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# DEVELOPMENT OF THE INVESTMENT POTENTIAL OF NON-BANK FINANCIAL INSTITUTIONS UNDER MARTIAL LAW CONDITIONS

## ABSTRACT

The article analyzes the impact of key macroeconomic factors, namely, the dynamics of gross domestic product (GDP), inflation rate, and the scale of the shadow economy, on the formation of the investment potential of non-bank financial institutions (NBFIs) in Ukraine under martial law conditions. An assessment of changes in investment potential for the period 2015–2024 was carried out using an integral index, which allowed for a careful consideration of the effects of both macroeconomic and sectoral indicators. It was found that significant GDP declines, inflationary fluctuations, and the expansion of the shadow economy during crisis years substantially reduce the investment capacity of NBFIs, whereas periods of economic recovery are characterized by a gradual increase in the integral index of investment potential. A comparative analysis of the dynamics of individual components of the index showed that the largest contribution to fluctuations in potential comes from changes in GDP and inflationary shocks, while the level of the shadow economy significantly affects the transparency of financial flows. A methodological approach was developed for assessing the investment potential of NBFIs and the financial services market in Ukraine, which combines quantitative financial analysis, macroeconomic indicators, and sectoral characteristics. The study enables the measurement of potential dynamics in financial terms, the determination of the weight of each factor, and the creation of a basis for strategic management decisions. This approach allows not only a theoretical assessment of the investment attractiveness of the market but also a practical justification for policies aimed at stimulating investment activity amid the current economic and political instability. The results obtained hold significant theoretical and practical value for developing effective policies to support the non-bank financial sector during martial law and Ukraine's post-war recovery.

**Keywords:** non-bank financial institutions, investment potential, martial law, GDP, inflation, shadow economy, financial market, economic security, macroeconomic risks

**JEL Classification:** G23, E22, E31

## INTRODUCTION

The full-scale war that Ukraine is experiencing today has fundamentally transformed not only the political and social context but also the logic of the national economy's functioning. The events of recent years have compelled a reassessment of the role of financial institutions in ensuring the resilience of the economic system. This is particularly true for the non-banking financial sector, which has found itself in a situation where traditional business models no longer correspond to emerging challenges. The investment structure built over decades requires significant revision, as outdated approaches have proven ineffective under the conditions of wartime crisis.

Despite the difficulties, non-banking financial institutions possess the potential to become one of the key drivers of economic recovery. Their involvement in post-war reconstruction is not merely important but strategically essential. This goes far beyond standard operations aimed at providing liquidity or fulfilling intermediary functions. It implies a substantial expansion of instruments, from stimulating lending to small and

medium-sized businesses, which have suffered the most from the devastating consequences of war, to developing new insurance products capable of protecting the agricultural sector and other industries from additional risks.

Particular attention must be paid to the fact that during wartime and in the post-war period, the investment market acquires new features: risk levels increase, the structure of business and household demands changes, and new financial challenges emerge, driven by the need for the rapid recovery of destroyed economic sectors. Under such circumstances, non-banking financial institutions can evolve from passive intermediaries into active participants in reconstruction processes, provided that effective mechanisms for managing their investment potential are established. However, these mechanisms still require thorough scientific elaboration. New models must be developed to account for the specific characteristics of wartime conditions and the transitional economy from crisis to recovery.

Therefore, the issue of developing the investment potential of non-banking financial institutions acquires particular significance in both contemporary scientific discourse and practical application.

## LITERATURE REVIEW

A considerable body of academic research, both domestic and international, has been devoted to the conceptual framework and the definition of the essence of non-banking financial institutions. Among Ukrainian scholars, a number of authoritative studies have made a significant contribution to the development of this subject. In particular, an in-depth analysis of institutional investments and their operational mechanisms is presented in the works of O. Vovchak (2007), who considers institutional investors as a special type of financial intermediary capable of ensuring the stability of the financial system and supporting long-term investment projects.

S. Zubyk (2004) and V. Zymovets (2004) also provide their perspectives on institutional investment, emphasizing the role of institutional investors in shaping the national investment environment and developing the stock market. M. Denysenko, in his research, examines institutional investors from the standpoint of their impact on the transformation of savings into investments, while S. Vikhrov (2010) analyzes the functioning of non-banking financial institutions under conditions of economic instability, highlighting both the challenges and prospects for the sector's development.

V. H. Kostohryz (2008) explores the specifics of savings activity of both banking and non-banking financial institutions in the context of Ukraine's transitional economy. The author underlines that mobilizing household savings plays a crucial role in forming investment resources necessary for the development of the national economy. Particular attention is devoted to analyzing the potential of non-banking institutions in accumulating funds and directing them toward innovative and investment projects.

V. K. Ahapova (2023) focuses on legislative changes affecting the operations of credit unions in Ukraine. Scholar V. P. Levchenko (2013), in his monograph, provides a comprehensive analysis of the Ukrainian non-banking financial services market. He examines the institutional and organizational foundations of non-banking institutions, assesses the level of development of this segment, and identifies key factors influencing its transformation. Levchenko places particular emphasis on enhancing the investment potential of non-banking financial intermediaries and their integration into the national financial system.

