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Thirty years of combating inflation in Brazil: from the PAEG (1964) to the Plano Real (1994)

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Abstract

This paper compares and contrasts the two major Brazilian successes in reducing inflation in the post Second World War period. It focuses on three issues. The first is the choice of a gradual or shock treatment to treat the inflationary bursts of 1963 and of the 1980s. The second is the mechanism of indexation instilled in the first episode and eliminated in the second. The third is different effects of stabilization on the distribution of income and the percentage of the Brazilian population living in poverty: there was deterioration during the first stabilization and improvement during the second.

* This paper is due to be published in Portuguese in a volume edited by Alkimar Moura, Fundacao Getulio Vargas, Sao Paulo, 2006. There are references throughout the text to two other papers which will also appear in the volume: Affonso Celso Pastore and Maria Cristina Pinotti, 'O PAEG e as politicas economicas dos anos 60 e 70', and Eliana Cardoso, 'A inflacao do Brasil'.

Resumo

O trabalho procura comparar e contrastar os dois principais esforcos brasileiros no sentido de reduzir a inflacao no periodo apos 1945. Focaliza em tres assuntos. O primeiro e a decisao de utilizar um trato gradual ou de choque para reduzir a alta de inflacao depois de 1963 e a decada de 80. O segundo e a instalacao de indexacao durante o primeiro periodo e a eliminacao no exito do Plano Real. O terceiro trata das consequencias da estabilizacao sobre a distribuicao da renda e o nivel de pobreza. No periodo dos anos 60 houve deterioracao, e nos anos 90 houve melhoramento.

Introduction

By 1964 Brazil was no novice in planning. Earlier, under President Kubitschek (1956-61), there had been the Programa de Metas. That was less a macroeconomic plan than a microeconomic commitment of a variety of goals –and governmental support to attain them.[1] The Plano Trienal (1963) necessarily was more: it sought to end the inflationary surge that had begun to disrupt economic activity, as well as restore the high growth rate achieved between 1957 and 1961. As a consequence it gave greater weight to orthodoxy than is frequently supposed. But it was also deficient in relying upon continuation of the import substitution model that had proven so effective in generating rapid expansion in the 1950s.[2]

The Programa da Acao Economica do Governo (PAEG, 1964) was a different phenomenon. For one thing, it was the product of military intervention that occurred in March. That gave it greater authority from the outset. Secondly, it was the product not merely of Minister of Planning Roberto Campos, with his prior experience as economic counselor of the Brasil-US Mixed Commission in the early 1950s, director of the BNDE in 1955 and later its president, and Ambassador to the United States under Presidents Quadros and Goulart, but also of Mario Henrique Simonsen, then a young economist at the Fundacao Getulio Vargas, and destined to become one of the leaders in political economy for the next decades And third, it enjoyed considerable financial support from the United States, at that time deeply engaged in reacting to the threat of Fidel Castro in the hemisphere. At that time, Brazil had one of the largest programmes of US assistance in the world.

Thirty years later, in 1994, the Plano Real was launched. The direct objective was a single one: to eliminate the very high inflation rates, and associated consequences, that since the early 1980s had impeded sustained growth within Brazil. That effort was not the first attempt to do so. There had been the Plano Cruzado in 1986 –and a large number of subsequent efforts- that had vainly sought the same result. Two presidents – Sarney and Collor - had failed. The Plan's immediate success would bring Finance Minister Fernando Henrique Cardoso to the presidency for two terms.

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[1] See Celso Lafer*, JK e o programa de metas,* FGV, 2002 – based on his Cornell PhD thesis 1970, for an early, but thorough, treatment of the period.

[2] Roberto Macedo, "Plano Trienal de Desenvolvimento Economico e Social," in Betty Mindlin Lafer (ed.), *Planejamento no Brasil*, Editora Perspectiva, 1970, emphasizes the positive elements of this first attempt to curb inflation, rather than dismissing it as some others do. Pastore e Pinotti, in their paper for this volume, also give the Plano Trienal higher marks than had been conventional.

In July 2005 Brazil celebrated the eleventh anniversary of the introduction of the Plano Real. The opposition Partido dos Trabalhadores (PT) had been in power for more than two years, but equally committed –at least at the level of the presidency- to the macroeconomic austerity required to stifle inflationary pressures. Not all has gone well since 1994, but President Lula and Finance Minister Palocci, like President Cardoso and Finance Minister Malan before them, have defended price stability as necessary for long-term growth. It now seems fair to say that there has been a decisive change in Brazil. Just a short time ago, and continuing still for some on the left, such orthodoxy would have been regarded as totally unacceptable.

In subsequent sections, I shall specify –briefly- what I see to be the salient components of each of these two Plans, and to remark upon their relative effectiveness. Here I benefit from the substantial contributions of Pastore and Pinotti and of Eliana Cardoso to this volume. My occasional differences in emphasis are designed to clarify the issues rather than to criticize their conclusions. In a third part, and the most original of this essay, I undertake comparison and contrast of the PAEG and the Plano Real. What is so fascinating is that each, in their essence, begins with heterodox innovation, but is then forced to pursue a more orthodox strategy subsequently. And each plan, while appropriate to its period, somewhat contradicts the tenets of the other. One does learn with time, benefiting not only from internal successes and failures, but also the measures taken by other countries in the interim.

Programa da Acao Economica do Governo (1964)

The Revolution of 1964, as its adherents labeled it, was a decisive moment for the country. Inflation had reached the intolerable level of almost 80 percent in 1963, and annual growth had fallen to a mere 1.5 percent, the smallest in the postwar period. That result was far different from the heritage of the preceding Kubitschek presidency, when expansion had been continuous, and averaged some 7 percent a year, and inflation, while increasing, nonetheless had not exceeded 40 percent, and that only in 1959. In particular, industry had flourished, not least because of the extensive subsidies received.

The Plano Trienal, supposedly to be implemented in 1963, had clearly failed. Prepared under Planning Minister Celso Furtado, it had called for inflation of only 25 percent and growth once again of 7 percent. Those goals were clearly much exaggerated. Equally, there was little inclination to recognize the sacrifices entailed in stabilization. By the second half of the year, when salaries of federal employees were adjusted at a rate higher than planned, implying a higher governmental deficit and greater monetary expansion than programmed, it was clear that the effort had failed. Above all, and it was to recur later as well, there was a naïve expectation about the *immediate* positive consequences of an initial curtailment in expenditure and readjustment of exchange rate. Once there were no early effects in sight, just as had occurred in Quadros' brief resort to the IMF in 1961, all consensus and compromise among contending domestic interests vanished.

