



Does Private Sector Development Decrease Financial Inclusion? An Evidence In A Transitioning Country

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Abstract

This study presents evidence elucidating the complex relationship between private sector development (PSD) and the Financial Inclusion Index (FII) in a transitioning economy. Given that the private sector, a significant driver of growth in Vietnam, is expanding, the research investigates whether this trend benefits workers in terms of financial inclusion. Utilizing panel data from 63 provinces in Vietnam spanning from 2010 to 2020, our results indicate that while private sector expansion generally enhances financial access, the transition of workers from the public to the private sector can diminish FII. This interconnection is influenced by the local institutional quality, whereby an increase in private sector employment and labor share contributes more positively to FII in regions characterized by high-quality institutions and economic development. Therefore, our findings underscore the critical role of institutional reforms and targeted policies aimed at ensuring that private sector growth translates into improved financial inclusion, particularly for marginalized communities.

Research Purpose:

The purpose of this research is to explore whether the growth of the private sector in Vietnam has a positive or negative effect on financial inclusion—that is, whether it helps more people access essential financial services like banking, loans, and credit. The study looks at how expanding private sector employment might improve access to these services, but also whether the shift from public to private sector jobs could reduce financial inclusion in certain areas. Ultimately, this research aims to provide insights on how private sector growth impacts workers' financial well-being in a transitioning economy like Vietnam

Research motivation:

The motivation for this research arises from the growing role of the private sector in driving Vietnam's economic development and the need to understand its impact on financial inclusion. While the private sector creates jobs and promotes growth, its effect on access to essential financial services—especially for underserved communities—remains unclear. This study aims to investigate whether private sector expansion improves or hinders financial inclusion, providing insights that can guide policies to ensure inclusive and equitable economic benefits.

Research design, approach, and method:

This research uses a panel data analysis across 63 provinces in Vietnam from 2010 to 2020 to explore the relationship between private sector growth and financial inclusion. We employ various indicators of private sector development and a Financial Inclusion Index to assess financial access. To ensure robust results, we apply statistical methods that account for potential biases and control for important factors such as institutional quality and regional differences. This approach allows us to uncover the nuanced effects of private sector expansion on financial inclusion in different contexts.

Main findings:

The main findings of this research reveal that private sector growth generally enhances financial inclusion by increasing access to essential financial services. However, the shift of workers from the public to the private sector can lead to a decline in financial inclusion, especially in regions with weaker institutional quality. Our study also shows that areas with better institutional frameworks benefit more from private sector expansion in terms of financial inclusion, while regions with higher poverty rates experience slower progress.

Practical/managerial implications:

The practical implications of this research suggest that policymakers should focus on strengthening institutional frameworks to ensure that private sector growth leads to broader financial inclusion. Improving governance, transparency, and financial infrastructure can help regions, especially those with higher poverty rates, to benefit more from private sector expansion. For managers and business leaders, the findings highlight the importance of engaging with local institutions and supporting initiatives that promote financial literacy and access to financial services, which can enhance both employee welfare and business performance in transitioning economies like Vietnam.

Keywords: Financial Inclusion, Private Sector Development, Institutional Quality, Transitioning Economy

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1. Introduction

Financial inclusion is crucial, particularly in transitioning countries, addressing fundamental economic and social challenges inherent in these contexts (Van Nguyen, Van Le, & Tran, 2024). Financial inclusion initiatives aim to provide access to essential financial services such as banking, credit, and insurance to previously underserved populations (Aminkeng, Huaming, Mukete, & Mwalupaso, 2024; Demirgüç-Kunt & Klapper, 2012). This is essential for fostering economic stability, promoting entrepreneurship, and reducing poverty by integrating marginalized groups into the formal financial system (Beck, Demirgüç-Kunt, & Levine, 2007; Demirgüç-Kunt & Klapper, 2012; Van Nguyen et al., 2024). In transitioning economies, where formal financial systems are often underdeveloped or inaccessible to large segments of the population, research on financial inclusion helps identify barriers and effective strategies for expanding access (Sarma & Pais, 2011; World Bank Group, 2023). Moreover, improving financial inclusion can enhance economic growth by stimulating investment and consumption, which are critical for sustainable development (Allen, Demircug-Kunt, Klapper, & Peria, 2016; Demirgüç-Kunt, Klapper, Singer, & Ansar, 2022). Therefore, research in this field not only informs policy-making but also contributes to the broader goal of inclusive economic growth and development.

Private sector development is one of the growth-driven engines of transitioning countries, and thus, it enables these nations to address financial exclusion (Van Le & Tran, 2022; Van Le, Tran, & Doan, 2022). While the conventional approach often considers private sector development to stimulate economic growth by increasing investment and productivity in transitioning economies, there is a gap in its impact on financial inclusion given a transition context (Allen et al., 2016; Demirgüç-Kunt et al., 2022). Research in this area informs policy-makers and practitioners about the mechanisms through which private sector activities can either hinder or facilitate financial inclusion efforts, guiding interventions that promote inclusive economic growth (Honohan & Beck, 2007).

On the one hand, the public sector provides substantial financial security and stability to its employees through various mechanisms not typically available in the private sector. Public sector retirement plans benefit from a diversified economic base and government revenue sources, ensuring more dependable funding compared to industry-specific private sector plans (Ekins, 2015). Job security in the public sector is bolstered by stringent employment regulations, shielding employees from the job cuts and bankruptcies often faced by private firms during economic downturns (Kumari & Pandey, 2011; Luechinger et al., 2010). Additionally, public sector workers enjoy superior retirement benefits, such as early retirement options with full benefits, which are more prevalent than in the private sector (Reluao et al., 2023). The contrast with informal employment in transitional economies is stark, where informal workers lack social protections and face greater health and economic risks (Hurtado et al., 2017; Olivier, 2019). These factors underscore the significant advantages in financial stability and job security that public sector employment offers, particularly compared to the informal private sector, which lacks robust worker protections and benefits.

On the other hand, the debate over private sector growth and its impact on financial inclusion underscores contrasting perspectives. Advocates argue that as economies transition towards market-oriented reforms and privatization, the private sector's expansion can lead to economic growth and innovation, thereby enhancing overall financial well-being. This growth is supported by studies showing that increased private sector credit availability correlates positively with economic growth across different income brackets (Azimi, 2022; Samuel-Hope et al., 2020). Moreover, competitive markets foster efficiency in resource allocation and production, crucial for sustained economic development and poverty reduction (OECD, 2007; IFC, 2015). Proponents argue that private sector development (PSD) reduces financial exclusion by lifting individuals out of poverty and enhances access to financial services, particularly through innovative approaches like social enterprises (Van den Berg & Cuong, 2011; Wilson, 2012). Ultimately, while PSD presents opportunities for economic growth and financial inclusion, its implementation requires careful consideration of its impact on inequality and the broader social fabric.

