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Poverty Reduction and Well-Being: Lula's Real

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CHAPTER 5

Poverty Reduction and Well-Being: Lula's Real[1]

Marcelo Neri

[A] Introduction

A study by the Center for Social Policies at the Fundação Getulio Vargas (CPS/FGV) launched in 2007 has shown two marked changes in poverty levels in Brazil: one in the period from 1993 to 1995, in which the proportion of people below the poverty line fell 18.5 per cent, and another one from 2003 to 2005, in which it dropped 19.2 per cent.[2] The first period is associated with the impacts of the so-called Real Plan, a successful stabilization policy that brought down inflation rates from more than two thousand percent per year to more civilized single digit rates. Ten years apart, these two episodes were separated by a period of relative stability in poverty levels.

The remainder of the Lula administration gives a year-by-year sequence of the achievements observed in the two exceptional periods mentioned above. As a result, 22.9 million Brazilians rose out of poverty between 2003 and 2011, reaching 26.4 million poor people in the last year of this period versus the 50 million people observed in 2003. In the meantime, Brazil achieved the first and most important of the Millennium Development Goal 25 year target during the Lula administration: the reduction in poverty rates by half. This means that Brazil reduced poverty at a pace more than three times faster than the United Nations agreement had predicted. This marked poverty reduction, which plays as important a role as stabilization did in the Cardoso Era, is what we call in this paper, 'Lula´s Real'.[3]

The fall of inequality combined with the resumption of economic growth after the end of the recession in 2003 are the direct determinants of poverty reduction during President Lula's years in office. Behind the

inequality fall is the creation and expansion of the Conditional Cash Transfer Program 'Bolsa Família' (see Wiesebron this volume) following the long-established but not always successful traditional Brazilian income policies. However, the key ingredient in the recipe behind the Workers' Party social boom is labor income. In particular, formal employment generation increased 50per cent on a permanent basis after the 2003 recession. In this paper, we show that behind the growth of formal employment and reduction in poverty and inequality, there are both signs of an improvement in education and also a confidence shock that was translated into the reduction of widespread uncertainties. All of these effects were inherited from the Cardoso administration but gained momentum during Lula's term in office.

A key consequence of the continuous movement towards a more prosperous, equitable and predicable society is the improvement of well-being among Brazilians. We believe that, besides income-based social statistics, direct subjective questions about people's quality of life are useful for capturing the full extent of the transformations experienced in Brazil during the Lula years, as well as some of their political implications.

This chapter analyzes the evolution of poverty and the well-being of Brazilians during the period of Lula's Real. We also aim to compare social changes during Lula's two presidential terms with those observed during the administrations of Cardoso and Rousseff, while discussing their main determinants and some of their consequences. It synthesizes and extends the findings of various researches that I have conducted over the last 15 years, most of which are implemented with freshly-harvested microdata. The chapter is organized in eight sections. The next section provides a historic analytic background of the main changes observed during the Lula years. Next, the evolution of poverty and its direct determinants, namely growth and inequality, are discussed based on the primary data from the Brazilian National Household Survey (PNAD) from 2003 to 2011. The following section takes advantage of the richness of the PNAD questionnaire to address the role played by different policies such as education, minimum wage and official income transfer sources as the main determinants of the evolution of income. The two next sections use PME data (the acronym for

the Monthly Employment Survey) to complement the analysis. First, it takes advantage of higher frequency PME data collection to trace the divisive points between the Lula administration and those of his predecessor and successor. It is followed by updates this discussion to grasp changes in poverty and income distribution during the first two years of Dilma Rousseff's term. I also use the PME to analyze the role played by education and the evolution of individual family earnings risk. A section is devoted to addresses the subjective dimension of well-being. It uses the Gallup international surveys data on life satisfaction with respect to the past, the present and the future. Finally, the last section presents a summary of social changes observed during Lula´s years and their possible determinants.

[A] Historic Overview

During the last 30 years, changes in Brazilian social indicators based on per capita income such as inequality and poverty have reflected the marked volatility of the macroeconomic environment: until 1994 the source of instability was the rise and failure of successive attempts to stabilize inflation, while after this period the main source of instability was the arrival (and the departure) of external crisis. This chapter argues that to understand the mechanics of these sharp macroeconomic fluctuations, as well as their consequences on income-based social indicators, is key to understanding the role played by various state-sponsored income policies. During the period of inflationary instability, up until 1995, income policies were behind both the core of chronic inflation and stabilization attempts. That is to say, they were part of both the problem and the solutions offered. Anti-inflation plans, such as the Cruzado, Collor and Real Plan just to mention the main plans, tried to interfere directly with the process of price formation - and income determination - through various ingredients such as price freezes, exchange rate policies, wage de-indexation rules and currency changes. Only the *Real* Plan was successful in controlling inflation.