In April1964, with inflation clearly accelerating and economic growth much reduced, the new military president Castello Branco turned economic policy over to Roberto Campos and Octavio Bulhoes, two leading –and civilian- figures. This was a chance finally to get policy right. The military government, and not a feuding group of civilians with differing interests and objectives, would, and could, impose the needed measures. Note as well an important difference with the prior Plano Trienal: this time, because of the Alliance for Progress, large resources from the United States were available to assist the Brazilian effort. Previously, USAID had redirected its modest lending program to the states rather than the federal government. With the new regime, there was an external commitment to assure a return to expansion.

Different from the Plano Trienal, which lacked a substantial statistical basis, the PAEG was a document that gathered 114 tables and 21 graphs within a span of 240 pages. This was a substantial forward step in economic analysis in Brazil. Its global message was clear, and not so different than that of its predecessor. The basic objectives were to accelerate the rate of growth to 6% a year in 1965 and 1966; and to lower the annual inflation rate to 25% in 1965 and to 10% in 1966. But these were mere numbers, and further, much exaggerated. Actual growth over this period averaged only 3.8 percent. Wholesale price inflation in 1966 jumped up to 37.4% from the 28.3% attained in 1965, although consumer prices went up slightly less in 1966 than in 1965. In each case, the figure was far above the 10% planned.

Campos' real goal, and consequently that of the PAEG, was subtly different: to establish a functioning capitalist economy in place of an import substitution model increasingly subject to, and dependent upon, governmental intervention. This was not to be an attempt to accommodate to the wishes of the new industrial class, nor to the hopes of the leading agricultural exporters for continued support, and much less to the claims for catch up by the labour movement. His 1994 memoirs make that point clearly, when he wrote: "…the principal objective of the Castello Branco government was not stabilization. It was to make capitalism function."[3] Even in 1965, he was clear on that point when he remarked:

> It is not easy to change habits or attitudes. Even less so when those habits and attitudes come from people profiting from inflation….The great challenge that the government and the entrepreneurial and salaried classes have to confront is…that of recreating conditions in order that free initiative may hold an economic and social meaning in our country.[4]

As it turned out, the objectives of substantial growth and elimination of inflation were not to emerge during Campos' stay in power. Neither was the implantation of market capitalism. Rather, what did ultimately begin to take shape by the end of 1967 was the Brazilian "miracle" credited to Delfim Netto, and subject to Campos' satirical criticism from time to time. Not until the 1990s, as we shall see, would Brazil begin to approximate free market conditions, then labeled by opponents as neo-liberalism and by adherents as neo-socialism.

Here I somewhat diverge from Pastore and Pinotti who emphasize a high degree of continuity between the PAEG and the subsequent policies of Delfim Neto. One reason is their vision of the PAEG as a principal source of important reforms influencing economic activity subsequently, such as the new value added tax system, indexation, housing loans, etc. Another is their strong claim of the undoubted success of the fiscal and monetary policies implemented between 1964 and 1967 to curb Brazilian inflation. I continue to see differentiation, but both issues are considered more fully below, after further analysis of the PAEG.

During the period in which the PAEG functioned, there were three features I would emphasize. First was the major innovation, the establishment of virtually universal indexation throughout the economy. Second was the frustration at the gradualness of the decline of inflation during 1965 and 1966, associated with limited growth that did not begin to match expectations. Third was the disappointment of a worsened distribution of income, concentrated among the new urban group of workers that had begun to grow rapidly in the 1950s and early 1960s.

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[3] Reginaldo Teixeira Perez, *Pensamento Politico de Roberto Campos*, Editora FGV, 1999, p 178, n 23.
[4] In a speech at the Clube Nacional in April of that year, as quoted in my "Some Reflections on Post-1964 Brazilian Economic Policy," in Alfred Stepan, ed., *Authoritarian Brazil*, Yale University Press, 1973, p 80.

Indexation was the principal novelty embedded in the PAEG, and for which Mario Henrique Simonsen was responsible. Interestingly, because it was put into effect for public sector and minimum wages by Decree 57,228 of September 1, 1964, there is no extensive discussion within the document itself, published in November.[5] The principle was a simple one: instead of increasing wages to match the previous rise in prices, as had been done in the past, one would seek instead to replicate the average real wage prevailing in the previous 24 months as the target. Since prices had been accelerating, this assured that the nominal wage increase relevant for the next period would be smaller. That would diminish the pressure of rising costs upon future price adjustments, and thus help contain inflation. A simple diagram will help:

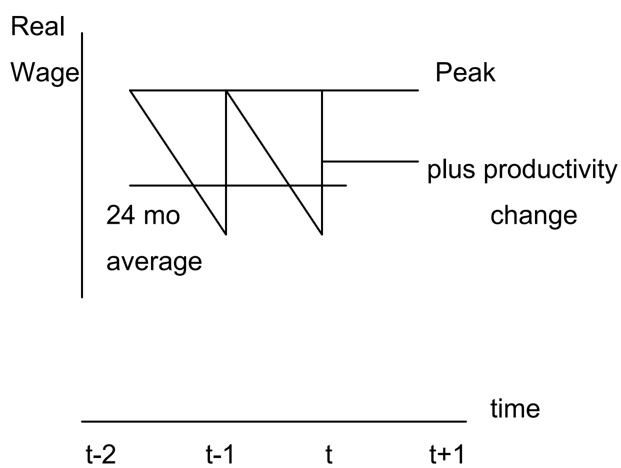

Figure 1

The essential point is that the historical real wage would not be diminished, even though the initial nominal increase were smaller. Additionally to the past real wage, however, an estimate of *future* inflation was necessary to determine the level of annual *nominal* adjustment to be provided. That was the rub. This essential adjustment was consistently and deliberately underestimated during the period of the PAEG. The methodology was extended to the private sector in June 1965. Real wages therefore were systematically reduced between 1964 and 1967, about 20 percent in the case of the minimum wage, but much less in the case of average industrial salaries.