The current study has several following contributions. *Firstly*, it provides fresh evidence regarding the impact of the private sector on financial inclusion in Vietnam. Given Vietnam's status as a rapidly transitioning nation, which witnessed the rapid growth of the private sector alongside notable financial fraud incidents in the Asian region (recently exemplified by the Saigon Joint Stock Commercial Bank [SCB] case), it offers a more nuanced perspective beyond linear relationships typically explored in global data studies (Van Nguyen et al., 2024). *Secondly*, the research examines heterogeneous impacts by using novel measurements of private sector development, which includes (i) growth in private sector employment and (ii) relative growth compared to the public sector (i.e., the movement from state to private and vice versa). As a result, it partially explains variations in empirical outcomes across different regions.

Thirdly, the study examines heterogeneous impacts under institutional quality. It suggests that with better institutional frameworks, private sector growth yields greater benefits in terms of financial inclusion. The remainder of the paper is

structured as follows: Section 2 provides a literature review, while Section 3 presents the empirical strategy and data sources used. Section 3 also introduces a refined measure of private sector development, followed by results in Section 4. Section 5 discusses the findings and proposes policy implications.

2. Literature review

2.1. Public sector and financial inclusion

Compared to the private sector, state-owned enterprises are often perceived to safeguard the financial well-being of employees through several mechanisms. *Firstly*, the financial stability of public sector retirement plans derives from their diversified economic base, shielding them from the vulnerabilities inherent in private sector plans linked to specific industries or firms. This risk diversification, coupled with the government's capacity to generate revenue through taxation, ensures a more dependable source of funding for public sector retirement benefits (Ekins, 2015). In Germany, public servants' employment conditions are codified in separate legislation, providing stringent job protections and restricting dismissals to cases involving criminal convictions or national security concerns (Luechinger, Meier, & Stutzer, 2010). The author continues that this institutional safeguard contributes to the decreased vulnerability of public sector employees' financial well-being to fluctuations in unemployment rates compared to those in the private sector.

While private sector employees may enjoy higher salaries, public sector workers often benefit from superior financial security and retirement benefits. Reluao, Calbasa, Loteyro, Vigonte, and Abante (2023) show that members of defined benefit plans in the public sector are far more likely to retire at or before the age of 55 while receiving full (unreduced) retirement benefits compared to their private sector counterparts. This advantage stems from the public sector's ability to finance benefits through the entire economy rather than relying on a particular enterprise or industry, providing a level of financial assurance that private plans cannot match (Reluao et al., 2023).

Secondly, during economic downturns, the resilience of the public sector to financial pressures results in greater job stability; unlike private firms, which may face bankruptcy and substantial job cuts, government and public sector jobs tend to remain secure (Kumari & Pandey, 2011; Luechinger et al., 2010). This trend was evident during the recent recession when state and local governments added 110,000 jobs, while the private sector lost 6.9 million jobs (Kumari & Pandey, 2011). *Thirdly*, public-sector workers also avoid numerous risks associated with informal private-sector employment, particularly in transitional economies (Hurtado, Hessel, & Avendano, 2017). Giatti, Barreto, and César (2008) state that informal workers often face greater health risks and economic insecurity than formal ones, coupled with increased informal workers' social insurance, exacerbating their vulnerability (Olivier, 2019). According to the Organization for Economic Cooperation and Development [OECD] (2024), only about 37% of informal workers benefit from social protection programs, compared to over 70% of formal workers. Informal employment is widespread in developing and emerging countries, where a large segment of the non-agricultural workforce operates outside the formal regulatory system.

Studies indicate that between 50% and 75% of non-agricultural employment in these nations is informal (Chen, 2012; Ohnsorge & Yu, 2022). A report by the Bonnet, Vanek, and Chen (2019) offers similar estimates, showing that globally, excluding agriculture, half of the employed population works informally. The prevalence is particularly high in Africa (85.8%), followed by Asia and the Pacific (68.2%), the Arab States (68.6%), the Americas (40.0%), and Europe and Central Asia (25.1%). Thus, given less protective policies of the informal sector for workers, the movement from the public sector to the informal private one could yield negative effects on financial outcomes.

Hypothesis 1: In the short term, state-run sectors may provide better financial benefits to workers compared to private sectors.

2.2. Private sector development and financial inclusion

Conversely, private sector growth could potentially improve financial inclusion. The market transition theory suggests that privatization and private sector expansion in transitioning economies typically lead to increased income inequality. Initially, workers in state and public sectors may experience reduced protections and income, while those in the private sector benefit from market-oriented reforms. Historically, wages in privatized sectors tend to decrease as operational efficiencies improve (Haskel & Szymanski, 1993).

Furthermore, Wilson (2012) contends that the development of private sectors, particularly through social enterprises, can effectively establish a social framework that enhances financial inclusion—a critical goal for optimizing national welfare systems (Fineman, 2010). This approach becomes increasingly relevant amidst the complexities exacerbated by digital transformation (Claessens, 2006), where governmental regulations and financial programs often inadequately meet the diverse needs of vulnerable populations, unlike the adaptive responses seen in social enterprises (Van den Berg & Cuong,

2011; Wilson, 2012). Moreover, transitioning from informal to formal enterprises, particularly in domestic private sectors, can provide greater job security and benefits (E. Malesky & Taussig, 2009; Rado, 1973); Similarly, multinational enterprises also promote international trade, create jobs for low-skilled workers, and reduce transaction costs, thus mitigating inequality in transitioning economies (Van Le & Tran, 2022; Van Le et al., 2022).

The enhancement of Financial Inclusion Indicators (FII) through private sector growth is clarified by several mechanisms. *Firstly*, the private sector's expansion in financial markets is bolstered by its capacity to innovate products and services, which in turn stimulates the development of complementary financial services. This development is underscored by scholars such as Deaton (2013); Milton and Rose (1980); Roberts (2013), who assert that private sector advancement leads to high-quality consumer goods at lower costs, thereby improving overall economic well-being. Empirical studies also demonstrate the positive correlation between increased credit availability and economic growth. For instance, Azimi (2022) shows that a 1% rise in private sector credit correlates with economic growth increases of 0.130%, 0.322%, 0.332%, and 0.348% in low-income, middle-income, upper middle-income, and high-income economies, respectively. Similarly, Samuel-Hope, Ehimare, and Osuma (2020) provide statistical evidence of this effect across various economic contexts.

Secondly, private sector contributions to GDP and living standards are pivotal. The private sector drives economic growth and development through its efficiency and capacity to innovate products and services. According to the OECD (2007), competitive markets enhance the efficiency of production, distribution, and resource allocation and are essential for overall market functionality and economic growth. The International Financial Corporation [IFC] (2015) further supports this view, emphasizing that the private sector is crucial for sustainable development as it fosters innovation, improves productivity and efficiency, and creates jobs and economic growth necessary for poverty reduction and shared prosperity. Consequently, this improves individuals' access to financial services.

Thirdly, private sector development (PSD) reduces financial exclusion by lifting people from poverty and alleviating inequality. According to Van Le and Tran (2022); Van Le et al. (2022), a one-percentage-point increase in private-sector employment results in a 0.30% reduction in multidimensional poverty, a 0.31% decrease in monetary poverty, and a 0.263% reduction in income inequality. The authors argue that PSD also promotes political equality and improves the quality of public goods and services, such as the Internet and financial infrastructure (Van Le & Tran, 2022). Notably, the growth of social enterprises creates an institutional framework that significantly increases opportunities and reduces inequality in financial services, particularly for disadvantaged groups (Van den Berg & Cuong, 2011; Wilson, 2012). Thus, reducing poverty and inequality enhances citizens' financial access and promotes financial inclusion.

