Article

Financialization and Inequality in Developing and Emerging Market Economies: An Empirical Examination Using the Two-Step GMM Estimation

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Abstract

Financialization could increase income inequality by producing a very high income of financiers and by doing harm to wages, investment, and thus aggregate demand in the real economy. This study investigates the effect of financialization and financial rent on inequality in developing and emerging market economies (DEEs) in the 1980–2017 period. Employing the dynamic system GMM estimator and using a new measurement, we find that financialization measured by financial rent and more asset concentration increase income inequality in DEEs. Among other financialization indicators, bank income before tax, stock trading value, market capitalization ratio, and oversized financial system are associated with income inequality. We also find that trade openness, education, and union density reduce inequality, while foreign direct investment, the unemployment rate, and GDP growth increase it in DEEs.

Keywords: Financialization, Income Inequality, Financial Rent, Asset Concentration.

Ⅰ. Introduction

Financialization became a buzzword recently because it is one of the most important changes in advanced capitalism after the 1980s. It is a phenomenon that the role of the financial sector and financiers became stronger in the economy (Epstein, 2005). Many studies in the heterodox macroeconomics tradition paid serious attention to the development of financialization. There is a debate on its definition and effects but most report that it is harmful to stable economic growth and income distribution (Epstein, 2005; Krippner, 2005; Pollin 2007; Lapavitsas, 2011; Hein, 2015). Even some mainstream economists now

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recognize inefficiency in the financial sector and the negative effect of too much finance on growth along with financialization though still most argue that financial development is generally good for the economy (Philippon, 2012; Arcand et al., 2015). However, financialization has been studied mainly as a phenomenon of advanced economies such as the U. S. There are several studies on financialization in developing and emerging market economies, but we need a more extensive and empirical analysis about these countries (Crotty and Lee, 2005; Cho, 2010; Correa and Vidal, 2012; Ashman et al., 2011; Bonizzi, 2013).

In reality, we can see the development of financialization in developing and emerging market economies (DEEs), too. The financial sector has grown continuously in these countries, measured by credit to the private sector in the banking sector, stock market turnover and others. Along with these changes, the profit of the financial sector also rose in comparison with that in the corporate sector. The wave of financial liberalization, deregulation, and opening in the neoliberal period, recommended by mainstream economists and international organizations, surely played an important role in this process.

There is now a growing concern about financialization and its possible consequences in DEEs. While mainstream economists support more financial development together with financial liberalization and opening, the growth effect is not very certain. Moreover, financialization frequently brought about financial instability such as financial crises in these countries when they implemented careless capital account liberalization. Another important area that should be studied associated with financialization in DEEs is inequality. Though the change in inequality after the 1990s is more complicated in these countries than in advanced economies (Ravallion, 2014), financialization is likely to increase inequality. Financialization could aggravate inefficient rent-seeking in the financial sector, generating very high income for financiers. Much of increased income inequality is associated with the growth in rents through exploitation (Stiglitz, 2015). It also does harm to wages, employment and investment in the real industry, exerting a negative effect on aggregate demand and income distribution (Demir, 2007; Orhangazi, 2008; Davis, 2013).

This paper empirically examines the effect of financialization on inequality in developing and emerging economies, using cross-country regressions with the GMM estimation and new measurements. There are several empirical studies that examine the impact of financialization on inequality (Kus, 2012; Huber et al., 2020; De vita and Luo, 2020; Alexiou et al., 2021), but we contribute to this by introducing a better measurement and focusing our study on DEEs. We use several variables to measure rent-seeking in the financial sector, including the difference of the return on capital in the banking sector and the safe deposit rate. A higher return of bank is a good proxy to financial rent-seeking as several studies argue (Epstein and Montecino, 2016; Basu et al., 2011). As complements, we also use the financialization index and its various components following another study (Kus, 2012). The next section discusses financialization and financial rent and how it is meas-

ured. Section 3 presents an argument about the relationship between financialization and inequality and stylized facts in developing and emerging market economies. Section 4 explains data and methodology and then presents empirical results about how financialization affects income inequality. Section 5 concludes and discusses the policy implications of our study.

Ⅱ. Financialization and Rent-Seeking

2.1 The development of financialization

Financialization is a recent phenomenon in the global economy, including advanced economies and developing and emerging market economies (DEEs). The study about financialization has been actively developed in the radical political economy and heterodox macroeconomics. Some researchers consider it as a structural change of capitalism, and they attempt to theorize financialization as one of the causes of sluggish economic growth, rising income inequality, and also financial crises.

The term financialization broadly means the mass proliferation and dominance of finance over the real economy. It has been defined by several authors from different viewpoints. Though there is no agreed definition of financialization, the most used definition is given by Epstein (2005). He defines it as an increasing role of financial motives, financial markets, financial actors, and financial institutions in the operations in domestic and international economies. From a macroeconomic perspective, financialization has been conducive to a rising profit share, a falling wage share, an increasing income inequality, a growing shareholder power and short-termism, an increase in the rate of return on equity, and more debt-based consumption (Hein, 2019). Consequently, the income and profit of the financial sector have risen while the real economy has experienced sluggish growth and stagnant wages. Besides, financialization tends to make the economy more unstable. Series of financial crises occurred after the 1980s, and the global financial crisis is supposed to be the outcome of financialization (Stockhammer, 2010). This suggests that financialization could be understood as the massive proliferation and growth of financial institutions and transactions over the commodity trade and production. It changes the conduct of the economy including, firms and households. In finance-dominated capitalism, non-financial corporations and households are more involved with financial markets for short-term gain and speculative income through financialization (Epstein, 2015; Dünhaupt, 2016).

The question is, how has financialization emerged? It is well-known that there was an unregulated financial system before the Great Depression, and it was one of the major factors in the severity of the Great Depression (Kotz, 2008). Afterward, the financial system changed to one under strong state regulation in the postwar period, leading to the

golden age of capitalism. However, again in the early 1980s financial sector started to be deregulated during the Thatcher administration in the UK. and the Reagan administration in the U. S. Financialization emerged by a series of financial deregulation and liberalization of cross-border capital flows (Stockhammer, 2010). This change was not confined to advanced countries. Over time, many developing and emerging market economies moved to financialization along with neoliberal globalization.

It should be noted that the process of financialization takes various forms in developing countries vis-a-vis advanced economies. For example, the asset price boom and bust are a feature of financialization in the Asian emerging economies, and financial deregulation and rising household debt have been salient in emerging Europe and Africa (Karwowski and Stockhammer, 2017). Liberalization of capital flows, overvalued currency, and informal dollarization signal the rising trend of financialization in Latin America, such as Chile (Becker et al., 2010). Higher financial profits and income pushed for financialization more importantly in DEEs because it encouraged capital inflows to those countries (Bonizzi, 2013). Privatization and the deterioration of the public provision of services and goods have further strengthened the power of finance over the economy in DEEs (Fine, 2010). Besides, the expansion of foreign banks was an important channel in transmitting 'financialized practices' in DEEs (Cho 2010; dos Santos, 2011). In general, the short-termism of financial investments along with financialization led many DEEs to see slow growth of real investment and declining economic growth (Araújo et al., 2012; Tan, 2014). Financialization is also closely associated with rentier capitalism that negatively affects productive investment and growth in emerging market economies (Demir, 2007).

It may not be easy to measure financialization exactly because it takes different forms in different times and countries. However, financialization is explained and measured primarily by the profit share and the asset size in the financial sector, and a financial orientation of non-financial corporations (NFCs) (Epstein and Montecino, 2016; Epstein, 2018). The rise of financial profit and income is one of the key processes of financialization, and the trend of increasing financial profits in both the finance and non-financial industry since the 1980s is well documented (Dumenil and Levy, 2005; Epstein and Jayadev, 2005). From this perspective, bank profitability as a percentage of GDP, securities assets held by banks, stock trading value, stock market capitalization, credit expansion, and value-added and employment in the finance, insurance, and real estate industry are used as financialization indicators by several empirical studies (Kus, 2012; Huber et al., 2020; Alexiou et al., 2021). Other studies also use dividend and interest payment and income through the financial channel of NFCs as proxies of financialization (Lin and Tomaskovic-Devey, 2013; Dünhaupt, 2017; Shin and Lee, 2019). De vita and Luo (2020) also use household debt as a financialization indicator.