[5] Only three pages are allocated to salary policy in the 240 page document (pp. 83-85)

Not until mid-1968 was there any mechanism to adjust for the underestimates of annual inflation and lesser real wages, in calculating the future wage adjustment. Finally, in October 1974, a month before Congressional elections, came the immediate and full correction of initial inadequate wage setting. Over this subsequent period, real wages may not have fallen, but they did not match the rapid productivity gain the economy had experienced. Only those with higher salaries (and education) substantially benefited from the rapid growth experienced.[6]

Equally important was the extension of this principle to other prices in the economy. Monetary correction became the universal rule of adjustment, despite its virtual absence from the text of the PAEG. Adjustment of returns on investment in government bonds, of taxes owed to the government, of real estate contracts, mortgages and urban rents, and of bank loans was all based on the principle of making them inflation-proof. These, and other innovations like establishment of the Central Bank and the creation of value added taxes, the IPI and the IVA, are some the changes correctly emphasized by Pastore and Pinotti.

From 1964 until 1995, Brazil lived with such rules seeking to avoid the consequences of inflation on relative prices. It was not totally successful. Over time, as the economy became more sophisticated and minimum wages much less important, and as the dictatorship became less oppressive, more direct bargaining occurred between firms and organized unions. Additionally, adjustment of public sector prices followed no such rules, and as the number and importance of state enterprises increased, their prices were varied in accordance with other objectives. Typically, as inflation mounted, the government used such delays as principal mechanisms to control inflationary surges.

Finally, the adjustment principle was applied to exchange rates in 1968, initially following rigid rules, but soon never utilized mechanically. The level of alteration too became a tool to limit domestic inflation much more than an element to accelerate growth of Brazilian exports. Appreciation of the exchange rate was accepted from time to time, and sometimes disastrously, in efforts to hold domestic price upsurges down. This especially became more characteristic of the latter part of the 1970s and the 1980s.

A second element of the PAEG was its naïve exaggeration of how rapidly it would take for adjustment to occur. In this it repeated the earlier optimism of the Plano Trienal. Return to historic rates of growth and elimination of inflationary excesses were

[6] See Luiz Aranha Correa do Lago, "A Retomada do Crescimento e as Distorcoes do 'Milagre':1967-1973", in Marcelo de Paiva Abreu, ed., *A Ordem do Progresso,* Editora Campus, 1990, pp. 284 ff.

not to occur by the end of the Campos mandate. Indeed, there is some question whether the much tighter monetary policy put into effect by mid-1966, and carrying through the first quarter of 1967, might have led to renewed recession in the absence of the policy reversal initiated by Delfim Netto.

Table 1 provides some measure of the significant variability of monetary policy during those years. It presents the quarterly rate of growth of nominal monetary expansion, as well as an index both of wholesale prices as well as one of consumer prices in Rio de Janeiro. As can be seen, inflation (and low growth) persisted in 1964 after the March intervention. It clearly would take time for the new development strategy to be put in place, not to mention the lag inherent in its effectiveness. And there was the additional matter of excessive salary increases awarded to the military as well as civilian employees of the government shortly after taking power. These were, of course, an immediate necessity to assure political support for the new government. Monetary expansion continued unbounded for the rest of the year, although inflation receded from its very high first quarter level.

Table 1
Monetary Expansion and Price Change
(percentage changes)

	Money supply	IPA (wholesale price index)	IPC (retail price index)
1964			
Qtr 1	9.5	23.2	23.9
Qtr 2	18.3	10.8	14.9
Qtr 3	16.1	14.6	12.1
Qtr 4	23.6	18.8	16.9
1965			
Qtr 1	7.8	10.8	19.0
Qtr 2	18.9	3.6	8.7
Qtr 3	15.9	5.2	7.6
Qtr 4	17.8	6.2	4.4
1966			
Qtr 1	-2.4	12.4	13.6
Qtr 2	7.1	9.5	9.2
Qtr 3	2.6	7.7	8.9
Qtr 4	8.2	3.6	5.5
1967			
Qtr 1	5.1	8.0	7.7
Qtr 2	15.7	3.0	6.5
Qtr 3	8.2	5.7	4.6
Qtr 4	8.4	4.4	2.7

Source: *Conjuntura Economica*

In 1965, despite the successful reduction of the public deficit, monetary policy was virtually uncontrolled. In part this was the consequence of the unanticipated surplus in the balance of payments, where assistance from USAID played a major role. This major increase in receipts was matched by a substantial rise in direct foreign investment whose dollar inflow almost tripled from its previous level. Exports likewise much expanded, to some extent these were new products sold abroad as a result of limited domestic demand. But imports –much more responsive to limited recovery of domestic output and low levels of investment- did not. This surplus in 1965 permitted foreign exchange reserves to expand, and with them, the money supply did as well. Sterilization was not yet a technique regularly applied. Inflation, as measured by wholesale prices, continued at a lesser annual rate of 45 percent, but still much beyond the targeted rate of 25 percent.

This provoked, as can clearly be seen in the table, a sharp reduction of monetary expansion and lending in 1966, and a significant recession within the industrial sector ensued. The nominal money supply actually fell in the first quarter of the year, and the real monetary stock fell substantially during the following two periods. Recovery would await the installation of the new Costa e Silva government in March 1967.

A significant response within the business community was provoked. It only partially occurred within the context of Consplan, created in February 1965, but which rarely met, and even more rarely was a means for altering government policy. Instead the public debate occurred elsewhere, for example in the context of the Conselho Nacional de Economia, in which Fernando Gasparian played a leading role. Mounting criticism from Sao Paulo entrepreneurs was sufficient in 1966 that an analyst of Campos' thought could assert that "were it not for the decisive support of the president, Campos could have fallen."[7]

Where the stabilization program was much more effective was in the elimination of the public sector deficit. This moved dramatically: the deficit of 4.2 percent of product in 1963 was reduced to 1.1 percent in 1966. Increased governmental revenue was the principal explanation, although some expenditures, and governmental subsidies especially, also were reduced. Federal taxes rose from 17.7 percent of income in 1964 to 21.4 percent in 1966; expenditures actually rose, but more modestly, thereby allowing this major gain. Since rising fiscal deficits had been the principal reason for mounting inflation, in the first instance, the persistence of inflation, despite meager real growth,

[7] Perez, *Pensamento politico de Roberto Campos*, p. 153.

was a bit of a puzzle. For Campos, the fundamental reason was continuing inflationary expectations. Prices continued to rise because entrepreneurs were not yet convinced that inflation would not be a permanent way of life. There was but a single option: exposure to the "deception of the market."

