ISSN 2392-1641
e-ISSN 2450-0097

Economics and Business Review

Volume 11 (4) 2025

CONTENTS

Editorial introduction
Monika Banaszewska, Ida Musiałkowska, Konrad Sobański

ARTICLES

R&D tax credits, innovative activity and the targeting approach
Erik Gjymshana, Annelies Roggeman, Isabelle Verleyen

Attitudes towards income inequality and trust: An analysis by income class in Poland
Małgorzata Szczepaniak, Katarzyna Bentkowska

Financial inclusion and economic growth in Vietnam: Evidence across provinces and income groups
Thi Thuy Huong Luong, Attasuda Lerskullawat, Thi Anh Nhu Nguyen

Perceived usefulness, ease of use, risk, and trust: Explaining BNPL user recommendation intention through behavioural models
Krzysztof Waliszewski, Ewa Cichowicz, Mateusz Folwarski, Łukasz Gębski, Jakub Kubiczek, Paweł Niedziółka, Małgorzata Solarz

Sentiment and dividend smoothing: Do firms alter dividends during periods of high market activity?
M. Jahir Uddin Palas, M. Adnan Ahmed

Algorithmic trading, liquidity and volatility: Evidence from Poland
Henryk Gurgul, Robert Syrek

Poznań University of Economics and Business Press

Paper based publication

https://doi.org/10.18559/ebr.2025.4

ISSN 2392-1641
e-ISSN 2450-0097

POZNAŃ UNIVERSITY OF ECONOMICS AND BUSINESS PRESS
ul. Powstańców Wielkopolskich 16, 61-895 Poznań, Poland
phone +48 61 854 31 54, +48 61 854 31 55
https://wydawnictwo.ue.poznan.pl, e-mail: wydawnictwo@ue.poznan.pl
postal address: al. Niepodległości 10, 61-875 Poznań, Poland

Printed and bound in Poland by:
Perfekt – Gaul i wspólnicy sp. k.

Circulation: 80 copies

PUEB PRESS

Economics and Business Review
https://www.ebr.edu.pl

Vol. 11 (4), 2025: 59–83
https://doi.org/10.18559/ebr.2025.4.2305

Financial inclusion and economic growth in Vietnam: Evidence across provinces and income groups

Thi Thuy Huong Luong[1] **Attasuda Lerskullawat**[2]
Thi Anh Nhu Nguyen[3]

Abstract

This research aims to examine the effect of financial inclusion on economic growth in Vietnam. Using panel data from 63 provinces during 2014–2020, estimations are conducted for both the full sample and across two income groups. Financial inclusion is measured by indicators capturing geographical penetration and using products and services in commercial banks and insurance. The difference-GMM estimation results demonstrate that financial inclusion captured by higher commercial bank branches and using bank accounts, saving passbooks, and ATM cards present significant positive effects on economic growth in Vietnam. In contrast, participating life and non-life insurance shows a non-significant effect. For high-income provinces, participating in life and non-life insurance positively affects economic growth. In addition, the study indicates robust

Keywords

- financial inclusion
- economic growth
- Vietnam

Suggested citation: Luong, T. T. H., Lerskullawat, A., & Nguyen, T. A. N. (2025). Financial inclusion and economic growth in Vietnam: Evidence across provinces and income groups. *Economics and Business Review*, *11*(4), 59–83. https://doi.org/10.18559/ebr.2025.4.2305

[1] University of Finance-Marketing, 778 Nguyen Kiem, Duc Nhuan Ward, Ho Chi Minh City 70000, Vietnam, corresponding author: huongltt@gv.ufm.edu.vn, https://orcid.org/0009-0007-1525-1004.

[2] Kasetsart University, 50 Ngamwongwan Rd, Lat Yao, Chatuchak, Bangkok 10900, Thailand, fecoadl@ku.ac.th, https://orcid.org/0009-0001-1653-3800.

[3] University of Economics and Law, 669 Do Muoi, Quarter 13, Linh Xuan Ward, Ho Chi Minh City 70000; Vietnam National University Ho Chi Minh City, Linh Xuan Ward, Ho Chi Minh City 7000, Vietnam, nhunta@uel.edu.vn, https://orcid.org/0000-0003-3619-4655.

effects of commercial bank branch penetration and using ATM cards in enhancing economic growth in both low-income and high-income localities.

JEL codes: G20, O11, O53

Article received 22 May 2025, accepted 14 October 2025.

This research is partly funded by University of Finance-Marketing and is also partly funded by the University of Economics and Law, Vietnam National University, Ho Chi Minh City.

This edition is supported by funds granted by the Minister of Science of the Republic of Poland under the „Regional Initiative for Excellence" Programme for the implementation of the project "The Poznań University of Economics and Business for Economy 5.0: Regional Initiative – Global Effects (RIGE)".

Introduction

The growing body of literature demonstrates the critical role of financial inclusion as a cornerstone for economic growth. Financial inclusion is defined as the provision of affordable financial products and services to all individuals and firms that require them (Sarma, 2008; Sethi & Acharya, 2018). Wider access to financial system fosters greater participation of individuals and firms in savings and credit products that increase the money multiplier and provide a variety of capital resources for technology innovation, thus spurring economic development (Siddiki & Bala-Keffi, 2024). Moreover, through offering a range of financial services and financial applications using web-based portals and mobile phones, financial inclusion makes conducting financial transactions more convenient, thus easing trading activities and creating higher national income (Creane et al., 2004). The benefits of financial inclusion contribute to the economy also in the insurance sector when customers are protected by policies of insurance compensation and risk management that reduce economic loss and promote business activities, stimulating economic expansion (Apergis & Poufinas, 2020). The majority of empirical studies support the claim that financial inclusion positively impacts economic growth (N. Khan et al., 2022; Osuma, 2025; Siddiki & Bala-Keffi, 2024; Singh & Mallick, 2024; Wibowo et al., 2023). However, not only a positive linkage is documented in previous research. Other studies document negative effects (Pal et al., 2025), a U-shaped relation (Sahay et al., 2015), and a bi-directional causality linkage (Sethi & Acharya, 2018).

The existing literature also highlights how financial inclusion might impact on economic growth to different degrees. In particular, the magnitude and direction of this relation in developing countries is more pronounced than developed countries (Hussain et al., 2024; Narain et al., 2022; Sethi & Acharya, 2018). Furthermore, there may be differences between the short-term and long-term results (N. Khan et al., 2022), and the effect may be contingent on the financial system background and the level of financial development (Z. Chen et al., 2023; Siddiki & Bala-Keffi, 2024).

While there is a large cohort of studies examining the linkage in other developing countries (Hussain et al., 2024; Narain et al., 2022; Pal et al., 2025), this research topic has largely been ignored for Vietnam. Due to its remarkable economic transformation over the past decades, Vietnam presents a compelling context for studying financial inclusion. As a transition country, Vietnam has been developing a market-oriented economy that shifted from a centrally planned system since 1986. This has resulted in rapid growth, enabling Vietnam to develop from being one of the world's poorest nations to a lower middle-income country. Financial inclusion is recognised as a key driver of such economic development. The Global Findex Database (2021) indicates that the percentage of people aged above 15 who possess a financial institution account was 56% in 2021, representing a sharp increase from 21% in 2011. However, this level is still low compared to the world average of approximately 74% (Global Findex Database, 2021). Given this context, Vietnam provides a relevant case for examining the impact of financial inclusion on economic growth.