N. P. Drebot et al. (2020), in their academic article, analyze current trends in the development of non-banking financial institutions in the Ukrainian market. Despite the availability of extensive literature on the topic, economic science still lacks a unified approach to interpreting the essence of institutional investors. Across different countries, this concept carries diverse meanings, shaped by the specifics of financial systems, regulatory environments, and the historical evolution of capital markets. For instance, in developed economies, institutional investors traditionally include pension funds, insurance companies, investment funds, and trust companies, whereas in transitional economies, the composition of such entities may differ significantly.

Significant attention has been given to ensuring the security and effective functioning of non-bank financial institutions (NBFIs) in the context of digitalization by both domestic and foreign researchers. Bondarenko, S. (Bondarenko et al. (2022) investigate the improvement of the state system of strategic planning for national security in the context of societal informatization, emphasizing the role of digital technologies in enhancing the efficiency of management processes and protecting information resources. In a subsequent study by the same group of authors (Bondarenko et al., 2022), the legal mechanisms for ensuring information security in the context of digitalization are examined, with a particular focus on regulatory approaches to overseeing the activities of financial institutions in a digital environment.

Meanwhile, Buha, H. (Buha, 2022) explores the administrative and legal principles for ensuring the security of NBFIs in Ukraine, proposing a systemic approach to their regulation and supervision. Overall, contemporary scientific works highlight the necessity of an integrated combination of institutional, legal, and digital components to ensure stability and development of the non-bank financial sector.

Among international studies, considerable attention has been paid to the integration of financial system security and risk mitigation in the context of European integration and digitalization. Kryshtanovych, M. (Kryshtanovych et al., 2022) analyze issues of European integration in shaping EU security policy, emphasizing the importance of coordinating counter-terrorism measures and addressing threats to financial stability. Kussainov, K. (Kussainov et al. (2023) examine anti-corruption management mechanisms and the construction of a security landscape in the financial sector amid the challenges of European integration, noting the potential of artificial intelligence technologies to enhance transparency and regulatory efficiency.

Lelyk, L. (Lelyk et al., 2022) propose a comprehensive approach to assessing enterprise economic security, integrating financial, organizational, and informational aspects, which allows the identification of risks and vulnerabilities in the operations of financial institutions. These studies underscore the importance of combining institutional, regulatory, and technological components to ensure the stability and development of financial systems under complex economic and political conditions.

The essence and functioning of NBFIs have also been extensively addressed in works by Ukrainian researchers. Vovchak, O. D., and Krentovska, L. O. (Vovchak et al., 2014) examine financial intermediation as an economic category and propose a classification of financial intermediaries, highlighting their role in ensuring financial system stability and long-term investment financing.

Yermachenko, V. (Yermachenko et al., 2023) emphasize theoretical and practical aspects of public management of "smart" infrastructure in the context of societal digitalization, reflecting new challenges and opportunities for integrating NBFIs into the digital economic space. Together with the works of other domestic and international scholars, these studies highlight the necessity of a comprehensive approach to managing the investment potential of NBFIs, combining regulatory, technological, and institutional aspects, thereby enhancing both investment capacity and the resilience of the non-bank financial sector.

## AIMS AND OBJECTIVES

The purpose of this study is to substantiate theoretical and practical approaches to analyzing the impact of macroeconomic factors, namely GDP dynamics, the inflation rate, and the scale of the shadow economy, on the formation and development of the investment potential of non-banking financial institutions in Ukraine under martial law and during the post-war recovery. In line with this objective, the study seeks to analyze the dynamics of Ukraine's GDP and its influence on the non-banking financial sector, to examine the level of inflation and its implications for the investment activities of non-banking institutions, to assess the scale of the shadow economy and its effect on financial stability, and to formulate practical recommendations aimed at strengthening the investment potential of the non-banking financial sector.

## METHODS

The study employs a range of research methods, including system analysis to identify the interrelations between macroeconomic factors and the activities of non-banking financial institutions, comparative analysis to assess the dynamics of GDP, inflation, and the shadow economy, induction and deduction to formulate generalizations and conclusions based on empirical data, statistical analysis to process and interpret official statistical information, graphical methods to visualize dynamic processes and trends, and the method of generalization to develop conclusions and provide practical recommendations for strengthening the investment potential of non-banking financial institutions.

## RESULTS

For a more comprehensive study of the investment potential of non-banking financial institutions, it is important not to limit the analysis to their internal environment. The broader macroeconomic context in which this sector operates must also be taken into account, since the financial market does not exist in isolation from the overall state of the economy. This is particularly relevant during the period of martial law and the subsequent post-war recovery, when the economic

system experiences severe stress, and the role of the non-banking sector in maintaining financial stability and restoring the investment climate increases significantly.

Within the scope of this study, the investment potential of the non-bank financial sector is defined as the aggregate capacity of financial institutions to mobilize and efficiently allocate financial resources in the economy, aimed at the expanded reproduction of capital.

The analysis of the investment potential of non-bank financial institutions (NBFIs) requires consideration of interrelated macroeconomic factors that determine their ability to accumulate and effectively distribute financial resources. These factors include gross domestic product (GDP), the inflation rate, the dynamics of the number of NBFIs, and the scale of the shadow economy. These indicators collectively shape the economic environment in which the financial sector operates and directly determine its investment potential.

