“Financial depth and financial inclusion as a catalyst for social finance in Ukraine”

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FINANCIAL DEPTH AND FINANCIAL INCLUSION AS A CATALYST FOR SOCIAL FINANCE IN UKRAINE

Abstract

Unveiling the link between financial depth, financial inclusion, and social finance serves as a demonstration of a financing mechanism for socio-economic well-being. This study aims to analyze the dynamics of financial depth and inclusion, including aspects of social finance in Ukraine. Using annual data for 2008–2024, the study constructs composite indices of financial depth (the M2/GDP, the deposits/GDP, the credit/GDP, the bonds/GDP), financial inclusion (bank branches, ATMs and self-service complexes, and POS terminals, per 100,000 adults), and normalized share of pension payments via banks. The paper reveals the decoupling of financial depth and financial inclusion since 2014. The results show a decline in financial depth (from 0.46 in 2008 to 0.18 in 2024) and an increase in financial inclusion (from 0.17 in 2008 to 0.83 in 2024). Financial depth deteriorates, as shown by the decrease in the M2/GDP (from 68% in 2013 to 46% in 2024), the deposits/GDP (from 48% in 2012 to 36% in 2024), the credit/GDP (from 64% in 2014 to 14% in 2024), and the bonds/GDP (from 0,83% in 2008 to 0,01% in 2024). Ensuring financial inclusion is supported by digital finance development, as pronounced by the decline in bank branches, the faster growth of POS terminals compared to ATMs, and the rise in non-cash transactions and social payments via banks. For financial inclusion to draw social finance development along with it, there is a need to strive for a depth-led financial system that provides not only basic financial coverage.

Keywords financial development, financial access, credit, banking, social payments, charitable donations, fintech, digitalization

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INTRODUCTION

Financial inclusion remains a crucial focus for economic policy amid the swift digitalization of financial services during periods of economic crises and war shocks. However, expanding financial inclusion often remains mainly transactional in practice, which limits its potential to transform financial access and use into a driver of socio-economic development. If financial depth (the extent of financial resource saturation) or financial inclusion (access to financial products and effective utilization) falls behind, social finance (concerned with the targeted direction of finances) cannot operate effectively. When financial inclusion rises, but financial depth remains constant, financial institutions attain quantitative inclusion but not qualitative inclusion, simply accelerating the movement of money. Conversely, when financial depth increases but financial inclusion does not, it indicates that the financial system is enlarging in size but not becoming more accessible to the public and small businesses, leaving social finance fragmented.

Currently, embedded finance solutions support the growth of social finance by transforming individual micropayments into a shared social resource. Social finance serves as an alternative way to mobilize

savings, including mechanisms such as traditional philanthropy (donations, endowments) and Islamic social finance (zakat, waqf). In particular, social finance is defined by the World Bank (Aminan & Jothi, 2025) as financial structures or business models that mobilize philanthropic capital to achieve social outcomes. The ILO's (ILO, 2025) social finance tools include financial inclusion, impact insurance, and sustainable investing. The role of social finance is particularly evident in Ukraine, where a layered infrastructure of additional sources for funding wartime needs has been created, consisting of state fundraising platforms (e.g., United 24), private charitable organizations collections, and corporate and business initiatives through banking services that facilitate mass donations and cryptocurrency contributions. However, none of these social finance tools can operate outside the financial ecosystem.

Boosting financial inclusion is a key component of the strategies employed by most central banks. Since the National Bank of Ukraine (NBU) sets the regulatory framework for the country's financial growth, it partially revised its Strategy in 2024 to support financial inclusion by adding measures to increase financial access and develop a barrier-free financial sector. In 2024, the NBU also launched the Power Banking project to ensure banks operate smoothly, signed a Memorandum of Understanding with the EBRD to support financial inclusion and the reintegration of war veterans in Ukraine, approved the National Strategy for the Development of Financial Literacy through 2030 and updated it in 2025, and approved the Methodological Recommendations on the Rules for the Inclusive Provision of Financial Services in Ukrainian Institutions. To improve financial depth, the NBU approved the Strategy for the Development of Lending in 2024 and the Strategy for the Development of Mortgage Lending in 2025. Therefore, Ukraine's existing normative-institutional framework already supports the growth of inclusive financial intermediation. In turn, sustainable post-war economic recovery depends on real progress in all aspects of financial development to promote social finance.

