GPiD Global Poverty & Inequality Dynamics Research Network
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GPID Country Note 3

STRUCTURAL CHANGES AND WAGE INEQUALITY: THE BRAZILIAN CASE

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SUMMARY

This short note highlights two aspects of Brazilian economic history: the process of structural change from 1950 to 2005 and the recent fall in inequality. The process of structural change transformed Brazil from a rural to a diversified and complex economy and was the main driver of a labour productivity growth between the 50s and 70s. However, shifts in the labour force across economic sectors have become ineffective in increasing productivity and their effect ran out in the mid-90s. More recently, the growth of Brazilian domestic market and changes in the demographic profile of workers caused a massive reduction in inequality, despite some throwbacks due to a current large economic crisis.

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About the GPID research network:

The ESRC Global Poverty and Inequality Dynamics (GPID) research network is an international network of academics, civil society organisations, and policymakers. It was launched in 2017 and is funded by the ESRC's Global Challenges Research Fund.

The objective of the ESRC GPID Research Network is to build a new research programme that focuses on the relationship between structural change and inclusive growth.

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THE DEVELOPER'S DILEMMA

The ESRC Global Poverty and Inequality Dynamics (GPID) research network is concerned with what we have called 'the developer's dilemma'.

This dilemma is a trade-off between two objectives that developing countries are pursuing. Specifically:

1. Economic development via structural transformation and productivity growth based on the intra- and inter-sectoral reallocation of economic activity.
2. Inclusive growth which is typically defined as broad-based economic growth benefiting the poorer in society in particular.

Structural transformation, the former has been thought to push up inequality. Whereas the latter, inclusive growth implies a need for steady or even falling inequality to spread the benefits of growth widely. The 'developer's dilemma' is thus a distribution tension at the heart of economic development.

Introduction

This short note highlights two aspects of Brazilian economic history: the process of structural change from 1950 to 2005 and the recent fall on inequality. The process of structural change transformed Brazil from a rural to a diversified and complex economy and was the main driver of a labor productivity growth between the 50s and 70s. However, shifts in the labor force across economic sectors have become ineffective in increasing productivity and their effect ran out in the mid-90s. The growth in labor productivity has been almost null since the 70s, despite the large increase in educational outcomes for the period. Any increase in the labor productivity observed in the period was caused by timid increases that permeated all sectors. In the 90s, for example, the trade liberalization was the main source of productivity growth of the economy. Unlike many other countries (mostly developed) that have promoted openness in their trade flows with the rest of the world economy, Brazil has not experienced an increase in inequality because of that. In contrast, inequality fell for the recent period. Historical data on the evolution of the Gini during the 70s, a decade of 10pp annual increases in GDP, reveals that the period of structural change and rapid economic gains was inequality enhancing. In contrast, in the more recent period, as in the 00s, the economy grew and inequality fell. The growth of Brazilian domestic market and changes in demographic profile of workers caused a massive reduction in inequality, despite of some throwbacks due to a current large economic crisis.

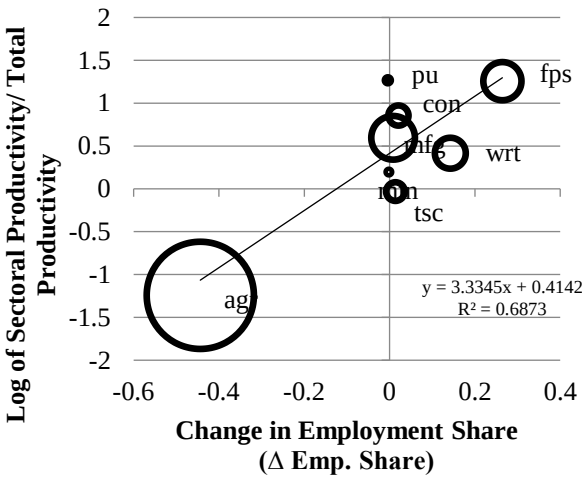
Structural change and productivity growth

From 1950 to 2005 Brazil experienced a strong process of structural change. Firpo and Pieri (2014) provides evidence of how productivity evolved over time between and within sectors of the Brazilian economy. Productivity growth between sectors is explained by a massive transition of workers from lesser to more productive sectors in the economy. Figure 1 shows that sectors with higher productivity like manufacturing and financial services received workers originated from less productive economic activities, mainly agriculture.

