

Halving Brazil's Poverty, 1983–2006

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With a population of 189 million and a per capita gross national income (GNI) of US\$8,800.00 (at purchasing power parity [PPP] exchange rates) in 2006, Brazil is a large middle-income country that has long been accustomed to a high level of inequality. At its historical peak in 1989, the country's Gini coefficient for per capita household income was 0.625. Although international comparisons of inequality statistics are fraught with problems, that figure meant that Brazil was the second most unequal country in the world, just after Sierra Leone. One key implication of such a high level of inequality is that Brazil's poverty rate has been higher than that of most other countries with similar levels of per capita GNI at PPP. Using the international poverty line of two dollars a day,¹ Brazil's poverty rate was 21.2 percent in 2004. In contrast, the poverty rate of Belarus was less than 2 percent, Iran's was 7.3 percent, Tunisia's was 6.6 percent, and Turkey's was 18.7 percent. Only Thailand had a slightly higher poverty rate, at 25.2 percent.

Since the mid-1990s, however, Brazil has undergone something of a distributional reversal. Between 1993 and 2006, there was a substantial decline in inequality. While still anemic by emerging market standards, the country's economic growth also improved: after growing at a paltry 0.8 percent per year from 1983 to 1993, Brazilian gross domestic product (GDP) per capita grew at an annual average rate of

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Table 29.1 Incomes and summary measures of inequality and poverty, Brazil 1981–2006

Year	Mean income (reals)	Median (reals)	Gini coefficient	E(0)	E(1)	E(2)	Administrative poverty line		
							Headcount	Poverty gap	FGT(2)
1981	336.7	173.2	0.574	0.613	0.647	1.447	0.296	0.124	0.070
1982	348.5	178.9	0.581	0.629	0.669	1.552	0.293	0.123	0.070
1983	273.4	137.5	0.584	0.631	0.675	1.515	0.383	0.170	0.099
1984	273.2	136.3	0.583	0.626	0.679	1.464	0.379	0.163	0.093
1985	331.7	163.4	0.589	0.649	0.696	1.622	0.317	0.133	0.075
1986	483.6	249.4	0.578	0.620	0.673	1.637	0.185	0.069	0.036
1987	362.6	181.7	0.592	0.666	0.710	1.791	0.297	0.127	0.073
1988	338.9	161.1	0.609	0.714	0.750	1.742	0.338	0.152	0.091
1989	382.7	170.6	0.625	0.757	0.811	2.212	0.315	0.142	0.084
1990	347.3	167.5	0.604	0.700	0.735	1.767	0.328	0.147	0.088
1992	302.3	162.8	0.573	0.628	0.666	1.876	0.325	0.150	0.093
1993	320.7	157.2	0.595	0.678	0.743	2.308	0.326	0.151	0.093
1995	385.7	190.1	0.591	0.659	0.705	1.627	0.277	0.117	0.070
1996	393.9	194.1	0.591	0.664	0.700	1.609	0.273	0.122	0.075
1997	401.2	198.3	0.593	0.668	0.709	1.739	0.273	0.116	0.071
1998	404.0	203.7	0.591	0.658	0.707	1.672	0.251	0.110	0.066
1999	385.8	198.3	0.585	0.641	0.685	1.530	0.256	0.112	0.067
2001	393.4	199.2	0.586	0.646	0.697	1.661	0.258	0.113	0.069
2002	396.3	204.6	0.580	0.628	0.677	1.522	0.245	0.102	0.060
2003	381.2	201.7	0.575	0.619	0.663	1.474	0.249	0.106	0.064
2004	393.5	213.8	0.564	0.589	0.641	1.573	0.222	0.093	0.054
2005	419.6	229.2	0.561	0.582	0.637	1.538	0.214	0.084	0.048
2006	445.2	246.3	0.560	0.584	0.634	1.508	0.191	0.086	0.056

Source: The authors' calculations from the Pesquisa Nacional por Amostra de Domicílios.

