultaneously. The term "double crisis" has come to be used to describe situations where currency and banking crises occur in parallel. Current realities show that debt crises are often accompanied by currency and banking crises, which are interrelated and can occur simultaneously or sequentially. If we add to this the "triple crisis" — a combination of three separate crises — it is clear that their combination significantly deepens the negative impact on the country's economy and will seriously affect the financial system compared to individual crises.

Macroeconomic indicators of global financial crises

Financial crises, which are widely known around the world, have stimulated interest in identifying key macroeconomic indicators that could serve as a basis for developing a monitoring system for early detection of crises in the financial sector. At the current level of progress in economic science, there is no single general list of key macroeconomic indicators for early detection of financial crises. This creates difficulties in the selection of appropriate macroeconomic indicators, which is a non-trivial task in analysing the instability of the global financial system. According to the analysis of academic sources, the most important macroeconomic indicators that indicate the onset of financial crises were collected (Table 3).

Table 3

**KEY MACROECONOMIC INDICATORS
AND THEIR IMPORTANCE FOR PREDICTING FINANCIAL CRISES**

Key macroeconomic indicators	Description and implications for predicting financial crises
Balance of payments	It is defined as the sum of the current account balance and the capital account balance. A positive balance indicates debts owed to foreign partners and contributes to the appreciation of the national currency, while a negative balance reduces foreign exchange reserves and contributes to inflationary processes. The optimal value of the balance is close to zero.
Exchange rate volatility	Sharp exchange rate fluctuations indicate instability in the economy, which undermines investor confidence and increases the risk of financial crises. Volatility is calculated as the ratio of the standard deviation of the exchange rate to the square root of the time period.
Growth in the inflation index	Indicates the rise in prices in a country's economy and is measured as a percentage increase in prices for goods and services. A high inflation rate reduces purchasing power and confidence in the national currency and can lead to an economic downturn.

Key macroeconomic indicators	Description and implications for predicting financial crises
Slowdown in real GDP growth	A slowdown in GDP growth indicates an economic downturn, which can lead to a decrease in production, rising unemployment and lower incomes. This phenomenon is often accompanied by a recession and increased social tensions.
Ratio of external debt to GDP	A high level of external debt relative to GDP increases the financial burden on the country and increases the risk of default. A value of more than 50% is considered critical.
Rising budget deficit	It indicates a mismatch between government revenues and expenditures. A large deficit can lead to an increase in public debt, higher inflation, and limited ability to finance social programmes.
The ratio of the growth rate of a country's international reserves to imports	A decline in this indicator indicates a decrease in foreign currency and gold and foreign exchange assets, which can undermine confidence in the country's currency and increase fluctuations in financial markets.

Source: compiled by the authors based on data from ²⁹, ³⁰, ³¹, ³², ³³, ³⁴.

In a period of economic instability, the unemployment rate in the country should be added to these indicators, as it has a double impact on the state budget: tax revenues decrease, while social insurance costs covered by the budget increase. Many other indicators can be added to the list of financial crisis precursors, but their choice depends on the specific situation. Monitoring these indicators will help to detect the likelihood of a systemic financial crisis or specific forms of it, such as a currency or debt crisis, in time and develop effective management strategies to prevent their spread on a global scale.

Methodological approaches to assessing the impact of macroeconomic variables on the size and consequences of global financial crises

When studying the state of the financial system and analysing the macroeconomic stability of a country, special attention should be paid to defin-

²⁹ Modern banking crises: causes and probability of recurrence. Scientific Bulletin of the National University of the State Tax Service of Ukraine. 2013. No. 3(62). p.78-83. URL: http://nbuv.gov.ua/UJRN/Nvnuudpsu_2013_3_12.

³⁰ Global risks of debt "overhang" in developed countries and means of their minimisation. Bulletin of the National Bank of Ukraine. 2014. No. 6. p.39-46. URL: http://nbuv.gov.ua/UJRN/Vnbu_2014_6_4.

³¹ Vovk V.Y. Diagnosing the crisis by central banks: foreign and domestic experience. Bulletin of the National Bank of Ukraine. 2013. No. 3. p.20-25. URL: http://nbuv.gov.ua/UJRN/Vnbu_2013_3_10.