Ultimately, the enhancement of digital financial access through the active involvement of central banks in promoting financial inclusion underscores the need to transform digital financial inclusion by integration with capital accumulation and investment channels. This emphasizes the potential of alternative resource mobilization channels, prompting a reconsideration of the relationship between financial inclusion and financial depth from the perspective of their interplay in the context of social finance catalysis.

1. LITERATURE REVIEW

The pool of studies examines both financial inclusion and financial deepening, such as Cihak and Sahay (2020), who show that initially, financial depth is associated with lower inequality, but only up to a certain point; after this point, inequality increases. Moreover, the authors note that greater financial inclusion is correlated with reduced inequality, especially in terms of payment services, with the benefits of inclusion being more significant for individuals with lower incomes. Chauvet and Jacolin (2015) demonstrated that in 26 countries, financial inclusion had a positive influence on firm growth (in terms of sales, labor productivity, and exports) in countries with low levels of financial development. Jombo (2021) identified a positive impact of financial inclusion, but no impact of financial depth, on inclusive growth in the Sub-Saharan Africa region. Zhang et al. (2025) confirmed the positive impact of both financial deepening and financial inclusion on investment in the agricultural sector in 68 countries. However, considering both factors together showed that inclusion remained significant, while the effect of deepening declined.

At the same time, a large strand of the literature examines financial depth separately from financial inclusion. Bencivenga and Smith (1998) and Levine (2005) provided evidence for the empirical causal link between financial sector development and long-term economic growth. In particular, a study by Loayza and Ranciere (2006), which covered 75 countries from 1960 to 2000, found that financial depth promoted economic growth, while financial fragility (measured by volatility and crises) acted as a drag. Beck et al. (2012) revealed that,

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in 77 countries from 1980 to 2007, only activities related to traditional financial intermediation (specifically, domestic credit to GDP) had a positive long-term impact on economic growth and stabilized the economy. However, in shorter periods and in low-income countries, intermediation services proved essential for absorbing shocks. By contrast, in high-income countries, the expansion of non-intermediation financial services boosted economic growth, but that increased volatility. Meanwhile, Polemis et al. (2020) argued that the finance-growth relationship appeared to be very weak based on their analysis of how domestic private sector credit and broad money influenced growth in 40 countries from 1970 to 2014. Conversely, Boďa (2024) highlighted that the size of the financial sector impacted economic growth in 157 countries from 1993 to 2020. Emara (2025) found that financial depth had a positive effect on domestic savings in 32 countries from 2000 to 2021, although the marginal benefits declined beyond a certain threshold. Furthermore, Cho et al. (2025) demonstrated that, in 140 countries from 1960 to 2016, high financial depth did not hinder long-term growth or exacerbate banking crises.

Other studies focus on the relationship between financial inclusion and financial stability or development, but do not emphasize the reverse trend of financial depth as financial inclusion increases. For instance, Cull et al. (2012) suggest that financial inclusion can enhance overall stability through more efficient capital allocation, thereby strengthening the financial health of households and diversifying the clientele of financial institutions. Dabla-Norris et al. (2015) argue that financial inclusion is crucial for stimulating inclusive economic growth, reducing poverty, and increasing macroeconomic resilience to external shocks. Basnayake et al. (2024) indicated the positive impact of digital financial inclusion on economic growth in 30 Asia-Pacific countries for 2014, 2017, and 2021.

The dilemma of financial inclusion and financial stability is examined through the lens of banking risks and regulatory mechanisms by Naceur et al. (2024). In this regard, Tufail et al. (2025) found that Pakistan's financial system, characterized by low financial depth and low inclusion, performed poorly as a buffer and instead exacerbated macroeconomic instability regardless of the nature of the initial shock. Empirical results from Arebo (2025) indicate that positive financial inclusion shocks have had a positive impact on Ethiopia's long-term economic growth, whereas adverse shocks have had a negative impact over 1991–2023. Han et al. (2025) established that expanding financial inclusion enhanced both bank stability and the energy sector in 36 emerging economies from 2004 to 2023. The outreach and usage of financial inclusion had a positive impact on bank market power in 73 countries from 2005 to 2022 (Setianto et al., 2025). Srivastava et al. (2025) confirmed a direct link between inclusion and bank stability in India. In Lesotho, increased bank competition had a positive impact on financial inclusion (Adelakun et al., 2025). In Uruguay, although the increase in bank accounts led to higher debit card ownership, this had a limited impact on actual card usage among existing cardholders (Gandelman et al., 2025).