2.2 Financialization and financial rent

The financialization process could be understood in terms of an increase in rent. Factors affecting large profits in the financial sector, among others, are asset price bubbles, bailouts of 'too-big-to-fail banks and the degree of monopoly in the banking sector (Stiglitz, 2016; Epstein and Montecino, 2016). Some scholars examine financialization from the perspective of the rising profit of the rentier or rent-seeking, where money lender is defined as the rentier (Epstein, 2005; Pollin, 2007). In this paper, we focus our discussion on large profits in the financial sector closely associated with rent, and we use the excessive profit of banks as a measurement of financialization. It is because much of this profit along with financialization is from the extraction of income from workers, taxpayers, and debtors as a form of financial rents, hence doing harm to investment and growth.

Rent was originally referred to as the returns to land since the landowner receives rental payment because of his/her possession of the fixed factor of production and not because of his/her adding producing value. With the passage of time, rent includes monopoly profit, the excessive returns earned through monopoly market power. Thus, rent-seeking means getting an income, not as a reward for creating wealth but grabbing a larger share of the wealth (Stiglitz 2016). Rent-seeking is considered to be as unproductive, expropriating activities that bring positive returns to the individual but not to the society.[1] It generates an excess income or abnormal profit, as often termed in economics. Rents are derived through either an artificial scarcity, exploitation of resources, or monopoly market power. From this perspective, financial rents are the excess incomes that financial sector employees, traders, and shareholders receive and the excess profits that financial institutions make compared to normal income and profit in the overall economy.

The existing literature estimates financial rents using three measures, namely excess profit, excess income, and unit cost of financial intermediation.[2] The first two measures are profit or income-based estimates from a service givers' perspective. The last one is cost-based measure from a service taker's viewpoint. Philippon and Reshef (2012) define banker rents as the wage difference between finance and non-financial industries with the same level of education and skills. They find that it is very large in the US economy in the recent period. For instance, the executives and average workers in finance earn 250% and 70% more than those elsewhere. However, measuring rent in terms of excess income or hourly wage difference is a very conservative approach in the sense that it only considers the average income of the financial and the non-financial employees. The lion's share of excess income is highly concentrated to a small number of the top executives, financial engineers, and traders in reality (Bivens and Mishel, 2013; Epstein and Montecino, 2016). Top tiers of the finance employees receive a substantial excess income in the form of bonuses, incentives, special allowance, and other compensations such as stock options. There are also data constraints on wage differences between workers in the financial and

the non-financial industries in DEEs. Therefore, it is more relevant to use the excess profit to estimate financial rent generated by banking institutions.

We use the profit-based measure to estimate financial rent in the banking sector following other recent studies. Wang (2011) and Basu et al. (2011) argue that the capital share and the internal rate of return (IRR) in the banking sector are considerably higher than those in the other private sectors in the U. S. economy. Based on the extensive examination of these studies, Epstein and Montecino (2016) consider half of the total accumulated profit as financial rent because these excess profits stem from improper adjustment or mistreatment for risk. This suggests that half of the return on capital is coming from excess profits associated with rent-seeking. We calculate returns on capital (ROC) from two ratios of the Global Financial Development Database (GFDD) by the World Bank (WB, 2019), that is, returns on asset (ROA) and bank capital to assets. First, ROA is divided by capital to asset ratio to estimate the return on capital (ROC), and we could think of half of ROC as excess profit or financial rent in the banking industry.

Alternatively, we introduce a new measurement of financial rent in the banking sector. We may well consider that the return on capital is excessive if it is generally higher than the market rate of return on financial claims. The return on bank capital is usually higher than it because banks expropriate rents from the economy, as we discussed. Therefore, we calculate our *RENT* variable by subtracting the saving rate from the ROC of the banking sector.

$$return\ on\ capital\ (roc)_{i,t}=\frac{return\ on\ assets_{i,t}}{capital\ to\ assets_{i,t}}$$

$$financial\ rent_{i,t}=roc_{i,t}-annual\ deposit\ rate_{i,t}$$ [3)]

The rationale of this measure is that we deduct the annual deposit rate as a proxy of the next available opportunities of returns on financial claims. We assume that if bank capital is invested in any market debt securities, it may have earned a certain amount of interest, dividend, or yield. The difference between the ROC of the banking sector and this is defined as financial rent.

Ⅲ. Financialization and Inequality in DEEs

3.1 How financialization increases inequality

Financialization has altered the structure and motives of industrial firms and magnified their rentier motivations, increasing their dependence on share prices (Epstein, 2001; Krippner, 2001). The re-emergence of the rentier has fostered financial profits at the expense of industrial profits. Thus, financialization by the expansion of the financial sector

has induced stagnation of investment in the neoliberal period. Financialization is harmful to not only economic growth but also income distribution. Excess profit from large financial rent generated by financialization is associated with rising inequality through the following mechanisms. First, financialization increases profits in the financial industry and depresses the wage share of the non-financial industries because rentiers want to cut labor costs and weaken unions. It leads to higher inequality and reduces private consumption, resulting in lower aggregate demand. Financialization could also be harmful to real investment and employment by the depressing profit of industrial firms because of the rising power of rentiers and short-termism in shareholder capitalism (Stockhammer, 2004; Onaran et al., 2011; Lavoie and Stockhammer, 2013). Second, large financial rent along with financialization increases the income in the financial industry excessively high, leading to the rise in top income concentration of national income (Stiglitz, 2016; Zhang, 2017). Finally, against a backdrop of financialization, bank managers tend to concentrate the credit from small and medium entrepreneurs to a few large firms, resulting in increasing market concentration and earnings dispersion between firms. It is because banks could keep financial assets of large NFC's as collateral and they can earn profit easily from a single large loan.

Hein argues that financialization and neoliberalism have contributed to a fall in the labor share through several channels, emphasizing the role of aggregate demand. These include increasing relevance of the financial investment over the non-financial sector investment, increasing management salaries and rising overhead cost, and weakening unionism (Hein, 2015). Several studies report that financialization has a significantly negative impact on real investment because finance-oriented management prefers to lower real investment (Stockhammer, 2004; Orhangazi 2008; Davis, 2013). The American economy has experienced underinvestment despite high *Tobin's Q,* driven by more concentration and joint ownership along with financialization (Gutiérrez and Philippon, 2017). Low aggregate demand could also decrease real investment and profitability in the real economy.[4] As a result, more capital moves to financial markets, leading to the proliferation of financialization.

Recently scholars associate rising inequality with rentier capitalism (Pollin, 2007). The rentier extracts large profits at the expense of customers and taxpayers with short-termism, and its increasing power tends to cut wages and increase top executives' compensation. Increasing incomes at the top percentile through higher financial rent is an important channel that financialization worsens income inequality. There is evidence that supports the rent-seeking theory as an explanation of increasing top income share. Philippon and Reshef (2012) argue that the salary in the financial sector, including that of financiers who were in the top 1% of total income, is much higher than that in other sectors even though there was no increase in efficiency in the financial sector (Philippon, 2012). Higher earnings in the financial sector play a crucial role in rising top incomes

(Zhang, 2017). The compensation of the financial employee is excessively higher than that of the non-financial employees in developing countries, too (Chowdhury, 2015[5]). Therefore, the bank employees and owners are the first-hand beneficiaries of large financial profits. Kaplan and Rauth (2010) find that the top 1 percent earners include investment bankers and institutional investors in the U.S. economy. Philippon and Reshef (2012) report that workers in the finance industry earn much more than the average workers in the rest of the private sector with similar education. It is well documented that the CEOs' annual compensation increased hugely while labor compensation stagnated since 1979 in the U.S. (Bivens and Mishel, 2013).