Hypothesis 2: Growth in the private sector will improve financial well-being, especially in developing countries.

2.3. *Heterogeneous effects*

From an empirical standpoint, evidence suggests that the impact of private sector development on financial inclusion is conditional. Strong institutional quality is linked to better economic performance (Karmani & Boussaada, 2021), as it creates an environment conducive to responsible business practices and corporate social responsibility (CSR). Firms operate within complex political and economic institutions that influence their behavior toward employees' financial well-being (Tuczek, Castka, & Wakolbinger, 2018). In countries with weak rule of law and poor governance, firms are often less competitive and weaker (Klomp & De Haan, 2015), as the absence of institutional safeguards and accountability can impede private sector growth and productivity. This means that workers are either reduced wages or cut other benefits.

Zheng and Ren (2019) agree that in countries with strong legal protections, firms' unethical behavior is more likely to be exposed and condemned, making the fulfillment of CSR more significant. A robust CSR framework can offer positive working conditions and greater workplace flexibility, thereby improving employees' social and financial situation (Karmani & Boussaada, 2021). Moreover, strong institutional frameworks can directly impact poverty reduction (Aracil, Gomez-Bengoechea, & Moreno-de-Tejada, 2022). Effective governance structures enhance government expenditure efficiency (Grindle, 2004), boost labor and capital productivity and foster an entrepreneurial environment. Financial inclusion, a key component of economic development, can be facilitated by the private sector, including banks and non-traditional financial institutions such as fintech companies. Similarly, the low quality of institutions, reflected in the incidence of corruption, is linked to private sector inefficiency (Nwabuzor, 2005).

Hypothesis 3: Institutions influence the relationship under consideration.

3. Methodology and data

3.1. *Measure private sector development*

In accordance with the research hypothesis thus far, we investigate private sector development along at least two dimensions: (i) its intrinsic growth, which can be proxied by the number of workers employed in the private sector, and (ii) private sector development in relation to the public sector. While the former addresses hypothesis 2, the latter serves as the primary indicator for hypotheses 1 and 3. Precisely, we assess the private sector development index using the ratio of total labor in domestic private enterprises (DPE) and multinational enterprises (MNE) to the total labor force, known as the π index (Jaax, 2020; Van Le & Tran, 2022; Van Le et al., 2022). The index is calculated as follows:

$$\pi = \frac{\text{DPE labor} + \text{MNE labor}}{\text{labors of enterprises}} = 1 - \frac{\text{State labor}}{\text{labors of enterprises}} \quad (1)$$

An increase in the π index can arise from either (i) a decrease in public sector employment without corresponding employment in the private sector, or (ii) the transition of workers from the public sector to the private one. Thus far, there is currently no evidence in Vietnam to confirm that workers are losing their jobs in the public sector without finding new positions in private enterprises (H. C. Le, Cabalu, & Salim, 2014). Therefore, changes in the π index would stem from the movement of workers from the public to the private sectors, and the sum of labor in domestic private enterprises (DPE) and multinational enterprises (MNE) is referred to as its ‘intrinsic growth.’ While the creation of additional job opportunities for workers is expected to enhance financial inclusion, the shift from the state sector to the private sector may have adverse effects on various aspects of workers, as indicated in previous studies (Shamir, 2004; Van Le et al., 2022; Wilson, 2012).

3.2. Empirical model

Growth in the private sector is expected to enhance overall financial development in line with market transition theory. This theory suggests that income inequality typically increases during most countries’ transition from a centrally planned to a market economy (Haskel & Szymanski, 1993). Specifically, market transition theory posits that as economic policies become more market-oriented, workers in state and public sectors may experience reduced job security and lower incomes, while those in the private sector stand to benefit from the new economic environment. Historically, wages in the public sector have been higher; however, with privatization and cost-cutting measures, public sector wages are likely to decrease (Haskel & Szymanski, 1993). As anticipated by Haskel and Szymanski, this shift can narrow the wage gap between the public and private sectors over time. Empirical evidence from Vietnam supports these conclusions based on data analysis (D. V. Le & Tran, 2023; Van Le & Tran, 2022; Van Le et al., 2022).

$$FII_{i,j,t+1} = \alpha_i + \beta_1 X_{i,j,t} + Z' \gamma + \lambda t + \varepsilon_{i,j,t} \quad (2)$$

where $FII_{i,j,t+1}$ represents the financial inclusion index in province i within economic region j and year $t+1$, previous research has highlighted the necessity of accounting for lagged effects of private sector development (PSD) on FII. X denotes the level of private sector development, while Z encompasses a vector of control variables. These control variables include literacy rates, macroeconomic indicators (Le-Van, Daisuke, & Le, 2023; D. V. Le & Tran, 2023; Van Le & Tran, 2022; Van Le et al., 2022), industrial development (Fan et al., 2019), the degree of formal economic activity, and foreign direct investment (FDI) (Ni, Spatareanu, Manole, Otsuki, & Yamada, 2017).

Notably, recent research indicates that for every 1% increase in PSD (measured by π), there is a corresponding 0.3% reduction in poverty across provinces and cities in Vietnam (Van Le et al., 2022), given the close relationship between poverty and financial inclusion levels. Importantly, improvements in FII in Vietnam from 2010 to 2020 have been attributed to expanded financial services for the poor. Thus, without controlling the poverty level in the model, the coefficients of β_1 would be biased and inconsistent. λ and α represent year dummies and time-invariant province-specific dummies (e.g., cultural, historical, and ethnic characteristics), while the ε denotes error term. Given hypothesis [3], to evaluate the impact of institutional quality, the study model includes an interaction term between PSD and institutional quality as follows:

$$FII_{i,j,t+1} = \alpha_i + \beta_1 X_{i,j,t} + \sum_{l=1}^L \gamma_l Z_{l,i,j,t} + \eta_1 Ins_{i,j,t} \times X_{i,j,t} + \lambda t + \varepsilon_{i,j,t} \quad (3)$$

Coefficients of β_1 and η_1 in Equation (3), estimated using ordinary least squares (OLS) and fixed effects estimators, may suffer from bias and inconsistency due to simultaneity issues (Wintoki, Linck, & Netter, 2012). Specifically, high financial inclusion can influence private sector development. Also, considering the dynamic endogeneity issue where current PSD may be determined by past FII, the fixed-effects estimator would produce biased and inconsistent results. We employ two-step generalized method of moments (GMM) estimators to address these challenges.

3.3. Data

The data is sourced from three main components: Firstly, financial inclusion is computed using principal component analysis (PCA) on indicators including banking account ownership, saving books possession, ATM card possession, credit card ownership, stock account ownership, and loan uptake, sourced from the Vietnam Household Living Standard Survey (VHLSS) (Tran & Dinh, 2021; Van Nguyen et al., 2024). These components are aggregated at the provincial level before being merged with the second dataset (detailed in Appendix [1]). The VHLSS has been conducting financial-related surveys biennially since 2014, with the Financial Inclusion Index (FII) spanning 2014, 2016, 2018, and 2020 (Tran & Dinh, 2021).