Notes: Incomes are monthly household per capita incomes, measured in September 2004 reals. E(0), Theil-L index; E(1) and E(2), Theil-T index; FGT(2), squared poverty gap. The "administrative poverty line" is set as R\$100 per person per month in September 2004 values.

1.3 percent from 1993 to 2006. This was enough to reduce the incidence of poverty by half between 1983 and 2006, from 38 percent to 19 percent (Table 29.1).

This performance is not particularly impressive when compared to the poverty reduction rates of fast-growing Asian economies. Using the two-dollars-a-day poverty line, Thailand reduced its poverty incidence by 62 percent between 1975 and 1992, Indonesia's poverty rate fell 82 percent between 1975 and 1995, and, more recently, China's poverty rate fell by 60.5 percent between 1981 and 2004. Nevertheless, the fact that Brazil reduced its poverty by half is noteworthy because it was accomplished at much lower rates of annual growth. During the periods mentioned, economic growth in Thailand, Indonesia, and China was 6.0 percent, 5.1 percent, and 8.7 percent per annum, respectively. In contrast, Brazil's average

annual rate of growth in GDP per capita between 1983 and 2006 was 1.1 percent. Clearly, Brazil's total growth elasticity of poverty reduction is—or has recently become—considerably higher than those of the Asian tigers.

This chapter provides a brief account of the changes in poverty and inequality in Brazil during the past quarter century, then summarizes the main explanations for these changes that have been suggested in the literature, and finally concludes with the lessons learned.

Brazil's Distributional Dynamics, 1983–2006

After growing rapidly in the 1970s, Brazil's economy stagnated in the 1980s as a result of the Latin American debt crisis. Although there was a brief period of recovery from 1984 to 1986, it was not sustained. The period from 1987 to 1993 was marked by both economic stagnation and hyperinflation resulting from accumulated fiscal deficits and an accommodating monetary policy. Overall, GDP per capita grew by 0.8 percent per year on average between 1983 and 1993.

During that period, inequality (as measured by the Gini coefficient) edged upward from 0.584 to 0.595. As shown in Table 29.1, other common measures of inequality also rose. The sluggish growth and slightly rising dispersion reduced poverty somewhat, but not by very much. Based on an income-based monthly poverty line of R\$100.00 per capita in 2004 prices, poverty incidence declined from 38 percent to 33 percent. Measures more sensitive to the depth and intensity of poverty indicated even smaller declines: the poverty gap fell from 17.0 percent to 15.1 percent, and the squared poverty gap, FGT(2), fell from 9.9 percent to 9.3 percent. All three poverty measures remained higher in 1993 than they had been in 1981, before the onset of the recession of the early 1980s.

Against that background, 1994 was something of a watershed year. Through a combination of the deindexation of contracts and an exchange rate–based stabilization policy, collectively known as the Real Plan, the government finally managed to control inflation, which fell from 2,269 percent in 1994 to 24 percent in 1995 (and to 4.3 percent in 1997). The same year marked the conclusion of a trade liberalization process that had begun with the removal of quantitative restrictions and tariff reductions in 1988. The 1990s also saw a substantial expansion of Brazil's social security and social assistance systems, driven by increases in coverage and in average benefit levels that were motivated to a large extent by the implementation of reforms mandated by the 1988 Constitution. In the 2000s, these programs were complemented by a large national conditional cash transfer (CCT) scheme known as Bolsa Família.

With growth picking up a little and inequality dropping, poverty reduction accelerated. From 1993 to 2003, poverty declined by 2.7 percent per year. Between