Similarly, besides price stabilization, state-sponsored regressive income transfers are also key to understanding the causes behind high inequality and attempts to fight it in Brazil. More recently, anti-inequality policies, which are other types of income policies have been used, such as

the transferring of incomes directly by the state from the public budget. At this point there is considerable evidence of the changing short-run income inequality role played by specific income policies. We show here that this role offers a diversity of results, depending on which specific policies we are talking about (i.e. CCTs or social security benefits linked to the minimum wage). These impacts may also change over time given the developments observed in the coverage and values of the policy parameters and the economic circumstances.

This redistributive movement is noteworthy since Brazil has been notoriously known as one of the countries with the highest income inequality in the world. After a steep rise in the 1960s, Brazilian income inequality was high and stable from 1970 through 2000, with a Gini coefficient per capita income around 0.6. From 2001 to 2011, however, inequality was in decline. The drop in inequality observed in this ten year period is comparable to the rise observed in the 1960s (Langoni, 1973; Fishlow, 1972; Bacha and Taylor, 1978), as a sort of mirror image. This change reflects the combination of improvements in the labor market performance of low-skilled workers, increasing their respective education attainment and the adoption of increasingly targeted official income policies.

The fact is that Brazilian inflation is the lowest it has been in decades and inequality of per capita income is at its lowest level since 1960, when household surveys statistics on income started to be available. In both cases – stability of prices and equity of results – the so-called income policies have played an instrumental role. A common name, 'income policy,' is shared by redistributive programs and anti-inflation plans. They attempt to target the problem, be it of price stability or income equality. The common aspect is the speed that they impose on the process of seeking objectives. Maybe a function of the capacity of rapidly impacting their targets, both types of income policies were used in fine-tuning with the electoral cycle.

The role of the stabilization plan is now played by redistributive income policies. Obviously, stabilization and redistribution are sides of the same coin, since there is no way to obtain a permanent reduction in inequality with high inflation, although we are talking about necessary

conditions, not sufficient ones. President Cardoso stabilized the currency; President Lula continued this process and redistributed this stable currency through social programs. In the same way that the Brazilian society has taken a long time to learn the importance of macroeconomic fundamentals in the achievement of lasting stability, the achievement of the sustained decrease in inequality depends on other fundamentals – most notably, the equality of opportunities – represented by access to stocks of productive assets such as education and their impactful outcomes.

A final word has to be said on the impacts of keeping macroeconomic fundamentals and on the role played by the confidence shock that occurred during Lula's administration. This reinforced stability played a crucial role for growth and formal employment generation prospects, plus a direct impact on individual well-being.

[A] Income-Based Indicators from PNAD

This section discusses the evolution of poverty and its direct determinants, namely growth and inequality movements, in using PNAD during the 2003 to 2011 period.

Analyzing income-based social indicator trends over different horizons requires the use of complementary databases. The data from the national household survey (PNAD, Pesquisa Nacional de Amostras a Domicílio), mentioned above, is the main source for the analysis of income in Brazil due to its annual frequency, multiplicity of questions and, above all, the constancy of the income questionnaire since 1992. However, there were no PNAD-surveys in the key years 1994, 2000 and 2010, which are crucial for drawing distinctions between the presidencies of Fernando Henrique Cardoso (1994-2002), Lula (2003-2010) and Dilma (since 2011).

To fill in these gaps, the PNAD data is complemented with data from the monthly PME surveys ('Pesquisa Mensal do Emprego'). PME surveys are more restricted in their geographical coverage and use a different concept of income. PMEs only collect data on labor income in the six main metropolitan areas. Labor income, however, is accountable for three quarters of people's income and its form of inequality almost uniformly corresponds to total income inequality. To make PME and PNAD data more

comparable, PNAD (which are collected during the month of September) are compared to September data taken from the PME monthly surveys.