³² Konchyn V.I. Causes and manifestations of the debt crisis in the EU and rival approaches to anti-crisis policy. Kyiv Institute of Business and Technology. 2012. No. 2(18). p. 19-30. URL: http://nbuv.gov.ua/UJRN/Vkib_2012_2_7.

³³ Crisis of the national banking system: causes, trends and ways to overcome. *State and regions. Series: Economics and entrepreneurship*. 2016. No. 4-5. p.69-73. URL: http://nbuv.gov.ua/UJRN/drep_2016_4-5_14

³⁴ The role of stock market indicators in predicting economic crises. *Economic Journal of Odesa Polytechnic University*. 2018. No. 3 (5). p. 70-77. URL: <https://economics.net.ua/ejopu/2018/No3/70.pdf>.

ing the criteria and methods used in these studies. Two key tools are used for a comprehensive analysis of the macroeconomic environment: assessment of macroprudential indicators and stress testing. Macroprudential indicators help to identify systemic risks and threats that may arise from interconnections in the financial system and the economy as a whole. Key macroprudential indicators include³⁵:

- Aggregated microprudential data: provides clear information on the current state of institutional components.
- Macroeconomic data: includes indicators of economic growth, interest rates and exchange rates.
- Market information: covers prices and yields of financial instruments, as well as credit ratings.
- Qualitative information: provides information on the institutional structure and regulatory framework.
- Structural data: includes the size of key sectors of the financial system and their ownership structure.

Aggregate microprudential indicators mainly reflect current or past levels of soundness, while the main macroeconomic indicators identified earlier indicate possible imbalances that could affect the financial system, making them warning indicators. Financial crises typically occur when both types of indicators signal vulnerabilities, i.e. when financial institutions are weakened and face macroeconomic shocks. Market and qualitative information, as well as structural data, are used as complementary tools to examine the characteristics of a particular financial system, depending on the degree of development of financial markets³⁶. Stress testing, on the other hand, allows the financial system to test its response to systemic risks and threats. It includes six stages and uses mathematical and statistical tools to model the impact of unusual but possible events to assess financial stability³⁷.

The first step in stress testing is to define the boundary of the analysis³⁸. In an environment where the portfolios of individual banking institutions are well defined, selecting financial institutions and aggregating their portfolios to reflect the financial system can be a difficult task. As the financial system plays a key role in the redistribution of free capital, the most important and significant entities, in particular banks, are often included in

³⁵ Sundararajan V. Financial Soundness Indicators: Analytical Aspects and Country Practices. Washington DC: International Monetary Fund. 2002. 120 p. URL: https://www.researchgate.net/publication/5120159_Financial_Soundness_Indicators_Analytical_Aspects_and_Country_Practices.

³⁶ The role of stock market indicators in predicting economic crises. *Economic Journal of Odesa Polytechnic University*. 2018. No. 3 (5). C. 70-77. URL: <https://economics.net.ua/ejopu/2018/No3/70.pdf>.

³⁷ Čihák M. Stress Testing: A Review of key Concepts; CNB Internal Research and Policy Note. Prague: Czech National Bank 2004. 34 p. URL: https://www.cnb.cz/export/sites/cnb/en/economic-research/galleries/research_publications/irpn/download/irpn_2_2004.pdf.

³⁸ Blaschke W. Stress Testing of Financial Systems: An Overview of Issues, Methodologies, and FSAP Experiences. Washington: International Monetary Fund. 2001. 57 p. URL: <https://www.imf.org/external/pubs/ft/wp/2001/wp0188.pdf>.

the analysis. Another important aspect is the role of foreign ownership. Countries with a large number of foreign-owned banks may pose risks to the financial system due to changes in the value of this capital.

The second step is to aggregate the data and prepare statistical data for analysis. This process involves comparing the results of stress tests conducted by individual financial institutions or defining a special stress test for the aggregated portfolio of institutions. Aggregation of stress tests is only possible if banks in a country have internal risk management systems in place. Otherwise, it is necessary to use data from individual institutions for analysis. Standard scenarios and methodologies are used in stress tests to observe the aggregation of portfolios of the respective institutions. However, the main problem is the choice of aggregation method and specific institutions for stress analysis.

The next step is to select a stress test for each individual risk that the financial system may face³⁴. The main financial risks include market, currency, credit, interest rate, and liquidity risks³⁹. Stress testing may focus on a single risk, such as credit or interest rate, or cover several risks simultaneously.