The second dataset is from the General Statistics Office of Vietnam, commonly used at sub-national levels (Van Le et al., 2022; Van Nguyen et al., 2024), capturing variables on private sector development and other controls as outlined in subsection 3.1. The third dataset focuses on institutional quality to test hypothesis 3, sourced from the Provincial Competitiveness Index, detailed in Appendix [2], which evaluates local governance quality from the perspective of the private sector, enhancing reliability for this research context. All datasets are merged and become a balanced panel covering data from 63 provinces in Vietnam from 2013 to 2020. Detail variables, units, sources, and descriptive statistics are presented in Table [1].

Dependent variables include the Financial Inclusion Index (mean = 0.245, SD = 0.192) and its components from the Vietnam Household Living Standards Survey (VHLSS) such as having a banking account (mean = 0.224, SD = 0.153), saving books (mean = 0.108, SD = 0.068), ATM cards (mean = 0.326, SD = 0.150), credit cards (mean = 0.022, SD = 0.028), stock accounts (mean = 0.002, SD = 0.004), and taking a loan (mean = 0.194, SD = 0.090). Independent variables include the logarithm of workers employed in the enterprise sector (mean = 11.447, SD = 1.130) sourced from the General Statistics Office (GSO), private sector labor share (mean = 0.907, SD = 0.089), domestic private sector labor share (mean = 0.690, SD = 0.192), and multinational private sector labor share (mean = 0.216, SD = 0.211) calculated by the authors following Van Le et al. (2022).

Table 1. Descriptive statistics

	Units	Sources	MEAN	SD	MIN	MAX
Dependent variables						
Financial Inclusion Index (PCA)	[0,1]	Authors' calculation	0.245	0.192	0.000	1.000
Having banking account	[0,1]	VHLSS	0.224	0.153	0.016	0.799
Having saving books	[0,1]	VHLSS	0.108	0.068	0.013	0.362
Having ATM card	[0,1]	VHLSS	0.326	0.150	0.063	0.792
Having credit card	[0,1]	VHLSS	0.022	0.028	0.000	0.187
Having stock account	[0,1]	VHLSS	0.002	0.004	0.000	0.020
Taking a loan	[0,1]	VHLSS	0.194	0.090	0.014	0.510
Independent variables						
(Numbers) workers employed in the enterprise sector on logarithm	person	GSO	11.447	1.130	9.064	15.031
Private sector labor share	[0,1]	Author's calculation as suggested by (Van Le et al., 2022)	0.907	0.089	0.422	0.993
Domestic private sector labor share	[0,1]		0.690	0.192	0.233	0.971
Multinational private sector labor share	[0,1]		0.216	0.211	0.000	0.732
Control variables						
Multidimensional poverty	[0,1]	GSO	0.132	0.126	0.001	0.664
FDI implemented on logarithm	mill. \$US	GSO (Ni et al., 2017)	3.278	2.426	0.000	8.319
Urban rate	[0,1]	GSO (Fan et al., 2019)	0.284	0.173	0.098	0.872
High labor quality rate	[0,1]		0.606	0.197	0.476	2.763
government spending on development on logarithm	bill. VND	GSO (Thanh & Canh, 2020; Thanh, IHart, & Canh,	7.870	1.085	1.089	10.457
Government spending on social	bill.		5.972	0.825	2.460	7.992

security on logarithm	VND	2020)				
GRDP per capita on logarithm	mill. VND	GSO	3.460	0.526	2.522	5.466
Literacy	[0,1]	GSO	0.932	0.068	0.592	0.992
Instrument variable						
Regional private sector labor share	[0,1]	Authors' calculation (Fisman & Svensson, 2007)	0.690	0.082	0.550	0.786
Moderating variables						
Provincial competitiveness index (PCI)	[0,100]	PCI Vietnam	61.042	4.425	48.960	73.400
PCI-Time costs	[0,10]	PCI Vietnam	6.613	0.837	4.830	8.800
PCI-Business support services	[0,10]	PCI Vietnam	5.924	0.813	3.680	8.370
PCI-Law & Order	[0,10]	PCI Vietnam	5.967	0.823	3.680	7.910
PCI-Labor policy	[0,10]	PCI Vietnam	6.066	0.847	4.140	8.240
Observation			252.000			

Source: Authors

4. Results

4.1. Vietnamese' context

In Vietnam, cash remains the dominant currency for transactions (more than 80% of total transaction), unlike many other developing countries (World Bank, 2021), while the adoption of digital financial services is rapidly increasing, particularly among the middle-aged population. Indeed, over 30% of the population in Vietnam currently use banking apps, ranking second only to China, where the figure stands at over 41%.¹ Figure [1] illustrates the progression of financial inclusion in Vietnam across three distinct years: 2014, 2018, and 2020. Financial inclusion is represented by color-coded regions, with each color corresponding to different levels of inclusion. In 2014, many regions display low financial inclusion (yellow), particularly in the southern and central parts. By 2018, there is a noticeable improvement, especially in the northern and some central regions, with more areas shifting to higher inclusion levels (orange and red). By 2020, financial inclusion continues to improve, with a significant increase in regions exhibiting the highest levels of inclusion (red), indicating broader access to financial services across the country. Besides, during the period of 2019 - 2021, the top 500 largest private enterprises, although accounting for only 0.075% of the total number, contributed 12% of the labor force, accounted for 28% of total assets, and contributed 18.4% of the revenue of private enterprises nationwide.²

¹ <https://vietnamnews.vn/economy/1544339/vn-among-world-s-earliest-in-banking-digital-transformation-forum.html#:~:text=More%20than%2030%20per%20cent,%2C%20human%2Dcentred%20system%E2%80%9D>.

² <https://vietnamnet.vn/en/assessment-of-top-500-private-enterprises-released-2184193.html>