[B] Poverty

Brazilian Poverty series, based on the new PNAD data starting in 1992, show two marked changes in poverty levels in Brazil: one started in 1993 and another one in 2003. The first one is more concentrated in time and is associated with the impacts of the Real Plan (Neri and Considera, 1996). It was followed by a period of relative stability in poverty levels, interrupted only in 1998 and 2002. The fluctuations of poverty that occurred during presidential election years (1994, 1998, 2002, 2006 and 2010) can be seen in Figure 5.1 below:

[FIGURE 5.1 HERE]

Poverty has maintained a continual downward trajectory since the 2003 recession, regardless of the poverty line and measure used. Looking at the period from 2003 to 2011 as a whole, whether we use the measure utilized by FGV, in real terms, or the international lines of the Millennium Development targets of poverty (US$ 2 a day PPP) or of extreme poverty lines (US$ 1.25 a day PPP), all fell more than 55 per cent between 2003 and 2011. Therefore, Brazil met a quarter century's commitment in less than one decade; more than what was anticipated in 25 years was accomplished in eight years.

Of the 56.5 per cent of FGV poverty line poverty decrease shown on Figure 5.1, a little less than half of the decline[4] (42 per cent) was provoked by changes in income inequality, while the remaining 58 per cent is explained purely by growth effects. Without the reduction in inequality, average income would have had to increase almost 89 per cent between 2001 and 2011, for poverty to have fallen that much. The immediate causes of the poverty reduction do not change much depending on the poverty lines that we use.

[B] Growth (Neri 2011)

Looking at the immediate causes of the poverty fall, one should notice that there is a markedly high disproportion between the per capita GDP growth rates and the ones found by PNAD for per capita household income during Lula's term. This means that, not even taking into account inequality changes, the performance of Brazil in this period differs a lot depending on how you look at it. In the period from 2003 to 2011, while the former had average growth of 4.4 per cent per year, the latter rose 3.1 per cent with 1.3 more percentage points per year for PNAD than GDP. In cumulative terms PNAD growth was 40.6 per cent against 27.8 per cent of GDP (Figure 5.2). In other words, between 2003 and 2011, PNAD's average income increased 50 per cent higher than GDP (41 per cent against 28 per cent), which indicates that average lifestyle standards were improving more than GDP suggests. In most other countries the opposite has happened: their respective National Household Surveys indicate lower income growth rates than GDP growth rates.

A new aspect addressed here is identifying the main cause of this recent divergence between the average GDP and PNAD growth: the discrepancy between their respective deflators (i.e. inflation measured by the GDP deflator and the National Consumer Price Index, INPC). The former increased 1.9 per cent per year more than the latter. Recalculating the real GDP performance by people's cost of living would give an average GDP growth of five per cent per year instead of the 3.1 per cent noted for the period from 2003 to 2011. Stiglitz, Sen and Fitousi (2011) emphasize that growth indicators based on the Gross Domestic Product (GDP) should be complemented with household income surveys and consumption data to gauge the evolution of average material life standards. While in the long-term the evolution of aggregates such as the GDP of national accounts and income from the Brazilian National Household Survey (PNAD) may present similar tendencies, they were seriously detached from each other during Lula's terms as president.

[FIGURE 5.2 HERE]

[B] Inequality (Neri and Ferreira, 2012)

The 2000's can be referred to as the decade of the fall in income inequality. After 2001 inequality measured by the Gini Index decreased in all successive years. If we take the per capita household income as measured by the PNAD, group the households into deciles according to size of income and compare the changes in income over the years, we get a clear picture of the reduction of inequality. Between 2003 and 2011,[5] the per capita income of the poorest 10 per cent of households increased by 80.8 per cent whereas the income of the wealthiest 10 per cent of households increased only by 26.9 per cent, nearly one third of what was observed (see Figure 5.3).

[INSERT FIGURE 5.3 HERE]

How does the income inequality development in the first decade of 2000 compare with previous decades? Fortunately, we have studies on income inequality in Brazil for half a century now. They started with the 1960 Census, the first representative household survey to ask direct questions about income. The data from the 1960 Census cannot be applied directly, as it is impossible to deduce the per capita income from the individual income of each household. Because of such limitations, we compare changes of different measures.[6]

Figure 5.4 depicts the development of the Gini coefficient between 1960 and 2011, following an inverted U-shaped process proposed by Simon Kuznets, but with different time spans observed on the rise and fall. The peak of inequality was in 1990. It is interesting to note that inequality levels observed 11 years before and after this date, in 1979 and 2001, are roughly similar while the inequality levels in 1970 and 2003 are exactly the same. In other words, the rise observed in the 1970s was similar to the fall observed in the period between 2001 and 2003. Similarly, the rise of inequality in the first decade of its measurement in the country (1960-1970) is similar to the one observed in the six year period between 2003 and 2009. We can call this

a 360º revolution. At the end of last decade, we went back in inequality terms to where we were half a century before. From 2009 onwards we observe inequality measures lower than the ones observed 50 years earlier.