In all of this analysis, there was limited consideration to another side of the story, the role of cost increases in influencing subsequent pass-through by firms. That was a factor very much in the air in Brazil at the time, as well as by others in Argentina and elsewhere. What it came down to was whether the observed inflexibility of inflation to restrictive monetary and fiscal policy might exact unnecessarily severe output consequences were one to sustain restriction indefinitely. This was different than the earlier distinction between monetarism and structuralism that had been the basis of earlier policy divergence in Brazil and other parts of Latin America: CEPAL had been prominent in that debate. At such high rates of inflation as were being experienced, arguments about needed latitude for adjustment necessarily gave way to focus upon the governmental deficit and monetary expansion underlying the process.

Now, the intellectual discussion focused on the degree to which employers, although benefited by lower real wage costs, would respond to lesser demand, not by lowering prices of their products, but by reducing output. Additionally, with lesser access to bank loans and working capital, such a circumstance was partially enforced by a lack of credit. I give weight as well to the concentrated character of the industrial sector as well as the absence of external potential supply as a consequence of very high tariff and even quota protection. And on the contrary, increased demand –under conditions of excess capacity- would not imply immediate price hikes, but rather output growth. All measures of excess capacity show it to be high during this period as a result of much slower realized growth.

Limited data made it difficult to test such a hypothesis rigorously, although the negative correlation of price and quantity changes by sector in the 1962-1966 period seem to be consistent with that possibility. The same negative correlation is found in Sao Paulo industrial sales in the first two quarters of both 1965/66 and 1967/68. This evidences the importance of import substitution in Brazil, where initial domestic scale is typically greater than the market can support, as a factor influencing industrial prices. In the first half of 1967 relative to the same period in 1966, a positive relationship exists. As capacity utilization declines significantly, price markups, and inflation, do respond. Orthodoxy works, but at a high cost in output.

Although apparently similar, the more common Phillips Curve analysis focuses on real wages as the basic culprit.[8] It is the absence of idle capacity, joined to rising salary increases, that produces inflation. What is required is restrictive fiscal and monetary policy, and changing expectations in response. Unemployment rises, thereby moderating wage demands, and subsequent inflation subsides. The key factor in this story is employee, and union, response. But since real wages were already in substantial decline as a result of the new indexing policy, it hardly seems the appropriate model to apply to Brazil in this period.

This real decline in salaries led on to a third effect, the significant decline in the distribution of income between 1960 and 1970. The share of income fell for the lowest 50 percent of the population by 2.8 percentage points, and for the next 30, it fell by 5.1 percentage points; for the top 10 percent it rose by 8.1 percentage points, and indeed by more, if the highest incomes were correctly calculated.[9] There was an effort to explain this deterioration by those sympathetic to the government on the basis of skill differentials alone. Minister Delfim Neto argued in the foreward to Carlos Langoni's book *Distribuicao da renda e desenvolvimento economico do Brasil* (1973):

> Langoni proves that the observed increase in inequality is a direct consequence of market disequilibria accompanying the development process. Thus, the behavior of relative incomes reflects, mostly, the intense process of differentiation of the labor force caused by the rapid expansion of the modern sectors….In this context, it makes no sense to use the increase in inequality as an index of welfare deterioration.[10]

That explanation, rightly, did not stick. The more severe negative effects were felt within the rapidly growing urban sector. And there, the losers were the production

[8] Rubens Penha Cysne provides the standard treatment for Brazil of this approach. See his prize dissertation, *Politica macroeconomica no Brasil: 1964/66 e 1980/84*, FGV, 1986. He contests my assertion of inadequate attention to the possibility of forced operation at less than full capacity by limited access to working capital. But I also say, "Orthodoxy will apparently ultimately prevail, but only at the expense of serious reductions in economic activity." Fishlow, "Reflections," in Stepan, *Authoritarian Brazil*, p.78.

[9] I use here the estimates in Carlos Geraldo Langoni, *Distribuicao da renda e desenvolvimento economico do Brasil* Editora Expressao e Cultura, 1973, based on full access to the 1970 data, rather than relying upon my own calculations, based upon the tabulated summaries, in "Brazilian Size Distribution of Income," *American Economic Review*, May 1972, 392-402. There is not much difference, although Langoni's calculations incorrectly understate the income in the upper income group, by using an artificially imposed maximum income.

[10] Quoted in Lance Taylor et al, *Models of Growth and Distribution for Brazil*, Oxford University Press, 1980, p.298.

workers receiving wages as opposed to the salaried employees. Reduced wages did not lead to much, if any, increase in demand for workers. Broadening income differentials did show up across sectors, not as a result of scarcity of skilled labor supply but as a consequence of managerial salary increases, and an increase in profits.

This rapid increase in Brazilian inequality over the 1960s –the Gini coefficient increased from .50 to.56- was not countered by a subsequent decline as some had argued would be the case. Inequality increased by a bit in the 1970s, and rose again sharply in the 1980s as growth stalled. Despite notions in the 1970s that the problem was a temporary one, it remains. That still does not excuse placing a higher proportion of the burden of stabilization policy during the PAEG upon the urban working class, unless one was seeking at the same time to attack that very group for its strong political support of Goulart.

Mario Henrique Simonsen defended that decision to the end, writing in 1996:

> Between 1964 and 1967, industrial salaries fell more or less 25%. These are statistical data. … If it were necessary to increase real rents and to raise public tariffs, how would this be possible? If there had [also] been an increase in the real wage, he …would win the Nobel Prize in Physics. He would have discovered the way to make something out of nothing. The fall of the real wage then was inevitable.[11]

One wonders. Later attempts, after the dictatorship, to reduce inflation would confront similar problems. In the Plan Cruzado, to be sure, an excessive salary adjustment was one of the reasons for its lack of success. But in the Plan Real, as we shall see, inflation was halted without imposing a special burden upon urban workers. That knowledge was unavailable at the time. But more gradual, and consistent, fiscal and monetary policies probably would have better served Brazil during the implementation of the PAEG than frank reliance on wage compression..

Thereafter came the Brazilian 'miracle' and its aftermath. For this later period, I limit myself here to comment briefly upon the role of export subsidies stressed as important by Pastore e Pinotti in stimulating growing Brazilian participation in world markets. They refer to past research showing that effective subsidies for exports

[11] Quoted in Perez, *Pensamento politico de Roberto Campos*, p. 180. , fn 32

amounted by the mid-1970s to something more than 38%, and argue that export growth reached a peak rate of almost 40% in 1975.