The current literature on Vietnam is limited on analysing how demographic and governance factors determine financial inclusion (H. S. Nguyen et al., 2023; T. T. H. Nguyen & Luong, 2023; H. S. Tran et al., 2019; T. Q. Tran & Dinh, 2021). Also, research on the correlation with economic growth mainly uses national aggregate data by time series (Hye, 2022; Tran, 2023). Meanwhile, it is more relevant to observe this connection at the disaggregate level by provincial units, since panel data estimation can account for the unobservable fixed socio-economic characteristics of each province. In addition, relative differences exist among aspects of financial inclusion in Vietnam when comparing the 56% of respondents possessing a financial institutions account to the 40% of the population with savings in financial institutions and the fraction of population with a mobile money account (16%). Therefore, prior research using an aggregate index cannot examine how different aspects of inclusion in the financial system shape economic growth. Moreover, while provincial income levels have been shown to influence access to finance in Vietnam (N. T. Nguyen et al., 2021), the effect of financial inclusion on economic growth across provinces within different income classes remains open.

Accordingly, a number of issues remain unresolved in the literature in the subject, and this research aims to address these limitations and contribute to

current literature in a few respects. Firstly, the study assesses the impact of financial inclusion on economic growth in Vietnam by using panel data from 63 provinces which have not yet been studied. Secondly, we consider financial inclusion in a more nuanced way by employing a range of indicators which capture various aspects of financial inclusion, from providing geographical penetration to using banking and insurance services. By doing so, this study can identify specific channels of financial inclusion's impact on economic growth. Thirdly, we investigate this relationship in two different income groups. In addition to observing the nexus for the whole group, the study classifies 63 provinces into two groups–high-income provinces and low-income provinces. The empirical model is estimated by the difference Generalised Method of Moments (difference-GMM). The robustness check employs system-GMM.

The remainder of this paper is structured as follows: Section 1 presents theoretical concepts and empirical literature. Section 2 focuses on methodology. This is followed by a results and discussion section and the last section presents concluding remarks, policy recommendations and suggestions for further studies.

1. Literature review

Financial inclusion is considered a wide concept with several ways to define it. Focusing on poor individuals, low-income households, and microenterprises, the Asian Development Bank (2000) states that inclusive finance provides these kinds of customers with a broad range of financial services, such as deposits, loans, payment services, and insurance products. The United Nations (2006) captures financial inclusion in three aspects—credits, savings and insurance. These allow access to credit sources, savings, payment services as well as insurance for all individuals and firms. Financial inclusion thus emphasises the ability more than the eligibility in terms of using financial products and services. Meanwhile, the World Bank (2008) highlights the price aspect in capturing financial inclusion, which offers non-price barriers in accessing financial services. Generally, this study defines financial inclusion as a phenomenon that makes financial products and services available to all individuals and firms at an affordable cost (Sarma, 2008; Sethi & Acharya, 2018). Moreover, financial inclusion is expressed in a broad concept including both geographical penetration and using products and services in the financial system.

Theoretical studies have highlighted financial inclusion's influence on economic growth through the activities of the financial system, which focuses on two channels—capital accumulation and technological innovation, represented by functions of financial markets and intermediaries. Levine (1997) states

that the existence of market friction, including information costs and transaction costs, motivates the financial system's activities in order to meet business and individual demand. In particular, a greater number of individuals included in the financial system through savings products could mobilise savings. This could create more capital resources and make the production sector more efficient, thereby boosting economic development (Crane et al., 1995; Siddiki & Bala-Keffi, 2024). In addition, financial inclusion is presented by individuals' participation in financial instruments that provide capital for technological innovation. Meanwhile, financial intermediaries and financial markets support this process and play a better role in selecting profitable firms and managers that would induce more efficient capital allocation and boost national outcomes (Kodan & Chhikara, 2013). Savings mobilisation and the consequent support for capital accumulation and technological production, along with inclusive finance, allows individuals and firms to conduct financial transactions at lower cost, which in turn eases the trade of goods, services, and contracts, facilitating economic activities thus increasing economic growth (Ang, 2011). Moreover, when individuals are included in the financial system through hedging products related to the insurance sector, financial inclusion might contribute to economic growth through facilitating risk management and offering corporate controls. That could not only attract capital to the economy but also promote technology innovation projects, which require significant capital and risk protection, thus channelling higher national prosperity (Apergis & Poufinas, 2020).

Financial inclusion is documented as contributing to economic growth in a large number of empirical studies. The majority of these have supported the positive correlation between financial inclusion and economic growth. Focusing on 153 countries from 2011 to 2020, Siddiki and Bala-Keffi (2024) present a consistently positive relationship between inclusive finance and economic development. The magnitude of this relationship might differ across countries. Z. Chen et al. (2023) suggests that greater access to the financial system spurred economic growth in the 10 highest financially inclusive economies. However, the effect would not be same in different quantiles in these countries in the period of 2004–2018. Also, N. Khan et al. (2022) established a positive long-run nexus for 15 developed and emerging economies over the period 2004–2017, along with a non-significant effect in the short run. Additionally, Hussain et al. (2024) not only demonstrate the positive impact of financial inclusion on economic growth in 21 Asian countries over a period from 2004 to 2019, but also posit that developing countries experience more pronounced effects compared to advanced countries. Similarly, studies exist that indicate how financial inclusion positively affects economic growth in other groups of countries, such as the 55 countries of the Organization of Islamic Cooperation (OIC) from 1991 to 2015 (D. W. Kim et al., 2018), transition economies of the European Union (Bayar & Gavriletea, 2018), European Union member states (EU), and OECD members (Huang et al., 2021; J. H. Kim,

2016), as well as middle-income countries (Narain et al., 2022) and highest-emitting countries (Usman et al., 2021). Accordingly, the influence of financial inclusion on economic growth at different levels of the economy might result in distinct effects.

In this sense, some studies have documented a causality nexus, a U-shaped relationship, and negative effects. Sethi and Acharya (2018) used a panel of 31 developed and developing countries from 2004–2010 and identified a long-term positive relation, in addition to a bi-directional connection between financial inclusion and economics growth. Capturing traditional and digital inclusive finance, Pal et al. (2025) observed such a link in 23 emerging countries from 1990 to 2022. This study shows the positive effect of traditional financial inclusion on economic growth, while the effect of digital financial inclusion is found to be negative in the long run. Sahay et al. (2015) pointed out the U-shaped correlation between increasing the level of financial inclusion and boosting economic growth up to a dynamic threshold, after which remains stable or becomes negative in some advanced countries. Moreover, financial inclusion was found to have no effect on economic growth in a sense that it does not reduce the poverty level (Donou-Adonsou & Sylwester, 2016; Sukmana & Ibrahim, 2018).

Several kinds of relations between financial inclusion and economic growth are noted in existing research, they are mainly observed panels of countries. For a single country, China, Ahmad et al. (2021) observed how financial inclusion was linked to economic growth for 31 provinces in the period from 2011 to 2018. This study pointed out that increased use of bank accounts, payment accounts and other services such as savings, credit, insurance, and investment instruments enhances economic growth. Using national aggregate data, Dahiya and Kumar (2020) explored the effect of financial inclusion on economic growth in India form 2005 to 2017. Financial inclusion is captured in three dimensions: accessibility, penetration and usage. However, only use exhibited positive links with economic growth. Similarly, Odame et al. (2024) examined the financial inclusion and economic growth nexus in Ghana from 2005 to 2016. Financial inclusion in this research encompasses financial access, usage of financial services, and penetration of financial services. Only the use of financial services produced a positive effect on economic growth, while a negative impact was found for financial access and penetration of financial services.