After selecting a specific risk, a certain method of its assessment should be chosen to be used to test the vulnerability of the financial system. The academic literature suggests the following models for assessing the impact of shocks on risk factors: economic value at risk (VaR) models, extreme value models, duration models, etc.⁴⁰. These models can be used both to analyse individual institutions and to analyse aggregate data. Table 4 provides a description of different methods for assessing the main financial risks.

Table 4

METHODS FOR ASSESSING KEY FINANCIAL RISKS

Risk	Assessment method	Characteristics
Currency risk	Analysis of net open position in foreign currency	Accounting for on- and off-balance sheet positions. Compliance with international standards (Basel Committee). Stress testing for changes in exchange rates.
Interest rate risk	Maturity profile of assets and liabilities	Estimating the difference between interest income and expenses due to maturity mismatches. Stress testing to assess the impact on net interest income.
Liquidity risk	Analysis of the bank's liquidity level	Assessment of dependence on the volume of attracted deposits and other sources of funding. Stress testing to assess the impact of deposit outflows and other factors on liquidity.

³⁹ Čihák M. Stress Testing: A Review of key Concepts; CNB Internal Research and Policy Note. Prague: Czech National Bank 2004. 34 p. URL: https://www.cnb.cz/export/sites/cnb/en/economic-research/galleries/research_publications/irpn/download/irpn_2_2004.pdf.

⁴⁰ Johnston Barry R. Assessing Financial System Vulnerabilities IMF working paper. International Monetary Fund: web site. 2000. 36 p. URL: <https://www.imf.org/external/pubs/ft/wp/2000/wp0076.pdf>.

Risk	Assessment method	Characteristics
Market risk	Value-at-Risk (VaR) model	Estimating the maximum expected losses over a certain period of time at a certain level of confidence. Identification of potential events that may affect the value of the portfolio.
Credit risk	Estimating expected and unexpected losses	Analysis of coverage of expected losses by reserve funds and prices for credit instruments. Stress testing of unexpected losses to assess credit risk.

Source: developed by the authors based on data compiled on the basis of ^{41, 42}.

Once the main vulnerabilities are understood, the next step is to develop a scenario that will be the centrepiece of the stress test⁴³. Scenario development can be based on a macroeconomic model or a simulation model that provides a systematic approach to examining the interrelationships between the financial system and the economy. The choice of macroeconomic and financial variables is key at this stage, as they have the greatest impact on financial stability. Stress testing can be based on historical or hypothetical scenarios. Historical scenarios provide concrete data on past events that could be repeated in the future, while hypothetical scenarios allow for a more flexible forecast of potential threats, contributing to better risk planning.

The last and sixth stage is the interpretation of the stress test results. The last and sixth step is to interpret the results of the stress test. It is important to consider the possibility that these results may be negatively perceived by the market or misused by competitors. Analysts may also misinterpret certain scenarios as official forecasts, which can lead to incorrect conclusions. However, the publication of summary results allows markets to compare risk levels and encourages other financial institutions to conduct their own stress tests⁴⁴.

While both macroprudential indicator assessment and stress testing are widely used by financial regulators to analyse financial stability in many countries, their combination is key to a full assessment of financial system stability, especially given the diversity and uniqueness of financial systems. It is important to understand that a stable financial system is the founda-

⁴¹ Blaschke W. Stress Testing of Financial Systems: An Overview of Issues, Methodologies, and FSAP Experiences. Washington: International Monetary Fund. 2001. 57 p. URL: <https://www.imf.org/external/pubs/ft/wp/2001/wp0188.pdf>.

⁴² Johnston Barry R. Assessing Financial System Vulnerabilities IMF working paper. International Monetary Fund; web site. 2000. 36 p. URL: <https://www.imf.org/external/pubs/ft/wp/2000/wp0076.pdf>.

⁴³ Čihák M. Stress Testing: A Review of key Concepts; CNB Internal Research and Policy Note. Prague: Czech National Bank 2004. 34 p. URL: https://www.cnb.cz/export/sites/cnb/en/economic-research/galleries/research_publications/irpn/download/irpn_2_2004.pdf.

⁴⁴ Ibid.

tion of economic development, as it ensures the proper functioning of the economy and promotes sustainable growth.

