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**Abdullayeva Nozimaxon Valijon kizi**

Guliston State University, Master's student of the Department of Economics

abdullayevanozima95@gmail.com

# THE CONTRIBUTION OF SOCIAL TRUST TO THE EVOLUTION OF DIGITAL FINANCE

## Abstract

Social trust is an important institutional factor shaping the development of digital finance. Using provincial panel data from 27 Chinese provinces over the period 2012–2021, this study empirically investigates the role and underlying mechanisms of social trust in digital finance development. By incorporating social trust into the analytical framework, the study extends existing research that predominantly focuses on technological and economic determinants, emphasizing the influence of social and psychological factors. The results indicate a complex relationship between formal and informal institutions, characterized by both substitution and complementarity effects. Moreover, significant regional heterogeneity is observed in the impact of social trust on digital finance. Specifically, social trust significantly promotes the depth and level of digitalization of digital finance, while its effect on financial breadth is not statistically significant. These findings contribute to the literature on digital finance and institutional economics and provide important policy implications for improving institutional arrangements and fostering the sustainable development of the digital finance sector.

## Keywords

social trust, digital finance, institutional framework, formal and informal institutions, regional heterogeneity, panel data.

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## 1. Introduction

The development of financial markets is widely recognized as a key driver of high-quality economic growth. As an integration of finance and digital technology, digital finance utilizes data as a core production factor to expand financial inclusion and improve the efficiency of serving the real economy (Q. Xu et al., 2024; Ding et al., 2023). Consequently, understanding the determinants of digital finance development has become an important research focus. Existing studies primarily explain digital finance development from the perspective of formal institutions, such as digital financial ecosystems, infrastructure construction, and regulatory optimization. However, informal institutions have received relatively limited attention. Socio-economic order is jointly maintained by formal and informal institutions (Sitkin & Roth, 1993). While formal institutions regulate behavior through laws and enforcement mechanisms (North, 1990), informal institutions—such as values, norms, and moral beliefs—shape decision-making and market behavior (Rousseau et al., 1998). Social trust, as a core component of informal institutions, constitutes the moral foundation of market economies. It compensates for contractual incompleteness, reduces transaction costs, and influences the behavior of financial market participants, thereby affecting digital finance development. In the context of digitalization, trust is particularly critical due to challenges such as regulatory uncertainty and the digital divide, making it a key factor in relationships between financial service providers and consumers. Formal institutions also play a crucial role in shaping social trust, giving rise to two possible interaction mechanisms. On the one hand, strong legal and regulatory systems may partially substitute for trust-based governance, reducing the marginal role of social trust. On the other hand, formal institutions and social trust may be complementary, with robust institutions enhancing systemic credibility and trust reducing institutional operating costs. Identifying the dominant mechanism is essential for designing effective policy frameworks that integrate “hard

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institutions" and "soft capital." China provides an ideal empirical setting due to its rapid digital finance development and significant regional heterogeneity in institutional quality, social trust, and financial digitalization (Li & Zhang, 2024). This study systematically examines how social trust affects digital finance development, explores regional heterogeneity and dynamic effects across development stages, and analyzes its impact on different dimensions of digital finance. The main contributions are threefold. First, the study extends digital finance research by incorporating informal institutional factors. Second, it clarifies the interaction between social trust and formal institutions, offering insights for institutional optimization. Third, it reveals that social trust does not significantly enhance coverage breadth, suggesting inherent limitations of trust-driven digital finance models and providing policy implications for promoting inclusive and sustainable digital finance development.

## 2. Research Analysis and Hypotheses

Digital finance plays an increasingly important role in economic development by improving resource allocation efficiency and expanding access to financial services (Murinde et al., 2022; Kapoor, 2014; K. Dong et al., 2022). Existing studies mainly explain digital finance development through technological conditions, financial ecosystem factors, and formal institutional arrangements. Technological progress and internet penetration are widely recognized as critical drivers (Syed et al., 2021; Schindler, 2017), while economic development, financial human capital, and financial literacy further shape outcomes (Sun et al., 2018; Yao & Shi, 2017; Yang & Zeng, 2022). Regulatory quality, policy supervision, and judicial protection also significantly influence digital finance (Barth et al., 2013; R. D. Chen et al., 2019; Zhang & Qiao, 2023). However, informal institutions have received relatively limited attention. Informal institutions consist of socially shared norms and beliefs that regulate behavior through implicit constraints, particularly where formal rules are incomplete (North, 1990). As digital finance remains in an early stage of

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development and its regulatory framework continues to evolve, informal institutions are crucial in reducing uncertainty and facilitating market coordination.