In Vietnamese studies, limited aspects of financial inclusion have been explored. Most studies focused on examining factors affecting financial inclusion in Vietnam and used time series data to investigate financial inclusion in the national aggregate level. T. A. N. Nguyen and Luong (2023) used a household survey for the 2014–2018 period to identify key determinants of financial inclusion in Vietnam's households, which included total income, relative income and distance to bank branches. Whereas total income facilitated households' entry into the financial system, relative income reduced the level of financial

inclusion and the distance to bank branches presented an unclear effect on financial inclusion. Focusing on how demographic characteristics affect financial inclusion, H. S. Tran et al. (2019) showed that income, age, and education positively influence the use of official accounts, savings while gender was not associated with and education had a negative effect on the use of credit. As regards the effect of financial inclusion on the economy, a few studies have documented how financial inclusion could reduce the level of multidimensional poverty (H. T. T. Tran et al., 2022) as well as increasing customer loyalty in Vietnam's banking sector. In the linkage with economic growth, Hye (2022) utilised time series data spanning from 2001 to 2021. This research calculated an aggregate index for financial inclusion in Vietnam, demonstrating that inclusive finance could promote economic growth. However, the study faced limitations in using time-series data at the national level that ignores heterogeneity in the socio-economic conditions of Vietnam's provinces. Also, financial inclusion was only measured by the overall index, and this cannot enable particular aspects of financial system to be explored in relation to economic growth.

In the light of the above-mentioned, studies on the financial inclusion-economic growth nexus have attracted considerable attention among researchers. Yet ambiguous effects remain and their different magnitudes depend on region / country-specific circumstances. Moreover, there are limitations in current studies regarding Vietnam, with few studies using provincial units to focus on the financial inclusion and economic growth relation. This study aims to fill the gap in the previous literature by studying whether financial inclusion affects economic growth in Vietnam using data at the provincial level.

2. Data and methodology

The study uses annual data for 63 provinces in Vietnam from 2014 to 2020. The full list of provinces is provided in the Appendix. The time period chosen here represents the stage during which Vietnam experienced the most significant expansion of inclusive finance. It is also determined by data availability. Additionally, this study classifies 63 provinces into two groups: high-income and low-income provinces. Specifically, the 20 high-income provinces are those with a gross provincial product (GPP) per capita above the national average, while the remaining 43 low-income provinces have a GPP per capita below the national average.

Economic growth is measured using GPP per capita expressed in US dollars. The research proxies financial inclusion through five indicators which cover inclusive finance in both the banking sector and insurance sector to present a broad concept of financial inclusion. Instead of presenting financial inclusion

as an aggregate index as in previous studies (Pal et al., 2025; Sharma, 2016), financial inclusion is captured through five separate variables to assess the impact of each dimension on economic growth. The first variable is the number of commercial bank branches (FI1). It captures the geographical penetration of commercial bank branches and is widely used in the literature. A higher number of commercial bank branches provides greater accessibility to banking services (N. Khan et al., 2022; Pal et al., 2025). This study also employs micro-level data from a household survey in Vietnam. This survey captures inclusive finance by asking whether households currently use financial products and services such as banking accounts, savings, ATMs, and insurance. Based on the survey data, we calculate the percentage of households included in the financial system in each province. The second variable (FI2) is the share of households with a bank account. This indicator presents the inclusion of households in the financial system by means of a formal account, facilitating the utilisation of other financial services (Siddiki & Bala-Keffi, 2024). The third variable, financial inclusion is measured as having a savings passbook (FI3) that shows the involvement of households in capital mobilisation (Sharma, 2016). Fourth, the study employs the percentage of households using ATM cards as a measure of financial inclusion (FI4). Conducting financial transactions through the use of ATM cards demonstrates engagement in financial products and services (Singh & Mallick, 2024). Also, financial inclusion in this paper is measured by a household's participation in life insurance and non-life insurance (FI5). Overall, this study measures financial inclusion by indicators referring to two main sectors of the financial system in Vietnam: commercial banks (indicators FI1–FI4) and the insurance sector (FI5).

In addition to financial inclusion, economic growth is driven by numerous other factors. This study observes macroeconomic factors within traditional economic growth theory as control variables in the model: inflation, labour, foreign direct investment, urban population, and poverty. Inflation presents the effects of price stability on investment incentives and consumption patterns (Fischer, 1993; Sequeira, 2021), while labour reflects the availability of human capital, which is a fundamental determinant of productive capacity and innovation (Haudi et al., 2020; Lucas, 1988). FDI serves as an indicator of capital inflows, technology transfer, and integration into global value chains (Borensztein et al., 1998; Mehic et al., 2013). Urban population is included as a proxy for the level of urbanisation, often associated with improved infrastructure, market expansion, and productivity gains (H. Chen et al., 2017). Poverty accounts for socio-economic constraints that can suppress aggregate demand, human capital accumulation, and growth (Breunig & Majeed, 2020). It is expected that labour, FDI, and urban population positively impact on economic growth, while inflation and poverty rate have negative effects.

A description of all variables is presented in Table 1. Table 2 shows the descriptive statistics for 63 provinces in Vietnam, and the characteristics across

the two income groups (low-income and high-income provinces) are included in Table 3. Table 2 indicates the variation of all economic variables across low-income and high-income provinces. The GPP per capita in high-income provinces ($4,024) is more than double that in low-income provinces ($1,778). A substantial gap is also observed in the financial inclusion indicators (FI1–FI4). Similarly, the percentages of FDI inflows and urban population in high-income provinces are almost double those of low-income provinces.

Table 1. Variable description

Variables	Identifier	Measurement	Source
Dependent variable			
Economic growth	*EG*	The Gross Provincial Product per capita (GPP per capita) in $US[4]	Statistical yearbook of each province
Financial inclusion			
Bank branches	*FI1*	Number of commercial bank branches	Annual statistics of The State Bank of Vietnam in provincial branches
Bank account	*FI2*	% Households having a bank account	Censuses of the General Statistics Office of Vietnam
Saving passbook	*FI3*	% Households having a savings passbook	
ATM cards	*FI4*	% Households having ATM cards	
Insurance	*FI5*	% Households participating in life and non-life insurance	
Control variables			
Inflation rate	*INF*	CPI (in %)	Statistical yearbook of each province
Labour force	*LABOUR*	% Population ageing 15+/ total population	
Foreign direct investment inflow	*FDI*	The ratio of foreign direct investment inflow to gross provincial product (in %)	
Urban population	*URBAN*	% Inhabitants living in urban regions	
Multi-dimensional poverty rate	*POVERTY*	% Poor households	

Source: own work.

[4] The study uses the logarithm of GPP per capita in estimations.

Table 2. Summary statistics for all Vietnamese provinces

Variable	Observations	Mean	Standard deviation	Min	Max
EG	441	2,491.302	1,786.970	789.630	17,277.860
FI1	441	174.379	373.847	15	3029
FI2	441	22.129	14.763	1.550	79.887
FI3	441	10.693	6.650	1.333	36.238
FI4	441	32.307	14.410	6.250	79.209
FI5	441	6.227	6.099	0.191	74.561
INF	441	2.626	1.918	–2.590	10.070
LABOUR	441	59.027	5.217	48.819	76.998
FDI	441	62.752	79.875	–8.790	464.067
URBAN	441	28.573	17.264	9.800	87.356
POVERTY	441	9.132	9.099	0.090	44.820

Source: own calculations.

