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The Behavior of Poverty and Inequality in Brazil the in Last Forty Years

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Abstract

This paper documents the evolution of poverty and inequalities over the last four decades using consistent data from the Brazilian Household Surveys (PNADs). We show that poverty declined substantially over the period, because of growth, economic stabilization, education and the minimum wage. We then describe the behavior of inequality, focusing on three income strata: the poor, middle class and the rich. We show that there has been a notable improvement in educational access in Brazil since the 1990s, especially for pre-school and high school. Regarding the labor market, there was a marked increase in wages of the poor and the middle classes between 2001 and 2013, which can be linked to educational improvements and to the increase in the value of the minimum wage. This increase in wages, added to the reduction in the number of individuals per family, the greater insertion of women in the labor market and the expansion of social spending, culminated with an increase in the per capita family income among the poor. This rise in income is reflected in the rising share of poor families that own basic household assets, such as a refrigerator and a bathroom inside the household. With respect to public infrastructure, piped water and electricity reached near universal access. Sewage treatment, nevertheless, is still beyond the reach of half the households in the country. We conclude that the lives of the poor have improved in the last forty years, but Brazil still has a long way to go decrease inequality of opportunities.

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1) Introduction

Brazil is extremally unequal. Recent data (Assouad, Chancel and Morgan, 2018) show that while the top 0,1% in the income distribution earn around 6 million euros per years both Brazil and in Europe, the bottom 50% earn 14,000 euros in Europe, but only 2,500 in Brazil. The earning ration between the top 1% and the bottom 50% is 29 in Europe and 102 in Brazil. But poverty and inequality were even higher in the past. This paper uses forty years of data from household surveys to document that changes in poverty and several dimensions of inequality over this period. We also describe the most important economic changes that took place and try to relate the evolution of inequality with these policies, without worrying about econometric identification. We also highlight the most important debates that were carried out in the period.

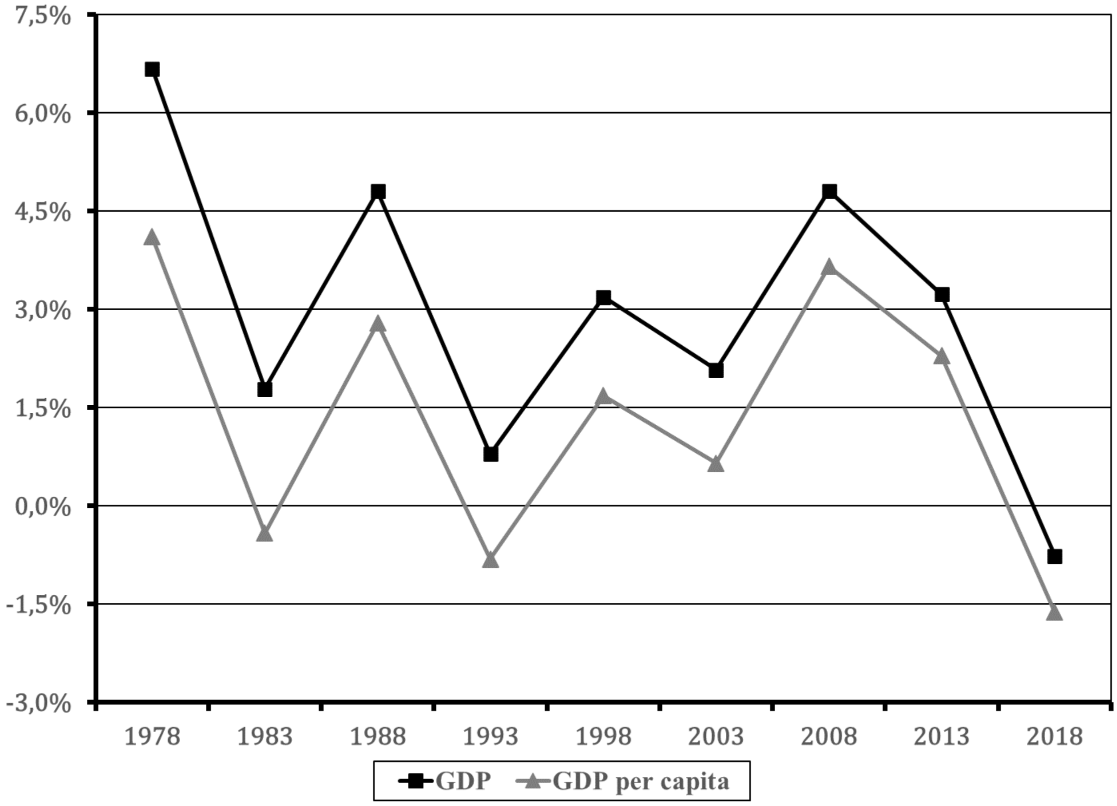
2) Economic Background

In the past 40 years, Brazil has gone through a series of inflections in the political, economic, and social landscapes. In this section, we try to summarize the main changes that took place in this period, which will be particularly important to understanding the evolution of Brazilian inequalities that will be described in the next section. In this case, a good support for the delineation of this historical panorama is the evolution of the average growth rates of GDP and GDP *per capita*, according to the five-year periods considered in this study, as shown in Graph 1.

The first subperiod of these forty years, between 1978 and 1983, was marked by the 1979 oil shock, responsible for a deterioration in the terms of trade of the Brazilian economy as well as for the inflationary escalation. In addition to this external shock, the change in the USA monetary policy, with a significant increase in interest rates, severely impacted the service of the Brazilian external debt. In response to the imbalance in the external accounts resulting from these shocks, the government adopted a severe fiscal adjustment policy, raising interest rates, controlling spending and public investments, and deepening direct control of imports (Macarini, 2008). Such policies, which aimed to reverse the deterioration observed in the balance of payments, led the country to a recession.

In turn, there has been a significant improvement in the economic situation and in external accounts started in 1984, driven by the expansion of Brazilian exports, largely absorbed by the US economy, which was recently recovering. In this way, with the weakening of external strangulation, the success of the adjustment undertaken previously crystallized in the resumption of economic growth. However, despite the recessionary policies undertaken, external adjustment was not concomitant with price stabilization and, thus, the observed economic growth is accompanied by substantial increase in inflation rate, as shown in Graph 2.

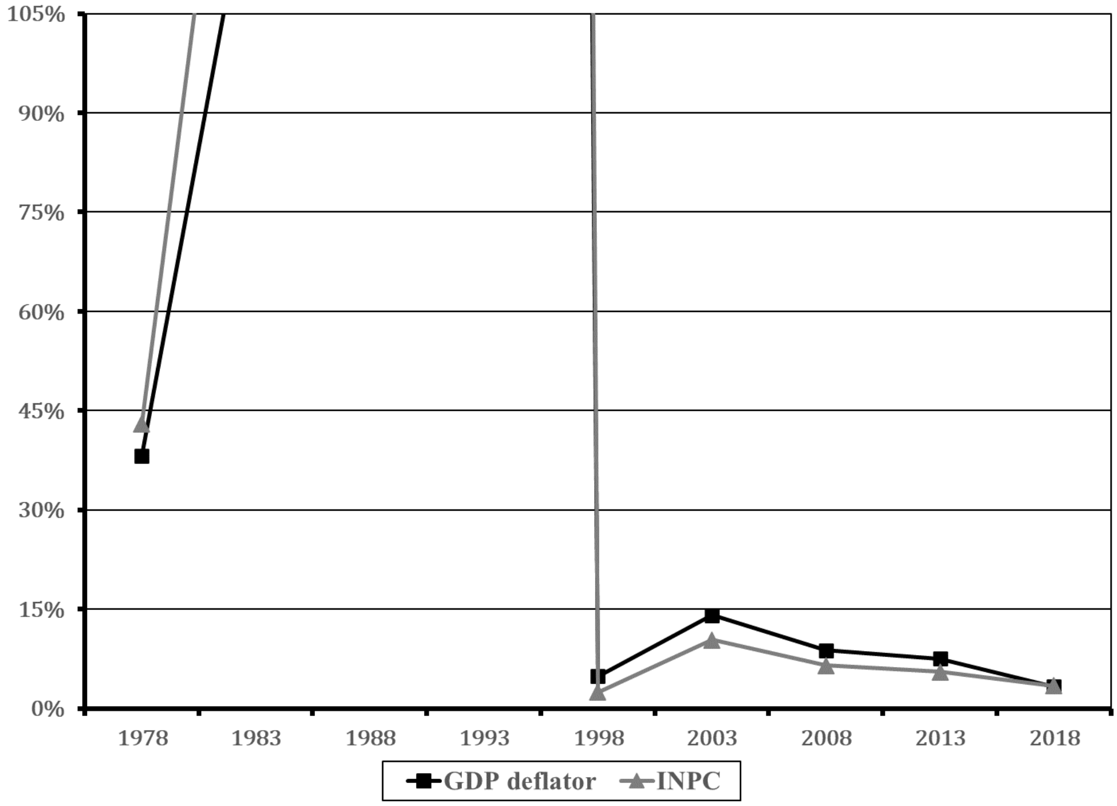
Graph 1 – Average real GDP and GDP *per capita* growth rates.



Source: Central Bank of Brazil and IBGE's "*Séries Históricas e Estatísticas*".

In addition, it is in this period that one of the main turning points in Brazilian history has been carried out: the end of the Military Dictatorship and the re-democratization in 1985. With the return of democracy, the newly inaugurated government takes over under a context of great pressure from civil society for the resolution of the economic problems that plagued the country, in particular, the issues regarding economic growth and price stabilization.

Graph 2 – Annual inflation rate (%). Brazil, 1978-2018



Source: own elaboration based on data from the "Séries Históricas e Estatísticas" and the "Sistema IBGE de Recuperação Automática", both from IBGE.
N.B.: the values for 1983, 1988 and 1993 exceed the limit of 105%, so they do not appear in the graph.