The acceleration of financial inclusion through digitalization is confirmed by Demirgüç-Kunt et al. (2022). Using Ghana's data in 2019, Dzogbenuku et al. (2022) demonstrated the positive impact of digital payment systems on the rural poor population. Likewise, Vujovic et al. (2023) found that in South Africa in 2019, the digital identification and payment systems in social protection helped to increase income levels. By contrast, Bhagat and Roderick (2020) criticized fintech as a solution for financial inclusion in Kenya in 2018, as credit reached only entrepreneurial refugees, and fintech service providers charged unregulated service fees. Gelb et al. (2022) underscored that in India, despite an intensification of bank account access following the 2013 G2P transfers policy, digital transactions remained limited. Financial inclusion accelerated only after lower mobile prices, the launch of UPI, and the emergence of user-friendly payment options from tech companies. Regarding the dependence of digital payments on digital infrastructure, Andaregie et al. (2024) evidenced that in Ethiopia in 2021, mobile phone ownership and internet access were key factors influencing the adoption of digital payments. Koranteng and You (2025) found that P2P lending improved both domestic and cross-border traditional financial inclusion in 34 countries from 2013 to 2020. Ullah and Begum (2025) reported that financial inclusion mediated the relationship between FinTech

and financial sustainability in 141 countries from 2011 to 2021. Conversely, Martinez de Ibarreta et al. (2025) observed that lower financial access, measured as the density of bank branches per 1000 people, increased the e-banking use in Spain from 2017 to 2021.

Research on social finance encompasses it in the context of the interconnectedness of financial and social relationships (Artis, 2016). It defines social finance as the provision of capital prioritizing social and environmental returns (Moore et al., 2012), specifically finance that has social features embedded in its source, use, infrastructure, policies, and design (Ozili, 2024). This includes forms of social finance such as venture philanthropy, microfinance, crowdfunding, social impact bonds (Andrikopoulos, 2020), and social investment funds (Rexhepi, 2016).

Considering the link between financial inclusion and social finance, Neaime et al. (2019) documented that increased financial inclusion contributed to reducing income inequality in six Mediterranean countries. Rubio and Leon (2025) demonstrated that improved financial access played a significant role in poverty alleviation, while the utilization of financial services caused a decrease in income disparities in 15 Latin American and Caribbean countries from 2004 to 2021. Mburamatare et al. (2025) confirmed that microfinance and cooperatives assisted in expanding financial access for low-income populations. Inclusive finance development had a positive impact on common prosperity at the individual level in China (Luo & Yan, 2025).

In view of how financial inclusion impacts social finance, Klapper and Singer (2017) draw attention to the shift from cash to electronic government-to-person payments, such as social benefits or wages, as a move towards financial inclusion. Musari (2022) underscored that in Indonesia, digital financial inclusion through P2P lending platforms contributed to the growth of Islamic philanthropy practices. Likewise, Jafri (2025) pointed to the role of philanthropic foundations in unlocking financial inclusion. Wahyudi et al. (2025) established that Islamic crowdfunding and e-waqf tools from 2018 to 2023 became catalysts for the development of Islamic fintech, broadening the opportunities for small and medium-sized enterprises to access finance. In the case of China, Zhu et al. (2025) found that a 1% increase in digital financial inclusion led to a 1.47% rise in household donations.

A considerable body of empirical research investigates financial inclusion and financial deepening as key aspects of financial development, documenting their generally positive impacts across various regions worldwide. While in Ukraine, an increasing number of studies focus on financial inclusion alongside the digitalization of financial services, research explicitly addressing financial depth remains scarce, despite its importance given the ongoing credit contraction. Furthermore, there are no studies that jointly analyze financial depth and financial inclusion within Ukraine. Additionally, although the concept of social finance has recently garnered growing attention in international literature, its interaction with financial inclusion and financial depth remains largely unexplored within the Ukrainian context. These features make Ukraine a pertinent case for examining whether financial inclusion can expand independently of financial deepening, given the increasing role of social finance during wartime.

Overall, the literature distinguishes between financial depth and financial inclusion as two separate channels through which finance affects socio-economic development. However, it does not thoroughly explore situations where a country has high financial inclusion but financial depth remains below equilibrium, that is, less credit than the level that would correspond to potential. Unlike previous studies that focus on the individual aspects of financial inclusion and financial deepening in the contexts of economic growth, human development, or financial stability, this paper contributes to the literature by recognizing the divergence of trends of these financial development dimensions and by linking its findings to the context of socially oriented finance.