Table 3. Summary statistics for two income groups of Vietnamese provinces

Variable	Low-income provinces			High-income provinces		
	mean	min	max	mean	min	max
EG	1,778.476	789.63	3,381.000	4,023.877	1,404.761	17,277.860
FI1	83.731	15	250	369.271	66	3029
FI2	16.260	1.550	51.667	34.749	2.899	79.887
FI3	8.745	1.333	35.238	14.880	2.469	36.238
FI4	26.380	6.250	62.262	45.051	11.728	79.209
FI5	6.044	0.190	74.561	6.619	0.328	40.108
INF	2.586	–2.590	10.070	2.712	–1.838	9.690
LABOUR	59.538	49.510	76.998	57.243	48.819	71.410
FDI	47.691	–8.790	464.067	95.133	0.025	227.221
URBAN	22.056	9.800	49.880	42.585	12.155	87.356
POVERTY	11.939	0.470	44.820	3.098	0.090	13.400
Number of provinces	43			20		
Number of observations	301			140		

Source: own calculations.

This paper aims to examine the impact of financial inclusion on economic growth in Vietnam using data from Vietnamese provinces. The empirical model is as follows:

$$EG_{i,t} = \alpha + \beta_1 EG_{i,t-1} + \beta_2 FI_{i,t} + \beta CV_{i,t} + \varepsilon_{i,t} \quad (1)$$

where: $CV_{i,t}$ is vector of control variables; i represents a provincial unit, $i = 1, 2, ..., 63$; t indicates the time period from 2014 to 2020; $\varepsilon_{i,t}$ is error term.

We constructed the panel dataset for 63 Vietnamese provinces in 2014–2020. As the panel has $N = 63 > T = 7$, it is suitable to apply the Generalised Method of Moments (GMM) estimation. GMM is meant for estimating dynamic panel models because it can effectively deal with endogeneity of the lagged dependent variable. Moreover, GMM employs internal instruments instead of using additional instrumental variables to mitigate bias (Arellano & Bond, 1991). We first apply the difference-GMM. While difference-GMM can address endogeneity, it may suffer from finite-sample bias because of instrument bias or weak instruments of the level variables (Bond, 2002). In this case, the system-GMM can control for finite sample bias and improve the consistency of estimated parameters (Blundell & Bond, 1998; Bond, 2002). Therefore, we also use the system-GMM estimation for a robustness check. To avoid spurious regressions arising from the presence of unit roots, all variables in the model are tested for panel unit root using the Augmented Dicky-Fuller test (ADF test). The results point to the rejection of the null hypothesis, suggesting the stationarity of the panel data series (see Appendix B).

3. Results and discussion

3.1. Financial inclusion and economic growth in Vietnam

Table 4 presents the difference-GMM results for the effect of financial inclusion on economic growth in Vietnam with the positive and significant coefficients for four indicators (FI1, FI2, FI3, and FI4), while there is no statistically significant effect for FI5.

Column (1) and column (2) demonstrate the positive link that means a higher number of commercial bank branches (FI1) and a higher percentage of households having bank accounts (FI2) results in bigger economic growth in Vietnamese provinces. These indicators capture geographical penetration of bank branches as well as the availability and accessibility of bank services. More commercial bank branches could serve a wider range of customers' banking services, reduce time costs, commuting costs for customers and, con-

Table 4. The impact of financial inclusion on economic growth in Vietnam (difference-GMM)

Variables	FI1	FI2	FI3	FI4	FI5
EG_{t-1}	0.135	1.069***	1.182***	0.994***	0.303***
	(0.097)	(0.180)	(0.189)	(0.144)	(0.112)
$FI_{i,t}$	0.711***	0.096*	0.188*	0.236***	0.007
	(0.121)	(0.055)	(0.107)	(0.089)	(0.035)
$INF_{i,t}$	0.006***	0.005	0.006	0.004	0.046***
	(0.002)	(0.004)	(0.005)	(0.003)	(0.008)
$LABOUR_{i,t}$	0.066***	0.095***	0.091***	0.080***	0.153***
	(0.018)	(0.032)	(0.025)	(0.027)	(0.035)
$FDI_{i,t}$	0.016***	0.009*	0.005	0.015***	–0.003
	(0.005)	(0.005)	(0.006)	(0.005)	(0.011)
$URBAN_{i,t}$	–0.044	–0.054	0.098	–0.041	0.239*
	(0.061)	(0.058)	(0.255)	(0.065)	(0.137)
$POVERTY_{i,t}$	–0.070*	0.088	–0.134*	0.088	–0.162***
	(0.042)	(0.059)	(0.078)	(0.058)	(0.046)
Number of observations	313	313	313	313	313
AR(1)	0.054	0.001	0.001	0.002	0.001
AR(2)	0.513	0.218	0.312	0.386	0.183
Hansen test for overidentification	0.289	0.245	0.603	0.164	0.182
Hansen test of exogeneity	0.437	0.547	0.308	0.455	0.324

Note: Robust standard errors reported in parenthesis. ***, **, *, significant at the 1%, 5%, and 10% levels, respectively. The results of AR(1), AR(2) and Hansen test are presented as *p*-values.

Source: own calculations.

sequently, demand for financial products and services which help promote investment and economic growth (Maity & Sahu, 2023). Also, the expansion of commercial bank branches could promote the integration of digital financial services, as banks are able to leverage platforms such as mobile and internet banking to deliver low-cost and diverse financial products. The combination of physical presence and digital delivery addresses both the access and usage dimensions of financial inclusion. This integrated approach enhances capital mobilisation, facilitates investment, and fosters entrepreneurial activity. In addition, having a bank account is considered as a gateway to facilitating customers' access to other financial services. Hence, expanding the chain of

commercial bank branches and the percentage of households with bank accounts could also enhance borrowing and saving procedures; having more commercial bank branches would increase the availability of credit sources to rural areas, in turn facilitating bankers' ability to process payments and evaluate debts. Moreover, local customers can easily find bank branches in their area as a place to save money in their current account (Ghosh, 2011). This can increase the capital supply and boost economic growth in the country. This positive nexus is also documented in other developing countries (Pal et al., 2025; Wibowo et al., 2023).

Column (3) of Table 2 reports that financial inclusion expressed as the percentage of households with saving passbooks (FI3) could facilitate credit availability. This in turn promotes business activities, enhancing economic growth (Beck et al., 2009). Similarly, column (4) shows that financial inclusion measured by the percentage of households having ATM cards (FI4) positively affects economic growth. By owning an ATM card, households can conduct simple transactions such as making deposits, transferring money, withdrawing cash, and paying bills. This can ease the trade of goods and services and accelerate economic growth (Ehiedu et al., 2021; Gehrung, 2020). The positive effect of financial inclusion proxied by savings and ATM cards is consistent with previous studies for India (Singh & Mallick, 2024), Asia-Pacific countries (Basnayake et al., 2024), and sub-Saharan Africa countries (Osuma, 2025).

The effect of financial inclusion proxied by the usage of insurance (FI5) shown in column (5) is non-significant. Though participation in life and non-life insurance could provide assurance for economic activities, Table 2 reports a low level of households' insurance participation compared to other products and services in the financial system. In addition, the financial literacy of citizens in Vietnam remains low, as does basic knowledge risk management, therefore limiting inclusion into the financial insurance system, which may lead to a non-significant effect on economic growth in Vietnam (Barcellos & Zamarro, 2019; T. A. N. Nguyen & K. M. Nguyen, 2020). This result suggests a need for further analysis of the insurance aspects of financial inclusion in Vietnam.

The results for control variables also deserve a comment. The share of urban population (URBAN) exhibits a positive effect, while the poverty rate (POVERTY) negatively affects economic growth, as expected. The positive impact of inflation (INF), although appearing to be inconsistent with standard macroeconomic theory, can be explained by the non-linear relationship documented in prior research. M. S. Khan and Senhadji (2000) found that inflation promotes growth in developing countries when maintained within 7%–11%, while Sarel (1995) identified a structural break at around 8%, with positive effects below and negative effects above this threshold. These findings suggest that Vietnam's moderate inflation during the study period likely fell within a range that stimulates production, job creation, and consumption, consistent with Dorrance's (1964) mechanism.