In short, income measurements must be accompanied by indicators reflecting their distributions. From 2001 to 2011, real per capita income growth, according to PNAD, was that the poorest ten per cent grew 550 per cent faster than the wealthiest 10 per cent of Brazilians (91 per cent versus 16 per cent). Brazil has experienced growth rates comparable to those of China but only for the poor. In developed countries like the USA or England, or emerging countries like China and India, we observe the opposite: inequality is on the rise. In the period from 2003 to 2011, median income in PNAD grew 65 per cent versus 41 per cent in the mean and 28 per cent of GDP.

[FIGURE 5.4 HERE]

[B] Poverty and Growth across Different Political Administrations

Brazilian poverty reduction during the period from 1994 to 2010 has been significant. The country underwent social transformations under both the Fernando Henrique Cardoso (1 January 1995 to 31 December 2002) and Luis Inácio Lula da Silva administrations (1 January 2003 to 31 December 2010). Indeed Brazil in 2010 looks quite different from Brazil in 1994.

Linking the beginning of the Cardoso period to its later years creates some difficulties; Brazil was faced with a hyperinflation that was ended with the introduction of the Real as the country's new currency on 1 July 1994, during the presidency of Itamar Franco and under the authority of Fernando Henrique Cardoso as the Minister of Finance. Comparing the September 1993 or 1994 PME data with the first PNAD income data collection in 1995 ignores seasonal factors and does not fully reflect the distributional impact of the hyperinflation and the introduction of the Real during these months.[7]

The greatest poverty decrease (13.9 per cent), between 1993 and 1995, occurred during Fernando Henrique Cardoso's administration. This was followed by a period of international crises, during which poverty fell an

additional seven per cent until the end of the Cardoso Era, totaling a 20 per cent decrease. If we calculate from when the Real Plan was implemented (July 1994) until 2002, there was a 31.9 per cent decrease in what we consider to be the Cardoso Era.

To assess the impact of Lula's presidency on poverty, we must take PME results from December 2002 to December 2009, by which poverty decreased by 50.64 per cent, and add the findings from the PNAD surveys. Combining PME and PNAD results, poverty decreased by 51.9 per cent during the Lula Era.

[A] Income Policies and Education Roles (Neri, 2009 and Campello and Neri, 2013)

What were the means and policies that led to the reduction of income inequality in the period from 2003 to 2011? This section identifies the effects on the reduction of income inequality. We look at the role of official social transfers, as well as labor income and related issues such as minimum wage and education.

[B] Transfers

Regarding non-labor income, special attention must be paid to incomes directly affected by social policies, such as Social Security benefits, and other non-labor income that includes cash transfers from social programs and capital income.

Social Security is the main component of social income in Brazil, and second only to labor earnings among all income sources collected by PNAD. In 2011, it amounted to 18.3 per cent of all income sources. Social Security benefits include a contributory Pay-as-You-Go old age pension system and non-contributory benefits, both subject to discretionary income policies from the government. Today, Brazil is the country in the Latin American region with the highest transfers of income to the elderly, relative to its GDP. One key policy variable is the progressive differentiation of Social Security adjustments, meaning higher income groups receive lower real gains.

Referring to the short-term aspect of fighting inequality, there is in Brazil a new generation of social policies that are better focused on and more capable of redistributing income than the policies implemented in the past. This includes state-sponsored income transfer policies such as the 'Bolsa Família' and minimum wage adjustments. However, the problem is that Brazil maintains other less effective official income transfer policies when tackling inequality and trying to improve welfare. The government has opted for expanding both new and old policies, and both targeted and less targeted, policies.