This study aims to characterize the dynamic patterns of financial depth and financial inclusion, contextualized within the framework of social finance development, in Ukraine.

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2. METHODS

The study employs Min–Max normalization, composite index construction, descriptive statistics, and graphical time-series analysis, using national annual data from the NBU (n.d.), the State Statistics Service of Ukraine (SSSU, n.d.), and the Pension Fund of Ukraine (n.d.).

All variables were previously scaled to a comparable level through normalization using the Min–Max method as follows:

$$X_t^{\{norm\}} = \frac{X_t - X_{\{\min\}}}{X_{\{\max\}} - X_{\{\min\}}}. \quad (1)$$

Since the three groups of indicators, financial depth, financial inclusion, and social finance, have different time series lengths, normalization was performed separately within each index (rather than the entire data array together). Hence, the different series lengths do not affect the quality of the comparison, as all indices are used to analyze the trajectory, not to assess absolute levels. The calculated indices are averaged using an arithmetic mean, as manually setting the weights introduces subjectivity.

To construct the composite index of financial depth, the M2/GDP, the Deposits/GDP, the Credit/GDP, and the Bonds/GDP (these four dimensions reflect different segments of the financial system, which minimizes the duplication) were calculated for the period 2008–2024, as follows:

$$FD_{index_t} = \frac{1}{4}\left(M2_{GDP_{norm_t}} + Deposits_{GDP_{norm_t}} + Credit_{GDP_{norm_t}} + Bonds_{GDP_{norm_t}}\right). \quad (2)$$

To construct the financial inclusion index, access and usage subindices were calculated for the period from 2008 to 2024.

The access subindex includes the number of bank branches, the number of ATMs and self-service complexes, and the number of POS terminals per 100,000 adults.

Data on the size of the adult population of Ukraine in the age groups 15–54 years and 65 years and older were used for 2002–2021, based on data from the SSSU. Starting from 2022, the SSSU does not publish detailed age estimates of the population; therefore, for 2022–2024, an approximate extrapolation procedure was applied, which is based on generalized United Nations (2024) information on the reduction of the population of Ukraine by approximately a quarter as a result of the full-scale war of russia. The paper assumes a gradual reduction of the adult population (15+) from the 2021 level, with the following coefficients: 2022 – k2022 = 0.90; 2023 – k2023 = 0.80; 2024 – k2024 = 0.75. Having fixed the age structure of the adult population at the level of 2021 (shares of groups 15–54 years and 65+ in the total population 15+), the number of the corresponding age groups in 2022–2024 was obtained by proportionally distributing the estimated Pop15+, t between groups 15–54 and 65+.

After normalizing each indicator, the financial inclusion access subindex is defined as:

$$ACCESS_t = \frac{1}{3}\left(Branches_{norm_t} + ATMs_{norm_t} + POS_{norm_t}\right). \quad (3)$$

The usage subindex comprises the number of noncash transactions per person and the share of noncash transactions in total transactions. After normalizing each indicator, the financial inclusion usage subindex is defined as:

$$USAGE_t = \frac{1}{2}\left(Noncash_{tx_{per\_capita_{norm_t}}} + Share_{noncash_{value_{norm_t}}}\right). \quad (4)$$

The composite index of financial inclusion is defined as the simple average of the access and usage subindices (reflecting the integration of infrastructural and behavioral characteristics):

$$FI_{index_t} = \frac{ACCESS_t + USAGE_t}{2}. \quad (5)$$

The social finance index is measured, as the normalized share of pension recipients who receive payments via banks, for the period 2014–2024 due to the limited availability of official statistics. This index is not included in the financial inclusion index because it is

a) not a universal indicator of the usage of financial services by the entire population, but rather by a specific target group; however, it reflects the extent to which the financial infrastructure is integrated into the social policy;

b) derived from government policy, not from user behavior (for example, changing payment channels may be administrative).