The increasing market power in the financial sector is also associated with rising financial rent and higher income inequality. More financial market concentration and reduced competition in the recent period create ample opportunities for creating and distributing excess financial profits. Anti-competitive practices and the lack of transparency in the financial markets have amplified pre-existing market power to generate more rents. Rents derived in this way by banks are translated into higher incomes for their managers and shareholders (Stiglitz, 2016; Furman and Orszag, 2018). In addition, financialization frequently causes the asset market bubble in both advanced countries and DEEs (Bonizzi, 2013) and increases the financial assets and financial profits of NFCs. But these are not spent for reinvestment in capital or labor but to repurchase their stocks to increase share prices. Thus, corporations under financialization do not enhance aggregate economic welfare but raise income inequality in general (Palladino, 2018).

Theoretically, there are three strands of arguments about the finance-inequality nexus, such as an inverted U-curve relationship (Greenwood and Jovanovic, 1990), inequality-narrowing (Banerjee and Newman 1993; Galor and Zeira, 1993), and inequality-widening financial development (Rajan and Zingales, 2003). According to the first hypothesis, only existing users benefit more from financial intermediation at the early stage of financial development, while the unbanked but potential entrepreneurs can borrow funds for investment along with more development of the financial sector. The second hypothesis argues that an expanded financial system enhances financial access and services for the poor who can invest in human capital and start a new business. However, according to the third hypothesis, if an expanded financial system serves the high-income customers and the rich mainly, it will increase inequality (Rajan and Zingales, 2003; Demirguc-Kunt and Levine, 2009). This is more relevant to financialization in the recent period. It could be more so in DEEs where the financial industry concentrates its credit on existing large corporations. For instance, bank credit concentration measured by the Herfindahl-Hirschman index increased for large corporations, and credit growth is also faster for them in Bangladesh (Bangladesh Bank, 2016; 2019). This is one way how the expanded financial system works in opposite to the inequality-narrowing hypothesis.

Several empirical studies have investigated the effect of financialization on inequality. For instance, using a financialization index, which is the average of standardized z-score of bank profitability, the traded value of stock, and securities held by banks, an empirical study by Kus (2012) finds a positive and significant effect of financialization on inequality in 20 OECD nations in the 1995–2007 period, using the panel GMM estimation. De vita and Luo (2020) use a similar model and find that household debt positively affects inequality in 33 countries. A study by Assa (2012) employs value added in the financial industry out of total value added in the economy as a financialization indicator and reports its positive impact of financialization on income inequality in 34 OECD countries. Alexiou et al. (2021) find that financialization increases inequality in the OECD countries although its significance depends on measurements. Kwon and Robert (2015) find that both credit and stock market activities are important drivers for inequality in advanced economies. Huber et al. (2020) find that financialization increases inequality, using an error correction model for 18 countries, and Shin and Lee (2019) also report that a high dividend of NFCs contributes to rising inequality, using a panel cointegration model for 17 OECD economies. Dünhaupt (2017) finds that dividend and interest payment reduce the wage share for 13 OECD samples using a panel corrected standard error model. Pariboni and Tridico (2019) report that financialization, primarily measured by stock market capitalization, exerts a negative influence on the wage share for 28 OECD countries.

In the case of a single country, Lin and Tamaskovic-Devey (2013) find that an increased dependence on earnings through the financial channel is associated with a fall in the wage share, an increase in top executive compensations, and a rise in earnings dispersion among the industries in the U. S. economy. Alvarez (2015) reports a negative relationship between financial profit and the wage share in France. A few empirical studies have also examined the effects of the financial sector's rent-seeking on inequality. Boustanifar et al. (2018) report that the higher wages in the financial sector contribute significantly to overall inequality in 22 developed countries. Angelopoulos et al. (2019) use financial friction as a proxy of rent-seeking and demonstrate that rent-seeking reduces aggregate welfare and increases wealth inequality.

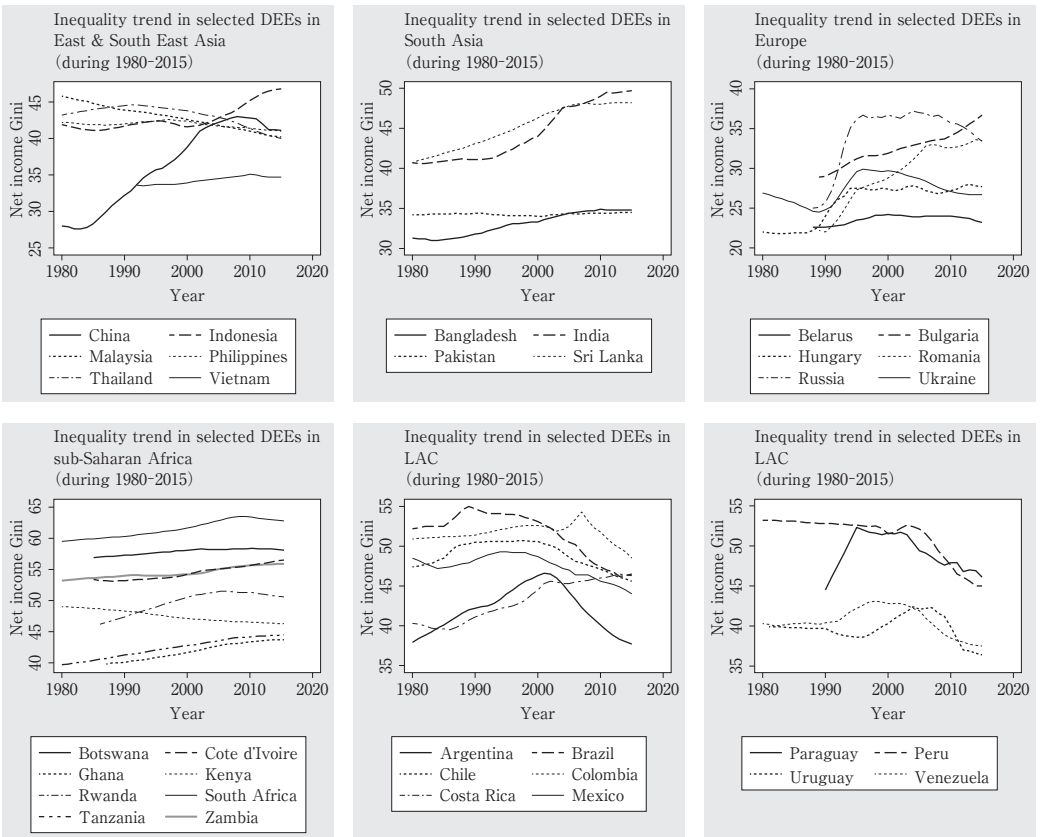
3.2 Financialization and Inequality in DEEs: A stylized fact

3.2.1 Income Inequality in DEEs

The Gini coefficient of disposable income is the most popular and standard measure of income inequality. We use the latest version 9.0 of Standardized World Income Inequality Database (SWIID) by Solt (2019), covering 150 developing and emerging economies from 1980 to 2018. The sample countries of DEEs are selected from IMF's country list (Nielsen, 2011).

