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## Financialization & Top Incomes in Emerging Economies: A Comparative Distributional Analysis of the Financial Wage Premium in the BRIC

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# Financialization & Top Incomes in Emerging Economies:

A Comparative Distributional Analysis of the Financial Wage Premium in the BRIC

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**Abstract**

Prior studies on emerging economies contend increasing returns to human capital has contributed to the growth of wage inequality over the last few decades. However, this explanation fails to account for an important dynamic of contemporary wage inequality: the growth of top labor incomes. Research on advanced economies show the emergence of a wage premium in the financial sector increased top labor incomes, but studies have yet to investigate whether a financial wage premium is contributing to the growth of top labor incomes in emerging economies. The present study addresses this theoretical and empirical gap by conceptualizing and measuring the financial wage premium across the distributions of labor income in the most important subset of emerging economies: Brazil, Russia, India, & China. Drawing on harmonized labor force data from the Luxembourg Income Study, we utilize unconditional quantile regression modeling and treatment effect estimation to examine the financial wage premium across the distributions of labor income in the BRIC before and after the Great Recession. Consistent with studies on advanced economies, we find a substantial wage premium among top earners in the financial sectors of the BRIC which has grew in the post-recession period. However, we find significant variation in size and growth of the financial wage premium because of the variegated nature of financialization across the BRIC. We conclude by suggesting subsequent studies should explore the heterogenous effects of subordinate and state financialization on wage dynamics in emerging economies.

**Keywords**: Financialization, Income Distribution, Wages, Economic Methodology
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## Introduction

The unprecedented growth of emerging economies over the last few decades has captured the attention of academics, business leaders, and governments officials across the world. At the forefront of this phenomenon is the 'BRIC' - Brazil, Russia, India, and China. Originally identified as the most important subset of emerging economies by Goldman Sachs economist Jim O'Neill (2001), the BRIC is composed of a diverse set of the fastest growing economies in world which may collectively dominate the global economy by 2050. Indeed, between 1997 and 2017 the BRIC doubled their share of global gross domestic product (GDP) from 15 to 30 percent while increasing the average standard of living by 6 percent annually (New Development Bank, 2017). Accordingly, the BRIC constitutes has become an important bloc of countries in the world economy with leaders from these countries regularly holding summits to discuss major economic and political issues and creating an international financial institution to fund developmental projects. As a result, a voluminous academic literature has emerged to understand contemporary economic and political transformations in the BRIC (e.g. Nayyar 2016; Chatterjee and Naka 2022).

The profound development of the BRIC was accompanied by another major economic transformation: the growth of income inequality and poverty (Ortiz and Cummins, 2011; Das and Das, 2013; Berisha et al., 2020). The concomitant trends of economic growth and intensifying inequality have led scholars to conceptualize these transformations of the BRIC as a recent manifestation of neoliberal development (Prashad, 2013). And this neoliberal development of the BRIC had a major impact on the trajectory of global inequality in the 21$^{st}$ century (Hung, 2021; Milanovic, 2016; Bourguignon, 2015). The decline of global income inequality since the 2000s has been largely attributed to the reduction of income inequality between countries with the

substantial growth of the BRIC (Alderson and Pandian, 2018). However, the growth of national income inequality within the BRIC has raised concerns over the sustainability of long run decline in global income inequality (Hung and Kucinskas, 2011). Therefore, it is critical to empirically investigate the mechanisms driving contemporary income inequality within the BRIC.

Prior research on emerging economies contends the growth of income inequality is explained by increasing wage inequality with market reforms, state retrenchment, and the globalization of production (Mahutga and Bandelj, 2008; Bandelj and Mahutga, 2010; Mahutga and Jorgenson, 2016). Specifically, these explanations contend increasing returns to human capital is responsible for contemporary wage inequality in emerging economies. However, increasing returns to human capital are insufficient for explaining an important dynamic of contemporary wage inequality: the growth of top labor incomes (Atkinson and Piketty, 2010; Chi, Li, and Yu 2011; Roberts and Bao, 2021). Accordingly, alternative theoretical explanations of wage inequality are needed to understand inequality in the BRIC.

A prominent explanation for the growth of wage inequality and top incomes in advanced economies is *financialization* – the increasing the prominence and importance of financial markets, motives, institutions, and elites in the operation of the economy and its governing institutions (Epstein, 2005: 3). Specifically, research on advanced economies show financialization is responsible for increasing top incomes by creating a substantial wage premium for the highest earners in the financial sectors (Lin, 2015; Godechot, 2012; Bell and Van Reenen 2014; Kwon et al., 2017; Roberts and Kwon, 2017; 2022). However, researchers have yet to examine whether financialization contributed to the emergence of a wage premium for the highest earners in the financial sectors of emerging economies. This is surprising because studies show the prominence, scale, and valuation of financial markets and institutions are

increasing in emerging economies (Karwowski and Stockhammer, 2017; Bonizzi, 2013; Correa and Vidal, 2012; Bonizzi et al., 2020). And, most recently, studies show this process has effectively reduced the labor share of income in these economies (Stockhammer, 2017; Gouzoulis, 2022; Gouzoulis et al., 2021; Gouzoulis and Constantine, 2021). Based on this research, the financial wage premium may be an important distributional mechanism driving contemporary wage inequality by increasing top labor incomes in the financial sector.

Most of the literature on financialization in emerging economies have concentrated on the BRIC (Wang, 2015; Bonizzi 2013; Jayadev et al., 2018; Mirkin et al., 2013; Painceira, 2010; Petry, 2020). Accordingly, the BRIC is an ideal group for examining the link between financialization and wage inequality because of the global diffusion of finance to these countries and their adoption of neoliberal reforms (Ban and Blyth 2013). Moreover, the BRIC remains a compelling subset of countries in the world economy as indicated by recent studies on the redistributive fiscal policies (Cevik and Correa-Caro 2020), energy commodities and stock market conditions (Billah et al. 2022), and on the enduring effects of the Washington Consensus (Babb and Kentikelenis 2021). Yet, despite this recent research on the BRIC, it is unclear whether financialization contributed to the emergence of a wage premium in the financial sector. Therefore, this study addresses this theoretical and empirical gap by examining the distributional dynamics of wage premiums in the financial sector and whether this premium contributes to the growth of top labor incomes in the BRIC.

We draw on harmonized national labor force data from multiple waves of the Luxembourg Income Study to examine the location and magnitude of the financial wage premium across the distributions of labor income in the BRIC. Estimates from unconditional quantile regression models and treatment effects show labor in the financial sector earns substantially more than

labor in non-financial sectors across the distribution of labor income which is not explained human capital differences between sectors. However, we find the magnitude of the financial wage premium is greatest for the highest earners in the financial sector and this premium varies across the BRIC with larger premiums in Brazil and India compared to Russia and China. Additionally, we find the premium for top earners in the financial sector increased while the premium for median and low earners of decreased after the Great Recession. These results show distributional dynamics of the financial wage premium in the BRIC is intensifying wage inequality *within* the financial sector and *between* financial and non-financial sectors.

Overall, this study makes three important contributions to the extant literature on contemporary inequality in emerging economies. First, this study provides the first comparative evidence of the financial wage premium in the four largest emerging economies, which has shown to be an important mechanism linking financialization to income inequality in advanced economies. Second, this study applies a new theoretical perspective to explain the growth of wage inequality in emerging economies, which moves beyond human capital explanations associated with neoliberal reform and globalization. And third, this study extends existing methodologies by introducing a comparative framework for measuring how the financial wage premium shapes the distributions of labor income across countries.

## The Growth of Top Labor Incomes & Wage Inequality in the BRIC

**[Insert Figure 1]**

Figure 1 shows the ratio between earnings at the 90$^{th}$ percentile and 10$^{th}$ percentile of labor income in the BRIC before (2004-2007) and after the Great Recession (2011-2016).[1] On

[1] Labor income is defined as wages and salaries plus, special payments, stock options and bonus payments.

average, income disparities between high and low earners increased during this period. Earnings at the 90$^{th}$ percentile of labor income were about 10.5 times greater than earnings at the 10$^{th}$ percentile in the pre-recession period. This ratio increased by 19 percent in the post-recession period. However, this disparity substantially varies across the BRIC with India exhibiting the highest ratio and China exhibiting the lowest ratio. Nonetheless, Figure 1 illustrates an important component of contemporary wage inequality in the BRIC: the disparity between top and bottom labor incomes (Atkinson and Piketty, 2010; Chi, Li, and Yu 2011; Roberts and Bao, 2021).

Prior studies on emerging economies primarily explains wage inequality as the consequence of increasing returns to human capital across sectors because of the globalization of production, privatization, and state retrenchment (e.g. Mahutga and Bandelj, 2008; Bandelj and Mahutga, 2010; Mahutga and Jorgenson, 2016). The integration of firms in emerging economies into global production networks generated substantial wage premiums for skilled industrial workers which also increased wage disparities between global and domestic sectors. At the same time, the privatization of industries and the transition toward market systems exacerbated wage inequality by generating wage premiums for highly educated workers in newly privatized sectors while reducing the earnings of workers in state sectors especially among low-skill workers. Overall, these explanations of wage inequality in emerging economies are predicated on neoclassical theories of human capital (e.g. Cevik and Correa-Caro, 2020; Li and Sicular, 2014). However, theories of human capital are insufficient for explaining the growth of top labor incomes (Lin, 2015; Philippon and Reshef, 2012; Lin and Tomaskovic-Devey, 2013; Godechot, 2012; Bell and Van Reenen, 2014; Roberts and Bao, 2021; Roberts and Kwon, 2022). Therefore, an alternative explanation of top labor incomes is necessary to understand contemporary wage inequality in the BRIC.

**Financialization of the BRIC**

Research on wage inequality in advanced economies attributes the growth of top labor incomes to financialization (e.g. Philippon and Reshef, 2012; Godechot, 2012; Bell and Van Reenen, 2014; Lin, 2015; Roberts and Kwon, 2022). Specifically, these studies contend top labor incomes have increased with the emergence of a *financial wage premium* – above-market earnings in the financial sector – which has become increasingly concentrated amongst the highest earners in the financial sector. Surprisingly, researchers have yet to investigate the existence of a financial wage premium in emerging economies despite recent studies showing the financialization of emerging economies has reduced the labor share of income especially in non-financial sectors (Gouzoulis, 2022; Gouzoulis, et al. 2021; Gouzoulis and Constantine, 2021; Stockhammer, 2017: 10-11). Accordingly, the present study examines whether a financial wage premium contributed to the growth of top labor incomes in the BRIC.

