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Brazil's Incomplete Stabilization and Reform

SINCE THE INITIATION of the Real Plan in July 1994, after a decade of failed stabilizations, Brazil has made dramatic progress. Figure 1 makes the point forcefully: starting from hyperinflation levels, inflation has been under control for the past three years and there is no sign of it coming back. But the stabilization program is unconventional and this raises doubts about its eventual success. Brazil has big budget deficits, large real appreciation, and a large and growing external deficit; there has been a major increase in real wages and incomplete progress on broad-based economic reform. These conditions recall the many failed programs of Latin America, including Brazil's own Cruzado Plan of 1986.

Will Brazil stay the course and return to the high growth rates that it experienced in the 1960s and 1970s and that are common in Asia? Or will it continue with makeshift policies that lead to increased vulnerability and stand in the way of such dramatic improvements as have occurred in Chile and are now underway in Argentina? In particular, how will Brazil handle the significant real appreciation, growing external deficits, and incomplete structural reform? With politics seeming always to take the front seat, will there ever be a good time to attend to these important issues, which stand in the way of economic improvement?

If Brazil fails to make dramatic improvements, it is very unlikely that it will experience a Mexican-style collapse or a pervasive loss of confidence. There are 150 million Brazilians, and they are relentless optimists. Beyond that, trade controls, a more rapid crawling peg, a

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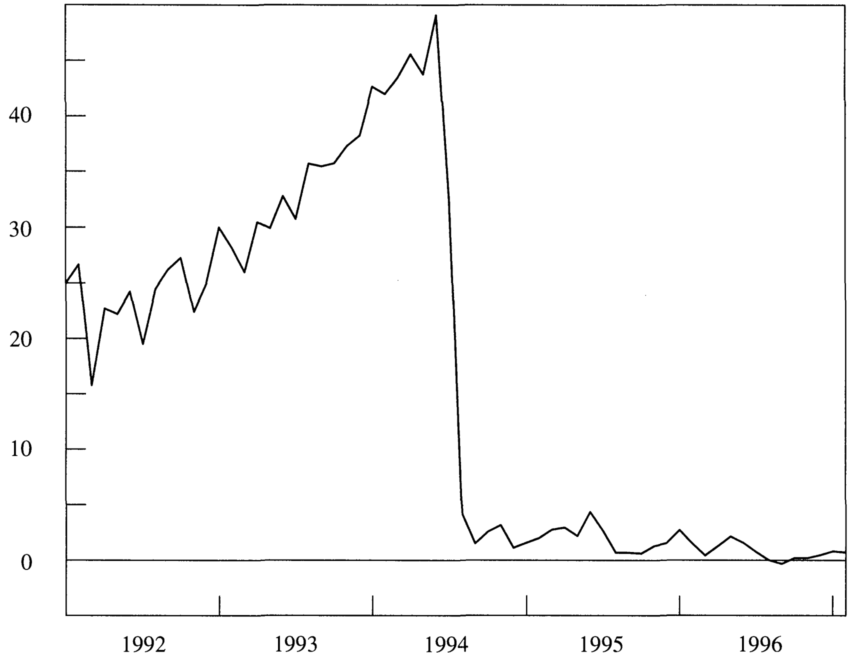
Figure 1. CPI Inflation, Monthly Rates, 1992–97[a]

Percent per month



Source: Author's calculations based on data from International Monetary Fund (IMF), *International Financial Statistics*, various issues.

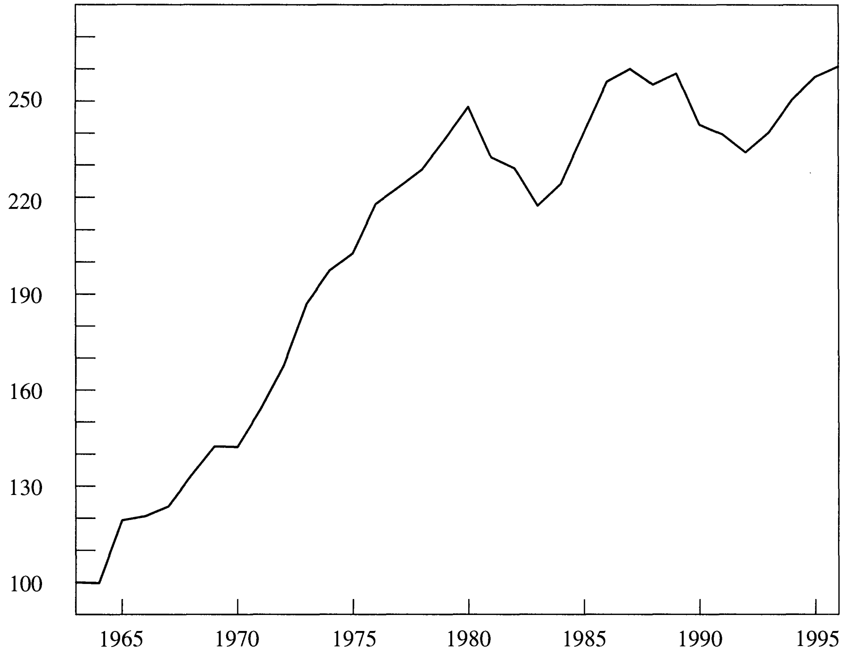
a. Sample period is January 1992 to February 1997. Data are monthly; tic marks correspond to January.