One of the most important indicators of the overall state of the economy is the dynamics of gross domestic product (GDP). Table 1 presents summarized data on changes in Ukraine’s GDP over the period 2014–2024, which clearly illustrate the close relationship between macroeconomic dynamics and the condition of the financial market.

**Table 1. Dynamics of Ukraine’s real GDP in 2014–2024 (% compared to the previous year).** (Source: State Statistics Service of Ukraine; Verkhovna Rada of Ukraine)

Year	Change in Real GDP (%)	Key Factors Affecting the Economy and Financial Sector
2014	-6.6	Outbreak of war in Donbas, annexation of Crimea, investor outflow
2015	-9.8	Escalation of the conflict, inflation, and decline in business activity
2016	+2.4	Partial recovery, stabilization of the banking system
2017	+2.5	Revival of consumer demand, expansion of non-banking financial services
2018	+3.4	Growth of leasing, insurance, and microfinance markets
2019	+3.2	Stable development, increased investment in the financial sector
2020	-3.8	COVID-19 pandemic, decline in household incomes
2021	+3.4	Economic recovery, growth in non-banking financial services
2022	-29.1	Full-scale war, infrastructure destruction, investment shock
2023	+5.3	Partial economic recovery, international aid, and adaptation of the financial sector to wartime conditions
2024	+4.5 (estimated)	Gradual revival of business activity, launch of major reconstruction projects

Over the past decade, Ukraine’s economy has repeatedly entered periods of turbulence. The years 2014–2015 were particularly painful, as the annexation of Crimea and the outbreak of hostilities in the east of the country led to a sharp decline in gross domestic product. This downturn affected all segments of the economy, but it was felt most acutely in the financial sector, particularly among non-banking institutions, which lost investor support and the stability of their development.

The deepest crisis, however, erupted in 2022. As a result of the full-scale invasion, the economy lost almost one-third of its GDP. Such a collapse posed a systemic threat to the viability of many non-banking financial institutions, depriving them of access to markets, capital, and client trust. Under these pressures, a significant share of market players was forced either to cease operations or to radically reconsider their models of functioning.

Despite these challenges, signs of economic revival emerged in 2023. Thanks to the joint efforts of the government and the support of the IMF and the EU, macroeconomic stability was partially restored. GDP growth of over 5% was not only the result of enterprises adapting to wartime conditions but also the outcome of targeted policies to support small businesses, particularly through preferential lending programs in which non-banking institutions play a significant role.

The situation requires a closer look at the internal state and prospects of the sector’s key players, insurance companies, credit unions, and microfinance organizations. The conditions under which they operate today are unprecedented. The war has not only destroyed previous models of functioning but also sharpened issues of trust, transparency, and resilience. Undoubtedly, these institutions can become crucial mechanisms in post-war recovery, provided they can effectively adapt to new realities and remain responsive to societal needs.

**Insurance Companies.** The insurance market has always been an indicator of overall economic stability. When the economy grows, insurance becomes an integral part of the business environment. However, in times of war, the structure of demand changes dramatically.

Today, voluntary insurance of property, health, and travel has significantly declined. Having lost income, people refrain from protecting their risks, focusing instead on survival in new realities. At the same time, demand for insurance coverage of war-related risks is increasing, yet effective solutions in Ukraine are still lacking. Most standard policies exclude losses caused by hostilities, further undermining public trust in insurance companies.

Insurance reserves are shrinking, assets are decreasing, and investment opportunities are becoming limited. Nevertheless, insurance companies can and should play a significant role in post-war recovery, through the creation of new products, the development of reinsurance pools, and partnerships with international insurance funds. This is not only a matter of business but also a key element of national resilience.

**Microfinance Organizations.** Microfinance organizations (MFOs) have always operated in a high-risk environment. Their mission is to provide financial access to those who are unable to obtain bank loans. The war has made this function even more relevant, but simultaneously critically challenging. On one hand, hundreds of thousands of citizens have lost their jobs, and businesses have lost working capital. On the other hand, the rise in non-performing loans has threatened the financial stability of the MFOs themselves. In many organizations, the share of problematic loans exceeds a critical threshold, leading to a reduction in lending volumes and stricter client scoring. Microfinance companies have started to operate more cautiously, but this means that those most in need of funds often do not receive them.

**Credit Unions.** Credit unions have always been closely connected to local communities, operating as mutual aid instruments in which members finance each other's needs. However, this model is currently in crisis. Many credit unions have lost their client base due to population migration. A portion of borrowers can no longer service their loans due to business losses or property damage. As a result, credit union assets are shrinking, and the level of non-performing loans is rising.

Each segment of the non-banking sector is currently at a turning point. Yet this situation is not a verdict. It represents a historic opportunity to create a new model of financial intermediation, in which insurance companies become guarantors of reconstruction risks, MFOs serve as partners for social financing, and credit unions act as instruments for supporting the local economy.

For this vision to become a reality, coordinated efforts are required from the government, regulators, international partners, and the financial institutions themselves. Most importantly, trust is essential. Without trust, no financial system can function, and it must be restored alongside the country.

For the financial sector, and especially for non-banking financial institutions, the level of inflation is a factor that directly affects business models, risk strategies, and investment horizons.

