Contents lists available at Science-Gate

International Journal of Advanced and Applied Sciences

Journal homepage: http://www.science-gate.com/IJAAS.html

Policy credit and income inequality reduction in Vietnam: An empirical analysis

Quoc Hoi Le [1,*], Bich Ngoc Nguyen [2], Lan Huong Tran [1]

[1]Faculty of Economics, National Economics University, Hanoi, Vietnam
[2]School of Trade and International Economics, National Economics University, Hanoi, Vietnam

ARTICLE INFO

Article history:
Received 5 March 2020
Received in revised form
2 June 2020
Accepted 3 June 2020

Keywords:
Policy credit
Income inequality
Vietnam

ABSTRACT

This paper examines the role of policy credit on income inequality reduction in Vietnam. We also examine whether the impact of policy credit on income inequality is conditioned by the educational level and institutional quality. The primary data set contains a panel of 60 provinces collected from the General Statistics Office of Vietnam from 2002 to 2016. We employ the Generalized Method of Moment (GMM) to solve the endogenous problem. The empirical findings show that policy credit contributes to reducing income inequality in Vietnam. In addition, we provide evidence that the institutional quality and educational level condition the impact of policy credit on income inequality. Based on the findings, the paper implies that the government needs to coordinate with the relevant functional agencies to promote the propagation and dissemination of preferential lending programs for the poor, ethnic minority groups.

1. Introduction

Income inequality is a widespread concern worldwide, especially in developing countries. Former US President Barak Obama even called the rise in income inequality, is the challenge of our times (Dabla-Norris et al., 2015). Income inequality has increased globally, but there is still no consensus on its cause. In recent researches, the impact of financial development in general and credit, in particular on income inequality, has been theoretically and empirically studied. Theoretically, there are many different views on the impact of credit on income inequality. Some theoretical studies argue that more credit extension may make it easier for the poor to access loans for improving their lives, which can reduce income inequality (Galor and Moav, 2004). Imperfect information and credit transaction costs may create constraints on the poor such as a lack of collateral, thus loosening these credit restrictions is considered to be beneficial for the poor (Beck et al., 2007). In another theoretical studies' view, Greenwood and Jovanovic (1990) argued that the credit market is only better for the richer group with better mortgage conditions to access credit, thereby increasing income inequality.

In terms of empirical researches, the studies have not been entirely agreed on the impacts of credit on income inequality. Although many empirical studies show that countries with higher levels of credit growth, income inequality is lower (Li et al., 1998; Clarke et al., 2006; Beck et al., 2007; Kappel, 2010; Hamori and Hashiguchi, 2012; Naceur and Ghazouani, 2007; Naceur and Zhang, 2016), other studies suggest that there is a non-linear relationship between credit and income inequality (Kim and Lin, 2011; Law et al., 2014), or credit increases income inequality (Jauch and Watzka, 2016; Jaumotte et al., 2013; Dabla-Norris et al., 2015). Thus, studies at different levels with different aspects show that income inequality is related to credit. However, the mechanisms and degrees of impact differ from country to country and are subject to each country's institutional and socio-economic background.

Vietnam has made a number of remarked achievements of social and economic development for more than 30 years of its economic reform. Economic growth has brought Vietnam from the country with a rate of more than 58% poor population in 1993 to about 5% in 2018 (Pham and Riedel, 2019). Policy credit is considered to contribute to this great achievement. However, income inequality in a society tends to increase in line with the achievement of rapid economic growth

* Corresponding Author.
Email Address: hoilq@neu.edu.vn (Q. H. Le)
https://doi.org/10.21833/ijaas.2020.09.011
Corresponding author's ORCID profile:
https://orcid.org/0000-0003-4599-1322

and sharp poverty reduction in Vietnam. Gini coefficient, a common measure of income inequality, increases from 0.34 in 1993 to 0.42 in 2018 (GSO, 2019). So far, there have been several studies examining the impact of financial development and credit on income inequality in Vietnam (Hoi and Hoi, 2013). However, there is not any study on policy credit impact on income inequality. In addition, the studies also have not clarified the constraints of economic and political factors on the impact of policy credit on income inequality. Therefore, this study will address these gaps.