The concept of financialization was initially developed to describe the transformation of advanced economies with the deregulation of financial markets and institutions and shifts in corporate investment and governance strategies (e.g. Arrighi 1994; Krippner, 2011; Davis, 2009; van der Zwan, 2014). Other scholars have expanded this conceptualization to describe the development of financial systems in emerging economies with the growth of foreign and state investment and the deregulation of financial markets and institutions (Karwowski, 2020; Petry 2020; Karwowski and Stockhammer, 2017; Wang, 2015; Bonizzi, 2013). Specifically, concepts of *subordinate financialization* and *state financialization* have been useful for understanding the recent transformations of emerging economies. More importantly, countries in the BRIC are ideal cases for these two concepts of financialization.

Subordinate financialization refers to how structurally subordinated positions of emerging economies in global finance and production shaped the interaction between financial actors in emerging economies and other actors in international financial markets (Bonizzi et al., 2020). The internationalization of finance over the last few decades has expanded the participation of emerging economies in global financial markets and increasingly exposed their financial systems to foreign investment. For example, external assets and liabilities in emerging economies increased from under 33 percent to over 133 percent of GDP between 1970 and 2013 while capital inflows and outflows increased from 3.5 percent of GDP in 1976 through 1985 to more than 8 percent in 2006 through 2015 (Bortz and Kaltenbrunner, 2017).

Over the last three decades, growth in Brazil and India has been fueled by global manufacturing and services which have increasingly exposed them to foreign investment and pressured their governments to enact a series of deregulatory policies to remove investment barriers. Financial reforms during the 1990s and early 2000s in Brazil and India were designed to increase the extraction of raw materials and agrobusiness and permit greater liquidity in the financial sector (Araujo, Bruno, and Pimente,l 2012; Kaltenbrunner and Painceira, 2018; Nyasha and Odhiambo, 2017). As a result, foreign financial inflows have increased from 4.14 percent of GDP in 2000 to 5.5 percent of GDP in 2015 in Brazil which contributed to the Brazilian stock exchange (B3) expanding into one of the world's largest market exchanges (Alami, et al, 2021; Nyasha and Odhiambo, 2017; Painceira, 2010). Similarly, in India, the deregulation of the financial sector and removal of investment barriers induced a marked expansion in foreign direct inflows, most strikingly visible in the tripling of the Bombay Stock Exchange from 2005 to 2017 from the inflow of foreign capital (Narayan et al., 2017; Jayadev et al., 2018; Nagaraj, 2013). As a result, stock market valuation increased from 34.1 percent to 70.8 percent of GDP while

foreign portfolio and direct investment increased by 69 percent in India over the last couple of decades (Narayan et al., 2017; Jayadev et al., 2018).

State financialization refers to the process in which the state increasingly relies on a set of financial means to manage its assets and fund public investment (Wang, 2015: 604). State institutions have increased their share in the capital markets of emerging economies as a means of enacting greater control over the economy through market-based mechanisms. For example, state institutions account for over 60 percent of shares in Chinese capital markets and state institutions are the largest single shareholders (~ 30 %) in Russia's MOEX (Petry et al 2023).

The development of financial markets and deregulation of financial activities in Russia and China was induced by the institutionalization of state shareholding and the promotion of shareholder value governance among state enterprises (Wang, 2015; Petry, 2020; Roberts and Bao, 2021). The enactment of the Resolution on Financial Systems Reform in China transformed state-owned banks into legitimate commercial banks and to privatize and modernize financial management (Okazaki, 2007; Wu, 2005). And the introduction of the state asset management companies during the early part of the 2000s promoted shareholder value governance among Chinese enterprises (Wang, 2015; Petry, 2020). As a result, the valuation of stock market capitalization increased from 38.1 percent of GDP to 64.1 percent of GDP. In Russia, the expansion of financial markets involved increasing the capital market share of state-owned institutions in the 'financial vertical' (Kuznetsova et al., 2011). Accordingly, over 30 percent of market capital is owned by public sector investors in China and Russia.

*Financial Marketization & Top Labor Incomes*

**[Insert Figure 2]**

We argue both subordinate and state financialization in the BRIC is primarily driven by *financial marketization* – the increase of social activity devoted to trade and investment in financial markets – which contributes to wage inequality by creating a substantial wage premium for the highest earners in the financial sector. Figure 2 shows trends in financial market development and inequality across the BRIC between 2000 and 2020. According to Figure 2, the BRIC experienced a high degree of financial market development over the last two decades which paralleled trends in national income inequality.[2] This suggests the financialization of the BRIC and its effect on income inequality may have been attributable to the expansion of financial market, as seen in advanced economies (Godechot, 2016; Roberts and Kwon, 2022).

Financial marketization increases the asymmetry in economic power between financial and non-financial actors through increasingly diverting economic resources into the financial sector from non-financial sectors (Lin and Tomaskovic-Devey, 2013). And the diversion of resources in the financial sector emboldens and empowers financial actors to engage in rent seeking behavior in the form of bargaining for higher compensation with greater wages, salaries, and bonuses (Luo and Zhu, 2014: 63). Elite workers, managers, and executives in the financial sector utilize a 'hold-up' mechanism when bargaining with employers where these actors appropriate valuable intangible assets (e.g. knowledge, teams, and clients) and leverage them in negotiations for greater compensation by threatening to 'move' these assets to another firms (Godechot, 2012; 2016). Empirically, studies on advanced economies confirm financial marketization is associated with greater compensation in the financial sector (Godechot, 2016;

[2] The financial market index is composed of multiple indicators: stock market capitalization, valuation of stocks traded, international debt securities to government, and total debt securities of financial and non-financial corporations, the percent of market capitalization outside of the top 10 largest companies and the total number of issuers of debt per 100,000 adults, and stock market turnover ratio (IMF 2022). A multidimensional measure is important for operationalizing financial market development because the size, access to, and transaction costs of financial markets are valid indicators of the extent to which financial systems are organized, coordinated, and governed by markets (Chiak et al. 2013; Svirydzenka 2016).

Kwon et al., 2017; Roberts and Kwon, 2017; Roberts and Kwon, 2022). Therefore, we may expect the following:

**$H_1$:** Labor income in the financial sector is greater than labor income in non-financial sectors of the BRIC.

**[Insert Table 1]**

Table 1 shows estimates of the average labor incomes in financial and non-financial sectors across the BRIC. As expected, average labor incomes are substantially higher in the financial sectors of the BRIC compared to non-financial sectors ($p<.05$). However, it is unclear whether the financial wage premium is evenly distributed in the financial sectors of the BRIC because a comparison of average incomes obfuscates variation in the magnitude of the financial wage premium across for low-, median-, and high-earners. Consequently, a comparison of average incomes may *underestimate* the effect of the financial wage premium on wage inequality. Therefore, it is important to examine the magnitude of the financial wage premium across the distribution of earnings to identify whether the financial wage premium is expanding the labor incomes of the highest earners in the financial sector.

Research on the United States and other advanced economies shows the financial sector is one of the most unequal sectors with large wage disparities between workers, managers, and executives (Freeman, 2010; Lin, 2015; Roberts and Kwon, 2022). Specifically, senior workers, managers and executives in the financial sector receive the greatest premium compared to other workers in the sector (Lin, 2015; Lin and Tomaskovic-Devey, 2013; Philippon and Resef, 2012). And a recent study shows this same disproportionate wage premium exists in the Chinese financial sector with the introduction of state shareholding companies in the early 2000s (Roberts and Bao, 2021).

Drawing on this research, we contend elite financial workers, managers, and executives in the BRIC possess a stronger bargaining position within firms. As result, these actors are more capable of utilizing the 'hold-up' mechanisms since they possess greater intangible assets and job mobility compared to other actors within and outside of the financial sector. Therefore, we may expect the following:

**$H_2$:** The wage premium of the highest earners is greater than the wage premium of median- and low-earners in the financial sectors of the BRIC.

*Variegated Financialization & Wage Premiums*

As discussed above, financialization is a variegated process in the BRIC. Starting in the 1990s, countries in the BRIC initiated a series of market-oriented financial reforms to promote economic development and investment. As a result, financial markets greatly expanded in each country. However, during this period, the nature of financialization began to differ across these countries based on the prominence of state and foreign capital. Specifically, while foreign capital was a major driver of financial market expansion in Brazil and India, state shareholding was a key driver of financial market expansion in Russia and China. For example, the growth of state asset management companies in China expanded the scale and depth of financial markets through purchasing and controlling shares in non-financial state-owned enterprises (SOEs) (e.g. Wang, 2015). Similarly, state-owned banks in Russia serve as the primary investor in a number of enterprises with Russia SOEs account for the greatest market capitalization (e.g. Kuznetsov et al., 2011; Mirkin et al. 2013; Petry et al., 2023). As a result, even though Russia and China enacted a series of financial deregulations to expanded markets and experienced a large inflow of foreign capital, state-owned enterprises in both countries captured and still control a large share of capital markets.

**[Insert Figure 3]**

Figure 3 shows recent market capitalization across the BRIC by private and public sector ownership. According to Figure 3, over 30 percent of market capital is owned by public sector investors in China and Russia. As noted above, the Chinese and Russian states played a central role in the development of financial markets. This involved expanding the capital market share of state-owned institutions in the 'financial vertical' in Russia and the formation and expansion of state asset management companies in China. In comparison, only 13 and 17 percent of market capital is owned by public sector investors in Brazil and India. For these countries, private sector investors own 34 and 37 percent of market capital. This is indicative of the growth of foreign institutions in the capital markets of Brazil and India over the last two decades.

We contend the political power wielded by state institutions in the financial sector mitigates the ability of elite financial workers, managers, and executives to utilize the 'hold-up' mechanism. For example, Gindling and colleagues (2020) shows workers in state enterprises do not receive a wage premium compared to formal workers in private enterprises, and skilled and educated workers in state enterprises experience a wage *penalty* in developing and emerging economies. As result, we would expect state financial marketization limits the growth of the financial wage premium since financial labor cannot fully exert its market power over state-owned institutions. In contrast, the prominence of foreign institutions in the financial sectors of Brazil and India may induce the importation of compensation practices from advanced economies and realigned the interest of a new financial elite in both countries (Linsi et al, 2023; Reis and Oliveria, *Forthcoming*). Therefore, we may expect the following:

**$H_3$**: The financial wage premium is greater in Brazil and India compared to Russia and China.

*The Great Recession & Wage Premiums*

The impact of the Great Recession on wage inequality is an important consideration for the BRIC. For example, Godechot and colleagues (*forthcoming*) show the financial fallout of the Great Recession did not produce a symmetrical decline in wage inequality in advanced economies. One possible explanation for this asymmetrical effect is the willingness of financial institutions in some countries to discount the responsibility over losses for elite workers, managers, and executives while cutting compensation for more junior workers to preserve higher compensation for star performers (Godechot, 2017). Additionally, this disproportionate impact is exacerbated by the greater capacity for elite financial workers, managers, and executives to leverage their market position through the potential threat of moving to a competitor and taking any technology, customers, colleagues, and subordinates with them (Godechot et al., *forthcoming*: 23).