How was inequality reduced? By applying a methodology of decomposition of Gini variations into different income sources to the 2003-2011 period, we find that 55.5 per cent of the reduction in inequality in that period is due to changes in labor incomes, followed by Social Security benefits at 21.6 per cent and social programs – especially 'Bolsa Família' and transfers (non-social security related) – at 12.4 per cent. Then follows the Continual Installment Benefit (BPC[8]) at 4.8 per cent and Other Income, such as rent and interest, at 5.8 per cent. That is to say, the lion's share of the decreasing inequality was due to the observed effects of labor market expansion, which confers stability on the assumed redistributive process. Without the redistributive policies sponsored by the Brazilian State, inequality would have fallen 38.8 per cent less in Lula's years.

The sources of income listed above, categorized by relative role in observed inequality reduction in the decade, may also be evaluated in terms of their impact on mean income. As a result, we may be in a position to assess the amount of money involved in each: Labor (79 per cent), Social Security (17.4 per cent), 'Bolsa Família' (2.2 per cent), Continual Installment Benefit (BPC 1.75 per cent) and Other Income (-0.47 per cent).
Note that because public transfers, such as BPC, 'Bolsa Família' and Social Security, correspond to funds derived from the federal coffers, relative effectiveness can be evaluated in terms of the impact of each Real on the decrease in inequality obtained – or, alternatively, vice versa. From the viewpoint of public policy, a combination of the two viewpoints mentioned above (the importance of each source of income for income and for inequality) enables us to generate a useful measure for analysis of the fiscal

cost versus social benefit ratio in terms of the observed equity gains. The ratio varies by source of income. Each percentage point of reduced inequality in the 2003 to 2011 period cost 100.7 per cent more via increases in Social Security than via BPC. If all the funds could be channeled to BPC (instead of Social Security) with the same distributive impact, inequality would have fallen twice more than it did via the chosen allocation.[9]

Likewise, the fiscal cost versus distributive benefit ratio of 'Bolsa Família', which is a little less than half that of the BPC for the 2003-2011 period, would imply a doubling of the effect were it the channel utilized and its relative performance maintained. In other words, by transitivity, 'Bolsa Família' would produce impacts 345.5 per cent greater than Social Security, provided that the same technical relationship could be maintained throughout the period.

From this analysis we can also calculate the differences in the cost-benefit ratio between the two sets of programs. While Social Security has had somewhat higher effects on the reduction of income inequality than 'Bolsa Família', public financing of social security benefits has been six to seven times the amount of payments through 'Bolsa Família'. Overall the additional cost for the fiscal budget of each percentage point of inequality fall was 345.5 per cent more expensive for Social Security than for 'Bolsa Família' in the 2003 to 2011 period (IPEA and MDS, 2013).

[B] Labor

The labor market provided the main means for reducing income inequality (56 per cent of the inequality fall and 79 per cent of the income growth observed from 2003 to 2011). This is due to various reasons, such as expanding employment, moving labor from informal to formal employment and reducing inequality within labor by increasing minimum wages (see Figure 5.5), which also affects social security payments as a floor for benefits distributed.

[FIGURE 5.5 HERE]

Neri (1997) shows that minimum wage rises had a major impact on labor market-based poverty and inequality measures in the mid-1990s. However, as minimum wage increases progressed, these effects faded away (Neri, 2007). The most important contribution of minimum wage increases in Brazil was its effect on non-labor income through its linkage to Social Security contributions.

[B] Education

Besides the short run impacts of income policies, such as 'Bolsa Família' and Minimum Wage, the key public policy to understand the long run changes observed in income distribution, meaning both inequality and growth, is educational policy. The educational level of a Brazilian citizen ranks low on an international scale. In 1990, 16 per cent of kids between seven and 14 years of age were out of school, in 2000 they constituted four per cent and today less than two per cent. per cent Translating advances in flows into stocks of schooling took a while; the population with 25 or more years of age had just 7.46 years of study in 2011. However, education attainment has been rising in recent years, and in 1992 the average was 4.98 years, as the Figure 5.6 below demonstrates:

[FIGURE 5.6 HERE]

An analysis of the forces driving the recent rise in mean income in Brazil shows that, everything else being equal, the increase in learning translates into a 2.2 per cent annual gain in income per capita. In turn, the poorest 20% should gain 5.5 per cent in income**.** Such an increase could be considered the educational bonus earned when schools are no longer underdeveloped. As a matter of comparison, the bonus from demographic transition (referring to the expected increase in the population at an active age) was considered today to be around 0.5 percentage points by 2024.