With respect to this last obstacle, aiming to combat the inflationary escalation, but without resorting to recessive measures that could jeopardize the growth of the economy - as in previous years -, the government bet on inertial interpretations of the inflationary process. According to these authors, the cause of Brazilian inflation was linked, mainly, to the high level of indexation present in the economy and, therefore, stabilization plans should focus on deindexation. It is in this sense that the 1986 *Cruzado* plan employs measures, such as price freezing, without attacking, however, the component associated with excess demand in the economy. Thus, despite its success in the first moment, the plan was not sustainable in the medium term, with a further price increase. In the words of Marcelo de Paiva Abreu: "The idea that stabilization could be obtained by a costless trick had obvious political appeal" (Abreu, 2008, pp. 409).

Continuing our analysis, one of the great milestones of the New Republic was the Federal Constitution of 1988, responsible for the consolidation of the democratic regime in the country as well as for the establishment of fundamental rights and guarantees. The so-called “Citizen Constitution”, on the fiscal side, incorporated a series of demands from civil society, crystallized in the form of linking portions of government revenues to social spending. However, the extension of rights concomitant with the permanence of old privileges - such as tax exemptions and subsidies - granted to small groups and the absence of significant redistributive policies has led to a deterioration of public accounts and the enhancement of inflationary dynamics (Souza, 2018). The previous graph shows this intense price increase observed, so that the inflation rate, measured by the National Consumer Price Index (INPC), reaches an astonishing value of around 2489% in 1993.

The 1990s in Brazil also marked a major change in the view of the role of the state in the economy, moving towards greater economic liberalization. In this sense, two expressive measures taken from the Collor government, which can be highlighted in the sense of decreasing the size of the State, were privatizations and commercial opening. With regard to the latter policy, measures have been taken, such as the mitigation of non-tariff barriers, import prohibitions and licenses, and the significant reduction in the average tariff between 1990 and the beginning of 1994, from 32.2% to 14.2 % (Abreu & Werneck, 2014).

Nonetheless, as seen above, it was still necessary to correct one of the biggest distortions present in the Brazilian economy, that is, hyperinflation. After the failure of the Cruzado, numerous attempts were made similar to the one undertaken in 1986, but with even more discouraging results. The use of measures such as the price freeze and the blocking of financial assets has increased the distrust of agents, with their respective destabilizing effects on the economy. It is only in 1994 that stabilization will finally be achieved, with the *Real* plan. Unlike previous attempts, the plan carried out a fiscal adjustment in the federal budget concomitant to a broad monetary reform, which ultimately led to the deindexation of the economy, without using the aforementioned destabilizing measures. In this way, both the structural component, related to the expansion of government spending, and the inertial component, associated with high indexation of the economy, were combated (Bacha, 1995).

The economic stabilization achieved in this period has consolidated itself as a milestone in Brazilian economic history, finally allowing the improvement of several economic indicators as well as the advancement of discussions to other spheres of the economy. The success of the *Real* plan was also reflected in electoral terms and, in this sense, Fernando Henrique Cardoso, minister of finance responsible for assembling and articulating the plan, wins the elections in 1994. It is in his mandate that the expressive effects of the end of hyperinflation enter the scene. During the period between 1993 and 1998, according to the first graph presented, the economy's product grows again after registering a negative average growth rate per capita in the previous five-year period.

Despite the impressive results regarding the fall in price rates and the great optimism raised in civil society, consolidating stabilization would still cost a significant effort for the government. Among the problems arising in this period, the deterioration of public finances stands out. During hyperinflation, the government budget was being controlled by what was called, by Edmar Bacha, as the reverse Oliveira-Tanzi Effect: while government revenues were being preserved by the high indexation of the Brazilian economy, expenses were budgeted by their value thus, when the funds were disbursed, the amount of the expense had already been eroded by the rise in prices. In view of this, with the stabilization and, therefore, the end of this effect, the rapid evolution of government spending became worrying and the need for an adjustment in public accounts came to the fore.

In addition, another problem of this period was the fears about the unsustainability of using the exchange rate as a nominal anchor for inflation, as adopted by the Real Plan. In this sense, the sustained appreciation of the national currency, without a counterpart in the form of containing aggregate demand, could lead to a deterioration in the trade balance. However, the government ended up resisting changes that would incur a high political cost and, with the external shocks arising from the Asian Crisis in 1997 and the Russian Crisis in 1998, the Brazilian economy ends up being strongly impacted. "*Ao permitir que a deterioração das contas externas e das contas públicas avançasse, o governo deixou a economia brasileira especialmente vulnerável aos dois fortes choques externos a que foi submetida*" (Werneck, 2014). This phenomenon can be seen in Graph 1, which shows a drop in the average growth rate of the product in the five-year period started in 1998, directly linked to the low growth in 1998 and 1999.

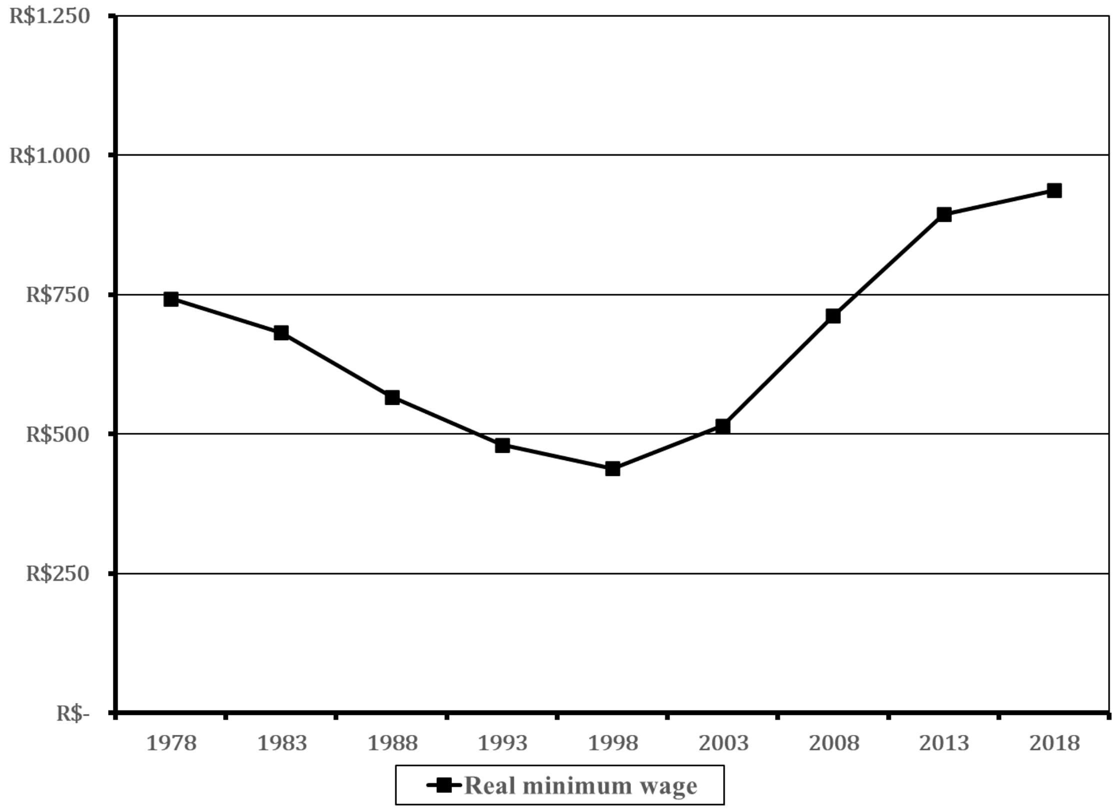
The concern about the exchange rate crisis that resulted from these shocks guaranteed political strength to the government for the execution of a solid fiscal adjustment policy as well as for an institutional reformulation of the economic policy. This last effort was responsible for the consolidation, in letter of law, of the well-known "macroeconomic tripod": floating exchange rate, inflation target and primary surplus. Such an apparatus, built during the FHC government, survived even after the victory of the opposition party's candidate in 2002, demonstrating the solidity of the changes made in the period.

Advancing in this panorama, Lula, of the Worker's Party (*PT*), assumes the presidency in the midst of a crisis of uncertainty that has plagued the country due to the presidential election and the fear of sudden changes in the economy by the new government. This fact can be seen in Graph 2 with the great rise in inflation in 2002, largely due to the exchange rate devaluation resulting from the electoral turbulences, which lasted for 2003. Nevertheless, the newly installed president adopts, in response to this environment of uncertainties, an economic discourse of relative continuity with the policy that had been built in the previous government and, in this way, it manages to calm the agent's fears and restore economic confidence. It is also important to emphasize that both the internal context, with the stabilization undertaken during the previous decade, and the external context, through the growth of the Chinese economy and the resulting "Commodity Boom", were very favorable to the government which, in turn, managed achieve vigorous economic growth rates compared to previous decades.

On the social side, this period was marked by a large inclusion of the demands of the poorest population in the government's agenda (Medeiros, 2016), with expressive results in several indicators. Among them, in Graph 3 it is possible to observe the evolution of the minimum wage over the years. It is notable that even after the end of the dictatorship and the consequent expansion of workers' bargaining power, which is closely linked to the strengthening of the Brazilian union movement, the real minimum wage continues to fall. This is due, to a certain extent, to the economic conditions of the period, marked by the deterioration of public accounts and high inflation. It should also be noted that important advances were achieved through the 1988 Constitution, responsible for setting the minimum wage in law, defining that it should be nationally unified and capable of meeting the basic needs of the individual and his family.