Social trust, a core component of informal institutions, is fundamental to financial transactions. Trust mitigates frictions arising from information asymmetry, incomplete contracts, and opportunistic behavior (Arrow, 1972). Prior research demonstrates its importance in commercial transactions (Guiso et al., 2009), bond markets (Brockman et al., 2020), and equity investment (Georgarakos & Pasini, 2011). Compared with traditional finance, digital finance relies more heavily on trust due to limited face-to-face interaction and regulatory gaps (Guiso et al., 2004).

Figures 1 and 2 provide preliminary evidence of this relationship. Figure 1 shows that social trust and digital finance generally follow similar upward trends over time, while Figure 2 indicates a positive association between provincial social trust scores and digital finance development. These patterns suggest that higher levels of social trust are associated with more advanced digital finance.

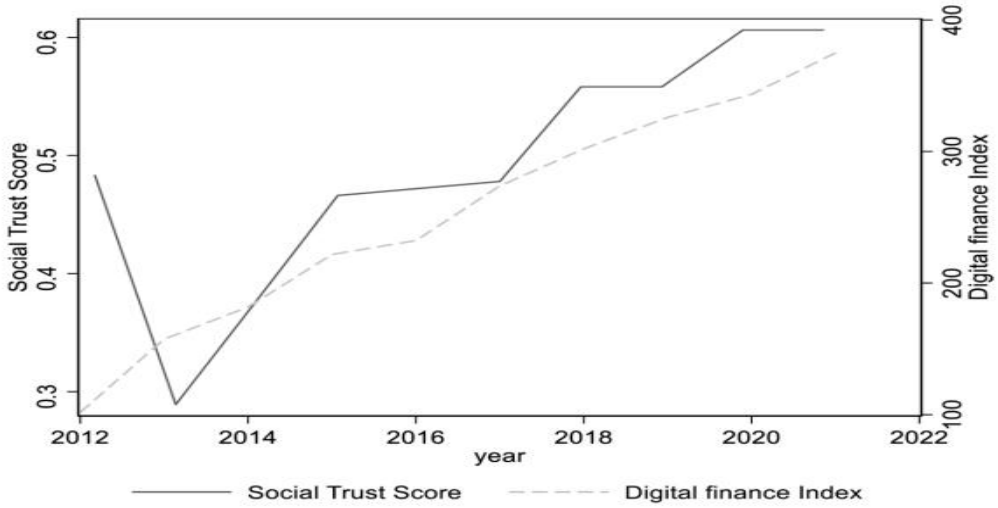



**Figure 1.** Social trust and digital finance trends

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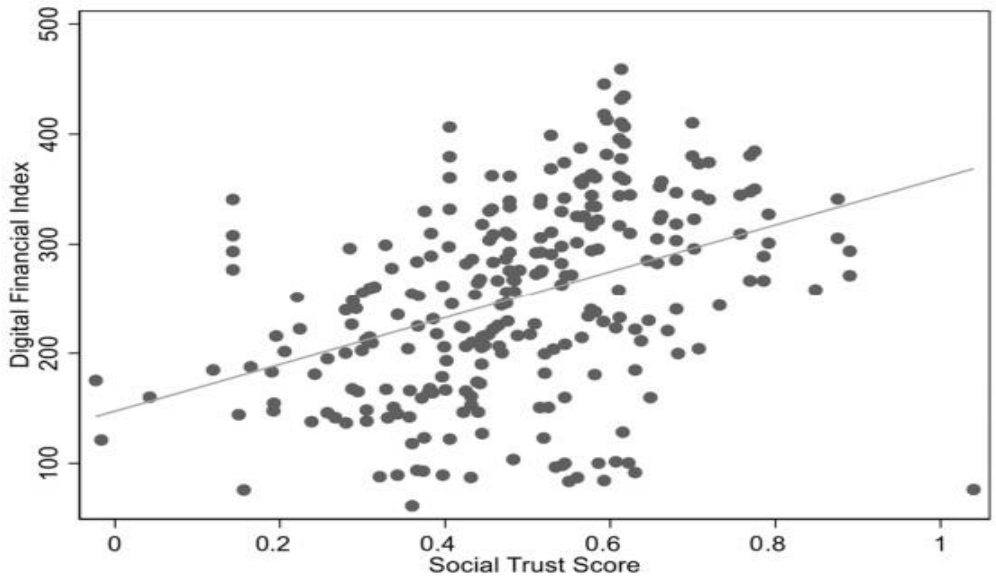