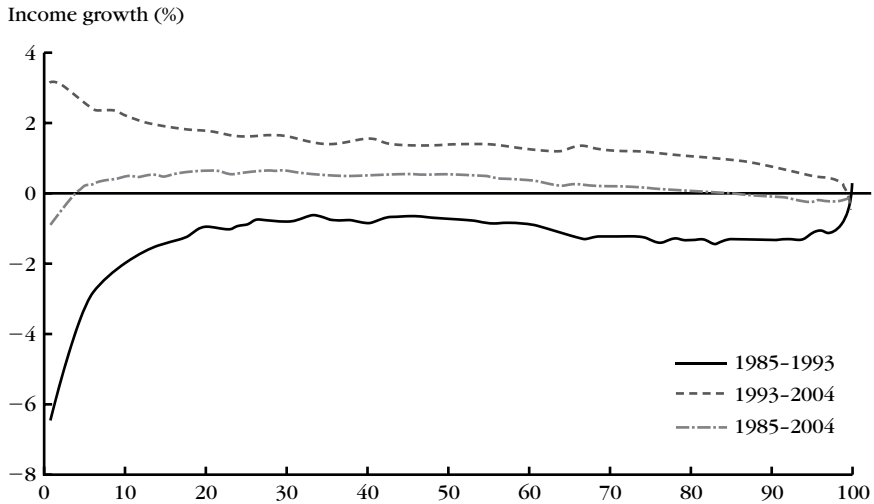
2003 and 2006, the average annual rate of decline was 8.5 percent. The poverty gap fell from 15.1 percent to 8.6 percent between 1993 and 2006, while the squared poverty gap fell from 9.3 percent to 5.6 percent.

It is important to note that the magnitude of the decline in poverty between 1993 and 2006 depends on the specific poverty line that is used. Researchers using a poverty line that allows for spatial differences in the cost of living across states report a much smaller rate of poverty reduction. However, that poverty line fixes cost-of-living differentials at their 1996 values, so it does not represent an unambiguously superior alternative. In the absence of continuous monitoring of spatial price differences, arguments can be made for either poverty line. The reader should be aware that although Brazil's poverty reduction is qualitatively robust to those differences, the magnitudes do vary appreciably, and the rates of decline reported in this chapter are at the higher end of the interval.

Having said that, nothing can illustrate the contrast between the pre-1993 and the post-1993 subperiods better than a comparison of their growth incidence curves (GICs). A GIC simply plots the rate of income growth between two points in time for each percentile of the income distribution against the percentile rank. Figure 29.1 depicts the *annualized* GIC for Brazil during two different periods: 1985–1993 and 1993–2004. The contrast is stark: incomes fell almost everywhere along the distribution in the first subperiod, although relatively more for the poor. In the second subperiod, incomes grew everywhere along the distribution, relatively faster for the very poor.

Although not everyone benefited equally, Brazil's poverty reduction does appear to have been relatively broad based. Table 29.2 has a simple poverty profile for Brazil, comparing poverty and inequality measures for key specific subgroups in 1983 and 2006. In 1983, the incidence, depth, and severity of poverty were much higher in Brazil's rural areas than in its cities, and this remained the case in 2006. Urban poverty actually fell a little faster, declining by 45 percent against 40 percent in rural areas, but this hardly amounts to a dramatic shift in the urban/rural profile. In addition, because the overall rural population has grown much less rapidly due to urbanization, the share of rural poverty in total national poverty actually fell over the period.

The profile changed even less markedly in terms of the gender of the household head: poverty was almost identical among male-headed and female-headed households in 1983, and it was halved for both during the 23-year period. The regional distribution of poverty incidence also changed little. Other than a reranking between the south and the southeast, the ranks were unchanged. There was a small amount of "poverty convergence" to match the regional GDP convergence that took place during this period: the standard deviation of poverty headcounts across the five

Figure 29.1 Growth incidence curves for Brazil

Source: F. Ferreira, P. Leite, and M. Ravallion, *Poverty reduction without economic growth? Explaining Brazil's poverty dynamics: 1985–2004*, World Bank Policy Research Working Paper 4431, World Bank, Washington, DC, 2007.

regions in Table 29.2 fell from 0.15 in 1983 to 0.12 in 2006. Unfortunately, a similar comparison cannot be made for a racial partition of the population, because the 1983 *Pesquisa Nacional por Amostra de Domicílios* did not include questions regarding race. The 2006 profile confirms, however, that poverty is predominantly an Afro-Brazilian phenomenon: more than a quarter of black Brazilians were poor in 2006 compared to 11 percent of whites.