This gain would be even greater for Brazil's poorest, presented with better educational opportunities. We must also consider the benefits of obtaining

quality of education. From this perspective, the average PISA rating[10] applied to 15-year-old students is discouraging. In a group of 64 countries, Brazil ranks 54 in all educational requirements. However, Brazil was one of three countries with the highest rates of change in educational proficiency during the period from 2000 to 2009.

Researchers are seeking to better understand how much students truly learn, as well as the factors that determine their educational successes. Proficiency test scores – such as those from 'Prova Brasil', Enem and Enade – help to provide stakeholders in the educational market with information on how students are performing. Educational targets, such as the Index of Educational Development (IDEB), help to identify what the country wishes to achieve, and what the role of each stakeholder is in this aggregated educational effort. The use of these tests as part of educational targets holds the promise of supporting motivation and transparency on the way to achieving excellence in learning.

The good news is that, lately, citizens have been prioritizing education. Until recently, opinion polls ranked education seventh in the priority list of public policies. However, they now suggest that education has moved up to second place, only trailing behind health.

[A] Subjective Well-Being

Brazilian Household surveys such as the PNAD and PME allow us to gauge the performance of various aspects of Brazilian society over the years, and to analyze its distribution among different groups defined by income, socio-demographic or spatial characteristics. However, the PNAD does not give an idea of Brazilian differences as compared to other countries. Furthermore, the PNAD is a survey that provides measures of objective variables, as they are informed by individuals. If we really want to know the particular Brazilian traits compared to other nations, we have to look at international data. Subjective measures of living conditions, such as those explored in the emerging literature on happiness, do not yet belong to the IBGE (Brazilian Institute of Geography and Statistics) tradition.

Combining objective measures on subjective welfare, based on questions asked during the evaluations people make of their own lives, helps to obtain a broader picture of quality of life in different countries. That is to say, it is not enough to improve life objectively: people have to notice the improvement. Since Brazilian Household Surveys do not typically garner information about people's perceptions, we used Gallup's Global Life Satisfaction Index World Poll from 2006, in which Brazil was ranked 22nd out of 132 countries. Just before Lula´s first term in 2001, (seen retrospectively from 2006) Brazil was ranked in 44th place among 132 countries. As we have seen, Brazil was in 22nd place in 2006. In 2011 (seen prospectively from 2006), Brazil was ranked 1st. Looking at the progression throughout the last decade, we observe a sense of improvement throughout the Lula years.

Did the apparent increase in life satisfaction of Brazilians remain until the end of Lula's years as president? In all surveys analyzed, with an increasing number of countries surveyed – reaching 158 countries in 2010 – Brazilians were still ranked as number one in future life satisfaction. On a scale from 0 to 10, Brazilians give an average rating of 8.6 for expectation of life satisfaction in 2015, overcoming all other 157 countries in the sample (Neri, 2011). Given that the world average is 6.7, Brazilians seem to have ended the Lula Era as optimistic as possible from other countries' parameters.

[A] Sustainability of Changes under Dilma (Neri 2012)

Monthly Employment Survey (PME) allows us to test how much of Lula's Real trends were kept during the first half of the Dilma administration. In addition, based on labor earnings, it is a proxy for the more permanent aspect of income changes. In this section, we use PME to gauge four types of effects, namely: i) the temporal evolution of mean and median labor earnings gross trends; ii) net growth trends, keeping socio-demographic characteristics constant in order to assess the role played by year, as varied by the net labor performance observed; iii) the evolution of returns to education over earnings across years in order to grasp the permanent role played by education; and iv) the use of the longitudinal aspect of PME to

capture the evolution of per capita earnings risk observed at the individual level.

[B] "Mini GDP" x PME

From 2003 to 2011 the discrepancy between cumulative growth rates of GDP with respect to PNAD household income, as mentioned earlier (GDP 27.7 per cent, PNAD mean 40.5 per cent and PNAD median 65.5 per cent), is also observed with respect to PME. PME mean and median per capita in labor earnings in the 2003 to 2011 period grew 45.1 per cent and 66.1 per cent, respectively.

This difference is even higher using data collected by the PME for the two first years of the Dilma administration. Working separately with 2011, per capita GDP grew at 1.7 per cent while mean and median PME real per capita earnings grew 3.7 per cent and 6.5 per cent respectively. The fact that the median is growing faster than the mean suggests that inequality continued its downward trend.