**Figure 2.** Scatterplot of social trust and digital finance.

From a risk perception perspective, social trust acts as a soft constraint by shaping ethical norms and behavioral expectations, thereby reducing perceived financial risk and encouraging participation in digital finance (Peng, 1999). From a transaction cost perspective, the diversification of digital financial products increases information complexity and decision costs. Social trust reduces these costs by facilitating information sharing and accelerating the diffusion of new financial models (Granovetter, 1973; Frost, 2020). Given the current absence of major systemic crises in China's digital finance sector and its role in promoting inclusive finance for small and micro enterprises (Huang et al., 2018).

**Hypothesis 1.** Social trust positively influences digital finance development.

Formal institutions interact closely with social trust. While strong formal controls may partially substitute for trust (Sitkin & Roth, 1993; Mayer et al., 1995), this effect is incomplete. Formal and informal institutions are largely complementary, with transparent and predictable institutions enhancing trust and trust reducing enforcement costs (Aghion et al., 2010).

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**Hypothesis 2.** A stronger formal institutional environment strengthens the positive effect of social trust on digital finance.

Social trust also affects digital finance through demand- and supply-side channels. On the demand side, higher trust promotes cooperation, employment, and entrepreneurship, increasing household income and demand for digital financial services (Butler et al., 2016). On the supply side, trust facilitates internet development by improving information quality and reducing online transaction risks, thereby supporting digital financial innovation.

**Hypothesis 3.** Social trust promotes digital finance by increasing household income.

On the supply side, digital finance depends on internet infrastructure and digital ecosystems. In high-trust environments, individuals are more willing to share information and engage in online interactions, improving information quality and reducing transaction risks. Internet development, in turn, provides both technological foundations and user bases for digital financial innovation, facilitating the diffusion of services such as online lending and digital investment platforms. .

**Hypothesis 4.** Social trust enhances digital finance by promoting internet development.

**Digital Financial Structures**

This study examines the effect of social trust on digital finance across three dimensions: digital financial breadth (CB), depth (UD), and digitization level (DL), which serve as dependent variables in the regression analysis.

Results in Table 1 (columns 1–3) indicate that social trust positively affects all dimensions; however, its effect on digital financial breadth is not statistically significant. This implies that social trust does not notably influence the expansion

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of digital finance adoption. This may be due to uneven technological development, where trust plays a limited role in regions or populations with slower digital adoption, where accessibility is a greater concern than trust.

Conversely, social trust has a significant positive effect on the depth of digital finance. It primarily enhances user engagement with complex services rather than just expanding the user base. Advanced digital financial applications—such as online credit, insurance, and wealth management—feature higher information asymmetry, complex risks, and greater contract uncertainties. In these contexts, social trust functions as an informal institutional mechanism, reducing perceived risks and strengthening users' reliance on digital platforms, thereby promoting the transition from basic to advanced digital financial services.