3. RESULTS

An analysis of financial depth indicators reveals a systemic structural gap between available liquidity and credit activity in Ukraine (Table 1). Despite the partial recovery of the M2-to-GDP ratio (from 37.97% in 2021 to 45.54% in 2024) and the growth of the deposits-to-GDP ratio (from 27.59% in 2021 to 36.27% in 2024), the credit/GDP ratio continues to fall (from 64.32% in 2014 to 14.45% in 2024). The fact that the M2-to-GDP ratio increased until 2013, reaching a peak of 68%, then decreased structurally after 2014, and exhibited temporary jumps in 2020 and 2022, indicates that aftershocks, the monetization of the economy returned to lower levels again. Indeed, this does not signify financial deepening but rather a response to crisis fluctuations. The deposits-to-GDP ratio increased until 2012 (peaking at 48%), then decreased after 2014 (45%). It stabilized at a lower level following 2020 (31%), with a partial recovery in 2023–2024 (36%), yet it has not returned to pre-war levels, indicating a weakening of the role of deposits as a source of financial deepening. The credit-to-GDP ratio exhibited a hump-shaped trend: 2008 – 14%, 2009–2014 – a credit boom (up to 64%), after 2014 – structural de-lending, and in 2024 – again 14%, i.e., lending plays a marginal role, as it did in 2008. While lending is typically expected to expand in line with deposit growth, Ukraine exhibits the opposite pattern. During 2014–2024 deposits-to-GDP ratio decreased by only 8.9 p.p., whereas the credit-to-GDP ratio declined by 49.9 p.p. This indicates that banks amass deposits but do not convert them into loans. Another imbalance is the nearly zero level of bonds to GDP, which signals the absence of a developed domestic capital market. Consequently, indicators that should move together show the opposite trends, highlighting a structural dysfunction of the financial depth of Ukraine's economy.

Table 1. Indicators of financial depth, financial inclusion, and share of pension payments via banks, 2008–2024

Source: Own estimations based on the NBU (n.d.), the SSSU (n.d.), and the Pension Fund of Ukraine (n.d.).

Year	M2/GDP, %	Deposits/ GDP, %	Credit/ GDP, %	Bonds/ GDP, %	Bank branches per 100k	ATM per 100k	POS per 100k	Noncash transactions per capita	Share of noncash transactions, %	Share of pension payments via banks, %
2008	52	34	14	0.83	58	71	296	2	5	
2009	51	35	26	0.47	53	74	262	2	5	
2010	55	39	40	0.27	50	77	277	3	7	
2011	52	42	56	0.56	52	85	317	5	8	
2012	65	48	51	0.42	51	93	420	9	12	
2013	68	46	62	0.39	50	105	574	15	17	
2014	60	45	64	0.21	42	101	561	24	25	
2015	50	40	49	0.02	33	92	539	36	31	
2016	46	37	42	0.02	29	94	611	49	35	
2017	41	33	34	0.01	27	104	705	65	39	65
2018	36	30	30	0.12	24	103	837	87	45	63
2019	36	31	24	0.08	23	102	991	118	50	66
2020	47	31	22	0.07	20	99	1107	148	56	69
2021	38	28	19	0.04	19	96	1259	202	61	72
2022	48	30	19	0.02	17	90	1174	185	68	78
2023	38	36	15	0.01	18	104	1682	265	65	80
2024	46	36	14	0.01	19	111	1999	313	65	81

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Source: Own estimations based on the NNBU (n.d.), the SSSU (n.d.), and the Pension Fund of Ukraine (n.d.).

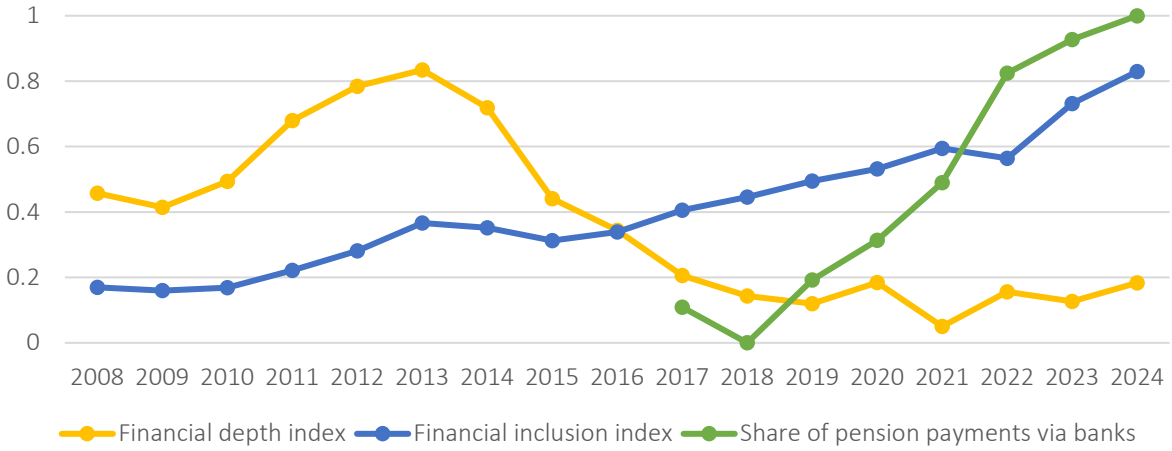

Figure 1. Dynamics of financial depth and financial inclusion indices (2008–2024), and share of pension payments via banks (2017–2024)