Inequality measured by the Gini coefficient data shows a complex trajectory in DEEs

Figure 1: Disposable income Gini coefficients in selected DEEs



Source: SWIID 9.0 version (Solt, 2019).

since the 1980s, as shown in Figure 1. It has fallen in most Latin American countries while rising in Asia, Europe, and Africa. In the East Asian region, China, Indonesia, and Vietnam experienced an increase in inequality, while Cambodia, Malaysia, and Thailand witnessed a decline. There is a continuous increasing trend in several European and Central Asian countries, *e.g.,* among others, Bulgaria, Romania, and Russia are noteworthy. It has also fallen in Brazil, Chile, and Mexico after the 1990s when the leftist government came into power, but it rose in Costa Rica, Dominica, and others in Latin America. Income distribution has become worse in South Asia, such as India and Bangladesh, while it has improved in Bhutan and Nepal. In sub-Saharan Africa, many countries, including the Central African Republic, South Africa, and others, show an increasing trend, while a few countries such as Ethiopia have a decreasing trend. The highest increase in the Gini coefficient is observed in Romania, with the percentage change by 51% from 1989 to 2018 and in China by 47% from 1980 to 2017. There is also a significant variation of inequality across different countries. For example, as of the simple average from 1980 to 2018, Namibia, South Africa, Botswana have high Gini coefficients of 66.68, 61.54, and 57.86, while Belarus, Hungary,

and Ukraine have low Gini coefficients of 23.53, 25.87, and 27.33, respectively.

The previous studies explain the rising inequality primarily by globalization, technical changes, and institutions (Milanovic, 2015). It is reported that trade globalization reduces income inequality, but foreign direct investment increases it in developing countries (Jaumotte et al., 2013). Financial globalization and capital account openness raise inequality; however, trade openness, especially together with more education, reduces it (Furceri and Loungani, 2018; Lee, 2014). Several empirical studies highlight the role of technological change in rising inequality in the recent period. The skill-biased technical change by information and communication technology contributes to the rising gap between the rich and the poor (Pi and Zhang, 2018), as was argued by Acemoglu (2002). In this regard, both globalization and technological change could increase returns on human capital and raise inequality. Technological progress appears to have a more significant impact than globalization on income inequality within countries (Jaumotte et al., 2013), but it should be noted that there is an interaction between both factors (Milanovic, 2015).

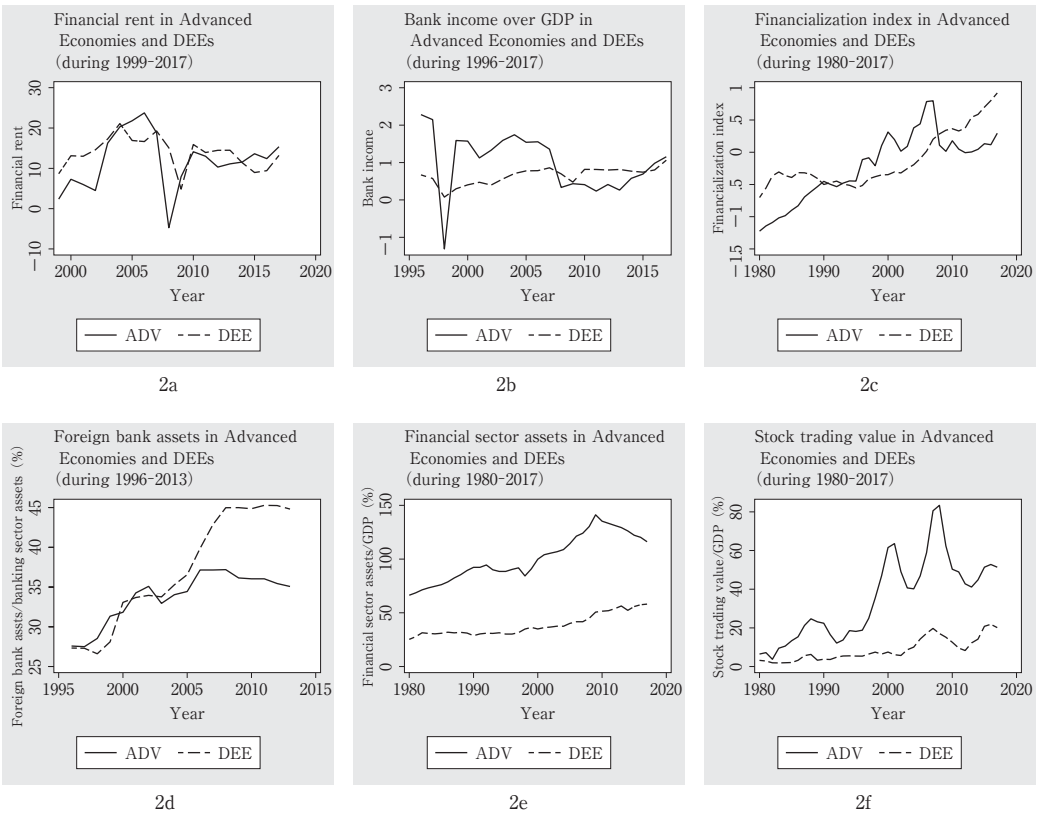
There are also studies to argue that political and institutional changes are essential factors to rising income inequality (Piketty, 2020). Inequality tends to fall with increasing union density and labor bargaining power, and it is closely associated with broad political and institutional changes (Pontusson, 2013). In a globalized economy, insufficient redistribution and inequality are interpreted as a consequence of institutional inertia to disruptive technologies and business changes. Beramendi and Cusack (2009) report that a significant cross-country variation in the distribution of earnings and disposable income can be attributed to the role of political actors and economic institutions. Chong and Gradstein (2007) also report that bad institutions affect inequality positively. In addition to these factors, we shed light on the role of financialization in rising income inequality in DEEs in the next section.

3.2.2 Financialization in DEEs

As discussed above, financialization developed after a series of deregulation in the financial industry after the 1980s. Liberalization of cross-border capital flows, deregulation of financial transactions within and outside the domestic economies, and release of interest rate ceiling were the major measures of promoting financialization (Stockhammer, 2010). We can find this process emerging similarly in developing countries. Financialization has been developed in many developing, and emerging economies since the 1990s after the governments adopted financial liberalization, deregulation, and opening.

Researchers attempt to examine the expansion of financialization with different dimensions in several DEEs, including assets price bubbles, an increasing number of institutional investors, expansion of foreign banks, involvement of banks in securitization, the short-termism of financial investments, and more credit to the consumer and household sector (Cho, 2010; Lee, 2012; dos Santos, 2013). Bonizzi (2013) states that financialization has been

Figure 2: Trend of financialization indicators in advanced economies and DEEs



Source: GFDD, WB (2019).

expanded through higher interest rates in Brazil, while an expansion of the capital market and asset price bubbles have signaled financialization in Asia. Another common aspect of financialization in developing countries is that non-financial business firms are aggressively involved in financial markets rather than in productive investment, a recent phenomenon in Argentina, Mexico, and Turkey (Demir, 2007). Financialization has also been accelerated by the expansion of the bond market, foreign banks, and household credit in developing countries such as Brazil, the Philippines, and Poland (Lapavitsas, 2009; Lapavitsas and dos Santos, 2008; dos Santos, 2013). Lee (2012) reports that stock market growth, banks' involvement in securitization and trading, and the development of institutional investors are witnessed in East Asian economies. The expansion of bond finance has led banks to do more trading and fee-generating business, posing a challenge of efficient credit allocation in Malaysia (Rethel, 2010). In South Africa, large corporations have chosen offshore listing and internationalized their operations, and short-term capital inflows and long-term capital outflows have promoted financialization (Ashman et al., 2011). Correa and Vidal (2012) also argue that Mexico changed to a financialized economy by continuous application of neoliberal public policies such as liberalization and deregulation.