devaluation, or all three together, would easily avoid the worst. But Brazilians will say, "Why be pessimistic at all? With high productivity growth and an improved distribution of income, Brazil could provide a new model by getting ahead on all fronts." Perhaps it will. But more likely not, and so the stabilization strategy is just giving Brazil more time—perhaps a lot of time—to procrastinate on growth policies.

The issue is not the possibility of near-term collapse, but that policies and performance are unnecessarily disappointing. Since the 1990–92 recession there has been an upturn, and growth is now running at 3.0 to 4.5 percent. But that is still far from the performance of Brazil in 1960–80 or the more recent experience of emerging economies from Chile to Malaysia. The current strategy of income redistribution and

Figure 2. Real Per Capita GDP, 1963–96

Index, 1963 = 100



Source: Author's calculations. Data for 1963–94 are from IMF, *International Financial Statistics*, various issues. For 1995–96, GDP data are from J. P. Morgan, *Emerging Markets: Economic Indicators*, April 4, 1997; and population data are estimated by the author.

making do will not translate into the sustained high growth rates that are the hallmark of successful stabilization and reform. In fact, the external deficit and the government's inability or unwillingness to bring down the budget deficit increasingly distort incentives and undermine stability.

Looking Back: Growth, Inflation, and Many Failed Stabilizations

In the mid-1970s, Brazil had every right to expect extraordinary performance. Figure 2 shows the country's rapid growth in per capita

Table 1. Macroeconomic Performance, 1965–97
Percent

Period	*Growth rate*[a]	*Inflation rate*[b]	*Current account balance*[c]
1965–79[d]	5.9	30	−3.0
1980–93[d]	0.3	423	−1.4
1993	2.3	2,149	0.0
1994	4.2	2,669	−0.2
1995	2.7	23	−2.5
1996	1.5	10	−3.2
1997[e]	2.3	7	−4.0

Source: Author's calculations. Data for 1965–94 are from IMF, *International Financial Statistics*, various issues; and for 1995–97, from J. P. Morgan, *Emerging Markets: Economic Indicators*, April 4, 1997.
a. Percent change in real GDP per capita.
b. Percent change in CPI.
c. As a percentage of GDP.
d. Annual average.
e. Forecast.

income, which had been higher than in almost any other country for over a decade. The Brazilian model had been successful and showed no sign of running out of steam. The country had mastered living with inflation and import substitution. A mixed economy with a very dynamic public sector provided a successful growth strategy, and high growth contained the problems of income distribution that might otherwise have surfaced.[1] The "Washington consensus" was nowhere in sight, and Brazil was getting ahead in the wrong lane.

Brazil's depressing experience over the past fifteen years stands in sharp contrast to that of the preceding decades. Table 1 presents some statistics on Brazil's economic performance since 1965. It has always had some inflation, but in the late 1980s inflation soared to unprecedented levels. More striking, Brazil has experienced high growth rates for much of the postwar period. Over 1950–80, growth averaged 7.1 percent per year. With average population growth at 2.7 percent over that period, real per capita GDP almost quadrupled.[2] At the beginning of the 1980s, Brazil held great promise as an emerging economy, with a track record of growth and the expectation of exceptionally strong performance. Nothing of that has materialized: Brazil remains the coun-

1. See Bacha (1977), Cardoso and Fishlow (1990), and Malan and Bonelli (1977).
2. See Cardoso and Fishlow (1990).

try of the future. But after the disillusionment, the completion of reform and stabilization offer a chance to return to strong performance.