The cyclical nature of economic development

There are many interpretations of the term "development" in academic literature. The dictionary defines it as "a process that results in a change in the quality of something, a transition from one qualitative state to another, higher one"⁴⁵. Schumpeter had a significant influence on the formation of the theory of economic development, and in his work, he identified five main approaches to mastering this concept⁴⁶:

1. creating a new product or giving an existing product qualitatively new properties (product innovation);
2. introduction of a new production method based on a new scientific discovery or creation of a new form of commercial use of products (technological or process innovation);
3. opening new markets or conquering more existing ones (sales innovation);
4. attracting new sources of raw materials, regardless of their previous availability (raw material innovation);
5. introduction of new forms of organisation (organisational innovation).

The modern theory of economic development views it as a gradual transition from one stage to another with the addition of new products and production methods. A characteristic feature of a market economy is the cyclical nature of its development, which is manifested in periodic fluctuations in business activity, where periods of active growth are usually characterised by expansion, and periods of recession are characterised by more intensive development. Thus, development is a temporary process, and its main trends are determined by cyclicity⁴⁷.

Cyclicity implies the existence of cycles — a set of interrelated phenomena and processes that form a complete circle of actions over time⁴⁸. This allows us to consider social and economic development as a process with cyclical changes at a new qualitative level, where the basis of development lies in sudden transformations. Each cycle is unique, although it has common parameters and characteristics.

⁴⁵ Academic Explanatory Dictionary of the Ukrainian Language (1970-1990) — website. URL: <https://sum.in.ua/>.

⁴⁶ Schumpeter J.A. Theory of economic development. A study of profits, capital, credit, interest and the economic cycle. Kyiv: Kyiv-Mohyla Academy Publishing House. translated from English by V. Stark. 2nd ed. 2014. 401 p.

⁴⁷ Ibid.

⁴⁸ Academic Explanatory Dictionary of the Ukrainian Language (1970-1990) — website. URL: <https://sum.in.ua/>.

In the mid-twentieth century, Schumpeter proposed to distinguish four types of economic cycles, depending on the causes of crises and their duration⁴⁹. The names of the cycles and their main characteristics are presented in Table 5.

Table 5

TYPES OF ECONOMIC CYCLES AND THEIR MAIN CHARACTERISTICS

Cycle type	Duration	Main features
Kitchin cycles	2–4 years	Related to changes in working capital and stocks of goods, which leads to overproduction and market saturation. Declining demand and prices lead to a reduction in production. Arise due to delays in the transmission of information in the market.
Cycles of Zhuglar	7–12 years	Refers to the transformation of investments into fixed assets and technology upgrades. They arise from competition between industries and periodic renewal of fixed assets, which leads to cyclical changes in production and prices.
Kuznets cycles	16–25 years	Associated with technology and infrastructure upgrades, leading to cyclical changes in the construction and housing sectors. Manifested through changes in consumer spending and gross investment, especially in the construction industry.
Kondratiev cycles	40–60 years	They are associated with radical technological changes and structural transformations in the global economy. They arise from periodic innovations and important technological discoveries.

Source: developed by the authors based on the data ⁵⁰

Analysing the data in Table 4, we can say that the economic cycle is a sequence of phases lasting several years and characterised by fluctuations in key indicators of economic activity, such as GDP growth, unemployment, sales, prices and investment. The advanced stage of the cycle is considered to be the crisis, which essentially puts an end to the previous cycle and marks the beginning of a new one. The overall duration of each cycle and the relationship between its individual stages are largely determined by the nature

⁴⁹ Schumpeter J.A. Theory of economic development. A study of profits, capital, credit, interest and the economic cycle. Kyiv: Kyiv-Mohyla Academy Publishing House. translated from English by V. Stark. 2nd ed. 2014. 401 p.

⁵⁰ Korotayev A.V., Tsirel S.V. Spectral Analysis of World GDP Dynamics: Kondratieff Waves, Kuznets Swings, Juglar and Kitchin Cycles in Global Economic Development, and the 2008-2009 Economic Crisis. *Structure and Dynamics*. 2010. Vol. 4 (1). 57 p. URL: <https://escholarship.org/uc/item/9jv108xp>.

and depth of the crisis. Without it, there would be no cycle, as it is the systematic repetition of crises that makes economic development cyclical.