3.2. Financial inclusion and economic growth across income groups

Table 5 illustrates the association between financial inclusion and economic growth in Vietnam across two income groups: low-income provinces and high-income provinces. Consistent with the result of the whole sample shown in Table 4, the number of commercial bank branches, the share of households owning banking account, saving passbook and ATM cards, displayed in columns (1)–(4) and (6)–(9), all present significantly positive effects on economic growth in both groups. For participation in life and non-life insurance, there are different results across two groups. Provinces with a GPP below the country's average present a non-significant effect of insurance participation on economic growth, similar to the result for the whole group. Meanwhile, insurance participation has a significantly positive influences on economic growth in upper-average GPP provinces (column (10)). The explanation for this discrepancy is that high-income provinces have a higher percentage of households participating in insurance, together with a higher income and better background related to investment, urban population and the poverty rate (see Table 3). These conditions seem to facilitate insurance in the economy, spurring significant impacts on economic growth in high-income provinces.

Table 5 also presents the coefficients for control variables, pointing to the positive effects of inflation, foreign direct investment, urban population on economic growth, while the poverty rate is found to negatively affect economic growth. Notably, in some regressions for low-income provinces, we found negative effects of labour on economic growth. This is due to the economy in these localities being underdeveloped and focused on seasonal agriculture activities, with a shortage of manufacturing industry. The workforce tends to migrate to work for companies in urban areas of richer provinces or as export labour (N. A. Nguyen et al., 2018; Pham et al., 2018).

3.3. Robustness test

To verify the robustness of the results estimated using the difference-GMM method, we apply the system-GMM estimation. The relevant estimation results are presented in Table 6. Similarly to the baseline findings, various aspects of financial inclusion maintain their positive and statistically significant impact on economic growth for the whole group of Vietnamese provinces. Although the magnitude of the coefficients exhibits minor changes, it retains the concept of intuition in the previous section. Therefore, the main findings estimated using the difference-GMM approach appear robust and stable, which improves the reliability of the results.

Table 5. The impact of financial inclusion on economic growth in Vietnam across income groups (difference-GMM)

Groups	Low-income provinces					High-income provinces				
Variables	**FI1**	**FI2**	**FI3**	**FI4**	**FI5**	**FI1**	**FI2**	**FI3**	**FI4**	**FI5**
EG_{t-1}	0.026	0.418***	0.814***	0.854***	1.156***	0.501**	0.623**	1.034***	0.697**	0.669*
	(0.097)	(0.094)	(0.134)	(0.168)	(0.155)	(0.194)	(0.307)	(0.198)	(0.287)	(0.377)
$FI_{i,t}$	0.719***	0.123***	0.236*	0.145	0.011	0.767***	0.530***	0.201**	0.653***	0.015**
	(0.169)	(0.039)	(0.125)	(0.087)	(0.026)	(0.136)	(0.170)	(0.080)	(0.248)	(0.007)
$INF_{i,t}$	0.006***	0.022***	0.010**	0.007**	0.007*	0.004*	–0.008	0.004	0.006*	0.003
	(0.002)	(0.004)	(0.004)	(0.003)	(0.004)	(0.002)	(0.005)	(0.006)	(0.003)	(0.004)
$LABOUR_{i,t}$	–0.091	–0.164	–0.187*	–0.112*	–0.126**	–0.520	0.001*	–0.517	–0.179	0.578*
	(0.141)	(1.130)	(0.091)	(0.006)	(0.061)	(0.488)	(0.000)	(0.537)	(0.540)	(0.262)
$FDI_{i,t}$	0.010**	–0.004	0.013**	0.015***	0.003	0.022***	0.022**	0.003	0.034**	0.040***
	(0.005)	(0.007)	(0.006)	(0.005)	(0.005)	(0.006)	(0.010)	(0.001)	(0.009)	(0.012)
$URBAN_{i,t}$	0.008	0.144*	0.184	0.073	0.019	0.223*	–0.176	0.201	0.274	0.127*
	(0.079)	(0.070)	(0.217)	(0.067)	(0.072)	(0.122)	(0.157)	(0.316)	(0.206)	(0.065)
$POVERTY_{i,t}$	–0.010*	–0.080**	–0.004	0.001	0.075	0.058	0.101	–0.081*	0.067	–0.081*
	(0.061)	(0.036)	(0.037)	(0.067)	(0.059)	(0.051)	(0.124)	(0.045)	(0.074)	(0.041)
Number of observations	213	213	213	213	213	100	100	100	100	100
AR(1)	0.030	0.005	0.004	0.001	0.002	0.831	0.099	0.087	0.074	0.049
AR(2)	0.667	0.115	0.808	0.904	0.805	0.114	0.689	0.130	0.470	0.643
Hansen test for overidentification	0.248	0.318	0.207	0.212	0.458	0.706	0.347	0.761	0.318	0.224
Hansen test of exogeneity	0.280	0.765	0.697	0.250	0.690	0.555	0.689	0.706	0.493	0.691

Note: Robust standard errors reported in parenthesis. ***, **, *, significant at the 1%, 5%, and 10% levels, respectively. The results of AR(1), AR(2) and Hansen test are presented as *p*-value.

Source: own calculations.

Table 6. The impact of financial inclusion on economic growth in Vietnam (system-GMM)

Sample	Variables	FI1		FI2		FI3		FI4		FI5	
All provinces	EG_{t-1}	1.108***	(0.020)	0.001***	(0.000)	0.001***	(0.000)	0.001***	(0.000)	0.952***	(0.057)
	$FI_{i,t}$	0.068*	(0.030)	0.137**	(0.063)	0.108**	(0.052)	0.195*	(0.105)	0.016	(0.021)
	$INF_{i,t}$	0.001	(0.004)	0.008***	(0.003)	0.010*	(0.005)	0.007*	(0.003)	0.008**	(0.003)
	$LABOUR_{i,t}$	0.077	(0.09)	0.010	(0.213)	1.345*	(0.751)	0.016	(0.426)	0.372	(0.336)
	$FDI_{i,t}$	0.010***	(0.003)	0.010*	(0.005)	0.006	(0.008)	0.010*	(0.006)	0.010**	(0.004)
	$URBAN_{i,t}$	0.096**	(0.038)	0.089	(0.094)	0.045	(0.137)	0.160	(0.156)	0.073	(0.058)
	$POVERTY_{i,t}$	0.063	(0.041)	–0.012	(0.912)	0.050	(0.042)	0.010	(0.046)	–0.027*	(0.015)
	AR(1); AR(2)	0.004;	0.233	0.565;	0.182	0.397;	0.588	0.546;	0.225	0.001;	0.222
	Hansen test for overidentification; exogeneity	0.454;	0.543	0.352;	0.602	0.503;	0.224	0.259;	0.428	0.656;	0.153
Low-income group	EG_{t-1}	0.854***	(0.064)	0.986***	(0.050)	0.840***	(0.099)	0.787***	(0.084)	1.084***	(0.033)
	$FI_{i,t}$	0.100***	(0.038)	0.003**	(0.001)	0.074*	(0.043)	0.109*	(0.060)	0.016	(0.016)
	$INF_{i,t}$	0.011***	(0.004)	0.002	(0.004)	0.002*	(0.001)	0.007*	(0.003)	0.007*	(0.004)
	$LABOUR_{i,t}$	–0.575*	(0.027)	–0.131	(0.004)	0.115	(0.374)	–0.059*	(0.030)	–0.584*	(0.03)
	$FDI_{i,t}$	0.001	(0.005)	0.011***	(0.003)	0.007*	(0.004)	0.004	(0.004)	0.011***	(0.003)
	$URBAN_{i,t}$	0.032	(0.119)	–0.031	(0.067)	0.075*	(0.035)	0.023	(0.048)	0.036**	(0.015)
	$POVERTY_{i,t}$	–0.037**	(0.019)	0.014	(0.013)	–0.024	(0.020)	–0.018	(0.015)	–0.050**	(0.020)
	AR(1); AR(2)	0.008;	0.361	0.010;	0.871	0.009;	0.996	0.002;	0.648	0.005;	0.729
	Hansen test for overidentification; exogeneity	0.334;	0.254	0.372;	0.666	0.338;	0.763	0.249;	0.326	0.281;	0.404