During 2012, while GDP had a 0.9 per cent increase and the per capita GDP had a near zero growth, the per capita work income of households had an increase of 5.1 per cent in comparison with the same period the year before. On the other hand, the median rose 1.45 percentage points more and, using the same comparison, reached 6.5 per cent. This means that the per capita average and median labor earnings reported by the households in the PME increased by around 5 and 6.5 percentage points, respectively, more than the observed per capita GDP growth rates. Labor earnings-based statistics growth indicates that the growth and equality trends initiated in the Lula years have been maintained by Dilma in her first two years.

If PME data is limited in its income concept and geographical coverage, all main shifts in Brazilian income distribution over the past 30 years were first anticipated by it. These include the booms that resulted from launching the Cruzado and Real stabilization plans, 'Lula's Real' after 2003, the effects of the 1997, 1999 and 2008 foreign crises and so on. According to PNAD, labor income corresponds to 77 per cent of household income in national terms and 81 per cent in the six main metropolitan areas

covered by PME. Furthermore, Social Security income was boosted by the 14 per cent nominal minimum wage increase in January 2012 and by the expansion of the 'Bolsa Família', when the Brasil Carinhoso program was launched in May 2012. From October 2011 to October 2012, with inflation already deducted by INPC, the total sum of benefits paid by the National Social Security Institute (INSS) increased 7.1 per cent (MPS, 2012) and the family allowance by 13.2 per cent (MPS, 2012). In other words, growth estimates restricted to labor income are somewhat conservative.

[B] Year Effect

With the PME microdata from 2003 to 2012, we conducted a per capita household income Mincer regression controlled by socio-demographic features – namely gender, age, skin color, metropolitan area, position in the family and education – in order to separate time effects from changes in the observable characteristics in question. The data shows that controlled income has been growing each year and the largest leaps occurred in fact between the two last years of the series (Figure 5.7). That is, even comparing the same type of people in different years, 2011 and 2012 cannot be considered anything but favorable years in terms of per capita earnings growth. The cumulative gain up to 2012 was 42.7 per cent, indicating an increase of little more than seven percentage points with respect to the previous year.

[FIGURE 5.7 HERE]

[B] Returns of Education Effect

Another temporal effect that we analyzed incorporates into the Mincerian equation frameworl mentioned the year variable interacting with the one referring to completed years of schooling brackets. The objective is to capture the effect of changes in returns to schooling. If we analyze the highest category, of 11 or more years of study, compared with people with one year or less of schooling used as the reference basis (omitted variable), we find a drop in the higher education premium from 2004 onwards. In

2012, the accumulated drop of the education premium compared to 2002 is 28.4 per cent. Between 2011 and 2012, the drop is 3.4 percentage points, a sign that that year still contributes to reducing inequality in education, no less than any other year in the series (Figure 5.8).

[FIGURE 5.8 HERE]

[B] Family Earnings Risks

Another possibility arising from the longitudinal structure of the PME, which accompanies the same families across time, is to measure the income risks associated with the newly-acquired living standards. In particular, we verified the proportion of people crossing the median per capita income line.

The likelihood of crossing the income median in an upward direction, in this period, generally increased from 2002 and 2012. It moved up from 18.4 per cent between 2002 and 2003 to 22 per cent between 2007 and 2008, slightly dropping during the 2008-2009 crisis and rising sharply ever since: 25.8 per cent (2009-2010), 27.7 per cent (2010-2011), until culminating in 30.1 per cent between 2011 and 20122 (Figure 5.9).

[FIGURE 5.9 HERE]

The risk of downgrade, measured by the probability of moving downward through the median, is weakening as time goes by. It has halved from the 24.2 per cent observed during the 2002-2003 recession to the 13.4 per cent registered in 2007-2008, on the eve of the crisis. Even after the crisis, such statistics flat-lined to around 12 per cent, achieving 12.1 per cent between 2011 and 2012.

Similar to the income level analysis based on the PME longitudinal data, we examined the per capita household income analysis above and below the median, controlled by socio-demographic characteristics such as gender, age, skin color, metropolitan region, position in the household and education, in order to separate the time effects of these changes from those

in the observed socio-demographic characteristics. The controlled results demonstrate even more strongly than the uncontrolled results that the transitions to below the median reached their lowest between 2010-11 and 2011-12, while the upward transitions peaked during the last two-year period.