**Table 2. Inflation dynamics in Ukraine (2014–2024) and impact on the financial system.** (Source: State Statistics Service of Ukraine; Verkhovna Rada of Ukraine)

Year	Inflation Rate (Annual, %)	Main Factors Affecting the Economy and Financial Sector
2014	24.9	Hryvnia devaluation, annexation of Crimea, and initial hostilities in Donbas. Disrupted logistics, rapid increase in import prices. Panic in the consumer sector.
2015	43.3	Peak of the crisis: hryvnia depreciation, destruction of industry in Eastern Ukraine. Sharp rise in energy costs. Inflation became a systemic threat to trust in financial institutions.
2016	12.4	Monetary stabilization, beginning of macroeconomic recovery. Tight policy by the National Bank of Ukraine (NBU). Inflation slowed, but the effects of prior devaluation persisted.
2017	13.7	Growth in consumer demand, especially for imported goods. Slight strengthening of the hryvnia did not offset previous years' effects. Deferred demand triggered new inflationary waves.
2018	9.8	Initial decline in inflation. Improvement in external economic conditions. The financial sector gradually recovering, though credit activity remained weak.
2019	4.1	Lowest level in the decade. Hryvnia strengthening, deflationary expectations. Trust in deposit instruments increased; the life insurance market revived.
2020	5.0	COVID-19 pandemic. Decline in consumption and simultaneous disruption of supply chains. The financial sector had to adapt its products to crisis demand.
2021	10.0	Post-pandemic recovery with "pent-up demand" effect. Rising energy prices increased pressure on the cost of goods and services.
2022	26.6	Full-scale Russian invasion. Hryvnia devaluation, energy crisis, logistics disruption. The banking sector mobilized; non-banking institutions faced liquidity pressures.
2023	12.9	Gradual stabilization due to currency interventions and international support. Rising import costs continued to exert inflationary pressure.
2024	9.5	Expected inflation decline due to stabilization of the money market. Strengthened cooperation with international financial organizations. Structural risks for small businesses remain.

The period of 2014–2015 was marked by a record surge in prices, caused by the devaluation of the national currency, the loss of part of the production capacities, and economic destabilization due to the annexation of Crimea and hostilities in Donbas. Inflation in 2015 reached 43.3%, a level considered hyperinflationary in most countries worldwide.

We propose to examine a statistical analysis of the dynamics in the number of non-banking financial institutions, which allows for a deeper understanding of the structural shifts that occurred in the financial services market over the past decade (Table 3). It should be noted that the non-banking segment is highly diverse in its structure, including financial companies, insurance organizations, credit unions, pawnshops, and non-state pension funds.

**Table 3. Dynamics of the number of non-banking financial institutions in the Ukrainian financial services market, 2015–2024.** (Source: State Statistics Service of Ukraine)

Financial Institution	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Insurance companies, including:	361	310	294	281	249	215	155	128	123	120
▪ Non-life	312	271	261	251	223	195	136	116	112	110
▪ Life	49	39	33	30	26	20	19	12	11	10
Credit unions	588	462	378	358	337	322	327	160	150	142
Pawnshops	482	456	415	359	324	390	292	179	170	165
Non-state pension funds	72	64	64	62	65	64	63	57	55	54
Financial companies	571	809	818	940	986	960	947	744	702	685
Total	2,074	2,101	1,969	2,000	1,961	1,951	1,820	1,268	1,220	

Insurance companies demonstrate a pronounced trend toward a reduction in numbers. While 361 insurance companies operated in Ukraine in 2015, by 2024 their number had declined nearly threefold, to 120. This transformation is associated both with stricter solvency requirements and with a decrease in demand for insurance products under wartime conditions.

A significant decline is also observed among credit unions. Many of them faced severe financial difficulties, failed to meet their obligations to members, and lost clients due to mass population displacement.

Overall, the analysis indicates that the non-banking financial sector is gradually undergoing profound transformations, which can be viewed as a natural structural renewal. The reduction in the number of market participants occurs not only due to crisis conditions but also as a result of stricter regulation, market consolidation, and the sector's adaptation to contemporary challenges.

In wartime conditions, the non-banking financial sector is forced to rethink its activities, reduce risks, and seek new ways to preserve and enhance investment potential. It is important to emphasize that, despite the decline in the number of institutions, their role in the overall financial system of the country remains highly significant, particularly in light of the future recovery of the Ukrainian economy.

Implications of inflation for non-banking financial institutions:

1. **Insurance companies.** For the insurance market, inflation represents a systemic challenge. It devalues reserves formed in previous periods, while policy payouts are made at new, inflation-adjusted prices. This is especially critical for long-term insurance products, life, health, and pension programs, where the time lag between premium collection and claim settlement can span decades. If companies do not incorporate inflation indexing into their pricing strategies, systemic reserve deficits may arise.
2. **Microfinance organizations (MFOs).** MFOs face a paradoxical situation. On one hand, inflation stimulates demand for loans, as people lack funds for basic needs. On the other hand, the risk of non-repayment increases because household incomes cannot keep pace with rising prices. Raising interest rates to compensate for risks only exacerbates the problem, deepening the debt spiral. This dynamic threatens the financial stability of this segment.
3. **Credit unions.** For credit unions, inflation is particularly dangerous due to their specific nature. Since they accumulate members' savings, the depreciation of the hryvnia reduces the real value of these deposits.