The paper is organized as follows. Section 2 provides a theoretical framework and literature review. An overall policy credit and income inequality in Vietnam are presented in Section 3. Section 4 describes the model specification, data, and methodology. The empirical results and discussion are presented in Section 5. And section 6 is conclusions and policy implications.

2. Literature review

There have been three main strands of theory about the credit-inequality nexus. The first one developed by Greenwood and Jovanovic (1990), also known as non-linear or inverted U-shaped hypothesis, states that credit leads to higher income inequality in the early stage of economic development, but the income gap may decrease as the credit market has been grown to mature. The second one proposed by Galor and Zeira (1993) and Banerjee and Newman (1993) concluded that credit has the effect of reducing income inequality. In the third strand, Aghion and Bolton (1997) provided a trickle-down theory which shows that when capital accumulation is high enough, a governmental policy may still make income distribution more equal if it redistributes more wealth of the richer lenders to poorer borrowers, which could be done through credit allocation mechanism.

Based on those theoretical frameworks, the extensive empirical literature on the relationship between credit and income inequality provides very mixed findings. Beck et al. (2007) used data for 65 countries over the 1960-2005 period and report a negative relationship between private credit-to-GDP and the growth rate of the Gini coefficient controlling for real per capita GDP growth and a wide array of other country-specific factors. Using a similar model for a group of 83 countries in the period of 1960-1995, Clarke et al. (2006) also found that credit market development reduces income inequality. Kappel (2010) found that credit reduces income inequality for high-income countries, but is not significant for low-income countries. Using panel fixed effects, GMM, and annual panel data for a sample of 126 countries over the 1963-2002 period, Hamori and Hashiguchi (2012) found that private credit-to-GDP reduces household income inequality.

Based on a cross-section sample of 81 countries over the period 1985-2010, Law et al. (2014) concluded that credit tends to reduce income inequality only after a certain threshold level of institutional quality has been achieved. Until then, the effect of credit on income inequality is nonexistent. Cournede et al. (2015) examined the effects of intermediated credit for OECD countries and a European subset and found a negative impact of intermediated credit on average household disposable income growth, controlling for country and time fixed effects and financial crises. Beck (2012) showed a positive effect on inequality that decreasing credit constraints will benefit the poor, at least in developing countries.

On a national level, Cruz and Imperial (2014) used data in the period 1961-2000 certifies that credit increases inequality in the Philippines. Law and Tan (2009) found no evidence to conclude that credit can reduce the rich-poor gap when analyzing national data from 1980 to 2000 in Malaysia. Re-examine this correlation in the context of better government institutional quality, Law et al. (2014) concluded that credit only reduces the income gap after the institutional quality has reached a certain threshold. In India, Ang (2010) provided a quantitative analysis on a time series data from 1951-2004 that finds that credit expansion for the private sector and bank consistency may narrow income inequality. Using GMM and panel data for a sample of 60 provinces over the 2002-2010 period, Hoi and Hoi (2012) showed that financial development measured by private credit-to-GDP increase income inequality in Vietnam.

Overall, most studies discussed do not explore the transmission from policy credit to income inequality. This paper, therefore, introduces an empirical model to test the impact of one kind of credit, policy credit, on inequality in income for Vietnam-a developing countries with developing financial systems.