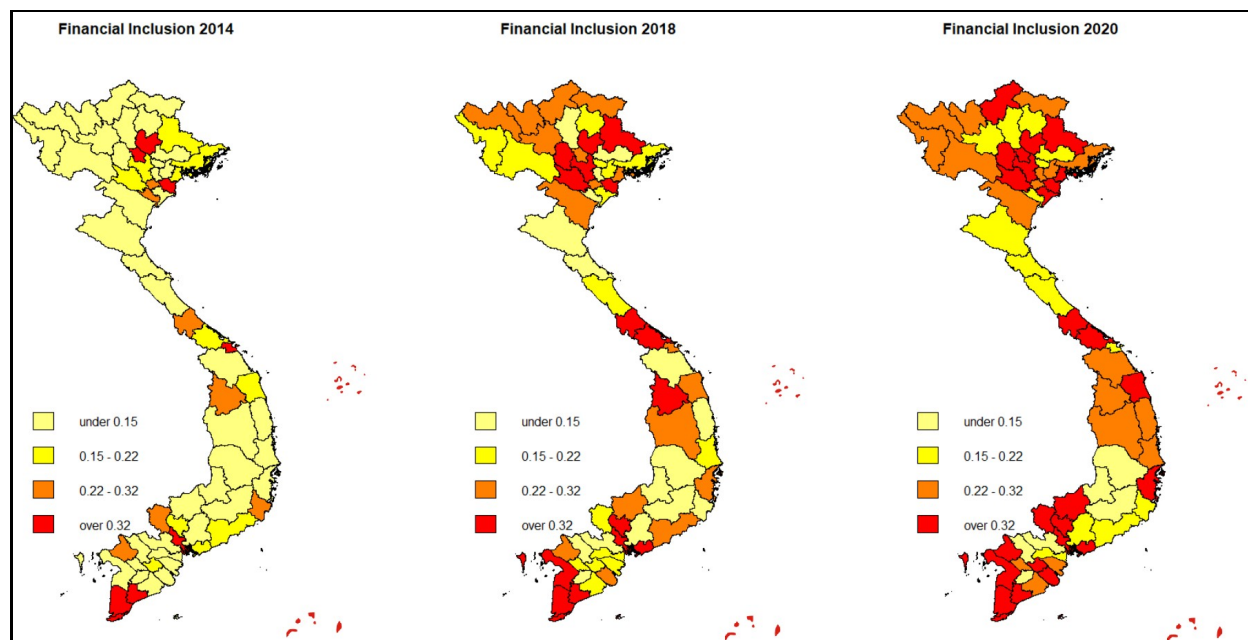


Figure 1. Evolution of Financial inclusion in Vietnam, 2014-2020

Source: Authors. Notes: provincial data is aggregated from the individual level, collected from the Vietnam Household Living Standard Survey (VHLSS).

In Vietnam, the literature indicates that private sector growth contributes primarily to enhancing financial inclusion by reducing financial exclusion and safeguarding the welfare of vulnerable consumers. Specifically, private sector development (PSD) has been linked to poverty reduction (Van Le et al., 2022), diminishing inequality (Van Le & Tran, 2022), and fulfilling corporate social responsibility obligations (Van Huong, Mai, Hau, & Cuong, 2023). Conversely, studies across various countries suggest that job security is perceived to be higher in the public sector compared to the private one (Karatepe, Yavas, Babakus, & Deitz, 2018). Over the past decade, there has been a resurgence in public sector and government jobs due to their perceived job security and better work-life balance (Chatterjee, Kumar, & Dayma, 2019). It can be explained by the fact that Vietnamese state-owned enterprises can easily capitalize on their advantages over the private sector, as observed through salary mechanisms (Phan & Coxhead, 2013), joint ventures with state-owned banks, and monopolistic advantages in natural resource sectors (H. C. Le et al., 2014).

The movement of employees from the public to the private sector is widespread in Vietnam, influenced by factors like personal preferences, career aspirations, and perceived advantages of private employment. The public sector typically maintains lower turnover rates than the private sector (Van Le et al., 2022). Besides, employees often transition from the public sector to the private sector to sustain their livelihoods (Ministry of Planning and Investment [MPI], 2021). Thus far, the domestic private sector, employing over 70% of the workforce and growing faster than the public sector, is crucial for future poverty reduction efforts. Additionally, the multinational sector, employing more than 19.7% of the workforce and demonstrating superior return on assets and velocity metrics compared to state-owned enterprises, continues to play a significant role in poverty reduction and establishing a robust foundation for international trade.

4.2. Main results

Table [2] illustrates the effects of (i) increased employment in the enterprise sector (columns [1] and [4]) and (ii) the share of private sector labor (columns [2], [3], [5], and [6]) on the Financial Inclusion Index (FII). Specifically, an increase in private sector employment, controlling for economic scale characteristics, educational attainment, government spending, and foreign investment inflows, positively impacts the FII in Vietnam (column [1]). This finding aligns with previous research suggesting that the development of the private sector diversifies financial services and reduces costs (Deaton, 2013). A deeper analysis can revisit discussions by classical economists (e.g., (Milton & Rose, 1980)) or Austrian economists, who argue that market solutions expand scale and product quality through competition (Hayek & Caldwell, 2014; Rothbard, 2009). For instance, in competition with major financial payment firms like Zalo Pay, banks have introduced incentives for local customers, such as reducing transaction costs, supporting domestic procedures, expanding ATM and branch networks, and attracting more customers with higher savings interest rates.

In contrast, compared to state-owned enterprises, an increase in private sector labor diminishes the FII (columns [2] and [3]). This can be explained by state-owned enterprises typically offering better retirement benefits (Reluao et al., 2023),

stronger insurance coverage, especially during economic fluctuations (Luechinger et al., 2010), and notably, special incentives in socialist-oriented market economies (Phan & Coxhead, 2013). It is worth noting the prevalent lack of financial insurance for informal sector workers, who constitute over 30% of Vietnam's workforce (Huynh, Nguyen, & Nguyen, 2020).

The findings from columns [1]–[3] present a paradox: on one hand, an increase in the number of workers in the private sector contributes to higher FII, while an increase in the share of private sector employment compared to state-owned enterprises reduces FII (as indicated by the π index). This can be explained through the poverty reduction channel facilitated by private sector growth over the past two decades (Van Le et al., 2022). Specifically, first, Vietnam's improvement in financial inclusion is primarily due to expanding financial services access for people experiencing poverty, and second, private sector growth from 2010 to 2019 contributed to a 0.3% multidimensional poverty reduction corresponding to a 1% increase in the private labor force share (π). Consequently, when controlling for multidimensional poverty in columns [4], [5], and [6], the regression coefficients lose statistical significance, whereas coefficients indicating positive and statistically significant effects of improving FII are more pronounced in regions with high poverty rates during the 2014–2020 period.

These results suggest that despite state-owned enterprises' advantages in providing comprehensive financial services in Vietnam, such as controlling domestic banks (Ekins, 2015; Reluao et al., 2023) and specific incentive mechanisms (Phan & Coxhead, 2013), the long-term economic efficiency combined with increased equality of opportunity for the poor in the private sector renders this impact statistically insignificant (D. V. Le & Tran, 2023; Van Le & Tran, 2022; Van Le et al., 2022); following these studies, we examine the growth of private sector labor force share segmented by domestic and multinational enterprises, detailed in Appendix [2], which is consistent with the findings above.