Macroeconomic consequences of the largest modern global financial crises

The most prominent financial crises of the twentieth and twenty-first centuries were the Great Depression, the 1973 crisis, the 2008 crisis and the 2020 crisis. After the latter, many countries have still not been able to recover and stabilise their economic development, especially as the world continues to experience major shocks after the start of Russia's full-scale invasion of Ukraine in 2022, and a new crisis looms on the horizon.

One of the most significant economic crises in the history of the world is the Great Depression (Table 6). It was caused by the Wall Street crash of 1929 and subsequent ineffective decisions of the US government. For almost 10 years, the Great Depression led to massive losses, record unemployment and loss of production, especially in industrialised countries. In 1933, which was the most acute period of the crisis, the unemployment rate in the United States peaked at around 25 per cent. It is believed that the Great Depression was caused mainly by the crisis of overproduction, affecting countries almost all over the world.

Table 6

CHARACTERISTICS OF THE GREAT DEPRESSION

Year	The country where the crisis began	The main reasons	Macroeconomic implications
1929	United States of America	1. Growth in production volumes. 2. Extensive privileges for monopolies. 3. Speculation in loans due to their cheapness. 4. Closing European markets to American goods and services.	1. The unemployment rate has increased by more than 25%, with many people falling below the poverty line. 2. Price increases due to higher inflation. 3. Closure of 5,000 banks and \$40 billion in stock devaluation. 4. Reduced production by 50%.

Source: developed by the authors based on the data ⁵¹

In 1973, another crisis occurred, known as the major energy crisis (Table 7). It began when some OPEC member states declared an oil embargo in response to the US supply of arms to Israel during the Fourth Arab-Israeli War. The embargo halted oil exports to the US and its allies, caus-

⁵¹ World financial and banking crises: features and causes of occurrence. *Electronic scientific professional edition "Effective Economy"*. 2012. No. 7. URL: http://nbuv.gov.ua/UJRN/efek_2012_7_3.

ing severe oil shortages and a sharp rise in oil prices. This led to an economic crisis in the US and other developed countries. The 1973 crisis was characterised by high inflation and economic stagnation, known as "stagflation" (stagnation + inflation). It took several years for production to recover and inflation to return to normal levels.

Table 7

CHARACTERISTICS OF THE 1973 CRISIS

Year	The country where the crisis began	The main reasons	Macroeconomic implications
1973	The United States of America, OPEC member states, as well as Egypt and Syria	<ol style="list-style-type: none"> 1. Political conflict. 2. A fundamental cessation of oil supplies to countries that supported Israel. 3. Reducing oil production to influence global prices in its favour. 	<ol style="list-style-type: none"> 1. Weakening of the competitiveness of the US automotive market. 2. Severance of diplomatic relations with Israel in most countries. 3. Increase in petrol and diesel prices; 4. 4. Massive savings in the United States.

Source: developed by the authors based on the data ⁴⁶

The most famous financial crisis is the 2008 crisis that triggered the Great Recession, the most severe financial collapse since the Great Depression (Table 8). It began with the collapse of the US housing market and led to the bankruptcy of one of the largest investment banks in the world, Lehman Brothers. This triggered the near collapse of many leading financial institutions and companies, forcing governments to intervene with unprecedented assistance. Economic recovery took almost a decade, and some countries are still feeling the effects of the 2008 crisis.

Table 8

CHARACTERISTICS OF THE 2008 CRISIS

Year	The country where the crisis began	The main reasons	Macroeconomic implications
2008	United States of America	<ol style="list-style-type: none"> 1. The US mortgage crisis. 2. Access to loan programmes for borrowers has been simplified. 3. The problem of low-quality loans. 4. 4. Falling share prices 	<ol style="list-style-type: none"> 1. Bankruptcy of several European banks. 2. Widespread business downsizing. 3. Growth of unemployment. 4. 4. Reduction of government revenues.

Source: developed by the authors based on the data ⁵²

⁵² Financial crisis: causes and impact on the world economy. *Economic journal "World of Finance"*. 2012. No. 2. C. 54-62. URL: http://nbuv.gov.ua/UJRN/svitfin_2012_2_7.

The most recent major crisis, the 2020 crisis, was caused by the COVID-19 pandemic^{53,54}, which caused significant changes in the global economy and financial system (table 9). Governments introduced quarantine measures to limit the spread of the virus, which led to a decline in economic activity and an increase in unemployment. Financial markets experienced significant fluctuations, and asset prices plummeted. Although the pandemic has begun to make up for lost ground, a full economic recovery may take time.