According to estimates by the Ministry of Economy of Ukraine and independent analytical centers, the shadow economy traditionally accounts for a substantial share of economic activity. This creates challenges not only for public fiscal policy but also for the functioning of the financial sector, particularly non-banking institutions, as "shadow" cash flows are not serviced by formal financial intermediaries.

**Table 4. Assessment of the dynamics of the shadow economy in Ukraine (2014–2024).** Note: data for 2024 are approximate, based on forecasts from the Ministry of Economy, the Center for Economic Recovery, and expert assessments. (Source: State Statistics Service of Ukraine)

Year	Estimated Shadow Economy Level (% of Official GDP)	Key Influencing Factors
2014	41	Outbreak of the war in Donbas, GDP decline, hryvnia devaluation, partial loss of territorial control.
2015	43	Deepening of the crisis, growth of unaccounted cashless transactions, and mass reduction in formal employment.
2016	38	Economic recovery, initiation of tax reform, attempts at de-shadowing, and stabilization of the currency market.
2017	37	Moderate economic growth, improved VAT administration, and increased activity of small businesses in the "gray" zone.
2018	32	Improvement of macroeconomic conditions, strengthened fiscal transparency measures, and the launch of transparent auctions.
2019	30	Intensification of de-shadowing efforts, implementation of financial monitoring, and digitalization of public services.
2020	33	COVID-19 pandemic, contraction of the official sector, growth of informal employment, and "shadow" transactions.
2021	31	Partial economic recovery, expansion of electronic services, and measures against VAT manipulation schemes.
2022	45	Full-scale Russian invasion, destruction of economic chains, loss of control over certain regions, and cash payments dominate in many sectors.
2023	42	Gradual recovery of economic activity; however, some businesses operate in the "shadow" due to destroyed infrastructure and distrust of the tax system.
2024*	39	Expected decrease due to investment activation, launch of reconstruction programs, and encouragement of labor legalization. Nevertheless, a significant portion of small businesses remains outside the formal economy.

The dynamics of the shadow economy in Ukraine exhibit a wave-like pattern, closely linked to political and economic crises. The most significant increases in the "shadow" are observed during periods of economic shocks, 2014–2015 and 2022–2023. After each crisis, there is a gradual return to the formal economy; however, without systematic de-shadowing policies, this process remains prolonged and unstable.

For non-banking financial institutions, the shadow economy represents a dual challenge. On the one hand, it reduces the customer base that uses legal financial services. On the other hand, it generates demand for informal lending and insurance, which often operates outside the regulatory framework, creating risks for the entire financial system.

**Table 5. Key implications of the shadow economy for Ukraine's economy and financial sector.**

№	Area of Impact	Key Implications for the Economy	Key Implications for the Financial Sector
1	Fiscal effect	Shortfall of tax and social contributions, budget deficit, and an increase in public debt.	Reduction in the volume of legal financial transactions, decline in demand for insurance, deposits, and investment products.
2	Statistical distortion	Inability to accurately assess the real state of the economy, and errors in forecasting macroeconomic indicators.	Insufficient information for effective financial risk management, and challenges in building credit scoring models.
3	Informal employment	Growth of unofficial employment, low level of social protection for workers.	Difficulty in assessing clients' creditworthiness and an increase in non-performing loans.
4	Cash circulation outside the banking system	A decrease in the banking multiplier results in a shortage of investment resources for the economy.	Reduction in the volume of banking and non-banking transactions, loss of potential profits for financial institutions.
5	Competition with illegal financial services	Spread of informal lending schemes, increased risk of fraud.	Displacement of legal financial institutions from the market has reduced trust in the formal financial sector.
6	Reduced investment attractiveness	Outflow of potential foreign investors, higher risk premiums for lending to Ukraine.	Decline in external investments in financial institutions, and difficulties in attracting international capital.
7	Unequal competition conditions	Distortion of market competition is an advantage for businesses evading taxes.	Increase in operational costs for legal institutions, need to compensate for tax and administrative expenses.
8	Formation of shadow cultural practices	Spread of rule-evasion as a social norm, decline in trust in the state.	Hinders the development of financial literacy, low demand for official financial products, and a reduction in overall financial competence.

For Ukraine's financial sector, particularly non-bank financial institutions, the shadow economy represents a significant barrier. A substantial portion of financial resources remains outside the formal circulation, considerably limiting opportunities for attracting deposits, providing loans, and offering insurance services. In this context, financial institutions are unable to adequately assess the true financial condition of their clients, which significantly increases default risks and complicates risk management.

The issue of the shadow economy in Ukraine has long transcended fiscal or legal frameworks. Attempts to address it solely through sanctions or tighter control are unlikely to yield sustainable results. A deeper, systemic approach is required. It involves creating conditions where operating legally becomes not only safer but also more profitable. This includes the development of simple and transparent financial instruments, active promotion of financial literacy, and daily engagement by non-bank institutions with their clients. Without trust, transparency, and dialogue, no meaningful change can occur. Only comprehensive measures can bring financial flows out of the shadows and strengthen the country's economic foundation.

Shadowization consistently limits the scope for legal financial operations. When a significant portion of funds circulates outside the formal sector, non-bank institutions face difficulties in forecasting financial flows, assessing risks, and serving clients based on transparent data. This automatically reduces liquidity, complicates access to resources, and increases the likelihood of defaults, especially in microcredit and insurance sectors.