Whether the Great Recession exerted a homogenous effect on wage inequality in the BRIC remains unclear. We contend the financial crisis of the Great Recession pressured state-, domestic-, and foreign-owned financial institutions to reduce labor costs to preserve heavy losses, but the market position of elite workers, managers, and executives permitted these actors to increase their compensation during the crisis when threatened with pay reductions. Therefore, we may expect the following:

**H$_4$**: The financial wage premium to the highest earners increased while the premium to low and median earners decreased between the pre- and post-recession periods.

**Sample & Measurement**

The hypotheses described above are tested using harmonized national labor force data on working-age populations in Brazil, Russia, India, and China from Waves 6-10 of the Luxembourg Income Study (LIS). The LIS harmonizes administrative data from national labor force surveys using a common framework to ensure data is comparable across countries and years. We compile all available data for Brazil, Russia, India, and China during the 2002-2016 period into a pooled sample which is filtered to only include respondents with full-time employment and between the ages of 18 and 62 years old.[3] The pooled sample is composed of 819,523 full-time workers across 15 country-year surveys. The Brazil sample is composed of 482,553 full-time workers in 2006, 2009, 2011, 2013, and 2016.[4] The Russia sample is composed of 206,935 full-time workers in 2004, 2007, 2010, 2011, 2013, and 2016. The India sample is composed of 82,246 full-time workers in 2004 and 2011. And the China sample is composed of 47,789 full-time workers in 2002 and 2013.

*Personal Labor Income*

The main outcome of the study is annual personal labor income. Personal labor income is the total income from dependent employment, including cash payments and value of goods and services.[5] This measure is preferred over wages because it includes bonuses which have significantly increased in the financial sector (Goldstein, 2012; Freeman, 2010). Following LIS

[3] South Africa is excluded from the sample because of missing information on industry of employment in the LIS micro data. Data on Indonesia is not available in the LIS.

[4] We conducted sensitivity analyses to determine whether the size of Brazilian samples was influencing the main result. We randomly sampled 50,000 observations from the pooled Brazilian sample (10,000 per year) and re-estimated the models. The results were substantively the same. Additionally, we applied LIS sample weights when estimating the models and transforming log labor income.

[5] Personal labor income is derived from the sum of monetary payments received from regular and irregular dependent employment (including cash wage and salary income (gross of social security contributions and income taxes) and monetary supplements to the basic wage, such as overtime pay, employer bonuses, 13th month bonus, profit-share, tips) and the value of goods and services received from regular and irregular dependent employment (such as the value of company cars, meals, housing, electricity, medical expenses, child care etc. paid or partly paid by the employer as substitute or supplement to the wage).

recommendations, we trimmed labor income by deleting all zero and negative values. Additionally, we converted labor income from national currency to constant 2010 U.S. dollars and transformed the variable using the natural log to improve comparability, normality, and the interpretability of marginal effects.

*Employment in the Financial Sector*

The focal independent variable of the study is an indicator for employment in the financial sector. The LIS harmonizes data on industries using a 9-category scheme: agriculture, forestry and fishing; mining and quarrying; manufacturing; utilities; construction; wholesale and retail trade, repair; hotels and restaurants; transport, storage and communications; financial intermediation; real estate, renting and business activities; public administration; education; health and social work; and other community, social/personal services; activities of households; extra-territorial. We measure employment in the financial sector by whether the respondent reported an occupation in the financial intermediation industry which is composed of institutions (e.g. commercial banks, investment firms, mutual funds, and pension funds) facilitating financial transactions. The other industries serve as a reference group for non-financial sectors.[6]

*Labor Income Controls*

We adjust estimates of labor income differences between financial and non-financial sectors using a set of theoretically relevant and available control variables from the LIS. Estimated differences are adjusted for standard wage controls: age, gender, and education (Mincer, 1974). Each model of labor income is specified with a linear and squared term of age to account for the curvilinear trajectory of earnings across the life course which also serves as a

[6] The heterogeneity in these industries required additional analyses with different industries as the reference group. In Appendix 3, we re-estimate the main model with different industry reference groups and find the results are consistent with the main models.

proxy of work experience and the accumulation of human capital. Additionally, each model includes an indicator for whether the respondent identifies as male to account for gendered differences in pay. Finally, each model includes indicators for high and moderate educational attainment with low attainment serving as a reference. Education in the LIS is measured with a 3-category ordinal scale (low, medium, and high). Indicators of educational attainment serve as a proxy of human capital.[7]

**[Insert Table 1]**

Table 1 provides definitions of the outcome and covariates in the analysis as well as the mean and standard deviation of these variables.[8]

**Analytical Strategy**

The main empirical objective of the study is to measure the population- and individual-level effects of employment in the financial sector on different percentiles of the annual labor income distribution. Based on this objective, the analysis is organized in three stages. In the first stage, we estimate the pooled population-level effect controlling for unobserved country- and year-invariant heterogeneity in two-way fixed-effects models. We than decompose the pooled sample into country-specific samples to estimate the population-level effect within each country while controlling for unobserved year-invariant heterogeneity with one-way fixed-effects models.[9] In the second stage, we measure the unconditional quantile treatment effect (UQTE) of financial

[7] As a robustness check, we estimated a series of models with two additional covariates: marital status and occupation. However, these covariates were not consistently available for all country-year samples in the LIS. Estimates from models with these covariates are available in Appendix 4. We find the results are consistent with the main models.

[8] Appendix 1 breaks down the mean and standard deviation of log labor income and financial employment by each country-year in the pooled sample.

[9] We also conduct a Kitagawa–Blinder–Oaxaca (KBO) decomposition analysis to determine the extent to which differences in age, education, and gender between sectors account for the observed labor income difference (Firpo et al., 2018). See Appendix 2

employment to confirm the population-level effect of financial employment in the regression models. In the third stage, we estimate country-specific models with an interaction effect between financial employment and an indicator for the post-recession period to measure the financial wage premium before and after the Great Recession in each country of the BRIC.

In the first stage of the analysis, we utilize re-centered influence function (RIF) regression with one-way and two-way fixed effects to estimate labor income differences across 7 percentiles ($5^{th}$, $10^{th}$, $25^{th}$, $50^{th}$, $75^{th}$, $90^{th}$, and $95^{th}$) in the unconditional distribution of annual labor income (Firpo et al., 2009). This approach is designed to estimate the joint effects of covariates on the unconditional distribution of earnings, and to identify wage differences between the financial and non-financial sectors. This method requires transforming the $\log_{10}$ distribution of annual labor income within each country-year sample using the following influence function:

$$(1)\ RIF(y; q_\tau) = \frac{\tau - 1(y \leq q_\tau)}{f_Y(q_\tau)} + q_\tau$$

Equation 1 shows the re-centered influence function where y denotes the observed log annual wages; 1(y≤q_τ) is an indicator of whether the observed log wages exceed the quantile ($q_\tau$); and $f_Y(q_\tau)$ is the influence function of y which operates as the probability density of Y at a given quantile.

Estimates of adjusted labor income differences are measured with the following model:

$$(2)\ RIF\left(y_{c,t,i},; q_{\tau,t}\right) = \alpha_{\tau,t} + \beta_{1,c,\tau,t} F_{c,t,i} + \sum \beta_{k,c,\tau,i} X_{k,c,t,i} + U_{ct,i} + \varepsilon_{c,t,i}$$

The left-hand side of Equation 2 is the transformation of log annual wages for quantile q at period t. The right-hand side of Equation 2 is composed of the additive effects of the covariates. F is an indicator for whether the respondent was employed in the financial sector at period t. $\beta_1$

measures the percent difference in earnings for τ-quantile during period t between respondents in financial industries and those employed in other industries. $X_k$ is a vector of covariates derived from the wage model and the additional control variables described above. $\beta_k$ is a vector of coefficients measuring the effect of these covariates on the unconditional τ-quantile of log annual wages. $U_i$ is a vector of fixed-intercepts for country-year. The first hypothesis is based on testing whether $\beta_1 > 0$ with a standard t-test of the coefficient. The second hypothesis is based on a Z-test of equivalency for $\beta_{1q=75,\,90,\,95} > \beta_{1q=50,\,25,\,10,\,5}$ (Clogg, et al., 1995; Paternoster et al., 1998).

We initially estimate the labor income differences in a pooled sample using the specification in Equation 2. In the country samples, we estimate these differences using a modification of the specification in Equation 2 which omits the $U_i$ vector. The third hypothesis is determined by whether $\beta_1$ is statistically larger in the Brazil and India models compared to China and Russia models based on a Z-test of equivalency.[10]

A major limitation of this application of RIF regression is the conflation population-level effects of financial employment with individual-level effects. Population-level effects with RIF regression measures the influence of a treatment on the outcome distribution while individual-level effects measure differences in the outcome between individuals within different conditions of the treatment (Borgen et al., 2023). This is an important distinction because estimates of the population-level effect are affected by variation in the share of the observations in conditions of the treatment and the overall shape of the outcome's distribution. Accordingly, we estimate and compare individual-level effects from UQTE to population-level effects from RIF models to

[10] As a robustness check, we also estimated pooled models with an interaction between countries and the indicator of financial employment to determine whether the effect of financial employment varies across countries. See Appendix 5. These alternative models confirm the main results.

determine whether the financial wage premium is affected by the size of the financial labor force and the shape of the unconditional distribution of labor income.

Estimates of UQTEs are based on a framework developed by Firpo (2007) who utilizes propensity score matching to construct equivalent treatment and control groups for measuring differences in outcome across percentiles of the distribution. We construct two equivalent groups for employment in the financial or non-financial sector within each country based on matching respondents by year of survey, age, gender, and education. This ensures the only difference between these groups is their employment in financial or non-financial sectors. We measure labor income differences across the labor income distributions in each country using the following equation:

(3) $UQTE^{\tau} = Q_F^{\tau} - Q_{NF}^{\tau}$

Equation 3 shows the labor income difference at the observed quantile (τ) is a function of labor income in the financial sector (F) minus labor income in non-financial sectors (NF) for equivalent age, gender, education, and year groups. A UQTE > 0 provides confirmatory evidence of a financial wage premium in the unconditional distribution of labor income.