First, export growth perhaps did not turn out – especially in real terms- to be anything so significant. Here the issue partially turns on the selection of the index. Pastore and Pinotti's preference is for that of the IMF. That shows an enormous real rise between 1972 and 1975 of 26% annually. On the other hand, the annual nominal gain was only a little higher, 29%, and in real terms a much lesser 11%, in the Conjuntura Economica version.[12] Over the period between 1969 and 1978, when terms of trade improved by more than 30%, the real annual rate of this alternative was less than 5 percent –lesser than product growth- and the nominal expansion was over 20%. Imports surged upward with the first oil crisis, doubling between 1973 and 1974, and the problem of the balance of payments deficit and increased external debt emerged over that interval.

Secondly, the composition of exports did not change that much in the early 1970s. Manufactured products increased from 13 percent of exports in 1970 to 21 percent in 1973, a considerable growth, but then rose rapidly only after 1976: between that year and 1981 the percentage rose from 24 to 48. Coffee sales, including instant, still exceeded receipts from exports of manufactures in 1973. So the effects of the subsidy were much more in evidence toward the end of the decade than during the 'miracle' when local demands were still being satisfied. This is despite the fact that subsidies were available from the late 1960s on.

Finally, as they themselves correctly point out, the effects of the export subsidies have to be calculated with reference to an exchange rate much overvalued by virtue of a very protectionist tariff structure. Brazilian protection increased significantly during the 1970s, with nominal tariffs approaching 100 percent. Additionally, non-tariff barriers multiplied. Not only that. In accordance with GATT regulations, the fiscal subsidies were scheduled finally to cease in 1985, the date postponed from the March 1981 originally agreed upon because of the debt induced balance of payments problems Brazil experienced after the second oil shock. The final conclusion of Pastore and Pinotti is much less positive, and more valid, as a result: "fechou-se em um beco sem saida, que contribuiu para a queda das taxas de crescimento do PIB."

To conclude, then, my perspective is that the PAEG was much less successful in its avowed goals of restoring income growth and harnessing inflation, and providing a

[12] This alternative is based on the indices regularly published in the *Conjuntura Economica*.

basis for subsequent Brazilian expansion. Brazil went on to grow rapidly thereafter, but the oil shocks, and linked rapidly rising foreign indebtedness, had negative consequences that lasted long after. Not to mention the corrosive effects upon inflationary expansion of monetary correction, which Pastore and Pinotti usefully emphasize. And the social consequences of rising income inequality, and limited progress in social services, remain until today.

Clearly the period of intervention proved more effective in changing the institutional structure of the Brazilian economy. There were also a large number of modifications governing the financial sector, the tax system –including a switch to value added and away from transaction taxes, the encouragement of non-traditional exports, and still others. The Central Bank, in substitution of SUMOC, dates to this period. New taxes were imposed to fund the revised FGTS; PIS and Pasep became important instruments for increasing governmental saving. Increased foreign confidence, and substantial inflows from USAID, allowed a reliance on international capital markets to emerge.

But the ultimate hope of Roberto Campos of recreating a capitalist Brazil was fundamentally frustrated. The central role of the state, and nationalized enterprises, surged in importance. Inflation grew to much higher annual levels. There followed the debt crisis of the early 1980s from which Brazil was not exempt. The country fell definitively behind the advance of the Asian tigers.

The Plano Real (1994)

In 1985 the military dictatorship came to an end and the election of Tancredo Neves as president in March promised a better future. There was need to hope: in the early 1980s Brazil experienced rising inflation, recession and a major decline of imports and investment. Tancredo's unfortunate death, just before his inauguration, brought Jose Sarney to the presidency. Within a year, on February 28, 1986, Brazil had committed itself to the Cruzado Plan, an effort designed to end inflation definitively. This effort, a heterodox alternative to previous stabilization attempts, benefited from the prior Argentine Austral Plan and the Israeli efforts. Its essential feature was a break with the inflationary past through a price freeze. Its errors have by now been much documented: an excessive wage adjustment; inadequate reduction of the fiscal deficit, requiring substantial monetary expansion; and limited and late reliance on imports to assure an adequate supply to offset the positive stimulus given to demand. At this point, there was still high popular support, sufficient to make it through the November election that gave great support to the PMDB. Soon thereafter, when the salary index, or gatilho, caught up, the lack of success of the plan was clear. Thereafter, came Brazilian default on the external debt, and a variety of alternative attempts to deal with the inflationary problem. Not surprisingly, with credibility gone, and a consistent governmental unwillingness to enforce restriction, there was even some expectation of hyperinflation.

That did not happen. But when Sarney's successor Fernando Collor was inaugurated in March 1990 inflation was running at 80 percent a month. Immediately, Collor announced a new program of restraint. This time there was a novel approach, focused on reducing the quantity of credit in the system. Something like 70 percent of financial assets was frozen for a period of 18 months. Prices were immediately fixed, but this time the exchange rate was allowed to float rather than attempting to be the anchor of the system. Additionally there were to be significant structural reforms, including significant reduction of protection, fiscal reform, including a wealth tax, as well as privatization. An immediate reduction in economic activity followed, with subsequent modifications in the initial rules. Again a national election occurred, but this time the plan was sufficiently unpopular and lacking in support that the vote did not favor Collor. Inflation in December 1990 had grown back to 20 percent a month, and a new effort was made to counter indexation to past inflation and to use fiscal and monetary policy. But Collor II did not work any better. Then came a more orthodox effort to secure monetary and fiscal constraint. Impeachment proceedings in 1992 did not help. The new president, Itamar Franco, after multiple ministers of finance, finally chose Fernando Henrique Cardoso in May 1993. Soon thereafter came the Plan Real, formally inaugurated in December.[13]

Its authors were largely the same as those who had earlier designed the Cruzado Plan: Persio Arrida, Edmar Bacha, Andre Lara Resende, along with a new participant, Gustavo Franco, who was later to become President of the Central Bank. But this time there was an important difference. Instead of the conventional heterodoxy that had been tried so frequently, with its price freezes designed to brake the consequences of past inflation upon the present, this time the logic was to be that published by Arida and

[13] I treat these matters briefly because Eliana Cardoso provides a much fuller discussion in her chapter in this volume..

Resende back in 1984.[14] A period of time would exist when there were two currencies, the old and the new, in circulation. The new currency would be tied to the external real exchange rate, adjusted on a daily basis. Over time, as all wages and prices were restated in the new currency, the old come to be abolished. Underlying the theory was the central notion that the Brazilian inflation had returned to an inertial version, something reassured by the end of new plans and the frequent, and failed, shock treatments.