Moreover, the spread of shadow practices undermines trust not only in state institutions but also in the entire financial market. When investors, domestic or foreign, observe instability and opacity, they tend to withdraw. This poses a serious barrier to the development of modern financial products and, in times of war, critically hampers the attraction of capital necessary for recovery.

When GDP contraction, inflationary pressure, and high shadow economy levels coincide, an extremely challenging investment environment emerges. These phenomena do not exist in isolation: they reinforce one another, creating a vicious cycle that hinders development and prevents effective strategic planning.

Breaking this cycle is only possible through systemic action. First and foremost, through macroeconomic stabilization and inflation containment. Simultaneously, active detachment from informal practices and the creation of transparent, attractive financial services are essential. Here, non-bank institutions can play a leading role, as they are more flexible, closer to the consumer, and capable of offering unconventional yet effective solutions. These institutions can become the driving force of financial renewal, not only during wartime but also in the course of post-war economic transformation.

Despite all risks, the potential of the non-bank sector remains far from exhausted. On the contrary, new challenges open up new windows of opportunity. By accurately reading the signals of the time and acting proactively, non-bank financial companies can transform from peripheral players into key participants in the country's financial ecosystem. Based on the conducted research, several concrete directions can be identified to strengthen this sector's role in mobilizing capital and ensuring its efficient utilization. This is not only about the economy, but it is also about the future of Ukraine's financial stability.

1. **Targeted support for non-bank financial institutions during economic recovery.** It is important to emphasize the advisability of implementing specialized state support programs for specific segments of the non-bank financial market. This primarily concerns insurance companies, credit unions, and microfinance organizations, which traditionally work with small businesses and households. The focus is not on "artificial" stimulation but on creating conditions for expanding access to investment resources, for example, partial risk guarantees, tax incentives, or interest rate compensation for certain types of financing.
2. **Simplification of regulatory procedures and updating the legal framework.** Many financial companies are willing to work with investment instruments but face bureaucratic barriers and sometimes unclear rules of the game. It would be appropriate to simplify the mechanisms for introducing new financial products to the market, including savings insurance programs, non-state pension funds, and pooled micro-investment schemes. This is an important step toward attracting long-term investments, which are critically needed for the economy today.
3. **Digitalization of the non-bank sector as a tool to expand opportunities.** The future of financial services clearly lies in digital solutions. Therefore, non-bank institutions should actively implement online service technologies, ranging from mobile applications for credit unions to platforms for insurance and micro-lending with one-click access.

4. **Building trust and enhancing financial literacy among the population.** Distrust toward the non-bank sector remains a pressing issue. Many Ukrainians are hesitant to invest in pension funds or savings programs simply because they do not understand how they work. It is therefore crucial to implement financial education programs, both at the level of state institutions and by the non-bank companies themselves.
5. **Involving non-bank institutions in reconstruction projects through public-private partnerships.** Credit unions, financial companies, and insurance institutions can and should participate in reconstruction projects, from social housing construction to investments in energy infrastructure.
6. **Expanding into international markets and attracting external financing.** Engaging foreign investors, international financial organizations, and funds represents a real opportunity to diversify financing sources for non-bank institutions. It is important to focus on transparency, standardization of financial reporting, and maintaining a positive international image. Openness to collaboration with global financial structures can significantly broaden investment horizons.

Within this study, the investment potential of the non-bank financial sector is proposed to be calculated both as an integral index and in its financial equivalent, based on the analysis of GDP, inflation, the dynamics in the number of non-bank financial institutions (NBFIs), and the shadow economy.

To construct the integral indicator of investment potential, the normalization and weighted aggregation method was applied, which allows heterogeneous indicators to be converted to a uniform scale and ensures their comparability.

#### Step 1. Indicator normalization.

All indicators were transformed into dimensionless form using the min–max normalization method:

$$Z_i = (X_{max} - X_i) / (X_{max} - X_{min}) \quad (2)$$

where:  $Z_i$ , normalized value of the indicator;  $X_i$ , actual value of the indicator;  $X_{min}$ ,  $X_{max}$ , minimum, and maximum values of the indicator over the observation period.

For destimulatory indicators (e.g., inflation, shadow economy), the formula is modified as:

$$Z_i = (X_{max} - X_i) / (X_{max} - X_{min}) \quad (2)$$

#### Step 2. Indicator aggregation.

The investment potential (IP) is calculated as the weighted average of the normalized indicators:

$$IP = \sum w_i * Z_i \quad (3)$$

where:  $w_i$  – weight coefficient of the  $i$ -th indicator (determined by expert evaluation);  $n$  – total number of indicators.

The weight coefficients were assigned based on the relative influence of each factor, as presented in Table 6.

**Table 6. Weight coefficients are assigned according to the influence of each factor.** (Source: authors' own calculations)

Indicator	Direction of Influence	Weight Coefficient $w_i$	Economic Interpretation
GDP (UAH billion)	Stimulator	0.35	Determines the economy's capacity and ability to generate investment resources
Inflation Rate (%)	Destimulator	0.25	Reduces the real profitability of financial assets
Number of NBFIs (units)	Stimulator	0.25	Reflects the institutional capacity of the sector to mobilize funds
Shadow Economy Level (%)	Destimulator	0.15	Reduces transparency and the official volume of investment flows

Thus, the selected weight coefficients reflect a balance between macroeconomic factors (GDP, inflation) and structural-institutional factors (number of NBFIs, level of shadowing), which together form a comprehensive view of the investment potential of Ukraine's non-bank financial sector. This methodology enables an objective assessment of the dynamics of the potential over time and ensures the scientific validity of the integral indicator.