In the third stage of the analysis, we modify Equation 2 by including an interaction term between the indicators of financial employment and the post-recession period (2011 – 2016). Accordingly, the interaction models are based on the following specification:

(4) $RIF(y_{t,i},; q_{\tau,t}) = \alpha_{\tau,t} + \beta_{1,\tau,t}F_{t,i} + \beta_{2,\tau,t}T_{t,i} + \beta_{3,\tau,t}F * T_{t,i} + \sum \beta_{k,\tau,i}\, X_{k,t,i} + \varepsilon_{t,i}$

Equation 4 is derived from specification in Equation 2. F is an indicator for whether the respondent was employed in the financial sector while T is an indicator for the post-recession period. The coefficient, $\beta_3$ measures the change in labor income differences between sectors change before and after the Great Recession. A growth in labor income differences is determined

by $\beta_3 > 0$ when controlling for other covariates and unobserved unit-invariant heterogeneity. The fourth hypothesis is based on a t-test of $\beta_{3q=75,\,90,\,95} > 0$ and $\beta_{3q=50,\,25,\,10,\,5} < 0$.

**Results**

**[Insert Table 2]**

Table 2 presents RIF model estimates in the pooled sample of the BRIC. The first model estimates the *average* difference in labor income between financial and non-financial sectors as a baseline for examining the distributional effects of the financial wage premium. Consistent with $H_1$, average earnings in the financial sector are 36.5 percent greater than earnings in non-financial sectors when controlling for age, education, and gender. However, these averages underestimate the magnitude of the financial wage premium and obfuscates the distributional dynamics of the financial wage premium. This is extremely important because research on financialization and wage inequality in advanced economies show the financial wage premium contributes to *between* and *within* sector wage inequality by expanding the labor income of the highest earners in the in financial sector (e.g. Lin, 2015; Roberts and Kwon, 2022). Therefore, the other models in Table 2 estimate labor income differences between sectors at the 5$^{th}$, 10$^{th}$, 25$^{th}$, 50$^{th}$, 75$^{th}$, 90$^{th}$ and 95$^{th}$ percentiles of observed labor income. Based on these models, we find a financial wage premium across the entire distribution when controlling for age, gender, and education.

Most importantly, the model estimates show the magnitude of financial wage premium increases at the upper end of the distribution compared to the lower end which supports $H_2$. For example, the 5$^{th}$ percentile of labor income in the financial sector is only 8.4 percent greater than the 5$^{th}$ percentile of labor income in non-financial sectors while the median labor income in the

financial sector is 18.4 percent greater than median income in non-financial sectors. At the 75$^{th}$ percentile of labor income, earnings in the financial sector are 55.3 percent greater than earnings in non-financial sectors. And, at the 90$^{th}$ and 95$^{th}$ percentile of labor income, earnings in the financial sector are 83.9 and 93.1 percent greater than earnings in non-financial sectors. Based on a z-test of coefficient equivalency, the magnitude of these labor income differences at the 90$^{th}$ and 95$^{th}$ percentiles are statistically greater than the differences at the lower end of the distribution ($p<.01$).

Surprisingly, we find the magnitude of the financial wage premium is greater in the BRIC compared to the United States and other advanced economies. For example, Lin (2015: Figure 4) shows the labor income of the highest earners in the financial sector of the United States greatly expanded from about 40 percent more of the earnings in the non-financial sector in 2000-2004 to over 50 percent in 2009-2011. Roberts and Kwon (2022) shows the labor income of highest earners in the financial sectors of 13 advanced economies varies between 21 to 60 percent more than the income of the highest earners in non-financial sector during the post-recession period. In comparison, the labor income of highest earners in the financial sectors of the BRIC is 84 to 93 percent greater than the income of the highest earners in non-financial sector.

**[Insert Figure 4]**

Despite finding evidence for a financial wage premium in the pooled sample, it is unclear whether this premium varies across the BRIC. Figure 4 shows estimates of the population-level effect of financial employment across the distributions of labor income in each country of the BRIC. According to Figure 4, the distributional dynamics of the financial wage premium are similar across the BRIC – a below-average premium at the lower-end of the distribution and an above-average premium at the upper-end of the distribution. However, we find significant

heterogeneity in the magnitude of financial wage premium across the labor income distributions of the BRIC. Consistent with $H_3$, we observe larger financial wage premiums amongst the highest earners in Brazil and India compared to Russia and China ($p < .05$). Earnings at the 75th percentile within the financial sector of Brazil was 43.7 percent higher than earnings in the non-financial sector in Brazil and 67.1 percent higher in the financial sector of India. Earnings in the financial sector at the 75th was 47.7 percent higher in the financial sector of Russia and 31.3 percent in the financial sector of China. However, earnings at the 90th percentile within in the financial sector of Brazil was 59.3 percent greater and 75 percent greater in the financial sector of India. Earnings at the 90th percentile was only 54.4 percent greater in the financial sector of Russia and 45.3 percent greater in the financial sector of China. At the 95th percentile, earnings in the financial sector of Brazil were 71.3 percent greater 70.6 percent greater in the financial sector of India. Earnings at the 95th percentile was only 52.5 percent greater in the financial sector of Russia and 55.8 percent greater in the financial sector of China.

Overall, the estimates in Figure 4 and coefficient equivalency tests provide support for $H_3$. One possible explanation for these results is the 'hold up' mechanism employed by top earners in bargaining for compensation may be less effective under conditions of state financial marketization compared to financial marketization driven by foreign capital. Future research should aim to directly test this proposition in a wider sample of emerging countries using multilevel modeling techniques for estimating the effects of state and international financial market investment on the financial wage premium across the distribution of labor incomes.

**[Insert Figure 5]**

An important consideration is whether the estimated population-level effect with RIF regression is influenced by the distributions of observations across conditions of the treatment

and the overall distributional shape of the outcome (Borgen et al 2023). Therefore, we measure the UQTE of financial employment across the distributions of labor income of the BRIC. Figure 5 presents the estimates of the treatment effect across the distributions of each country. Consistent with the observed population-level effects in Figure 4, Figure 5 shows a gradually increasing financial wage premium across the labor income percentiles in each country. However, there are notable differences in the size of the premium across countries. Specifically, consistent with the RIF models, we find greater wage premiums amongst top earners in Brazil and India ($p<.05$). This finding provides further support for $H_3$ and confirms the observed financial wage premium with the population-level effect of financial employment is not entirely explained by the size of the financial labor force and the shape of the unconditional distribution of labor income.

**[Insert Figure 6]**

Another important consideration is whether the financial crisis of the Great Recession exerted a homogenous impact on the financial wage premium across the BRIC. Figure 6 presents the moderated effects of financial employment on the labor income distributions of the BRIC to measure changes in the financial wage premium between the pre- and post-recession periods. Consistent with $H_4$, we find the financial wage premium declined at the $5^{th}$, $10^{th}$, 25, and $50^{th}$ percentiles of labor income across the BRIC after the Great Recession. Specifically, the financial wage premium at lower end of the distribution decreased by an average of 29.7 percent in Brazil, 8.8 percent in Russia, 55.1 percent in India, and 30.8 percent in China between the pre- and post-recession periods. In contrast, the financial wage premium expanded at the upper end of labor income distribution across the BRIC with an average growth of 53.6 percent in Brazil, 9.9 percent in Russia, 88.8 percent in India, and 50.3 percent in China.

We attribute this growth in the financial wage premium among top earners in the financial sector to the willingness of financial institutions to discount the responsibility over losses for elite workers, managers, and executives while cutting compensation for more junior workers to preserve higher compensation for star performers (Godechot, 2017). Accordingly, low and median earners in the financial sector suffered from greater income loss while the highest earners in the financial sector were able to effectively employ the 'hold-up mechanism' to obtain greater compensation with increasing financial marketization during the recovery period following the Great Recession.

It is important note the substantial difference in the growth of the financial wage premium among top incomes in Russia and China. We attribute the higher growth of the financial wage premium in the post-recession period in China to the promotion of shareholder value governance by state asset management enterprises (Wang 2015). The adoption of shareholder value governance should exacerbate the dynamics driving the growth of the financial wage premium among top earners. For example, Roberts and Bao (2021) show managers and executives in the Chinese financial sector received a substantial financial wage premium in the post-recession period and attribute this premium to the capacity of managers and executives to leverage their social and human capital in bargaining.

**Discussion & Conclusion**

Over the last two decades, the growth of wage inequality during a period of unprecedented economic development has motivated research on the nature of contemporary labor market stratification in emerging economies. While prior studies have explained wage inequality in emerging economies as the consequence of increasing returns to human capital from neoliberal

reform and the globalization of production, these explanations are insufficient for accounting for an important distributional dynamic: the growth of top labor incomes. As an alternative, studies on advanced economies show wage premiums in the financial sector are an important distributional mechanism linking financialization to the growth of top incomes (e.g. Roberts and Kwon, 2017; 2022; Kwon et. al, 2018; Lin, 2015; Godechot, 2012; Bell and Van Reenen, 2014). However, researchers have yet to examine the financial wage premium in emerging economies and its contribution to the growth of top incomes. This is surprising given the extant research on the financialization of emerging economies (Karwowski and Stockhammer, 2017; Bonizzi, 2013; Correa and Vidal, 2012; Bonizzi, et al., 2020) and its impact on the labor share of income (Stockhammer, 2017; Gouzoulis, 2022; Gouzoulis et al., 2021; Gouzoulis and Constantine, 2021).

Drawing on this research, the present study addresses this theoretical and empirical gap by examining the magnitude of the financial wage premium across the labor income distributions of the most important subset of emerging economies: the BRIC. Overall, we find the financial wage premium contributed to wage inequality by expanding the labor incomes of the highest earners in the financial sectors of the BRIC. This wage premium in the BRIC is substantially larger compared to the premium in advanced economies, especially among the highest earners in the financial sector. For example, our estimates of the premium in the BRIC are nearly twice as large compared to estimates of the premium in the United States (Lin 2015) and other advanced economies (Roberts and Kwon 2022).

More importantly, we find the premium amongst the highest earners in the BRIC has expanded despite the financial crisis of the Great Recession. Godechot and colleagues (*forthcoming*) argue financial crises in advanced economies exert an asymmetrical effect on

wage inequality because financial institutions discount the responsibility for financial losses among elite workers, managers, and executives while cutting compensation for more junior workers to preserve higher compensation for star performers. Additionally, these elite financial workers, managers, and executives were better able to leverage their market position in the post-recession period through threatening 'to move' to a competitor and take any technology, customers, colleagues, and subordinates with them (Godechot, 2017; Godechot, et al *forthcoming*). Consistent with this theoretical expectation, we find the magnitude of the financial wage premium for the highest earners has uniformly increased in the post-recession period while declining for median and low earners in the financial sectors of the BRIC. Subsequent research should further explore the accumulation of intangible assets, such as social capital and financial market knowledge, across occupations in the financial sector to explain increasing wage inequality within the sector during the post-recession period.