The process of minimum wage increases only starts to take effect from the Real Plan and the consequent end of hyperinflation, which corroded the real values of wages. It is after 2001, however, that this growth increases with the readjustment of wages based on the accumulated inflation in the previous year plus the growth rate of the product in the two preceding years, the so-called minimum wage appreciation policy.

Graph 3 – Evolution of the real minimum wage. Brazil, 1978-2018

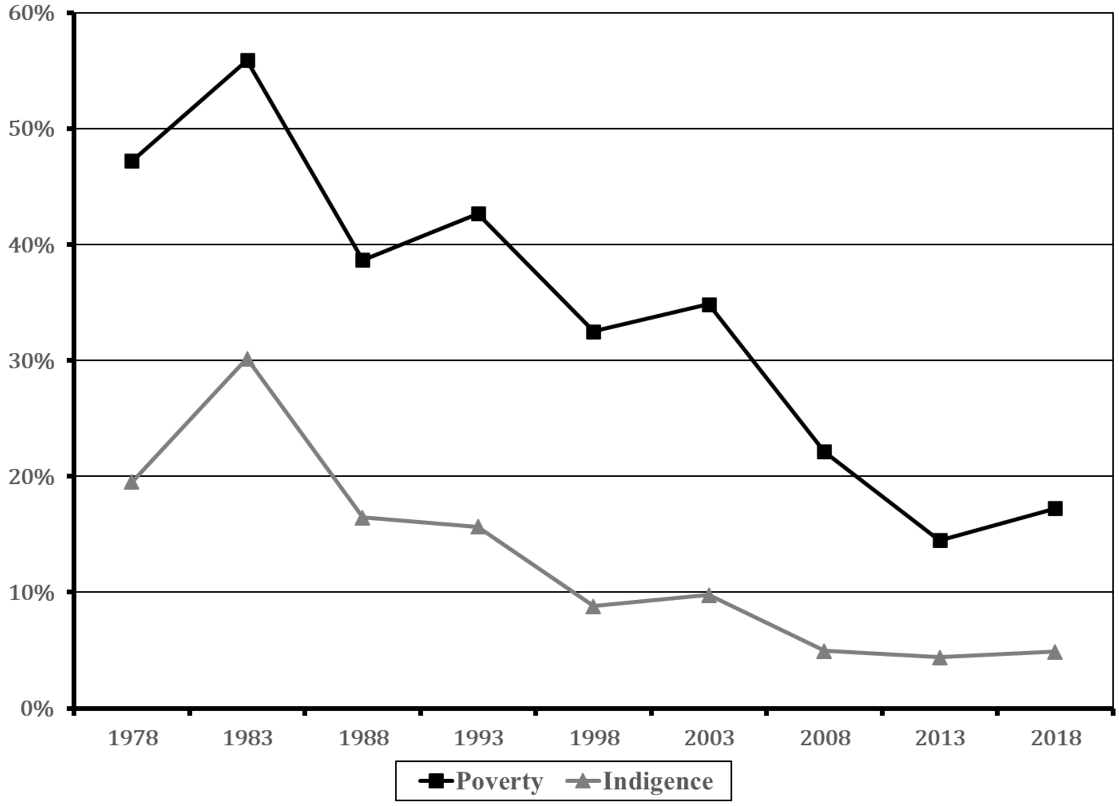


Source: own elaboration based on Ipeadata data.
N.B.: the values were deflated for February 2018.

Another major change undertaken in the period was a substantial decrease of the share of the population who was in a situation of poverty and indigence, as shown in Graph 4. It is worth noting the high poverty rates in 1983, when 56% of the population were unable to cover the costs of meeting their most basic consumption needs (poverty) and 30% did not reach the minimum food consumption necessary for their nutrition (indigence). To a large extent, these indicators are linked to the negative growth in per capita income and, consequently, to the severe fiscal adjustment perpetrated in the previous period, which hit the bottom of the income pyramid more strongly. With the resumption of growth in 1984, however, poverty and indigence started to decline.

It is with the success of the Real Plan and the improvement in income on the bottom of distribution that these rates fall even more. As shown by Rocha (2006), this distributive improvement is linked to three factors: the moderate behavior of food prices after the stabilization plan, the relatively higher rise in nontradeables prices - raising the incomes of workers in the service sector - and the increase in the minimum wage, as seen previously. This fall, however, is partially reversed between 1998 and 2003, a period marked by strong external shocks on the Brazilian economy, exchange rate crisis and consequent fiscal adjustment, as well as by a lower average product growth rate.

Graph 4 –Poverty and Indigence (%) - Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. The poverty and indigence lines used were those of Rocha (1997), deflated using the INPC, general and by groups of products and services.

During the Lula government, a plan to eradicate extreme poverty, *Fome Zero*, gave rise to the *Bolsa Família* Program which, thanks to its excellent targeting (capability of reaching the poorest families in the income distribution *e.g.*, Barros, Carvalho & Franco; 2007), was one of the main factors responsible for the greatest reduction in poverty and indigence observed in our series, a decrease of 36% and 49%, respectively, between 2003 and 2008.

Concomitant to this improvement in material conditions at the bottom of the income pyramid, a number of papers pointed to a decrease in income inequality. Thus, the first decade of the 21st century was marked by great optimism as well as a vigorous resumption of the debate about inequality. This last theme will be the main theme of the next section, where we will outline the main inequality changes observed in the last 40 years.

3) Evolution of Inequalities

In view of the historical panorama described previously, in this section we will use household data for the last 40 years (1978 to 2018) to describe the evolution of Brazilian inequalities in their most diverse facets, not limited only to its monetary dimension. We will divide all families in three groups, based on *per capita* family income. In this way, the 30% with the lowest income are classified as poor, the middle 40% as middle class and the final 30% as rich (30-40-30).

At this point, it is important to emphasize the importance of the consistently collected household surveys (PNADs), carried out the Brazilian Census Bureau (IBGE). The first PNAD was actually carried out in 1967 and in the first few years the results were published quarterly until 1971, when it was switched to an annual survey. The Pnad survey is not carried out in Census years.[1]

During the first decade of these forty years - the 1980s -, the study of inequality is set aside at the expense of the pulsating macroeconomic issues that plagued the country, presented in more detail earlier, especially the foreign debt crisis and rampant inflation. The theme only regained strength at the end of this decade, when several authors used data from National Household Sample Surveys (*PNAD*) to examine the evolution of inequality in the 1980s and 1990s (Sedlacek & Barros, 1989; Camargo & Giambiagi, 1991; Ramos, 1993).

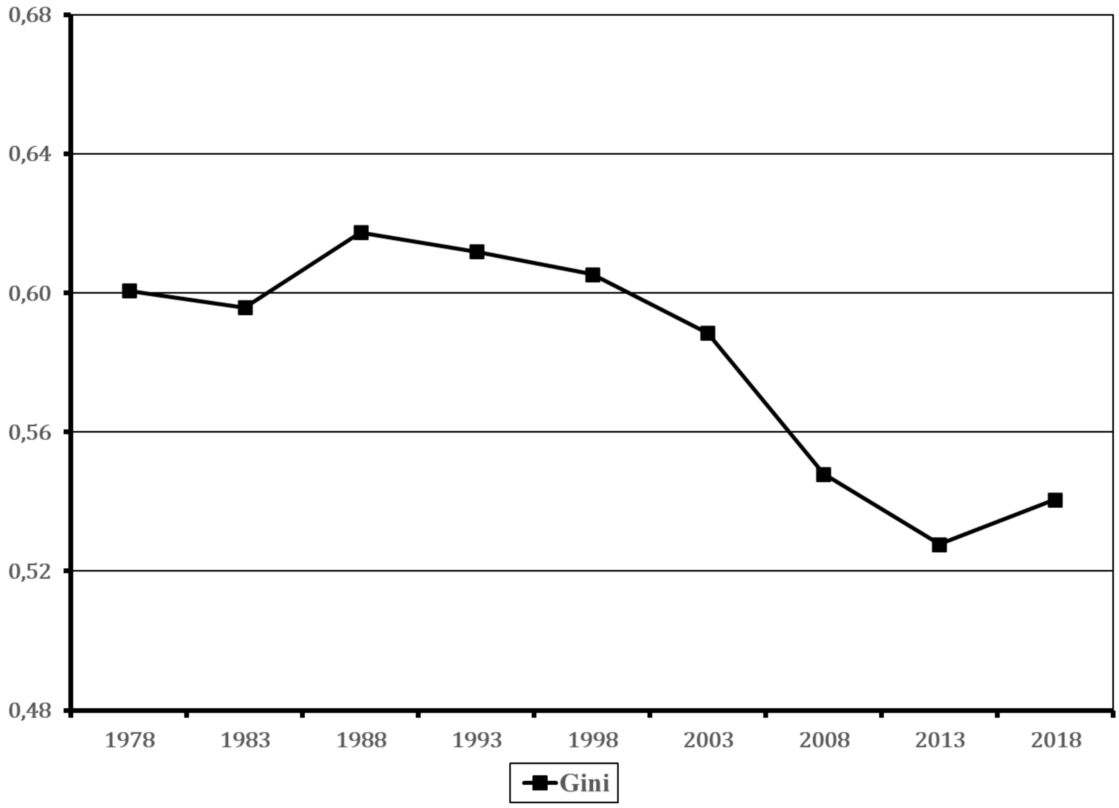
Barros & Mendonça (1995) observed a significant increase in income inequality between 1960 and 1990, marked by the relative impoverishment of the lower strata and the consequent allocation of economic gains at the top of the distribution. However, according to the authors, the acceleration of economic growth in the period compensated for these effects and, thus, there was an increase in well-being embodied in a reduction in poverty.