For the quantitative assessment of the investment potential of Ukraine’s non-bank financial sector for 2015–2024, a proprietary integral model was applied, aggregating four key indicators: GDP, inflation index, number of non-bank financial institutions (NBFIs), and the shadow economy level. This combination allows for consideration of both the macroeconomic environment (through GDP and inflation dynamics) and the structural capacity of the financial sector (through the number of institutions capable of mobilizing investment resources and the impact of economic shadowing).

Normalization was carried out using the min–max formula, which allows comparison of heterogeneous indicators within a single dimensionless space. Taking into account the weight coefficients (0.35 for GDP, 0.25 for inflation, 0.25 for NBFIs, and 0.15 for shadow economy), the integral index of investment potential (IP) was calculated for each year of the analyzed period (presented in Table 7).

**Table 7. Results of the calculation of the Integral Investment Potential Index of Ukraine (2015–2024).** (Source: calculated by the authors based on the above statistical data)

Year	Normalized GDP Indicator	Normalized Inflation Indicator (Inverted)	Normalized Number of NBFIs	Normalized Shadow Economy Indicator (Inverted)	Integral Investment Potential Index (IP)
2015	0.5610	0.0000	0.9708	0.1333	0.4591
2016	0.9157	0.7883	1.0000	0.4667	0.8376
2017	0.9186	0.7551	0.8573	0.5333	0.8046
2018	0.9448	0.8546	0.8908	0.8667	0.8970
2019	0.9390	1.0000	0.8486	1.0000	0.9408
2020	0.7355	0.9770	0.8378	0.8000	0.8311
2021	0.9448	0.8495	0.6962	0.9333	0.8571
2022	0.0000	0.4260	0.0995	0.0000	0.1314
2023	1.0000	0.7755	0.0476	0.2000	0.5858
2024	0.9767	0.8622	0.0000	0.4000	0.6174

The indicators in Table 7 were normalized using the min–max method; for destimulators (inflation and shadow economy), the inverted values were applied.

During the period 2015–2024, Ukraine’s investment potential, as measured by the integral index, demonstrates significant fluctuations, reflecting the impact of economic and political instability on the country’s investment attractiveness. The lowest index value is observed in 2022, indicating a substantial decline in investment activity due to the economic downturn, the expansion of the shadow economy, and the reduction in the operations of non-bank financial institutions. Conversely, in 2019, the investment potential reached its peak, which can be explained by a combination of economic growth, moderate inflation levels, and financial sector stability.

An analysis of individual factors shows that GDP acts as a stimulant, reflecting the economy’s capacity and its ability to generate investment resources, while inflation and the level of shadow economy reduce the real returns on financial assets and the transparency of investment flows. The number of non-bank financial institutions reflects the sector’s institutional capacity to mobilize funds and also influences the overall level of investment potential.

The dynamics of the integral index indicate that after the crisis in 2022, the investment potential began to gradually recover, confirming the possibility of stabilization in economic processes. The results highlight the relevance of the proposed approach, which allows for a comprehensive assessment of Ukraine’s investment potential by accounting for both macroeconomic and sectoral factors, and provides practical value for the development of investment strategies.

## DISCUSSION

In the work of V. P. Levchenko (2013), emphasis is placed on the necessity of a comprehensive analysis of the organizational structure of non-bank financial institutions and the identification of factors influencing their transformation. The author highlights the enhancement of the investment potential of financial intermediaries and their integration into the national financial system. In contrast, our study expands Levchenko’s approach by proposing a quantitative methodology for assessing investment potential using macroeconomic and sectoral indicators, which allows not only the evaluation of

market conditions but also the tracking of its dynamics in financial terms. This renders our approach more integrated and applicable for forecasting and strategic planning.

V. K. Agapova (2023) focuses on regulatory changes in the operations of credit unions, emphasizing their impact on the functioning of individual entities and the architecture of the financial sector as a whole. Compared to her research, our approach combines the analysis of regulatory aspects with macroeconomic indicators and performance metrics of non-bank financial institutions, enabling a comprehensive assessment of the actual potential for attracting investments rather than solely the potential effects of legislative changes.

Thus, the scientific novelty of our study lies in the development of an approach for assessing the investment potential of non-bank financial institutions and the financial services market in Ukraine, which integrates quantitative financial analytics, macroeconomic indicators, and sectoral characteristics. Unlike existing studies, our research allows for measuring the dynamics of potential in financial terms, determining the significance of each factor, and forming a basis for strategic management decisions. This not only enables a theoretical assessment of the market's investment attractiveness but also provides a practical foundation for policies aimed at stimulating investment activity under conditions of contemporary economic and political instability.

## CONCLUSIONS

A comprehensive analysis has been carried out on the impact of key macroeconomic factors, specifically, the dynamics of gross domestic product, inflation rates, and the scale of the shadow economy, on the formation of the investment potential of non-bank financial institutions under martial law conditions in Ukraine.