Drawing on recent research showing the heterogenous effects of financial marketization on wage inequality in advanced economies (e.g. Roberts and Kwon, 2017; Kwon et al, 2018; Roberts and Kwon, 2022), we find the financial wage premium varied across the BRIC. Financial marketization has empowered elite financial labor in the BRIC to bargain for higher compensation by leveraging the threat of leaving and taking their intangible assets to another financial institutions. However, we contend the process of financial marketization was variegated across the BRIC because of the fundamental roles of state and foreign investment. Financial deregulation and the dismantling of barriers to foreign investment fueled financial marketization in Brazil and India by attracting foreign capital and firms (Kaltenbrunner and Painceira, 2018; Nyasha and Odhiambo, 2017; Narayan et al., 2017). In China and Russia, the expansion of state-

owned institutions and public investment fueled the expansion of financial markets (Mirkin et al 2013; Wang, 2015; Petry, 2020).

The concentration of state institutions in the financial sectors of China and Russia may suppress the ability of elite financial labor in these countries to utilize the 'hold up' mechanism in wage bargaining. In contrast, we argue the prominence of foreign institutions in the financial sectors of India and China may have imported compensation practices which amplifies the ability of elite financial labor in these countries to utilize the 'hold up' mechanism in wage bargaining. Consistent with these expectations, we find the financial wage premium is larger and more concentrated at the upper end of the labor income distributions of Brazil and India compared to the distributions of Russia and China. However, subsequent research should further examine this argument in a larger sample of emerging economies and firm-level data which permits estimating the effects of foreign and state investment on wages in financial institutions.

Overall, the present study shows the heterogenous effects of financial marketization on wage inequality in advanced economies are occurring in the BRIC. Specifically, the results show the financial wage premium contributes to wage inequality in the BRIC by increasing labor income disparities *between* financial and non-financial sectors and *within* the financial sector. Subsequent research should investigate the heterogenous effects of financialization on inequality across a larger sample of developing, emerging, and advanced economies to better understand the variegated financialization-inequality link.

It is important to note the present study is limited by several factors which also should be addressed by future research. First, the main analysis draws upon limited cross-sectional labor force data from the LIS which hinders the ability to directly estimate the evolving wage premium within households and workers. Subsequent studies should leverage panel data (e.g. the

Comparative Panel File) to estimate the longitudinal dynamics of the financial wage premium across countries. Second, this study was limited by the availability of covariates to adjust estimates of the financial premium. For example, we would expect the earnings of managers and executives in the financial sector to be far greater than other labor in the sector which may explain the top income effect of financial employment (e.g. Roberts and Bao, 2021). However, data on occupation was not available in the LIS for all countries in the BRIC. Subsequent research should expand on the requisite controls for measuring wage differences between sectors and especially examine the potential moderating effect of occupation in the financial wage premium in the BRIC using alternative data sources (e.g. the Chinese Household Income Project). And third, the design of the present study does not permit a direct test of the theorized 'hold-up' mechanism linking financial employment to labor income. Accordingly, subsequent studies should utilize employer-employee matched data to examine how financial labor leverage their social and human capital in wage negotiations with employers and whether moving firms results in higher pay (e.g. Tomaskovic-Devey et al., 2020).

Despite these limitations, the present study contributes to the growing literatures on financialization and wage inequality in emerging economies by extending and empirically assessing the impact of the financial wage premium on top labor incomes in the BRIC. Most importantly, this study shows the financialization of emerging economies and the emergence of a financial wage premium is a valid explanation for contemporary wage inequality which moves beyond human capital explanations. Additionally, we address a longstanding empirical gap in the literature on financialization and income inequality by showing the financial wage premium is an important distributional mechanism for explaining wage inequality in advanced *and* emerging

economies. Accordingly, future researchers should examine the distributional dynamics of financialization to understand the trajectory of inequality in emerging economies.

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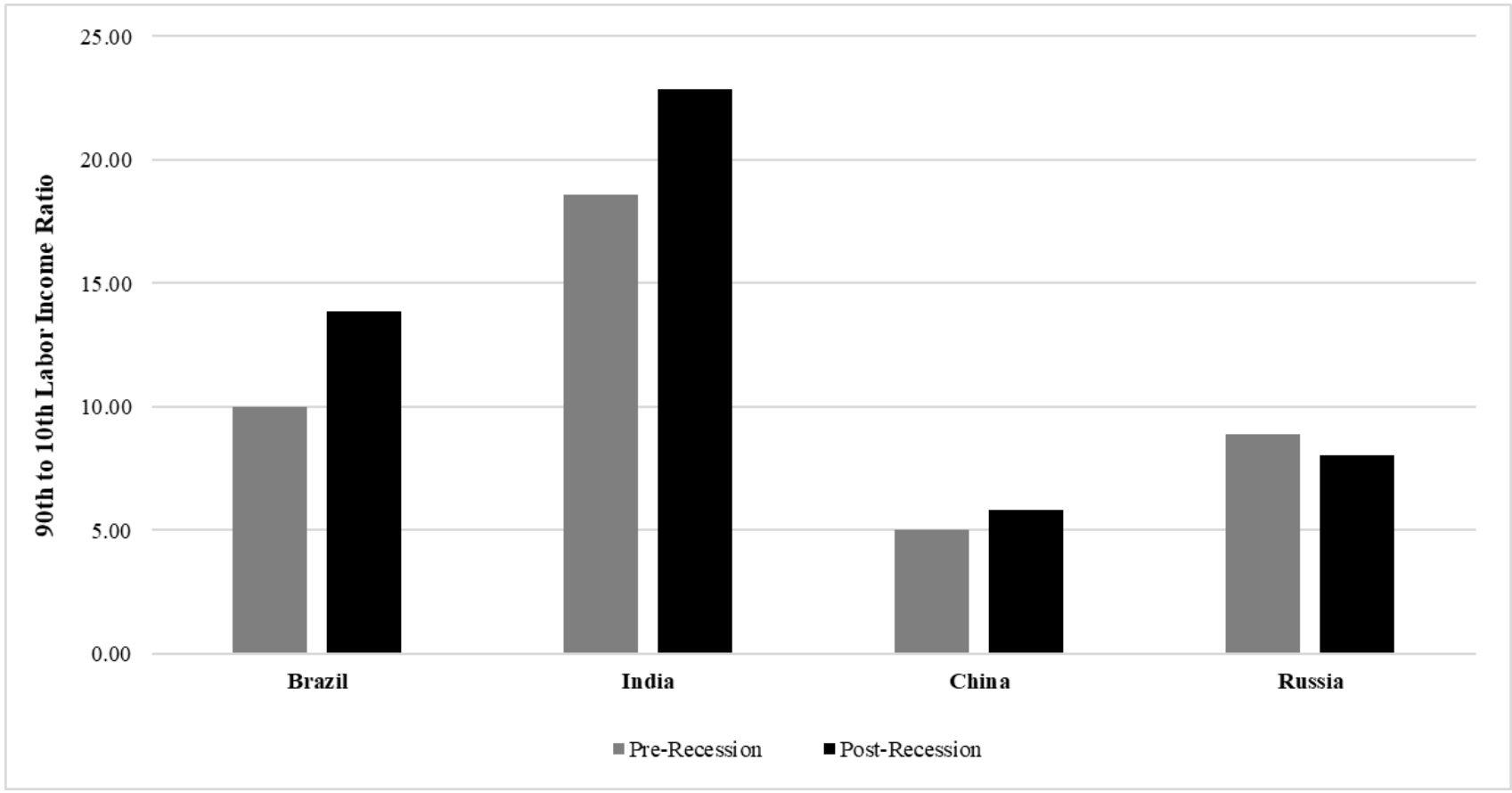
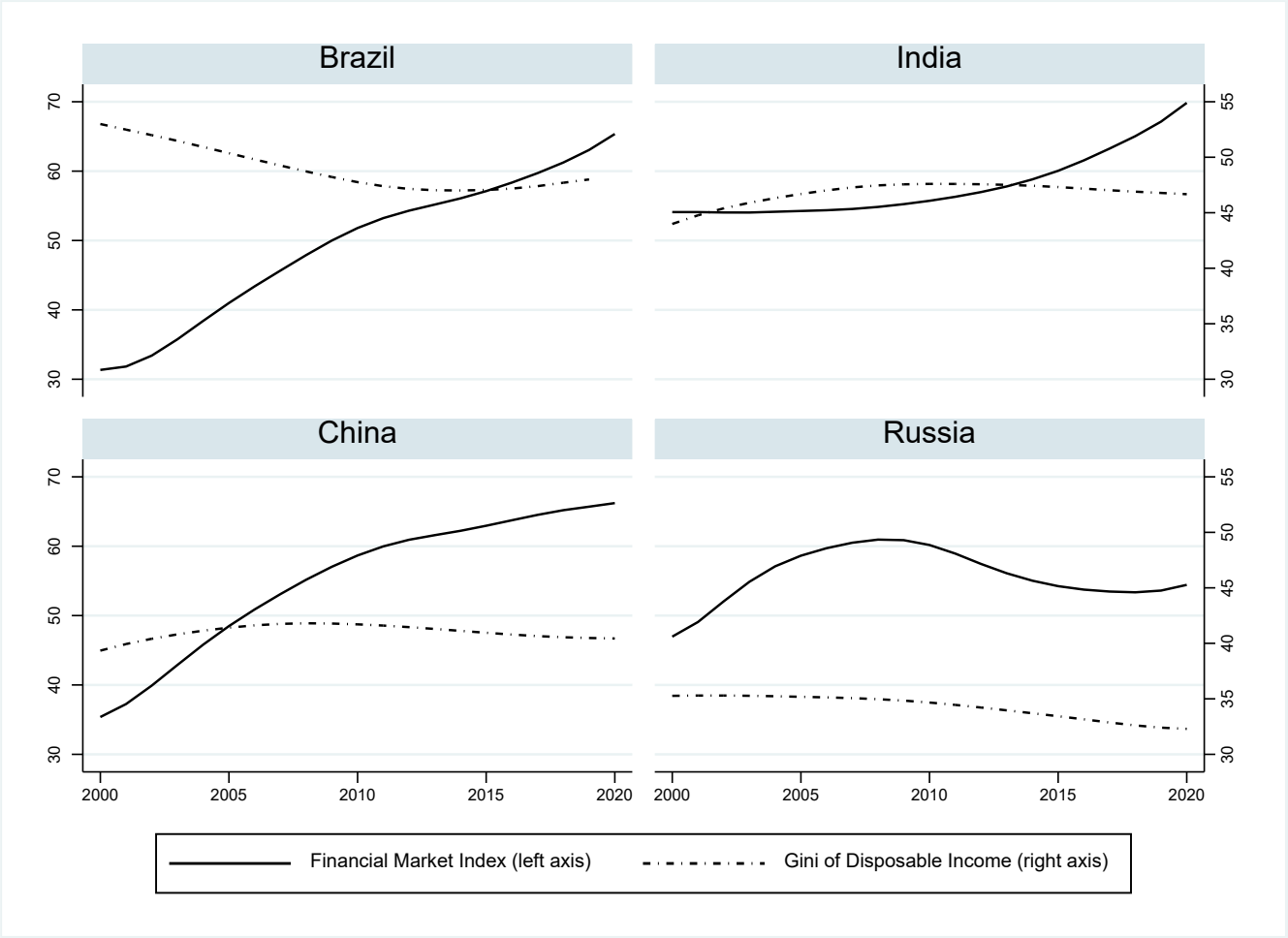
**Figure 1.** The Pre- and Post-Recession 90th to 10th Labor Income Ratio in the BRIC