**Table 1.** Heterogeneity checks: digital financial structures and local heterogeneity

| | Dependent Variable: Df | | | | | |
|---|---|---|---|---|---|---|
| | cb | ud | dl | Local Heterogeneity | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| trust | 0.133 | 32.079 *** | 30.109 ** | −0.726 | 15.464 *** | 24.869 *** |
| | (3.302) | (9.634) | (13.360) | (5.639) | (5.049) | (5.318) |
| trust_east | | | | 30.723 *** | | |
| | | | | (6.334) | | |
| trust_mid | | | | | −6.833 | |
| | | | | | (8.273) | |
| trust_west | | | | | | −28.456 *** |
| | | | | | | (6.657) |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| ProvinceFE | Yes | Yes | Yes | Yes | Yes | Yes |
| YearFE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 270 | 270 | 270 | 270 | 270 | 270 |
| $R^2$ | 0.998 | 0.986 | 0.971 | 0.996 | 0.996 | 0.996 |

Notes: ** $p < 0.05$, *** $p < 0.01$.

This study examines the impact of social trust on digital finance across three dimensions: breadth (CB), depth (UD), and digitalization level (DL). Regression

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results (Table 1, columns 1–6) indicate that social trust significantly enhances the depth of digital finance use and moderately promotes digitalization, but its effect on breadth is not statistically significant. The limited impact on breadth may stem from uneven technological adoption, where accessibility matters more than trust, particularly in less developed areas.

Social trust facilitates the adoption of advanced digital financial services—such as online credit, insurance, and wealth management—by reducing perceived risks and supporting user engagement in complex systems. It also accelerates the integration of technologies like AI, blockchain, and cloud computing, providing a "safe space" for digital transformation despite challenges such as system compatibility, technological uncertainty, and data security concerns. However, the benefits of trust-driven digital finance largely accrue to financially stable or digitally literate groups, leaving marginalized populations underserved and potentially widening the digital divide and income inequality.

Regional heterogeneity further influences these dynamics. Dividing China into eastern, central, and western regions, the study finds that social trust exerts the strongest positive effect in the eastern region, is non-significant in the central region, and is weakened in the western region. Economically developed regions, with mature financial systems and robust institutional environments, provide ideal conditions for trust to enhance digital finance. Promoting cross-regional collaboration and knowledge transfer can strengthen trust frameworks, supporting more balanced and inclusive digital finance development.

## 3. Conclusions and Policy Implications

Social trust, as a form of social capital, plays a crucial role in economic development and the growth of digital finance. This study examines its influence, considering both formal institutional frameworks and informal institutions. Empirical results indicate that social trust positively affects digital finance, and that

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a strong formal institutional environment reinforces this effect, highlighting the complementary relationship between formal and informal institutions (Sitkin & Roth, 1993; Mayear et al., 1995). A supportive institutional context, combined with trust, is essential for fostering the expansion of digital finance. Although cultural variations shape the expression of social trust, the interaction between informal norms and formal rules is a universal concern, making these findings theoretically relevant for other emerging economies undergoing digital transformation.

The study identifies two main mechanisms through which social trust promotes digital finance: by increasing residents' income levels and by enhancing Internet infrastructure. Regarding sub-dimensions, trust primarily strengthens the depth of financial usage and the degree of digitalization. Regional heterogeneity is also evident: social trust has the strongest effect in eastern regions, negligible influence in central regions, and weakened impact in western regions. Quantile regression results further indicate that the effect of social trust intensifies as digital finance develops. Using provincial panel data from China, the study provides systematic evidence of the social trust–digital finance relationship, although the findings are context-specific and may vary across political systems and cultural settings. Nevertheless, China's internal diversity offers a valuable case for examining the interaction between informal and formal institutions, revealing an "institutional synergy effect" with potential analogical relevance for other emerging economies.

Based on these findings, several policy recommendations are proposed. First, establishing a robust social trust system should be a priority in digital finance development. The interplay between social trust and formal institutions should guide the design of regulatory frameworks, platform rules, and social norms, enhancing users' confidence and sense of belonging. Second, policies should be differentiated by service type: inclusive digital payments should be widely promoted, while digital lending and advanced financial services require stricter

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compliance and consumer protection. Efforts should also focus on digital literacy and technical support to ensure vulnerable groups are not excluded, mitigating wealth disparities. Third, regional development policies should target central and western regions, promoting social trust and leveraging cooperation with eastern regions and international partners to create a favorable environment for digital finance growth.

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