Table 6. continued

Sample	Variables	FI1		FI2		FI3		FI4		FI5	
High-income group	EG_{t-1}	1.110***	(0.110)	0.970***	(0.036)	1.059***	(0.062)	0.876***	(0.095)	0.901***	(0.131)
	$FI_{i,t}$	0.130**	(0.066)	0.129***	(0.047)	0.144*	(0.074)	0.132**	(0.063)	0.041**	(0.017)
	$INF_{i,t}$	0.006*	(0.003)	0.002	(0.004)	0.011	(0.009)	0.013**	(0.006)	0.008	(0.009)
	$LABOUR_{i,t}$	0.019	(0.395)	0.683*	(0.422)	0.105	(0.177)	0.081	(0.151)	0.067	(0.214)
	$FDI_{i,t}$	0.009***	(0.014)	0.019***	(0.007)	0.014**	(0.006)	0.017***	(0.007)	0.021**	(0.009)
	$URBAN_{i,t}$	0.162**	(0.069)	0.048	(0.062)	0.082**	(0.073)	0.022	(0.630)	0.034*	(0.015)
	$POVERTY_{i,t}$	–0.081*	(0.042)	–0.081**	(0.037)	0.040*	(0.021)	0.010	(0.030)	–0.06	(0.041)
	AR(1); AR(2)	0.282;	0.177	0.101;	0.148	0.054;	0.162	0.052;	0.132	0.035;	0.108
	Hansen test for overidentification; exogeneity	0.753;	0.472	0.602;	0.375	0.625;	0.724	0.479;	0.726	0.578;	0.511

Note: Robust standard errors reported in parenthesis. ***, **, *, significant at the 1%, 5%, and 10% levels, respectively. The results of AR(1), AR(2) and Hansen test are presented as *p*-value.

Source: own calculations.

Conclusions

The main objective of this paper is to examine the relationship between financial inclusion and economic growth in Vietnamese provinces during 2014–2020. The study used difference-GMM to estimate empirical results and system-GMM for the sake of robustness check. The results suggest the positive linkage for the following measures of financial inclusion: the penetration of commercial bank branches and the usage of banking accounts, savings, and ATM cards. Meanwhile, financial inclusion proxied by insurance participation shows a non-significant effect on economic growth. Similar findings are documented in provinces which have GPP per capita lower than the country's average. Notably, in high-income provinces, it is found that a higher percentage of households participating in insurance could spur economic development. In addition, both high-income and low-income provinces in Vietnam exhibit a significant effect of financial inclusion, measured as commercial bank branches penetration and using ATM cards.

The findings illustrate the crucial role of financial inclusion in accelerating economic growth in Vietnam. The positive linkage suggests that policymakers should prioritise measures to expand access to and use of financial services. The study also raises concerns that insurance participation in Vietnam is still in low level and has non-significant effect on economic growth in low-income provinces. To address this issue, policymakers should design targeted programmes to increase the accessibility of insurance products, particularly in rural and low-income regions. Such policies could include incentives for insurers to expand their reach and foster public–private partnerships to develop affordable products tailored to local needs. In addition, improving financial literacy, especially financial knowledge about the role and benefits of insurance, will help households and businesses understand how insurance can protect assets, stabilise income, and support economic resilience, thereby enhancing its potential contribution to growth.

The statistically significant positive effect of the actual use of financial products, services and penetration highlights the necessity of targeted policies. Policymakers should endorse initiatives that actively encourage individuals and businesses to engage with the available financial products and services. Such initiatives may encompass targeted awareness campaigns, incentives for use, and programmes to strengthen financial literacy, particularly practical skills in managing savings, credit, and digital financial tools. By enhancing both access and capability, these policies have the potential to amplify the growth-enhancing impact of financial inclusion.

Furthermore, the empirical results indicate that the positive impact of financial inclusion, as measured by the number of commercial bank branches, exists in both low-income provinces and high-income provinces. Given

that the financial infrastructure in low-income provinces remains underdeveloped, targeted investments in branch networks, mobile banking services, and related infrastructure are likely to stimulate local economic activity and narrow disparities in growth.

Also, enhancing financial inclusion in Vietnam should progress in parallel with the implementation of complementary policies that strengthen the regulatory framework, improve the financial infrastructure, particularly in underdeveloped regions, and advance financial literacy. These conditions would provide a strong foundation and help ensure that expanded access to financial resources translates into substantive economic gains.

The current study has some limitations, which can be addressed in future research. Firstly, provincial data in Vietnam in terms of digital applications in the financial system, such as mobile banking, internet banking as well as credit from financial institutions, is currently not available. Future works can include them to measure financial inclusion. Secondly, this study ignores the contribution of microfinance institutions. Future studies on the impact of financial inclusion on economic growth should include this type of institution. While the study illustrates that financial inclusion promotes economic growth in Vietnam, the inverse relationship should also be discussed in future studies. In addition, this study has focused solely on economic growth; further research can observe other aspects such as poverty, women's empowerment, and well-being.

Appendix A

List of 63 provinces in Vietnam

An Giang	Dak Nong	Kon Tum	Quang Tri
Ba Ria–Vung Tau	Dien Bien	Lai Chau	Soc Trang
Bac Lieu	Dong Nai	Lang Son	Son La
Bac Giang	Dong Thap	Lao Cai	Tay Ninh
Bac Kan	Gia Lai	Lam Dong	Thai Binh
Bac Ninh	Ha Giang	Long An	Thai Nguyen
Ben Tre	Ha Nam	Nam Dinh	Thanh Hoa
Binh Duong	Hanoi	Nghe An	Ho Chi Minh City
Binh Dinh	Ha Tinh	Ninh Binh	Thua Thien Hue
Binh Phuoc	Hai Duong	Ninh Thuan	Tien Giang
Binh Thuan	Hai Phong	Phu Tho	Tra Vinh
Ca Mau	Hau Giang	Phu Yen	Tuyen Quang
Cao Bang	Hoa Binh	Quang Binh	Vinh Long
Can Tho	Hung Yen	Quang Nam	Vinh Phuc
Da Nang	Khanh Hoa	Quang Ngai	Yen Bai
Dak Lak	Kien Giang	Quang Ninh	

Appendix B

Table B1. Unit root test results

Variable	ADF			
	inverse chi--squared	inverse normal	inverse logit	modified inverse chi-squared
EG	681.613***	–12.204***	–21.737***	35.000***
FI1	304.359***	–4.019***	–6.461***	11.236***
FI2	235.776***	–2.547***	–4.816***	6.915***
FI3	386.440***	–2.615***	–8.065***	16.406***
FI4	2501.015***	–39.926***	–88.419***	149.612***
FI5	203.384***	–1.324*	–3.212***	4.875***
INF	419.908***	–10.700***	–12.896***	18.515***
LABOUR	522.299***	–9.961***	–15.476***	24.965***
FDI	400.993***	–2.096**	–8.428***	17.323***
URBAN	432.627***	–4.664***	–9.702***	19.253***
POVERTY	1420.691***	–22.399***	–47.458***	81.558***

Note: *,**,*** indicates the significance level of the 10%, 5%, and 1%, respectively.