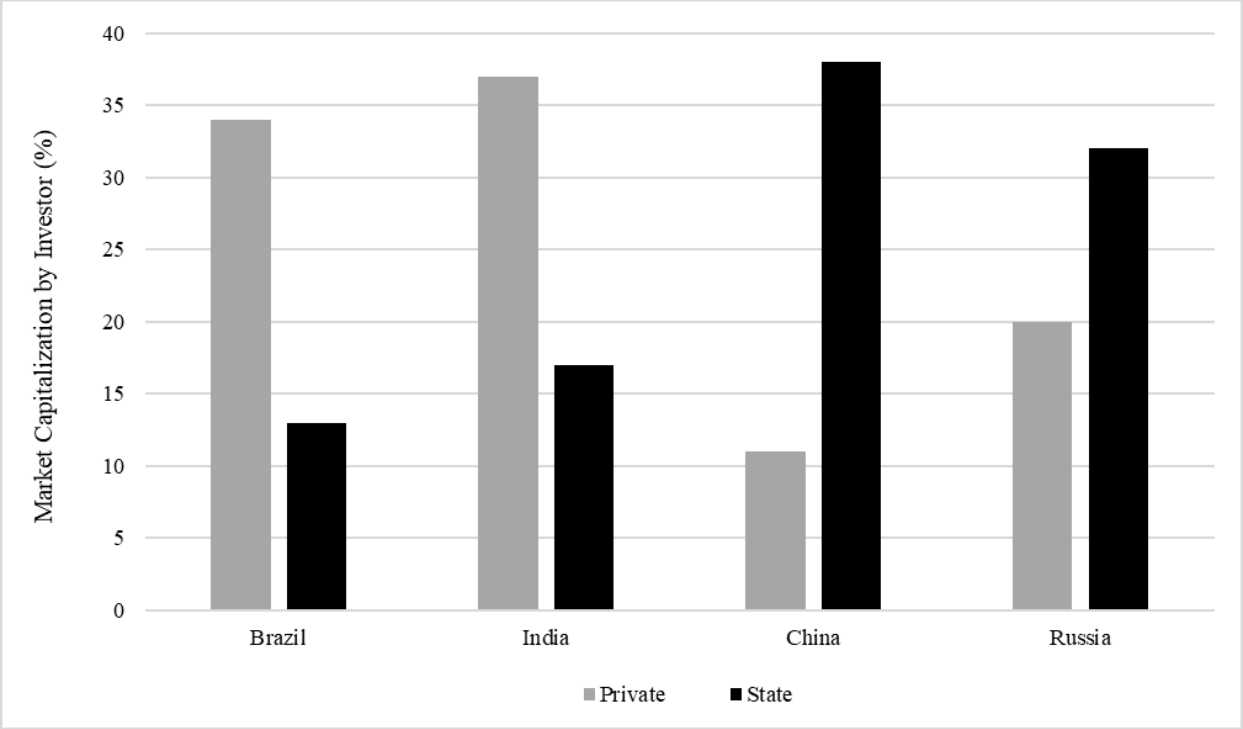

**Source**: Luxembourg Income Study (Waves 6 & 11)

**Figure 2**. Locally Weighted Annual Trends of Financial Market Development & Income Inequality in the BRIC, 2000-2019



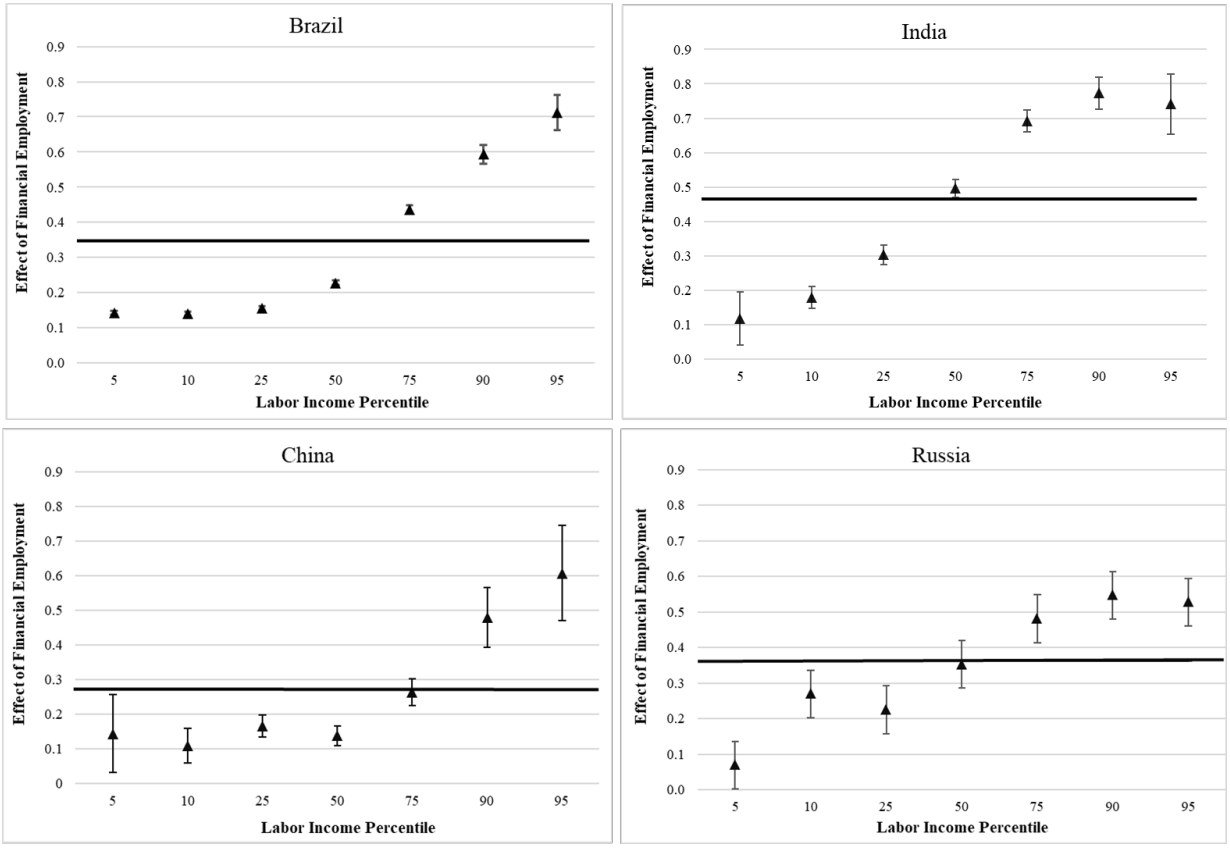

**Source**s: Financial Development Index Database (IMF 2020) & Standardized World Income Inequality Database (Solt 2020)

**Figure 3**. Market Capitalization by Ownership Type in the BRIC, 2017



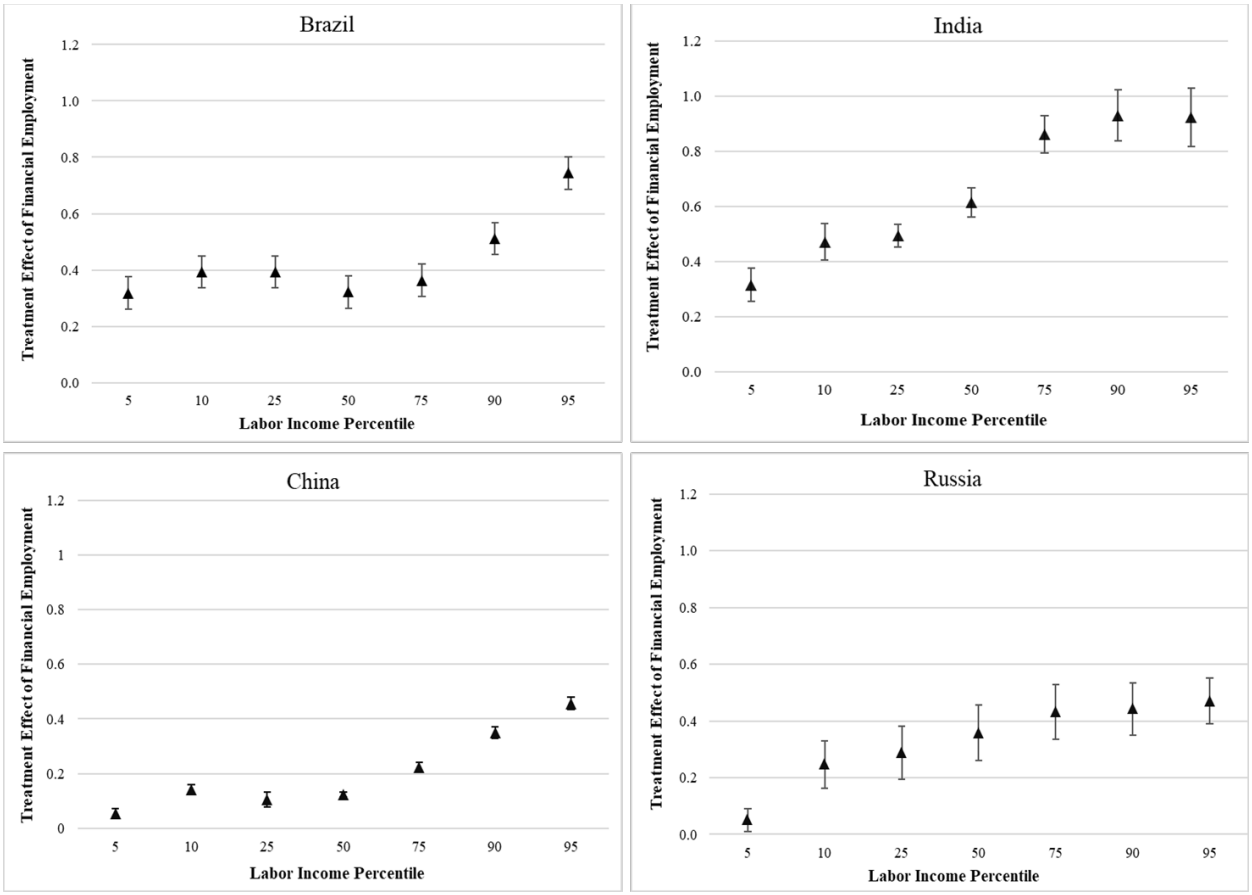

**Source**: OECD (2019)

**Figure 4**. The Population-Level Effect of Financial Employment on Labor Income in the BRIC



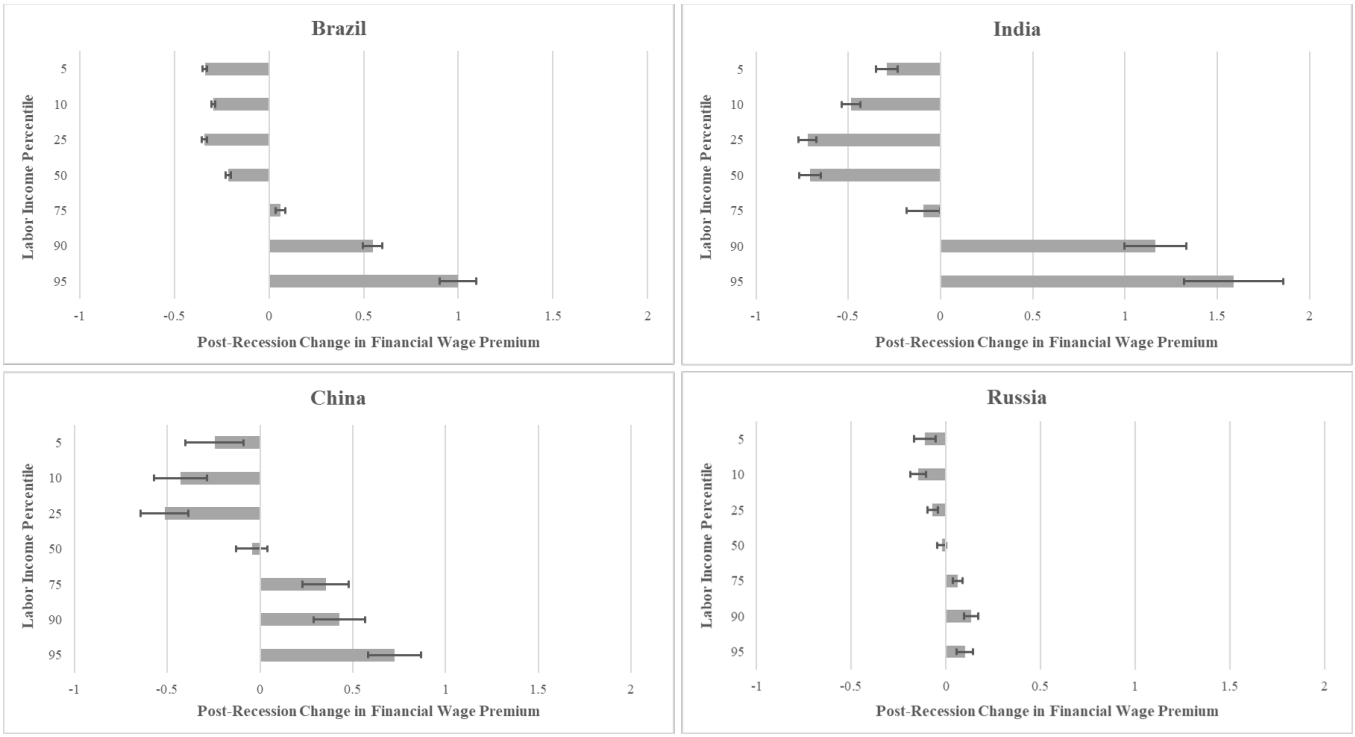

**Note**: Solid line indicates the average effect of financial employment on log labor income. Point estimates and 95% confidence intervals shown.

**Figure 5**. Individual-Level Treatment Effects of Financial Employment on Labor Income in the BRIC




**Note**: Point estimates of treatment effects and 95% confidence intervals shown.

**Figure 7**. Post-Recession Change in the Population-Level Effect of Financial Employment on Labor Income




**Note**: Point estimates of differences between pre- and post-recession effects of financial employment and 95% confidence intervals shown.

**Table 1**. Average Labor Income in Financial & Non-Financial Sectors

| | *Financial* | *Non-Financial* | *Difference* |
|---|---|---|---|
| **Brazil** | 10.08 | 9.26 | .82*** |
| | (.01) | (.01) | (.10) |
| **India** | 11.31 | 10.04 | 1.27*** |
| | (.03) | (.01) | (.18) |
| **China** | 10.67 | 10.14 | .53*** |
| | (.04) | (.01) | (.21) |
| **Russia** | 11.85 | 11.51 | .34* |
| | (.02) | (.01) | (.16) |

**Note**: Labor income reported in $\log_{10}$ units. Standard errors in parentheses. * p<.05; ** p<.01; *** p<.001.
***Source***: Luxembourg Income Study Micro Data.

**Table 2.** Variable Descriptions & Summary Statistics of Covariates in Pooled Sample

| Variable | Description | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| Labor Income | Total income from work, including cash payments and value of goods and services received from dependent employment. Constant 2010 USD. $Log_{10}$ transformed. | 9.41 | 1.05 | .69 | 15.25 |
| Financial Employment | Respondent employed in financial intermediation. Based on LIS 9-category industry coding. | .07 | . | .00 | 1.00 |