Table 1: Percentage changes of major financialization indicators

Financialization indicators	DEE countries	Last Year	Starting Year	Change (%)
Financial rent	86	13.22 (2017)	8.66 (1999)	52.66
Bank income before tax	115	1.06 (2017)	0.67 (1996)	58.20
Stock trading value	77	20.14 (2017)	3.20 (1980)	530.31
Financial sector assets	145	58.09 (2017)	25.29 (1980)	129.71
Financialization index	146	0.92 (2017)	−0.70 (1980)	230.75
Foreign bank assets	97	44.81 (2013)	27.33 (1996)	63.96

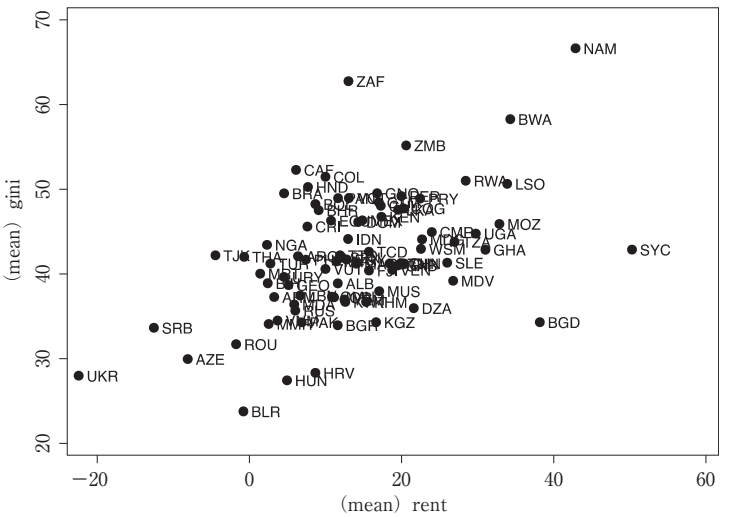
Figure 2 demonstrates the upward trend of the averages of major financialization indicators such as financial rent, bank profitability, stock trading value, financial sector assets, the financialization index, and foreign bank assets both in advanced economies and DEEs. Though the size of financialization indicators is smaller in DEEs than in advanced economies, they have an increasing trend in both groups. Figure 2a shows the trend of financial rent measured by the simple average of 13 advanced economies and 86 DEEs in the 1999–2017 period. Though it displays a mixed movement, it became higher in 2017 in comparison with that in 1999. The excess profit increased from 1999 to 2007, then it fell in the global financial crisis, and it recovered with a swing. In the case of bank income over GDP (Figure 2b), DEEs saw its continuous rise while advanced economies experienced a huge fall in the global financial crisis. Furthermore, Figure 2c shows a rise of the financialization index by Kus (2012) in both advanced economies and DEEs. This index has risen by 231 percent between 1980 and 2017. We find that other measures for financialization such as financial sector assets, stock trading value, and foreign bank assets out of total commercial bank assets also became higher since the 1980s.

Table 1 reports a list of the average of six variables that measure financialization in various ways in DEEs. For example, our main variable, financial rent, excess profit as a share of bank capital, rose from 8.66 in 1999 to 13.22 in 2017. It is clear that there was a significant rise in other indicators of financialization.

As we saw in the former section, inequality also rose in many DEEs along with this development of financialization. In countries such as Argentina, China, India, and South Africa, we see the movement of financialization and inequality in the same direction, although there are other countries that show a different movement. If we make a simple cross-country comparison, we can certainly find a positive relationship between financialization and inequality. The scatter diagram in Figure 3 presents a high correlation of 0.4787 between the Gini coefficient and financial rent across DEEs. We can observe that Namibia, Botswana, and South Africa have a higher level of income inequality together with larger financial rent, while Ukraine, Serbia, and Azerbaijan have a lower level of the Gini coefficient with smaller financial rent.

The analysis of this section implies that financialization has developed largely in DEEs,

Figure 3: Scatter plots between Gini coefficient and rent



changing the conduct of the economy and increasing inequality. Along with financialization, financial rent became large in many DEEs, and it should be an important concern as a cause of rising inequality. Although a few empirical literatures investigate the effect of rent-seeking on inequality, they mostly examine the advanced countries such as the U. S. We need to conduct a comprehensive empirical analysis on the effect of financial rent on income inequality in DEEs.

Ⅳ. Cross-Country Empirical Examinations

4.1 Model specification, data, and method

First, we conduct a cross-country analysis to examine the long-run effect of financial rent on income inequality. For this, we use a simple ordinary least square (OLS) regression which uses 20-year average data from 1998-2017. The following equation is used for OLS regression:

$$GINI_i = \alpha + \beta_1 GDPPC_i + \beta_2 GDPPC_i^2 + \beta_3 RENT_i + \gamma Z_i + u_i \quad (1)$$

Where *GINI* is the disposable income Gini coefficient, *GDPPC* is the level of economic growth, $GDPPC^2$ is its square term to check the Kuznets curve relationship, *RENT* is the financial rent variable, our new financialization measure, and *Z* includes a set of conventional control variables such as education, trade openness, foreign direct investment (FDI), and government consumption. We include trade openness and FDI to control for the influences of globalization on income inequality (Beck et al., 2007; Barro, 2008; Berg et al., 2018). Education and government consumption spending are also controlled to check the

impacts of human capital development and macroeconomic management by fiscal policy, respectively.

As we know, endogeneity and reverse causality are important issues for simple cross-country OLS estimates. Besides, simple cross-sectional regressions could not show time-varying effects. We employ a panel data analysis to address these problems. Specifically, dynamic panel regressions using system GMM estimation are conducted because inequality in the former period could affect it in the current period. Several literatures suggest that the GMM method produces consistent and unbiased estimates with internal instruments for sizeable cross-countries and time-series observations (Arellano and Bond, 1991; Arellano and Bover, 1995; Blundell and Bond, 1998). Two-step system GMM estimates give efficient and consistent coefficients with a higher degree of freedom, especially for the dynamic panel analysis. We use annual panel data to investigate the short-run inequality effects over time of financial rent and other financialization indicators. Our sample countries, periods, and observations vary, depending on different model specifications.[6] The following equation is for the dynamic panel data analysis:

$$GINI_{i,t} = GINI_{i,t-1} + \beta RENT_{i,t} + \gamma Z_{i,t} + \eta_i + \varepsilon_{i,t} \quad (2)$$

Equation (2) is a benchmark model of GMM estimates to investigate the effects of financial rent on income inequality. Our hypothesis is that the banking sector extracts excess income at the expense of their customers, taxpayers, and depositors through monopoly power. We use asset concentration held by large three banks as a proxy of market concentration. Hence, *the RENT* variable is replaced with asset concentration and other commonly used financialization indicators such as returns on capital, bank income, stock trading value, market capitalization, and financial sector assets in subsequent regression analyses.

The Gini coefficient is our main dependent variable which is also used by the previous empirical studies (Kus, 2012). Its data is collected from the latest 9.0 version of the Standardized World Income Inequality Database (SWIID) (Solt, 2019). The Gini coefficient in the SWIID data has an advantage in terms of the coverage and consistent international comparison compared with other international datasets. The SWIID uses the Luxembourg Income Study (LIS) as a basis of comparison, and it estimates the relationship between the Gini coefficient in the LIS and that in other sources available for the same countries and years. It utilizes this information to include the largest number of observations for the Gini coefficient.[7] This approach makes the SWIID more preferable source of inequality data for researchers to conduct a cross-country empirical examination. As complements to the Gini coefficient, the top 1% income share and the top 10% income share are also used as a dependent variable in alternative specifications.