With this as an underlying basis, the Real Plan evolved in three stages. First came a major fiscal commitment. The government, that is, the Ministry of Finance, insisted upon the means to produce a guaranteed large surplus. It did so in two ways. First was the grant of extraordinary powers from the Congress to the Executive. Not until some 20 percent of the budget was set aside as the Social Emergency Fund, to be spent or not, in that year as well as the subsequent one, did the program move forward. While it was not the case that fiscal budgets had been badly out of control in previous years- monetary expansion deserves some independent credit for the large price increases that had occurred- nonetheless, a large primary surplus was a novelty that palpably altered the macroeconomic stage. It attained more than 5 percent in 1994, allowing the operational fiscal balance, including interest payments, to attain a surplus during that year. This accomplishment was exceptional. Contributing to it was a second reality: real receipts would remain constant, because of frequent adjustment to inflation, while real expenditures would decline.

Thereafter came the novelty of the Unidade Real de Valor introduced in March 1994. Its intent was to allow a gradual and voluntary process of adjustment of contracts, as well as to provide a mechanism for conversion of wages in a neutral fashion. Here, similar to the earlier Simonsen innovation, wages were set to the previous four month average, thereby avoiding readjustment at their maximum. All indexing was abolished, except for a single additional modification, designed to assure neutrality of the conversion, on the date of the first anniversary of the change. The URV was set to equal the Cruzeiro Real/Dollar exchange rate, and accompanied the devaluation of the former according to an average of three price indices, while retaining a fixed relationship with the latter. This was a fixed exchange rate, but this time in real terms, allowing relative

[14] Persio Arida and Andre Lara Resende, *Moeda Indexada*, Sao Paulo, 1984. The same ideas appeared in English in "Inertial inflation and monetary reform," in John Williamson, ed., *Inflation and Indexation:Argentina, Brazil and Israel*, Washington, 1985.

prices to adjust. Finally, on July 1, the conversion to the *real* was made at a 1 to 1 rate with the URV, which corresponded exactly to a value equal to the dollar.

When the conversion occurred, the immediate effects were highly positive. The Plan achieved instant success. Inflation virtually ceased. Notably, the cost of basic foods and other necessities fell by more than 8 percent in July and August. Nominal interest rates came down sharply, although remaining high in real terms. Such was the induced entry of foreign capital that the exchange rate immediately strengthened by something like 18 percent. That made imports cheaper, and the much lower level of trade protection that had been implemented beginning with the Collor regime in 1990 assured a degree of competition that restricted domestic price hikes.

This change in international conditions was a critical difference from earlier stabilization attempts. Not only were there adequate initial foreign exchange reserves this time, but these also rapidly expanded. Imports could be afforded from the beginning to offset increased consumer demand: real August sales in Sao Paulo showed a 27 percent increase over the previous year. Restriction of consumer credit by the Central Bank occurred already in September. This surge in demand resulted in real growth in excess of 5 percent in 1994. But this time, there were two important differences from the failed Cruzado effort in 1986. One was the immediate boost to external supply associated with the initial appreciation of the *real*. A second was reliance upon market determination of prices, rather than holding them fixed for a period of time and then releasing them.

The Real Plan has continued, rather than being soon superseded by an alternative macroeconomic strategy, as had been the case with earlier attempts to counter inflation. But significant limitations soon became apparent.

One was the failure to use monetary and fiscal policy as the continuing anchor guaranteeing an end to high rates of inflation, and instead relying upon the semi-fixed exchange rate to assure price stability. That battle was soon apparent when Persio Arida left the presidency of the Central Bank in April 1995 and was replaced by Gustavo Franco. Arida had preferred giving up the exchange rate anchor much earlier. Retaining it contributed to continuing overvaluation. As a consequence, prices of tradables showed a much lower rate of inflation than did those of non-tradables. That in turn meant greater imports, lesser exports and greater current account deficits, keeping interest rates higher to attract, and retain, the foreign capital necessary to finance them.

Deficits on current account soon amounted to an excess of 4 percent of product, as external interest payments mounted.

A second, and related, shortfall was the disappearance of the large fiscal primary surplus that had initially been attained in 1994 to launch the plan. In subsequent years, there actually were small deficits, despite the continuing trajectory of reductions in the rate of inflation. Government indebtedness mounted rapidly as the banking system underwent consolidation, state debts were restructured and additional "skeletons" came out of the closet.

It was not merely increased debt that offset such costs. Extensive privatization also occurred, motivated not merely by the efficiency gains that could be anticipated, but also by the revenues that flowed into state coffers. Receipts of something like $100 billion were received, and while not all went to the federal government, the largest part did, and reduced the need for increased revenues beyond the larger receipts already programmed.

There were other problems that intervened as well, but this time of international origin. In the first instance, there was the Mexican crisis in late 1994 that affected Argentina significantly, delayed adjustment of the Brazilian exchange rate and lowered Brazilian growth. The Asian crisis appeared in 1997, sending Brazilian interest rates up and diminishing expansion. In August 1998, came the Russian crisis, and after Cardoso's reelection in October, a new mega-pact with the IMF to defend rapidly diminishing external reserves that reflected declining private willingness to be exposed to the real. This occurred despite rises in interest rates once again.

All of these limitations had a palpable cost. In combination, they inevitably led to a major devaluation in early 1999, and a major change in Brazilian macroeconomic policy. Inflation targeting became the new strategy of the Central Bank, and real interest rates soon fell from the something like 30% they had reached in February. The government went back to a continuing primary surplus that was to be unbroken for the remainder of the Cardoso presidency, allowing for a transition to a fiscal anchor. Exchange rates, now fluctuating, stabilized. Governmental revenues relative to income rapidly rose, and in 2000, a Fiscal Responsibility Law was passed, placing new requirements on the budgetary process. In 2000, the economy grew at a rate in excess of 4 percent, but soon thereafter an internal energy crisis, 9/11, major Argentine problems and pre-Lula nervousness kept continuing expansion at bay.

Nonetheless, the Real Plan continues under the administration of President Lula (2003 -) which remains committed to macroeconomic stability. And Brazil's rapid expansion of more than 5 percent during 2004, after zero growth 2003 in 2003, gives rise to hopes for a better future.