| Male | Self-classified gender (reference = female) | .61 | . | .00 | 1.00 |
| Low Education | Less than upper secondary education completed (never attended, no completed education or education completed at the ISCED 2011 levels 0, 1 or 2) | .53 | . | .00 | 1.00 |
| Moderate Education | Upper secondary education completed or post-secondary non-tertiary education (completed ISCED 2011 levels 3 or 4) | .33 | . | .00 | 1.00 |
| High Education | Tertiary education completed (completed ISCED 2011 levels 5 to 8) | .14 | . | .00 | 1.00 |
| Age | Age in years | 37.93 | 11.31 | 18.00 | 62.00 |

**Note**: n=819,523; N=16. All variables are drawn from Waves 6-10 of the LIS microdata.

**Table 3**. Pooled Estimates of Financial Wage Premium in the BRIC

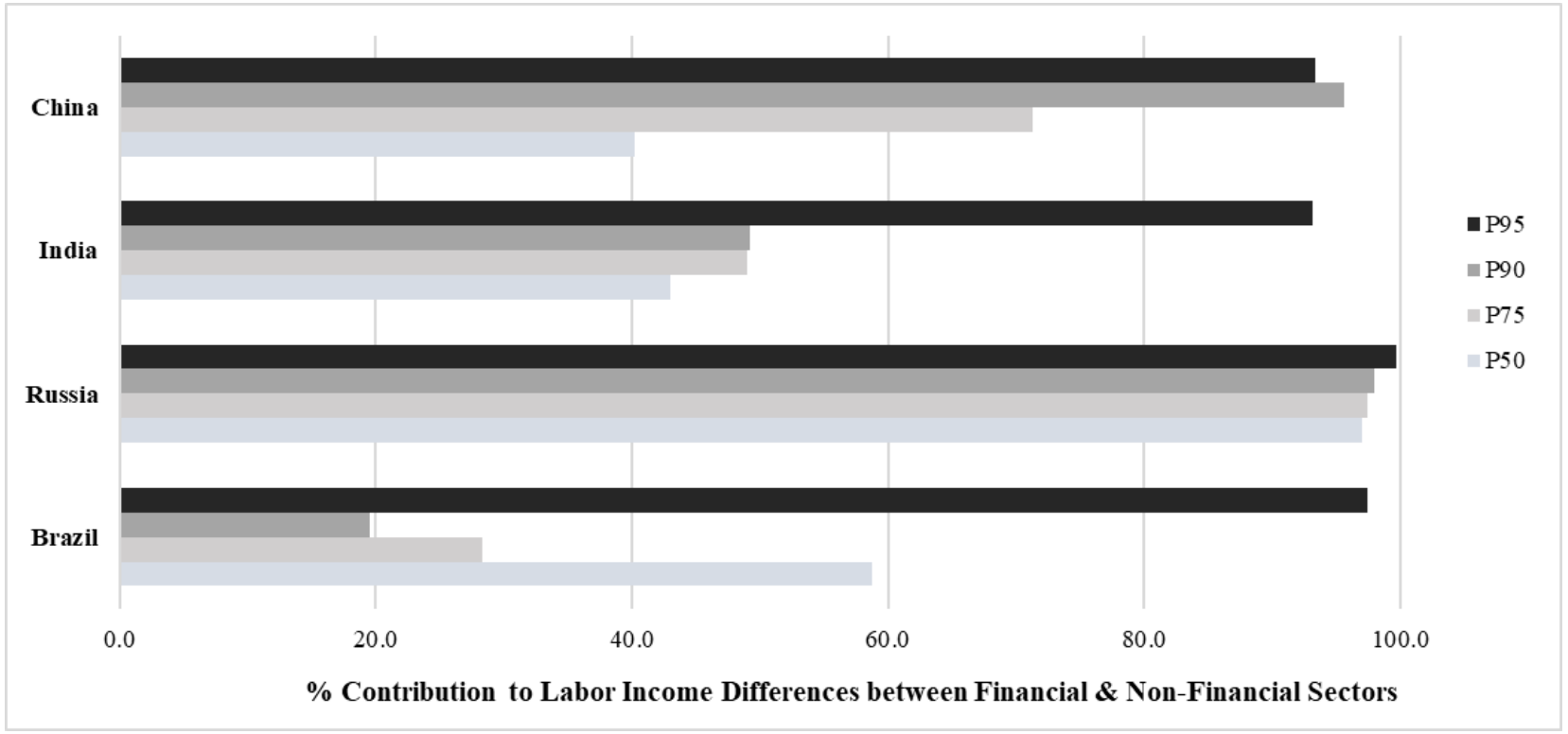
| | **Avg** | **P05** | **P10** | **P25** | **P50** | **P75** | **P90** | **P95** |
|---|---|---|---|---|---|---|---|---|
| Finance | .365*** | .084*** | .134*** | .173*** | .185*** | .555*** | .840*** | .932*** |
| | (.023) | (.004) | (.005) | (.007) | (.006) | (.015) | (.032) | (.049) |
| Male | .472*** | .319*** | .405*** | .386*** | .314*** | .545*** | .570*** | .557*** |
| | (.034) | (.004) | (.004) | (.002) | (.002) | (.003) | (.004) | (.006) |
| High Education | 1.431*** | .520*** | .745*** | .877*** | .904*** | 2.091*** | 2.584*** | 2.549*** |
| | (.062) | (.003) | (.003) | (.003) | (.002) | (.005) | (.011) | (.016) |
| Moderate Education | .570*** | .417*** | .579*** | .563*** | .405*** | .583*** | .520*** | .463*** |
| | (.034) | (.003) | (.004) | (.003) | (.002) | (.003) | (.004) | (.005) |
| Age | .060*** | .034*** | .047*** | .056*** | .046*** | .077*** | .056*** | .039*** |
| | (.005) | (.001) | (.001) | (.001) | (.001) | (.001) | (.001) | (.002) |
| $Age^2$ | -.001*** | -.001*** | -.001*** | -.001*** | -.001*** | -.001*** | -.001*** | -.001*** |
| | (.000) | (.000) | (.000) | (.000) | (.000) | (.000) | (.000) | (.000) |
| Constant | 6.729*** | 6.828*** | 6.798*** | 7.083*** | 7.488*** | 6.262*** | 6.869*** | 7.494*** |
| | (.111) | (.022) | (.023) | (.016) | (.010) | (.020) | (.031) | (.043) |
| R-Squared | .440 | .048 | .075 | 0.228 | .313 | .343 | .291 | .242 |

**Note**: N = 15 country-years; n= 819,523 full-time workers. Robust-clustered standard errors in parentheses. *** - p<.001. All models include country- year fixed effects.