The findings in Firpo and Pieri (2014) suggest that structural change was the main force behind the diversification and growth of the Brazilian economy for the period between 1950 and 1970. However, after that period, most of the increase in productivity came from the within-sector component as presented at Figure 2.

The growth of within productivity can be explained by a strong trade liberalization occurred in Brazil on 90's. In this sense, a large literature established that trade openness had a positive impact on economy in terms of productivity (Muendler, 2004, and Ferreira and Rossi, 2003). Firpo and Pieri (2014) interprets the relative slowdown of the Brazilian productivity growth from 1995-2005 as an upper bound for growth. Without the liberalization process, the most likely scenario for the country's economic performance would have been worse). Trade openness was also beneficial in terms of inequality reduction (Gonzaga, Menezes-Filho and Terra, 2006).

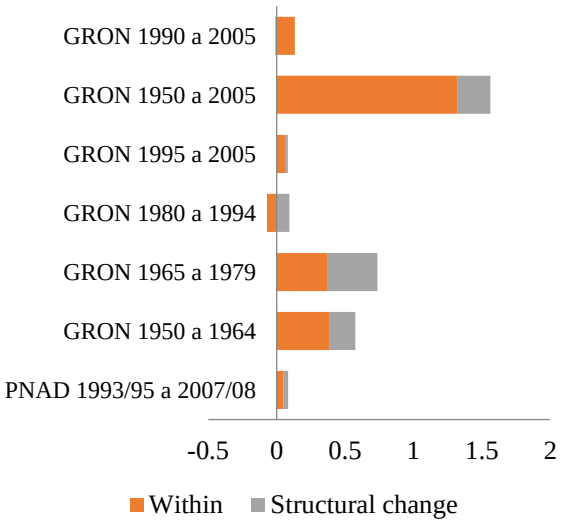
Figure 1 - Correlation between Sectoral Productivity and Change in Employment Shares in Brazil (1950-2005)



Notes: Size of circles represent employment share in the initial year. The line represents fitted values of a linear regression of change in sectoral productivity by change in employment share.

Abbreviations: (agr) Agriculture, (min) Mining, (mfg) Manufacturing, (pu) Public Utilities, (con) Construction, (wrt) Wholesale Trade, (tsc) Transport and Communication, (fps) Finance and Personal Services

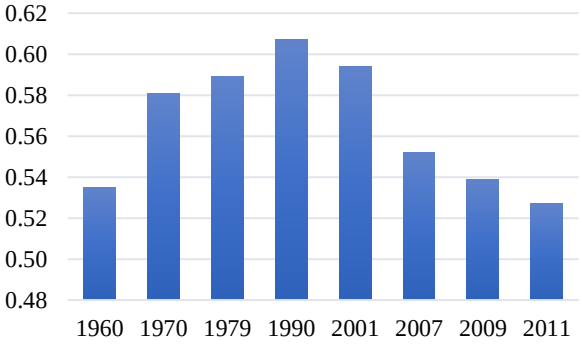
Figure 2 - Decomposition of productivity growth by period and database



Inequality

Brazil is known for being one of the most unequal countries in the world. In particular, during the "structural change" period, Brazil experienced a large increase in inequality, as Figure 3 shows.

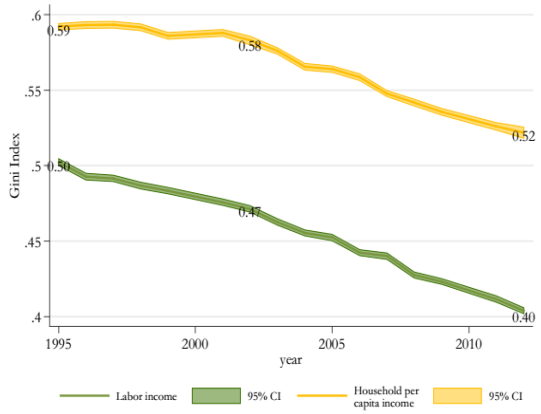
Figure 3: Long term inequality (Gini)



Source: Neri and Souza (2012)

Inequality stopped increasing in Brazil in the 1990s. In fact, the country has experienced a strong decline on income inequality over the last 25 years. As Figure 4 shows, from 1995 to 2012 the Gini coefficient for income decreased by 7 points and the Gini coefficient of labor earnings by 20%. This fall was mostly driven by reductions in the dispersion of labor earnings across workers, rather than because of the well-known conditional cash transfer program, *Bolsa Família*. *Bolsa Família* did play a role, but the bulk of the equalization came from a decline of almost 20% in the Gini coefficient for labor incomes, from 0.50 to 0.41.