3. Policy credit and income inequality in Vietnam

3.1. Policy credit

To implement the national target program on sustainable poverty reduction in the period of 2016-2020, the Vietnam government has implemented many policies, of which policy credit is considered an important tool. As a core unit implementing policies of the government on policy credit, Vietnam Bank for Social Policies (VBSP) has worked closely with socio-political organizations to focus resources, strengthen the implementation of social policy credit programs, contribute to socio-economic development and achieve the goal of sustainable poverty reduction. By the end of 2018, policy credit has been implementing more than 20 national programs and some programs and projects entrusted by provinces, organizations, and individuals. Total capital reached VND 207,708 billion, an increase of VND 63,052 billion, total outstanding loans reached VND 199,823 billion, an increase of VND 57,295 billion compared to 2015, the average annual loan growth reached 9.7%, with over 6.6 million outstanding customers. With nearly 11,000 transaction units in communes, wards and

towns across the country and nearly 200,000 savings and loan groups operating in 100% of villages, hamlets, VBSP have implemented policy credit in 100% of communes, wards, and towns across the country, in which focusing priority to ethnic minorities groups and mountainous areas, disadvantaged and border areas, contributing significantly to gradually reduce income inequality.

Table 1 shows that the outstanding loans of VBSP increase continuously from VND 124,456 billion in 2014 to VND 187,792 billion in 2018. Of the total outstanding loans of VBSP, loans to poor households always account for the highest proportion (over 20% in the period 2014-2018), followed by loans to near-poor households, loans to clean water and rural sanitation projects and loans to manufacturing or business households in difficult areas.

Table 1: Outstanding loans of VBSP

Credit programs	2014		2015		2016		2017		2018	
	Debt (billions dong)	Proportion (%)	Debt (billions dong)	Proportion (%)	Debt (billions dong)	Proportion (%)	Debt (billions dong)	Proportion (%)	Debt (billions dong)	Proportion (%)
To poor households	38,268	28.1	35,457	24.9	37,714	24.1	39,061	22.7	38,014	20.2
To near-poor households	16,947	12.4	27,147	19.1	29,259	18.6	30,295	17.6	30,142	16.0
To households who just got out of poverty	-	-	-	-	11,663	7.4	20,653	12.02	28,293	15.1
To poor students	29,794	21.8	24,456	17.2	19,375	12.3	15,813	9.2	13,046	6.9
To clean water and rural sanitation projects	15,294	11.2	19,914	14.1	23,602	15.1	26,573	15.47	29,898	15.9
To manufacturing or business households in difficult areas	13,854	10.1	15,366	10.8	16,216	10.3	18,107	10.54	21,123	11.2
To employment support	-	-	-	-	4,356	2.8	10,834	6.31	15,234	8.1
Total	124,456	94.7	142,528	97.3	157,372	96.9	171790	97.1	187,792	96.7

In the period of 2016-2018, nearly 8 million poor households and other policy beneficiaries are lent from VBSP, with the loans of VND 221,693 billion, contributing to taking over 1.4 million households to overcome the poverty line, creating jobs for over 775,000 labors (over 17,000 labors working abroad in a limited time), nearly poor 200,000 students reached study loans, nearly 4.9 million clean water station, and rural environmental sanitation construction are built, over 108,000 houses for poor households are constructed. It can be affirmed that the policy credit has achieved positive results, consistent with the guidelines and policies of the Vietnam government on sustainable poverty reduction, ensuring social security, improving living standards, and gradually reducing income inequality. The quality of policy credit continues to improve, the ratio of overdue and frozen debts of the entire VBSP system in 2018 is only 0.75% (overdue debt 0.42%, frozen debt 0.33%).

Table 2 shows that the loans from policy credit lent to poor households in Vietnam in 2016 are mainly from VBSP (accounting for 90% of total loans), the 10% left is lent to poor households from employment support funds, poverty reduction funds, socio-political organizations, and other sources.

Table 2: Loans resources of poor households in Vietnam in 2016

Loans resources	Number of	Proportion
VBSP	1159	90.19
Employment support	6	0.47
Poverty reduction funds	52	4.05
Socio-political	49	3.81
Others	19	1.48
Total	1285	100

However, policy credit has still been limited. The resources to implement social policy credit programs are too limited compared to the actual needs of the poor and social policy beneficiaries. The quality of policy credit is unbalanced. In some areas and provinces, the rate of overdue debts still remains high. Beneficiaries of policy credit programs, such as loans to poor students, loans to the socio-economic development of ethnic minority groups and mountainous areas, are limited, and households with average living standards cannot access to these policy credit programs. In some provinces, there is a lack of coordination between activities of agricultural, forestry and fishery improvement, technical assistance, technology transfer and product consuming promotion implemented by State-owned organizations, non-business organizations, enterprises and socio-political organizations and activities of policy credit implementation, which leads to ineffective loans for a part of the poor and unsustainable poverty overcome.