Our main explanatory variable in the regressions of income inequality is financial rent in

Table 2: Definition of variables and data sources

Variable	*Definition*	*Source*
Gini	Disposable income Gini coefficient (%)	Solt (2019)
Top1	Top 1% income ratio	WID (2020)
Financial rent	The spread between returns on bank capital and the annual deposit rate	Authors' own calculation
Bank income	Bank income before tax as a percentage of GDP	Authors' own calculation
Banking sector assets	Banking sector assets as a percentage of GDP	GFDD, WB (2019)
Financial sector assets	Banking sector assets as a percentage of GDP	GFDD, WB (2019)
Returns on capital	Returns on bank capital (%)	Authors' own calculation
Asst. concentration	Asset concentration held by three large banks as a share of commercial bank assets.	GFDD, WB (2019)
Trade	Export plus import over GDP (%)	WDI, WB (2019)
FDI	A stock measure of foreign direct investment-liabilities as a percentage of GDP	Lane and Milessi-Ferretti (2017)
lngdppc	Log of GDP per capita (constant 2010 US$)	WDI, WB (2019)
$lngdppc^2$	Square of log of GDPpc (constant 2010 US$)	Authors' own calculation
GDP Growth rate	Annual growth rate of gross domestic product	WDI, WB (2019)
Education	Net secondary school attainment	WDI, WB (2019)
Govt. consump. spending	Government share of total expenditure (%)	WDI, WB (2019)
Unemployment rate	Unemployment, total (% of total labor force) (modeled ILO estimate)	WDI, WB (2019)
Union density	Trade union density rate (%)-membership coverage-adjusted for right to unionize	ILO (2020)
Stock trading value	Total value of stock traded in market to GDP (%)	WDI, WB (2019)
Market capitalization	Stock market capitalization ratio to GDP (%)	WDI, WB (2019)

the banking sector. The financial rent variable is a proxy to financialization, as we discussed in section 2. We also use indicators for market concentration in the banking sector which must be closely associated with financial rent in the banking sector. Besides, alternative financialization indicators used by Kus (2012) are tested in additional analyses.[8] We further test various financialization indexes used in the current empirical literature so that we can verify how financialization measured in other ways is associated with income inequality. The data for variables related to financialization are from the GFDD by the World Bank (World Bank, 2019). In the benchmark specification of the GMM model for panel regressions, we include the same control variables in the OLS model. Later, we complement these benchmark results by using an alternative model and different proxies of financialization. We assume that the Kuznets curve relationship may suffer from the

Table 3: Financial rent and inequality

EXPLANATORY VARIABLES	(1) Gini	(2) Gini	(3) Gini	(4) Gini	(5) Gini
Financial rent	***0.317*****	***0.236*****	***0.253*****	***0.285*****	***0.305*****
	(0.063)	(0.070)	(0.070)	(0.079)	(0.080)
lngdppc	8.116	20.390**	22.450**	18.090*	20.980**
	(8.881)	(9.615)	(9.617)	(9.719)	(9.874)
$lngdppc^2$	−0.497	−1.138*	−1.244**	−0.977	−1.146*
	(0.557)	(0.590)	(0.591)	(0.597)	(0.606)
Education		−0.128***	−0.128***	−0.104**	−0.121**
		(0.046)	(0.046)	(0.047)	(0.049)
Trade			−0.046**	−0.050*	−0.038
			(0.022)	(0.027)	(0.029)
FDI				0.075	0.058
				(0.059)	(0.060)
Govt. consump. spending					0.125
					(0.199)
Observations	85	75	72	67	65
R-squared	0.238	0.311	0.358	0.371	0.403

*Standard errors are reported in parentheses. Statistical significance: *** < 0.01, ** < 0.05, * < 0.10. Intercept is not reported. Cross-country simple ordinary least square estimates*

endogeneity bias because inequality may inversely affect economic growth. Therefore, in an alternative specification similar to Kus (2012), we include the unemployment rate, union density, and the GDP growth rate together with the lagged Gini coefficient as control variables. Table 2 presents variables and data sources.

4.2 Empirical results and discussions

Table 3 presents the results of cross-country OLS estimates of financial rent in the regression of the Gini coefficient of disposable income. GDP per capita and its square term are included to check the presence of the non-linear Kuznets curve relationship between economic growth and inequality. Column 1 reports the baseline results, and subsequent columns present the findings after including control variables one by one. The regression results indicate that financial rent has a significantly positive effect on income inequality. The newly measured rent variable is strongly significant at a 99% confidence level in all specifications. This suggests that income inequality is positively associated with financial rent across the DEEs sample. The coefficient of financial rent means that when there is an increase in financial rent by one percent, the Gini coefficient increases by around 0.236 to 0.317 over a 20-year period, depending on specifications. When financial rent increases by one standard deviation, that is, of 11.51 percent of bank capital, the Gini coefficient will increase by 2.72 to 3.65 across DEEs. The long-run effect of financial rent is very adverse for income distribution in developing and emerging economies. The coefficients of GDP per capita and its square terms are insignificant. However, they become significant with expected direction in the regressions with several control variables. This verifies the

Kuznets curve relationship that income inequality increases at the early stage of growth, and it falls after a certain level across DEEs. The finding of the Kuznets curve effect is in line with the theoretical prediction of Kuznets (1955) and consistent with the previous empirical results of Lee (2014). Among other control variables, only education enters significantly negative at the 99% confidence level in all specifications, suggesting that human capital development could reduce inequality in those countries. Trade openness enters significantly negative, but its impact becomes insignificant when government spending is controlled.

Next, we conduct an empirical analysis using panel data regressions that are preferable to the OLS regressions because they could show the change over time and address the endogeneity bias. Table 4 reports the regression results of the two-step system GMM estimates of dynamic panel regressions of inequality on financialization measured by financial rent. This specification uses annual panel data and covers 78 countries for the 1998-2017 period. Diagnostic tests including serial correlations show that our models are valid and well established. In terms of results, we find that financial rent enters significantly positive to the Gini coefficient in all models, similar to cross-country regression results. This suggests that higher financial rent leads to a rise in income inequality in developing and emerging economies, as we observed above. The significant positive effect of financial rent remains unchanged in all specifications at a 99% confidence level after controlling for more control variables. The coefficient of financial rent appears small though it is significant partly because we use the annual panel data. The coefficient of financial rent indicates that when there is an increase in financial rent by one percent, the Gini coefficient increases by around 0.002 over one year. In terms of the size, when there is an increase in financial rent by one standard deviation of 24.05 percent of bank capital, the Gini coefficient increases annually by around 0.048 in the specification in column 5 of Table 4.

The coefficients of GDP per capita and its square term indicate an inverted U-shape relationship of the Kuznets curve between the level of economic growth and income inequality. Education makes a significantly negative effect, trade openness is negative but insignificant, and FDI becomes significantly positive to inequality in this model. This suggests that international trade is good for equal income distribution, while financial globalization is bad in DEEs. The direction of the effects of trade and foreign direct investment are consistent with the previous findings of Jaumotte et al. (2013). We also test conditional effects by including interaction terms of financial rent and several condition variables such as GDP per capita, but we do not find any significant conditional effects of financial rent on inequality. For a robustness check, we run regressions for all country samples, including advanced economies and DEEs together. The result is broadly consistent with the results we find in the regression for DEE samples. This suggests that

Table 4: Financial rent and inequality

EXPLANATORY VARIABLES	(1) Gini	(2) Gini	(3) Gini	(4) Gini	(5) Gini
Time horizon	*1998-2017*	*1998-2017*	*1998-2017*	*1998-2015*	*1998-2015*
L. gini	0.957***	0.941***	0.935***	0.963***	0.965***
	(0.011)	(0.013)	(0.014)	(0.012)	(0.012)
Financial rent	***0.001*****	***0.003*****	***0.003*****	***0.002*****	***0.002*****
	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)
lngdppc	0.300	1.615**	1.809**	0.346	0.512
	(0.395)	(0.726)	(0.774)	(0.579)	(0.565)
$lngdppc^2$	−0.023	−0.096**	−0.105**	−0.020	−0.029
	(0.025)	(0.043)	(0.045)	(0.034)	(0.034)
Education		−0.012***	−0.015***	−0.006**	−0.007**
		(0.004)	(0.004)	(0.003)	(0.003)
Trade			0.000	0.000	−0.000
			(0.001)	(0.001)	(0.001)
FDI				0.002	0.002**
				(0.001)	(0.001)
Govt. consump. spending					−0.000
					(0.007)
Observations	965	534	526	450	446
No. of countries	78	66	65	58	57
Diagnostic test					
No. of instruments	59	57	61	58	57
AR(1)	0.00852	0.0857	0.0936	0.0571	0.0363
AR(2)	0.0842	0.197	0.197	0.190	0.182
Hansen test	0.316	0.585	0.712	0.565	0.503

*Standard errors are reported in parentheses. Statistical significance: *** < 0.01, ** < 0.05, * < 0.10. Intercept is not reported. Two-step system GMM estimates.*

financialization measured by financial rent has an adverse effect on income distribution for both advanced and developing economies.