In this sense, aiming to ascertain the evolution of income inequality, Graph 5 shows the evolution of the Gini Index, measured for family income per capita through

[1] https://www.ibge.gov.br/estatisticas/sociais/educacao/9127-pesquisa-nacional-por-amostra-de-domicilios.html?=&t=o-que-e

PNADs. We can see that there is a positive correlation between inflation and worsening inequality in the period before the 1990s (*e.g.*, Hoffmann, 1998) so that it is possible to infer that a significant portion of the increase in inequality observed between 1983 and 1988 can be associated with the inflationary escalation that marked the end of the 80s. The channel of this effect is related to wage corrosion, especially of the poorest strata, who did not have access to remunerated accounts that protected the wealth of the wealthier population against the effects of the uncontrolled inflation, as well as leading a significant part of middle-income groups to poverty (Barros, Cardoso & Urani, 1993; Bacha, 1995).

Graph 5 – Gini index for family income per capita. Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District.

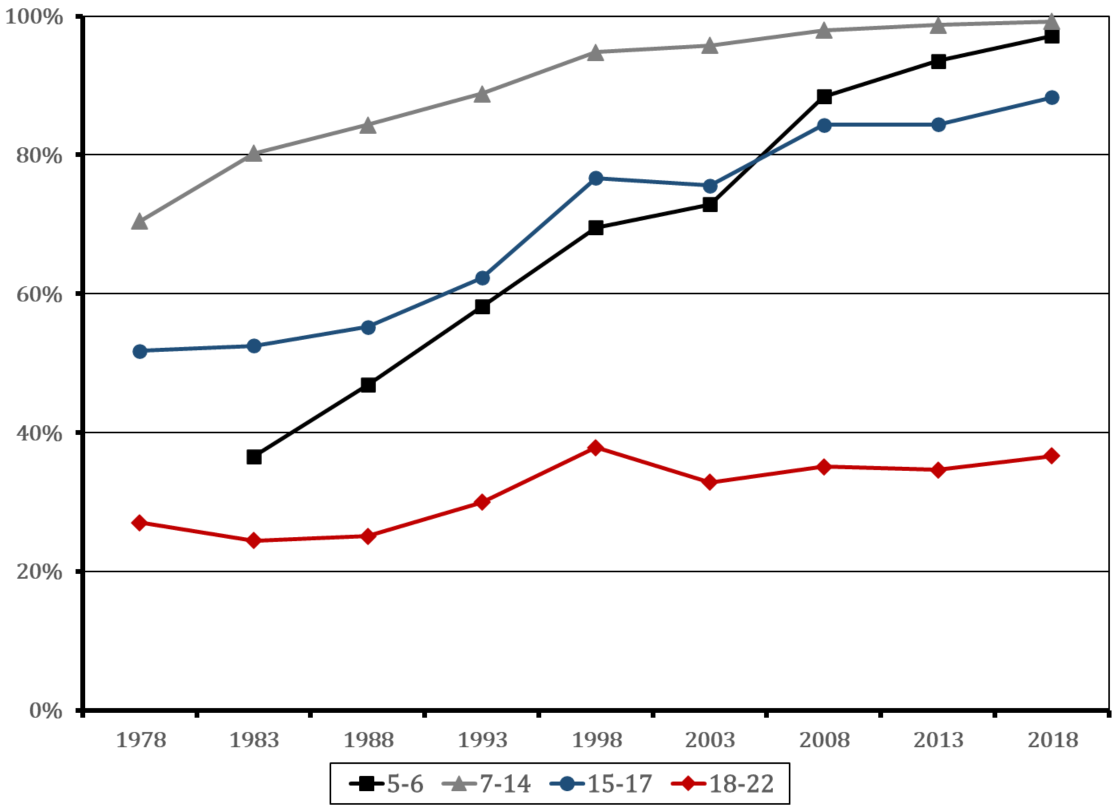
Through the observation of a significant increase in the concentration of income in developed countries, particularly in the United States, the issue of inequality takes a new global dimension since the 1990s. Brazil followed this same trend, but with antagonistic reasons, that is, through the finding of a reduction in income inequality during the first decade after the turn of the century, measured through household surveys. Graph 5 shows a notable substantial drop in the Gini, which started in the 1990s and was accentuated between 1998 and 2013, with the index decreasing by 12.8%. Such a reduction, compared to previous results, caused great enthusiasm in the Brazilian academic environment and brought about numerous interpretations regarding the roots of this phenomenon.

Hoffmann (2006) isolated the impact of different sources of income on this fall. Between 2001 and 2004, the author finds that 69% of the reduction in the Gini index is linked to labor income, while 31.4% is explained by the growth in government transfers. These values change considerably at the regional level, with emphasis on the Northeast region, where 87% of the fall in Gini is attributed to the impact of transfers between 2002 and 2004. Other articles were made seeking to isolate the impact different sources of income to reduce inequality, with similar results (Barros et al., 2006; Soares, 2006).

In view of the consonance of these studies in showing a great influence of income from work as a factor responsible for the reduction of inequality, the causes of the transformations observed in this component have become the object of study. Thus, Menezes-Filho, Fernandes & Pichetti (2007) focused on the labor market to understand these changes. According to the authors, two forces acted on the income differential of men in Brazil: the compression effect, associated with wage differences, and the composition effect, which reflects the evolution of education in the country. In view of this, from 1997 onwards both effects acted in the same direction and caused a reduction in the concentration of income. This result, according to the authors, is a consequence of the advances of the school system and the rapid increase in the proportion of young people attending high school in the country. Thus, it is now necessary to deepen the analysis of the role of education.

Since the beginning of studies about inequality in Brazil - with the debate in the 70s between Fishlow and Langoni - one of the explanatory factors that predominated was education. The great delay in the Brazilian educational development combined with the restricted access to the richest extracts at high educational levels - in other words, a marked inequality of opportunities - contributed greatly to reinforce the inequality in the country's labor market. Graph 6 shows the evolution of school access for different levels of education.

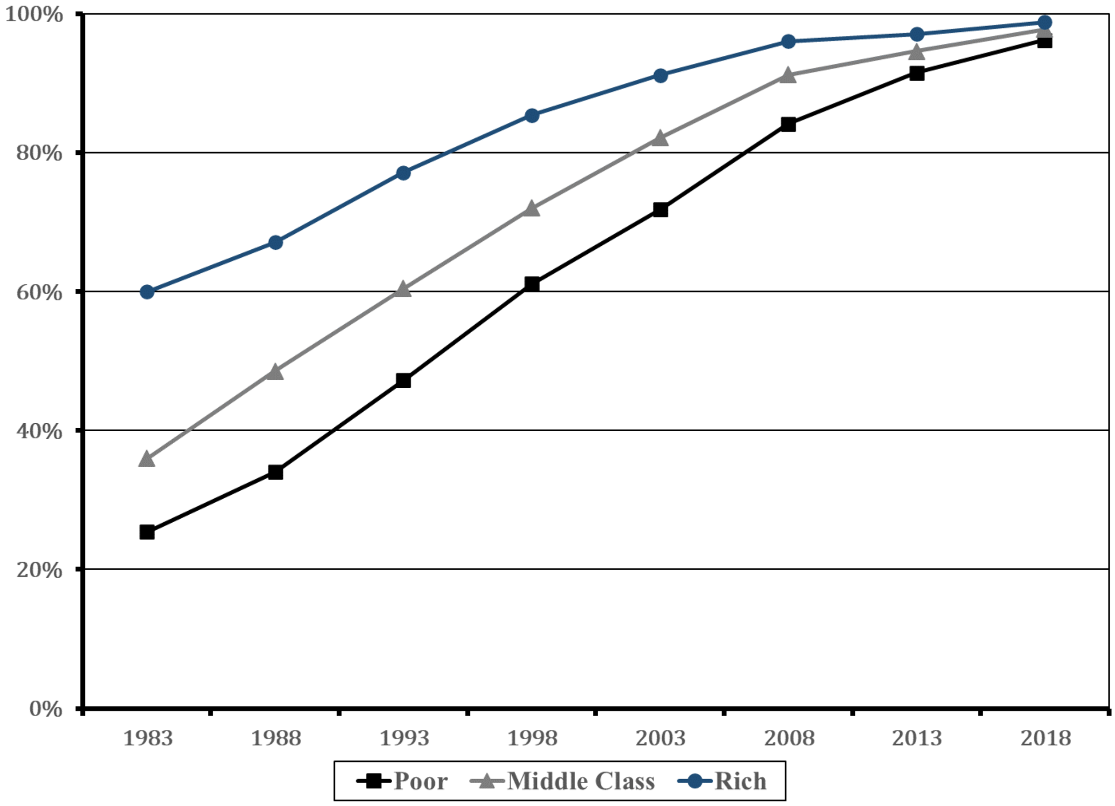
Graph 6 – Population of young people attending schools, by age group (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. The line for young people aged 5-6 starts only from 1983, because in 1978 individuals who attended pre-school were not counted as attending schools.

In the first five years of these forty years, it is evident that the population that attended pre-school (5-6), elementary school (7-14), high school (15-17) and higher education (18-22) was still far from reaching most young Brazilians. This is even more accentuated from the perspective of the division among different income strata, as shown in Graph 7 for Pre-school and Graph 8 for High School. While 25% of poor young people accessed the first educational level, in 1983, that rate was 60% for young people in the wealthiest families. Significant differences are also seen in high school with 39% of poor young people versus 69% of the richest attending this education level.