3.2. Income inequality in Vietnam

Fig. 1 shows the GINI coefficient, which presents Vietnam's income inequality in the period of 2006-2018, is unstable and fluctuates. The GINI coefficient from 0.424 in 2006 increase to 0.434 in 2008, then gradually decreases to 0.424 in 2012, increases again and reaches the highest value during this period of 0.436 in 2016, and drops to 0.422 in 2018. Although the fluctuation degree of the Gini coefficient is not much (0.422 to 0.436), it also shows that the income of employees changes over the years. According to Cornia and Court (2001), the Gini coefficient in the range of 0.30-0.45 shows the safe and effective range of income inequality. Based on the actual GINI data, it can be affirmed that Vietnam's income inequality is still in a safe area. With this threshold, the level of income inequality in Vietnam is acceptable in tradeoff for high economic growth.

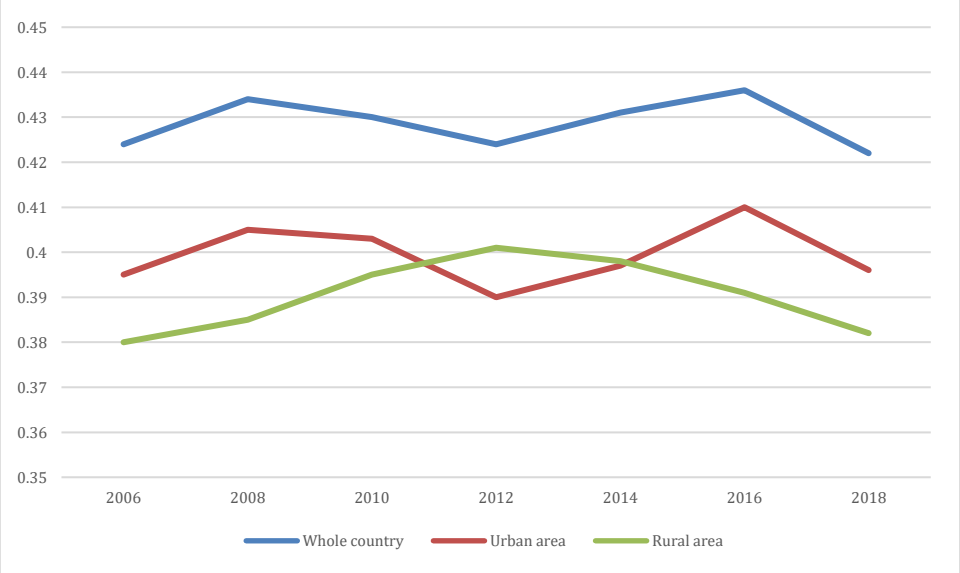

Fig. 1: Income inequality (GINI coefficient) in Vietnam from 2006 to 2018

However, the level of inequality in Vietnam may be higher than what is shown by the above Gini coefficient because the Gini coefficient does not take into account the inequality factor caused by the differences in assets, opportunities to access resources, health care, education, corruption, etc. This may be partly reflected by the income gap between the richest quintile (group 5) and the poorest quintile (group 1) in Table 3.