The reduction in Ukraine's banking network has had mainly structural rather than cyclical, as the number of bank branches per 100,000 adults has steadily declined from 58.18 units to 19.16 units between 2008 and 2024, representing a 67% decrease. After 2014, a decline was recorded from 50.06 units in 2013 to 28.75 units in 2016, amid the outbreak of the war (territorial losses) and banking sector clean-up (Table 1). However, from 2022 to 2024, the trend shifted slightly upwards (from 17 to 19.16 units), indicative of wartime adaptation, such as adopting mobile service points in frontline regions. A comparison with Central and Eastern European countries reveals that, as of 2024, Ukraine's bank branch density has been lower (15.55 units per 100,000 adults) than that of Poland (21.33), Romania (20.76), Slovakia (19.35), and Slovenia (18.58) (IMF, n.d.). Indeed, Ukraine is moving towards a low bank branch density model typical of digital economies like Latvia (4.44).

Between 2008 and 2024, Ukraine's financial sector has been transitioning from an ATM-oriented to an entirely cashless payments model. This trend has accelerated since the outbreak of the full-scale war, despite banks continuing to rely on the ATM network as a vital physical presence of their banking infrastructure. While ATMs per 100,000 adults increased only modestly (from 70.8 units in 2008 to 111 units in 2024), POS terminals per 100,000 adults demonstrated a rapid growth (from 296 units in 2008 to 1999 units in 2024), increasing by more than 6.7 times (Table 1). A comparison with Central and Eastern European countries shows that, as of 2024, Ukraine has had a high density of ATMs per 100,000 adults – 89 units, which is 23-50% higher than the figures for Poland (66.6), Romania (63.7), Slovakia (71.7), Slovenia (70.8), and Latvia (55.9) (IMF, n.d.). Therefore, Ukraine's financial inclusion model is based on ATMs and POS, rather than traditional bank branch networks, like the typical EU banking systems.

The full-scale war accelerated the adoption of cashless payments, as evidenced by the rise in cashless transactions per individual (from 1.7 in 2008 to 312.9 in 2024) and a notable increase in the share of cashless transactions in total volume (from 4.6% to 64.5%). The prominence of bank cards for social benefits is evident, with pension payments via banks rising from 64.8% to 81% between 2017 and 2024, and a further increase of 9.3 p.p. from 2022 to 2024 (Table 1). Thus, Ukraine is progressing towards the EU standards, where pension payments via banks are almost universal.

After 2014, Ukraine has been experiencing a gap between financial depth and financial inclusion: while the financial depth index has increased until 2013 and stagnated since 2014, financial inclusion has been steadily rising, particularly after 2017 (Figure 1). Thus, the financial depth and financial inclusion of the Ukrainian economy follow different trajectories. However, financial inclusion has become the foundation for the development of social finance. Even with the pension level remain-

ing unchanged, the delivery channel is evolving, and the banking channel is becoming dominant. The full-scale war has only accelerated the use of bank cards and online banking, especially among the internally displaced population.

4. DISCUSSION

The obtained results suggest that Ukraine has an asymmetric model of financial development of the economy, where digitalization provides rapid growth in financial inclusion, while financial depth remains low. The dynamics of the M2-to-GDP ratio indicate a persistent weakening of financial depth, consistent with the contraction of bank lending. After peaking in 2012–2013, the M2-to-GDP ratio declined following the 2014 crisis and has since fluctuated around a considerably lower level. The temporary increases observed result from crisis-driven liquidity expansion and GDP contraction, rather than structural enhancements in financial intermediation. The deposits-to-GDP ratio exhibits a long-term decline following the 2014 banking crisis, with only partial recovery observed in 2023–2024, which is largely transactional, rather than a result of restoring of deposit depth. The credit-to-GDP ratio over 16 years reverted to its initial level after experiencing an unsustainable credit boom and subsequent structural decline. According to the bonds-to-GDP ratio, which has consistently remained at a low level (less than 1% of GDP), the bond market does not maintain the function of financial deepening. Therefore, Ukraine's economy has a low level of financial depth, consistent with a previous study based on older data (Shapoval et al., 2022). As a result, economic sectors with shallow credit markets respond more strongly to macroeconomic shocks. At the same time, there is evidence of resilience in financial inclusion during systemic shocks, which supports the statement made by Tufail et al. (2025). The fact that financial inclusion can increase in Ukraine even when financial depth declines supports Zhang et al.'s (2025) findings. Their study suggests that financial deepening plays a more significant role in economies with a well-developed banking sector, whereas financial inclusion is effective in countries with limited financial infrastructure.