The PAEG and the Plano Real : a comparison

Three different subjects suggest themselves as central to a comparison between these two stabilization programs thirty years apart. Indeed, in each case the contrasts rather than the similarities are what stand out.

First is the inherent characteristic of each effort. The PAEG explicitly chose gradualism as its approach, explicitly rejecting the alternative of immediacy. As the plan elaborates: "Between the alternative of a shock treatment for the inflationary process and that of a progressive limitation of the rate of increase of prices, the government opted for the second…"[15] The PAEG then elaborated on the seven reasons for the choice. These included objection to a freeze on salaries, the need to reduce public consumption to allow savings to increase, the impossibility of eliminating the public deficit immediately, the consequences upon employment, the requirement for corrective inflation to adjust public prices, avoidance of immediate negative effects on debtors, and the evidence that international efforts, described as those of shock, did not achieve the desired elimination of inflation in time less than that proposed by the plan, two years.

Inflationary levels were eventually reduced as discussed earlier, but resurged during the 1970s and early 1980s. By the time of the Cruzado Plan, with annual inflation this time exceeding 200 percent, preference had shifted to more heterodox and immediate efforts to eliminate future price increases. Their essence was rooted in inertial inflation, but required price freezes to enforce that regularity. These efforts – there were five of them of note- unfortunately did not succeed, and so the population soon wearied of these heterodox experiments.

That set in motion the different approach of the Plan Real and culminated in its continuing success. Some of the factors listed by the PAEG in defense of its gradualism remained valid, but essential elements required for immediacy were incorporated within the Plan Real, such as its prior insistence on elimination of the public deficit, and creation of a four month period for the free recalculation of private sector prices. Other

[15] PAEG, p.33.

necessities, like sale of state banks and reorganization of state finance, were more gradually approached.

A second area of important difference between the two plans was the dependence upon indexation in the PAEG. In 1964 Brazil discovered the secret of how to live with inflation with only modest consequences. As I labeled the effort ten years later, it seemed to produce inflation without tears.[16] On the other hand, as further research was to show, nicely summarized in Pastore and Pinotti, it also produced an inflation that gathered force progressively, and was increasingly resistant to efforts to eradicate it. That is the reason why all of the heterodox efforts included some efforts to eliminate the process of monetary correction. For, once reinstated, as it always was, indexation assured that past inflation would serve as a major determinant of future price rises.

Yet, while indexation permitted inflationary acceleration, it also had some positive effects that should not be ignored. Among these, as Rocca points out, an essential one was the preservation of governmental revenues in Brazil that remained nearly constant over a period of 20 years, and much above the levels found in other Latin American countries.[17] Another was the approximate maintenance of relative prices, at least when private price limitations and efforts to restrain public prices were not in effect. After all, despite the magnitude of the international debt crisis, Brazil did not decline in income as other countries of the region did.

Ironically, the success of the URV occurred because it was indexed on a daily basis to the dollar. But that immediate period of full and perfect indexation ceased with the creation of the real. It has not recurred. Occasionally, the task of financing government indebtedness has been rendered more difficult as a consequence. To compensate for uncertainty in 2002, the term length of government bonds declined substantially, and interest rates were primarily those determined by the exchange rate. But this has altered as exchange rates have stabilized, and more recently, appreciated. Indeed, some private borrowing has now been transacted in *reais.*

A third area of differentiation is that related to the distribution of income. Earlier, there was discussion of the deterioration in inequality between 1960 and 1970, and the role that governmental wage policy played in reducing real wages in 1965 and 1966. Here I argue- jointly with Eliana Cardoso- that the Plan Real did operate to the benefit of

[16] "Indexing in Brazil: Inflation Without Tears," *Brookings Papers on Economic Activity*, no. 1, 1974, 261-280.
[17] Carlos Antonio Rocca, "Brazils's Plano Real: A Real Chance of Success?" in Maria D'Alva Kinzo and Victor Bulmer-Thomas, *Growth and Development in Brazil: Cardoso's Real Challenge,* London, 1995.

the poorest in Brazil. But a decline in inflation did have a positive effect in addition to the real increase in salary that was achieved. As she has put her case, "seria um erro atribuir a reducao da pobreza a queda do imposto inflacionario….Quem pagava o imposto inflacionario eram as classes medias….Os 20% mais pobres da populacao brasileira recebem 2% da renda nacional. Portanto, nao teriam como pagar os 4% do PIB recolhidos em media como imposto inflacionario sobre os meios de pagamentos…"[18]

That is quite true. Indeed, other estimates of the inflation tax suggest that fully two-fifths of the total levy represented transfers to the commercial banks. That leaves something of the order of 3% of GDP in the early 1990s directly imposed upon the holders of currency.[19] These were the unfortunate many who had no access to interest-paying overnight accounts. It was this bottom half of the population, with an income only of 11 percent of the total, that received *proportionally* greater benefits from the end of inflation.

Edward Amadeo and Marcelo Neri estimate that the income of the poor –a group then amounting to almost 45 percent of the population- was increased by something like 10 percent as a result of the transition to the *real* and the dramatic beginning of price stability.[20] That is a gain for this group more than three times the average benefit.

Other evidence confirms this larger relative advantage. Many of those in the informal sector were subject to daily incomes in cash, and they amounted to something like half the total labor force. Incomes in the informal sector rose 38.4 percent between 1994 and December 1995, while gains for the formal sector were about half as large, 18.7 percent.

Clearly there was the simultaneous impact of the gains in the minimum wage: this rose in September 1994 from R$ 64 to R$ 70, and went up to R$ 100 in May 1995. While creating large problems for the new government, owing to the linkage between minimum wages and pension benefit, this also had beneficial consequences for the poor.

[18] Eliana Cardoso, in this this volume
[19] See the estimates of the size of the inflation tax made by Rubens Penha Cysne and Paulo C. Coimbra-Lisboa, "Imposto Inflacionario e Transferencias Inflacionarias no Mercosul e nos Estados Unidos," FGV EPGE Ensaios Economicos, No. 572, November 2004.
[20] Edward Amadeo and Marcelo Neri, "Politica macroeconomica y pobreza en Brasil,", in Enrique Ganuza, Lance Taylor and Samuel Morley, eds., *Politica macroeconomica y pobreza en America Latina* (Madrid, 1998), chapter 6, p.16

Those below the poverty line fell dramatically, from 42 percent of the population to less than 34 percent, between 1993 and 1995. It has remained approximately steady subsequently. The only corresponding movement occurred with the Cruzado Plan in 1986. The Gini coefficient simultaneously showed a drop between the two years from .605 to 589, not a trivial decline.[21]

That both the real increase in the minimum wage as well as the end of inflation had an impact on the poor is made clear by Amadeo and Neri's results using the monthly PME data for six metropolitan areas between May 1994 and September 1995. They find that reductions in the incidence of povery roughly double over that interval as a result of adding the end of the inflation tax to the gain in wages.[22] That conclusion grants importance to both in about equal proportion.