Graph 7 – Population aged 5-6 attending school, by stratum (%). Brazil, 1978-2018

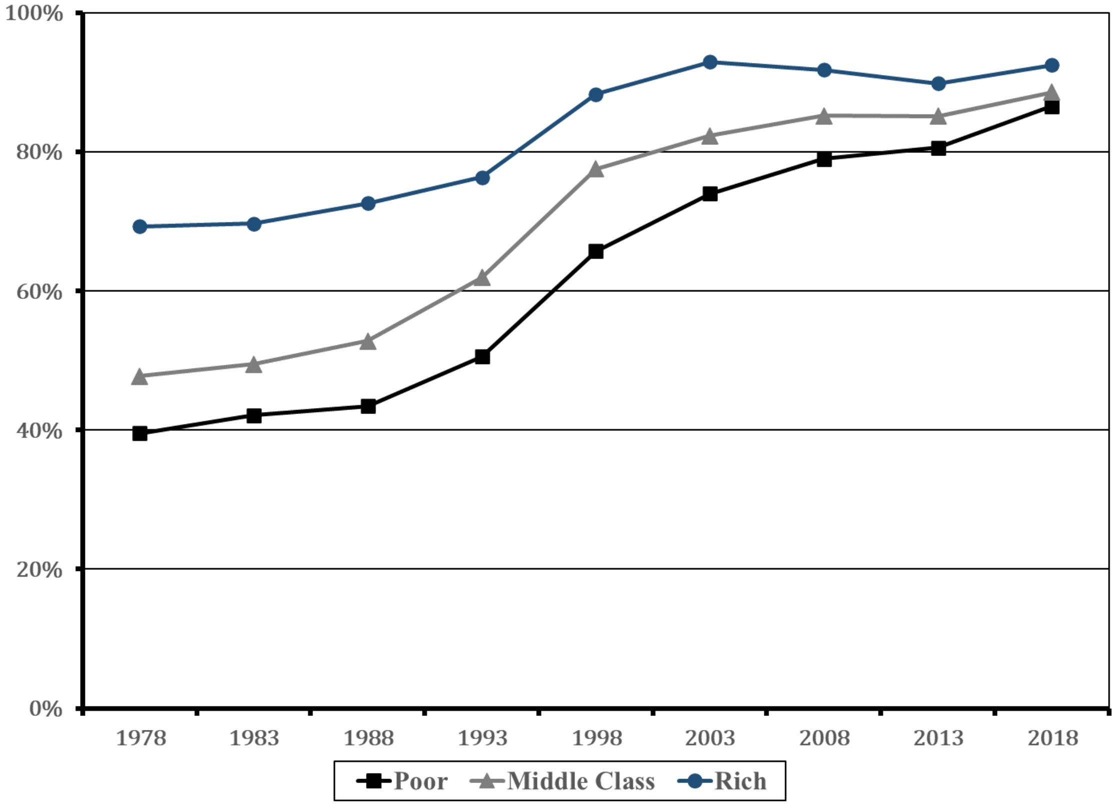


Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. The line starts only from 1983, because in 1978 individuals who attended pre-school were not counted as attending schools.

However, most of these differences are decreased after the 1990s, with a path towards universal access to these two levels. During this period, significant changes took place regarding educational policies. In 1988, with the new constitution, public education expenditures were constitutionally linked, with states and municipalities spending 25% of their revenues in this area. However, the disparities in the amount spent per student between the different regions remained high.

In this sense, a first step towards a greater redistribution of resources among federal entities as well as the establishment of a value per national minimum student is given in 1996, with the creation of *Fundef*. In 2007, this Fund underwent a series of improvements, giving rise to *Fundeb*, which now covers all basic education and not just elementary education. In addition to this factor, others can be cited, such as the cash transfer programs that are condition the students' permanence in school – *e.g., Bolsa Família* –, as well as the adoption of continued progression programs during the 90's. It is thus possible to understand the transformations that led to universal access to pre-school and the large increase registered at the middle level, concomitant to the reduction of disparities across strata.

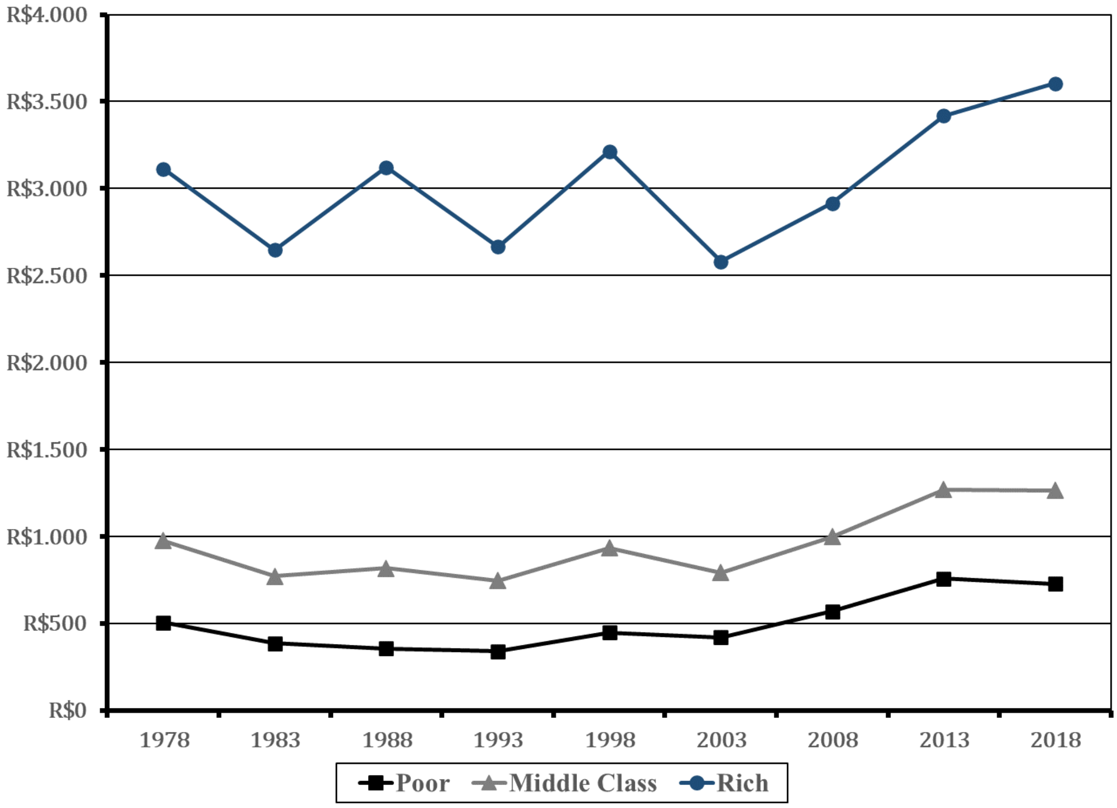
Graph 8 – Population aged 15-17 attending school, by stratum (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District.

After outlining the transformations incurred in Brazilian education, it is possible to establish the link between the evolution of educational access and income inequality in the labor market. In this sense, as pointed out by Menezes-Filho & Kirschbaum (2015), these expressive educational gains achieved in the last decades have boosted the supply of more qualified workers and, in turn, have led to a reduction in wage disparities between individuals with different levels of education. Such a movement, which translated into a drop in income inequality, can be observed through the evolution of wages from the main job, by stratum, as shown in Graph 9.

Graph 9 – Evolution of wages from main job, by stratum. Brazil, 1978-2018



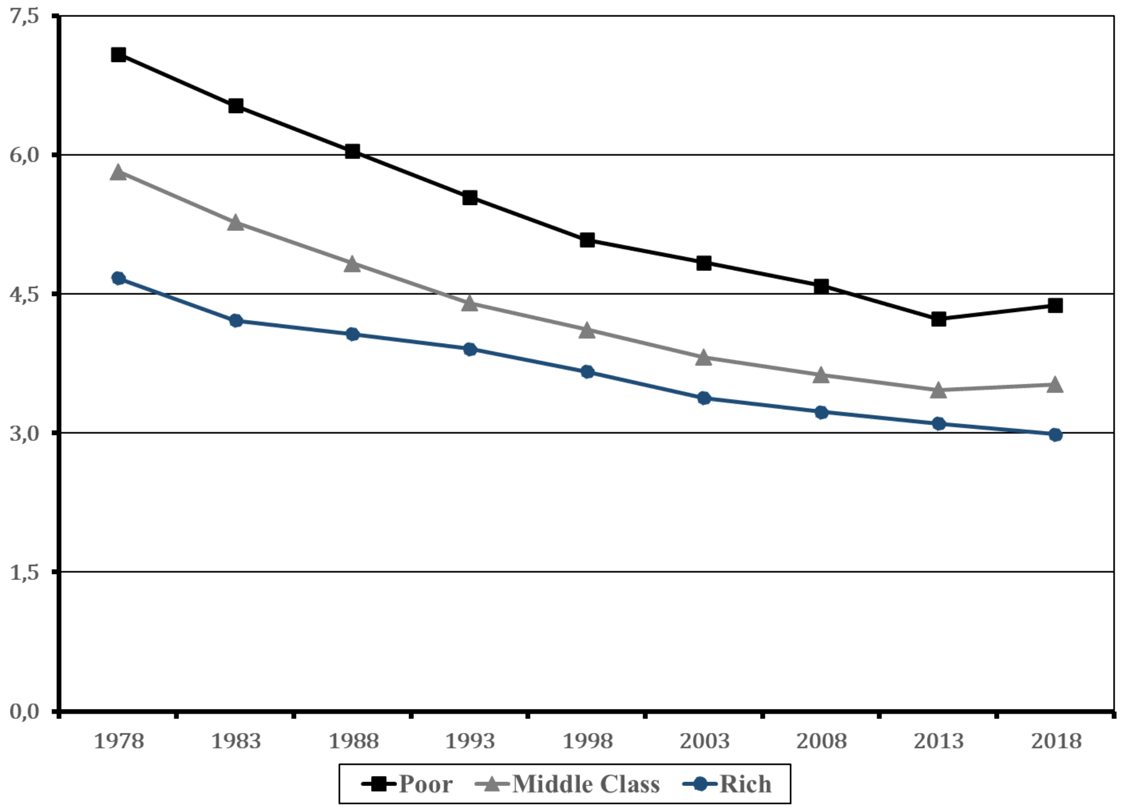
Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. The values were deflated for February 2018.