We may think that Kuznets' curve relationship is endogenous because inequality could also affect economic growth, as a large number of recent empirical studies find (Berg et al., 2018). Therefore, we examine the inequality effect of financial rent without the Kuznets curve hypothesis. In this case, we exclude GDP per capita variables and instead include the unemployment rate, union density, and the GDP growth rate in our specifications. Table 5 presents our regression results for the DEE sample without the Kuznets curve effect, and we can see that financial rent exerts a significantly positive effect on income inequality. The inequality effect of financial rent remains positive and significant when we extend our regression by including advanced economies. The effect of union density and government spending is significantly negative, and that of unemployment and the GDP growth rate is significantly positive on inequality, which is consistent with theories.

Furthermore, we use the alternative indicators of financialization following Kus (2012), such as stock trading value, bank income, and banking sector assets, and financialization index in this regression analysis. Columns 2-4 in Table 5 report that the inequality effects

Table 5: Financialization indicators and inequality

EXPLANATORY VARIABLES	(1) Gini	(2) Gini	(3) Gini	(4) Gini	(5) Gini
Time horizon	*2000-2016*	*2000-2016*	*2000-2016*	*2000-2016*	*2000-2016*
L. gini	0.883***	0.921***	0.889***	0.897***	0.934***
	(0.030)	(0.016)	(0.017)	(0.012)	(0.018)
Unemployment rate	0.113***	0.070***	0.075***	0.085***	0.063***
	(0.030)	(0.012)	(0.012)	(0.010)	(0.011)
GDP growth rate	0.032***	0.013***	0.005	0.011**	0.016***
	(0.009)	(0.004)	(0.007)	(0.005)	(0.003)
Union density	−0.017**	−0.013**	−0.016***	−0.017***	−0.012*
	(0.007)	(0.006)	(0.005)	(0.003)	(0.007)
Govt. consump. spending	−0.069***	−0.050***	−0.096***	−0.089***	−0.043***
	(0.021)	(0.014)	(0.020)	(0.018)	(0.012)
Trade	−0.001	−0.002	−0.002	−0.003***	−0.003
	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)
Financial rent	***0.015*****				
	(0.006)				
Financialization index		***0.083****			
		(0.046)			
Bank income			***0.099*****		
			(0.040)		
Stock trading value				***0.005*****	
				(0.002)	
Banking sector assets					***0.003****
					(0.002)
Observations	255	330	320	260	330
No. of countries	46	59	55	45	59
Diagnostic test					
No. of instruments	42	42	40	42	42
AR(1)	0.00224	0.00224	0.000627	0.0158	0.00407
AR(2)	0.226	0.992	0.225	0.335	0.907
Hansen test	0.828	0.346	0.383	0.368	0.350

*Standard errors are reported in parentheses. Statistical significance: *** < 0.01, ** < 0.05, * < 0.10. Intercept is not reported. Two-step system GMM estimates.*

of alternative indicators of financialization are largely consistent with previous empirical results of Kus (2012). His study includes only 20 advanced economies using annual panel data from 1995 to 2007. It should be noted that this study covers 59 developing and emerging economies with almost similar indicators and models, and it finds the same effect of financialization on inequality in DEEs. When we use the former model with the Kuznets curve controlling for GDP per capita and the square term in Table 4, bank income enters significantly positive, while other variables including the financialization index and stock trading value enter significantly positive only in the one-step system GMM model.

We also use market concentration and other financialization indicators to check the robustness of our findings, using the specifications including the Kuznets curve effect. We pay attention to market concentration in the banking sector that could be highly associated with the level of return on capital of the banks. It is because the most important

Table 6: The effect of market concentration in the banking sector and other financialization indicators on inequality

EXPLANATORY VARIABLES	(1) Gini	(2) Gini	(3) Gini	(4) Gini	(5) Gini
Time horizon	*1998-2015*	*1996-2015*	*1998-2015*	*1980-2015*	*1980-2015*
L. gini	0.965*** (0.012)	0.986*** (0.012)	0.908*** (0.025)	0.872*** (0.056)	0.997*** (0.020)
lngdppc	0.512 (0.565)	−0.026 (0.310)	2.347* (1.257)	2.896 (2.012)	0.774 (1.934)
$lngdppc^2$	−0.029 (0.034)	0.001 (0.018)	−0.130* (0.076)	−0.163 (0.118)	−0.048 (0.114)
Education	−0.007** (0.003)	−0.002 (0.003)	−0.026*** (0.006)	−0.029** (0.013)	−0.001 (0.008)
Trade	−0.000 (0.001)	−0.000 (0.000)	0.000 (0.001)	−0.006 (0.003)	−0.000 (0.001)
FDI	0.002** (0.001)	0.001 (0.000)	0.002 (0.001)	0.003 (0.002)	0.000 (0.001)
Govt. consump. spending	−0.000 (0.007)	−0.001 (0.004)	0.002 (0.013)	0.010 (0.023)	−0.001 (0.009)
Financial rent	***0.002***** (0.001)				
Asst. concentration		***0.002**** (0.001)			
Returns on capital			***0.002***** (0.000)		
Financial sector assets				***0.011**** (0.005)	
Stock Market capitalization					***0.000*** (0.001)
Observations	446	745	547	880	530
No. of countries	57	92	65	98	56
Diagnostic test					
No. of instruments	57	59	57	77	69
AR(1)	0.0363	0.0550	0.0833	0.371	0.0299
AR(2)	0.182	0.135	0.106	0.217	0.140
Hansen test	0.503	0.670	0.604	0.996	0.985

*Standard errors are reported in parentheses. Statistical significance: *** < 0.01, ** < 0.05, * < 0.10. Intercept is not reported. Two-step system GMM estimates*

source of excessive profit and high financial rent in the banking sector is monopoly with less competition. Table 6 reports the regression results of asset concentration held by the top three banks, returns on capital, financial sector assets, and stock market capitalization. The effect of market concentration is positive and statistically significant at a 99% confidence level, indicating that the monopolistic banking sector creates abundant opportunities for banks to extract excess profit that increases inequality. When we use the Lerner index, we do not find significant results though its coefficient is positive.[9] As shown in subsequent estimations, among other indicators, returns on capital and financial sector assets have a positive and statistically significant effect, while stock market capitalization has insignificant but positive effect on inequality in our sample of DEEs. It is to mention

Table 7: The effect of financial rent and financialization indicators on top income concentration

EXPLANATORY VARIABLES	(1) top1	(2) top1	(3) top1	(4) top1	(5) top1
Time horizon	*1998-2015*	*1996-2015*	*1998-2015*	*1980-2015*	*1980-2015*
L. top1	0.469***	0.647***	0.528***	0.538***	0.657***
	(0.030)	(0.035)	(0.046)	(0.060)	(0.056)
lngdppc	−0.240	1.562**	2.381**	5.680	0.700
	(1.787)	(0.790)	(1.172)	(5.764)	(1.142)
$lngdppc^2$	0.115	−0.043	−0.066	−0.281	0.009
	(0.102)	(0.045)	(0.068)	(0.335)	(0.061)
Education	−0.076***	−0.041***	−0.075***	−0.063***	−0.046***
	(0.015)	(0.009)	(0.013)	(0.024)	(0.014)
Trade	−0.008*	−0.008***	−0.008**	−0.007**	−0.008***
	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
FDI	0.020***	0.005**	0.009***	0.006**	0.011***
	(0.004)	(0.002)	(0.003)	(0.003)	(0.003)
Govt. consump. spending	−0.067*	−0.031	−0.015	−0.042**	−0.039
	(0.037)	(0.025)	(0.024)	(0.021)	(0.029)
Financial rent	***0.019*****				
	(0.003)				
Asst. concentration		***0.008****			
		(0.005)			
Returns on capital			***0.012*****		
			(0.003)		
Financial sector assets				***0.009*****	
				(0.005)	
Bank income					***0.191*****
					(0.051)
Observations	441	734	540	854	631
No. of countries	60	91	69	100	84
Diagnostic test					
No. of instruments	60	62	43	70	61
AR(1)	0.177	0.173	0.190	0.183	0.179
AR(2)	0.276	0.282	0.326	0.273	0.301
Hansen test	0.277	0.121	0.420	0.102	0.146

*Standard errors are reported in parentheses. Statistical significance: *** < 0.01, ** < 0.05, * < 0.10. Intercept is not reported. Two-step system GMM estimates*

that market capitalization enters significantly positive in the one-step GMM model. These findings generally imply that rising inequality in developing and emerging markets is associated with increased financialization and market concentration in the banking sector.