Table 2. Regression results

Dependent variables	Financial Inclusion Index _{t+1}					
Columns	(1)	(2)	(3)	(4)	(5)	(6)
Workers employed in the enterprise sector on log	0.053* (0.031)			0.039 (0.030)		
Private sector labor share (π)		-0.361* (0.185)	-0.400* (0.205)		-0.228 (0.184)	-0.302 (0.202)
Multidimensional poverty				0.772*** (0.239)	0.798*** (0.226)	0.760*** (0.239)
FDI implemented on logarithm	0.008 (0.006)		0.007 (0.006)	0.007 (0.006)		0.007 (0.006)
Urban rate	0.232 (0.353)		0.124 (0.351)	-0.069 (0.357)		-0.145 (0.353)
High labor quality rate	-0.128 (0.102)		-0.081 (0.104)	-0.048 (0.102)		-0.013 (0.104)
Government spending on development on logarithm	-0.006 (0.012)		-0.007 (0.012)	-0.003 (0.012)		-0.004 (0.011)
Government spending on social security on log	0.023 (0.018)		0.029* (0.017)	0.016 (0.017)		0.021 (0.017)
GRDP per capita on logarithm	0.110 (0.091)		0.108 (0.090)	0.114 (0.088)		0.112 (0.088)
literacy	0.261 (0.740)		0.576 (0.752)	0.234 (0.722)		0.472 (0.734)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
ID control	Yes	Yes	Yes	Yes	Yes	Yes
Observations	252	252	252	252	252	252
R-squared	0.506	0.488	0.509	0.534	0.520	0.535
Number of provinces/cities	63	63	63	63	63	63

Source: Authors. Notes: The panel data includes 63 provinces/cities in Vietnam and the years 2013, 2015, 2017, and 2019. The FII data are calculated by the author through PCA method, from 6 component indices including: (i) Having a banking account, (ii) Having savings books, (iii) Having ATM cards, (iv) Having credit cards, (v) Having stock accounts, and (vi) Taking a loan. This data is synthesized from VHLSS in the years 2014, 2016, 2018, and 2020. Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table [3] continues to examine the heterogeneous impacts across regions with varying poverty rates. Regions with perceived low and high poverty rates are defined by poverty rates below the 25th percentile and above the 75th percentile, respectively, and regions with medium poverty rates fall within the p(25) to p(75) range. Interestingly, increasing the quantity of the private sector (columns [1]-[3]) and its labor share (column [4]) has a slower effect on FII in regions with higher poverty rates. In other words, the decline in the public sector alongside private sector growth has a more positive influence on FII in regions with poverty rates below the p(25) threshold.

This phenomenon can be explained by two facets: first, provinces and cities with lower poverty rates, characterized by better institutional quality and efficient financial markets (e.g., Hanoi, Ho Chi Minh City, Binh Duong, and Hai Phong), can more easily translate private sector development into financial benefits for workers, such as increased access to bank accounts for salary transfers, insurance, and other perks. Conversely, in less developed provinces and cities (such as Ha Giang, Dien Bien, Lai Chau), this impact is less pronounced due to weak enforcement from local administrative systems. Second, replacing public sector jobs with private sector employment in provinces and cities with high multidimensional poverty rates does not necessarily improve access to financial services. Moreover, private sector development in low-poverty areas also promotes formalization, ensuring basic needs for workers in a structured manner (E. Malesky & Taussig, 2009; E. J. Malesky, 2008; E. J. Malesky & Mosley, 2021).

Therefore, Table [4] explores the further impact of private sector labor share on FII under institutional conditions proxying by the provincial competitiveness index (PCI). As expected, more vital institutions amplify the effect of multinational private sector labor share on FII (columns [1] and [3]). Among the ten components of PCI, enhancements in unofficial time costs (column [4]), the efficiency of public services supporting private sector activities (e.g., streamlining paperwork, business licensing, and tax refunds) (column [5]), law and order (column [6]), and labor policies improve positive relationships under investigation. The significant impact of institutional improvements on foreign versus domestic regions can be explained by recent business surveys (E. J. Malesky, 2022; E. J. Malesky & Milner, 2021), revealing that foreign enterprises faced unofficial costs averaging over 5% during 2010-2019, with instability in land policies recording peaks of over 20% in 2019 (and averaging over 25% over the study period).

Table 3. Heterogeneous effects A: Poverty level

Dependent variables	Financial Inclusion Index _{t+1}			
	Workers employed in the enterprise sector on log			Private sector labor share (π)
	(Total)	(Domestic)	(MNE)	
Independent variable (PSD) =	(1) = (2) + (3)	(2)	(3)	(4)
Columns				
Private Sector Development (<i>PSD</i>)	0.146*** (0.054)	0.099* (0.051)	0.040* (0.021)	0.268 (0.321)
Medium poverty level	1.310** (0.591)	1.032* (0.564)	0.338* (0.188)	0.414** (0.175)
High poverty level	1.208* (0.646)	1.025* (0.609)	0.438** (0.205)	0.683** (0.271)
Medium poverty level $\times$ <i>PSD</i>	-0.110** (0.049)	-0.091* (0.050)	-0.032* (0.018)	-0.444** (0.187)
High poverty level $\times$ <i>PSD</i>	-0.098* (0.055)	-0.089 (0.054)	-0.042** (0.021)	-0.727** (0.298)
Other controls	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
ID control	Yes	Yes	Yes	Yes
Observations	252	252	252	252
R-squared	0.524	0.513	0.515	0.531
Number of provinces/cities	63	63	63	63

Source: Authors. Notes: The FII data are calculated by the author using PCA method, from 6 component indices including: (i) Having a banking account, (ii) Having savings books, (iii) Having ATM cards, (iv) Having credit cards, (v) Having stock accounts, and (vi) Taking a loan. Similar control variables are listed in Table [2]. This data is synthesized from VHLSS in the years 2014, 2016, 2018, and 2020. The poverty level is categorized according to percentiles p(25) and p(75). Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

Table 4. Heterogeneous effects B: Institutional quality

Dependent variables	Financial inclusion index _{t+1}						
Moderators variables (MV =)	Provincial Competitiveness Index (PCI)			PCI sub-indexes			
				Time costs	Business support services	Law & order	Labor policy
Columns	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Private sector labor share (π)	-19.366*** (5.828)			-2.529** (1.136)	-2.315*** (0.864)	-2.338*** (0.712)	-3.093** (1.286)
Private sector labor share $\times MV$	4.734*** (1.447)			1.295** (0.648)	1.226** (0.521)	1.209*** (0.407)	1.675** (0.762)
Domestic labor share (π_1)		2.081 (2.274)					
$\pi_1 \times MV$		-0.533 (0.554)					
Multinational labor share (π_2)			-4.522** (2.051)				
$\pi_2 \times MV$			1.113** (0.498)				
Multidimensional poverty	0.555** (0.246)	0.660** (0.274)	0.520* (0.279)	0.762*** (0.238)	0.628*** (0.241)	0.817*** (0.236)	0.624** (0.248)
Other controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ID controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	252	252	252	252	252	252	252
R-squared	0.563	0.536	0.544	0.546	0.554	0.559	0.548
Number of provinces/cities	63	63	63	63	63	63	63

Source: Authors. Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1.

4.3. Mechanism and robustness checks

To verify the robustness of our research findings, we proceeded as follows. *Firstly*, the current FII index composited from PCA may pose data manipulation issues, challenging transparency in index calculations. Thus, we re-estimate the models using components of FII and coefficients are presented in Table [5], including the proportions of (i) individuals with banking accounts, (ii) holders of savings books, (iii) ATM card holders, (iv) credit card holders, (v) stock account holders, and (vi) individuals with loans. All results controlled for multidimensional poverty channels.