Source: own calculations.

References

Ahmad, M., Majeed, A., Khan, M. A., Sohaib, M., & Shehzad, K. (2021). Digital financial inclusion and economic growth: Provincial data analysis of China. *China Economic Journal*, *14*(3), 291–310. https://doi.org/10.1080/17538963.2021.1882064

Ang, J. B. (2011). Savings mobilization, financial development and liberalization: The case of Malaysia. *Review of Income and Wealth*, *57*(3), 449–470. https://doi.org/10.1111/j.1475-4991.2010.00411.x

Apergis, N., & Poufinas, T. (2020). The role of insurance growth in economic growth: Fresh evidence from a panel of OECD countries. *The North American Journal of Economics and Finance*, *53*, 101217. https://doi.org/10.1016/j.najef.2020.101217

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies*, *58*(2), 277–297. https://doi.org/10.2307/2297968

Asian Development Bank (ADB). (2000). *Finance for the poor: Microfinance development strategy*. Asian Development Bank. https://www.adb.org/sites/default/files/institutional-document/32094/financepolicy.pdf

Barcellos, S. H., & Zamarro, G. (2019). Unbanked status and use of alternative financial services among minority populations. *Journal of Pension Economics and Finance*, *20*(4), 468–481. https://doi.org/10.1017/S1474747219000052

Basnayake, D., Naranpanawa, A., Selvanathan, S., & Bandara, J. S. (2024). Financial inclusion through digitalization and economic growth in Asia-Pacific countries. *International Review of Financial Analysis*, *96*, 103596. https://doi.org/10.1016/j.irfa.2024.103596

Bayar, Y., & Gavriletea, M. D. (2018). Financial inclusion and economic growth: Evidence from transition economies of European Union. *Journal of International Finance and Economics*, *18*(2), 95–100. https://doi.org/10.18374/JIFE-18-2.9

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2009). *Financial institutions and markets across countries and over time—data and analysis*. Policy Research Working Paper, 4943. https://openknowledge.worldbank.org/server/api/core/bitstreams/46a81459-f084-5d07-98ba-c1daa0cd44b5/content

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(2), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Bond, S. R. (2002). Dynamic panel data models: A guide to micro data methods and practice. *Portuguese Economic Journal*, *1*(2), 141–162. https://doi.org/10.1007/s10258-002-0009-9

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, *45*(1), 115–135. https://doi.org/10.1016/S0022-1996(97)00033-0

Breunig, R., & Majeed, O. (2020). Inequality, poverty and economic growth. *International Economics*, *161*, 83–99. https://doi.org/10.1016/j.inteco.2019.11.005

Chen, H., Liu, Y., Li, Z., & Xue, D. (2017). Urbanization, economic development and health: Evidence from China's labor-force dynamic survey. *International Journal for Equity in Health*, *16*, 207. https://doi.org/10.1186/s12939-017-0705-9

Chen, Z., Ali, S., Lateef, M., Khan, A. I., & Anser, M. K. (2023). The nexus between asymmetric financial inclusion and economic growth: Evidence from the top 10 financially inclusive economies. *Borsa Istanbul Review*, *23*(2), 368–377. https://doi.org/10.1016/j.bir.2022.11.004

Crane, D. B., Froot, K. A., Mason, S. P., Perold, A., Merton, R. C., Bodie, Z., Sirri, E. R., & Tufano, P. (1995). *The global financial system: A functional perspective*. Harvard Business School Press.

Creane, S., Goyal, R., Mobarak, A. M., & Sab, R. (2004). *Financial sector development in the Middle East and North Africa*. IMF Working Paper, WP/04/201. https://www.imf.org/en/-/media/websites/imf/imported-full-text-pdf/external/pubs/ft/wp/2004/_wp04201.pdf

Dahiya, S., & Kumar, M. (2020). Linkage between financial inclusion and economic growth: An empirical study of emerging Indian economy. *Vision: The Journal of Business Perspective*, *24*(2), 1–10. https://doi.org/10.1177/0972262920923891

Donou-Adonsou, F., & Sylwester, K. (2016). Financial development and poverty reduction in developing countries: New evidence from banks and microfinance institutions. *Review of Development Finance*, *6*(1), 82–90. https://doi.org/10.1016/j.rdf.2016.06.002

Dorrance, G. S. (1964). Inflation and growth. *Finance & Development*, *1*(001), 32–38. https://www.elibrary.imf.org/view/journals/022/0001/001/article-A004-en.xml

Ehiedu, V. C., Onuorah, A. C., & Okoh, E. (2021). Automated Teller Machine (ATM) penetration and financial inclusiveness in Nigeria: A tripod banking system approach. *Indian Journal of Economics and Business*, *20*(3), 1093–1104. https://www.ashwinanokha.com/resources/v20-3-62.%20VICTOR%20SCOPUS%20TWO.ED.pdf

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, *32*(3), 485–512. https://doi.org/10.1016/0304-3932(93)90027-D

Gehrung, M. (2020). *The ATM around the corner—how financial development, access, and integration influence economic growth and inequality*. https://ssrn.com/abstract=3595265

Ghosh, S. (2011). Does financial outreach engender economic growth? Evidence from Indian states. *Journal of Indian Business Research*, *3*(2), 74–99. https://doi.org/10.1108/17554191111132206

Global Findex Database. (2021). *Global financial inclusion database*. World Bank Group. https://www.worldbank.org/en/publication/globalfindex/download-data

Haudi, H., Hadion, W., & Yoyok, C. (2020). Analysis of most influential factors to attract foreign direct investment. *Journal of Critical Reviews*, *7*(3), 4128–4135.

Huang, R., Kale, S., Paramati, S. R., & Taghizadeh-Hesary, F. (2021). The nexus between financial inclusion and economic development: Comparison of old and new EU member countries. *Economic Analysis and Policy*, *69*, 1–15. https://doi.org/10.1016/j.eap.2020.10.007

Hussain, S., Rehman, A., Ullah, S., Waheed, A., & Hassan, S. (2024). Financial inclusion and economic growth: Comparative panel evidence from developed and developing Asian countries. *Sage Open*, *14*(1). https://doi.org/10.1177/21582440241232585

Hye, Q. M. A. (2022). Revisiting the linkage between financial inclusion and economic growth: Time series evidence from Vietnam. *Edelweiss Applied Science and Technology*, *6*(1), 15–25. https://doi.org/10.55214/25768484.v6i1.302

Khan, M. S. & Senhadji, A. S. (2000). *Threshold effects in the relationship between inflation and growth*. IMF Working Papers 110. https://www.imf.org/external/pubs/ft/wp/2000/wp00110.pdf

Khan, N., Zafar, M., Okunlola, A. F., Zoltan, Z., & Robert, M. (2022). Effects of financial inclusion on economic growth, poverty, sustainability, and financial efficiency: Evidence from the G20 countries. *Sustainability*, *14*(19), 12688. https://doi.org/10.3390/su141912688

Kim, D. W., Yu, J. S., & Hassan, M. K. (2018). Financial inclusion and economic growth in OIC countries. *Research in International Business and Finance*, *43*, 1–14. https://doi.org/10.1016/j.ribaf.2017.07.178

Kim, J. H. (2016). A study on the effect of financial inclusion on the relationship between income inequality and economic growth. *Emerging Markets Finance and Trade*, *52*(2), 498–512. https://doi.org/10.1080/1540496X.2016.1110467

Kodan, A. S., & Chhikara, K. S. (2013). A theoretical and quantitative analysis of financial inclusion and economic growth. *Management and Labour Studies*, *38*(1–2), 103–133. https://doi.org/10.1177/0258042X13498009

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, *35*(2), 688–726.

Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, *22*(1), 3–42. https://doi.org/10.1016/0304-3932(88)90168-7

Maity, S., & Sahu, T. N. (2023). Bank branch outreach and access to banking services toward financial inclusion: An experimental evidence. *Rajagiri Management Journal*, *17*(2), 170–182. https://doi.org/10.1108/RAMJ-01-2022-0004

Mehic, E., Silajdzic, S., & Babic-Hodovic, V. (2013). The impact of FDI on economic growth: Some evidence from Southeast Europe. *Emerging Markets Finance and Trade*, *49*(1), 5–20. https://doi.org/10.2753/ree1540-496x4901s101

Narain, K., Bhattu-Babajee, R., Gopy-Ramdhany, N., & Seetanah, B. (2022). Assessing the impact of financial inclusion on economic growth: A comparative analysis between lower middle-income countries and upper middle-income countries. *The Business and Management Review*, *13*(1), 68–83.

Nguyen, H. S., Ho, C. M., Vo, A. T., & Vo, D. H. (2023). The determinants of financial inclusion from the households' perspectives in Vietnam. *PLoS ONE*, *18*(9), e0291020. https://doi.org/10.1371/journal.pone.0291020

Nguyen, N. A., Pham, T. T., & Tran, T. T. S. (2018). *Assessment of labor export activities in Vietnam*. Proceedings of 14th International Conference on Humanities and Social Sciences 2018 (IC-HUSO 2018) 22–23 November 2018. Khon Kaen University. Thailand.

Nguyen, N. T., Nguyen, H. S., Ho, C. M., & Vo, D. H. (2021). The convergence of financial inclusion across provinces in Vietnam: A novel approach. *PLoS ONE*, *16*(8), e0256524. https://doi.org/10.1371/journal.pone.0256524

Nguyen, T. A. N., & Luong, T. T. H. (2023). The determinants of financial inclusion in Vietnam: A demand-side approach. *Sage Open*, *13*(4). https://doi.org/10.1177/21582440231210639

Nguyen, T. A. N., & Nguyen, K. M. (2020). Role of financial literacy and peer effect in promotion of financial market participation: Empirical evidence in Vietnam.

The Journal of Asian Finance, Economics and Business, *7*(6), 1–8. https://doi.org/10.13106/JAFEB.2020.VOL7.NO6.001

Odame, C., Appiah, K. O., & Gyimah, P. (2024). The financial inclusion-economic growth nexus: What is new now? *Journal of Money and Business*, *4*(2), 121–137. https://doi.org/10.1108/JMB-05-2023-0026

Osuma, G. (2025). The impact of financial inclusion on poverty reduction and economic growth in sub-Saharan Africa: A comparative study of digital financial services. *Social Sciences & Humanities Open*, *11*, 101263. https://doi.org/10.1016/j.ssaho.2024.101263

Pal, S., Vankila, S., & Fernandes, M. N. (2025). Interplay of financial inclusion and economic growth in emerging economies. *World Development Sustainability, 6*, 100201. https://doi.org/10.1016/j.wds.2025.100201

Pham, N. N. K., Do, M., Bui, V. H., & Nguyen, G. T. (2018). Rural-to-urban migration in Vietnam: Conceptualized youth's vulnerabilities in the city. *International Journal of Migration, Health and Social Care*, *14*(1), 117–130. https://doi.org/10.1108/ijmhsc-11-2015-0044

Sahay, R., Čihák, M., N'Diaye, P., Barajas, A., Mitra, S., Kyobe, A., Mooi, Y. N., & Yousefi, S. R. (2015). *Financial inclusion: Can it meet multiple macroeconomic goals?* IMF Staff Discussion Note, SDN/15/17. https://www.imf.org/external/pubs/ft/sdn/2015/sdn1517.pdf

Sarel, M. (1995). *Nonlinear effects of inflation on economic growth*. IMF Working Papers, 056. https://doi.org/10.5089/9781451968316.001

Sarma, M (2008). *Index of financial inclusion*. Indian Council for Research on International Economic Relations Working Paper, 215.

Sethi, D., & Acharya, D. (2018). Financial inclusion and economic growth linkage: some cross-country evidence. *Journal of Financial Economic Policy*, *10*(3), 369–385. https://doi.org/10.1108/JFEP-11-2016-0073

Sequeira, T. N. (2021). Inflation, economic growth and education expenditure. *Economic Modelling*, *99*, 105475. https://doi.org/10.1016/j.econmod.2021.02.016

Sharma, D. (2016). Nexus between financial inclusion and economic growth: Evidence from the emerging Indian economy. *Journal of Financial Economic Policy*, *8*(1), 13–36. https://doi.org/10.1108/JFEP-01-2015-0004

Siddiki, J., & Bala-Keffi, L. R. (2024). Revisiting the relation between financial inclusion and economic growth: A global analysis using panel threshold regression. *Economic Modelling*, *135*, 106707. https://doi.org/10.1016/j.econmod.2024.106707

Singh, R., & Mallick, H. (2024). Financial inclusion in India: An analysis from the user-side perspective. *International Journal of Social Economics*, *51*(9), 1167–1181. https://doi.org/10.1108/IJSE-03-2023-0162

Sukmana, R., & Ibrahim, M. H. (2018). Financial access and inequality: A quantile assessment. *International Journal of Economics and Management*, *12*(2), 551–557.

Tran, H. S., Nguyen, T. L., & Huynh, T. N. L. (2019). Understanding financial inclusion in Vietnam. *Research in World Economy*, *10*(3). https://doi.org/10.5430/rwe.v10n3p382

Tran, H. T. T., Le, H. T. T., Nguyen, N. T., Pham, T. T. M., & Hoang, H. T. (2022). The effect of financial inclusion on multidimensional poverty: The case of Vietnam.

Cogent Economics & Finance, *10*(1), 2132643. https://doi.org/10.1080/23322039.2022.2132643

Tran, T. K. (2023). Does microfinancing, financial inclusion, and educational loans alleviate poverty and inequality: Evidence from Vietnam. *Technological and Economic Development of Economy*, *29*(6), 1687–1707. https://doi.org/10.3846/tede.2023.20348

Tran, T. Q., & Dinh, V. T. T. (2021). Provincial governance and financial inclusion: Micro evidence from rural Vietnam. *International Public Management Journal*, *24*(6), 792–812. https://doi.org/10.1080/10967494.2021.1964009

United Nations. (2006). *Building inclusive financial sectors for development*. United Nations Publishing.

Usman, M., Makhdum, M. S. A., & Kousar, R. (2021). Does financial inclusion, renewable and non-renewable energy utilization accelerate ecological footprints and economic growth? Fresh evidence from 15 highest emitting countries. *Sustainable Cities and Society*, *65*, 102590. https://doi.org/10.1016/j.scs.2020.102590

Wibowo, D. H., Mardani, Y. E., & Iqbal, M. (2023). Impact of financial inclusion on economic growth and unemployment: Evidence from Southeast Asian countries. *International Journal of Finance & Banking Studies*, *12*(2), 55–66. https://doi.org/10.20525/ijfbs.v12i2.2770

World Bank. (2008). *Banking the poor: Measuring banking access in 54 economies*. World Bank Group. https://openknowledge.worldbank.org/entities/publication/b355b8c8-690f-5411-b040-34e0cac89b82