Financial inclusion in Ukraine depends less on fluctuations in financial depth. This aligns with the findings of Cihak and Sahay (2020), who demonstrate that countries with the same level of financial depth can have different levels of financial inclusion. Jombo (2021), Chauvet and Jacolin (2015), and Zhang et al. (2025) also support the idea that financial deepening does not necessarily equal financial inclusion. Unlocking financial inclusion without financial deepening in Ukraine's case indicates that financial access is being enhanced through digital channels, which is consistent with Klapper and Singer (2017) and Demirgüç-Kunt et al. (2022). The growth of digital financial inclusion, in turn, creates the foundation for the expansion of social finance, as the increased usage of digital payment infrastructure and cashless transactions leads to more active social payments being transferred through the banking channel.

While financial depth provides institutional capacity, financial inclusion offers access channel, and social finance delivers a functional outcome that ensures the redistribution of finances in favor of supporting vulnerable groups of the population (Figure 2). Although this paper's calculations do not explicitly show how banking affects social finances, they emphasize the role of the financial system in state social service. Increasing the transfer of social cash payments to bank accounts is a way to integrate the underserved populations into the banking system. The increase in the share of pensions paid through bank accounts since 2019 indicates Ukraine's transition to digital state social transfers (Figure 1). Although this shift provides a broader access to formal bank accounts, savings, loans, etc., it is important to consider the caveats outlined by Gelb et al. (2022), that digital transactions only start to increase when supplementary conditions, such as low cost and easy-to-use technological solutions, are met.

The development of social finance in Ukraine in recent years has been primarily driven by the digitalization of government services, especially the introduction of new financial support instruments for the population. From 2021, government social payment programs implemented through Diia (n.d.), particularly the e-Support initiatives, Winter Support, basic social assistance schemes, and support for low-income families and persons

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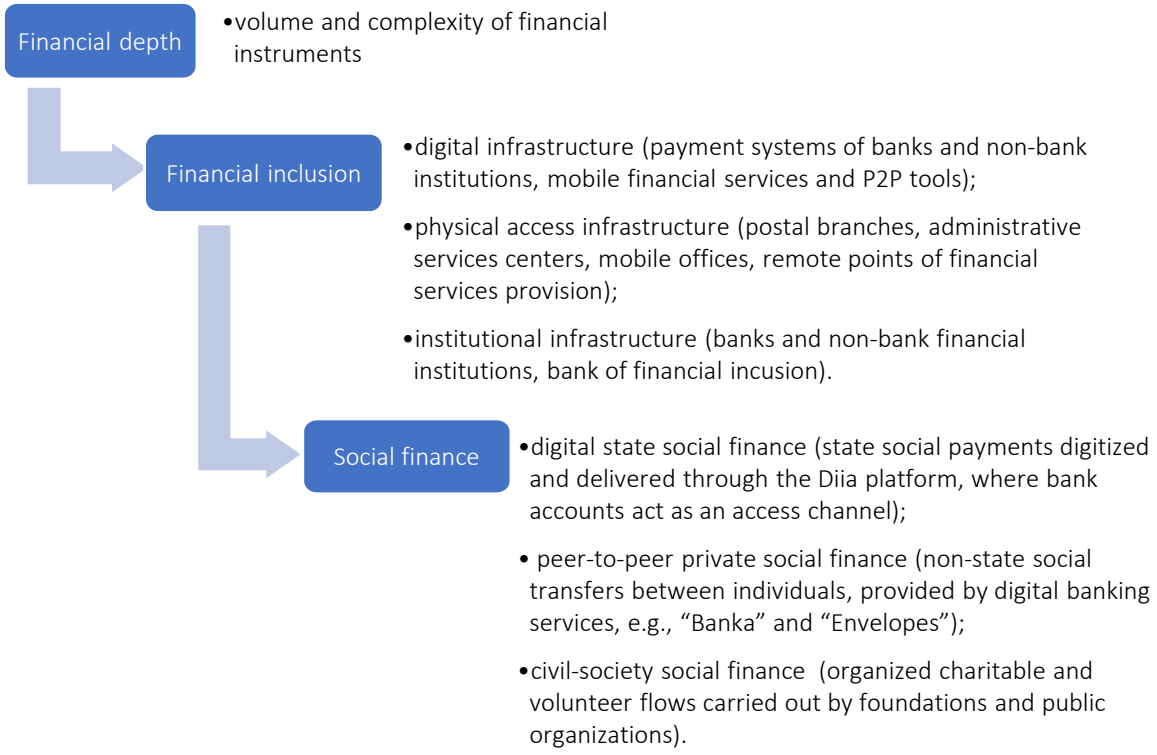