The findings indicate that most of these variables are not statistically significant, except for the number of ATM cards per person; this can be ascribed to the transfer of labor from the public sector to the private sector, which reduces the likelihood of having ATM cards in Vietnam. Indeed, ATM services have increasingly been replaced in the private sector by other services, particularly Internet banking, which facilitates salary payments and internal enterprise transactions. Morgan and Pontines (2014) support the notion that public sector employees in Vietnam generally exhibit higher financial literacy and better access to banking services compared to their private sector counterparts, likely due to the stable and formalized nature of public sector employment, which encourages the use of formal financial services like ATM cards. Conversely, private sector employers in Vietnam often prefer cash-based payment methods, especially for low-skilled or informal workers, which deters the use of ATM cards among private sector employees as cash transactions become prevalent in their daily financial activities.

Moreover, public sector jobs in Vietnam are perceived as more secure and offer superior benefits such as pensions and healthcare, prompting workers to hesitate in adopting ATM cards when transitioning to the private sector until they stabilize in their new employment. Public sector employees also often engage in work-related financial transactions that necessitate separate accounts or cards, whereas private sector workers may prefer a single account for personal use, reducing the demand for multiple ATM cards.

Table 5. Mechanism

Dependent variables	Having banking	Having saving	Having ATM	Having credit	Having stock	Taking a loan
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	account	books	card	card	account	
Columns	(1)	(2)	(3)	(4)	(5)	(6)
Private sector labor share (π)	-0.194 (0.131)	-0.028 (0.081)	-0.271** (0.122)	-0.003 (0.035)	-0.008 (0.009)	-0.056 (0.102)
Multidimensional poverty	0.923*** (0.155)	0.138 (0.095)	0.563*** (0.144)	0.215*** (0.042)	-0.006 (0.010)	0.017 (0.120)
FDI implemented on logarithm	0.003 (0.004)	0.004* (0.002)	0.004 (0.004)	-0.000 (0.001)	0.000 (0.000)	0.003 (0.003)
Urban rate	0.146 (0.228)	-0.069 (0.140)	0.142 (0.213)	-0.106* (0.061)	-0.004 (0.015)	-0.196 (0.177)
High labor quality rate	-0.100 (0.067)	-0.026 (0.041)	-0.108* (0.063)	0.049*** (0.018)	0.001 (0.004)	0.085 (0.052)
Government spending on development on logarithm	0.006 (0.007)	-0.004 (0.005)	-0.000 (0.007)	-0.002 (0.002)	-0.000 (0.000)	-0.000 (0.006)
Government spending on social security on log	0.016 (0.011)	0.006 (0.007)	0.020** (0.010)	0.001 (0.003)	0.000 (0.001)	0.009 (0.009)
GRDP per capita on logarithm	0.112* (0.057)	0.075** (0.035)	0.129** (0.053)	-0.038** (0.015)	0.002 (0.004)	-0.080* (0.044)
literacy	0.312 (0.475)	0.101 (0.292)	-0.267 (0.443)	0.083 (0.128)	0.018 (0.031)	0.282 (0.369)
ID dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	252	252	252	252	252	252
R-squared	0.756	0.222	0.784	0.358	0.039	0.410
Number of provinces/cities	63	63	63	63	63	63

Source: Authors. Notes: Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Secondly, we examine the relationship with non-linear effects, considering evidence of heterogeneous impacts across different institutional and poverty contexts. Figure [2] confirms a non-linear relationship, where the effect shifts from negative to positive within the private sector structure at approximately 80%. This transition can be attributed to agglomeration effects within the economy, where significant private sector development is necessary to stimulate local economic benefits (Giang, Nguyen, & Tran, 2016; Gokan, Kuroiwa, & Nakajima, 2019). It is important to note that regions with low labor shares typically experience slower economic and social development.

Thirdly, as discussed in section 3.2, the research results may suffer from endogeneity. Table [6] addresses this concern by using the generalized method of moments (GMM) estimator with regional private sector share as an instrumental variable. The findings reaffirm previous results that: (i) growth in private sector labor increases financial inclusion in Vietnam (column [2]), primarily through poverty reduction mechanisms (column [4]), and (ii) however, in the short term, without considering factors related to economic growth and poverty reduction, state sectors with their economic privileges may provide better financial welfare for workers (column [1]). Tests of instrument validity in GMM estimation, including AR(1), AR(2), and tests of overidentification and overrestriction confirm the appropriateness of the instrumental variable and the estimates.