Table 3: Average monthly income per person by five income groups in Vietnam (2008-2018)

Year	Average	Group 1	Group 2	Group 3	Group 4	Group 5	(1)	(2)
2008	995	275	477	700	1067	2458	2183	8.94
2010	1387	369	669	1000	1490	3410	3041	9.24
2012	2000	512	984	1500	2222	4784	4272	9.34
2014	2637	660	1314	1972	2830	6413	5753	9.72
2016	3098	771	1516	2301	3356	7547	6776	9.79
2018	3760	931	1808	2774	4110	9175	8244	9.86

Note: (1) Income gap between group 5 and group 1; (2) Number of income disparities between group 5 and group 1; Unit: Thousand dong

Table 3 shows that the average monthly income in all five income groups has increased over the years. The average monthly income per person in 2018 is 3.78 times higher than in 2008. In 2008, the income of group 5 was 8.9 times higher compared to group 1, but by 2018, the income of group 5 is 9.86 times higher compared to group 1, which has pushed the income gap increasingly far. This data shows that income inequality in this period tends to increase rapidly. Comparing income in 2018 and 2008 indicates that group 1 is the group with the slowest increase degree (3.38 times) compared to the remaining groups, while group 2 increases 3.79 times, group 3 increases at the highest degree of 3.96 times and group 4 increases 3.85 times, group 5 increases 3.73 times.

Another measure of inequality, the "40%" standard of World Bank, also reflects this. Specifically, the income proportion of the poorest 40% of the total population and the total population has continuously decreased from approximately 18% in 2002 to about 15% in 2010, 14.9% in 2012 and continued to decline to 14.6% in 2018, which reflects the rise of absolute inequality in Vietnam (Pham and Riedel, 2019). It can easily be seen while the relative inequality level measured by the Gina coefficient is acceptable; the absolute income gap is strongly concerned because this demonstrates the increasingly rich-poor gap in Vietnamese society. It is also important to clarify that rising inequality does not imply that the rich become richer, and the poor become poorer; but the income growth of the rich group is faster than the income growth of the poor and low-income groups.

4. Research methodology

4.1. Model specification

This study estimates the impact of policy credit on income inequality by using the model specification as follows:

$$Gini_{i,t} = \beta_0 + \beta_1 . CRED_{i,t} + \beta_j . X_{i,t} + \beta . Interactions + \mu_i + \varepsilon_{i,t}$$

In this equation, Gini is the Gini coefficient, taking value from 0 to 1. CRED is an abbreviation for policy credit, measured by taking outstanding loans of policy credit as a percentage of GDP. X is a set of other control variables including GDPPC-be GDP per capita in a real term at comparable 1994 price; EDU-a proxy for educational attainment, computed by a number of schooling years of household head; OPEN-a proxy for the openness of the economy, calculated by the sum of import and export revenue as a

percentage of GDP; INF is the abbreviation of inflation.; GEX-government size, measured by government expenditure size over GDP, included in the model to control government intervening into redistribution process through fiscal policy; FDI (foreign-owned sector investment as a percentage of GDP) to examine the impact of FDI area on income equality.

This study tests two binding factors on the impact of credit and income inequality, such as institutional quality and educational attainment. Specifically, in the estimation equation, the Interaction variables are interacting variables between CRED variables with two variables: EDU and PCI. Also in the equation, μ_i is a fixed effect that does not change over time, showing the specific characteristics of each province/city; and $\varepsilon_{i,t}$ is an unseen random component. i and t are symbols for province/city and year.

4.2. Data

Data to calculate the income inequality index (Gini coefficient) is calculated by the author from VHLSS (Vietnam Household Living Standard Survey) from 2002 to 2016. Since 2002, the General Statistics Office of Vietnam conducts VHLSS every two years. The survey is designed to cover the whole country to represent the socio-economic changes of the country at the national and provincial levels. Data on education in the model is also computed from these surveys in corresponding years. Data on policy credit outstanding is collected from VBSP. Data for generating other variables in the model is collected from the General Statistics Office of Vietnam, which includes: GDP, import and export revenue, public expenditure (recurrent and development), inflation. Data on the PCI index is collected from the Vietnam Chamber of Commerce and Industry. Vietnam today has 63 cities/provinces. However, in order to have a balanced panel data without reducing observations, we combine data of pair of respectively separated/merged provinces for the whole studying period. Thus primary data set contains a panel of 60 provincial observations during the 2002-2016 period.