Table 9

CHARACTERISTICS OF THE 2020 CRISIS

Year	The country where the crisis began	The main reasons	Macroeconomic implications
2020	China	<ol style="list-style-type: none"> 1. The COVID-19 pandemic and the introduction of quarantine restrictions. 2. Stoppage of economic activity and closure of businesses. 3. Decline in production and consumer demand. 4. Job losses and company bankruptcies. 5. Fluctuations in the financial markets and lower raw material prices. 6. Disruptive impact on international trade 	<ol style="list-style-type: none"> 1. A deep recession. 2. Increase in unemployment. 3. Decline in production and economic activity. 4. Falling consumer demand and investment. 5. Increased debt burden on governments. 6. Decrease in exports and imports. 7. Growing budget deficits. 8. Increase in the number of company bankruptcies. 9. Financial difficulties for families and businesses.

Source: developed by the authors

Russia's full-scale invasion of Ukraine on 24 February 2022 has become one of the key events of our time⁵⁵. The consequences of this war could be the most significant in Europe since World War II, causing a global impact on economic growth, as it has significantly slowed the recovery from the COVID-19 pandemic and accelerated inflation (Table 10). The negative effects of the war are likely to weigh on the global economy in the medium and long term, especially on the real sector, and could lead to a new global financial crisis.

⁵³ Bazaluk, O., Yatsenko, O., Reznikova, N., Bibla, I., Karasova, N., & Nitsenko, V. (2022). International integration processes influence on welfare of country. *Journal of Business Economics and Management*, 23(2), 382-398. <https://doi.org/10.3846/jbem.2022.16228>

⁵⁴ Reznikova, N., Bulatova, O., Yatsenko, O., & Ivashchenko, O. (2022). Fiscal instruments of regulatory competition in the face of challenges to macroeconomic stability during a pandemic COVID-19. *Development Economics*, 21(2), 35-41. [https://doi.org/10.57111/econ.21\(2\).2022.35-41](https://doi.org/10.57111/econ.21(2).2022.35-41)

⁵⁵ Mykhailova M., Yatsenko O., Zavadska Y., Afanasieva O., Haas R. Auswirkungen des Ukrainekriegs auf den globalen Agrarhandel. Die Bodenkultur: *Journal of Land Management, Food and Environment*. Volume 74, Issue 2, 91-105, 2023. DOI: 10.2478/boku-2023-0008.

Table 10

CHARACTERISTICS OF THE 2022 CRISIS

Year	The country where the crisis began	The main reasons	Macroeconomic implications
2022	Ukraine	1. Military actions and aggressive activities of the Russian Federation in Ukraine.	1. Rising commodity prices. 2. Stagnation in the three most powerful economies in the world – the US, the EU and China. 3. Population migration. 4. Decrease in the level of national security. 5. A sharp rise in energy prices. 6. The emergence of food insecurity. 7. Slowdown in the global economy as a whole.

Source: developed by the authors

Thus, it can be said that each financial crisis, despite being somewhat cyclical and recurrent, has its own unique characteristics caused by various factors and events. However, the fact remains that financial crises have a significant impact on macroeconomic indicators, which are positioned as indicators and warning signals. In the context of unprecedented dynamic globalisation and the Fourth Industrial Revolution, these indicators are becoming even more important, as ignoring global challenges and risks reduces the efficiency of economic performance and international trade.

Conclusions

The global financial crises reflect deep imbalances in the global economy and have serious consequences for international financial markets. They are caused by many factors, such as problems in the banking system, external interventions, technological changes and globalisation. An assessment of macroeconomic indicators such as balance of payments, inflation and exchange rates is important for anticipating and responding to crises. The impact of macroeconomic changes underscores the need for international economic policy coordination and stronger regulatory control. The cyclical nature of economic development reflects the alternating phases of growth and decline, highlighting the need for adaptive management that can effectively respond to economic turbulence. The overall impact of the global financial crises on the global economy includes a decline in GDP, instability in financial markets, a decline in investment, and rising unemployment. Thus, effective crisis management involves not only responding to the crisis but also actively preparing for it through stress testing and macroprudential

tial indicators. Only a comprehensive approach to managing economic stability can reduce the risks of financial crises and contribute to the sustainable development of the global economy.

* This article was translated from its original in Ukrainian

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