Figure 4: Household incomes and labor earnings in Brazil, 1995-2012: inequality



Source: Ferreira, Firpo and Messina, 2014.

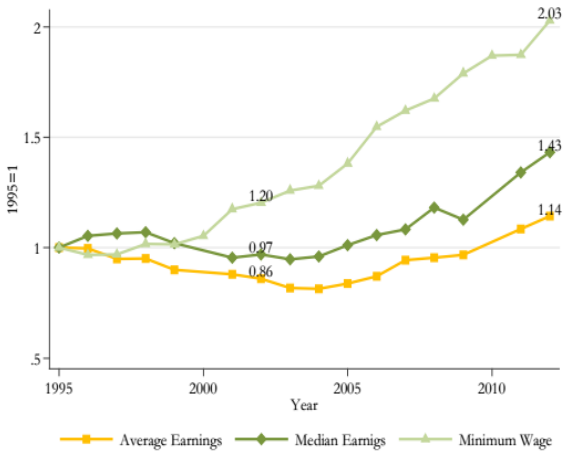
Ferreira, Firpo, and Messina (2017) analyzed this phenomenon using recent decomposition methods based on re-centered influence function (RIF) regressions (Firpo, Fortin and Lemieux, 2009; and Fortin, Lemieux and Firpo, 2011) to estimate the quantitative impact of five groups of candidate explanatory factors on changes in the Brazilian earnings distribution. These factors are: i) human capital; ii) labor market institutions; iii) demographic characteristics of workers; iv) spatial segmentation; and v) sectoral distribution of the labor force.

The main result was rather surprising: the overall effect of educational dynamics was actually inequality-increasing. A substantial increase in the schooling levels of Brazilian workers did indeed take place: the proportion of the working age population with at least 10 years of schooling doubled from 25 to 50% between 1995 and 2012. And this was followed by a decline in the returns to education. However, as the distribution of education shifted to the right, the density mass at the range of years of schooling with the steepest returns increases.

On the other hand, the decline in the experience premium accounted for about five Gini points of the inequality reduction. Another source of inequality reduction was a combined reduction in gender, racial, urban-rural, and formal-informal wage gaps.

In the period of 1995 to 2012, minimum wages increased in real terms as presented on Figure 5. During the boom years of 2003-2012, rising minimum wages were unambiguously equalizing. In the earlier sub-period of 1995-2003, however, when labor demand was not growing as fast, minimum wage growth was accompanied by falling compliance, with an increase in the number of workers earning less than the minimum wage of a full six percentage points of the labor force.

Figure 5: Minimum wages and the evolution of earnings: 1995-2012



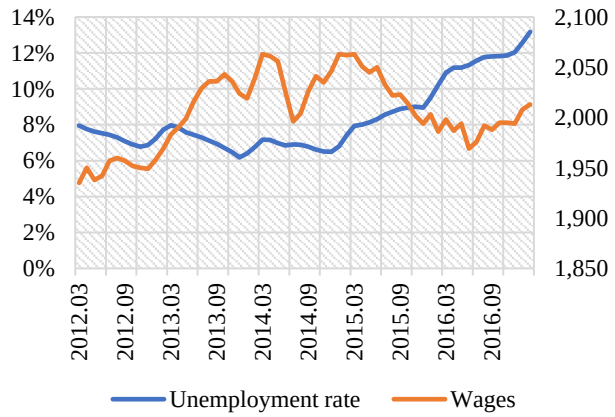
Source: Ferreira, Firpo, and Messina, 2017

Recent trends

In its very recent history, Brazil had two distinguished economic moments: the period between 2003 and 2013, in which income has increased and inequality fall and the period started at 2014 of job destruction and income fall.

In the last few years, Brazil has been suffering its worst economic crisis in history and unemployment rate escalated very rapidly. Government's deficit doubled as a fraction of the GDP in one year and the government debt is higher than 70% of the GDP, which, in a country of large interest rates, poses a solvency problem. The country is experiencing also a profound political crisis. All this macroeconomic uncertainty made companies to reduce investments, causing unemployment and a fall on wages (Figure 6). Inequality has also recently increased. How economic life will be after the crisis is still uncertain, but a scenario with important labor migration across sectors (with a decrease in importance of manufacturing activities), higher structural unemployment rates and higher inequality levels is likely to prevail.

Figure 6: Wages and unemployment (2012-2017)



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