4.3. Methodology

Theoretically, there could be some technical problems when exploiting panel data, which, if unsolved, would lead to inefficient estimates. These may consist of the followings: (i) Some variables may be endogenous; (ii) Fixed effects within the data may prevail, and the effects may correlate with other explanatory variables in the model; (iii) Income inequality is of a dynamic process, which means that level of income inequality in the current period is influenced by the past ones.

To solve the above problems, we utilize the Generalized Method of Moment (GMM) in this study. Technically, Difference GMM (DGMM) could be used to generate empirical results by taking first-difference. While seeking for the exogenous instrument is not feasible, constructing instruments through using lagged variables that already exist in the model is highly possible. Supposing $E(\varepsilon_{i,t}|X_{i,s}) = 0$ given that t>s, then second or higher-order lag of variables in the right-hand side of the model could be treated as instruments. This condition holds if serial correlation in $\varepsilon_{i,t}$ does not exist in the model. Nevertheless, DGMM may still contain limits because taking first-order differentiation would make cross-province and within-province long-term information disappear. Furthermore, lagged variables could be a weak instrument for its differenced variable. To solve this, we could use an alternative technique which uses both lagged differenced dependent and independent variables as instruments. Arellano-Bond is applied with the error term in a differenced equation to test the phenomenon of auto-correlation. Sargan/Hansen test indicates the overall validity of the set of instruments. However, there is no instruction on how much instrument is too many (Roodman, 2009). Moreover, when executing robust regression to correct the problem of heteroskedasticity, the Hansen test of over-identification could be unreliable. We, therefore, suggested by Roodman (2009), apply the rule of thumb that number of instruments does not exceed that of observation groups.

5. Empirical results and discussion

The estimated results in Table 4 show that the coefficient of policy credit variable (CRED) is slated to be negative, implying that the increase of policy credit may push to decrease income inequality in Vietnam. Specifically, a province whose policy credit rate on GDP is one percentage point higher than that of another province, its Gini coefficient would be average 0.11% lower. This reflects that policy credit has an impact on helping the poor and vulnerable, thereby contributing to reducing income inequality in Vietnam.

Table 4 also shows that institutional quality and education attainment are influential on the impacts of policy credit on income inequality in Vietnam. Specifically, the estimated coefficients of interacting variables between institutional quality, educational attainment, and policy credit are positive and statistically significant. This implies that the provinces/cities with better institutional quality and higher education attainment, policy credit has a better effect on reducing the income inequality in these provinces/cities. This can be explained by the fact that better institutional quality and higher education attainment allow the poor and vulnerable to access policy credit easier in order to invest more in production and business, to improve income, thereby reducing income inequality.

Along with the results of the credit variables, the regression results also show the necessity of ensuring macroeconomic stability because the

increasing inflation is not beneficial for the poor and increases income inequality. Although the estimated coefficient of RGDPPC is positive and not statistically significant, it still implies that economic growth in the country may have an inequality-widening effect (at least over the period 2002-2016).

Table 4: Regression results

Explanatory variables	1	2	3
CRED	-0.0012***	-0.0011***	-0.0012***
	(3.88)	(3.92)	(3.89)
RGDPPC	0.0021*	0.0019	0.0019
	(1.97)	(1.62)	(1.72)
EDU	-0.0323***	-0.0328***	-0.0325***
	(-3.57)	(-3.60)	(-3.64)
INF	0.0039***	0.0040***	0.0040***
	(3.52)	(3.31)	(3.21)
OPEN	-0.0001	-0.0001	-0.0001
	(-0.57)	(-0.66)	(-0.67)
GEX	0.0007	0.0007	0.0007
	(1.12)	(1.13)	(1.18)
FDI	-0.002***	-0.0021***	-0.0021***
	(-3.62)	(-3.63)	(-3.65)
PCI	-0.023***	-0.022***	-0.022***
	(-3.87)	(-3.79)	(-3.81)
CRED* EDU		0.004***	
		(3.46)	
CRED* PCI			0.005***
			(3.53)
No. of Obs.	415	415	415
No. of instrument	21	21	21
AR(1)	0.000	0.000	0.000
AR(2)	0.780	0.842	0.832
Hansen test	0.305	0.287	0.256