The wage variations observed above, especially that of the richest, are very similar to the movement in the growth rates of the product - as shown in Graph 1 and dissected in the previous section - for these five-year periods. Thus, periods marked by positive rates of economic growth, in general, also showed wage increases and *vice versa*. Regarding the evolution observed in wages for the entire period, that is, comparing 1978 with 2018, the biggest increase observed is in the labor income of the poorest and the middle class, at 44% and 30%, respectively. The salaries of the richest, in turn, showed a lower growth, of 15%.

The economic stabilization achieved during the 1990s through the end of hyperinflation, the expansion of access to education, especially at medium levels, and the appreciation of the minimum wage - accentuated in the first decade of 2000 -, are important explanatory factors of these changes and that mainly impacted the two lower strata of the income pyramid. Barros, Franco & Mendonça (2007), in turn, present other explanatory factors that reinforced this trend. The authors highlight the decrease in the sectorial and geographic segmentation - in particular the difference between the remuneration of workers with the same characteristics urban and rural municipalities and in the reduction of discrimination by sex and color reflected in labor income.

However, especially since the crisis that started in 2014, the behavior of these curves becomes different: while the wages of individuals in the middle class and the poorest follow the downward trend in GDP, the wages of the richest continue to rise. This latter behavior indicates an absorption of the impacts of the crisis, especially on the poorest population, whose purchasing power falls on a larger scale when compared to the other strata, consolidating a relevant factor for the recent increase in inequality observed by the rise of the Gini in the last five-year period.

Graph 10 – Number of individuals per family, by stratum. Brazil, 1978-2018

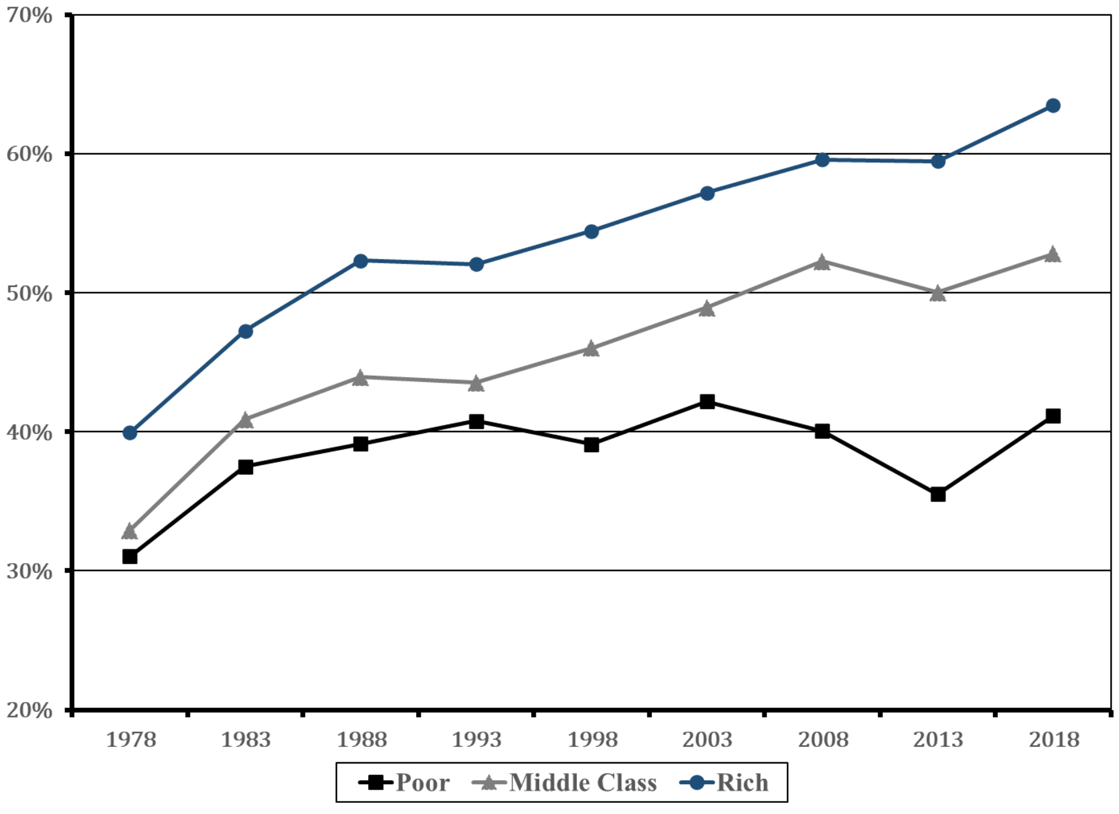


Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District.

Continuing our analysis, we are now going to look at other structural transformations that have developed in Brazilian society and that, together with changes in labor income, have influenced the evolution of family incomes as a whole. Among them, the evolution of the number of people per family stands out, as described in Graph 10. Between 1978 and 2018 the percentage reduction in the number of individuals for the three strata occurred at a very similar rate, an average of 38 %, and with that, at the end of the period the gap between the size of a poor family to a rich one also fell.

Among the possible explanations for this change, we can highlight the significant drop in the fertility rate. In this sense, the introduction of contraceptive methods in the country in 1965, the urbanization of the Brazilian economy, the increase in female schooling as well as a greater insertion of women in the labor market are inseparable factors to understand this fall (Marcondes, Oliveira & Vieira, 2015) and therefore for understanding the reduction in family size.

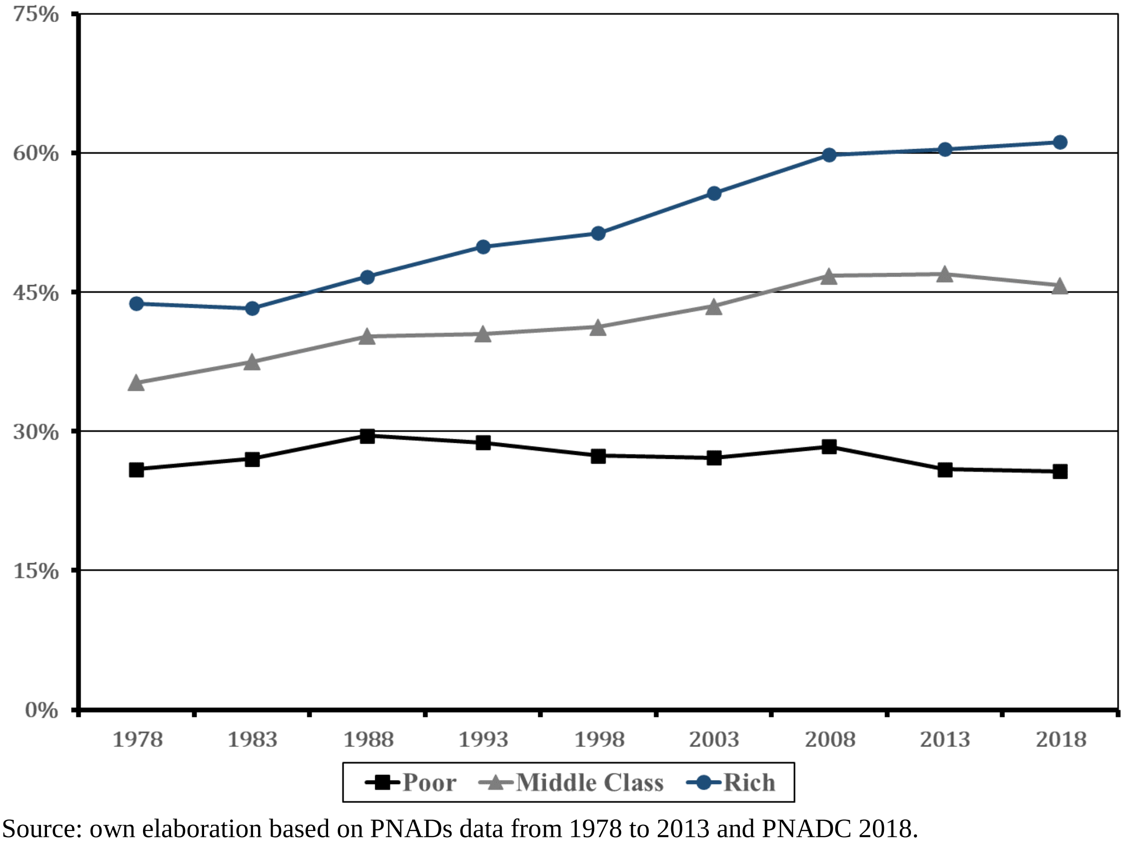
Graph 11 – Women in the labor market, by stratum (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for the compatibility of the Economically Active Population (EAP) among the surveys, the Barreira & Vaz (2016) methodology was used. In addition, individuals who worked less than 15 hours in unpaid jobs and did not seek employment in the reference week were excluded from the EAP, as well as observations from the rural area of the North and Central-West regions were excluded, except for Federal District.

Graph 11 dissects the point raised about the insertion of women in the economically active population, according to the different strata. It is notable, for all strata, an expressive increase in the participation of women in the labor force. However, the percentage increase registered for the middle class and for the wealthier individuals was approximately twice as high as for the poor women. In the same vein, Graph 12 shows the evolution of the percentage of working individuals within families. While this value rose significantly in the period for families in the middle class, at 10 p.p., and among the richest, at 17 p.p., for the poorest the tendency was of relative stagnation. A possible explanation for this phenomenon is the volatility of the unemployment rates of the poor population in relation to the economic cycle, thus being more vulnerable to worsening in the economy.

Graph 12 – Workers in the employed population in the family, by stratum (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for the compatibility of the Employed Population among the surveys, the Barreira & Vaz (2016) methodology was used. In addition, individuals who worked less than 15 hours in unpaid jobs were excluded from the Employed Population, as well as observations from the rural area of the North and Central-West regions were excluded, except for Federal District.