The process of poverty reduction between the early 1980s and the mid-2000s was therefore broadly neutral with regard to the geographical and gender profiles of the population. The large rural–urban and regional disparities that existed in 1983 were not reduced, but neither were they exacerbated. These broad improvements in living standards were also reflected in other, nonincome indicators. Brazilian infant mortality rates fell from 85.2 per thousand in 1980 to 30.6 per thousand in 2000. Life expectancy at birth rose by almost 12 years, from 56.9 to 68.6 years.

How much did growth in mean incomes and a decline in inequality contribute to this reduction in poverty? Ferreira, Leite, and Litchfield have decomposed the change in poverty between 1993 and 2004 into a component due to growth alone (as if growth had been equiproportional across the distribution, with a constant Lorenz curve) and another due to changes in the distribution (at a constant mean).

Table 29.2 A concise profile of poverty in Brazil, 1983 and 2006

	Mean income (reals)	E(0)	Headcount	Poverty gap	FGT(2)
1983					
Rural	114.06	0.446	0.6627	0.3259	0.1980
Urban	334.90	0.567	0.2750	0.1096	0.0610
Male-headed households	276.64	0.639	0.3839	0.1711	0.1001
Female-headed households	248.64	0.563	0.3764	0.1602	0.0918
Household head ethnicity: white (includes Asian)	—	—	—	—	—
Household head ethnicity: nonwhite	—	—	—	—	—
Household region					
North	259.09	0.482	0.3242	0.1169	0.0582
Northeast	143.62	0.579	0.6370	0.3125	0.1895
Southeast	357.27	0.559	0.2454	0.0973	0.0547
South	280.68	0.554	0.3167	0.1311	0.0748
Center–West	271.00	0.582	0.3691	0.1424	0.0749
2006					
Rural	203.52	0.456	0.4073	0.1771	0.1050
Urban	493.99	0.540	0.1487	0.0537	0.0306
Male-headed households	451.82	0.582	0.1942	0.0754	0.0434
Female-headed households	425.78	0.536	0.1853	0.0713	0.0419
Household head ethnicity: white (includes Asian)	611.36	0.548	0.1093	0.0411	0.0241
Household head ethnicity: nonwhite	287.49	0.457	0.2712	0.1062	0.0611
Household region					
North	294.44	0.472	0.2708	0.0977	0.0524
Northeast	262.99	0.588	0.3760	0.1556	0.0906
Southeast	554.06	0.501	0.1010	0.0359	0.0214
South	534.16	0.450	0.0958	0.0340	0.0194
Center–West	502.18	0.545	0.1299	0.0451	0.0257

Source: Authors' calculations from the Pesquisa Nacional por Amostragem de Domicílios.

Notes: E(0), Theil-L index; FGT(2), squared poverty gap.

They have found that the growth component accounts for roughly two-thirds of the decline in poverty incidence, FGT(0), with the remaining third due to falling inequality. As one would have expected from Figure 29.1, this “redistribution” or inequality component is even larger for more bottom-sensitive measures, such as the poverty gap (45 percent) and the squared poverty gap (50 percent).

What Accounts for Brazil's "Distributional Reversal" since 1994?

If anything makes the 50 percent reduction in Brazil's poverty rate between 1983 and 2006 of broader interest, it is the symbiosis between (moderate) economic growth and inequality reduction, both of which contributed to poverty reduction. Despite its very high initial levels of inequality, Brazil has clearly been experiencing that elusive phenomenon "pro-poor growth" since the mid-1990s (and more sharply since 2001). This is most clearly illustrated, once again, by the GIC in Figure 29.1.

What brought about the decline in Brazil's income inequality in the past 10 to 15 years? How was it achieved at the same time that growth picked up? As always in the field of income distribution analysis, a number of overlapping factors played a role. This section highlights four factors that have been persistently identified in the recent literature: (1) the effect of price stabilization and the demise of hyperinflation, (2) the role of the expansion in educational attainment in boosting the *supply* of skill and the consequent decline in the skill premium, (3) the effect of trade liberalization on the *demand* for skill and hence on wage inequality, and (4) a dramatic expansion in the social assistance system, including both improvements in targeting and large increases in volume.