First, the economic development of the country over the past decade was examined in detail, with particular emphasis on periods of crisis and recovery, which allowed for the identification of the main trends and challenges directly affecting the non-bank sector. In particular, it has been established that significant GDP declines, caused both by military actions and the pandemic, create substantial barriers to the development of financial activity, which in turn slows down the investment potential of these institutions.

Second, special attention was paid to inflation as a factor that increases uncertainty, intensifies financial risks, and complicates long-term investment planning. It has been found that under wartime conditions, inflationary fluctuations represent a serious barrier to the stable development of the non-bank financial market.

Third, the issue of the shadow economy, which is particularly exacerbated during crises, was examined, and its negative impact on the financial system was analyzed. It was noted that the shadow economy narrows the legal space for financial operations, undermines investor and client trust, and, without comprehensive de-shadowing measures, overcoming other macroeconomic challenges will be largely ineffective.

Summarizing the research, it can be concluded that the development of the investment potential of non-bank financial institutions during wartime is a complex, multifactorial process. It depends on overall economic stability, the level of inflation, and the success of combating the shadow economy. It is important to emphasize that these factors are interconnected, and only their comprehensive management can create a favorable investment environment necessary to enhance the efficiency of the non-bank financial sector.

The results of calculating the integral index of investment potential for 2015–2024 confirm these conclusions and clearly illustrate the dynamics of changes in investment potential under conditions of sharp macroeconomic fluctuations. During periods of stable economic development (2016–2019), the integral index of investment potential remained at a high level (0.8046–0.9408), indicating a favorable environment for the investment activity of non-bank financial institutions (NBFIs). In contrast, during crisis years, particularly in 2022, the integral index of investment potential sharply declined to 0.1314, reflecting a significant deterioration in the investment climate due to a decline in GDP, high inflation, and the expansion of the shadow economy. The recovery of indicators in 2023–2024 (investment potential = 0.5858–0.6174) points to a gradual improvement in the financial environment, though the level of potential remains insufficient to fully stimulate investment activity.

In summary, the study demonstrates that the development of investment potential in non-bank financial institutions during wartime is a complex and multifactorial process. The integral index clearly shows that the state of investment potential is determined by the interaction of macroeconomic stability, inflation levels, and the effectiveness of measures against the shadow economy. Only a comprehensive regulation of these factors creates a favorable investment environment necessary to enhance the efficiency of the non-bank financial sector.

Future research prospects include expanding the number of analyzed factors for more detailed modeling of investment potential, incorporating innovative financial instruments and digital products, and developing scenario models to assess the impact of political, regulatory, and socio-economic changes on the non-bank financial sector. Furthermore, it is advisable to investigate the relationship between the investment potential of NBFIs, financial inclusion, and the resilience of the financial system under various crisis scenarios.

## ADDITIONAL INFORMATION

### AUTHOR CONTRIBUTIONS

All authors have contributed equally.

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### CONFLICT OF INTEREST

The Authors declare that there is no conflict of interest.

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## РОЗВИТОК ІНВЕСТИЦІЙНОГО ПОТЕНЦІАЛУ НЕБАНКІВСЬКИХ ФІНАНСОВИХ УСТАНОВ В УМОВАХ ВОЄННОГО СТАНУ

У статті проаналізовано вплив ключових макроекономічних чинників, динаміки валового внутрішнього продукту, рівня інфляції та масштабів тіньової економіки на формування інвестиційного потенціалу небанківських фінансових установ в Україні в умовах воєнного стану. Здійснено оцінку змін інвестиційного потенціалу за 2015–2024 рр. з використанням інтегрального індексу, що дозволило комплексно врахувати вплив макроекономічних і секторних показників. Установлено, що значне падіння ВВП, інфляційні коливання та поширення тіньової економіки протягом кризових років суттєво знижують рівень інвестиційної спроможності НФУ, водночас періоди економічного відновлення характеризуються поступовим зростанням інтегрального індексу інвестиційного потенціалу. Здійснено порівняльний аналіз динаміки окремих компонентів індексу, який показав, що найбільший внесок у коливання потенціалу здійснюють зміни ВВП та інфляційні шоки, а рівень тіньової економіки істотно впливає на зменшення прозорості фінансових потоків. Розроблено підхід до оцінки інвестиційного потенціалу небанківських фінансових установ і ринку фінансових послуг в Україні, який поєднує кількісну фінансову аналітику, макроекономічні індикатори та секторні характеристики. Дослідження дозволяє вимірювати динаміку потенціалу у фінансовому еквіваленті та визначати вагомість кожного чинника й формувати підґрунтя для стратегічних управлінських рішень, що дає змогу не лише теоретично оцінити стан інвестиційної привабливості ринку, а й практично обґрунтувати політику стимулювання інвестиційної активності в умовах сучасної економічної та політичної нестабільності. Отримані результати мають важливе теоретичне й практичне значення для розробки ефективної політики підтримки небанківського фінансового сектора в умовах воєнного часу та післявоєнного відновлення України.

**Ключові слова:** небанківські фінансові установи, інвестиційний потенціал, воєнний стан, ВВП, інфляція, тіньова економіка, фінансовий ринок, економічна безпека, макроекономічні ризики

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