Note: numbers in bracket (.) indicate t-statistics, and asterisk marks with (*), (**) and (***) indicate the estimated coefficients are statistically significant at a level of 10%, 5%, and 1% respectively

The estimation results show that the presence of the FDI sector helps reduce income inequality. This can be explained by the fact that FDI enterprises in Vietnam mainly focus on exploiting the advantages of low-cost and cheap skilled labor, thus reducing the income gap compared to high-skilled labor. In addition, there is evidence that the presence of the FDI sector helps to deplete some inequality. This could be true given that FDI companies in Vietnam mostly focus on taking advantage of cheap and low-skilled labor, which results in lowering the income gap between low skilled laborers and high-skilled ones.

6. Conclusion and policy implications

On dissecting a panel data 60 provinces/cities in Vietnam over the period 2002-2016, this paper finds empirical evidence proving the important role of policy credit on reducing income inequality. The results also confirm that improving education attainment and institutional quality can reduce income inequality in Vietnam. From the research results, some policy implications can be drawn as follows.

Firstly, VBSP needs to coordinate with the relevant functional agencies to promote the propagation and dissemination of preferential lending programs, especially the lending programs for the poor, ethnic minority groups. Secondly, building directions and policies to allocate loans appropriately, giving priority to production development loans of the poor and ethnic minority groups. Thirdly, simplifying, and clarifying loan procedures and processes to help people access lending programs easily and effectively. Fourthly, timely adjusting loan procedures and processes to minimize difficulties and problems for people in the lending process, especially the poor and ethnic minority groups. Fifthly, focusing on the inspection and supervision throughout the lending process to improve credit quality while limiting the violations on the subject and purpose of preferential credit programs.

Compliance with ethical standards

Conflict of interest

The authors declare that they have no conflict of interest.

References

Aghion P and Bolton P (1997). A theory of trickle-down growth and development. The Review of Economic Studies, 64(2): 151-172. https://doi.org/10.2307/2971707

Ang JB (2010). Finance and inequality: The case of India. Southern Economic Journal, 76(3): 738-761. https://doi.org/10.4284/sej.2010.76.3.738

Banerjee AV and Newman AF (1993). Occupational choice and the process of development. Journal of Political Economy, 101(2): 274-298. https://doi.org/10.1086/261876

Beck T (2012). The role of finance in economic development–Benefits, risks, and politics. In: Mueller DC (Ed.), Oxford handbook of capitalism: 161-203. Oxford University Press, Oxford, UK. https://doi.org/10.1093/oxfordhb/9780195391176.013.0007

Beck T, Demirgüç-Kunt A, and Levine R (2007). Finance, inequality and the poor. Journal of Economic Growth, 12(1): 27-49. https://doi.org/10.1007/s10887-007-9010-6

Clarke GR, Xu LC, and Zou HF (2006). Finance and income inequality: What do the data tell us? Southern Economic Journal, 72: 578-596. https://doi.org/10.2307/20111834

Cornia GA and Court J (2001). Inequality, growth and poverty in the era of liberalization and globalization. Policy Brief No.4, United Nations University World Institute for Development Economics Research (UNU/WIDER), Helsinki, Finland.

Cournede B, Denk O, and Hoeller P (2015). Finance and inclusive growth. OECD Economic Policy Paper No. 14, Organisation for Economic Co-operation and Development, Paris, France. https://doi.org/10.2139/ssrn.2649801

Cruz JF and Imperial FA (2014). The finance-inequality linkage: The effect of financial development to income distribution in the Philippines. In the 52nd Annual Meeting of the Philippine Economic Society, Makati City, Philippines: 1-30.