Whatever the numerical calculation, there can be no doubt, then, of the marked difference between the PAEG and the Real Plan in their effects upon the poor. This great distinction, thirty years apart, owes itself in good measure to the political evolution Brazil had experienced in the interim. The military government was willing, if need be, to make the working class supporters of the Goulart presidency pay the price for much desired inflationary stabilization. Elections were not an issue. But Fernando Henrique Cardoso, candidate for the presidency, very much needed the support of the majority poor, and not only the minority rich, if he were to defeat Lula in 1994.

Conclusion: towards the future

Over the thirty year interval between 1964 and 1994, much had changed in Brazil, and would continue to do so in following years as spiraling inflation did not return. This comparison between the two stabilization plans affords just a brief glimpse of the rapid transition to a market economy over the last decade. Campos' great hope has been fulfilled. There has been greater reliance upon less protection against imports, government decentralization, and better social expenditure, instead of burgeoning state investment as there had been earlier. And the change has survived the election of the PT in 2002.

These same forces operated throughout Latin America. It is no accident that virtually all of the countries of the region, once they emerged from the debt crisis of the 1980s, and many from military rule, moved similarly to end inflation, open their

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[21] Andre Lahoz, "Renda e Consumo," in Bolivar Lamounier amd Rubens Figuereido (eds), *A Era FHC: um balanco* (Sao Paulo, 2002), pp. 76 and 87.
[22] Amadeo and Neri, op. cit. p.16.

economies to wider international trade and rely on market signals. But each of the countries followed different models of adaptation. What was common to all was the virtual elimination of internal public sector deficits. By the end, these did not even have to be large in order to have significant inflationary consequences.

Bolivia was the first of the Latin American countries to confront inflation in 1985. It did so by reducing a governmental deficit that had risen substantially and by utilizing the dollar as a domestic currency. The rate of exchange was not fixed, and dollars circulated freely, representing something like 70 percent of the total currency base. Peru, under Fujimori, was later to adopt a somewhat similar pattern in the early 1990s.

Mexico never confronted inflation rates of that magnitude. Nor did its public sector deficit get so out of line. As a consequence, it was able under Salinas at the end of the 1980s to begin its program of inflation control through regulation of salaries, and control of prices. By agreement, a much lesser expectation of future inflation was built into current increases; and, unlike Brazil in 1965 and 1966, such expectations were in fact realized.

Argentina, after the election of Menem, and with the appointment of Domingo Cavallo as Minister of Finance, adopted a fixed exchange rate with the dollar as a permanent rule. History played an important role in the choice. After all, during the glory days of the country in the early 20th century, that was the policy that worked. Coming as it did in 1990, when capital markets were again opening, and when expanded international trade with Brazil would provide a new external stimulus, the decision worked –in contrast to the failed Austral attempt under Alfonsin.

Brazil, too, had its initial failure in 1986 with the Cruzado Plan. But its principal authors were to reemerge under Cardoso's leadership in the Ministry of Finance in 1993, and to design a different version that would persist, as we have seen. But more than defeating inflation is at stake. Stabilization is just the beginning. The real goal is a higher, and continuing, rate of growth with more equitable distribution of income.

To accomplish that objective, four additional inputs seem necessary. They are not novel. It is their effective combination that is essential.

One is a much higher domestic rate of savings. To attain consistent growth at a level of 5 percent annually, investment rates of the order of 25 percent have to be attained. Foreign savings can reliably contribute only between 2 and 3 percent of the necessary accumulation. The rest has to emerge internally as a result of restrained consumption. Historically, domestic savings as a share of income within Brazil have not grown: in 1959 a level of 19 percent was attained; today, it is not far different. This is where the current primary fiscal surpluses can play an important role. Keeping those high, even as inflation rates and interest rates fall, can enable public savings to play a greater future role. One inverts past practice. In the past the private sector saved in order to allow the state to invest; now it is the turn of the government to save, allowing not only worthwhile public investments for better education and health, and support for the new PPP, but also private commitments for the future.

A second requirement is continuation of the pattern of recent export growth. Not so long ago, in 1990, Brazilian exports were at a level of around 8 percent of PIB, equal to the accomplishment of such nation states as Rwanda, Burundi, and Myanmar. Now, especially in the last three years, globalization has taken serious root. All indications point to exports this year attaining almost a fifth of total output. Clearly, one needs to eliminate the restrictions imposed by the United States, Europe, Japan, Korea and other countries on agricultural sales abroad. But manufactured exports, because they enjoy a much higher elasticity of demand, and where Brazil enjoys potential comparative advantage, are not to be ignored in the future. What is essential is that Brazil remain competitive, through continuous increase of productivity and advance in science and technology.

Third is a need for better quality education. Brazil has advanced substantially in recent years, obtaining universal school attendance for the first time. That quantitative accomplishment has not been matched by equivalent qualitative gain, just as in many other Latin American countries. Additionally, there is the perennial problem of higher education. Brazil expends too much in public resources for it, well beyond the level in other comparable countries. There is now support, for the first time, for payment of some small part of tuition at public universities. That is an advance. But universal secondary education can create, as it has done in the Asian countries, a core group of skilled workers ready to advance up the technology ladder. It will also, as repeated studies have shown, have great weight in improving the income distribution. As such extension of education advances, one needs to provide a path for entry for all; otherwise, one is assuring that wealth today will inevitably become wealth tomorrow.

And finally, social services must be expanded. That is not an easy task. Money alone is insufficient. Efforts up to now have not yet proved adequate. Poverty can be attacked, and its burden on future generations reduced. *Bolsa escola* and *bolsa familia* are initial efforts. Improvements in provision of health services have also been notable. The challenge is to provide a program that is continuous and independent of immediate political interests.

This combination is no easy task. But it is necessary if Brazil is finally to live up to the historic hopes for its definitive emergence on the world scene. Ending inflation was no trivial part of that process. The Real Plan provides a start. Now must come the rest.