Figure 2. Conceptual linkages between financial depth, financial inclusion, and social finance in Ukraine

with disabilities, have contributed to expanding both social and financial inclusion. Since access to these programs is only possible via bank accounts, they create a mechanism of so-called involuntary financial inclusion, integrating broad segments of the population into formal banking. Furthermore, financial inclusion received further institutional development in 2025 with the introduction of the bank of financial inclusion (Verkhovna Rada of Ukraine, 2025). This institution is expected (not yet introduced in 2025) to play the role of a physical infrastructure channel that ensures the delivery of financial support in remote/sparsely populated/proximity to military operations territories.

The growth of social needs of internally displaced people, victims of wars, and families of deceased servicemen, amid limited state budget resources, has led to a strengthening of the third sector's role. The number of charitable organizations rose from 20,498 in 2021 to 31,740 in 2024, representing a 55% increase (SSSU, n.d.). The largest charitable foundations (Return Alive, Serhiy Prytula Foundation, United24) attracted UAH 34.8 billion in 2022, UAH 18.7 billion in 2023, and UAH 24.1 billion in 2024 (Opendatabot, 2025). Since charitable organizations have to use bank accounts to ensure financial transparency and accountability, access to financial infrastructure becomes a key component in developing a social finance ecosystem. Additionally, P2P finance has gained importance through the spread of digital services such as "Banka" from Monobank and "Envelopes" from PrivatBank. Although these banking products are not social finance instruments in the narrow sense, they have become community-embedded financial infrastructure for non-state financial social support, as they are used by volunteers, charitable foundations, and citizens to raise funds, particularly for social causes.

Therefore, based on the conceptualization of the conducted quantitative calculations, financial depth should have provided the institutional conditions that support the expansion of access to financial services and create the potential for scaling social finance mechanisms. Meanwhile, the observed bankization of social payments in Ukraine represents a necessary but not sufficient condition for social finance development. The core

challenge lies in the weak transmission between financial depth and financial inclusion, whereby expanded access does not automatically translate into effective financial intermediation. Financial inclusion can enhance social finance only when transactional participation is complemented by channels that transform household liquidity into socially oriented investment mechanisms.

The limitation of the conducted research is that the available data only allow for calculations that show trend-based divergence in inclusion and depth. However, they do not enable statistically verified causal interpretation. Future research should incorporate longer time series to confirm the existence of the observed decoupling between financial inclusion and financial depth.

CONCLUSION

This paper, aimed at exploring the financial depth and financial inclusion in Ukraine, demonstrates that increased financial inclusion alone is insufficient for social finance development. The results indicate the asymmetric model of financial development in Ukraine, where financial inclusion rises due to the digitalization of payment infrastructure, financial depth remains structurally limited. The findings suggest that financial inclusion of the transactional type mitigates the institutional weaknesses of the financial sector, but cannot replace the need for its deepening. While social finance mainly expands through financial inclusion, maintaining lending remains essential since financial depth supports the financial system's capacity to perform an investment and accumulation function.

Ukraine's case of inclusion-led financial development, rather than depth-led, suggests that strategies of financial development should not view financial inclusion and depth as separate pathways; otherwise, digital financial inclusion may remain superficial. The transformation of digital financial activity into a potential source of investment capital may be facilitated by introducing special-purpose long-term savings instruments, supported by tax or interest-rate incentives and targeted at households with access to digital financial services or by introducing low-threshold micro-investment options embedded in social programs.

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