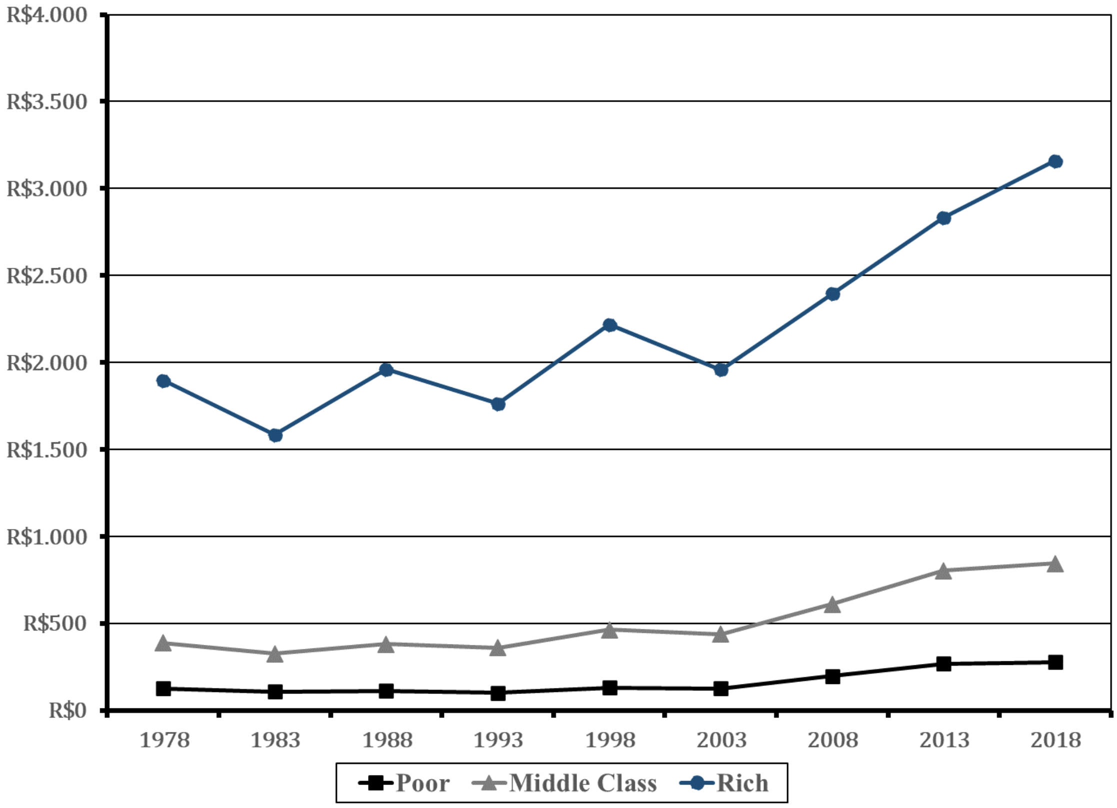
Finally, another factor that influenced the evolution of family incomes as well as contributed significantly to the reduction of inequality in the recent period was income non-derived from work, especially government cash transfers. Barros, Carvalho & Franco (2007) highlight the impact of three of these transfers in reducing income concentration: pensions, *BPC* and *Bolsa Família*. While much of the impact of the first came from a greater equalization of the benefits received, the effect of the others is strongly linked to the expansion of the degree of coverage of these policies. The authors emphasize the great effectiveness of *Bolsa Família* which, despite its low fiscal impact, played a significant role in reducing poverty. To a large extent, this is related to the high degree of focus of the program, reaching the poorest families in the income distribution.

Given the previous information, it is possible to obtain a more holistic understanding of the evolution of household income, as shown in Graph 13. Conspicuously, the behavior of per capita family income follows the direction of the evolution of income from the main job. While the incomes of the poorest families and those in the middle class increased by 121% and 118% over the whole period, respectively, the income of the wealthiest families also rose, albeit to a lesser extent, by around 66%. In other words, inequality fell.

The differences in intensity between the evolution of wages and of the family income per capita across strata can be understood through the demographic changes that took place in the period. The generalized reduction in the number of individuals per family, the entry of women into the labor market, the increase in the percentage of workers employed in families - markedly in the middle class and the wealthiest - and the expansion of social benefits made the increase in household income greater than that observed in wages and benefited the poor more.

At this point, it is fitting to insert a qualification of the data previously exposed through the study by Medeiros, Souza & Castro (2015). Given the well-known underestimation of the income of the wealthiest by household surveys, the authors used tax data from the income tax return to correct the concentration of income seen in the PNADs. The results found by means of this “corrected” Gini index boil down to a greater observed inequality, which remained relatively stable between 2006 and 2012. These data represented an inflection point in the national literature, diverging from most of the authors who saw a reduction in inequality during the most recent period, as shown by Graph 5.

Graph 13 – Evolution of family income *per capita*, by stratum. Brazil, 1978-2018

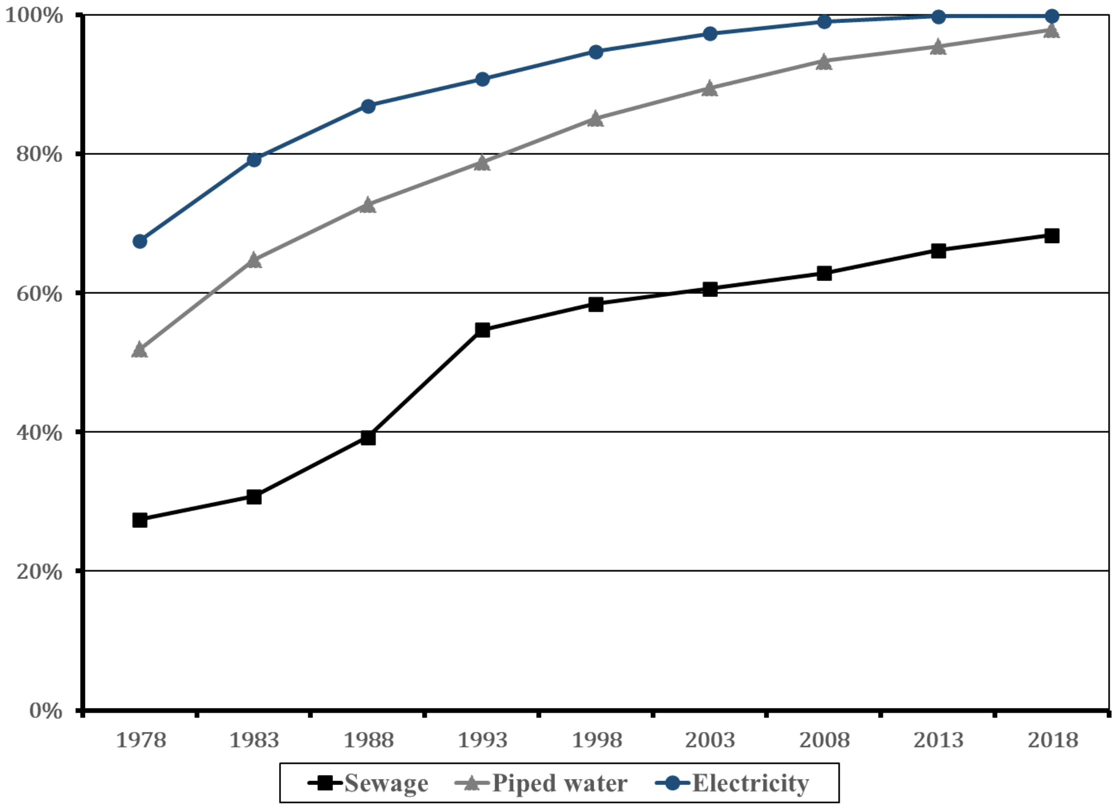


Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. For PNADC, we used the variable related to *per capita* household income. Also, the values were deflated for February 2018.

In view of this note, it is important that the data on the evolution of wages and family income per capita for the wealthiest, presented here, be interpreted with caution, given the underestimation of income in this stratum, especially from the last decile of income. However, despite such qualification, the optimism that was suggested in the academic research during the first decade of the 21st century regarding the fall of inequality in its monetary dimension is appropriate, as the advances achieved in these forty years in its various facets are undeniable.