Finally, we replace the Gini coefficient with the top 1% income share to investigate the effect of financial rent and other financialization indicators on top income concentration.[10] The results in Table 7 remain qualitatively the same as those for the Gini coefficient. Financial rent, asset concentration, returns on capital, financial sector assets, and bank income significantly affect the top 1% income share. We also find that all indicators of financialization used in this paper exert significantly positive impacts on top 10% income shares, too, though results are not reported here. Again, financial rent and other financialization indicators are significantly positive for the top 1% and top 10% income share when

we estimate alternative model without the Kuznets curve relationship in Table 5. The overall results indicate that financial rent plays a crucial role in worsening inequality by increasing the top income concentration. This is consistent with the findings of other studies about the U. S. (Bivens and Mishel, 2013; Angelopoulos et al., 2019), and relevant to the rent-seeking argument on financialization. The regression results suggest that financial rent along with financialization is good for the very rich only and bad for the overall income distribution of the entire population.

In sum, our empirical examination finds that financial rent and various financialization indicators have positive effects on inequality in DEEs. Rising inequality in many developing and emerging market economies in the recent period is associated with higher rents and rising profits in the financial sector along with the development of financialization. Financialization results in excessively high income for top income earners in the financial sector and depresses workers' wages in the non-financial industries, lowering industrial investment and aggregate demand. All these changes lead to higher income inequality. In order to reduce inequality caused by financialization, the governments in DEEs need to make efforts to limit the process of financialization with more regulation of monopoly power and promotion of competition in the financial sector. More specifically, the government should, directly and indirectly, intervene in the banking sector so that banks cannot extract excess profits and incomes at the expense of the real economy, especially workers in the non-financial industries. In addition, the government should establish specialized financial institutions to promote financial access and check monopolistic banking in DEEs. Policy efforts to develop human capital, including establishing a more effective public education system, could be also helpful to the improvement of income distribution.

V. Conclusions

Financialization has been developed rapidly in both the advanced and developing and emerging economies in the recent period. Many progressive studies argue that it is harmful to stable growth and income distribution, and several empirical studies support this, mainly in the case of developed countries. We attempt to examine the effect of financialization and specifically financial rent on income inequality in developing and emerging economies in this paper. While rising inequality is usually explained by globalization, technological progress, political and institutional changes, we focus on the role of financialization in worsening income distribution. There are indeed the developments of both financialization and rising income inequality along with financial liberalization and deregulation in many developing countries after the 1990s. This change makes it very important to investigate the financialization-inequality nexus in those countries.

This study argues that financial rent generated by the banking industry, along with financialization and market concentration, is one of the important causes of rising inequality. Excess profit and income in the banking sector from rent-seeking could worsen income inequality by increasing top income earned by financiers. Financialization also depresses wages and profits of non-financial industries with the strong power of rentiers, leading to lower investment, employment, and aggregate demand, which is bad for income distribution. Furthermore, financialization could concentrate credit flows to a few large companies from small and medium companies, worsening inequality between firms.

Based on these arguments, we investigate the inequality effect of financial rent and financialization in DEEs by conducting extensive empirical analyses. We employ a cross-country OLS model and a two-step system panel GMM model covering as many as 100 DEE countries during the 1980–2017 period. Our empirical findings confirm that excess profit and income generated by banks have a significantly positive impact on income inequality. Financial rent, measured by the higher return in the banking sector than the deposit rate, is highly associated with the Gini coefficient and top income concentration. Income inequality is also related with the market concentration and less competition in the banking sector. Moreover, other commonly used indicators of financialization such as stock trading value, bank assets, and bank income show similar results. Our results are robust to using alternative specifications and different indicators.

There are several empirical studies on the effect of financialization on income inequality using cross-country or time-series regressions. However, all of those studies are about advanced countries, and no study is available on developing countries. We make an important contribution to the current studies by presenting the empirical evidence that financialization increases inequality through rent-seeking in DEEs. Taking our findings into account, governments in the DEEs should make more efforts to regulate monopoly in the banking sector in order to reduce financial rent-seeking and thus lower inequality. Establishing public financial institutions to check the monopoly power of private banks is also desirable. Policy measures to control the massive proliferation of financialization are called on for inclusive growth not only in developed countries but also in developing countries.

Notes

1) More precisely, a person gets rent if he or she earns an income higher than the minimum that person would have accepted. The minimum is usually defined as the income in the next available opportunity (Khan, 2000).

2) The unit cost is more precisely a measure of the efficiency of the financial sector. Philippon (2012) finds that the annual cost of financial intermediation has increased in the U. S. along with the development of the financial sector over the past 30 years. It suggests that the efficiency of the financial sector fell because of rising rent. The unit cost is measured by the value-added in the finance as a share of GDP divided by total intermediated assets.

3) Though the deposit rate is deducted as the cost of the fund during the final accounting of the ROC, we may consider deposit money as bank input resources of intermediation and subtract the deposit rate as a proxy of the next possible returns from other safe assets.

4) There is a debate regarding the causality between financialization and lower profitability. Although the decline in the profit rate could promote financialization, as some Marxist political economists argue (Lapavitsas, 2011), empirical evidence suggests that higher dividend and interest payment have an adverse effect on profitability and capital accumulation (Stockhammer, 2004; Tori and Onaran, 2018). There could be interactions between them as financialization lowers real investment, aggregate demand, and profitability, which further deepens financialization.

5) For example, the CEOs of the finance industry earn around 300 percent higher than CEOs in the manufacturing and other sectors in Bangladesh in 2011.

6) The sample countries vary from 43 to 100 DEE countries, covering the time horizon from 1980 to 2015 and 1996 to 2017. For example, when the Gini coefficient is regressed on financial rent, the baseline regression covers the 1998–2017 period, while the regression on asset concentration includes time horizon over 1996–2015. When the financialization index is used, the period is between 1980 and 2015. Regressions using the rent variable covers 965 observations of 78 sample DEEs in the baseline regression and 446 observations of 57 DEEs in the regression after including control variables.

7) The SWIID presents the Gini coefficient data, based on an estimation of the relationship between the LIS GINI and all other GINI data available for the same country and year that are not included in the LIS but available in other sources. These sources are income distribution data from the OECD, the socio-economic database for Latin America and the Caribbean, Eurostat, PovcalNet, and national statistical offices around the World (Solt, 2019).

8) Kus (2012) makes a financialization index using the standardized score of several variables as we discussed above. Because of data constraints, we take banking sector assets as one component in the composite index, replacing the original variable of securities under bank assets used by Kus (2012).

9) The Lerner index is a measure of market power in the banking market. It is defined as the difference between output prices and marginal costs (relative to prices). Prices are calculated as total bank revenue over assets, whereas marginal costs are obtained from an estimated translog cost function with respect to output. Its higher value indicates less competition.

10) The diagnostic test results of AR(1) in Table 7 suggest that we should reject the null hypothesis of no first-order serial correlation in the first difference, which could weaken the validity of our GMM models. However, AR(2) and Hansen tests results indicate that GMM estimators are valid in terms of the second-order serial correlation and do not suffer from overidentification problems.

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