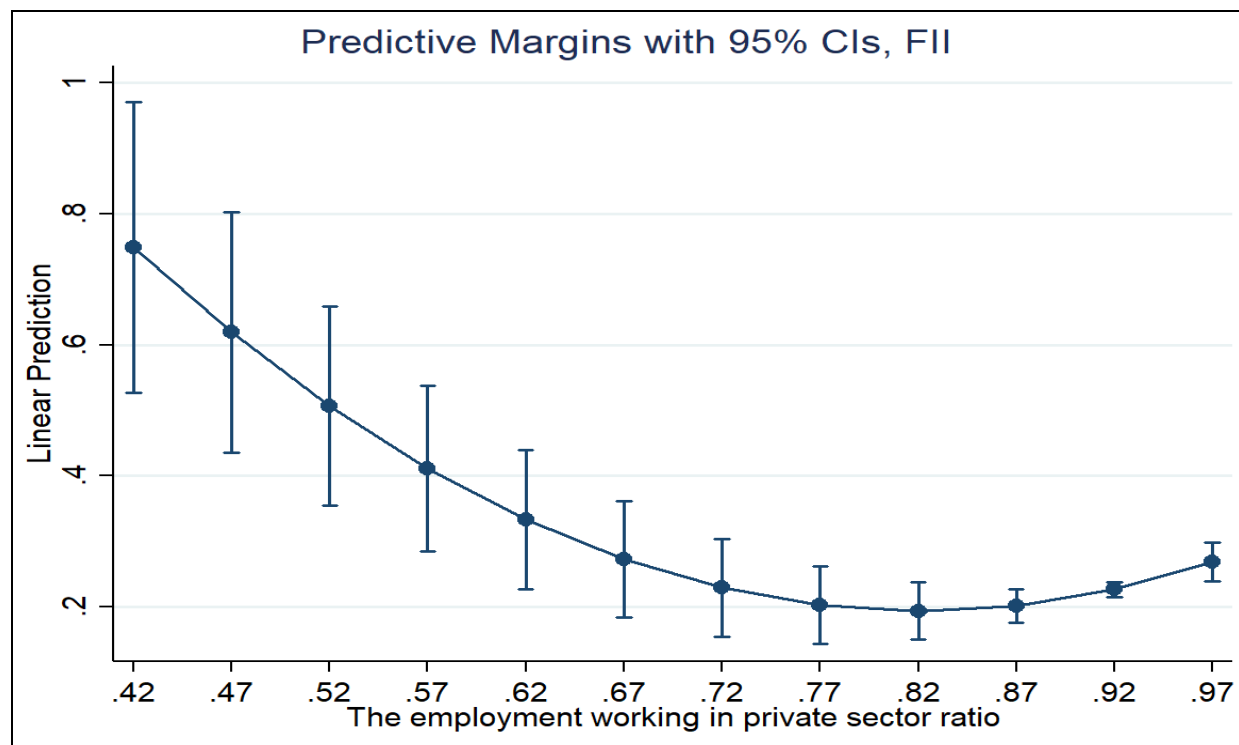


Figure 2. Non-linear relationship between FII and private sector labor share

Source: Authors

Table 6. Robustness checks with GMM estimator

Dependent variables	Financial inclusion index _{t+1}					
Columns	(1)	(3)	(2)	(4)	(5)	(6)
Private sector labor share (π)	-0.695*		-0.437			
	(0.370)		(0.828)			
Workers employed in the enterprise sector on log		0.103**		0.069		
		(0.050)		(0.061)		
Domestic private domestic sector labor share (π_1)					-0.557	
					(0.391)	
Multinational Private sector labor share (π_2)						0.277
						(0.522)
Multidimensional poverty control	No	No	Yes	Yes	Yes	Yes
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
ID controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	252	252	252	252	252	252
Number of provinces/cities	63	63	63	63	63	63
AR (1)	0.002	0.061	0.008	0.000	0.011	0.035
AR (2)	0.263	0.756	0.235	0.833	0.232	0.363
Sargan test of overid. Restrictions (p-value)	0.000	0.017	0.000	0.190	0.000	0.000
Hansen test of overid. Restrictions (p-value)	0.085	0.130	0.149	0.127	0.103	0.172

Source: Authors. Notes: All the post-tests of the GMM estimator indicate that the instruments used in the model are valid. Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ (see more in Appendix [3]).

5. Discussion and policy implication

The study evaluates the impact of private sector development, measured by (i) the increase in the private sector labor force and (ii) the rise in the private sector employment share relative to state-owned enterprises, on the financial inclusion index

(FII) in Vietnam from 2013-2019, yielding several outcomes. The results underscore a nuanced situation in Vietnam, a transitioning nation. On the one hand, the growth of the private sector, evidenced by an increased labor force, correlates with improved financial inclusion. This can be explained through classical economic viewpoints and the Austrian school, where economic growth enhances the quantity and quality of financial services while reducing poverty and inequality in Vietnam's specific context.

This nuanced relationship between private sector development and financial inclusion is further complicated by the sector's broader economic impact, as observed in Vietnam, private sector contributions to the national budget have been substantial, with nearly 50% of the total revenue being derived from taxes paid by the private sector (GSO, 2023). However, despite this significant financial input, inefficiencies in the allocation of government funds, especially through budget redistribution to less economically advanced regions, have resulted in suboptimal outcomes for productivity and financial inclusion (D. V. Le & Tran, 2024). These inefficiencies often stem from the reallocation process, which diminishes the economic potential of more prosperous regions, thus failing to fully capitalize on the private sector's contributions.

On the other hand, the shift of workers from the state to the private sector reduces FII. Accordingly, state-owned enterprises directly improve the short-term financial welfare of workers better than private ones by using their political-economic advantages, such as collaboration with national banks, specific wage payment mechanisms, and exploiting national resource endowments (e.g., electricity, oil, minerals). These advantages, however, can not hold when considering the poverty reduction effects of the private sector. Moreover, we also find a non-linear relationship between private sector development and FII, indicating a complex nexus rather than conventional expectations.

So, what remains for policymakers? Firstly, we find that institutional quality, as measured by the provincial competitiveness index (PCI), amplifies the favorable effects of private sector expansion on financial inclusion. Specifically, enhancements in reducing informal costs, improving public service delivery, strengthening law enforcement, and implementing pro-labor policies can enhance the benefits of private sector growth on financial inclusion. This corroborates findings by Aracil et al. (2022), emphasizing the pivotal role of robust institutions in bolstering firm productivity and performance. Thus, the government should prioritize institutional reforms that enhance the business climate and reinforce legal frameworks, as these measures can unlock the full potential of private sector growth for advancing financial inclusion, particularly in less advantaged regions where the positive impacts of private sector expansion may be more restrained.

Secondly, policymakers should devise and implement strategies that promote the financial inclusion of private sector employees, such as fostering financial literacy, facilitating access to formal financial services, and ensuring adequate social safety nets. As highlighted by Rashed and Shah (2021), the private sector can significantly contribute to achieving sustainable development goals, including those related to financial inclusion. Thirdly, the government should adopt a balanced approach to fostering both public and private sector development. While the public sector may offer greater job security and employee benefits, the private sector can drive economic growth, employment generation, and innovation. Policymakers should strive to create an environment that encourages cooperation and synergy between these two sectors.

Lastly, policymakers should consider revising budget redistribution policies to allow regions with higher productivity to retain a greater portion of their generated revenue. Regions like Ho Chi Minh City and Hanoi, which contribute significantly to the national budget, would benefit from retaining more of their earnings to reinvest in local infrastructure, financial technology, and social services. This would not only help them continue driving economic growth but also enable these regions to further support financial inclusion efforts by expanding financial access to a broader segment of the population. At the same time, targeted support for less developed regions should focus on improving efficiency and accountability in fund utilization. It's crucial that resources are not only allocated but also used effectively to promote sustainable and inclusive growth. This means implementing transparent monitoring systems to track how funds are spent and ensuring that investments directly benefit the local economy and population, particularly in areas that are lagging behind in terms of financial inclusion.

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Appendixes

Appendix 1. PCA result

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	3.224	2.394	0.645	0.645
Comp2	0.830	0.300	0.166	0.811
Comp3	0.530	0.202	0.106	0.917
Comp4	0.327	0.239	0.066	0.982
Comp5	0.089	0.000	0.018	1.000

Source: Authors

Appendix 2. What is PCI?

Introduced in 2005, Vietnam's Provincial Competitiveness Index (PCI) evaluates the quality of economic governance by provincial authorities in fostering a conducive business environment for private sector growth through an annual survey and ranking. The PCI assesses ten key sub-indices that reflect various aspects of economic governance critical to private sector development. A province performing well on the PCI typically demonstrates: 1) low barriers to business entry; 2) accessible land and secure business premises; 3) transparency and equitable access to business information; 4) minimal informal fees; 5) streamlined bureaucratic processes and inspections; 6) policies that do not favor state, foreign, or well-connected enterprises; 7) proactive leadership in addressing enterprise challenges; 8) robust and high-quality business support services; 9) effective labor training policies; and 10) fair and efficient legal mechanisms for resolving disputes.

See more in the following website: <https://pcivietnam.vn/en/about-us.html>

Appendix 3. Additional robustness checks

Dependent variables	Financial Inclusion Index _{t+1}			
Columns	(1)	(2)	(3)	(4)
Domestic private sector labor share (π_1)	-0.182* (0.101)	-0.098 (0.102)		
Multinational private sector labor share (π_2)			0.144 (0.131)	0.035 (0.132)
Multidimensional poverty		0.750*** (0.247)		0.798*** (0.246)
Other controls	Yes	Yes	Yes	Yes
ID dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	252	252	252	252
R-squared	0.507	0.532	0.502	0.530
Number of provinces/cities	63	63	63	63

Source: Authors. Notes: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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