The Demise of Hyperinflation

There are a number of reasons why high inflation contributed to higher inequality in the 1980s and early 1990s. There are economies of scale in financial transactions, which make the benefits of hedging against inflation higher for those with higher balances at stake, at the same cost. This effect is compounded by barriers to entry to some asset markets that are particularly effective in avoiding the inflation tax. In the labor market, wage indexation works less well for unskilled, poorer workers. Finally, in addition to financial assets, one can protect the value of one's wealth against inflation by reallocating the funds in one's portfolio from cash to consumption goods. The effectiveness of this strategy declines with the share of foods in one's consumption basket because foodstuffs are more perishable than most other categories of goods; this share is typically higher for poorer households. It also depends on the storage technology available to households. There is a positive correlation between freezer ownership and household income, which is yet another reason why the ability to defend one's wealth against inflation increases with income.

Improved Educational Attainment

Another aspect of public policy was responsible for a second factor driving the reduction in inequality. If sound macroeconomic management eliminated hyperinflation, increased investment in primary and secondary schooling helped support the broad-based increase in the educational level of the workforce. Between 1983

and 2006, the average years of schooling in Brazil's adult population (aged 25 or older) rose from 4.0 to 6.7. This represents a change in the stock, which is of course slower than the change in the flow out of the educational system. In 1983 a 20-year-old had on average slightly less than 6 years of schooling. By 2006, a 20-year-old would have had 9.1 years of education.

Given the dominant share of labor earnings in total incomes and the strong relationship between years of schooling and earnings, it is not surprising that these changes in education had a large impact on the distribution of income. The precise impact mechanisms, however, are much less clear *ex ante*. A long time ago, Nobel laureate Jan Tinbergen famously characterized the dynamics of earnings inequality as being driven fundamentally by a "race" between what has since become known as skill-biased technical change (SBTC)—which increases the returns to skill and thus tends to increase inequality—and educational expansion—which increases the supply of skilled workers and thus tends to reduce returns and inequality.

The Tinbergen race, essential though it was to the dynamics of Brazilian inequality over the period considered, was complicated by one additional factor. The final effect of increases in educational attainment on earnings inequality depends not only on the average level of increases in the stock of education but also on the *composition* of those increases. If education itself is becoming more unequally distributed, it is possible that educational expansion contributes to more, not less, earnings inequality. In fact, given the constant but convex returns to education, even a Lorenz-preserving increase in education could increase inequality. Between 1976 and 1996, Brazil experienced a combination of growing levels of education in the presence of convex returns and rising educational inequality. Since the mid-1990s, the composition effect of Brazil's education expansion has started to reinforce rather than offset the decline in average returns to schooling. This has contributed to a considerable acceleration in the rate of reduction of earnings inequality and income inequality in this later period.

Although changes in the supply side were of great importance over this period, a fuller understanding of changes in the earnings–education profile also requires a consideration of the evolution of the demand for skill. Although the Brazilian economy has continued to modernize, technological progress does not appear to have increased the demand for skills enough to offset the increases in the supply of education. This much is evident from the fall in the average returns to education. (However, the decline in average returns masks a more nuanced picture by level of schooling: returns to completed primary and secondary education have largely fallen. Returns to university or college degrees relative to primary schooling have not fallen.)

Trade Liberalization

One candidate explanation for the muted role of SBTC in Brazil was the somewhat unusual nature of the country's trade liberalization process between 1988 and

1995. During that period quotas and other quantitative restrictions were largely eliminated, and average nominal tariffs fell from 43.4 percent to 13.9 percent. However, contrary to what has been seen in other commonly studied episodes in Latin America, the dominant view is that this trade liberalization contributed to a *decline* in wage inequality. The reason is essentially that, unlike many other developing countries that liberalized in the 1990s, Brazil had a pre-existing pattern of protection that was biased in favor of skilled workers. Tariff reductions, therefore, did have the wage effects predicted by the Stolper-Samuelson theorem: they contributed to an increase in the wages of unskilled workers relative to those of skilled workers. There is some evidence that this growing demand for unskilled labor and the ensuing reallocation of workers and activities across industries contributed to an increase in the elasticity of poverty reduction with respect to growth in the tradable goods sectors, particularly agriculture. Although the nontradable service sector remained the one with the highest growth elasticity of poverty reduction, poverty did become more sensitive to growth in agricultural output.