Dabla-Norris ME, Kochhar MK, Suphaphiphat MN, Ricka MF, and Tsounta E (2015). Causes and consequences of income inequality: A global perspective. International Monetary Fund Washington, USA. https://doi.org/10.5089/9781513555188.006

Galor O and Moav O (2004). From physical to human capital accumulation: Inequality and the process of development. The Review of Economic Studies, 71(4): 1001-1026. https://doi.org/10.1111/0034-6527.00312

Galor O and Zeira J (1993). Income distribution and macroeconomics. The Review of Economic Studies, 60(1): 35-52. https://doi.org/10.2307/2297811

Greenwood J and Jovanovic B (1990). Financial development, growth, and the distribution of income. Journal of political Economy, 98(5, Part 1): 1076-1107. https://doi.org/10.1086/261720

GSO (2019). Statistical yearbook 2018. Statistical Publishing House, General Statistics Office of Vietnam, Hanoi, Vietnam.

Hamori S and Hashiguchi Y (2012). The effect of financial deepening on inequality: Some international evidence. Journal of Asian Economics, 23(4): 353-359. https://doi.org/10.1016/j.asieco.2011.12.001

Hoi CM and Hoi LQ (2012). Financial development and income inequality in Vietnam: An empirical analysis. Journal of Economics and Development, 14(2): 5-25. https://doi.org/10.33301/2012.14.02.01

Hoi LQ and Hoi CM (2013). Financial sector development and income inequality in Vietnam: Evidence at the provincial level. Journal of Southeast Asian Economies, 30: 263-277. https://doi.org/10.1355/ae30-3c

Jauch S and Watzka S (2016). Financial development and income inequality: A panel data approach. Empirical Economics, 51(1): 291-314. https://doi.org/10.1007/s00181-015-1008-x

Jaumotte F, Lall S, and Papageorgiou C (2013). Rising income inequality: Technology, or trade and financial globalization? International Monetary Fund Economic Review, 61(2): 271-309. https://doi.org/10.1057/imfer.2013.7

Kappel V (2010). The effects of financial development on income inequality and poverty. Working Paper No.10/127, Center of Economic Research at ETH Zurich, Zürich, Switzerland. https://doi.org/10.2139/ssrn.1585148

Kim DH and Lin SC (2011). Nonlinearity in the financial development–income inequality nexus. Journal of Comparative Economics, 39(3): 310-325. https://doi.org/10.1016/j.jce.2011.07.002

Law SH and Tan HB (2009). The role of financial development on income inequality in Malaysia. Journal of Economic Development, 34(2): 153-168. https://doi.org/10.35866/caujed.2009.34.2.008

Law SH, Tan HB, and Azman-Saini WNW (2014). Financial development and income inequality at different levels of institutional quality. Emerging Markets Finance and Trade, 50(sup1): 21-33. https://doi.org/10.2753/REE1540-496X5001S102

Li H, Squire L, and Zou HF (1998). Explaining international and intertemporal variations in income inequality. The Economic Journal, 108(446): 26-43. https://doi.org/10.1111/1468-0297.00271

Naceur S and Zhang R (2016). Financial development, inequality and poverty: Some international evidence. IMF Working Paper No. 16/32, International Monetary Fund, Washington, USA. https://doi.org/10.5089/9781498359283.001

Naceur SB and Ghazouani S (2007). Stock markets, banks, and economic growth: Empirical evidence from the MENA region. Research in International Business and Finance, 21(2): 297-315. https://doi.org/10.1016/j.ribaf.2006.05.002

Pham TH and Riedel J (2019). Impacts of the sectoral composition of growth on poverty reduction in Vietnam. Journal of Economics and Development, 21(2): 213-222. https://doi.org/10.1108/JED-10-2019-0046

Roodman D (2009). How to do xtabond2: An introduction to difference and system GMM in stata. The Stata Journal, 9(1): 86-136. https://doi.org/10.1177/1536867X0900900106