**Appendix 1**. Labor Income & Financial Employment by Country-Year

| | | ***Labor Income (Log)*** | | ***Financial Employment*** |
|---|---|---|---|---|
| **Country-Year** | **N** | **Mean** | **SD** | **%** |
| Brazil 2006 | 82791 | 8.82 | 0.97 | 1.32 |
| Brazil 2009 | 102649 | 9.09 | 0.94 | 1.31 |
| Brazil 2011 | 107632 | 9.32 | 0.89 | 1.38 |
| Brazil 2013 | 100146 | 9.53 | 0.89 | 1.43 |
| Brazil 2016 | 89335 | 9.59 | 0.93 | 1.47 |
| China 2002 | 22111 | 8.47 | 1.21 | 1.31 |
| China 2013 | 25678 | 10.15 | 0.79 | 1.49 |
| India 2004 | 38183 | 9.73 | 1.11 | 1.65 |
| India 2011 | 44063 | 10.33 | 1.21 | 1.42 |
| Russia 2004 | 2490 | 10.79 | 0.87 | 2.48 |
| Russia 2007 | 3059 | 11.45 | 0.75 | 2.76 |
| Russia 2010 | 5469 | 11.87 | 0.72 | 2.69 |
| Russia 2011 | 11602 | 12.11 | 0.85 | 2.71 |
| Russia 2013 | 47963 | 12.31 | 0.82 | 2.18 |
| Russia 2016 | 136352 | 12.48 | 0.75 | 2.31 |
| ***Overall*** | 819523 | 10.16 | 1.67 | 1.86 |

**Appendix 2.** Contribution of the Wage Premium to Population-Level Effect of Financial Employment on Labor Income Percentiles



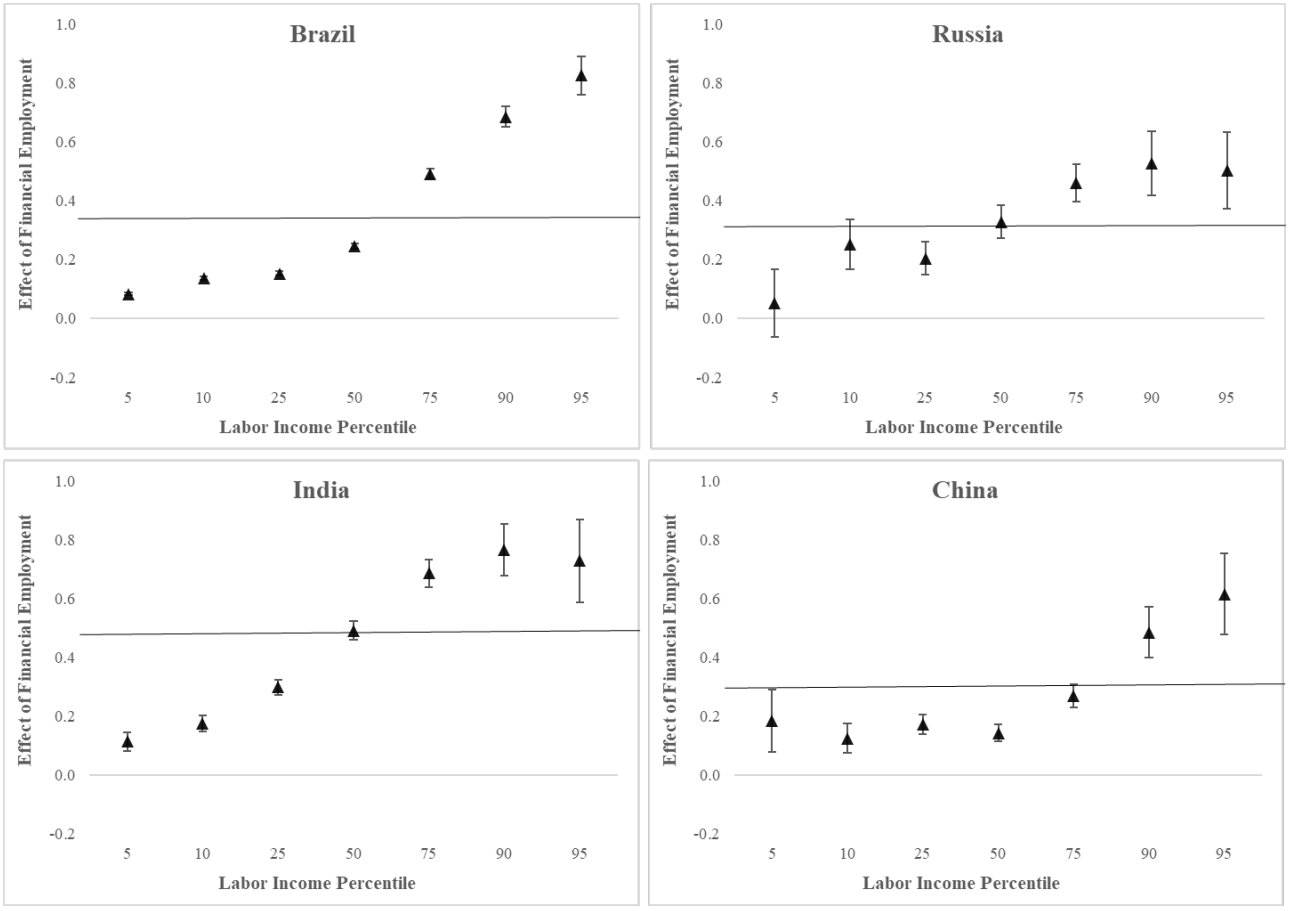

*Notes:* Decomposition of UQR estimates from Figure 4
*Source:* LIS Microdata

**Appendix 3**. Labor Income Differences Between Industries in the BRIC

| **Industry Comparison** | **Avg** | **P5** | **P10** | **P25** | **P50** | **P75** | **P90** | **P95** |
|---|---|---|---|---|---|---|---|---|
| Finance to Manufacturing | .331*** | .113*** | .138*** | .124*** | .143*** | .495*** | .797*** | .871*** |
| | (.019) | (.005) | (.006) | (.007) | (.006) | (.016) | (.033) | (.049) |
| Finance to Agriculture | 1.061*** | .746*** | 1.048*** | .887*** | .581*** | 1.121*** | 1.524*** | 1.636*** |
| | (.067) | (.008) | (.009) | (.008) | (.006) | (.016) | (.033) | (.049) |
| Finance to Retail | .420*** | .089*** | .153*** | .203*** | .220*** | .632*** | .926*** | 1.036*** |
| | (.023) | (.005) | (.006) | (.007) | (.006) | (.016) | (.032) | (.049) |
| Finance to Public | .214*** | -.052*** | -.053*** | .039*** | .111*** | .421*** | .669*** | .732*** |
| | (.012) | (.004) | (.005) | (.007) | (.006) | (.016) | (.033) | (.050) |
| Finance to Construction | .507*** | .087*** | .151*** | .236*** | .252*** | .771*** | 1.212*** | 1.352*** |
| | (.039) | (.006) | (.007) | (.008) | (.006) | (.016) | (.033) | (.049) |
| Finance to Transportation | .251*** | .062*** | .095*** | .056*** | .048*** | .392*** | .801*** | .928*** |
| | (.015) | (.005) | (.007) | (.007) | (.007) | (.017) | (.033) | (.050) |
| Finance to Real Estate | .289*** | -.037*** | -.049*** | .036*** | .142*** | .567*** | .826*** | .999*** |
| | (.020) | (.005) | (.006) | (.007) | (.006) | (.016) | (.033) | (.051) |
| Finance to Other | .630*** | .397*** | .620*** | .574*** | .386*** | .689*** | .841*** | .869*** |
| | (.016) | (.008) | (.008) | (.008) | (.006) | (.016) | (.032) | (.049) |

**Note**: N = 15 country-years; n= 819,523 full-time workers. Robust-clustered standard errors in parentheses. *** - p<.001. All estimates control for age, education, gender, and country-year fixed-effects.

**Appendix 4**. Additional Adjustments for Estimating the Financial Wage Premium in the BRIC




**Note**: All estimates adjusted for age, gender, education, and year fixed effects. Estimates for Brazil, Russia, and India are also adjusted for managerial occupation status of respondents. Estimates for Brazil (excluding 2016), Russia, India, and China adjusted for marital status of respondents.

**Appendix 5**. The Moderated Effect of Financial Employment on Labor Income by Country

| | **P05** | **P10** | **P25** | **P50** | **P75** | **P90** | **P95** |
|---|---|---|---|---|---|---|---|
| Finance*Brazil | .212*** | .334*** | .407*** | .429*** | .779*** | 1.556*** | 1.581*** |
| | (.018) | (.025) | (.020) | (.019) | (.054) | (.141) | (.223) |
| Finance*India | .079*** | .014 | .041* | .103*** | .608*** | 1.789*** | 3.233*** |
| | (.025) | (.030) | (.021) | (.023) | (.064) | (.164) | (.283) |
| Finance | .078*** | .136*** | .164*** | .178*** | .156*** | .569*** | 1.001*** |
| | (.018) | (.025) | (.019) | (.017) | (.051) | (.137) | (.218) |

**Note**: N = 15 country-years; n= 819,523 full-time workers. Reference = China & Russia. Robust-clustered standard errors in parentheses. *** - p<.001. All models include year fixed effects, age (linear & squared), gender, and education.