The three factors considered so far primarily affect market incomes. Lower inflation affects the distributions of both labor incomes (through differential indexation) and capital incomes (through various channels, including differential access to asset markets with diverse degrees of exposure to the inflation tax). Changes in the supply of and demand for education are key drivers of the earnings structure. Important though they were, these changes in the primary distribution of income did not account for all of the observed reduction in household income inequality in Brazil. By some estimates, between one-third to one-half of the overall decline in inequality from 2001 to 2004 is attributable to changes in the redistributive role of the state.

Increased Social Assistance

These changes have arisen primarily from the large increases in social security and social assistance expenditures that have occurred in Brazil since the mid-1980s. While some of the growth in pension outlays has been regressive, some initiatives have been exceptionally progressive. In particular, the introduction of noncontributory retirement and disability pensions for all agricultural workers extended benefits to the elderly in some of the most underprivileged areas and occupations in the country. Since 1994 the rising real value of the minimum wage (to which basic pensions are indexed) has further enhanced the poverty-reducing impact of these benefits.

The past couple of years have also seen a massive scaling up of the country's pre-existing CCT program (Bolsa Escola) into a better-integrated, better-funded, and much larger program known as Bolsa Família. It now reaches some 11 million households, or around 45 million individuals—nearly one in every four Brazilians. The transfer amounts are relatively small, but the program appears to be well targeted, which ensures that contributions reach those who need them the most. Although the jury is still out on whether conditional transfers have a real impact on

the learning outcomes of the children who benefit from them, there is now little doubt that the immediate effect of the cash on the livelihoods of recipient families is substantial.

Conclusions

Three broad lessons emerge from this short account of Brazil's poverty reduction experience since 1983. First, growth and inequality need not always be opposing forces for poverty reduction. During the 1980s Brazil had no growth to speak of, and inequality was actually rising. Poverty hardly budged. From the mid-1990s onward, a modest resumption in growth went hand in hand with declining inequality. In fact, both processes (economic growth and inequality reduction) accelerated after 2001. Consequently, poverty also decreased the fastest in this last period.

Second, to the extent that there remains—in some quarters—a perception of antagonism between the roles of markets and the state in the fight against poverty, this appears to be a figment of ideological imagination. Brazil's success against poverty, slow and incomplete as it was, combined market forces and public interventions in equal measure. Some key public actions were pro-market, such as re-imposing fiscal and monetary discipline and liberalizing trade. Another central public policy was to expand the provision of educational services in order to accommodate the rising demand to keep children in school longer. This is the state as a builder of opportunities. But the state also played a role in direct income redistribution through both unconditional transfers (such as targeted, noncontributory social pensions) and CCTs (such as *Bolsa Família*). These public interventions supported rather than undermined private investments. The result was broader, more inclusive growth and poverty reduction.

Finally, a third lesson can be learned from what was missing rather than what was present: economic growth was mediocre in Brazil during most of the period. Brazil's achievements were concentrated in the period from 2001 to 2006, not only because inequality was falling but, crucially, because the economy was then growing again. This growth spurt benefited greatly from an unusually auspicious external environment in terms of capital inflows, demand for exports, and terms of trade. It is by no means certain that such a benign combination will last long.

Imagine how much better Brazil's poverty reduction performance could become if the country were to succeed in approaching the growth rates of China, Thailand, and Indonesia, while also resisting the increases in inequality that have occurred in the first two countries. Doing so will require further increasing the rates of public and private domestic investment, which will be possible only with increased efficiency in the public sector. That is not a simple counterfactual to imagine but it is surely one worth pursuing.

Note

1. US\$2.15 at 1993 PPP.

For Further Reading

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