In short, considering the median as a benchmark, the probability of a drop in income has flat-lined in recent years at the bottom line of the PME series, while the probability of rising has never been so high. In addition to being a period of relative stability of reported income for each individual, 2012 has been characterized by people having the best chance of moving upwards.

[A] Conclusions

Figure 5.10 synthesizes the main elements of the social transformations that occurred during President Lula's years in office.

[FIGURE 5.10 HERE]

The scheme divides the different public policy channels into growth and equality effects and their final outcomes on poverty and well-being (Kakwani, Neri and Son, 2010), starting with inequality channels, where income policies such as 'Bolsa Família' and Minimum Wage played important roles in explaining the observed changes. However, our results show that the fiscal cost incurred for each percentage point fall in the Gini coefficient was around 362 per cent higher with Social Security transfers than with 'Bolsa Família', which means bigger effects of the later on the binomial social justice and macroeconomic stability.

The education bonus, keeping other variables constant, explains the 2.2 per cent mean income growth per year, while the same statistic for the 20 per cent poorest is 5.5 per cent. Besides the significant effect of education on inequality, the price of education also fell (as shown by PME data) and thereby reinforced the impact. In addition to education impacts

through redistributive and growth channels, there is also a direct effect on well-being through the empowerment of individuals.

Finally, a sort of confidence shock was given during the start of Lula's administration. This confidence shock played a crucial role for growth and formal employment generation prospects, plus a direct impact on individual well-being derived from the increased ability to foresee the future.

To sum up, we may say that the Brazilian economic progress in the Lula Era does not constitute a growth spectacle in terms of GDP growth but growth of household income especially for those on the basis of income distribution. This movement is sustainable, not only in terms of objectivity from the Brazilians interviewed in their homes, but also taking into account their subjectivity. Among all countries, Brazilians reported in 2010 the highest level of expectation with respect their individual life satisfaction. To understand Lula's success in making his successor, one may paraphrase Carville in describing Brazil as such: "It is the social, companion".

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[2] Defined as the share of the population with an income below 155 reais in September 2011. Average Brazil prices adjusted for regional differences in the costs of living. See Ferreira, Lanjouw and Neri (2003).

[3] While Cardoso's original Real started in 1994 (before his presidential term) with the launch of the Real Plan under his supervision as Finance Minister, Lula's Real started after a confidence shock and macroeconomic adjustments were implemented in the first months of his first term. The division between administrations is cumbersome given PNAD's limitations; it is conducted in a single week in September. PNAD restrictions in 1994 and 2010 in the year before Cardoso first presidential mandate and also in the last year o Lula's second mandate.

[4] The definition of poverty developed by Ferreira, Lanjouw and Neri (2003) and by the Center for Social Policies at Fundação Getulio Vargas (CPS/FGV) is used here. It incorporates updated regional differences in costs of living that affect purchasing power. The highest criterion for access to 'Bolsa Família' 2011 per family each month (with average Brazil prices adjusted for regional differences in the costs of living) is relatively close to the CPS/FGV regionally adjusted poverty line.

[5] PNAD did not make field trips in the Census years 2000 and 2010. Therefore, we are only able to know, according to PNAD data, what happened in 8 of the 10 years of the decade.

[6] The concept that Carlos Langoni used in his seminal work, in 1973, was individual income. Langoni's work is still surprisingly up-do-date in its methodology to cover the most recent data. and conclusions, if the deciles order are inverted.

[7] According to PME data, poverty increased 6.6 per cent from September 1993 to September 1994 and decreased 16.9 per cent from September 1994 to September 1995. If we incorporate the instant reduction effect the implementation of the Real imposed by

vanishing the ‘inflation tax’ which particularly affected the poor, it shows that poverty decreased by 22 per cent between September 1994 and September 1995.

[8] The BPC program is directed at older people (over 65 years of age) and people with disabilities, both low income, with a criterion of per capita family income below one fourth of the monthly minimum wage. The transferred amount corresponds to one monthly minimum wage and, unlike ‘Bolsa Família’, can be cumulative among the members of a single family. Thus the BPC is another channel of impact of the policy of minimum wage readjustments.

[9] This type of analysis assumes zero administrative costs, and is merely retrospective. To apply it in a prospective manner would imply maintaining an unchanging ratio, not taking into consideration broader interactions in the general equilibrium.

[10] Program for International Student Assessment.