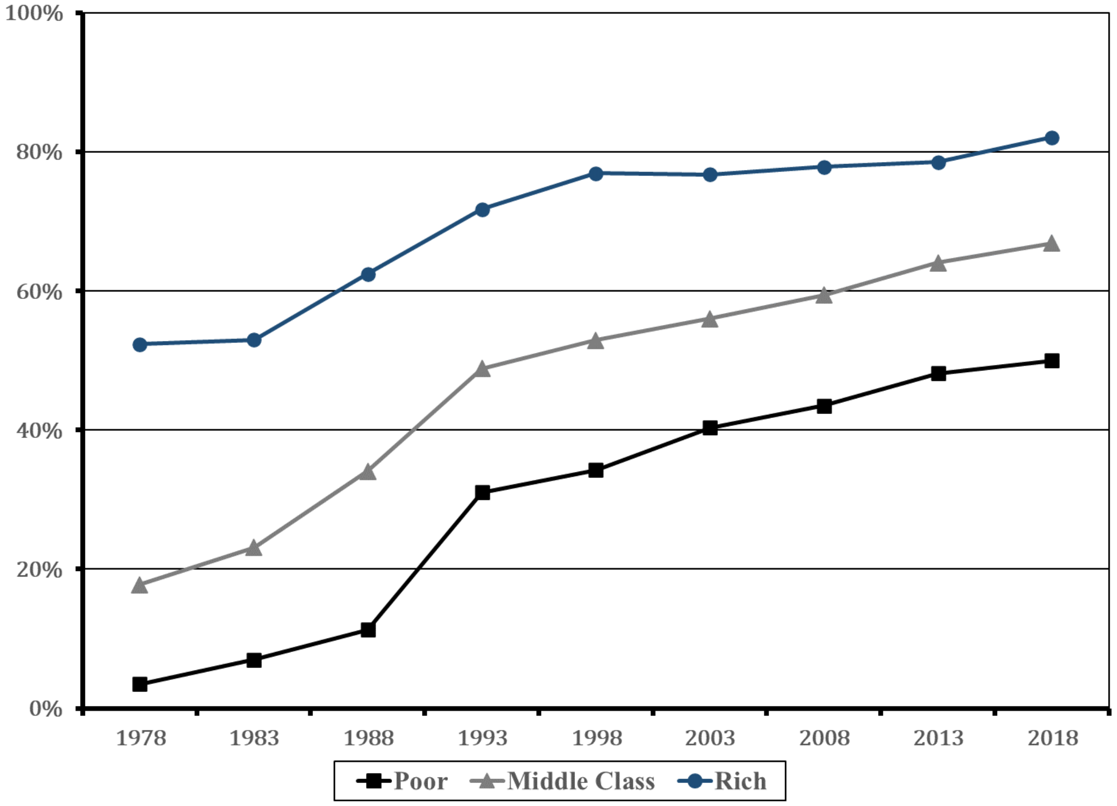
Another dimension of inequality that is crucial for understanding the social and economic changes in the period is the country's infrastructure conditions. Graph 14 shows the evolution of the access of Brazilian families to the main basic services, that is, sewage treatment, running water and electricity. In 1978 the coverage of water and electricity covered, in that order, 52% and 67% of families. However, as noted in the graph, over the past four decades, both services have embraced universal access. This picture is considerably different when we analyze the evolution of sewage coverage in the same period. In the aggregate, access to services went from 27%, in 1978, to 68%, in 2018. That is, there is still a large portion of Brazilian families excluded from this basic service and, at the same time, necessary to human life. The numbers are even more worrying when the division is used from the perspective of strata where, in 2018, 50% of the poorest families are not yet covered by sewage treatment, as shown in Graph 15. This extremely worrying scenario has impacts public health, contributing to a greater proliferation of diseases in the Brazilian territory. In this sense, it is natural that a parallel with the health crisis leveraged by the SARS-CoV-2 virus should be drawn, being one of the several justifications that explain Brazil to be among the countries most affected by the disease.

Graph 14 – Families with access to basic services (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. In the years before 1993, we considered as having sewage and piped water treatment the families whose sanitary sewage was connected to the general network and those with internal plumbing, respectively. From 1993 onwards, families with septic tanks connected to the general network were also included in the first category and, as for piped water, the change started to include observations with piped water in at least one room of the house or those that have only on the property or terrain.

Graph 15 – Families with access to sewage system, by stratum (%). Brazil, 1978-2018



Source: own elaboration based on PNADs data from 1978 to 2013 and PNADC 2018.
N.B.: for compatibility between the surveys, observations from the rural area of the North and Central-West regions were excluded, except for Federal District. In the years before 1993, we considered as having sewage the families whose sanitary sewage was connected to the general network. From 1993 onwards, families with septic tanks connected to the general network were also included in this category.

Figures 16 and 17 in the appendix show the evolution of the share of households with a refrigerator and with a bathroom inside the house by income class. It is astonishing to see the vast increase in the share of poor people with these basic items in the last 40 years, which shows very clearly that life improved among the poor in Brazil over this period. This is not to say that the conditions among the poor are good nowadays, as several problems continue, such as access to high school education, the quality of public education, health early child development, access to formal employment and others. We are still far from equality of opportunities, but we have improved over the last 40 years.

4) Conclusions

The present study sought to trace the evolution of poverty and inequality in Brazil over the last forty years through data obtained by the National Household Sample Surveys

(*PNADs*). To this end, in the initial section, the historical panorama of these decades was outlined, which served as a backdrop for understanding the developments observed in both poverty and inequality.

As for the first, it is notable in these early years of the survey the high rates of poverty and indigence in the Brazilian population. The resumption of economic growth in 1984 contributed to a substantial drop in these indicators, which, however, still remained at high levels. With the Real Plan and the consequent economic stabilization achieved after the end of hyperinflation, a further decline is observed. However, it is in the first decade of the 21st century that the greatest reduction in poverty occurs, linked, to a large extent, to more inclusive economic growth, in terms of more education for the poorest population, and, in particular, with the implementation of the *Bolsa Família* Program.

Regarding inequalities, the second section of this study sought to analyze the evolution of this issue in its most diverse facets, and not only through its monetary approach. During the first five years, the differences observed in education between the poor and the rich, especially at pre-school and high school levels, were substantial. However, as of the 1990s, most of these differences are attenuated with progress towards universal access at these levels. Among the factors responsible for this change, the following stand out: the linking of social spending on education to revenues established by the 1988 Constitution; the creation of Fundef and subsequent improvement resulting from Fundeb; transfer programs conditional on the permanence of young people in schools and the adoption of programs of non-repetition.

From the point of view of the labor market, in turn, an increase in wages is observed to a greater extent for the poor and the middle class in the last forty years. This change can be linked to the end of hyperinflation with the Real Plan, to educational improvements and to the appreciation of the minimum wage, accentuated in the 2000s. Thus, the evolution in wages, added to the reduction in the number of individuals per family, to the greater insertion of women in the labor market and the expansion of social spending through cash transfers from the State, culminated in an increase in the income of Brazilian families in a proportion higher than that observed in wages.

As seen, these changes in the labor market were the main cause of the drop in the Gini Index that started in the 1990s and intensified during the first decade of the new century. However, given the underestimation of the income of the wealthiest by household surveys, with the use of tax data from the IRPF declaration, this reduction in the Gini is mitigated, with a relative stability in the inequality observed between 2006 and 2012 (Medeiros, Souza & Castro; 2015). Thus, the evolution of the income of the richest stratum as well as the reduction in the Gini Index in the last decades should be viewed with caution, which does not cancel out the other improvements exposed by this study. Another inflection that can be mentioned, in a complementary way, is the economic crisis that started in 2014, which affected several indicators, *e.g.* rising poverty, increasing inequality observed by Gini and lower income in the lower strata.

Finally, the last dimension analyzed is that of access to basic services. During this period, access to piped water and electrical energy moved towards universalization in all strata. However, coverage of sewage treatment remains far from reaching the majority of households in the country, especially those among the poorest. Thus, this serious situation observed contributes greatly to the proliferation of diseases throughout the national territory, one of the possible explanatory factors for the country being one of the most affected by the SARS-CoV-2 virus.

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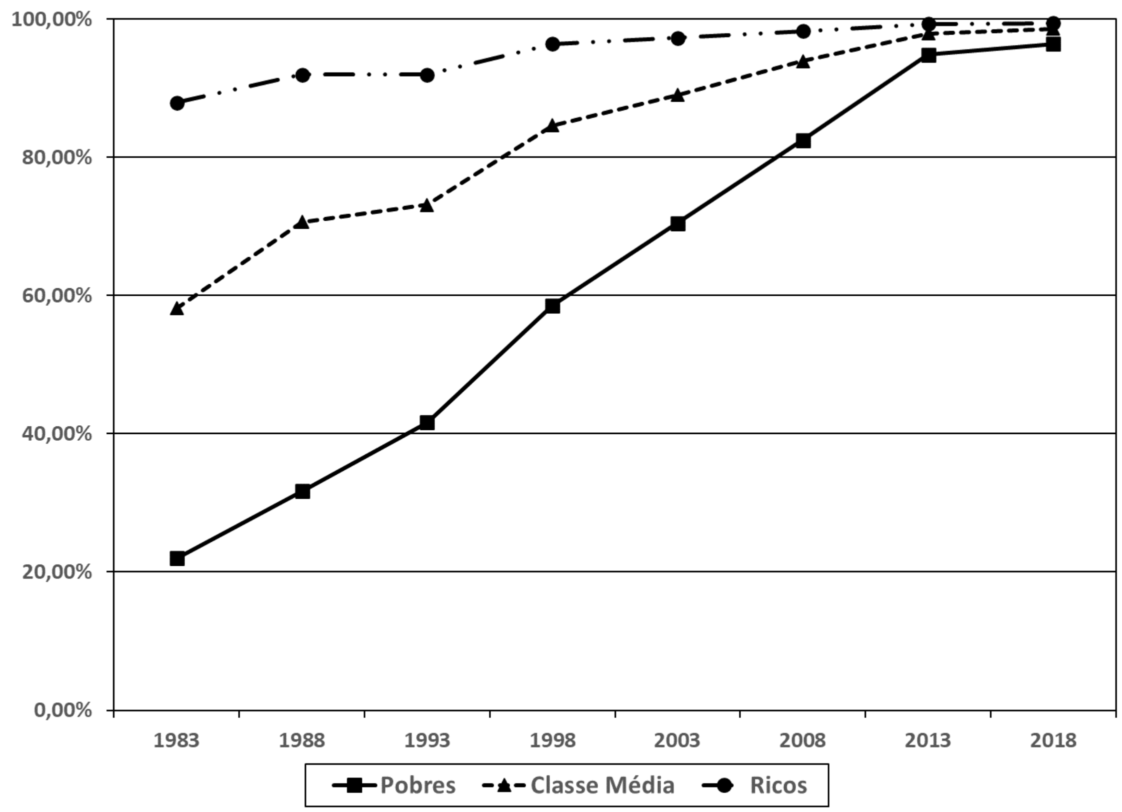
Graph 16 – Families with access to Refrigerator (%). Brazil, 1978-2018



Graph 17 – Families with access to Bathroom (%). Brazil, 1978-2018