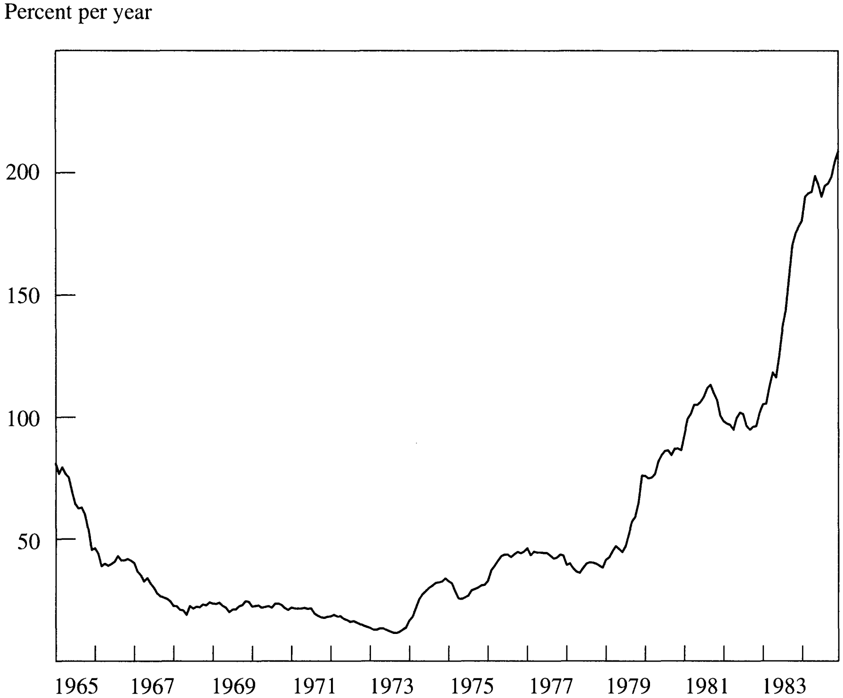
Brazil is rightly famous—and infamous—as a model of living with inflation. A system of comprehensive and effective indexation, ranging from the labor market to public sector prices and from the exchange rate to financial markets, has ensured that inflation is relatively stable and financial markets can function, preventing money from being driven offshore. The system was perfected during the military regime in the late 1960s to center on ex post inflation with infrequent readjustment. Initially, indexation adjustments to wages were made annually, so that price shocks would be substantially diluted rather than quickly turned into a price-wage spiral. Moreover, since the exchange rate rule made no allowance for external inflation, there was a built-in real depreciation effect.[3] As a result, external balance problems were never significant. Indeed, until the late 1970s the military regime did succeed in avoiding macroeconomic problems and, through indexation, preventing significant misalignments in relative prices and capital flight.

Figure 3 shows the Brazilian inflation rate from the stabilization implemented by the military regime in the mid-1960s to the eve of the Cruzado Plan, the most gloriously failed heterodox stabilization. Brazil's claim to living well with inflation goes back to the late 1960s and early 1970s, when inflation was moderate—20 to 30 percent—quite stable and even declining slightly. In combination with very high growth, stability and prosperity seemed unproblematic.

The oil shocks of the 1970s changed this picture. Brazil was a major importer of oil. At the outset, increases in the domestic prices of oil products were postponed and the external deficits occasioned by the higher prices and the lack of adjustment were financed in the emerging debt market. Prudently, the government practiced long-term borrowing. Had the oil shock been transitory, all might have ended well, but the second oil shock made it clear that there would be no early relief. A large external deficit led to accumulating debt. The United States's battle against inflation in the early 1980s made external financing precarious. Passing on the oil price increases to the domestic market, with

3. See Simonsen (1984, 1986) for an extensive discussion of the indexation arrangements written from the perspective of the early 1980s, giving a glimpse of the problem and no little indication of what was to come.

Figure 3. CPI Inflation, Annual Rates, 1965–84[a]



Source: Author's calculations based on data from from IMF, *International Financial Statistics*, various issues.
a. Sample period is January 1965 to December 1984. Data are monthly at annual rates; tic marks correspond to January.

its comprehensive indexation, doubled the rate of inflation from about 40 percent in the mid-1970s to 98 percent in 1982. Moreover, the frequency of indexation adjustments was increased from once a year to every six months, which, substantially accommodated by passive money, increased the inflation rate even further. The debt crises cut short the opportunities for external rollover and deficit finance. The party was over and Brazil was on its way to extreme inflation and stagnation.

In the face of full domestic indexation of wages and the exchange rate, oil price increases became wage increases, which, in turn, led to another and higher round of price inflation.[4] To reduce the average real

4. See Simonsen (1984, 1986) for the mechanics of supply shocks in the context of indexation.

wage between indexation adjustments, which reset wages, the rate of inflation had to increase, producing a more substantial erosion of real wages over the wage cycle. Monetary policy accommodated this process. Annual inflation surpassed 100 percent in the early 1980s; but even then, it seemed relatively stable.

In hindsight, there was a steady acceleration with wide swings in the month-to-month inflation rate. Because inflation depressed real wages, the system of annual wage increases gave way to semiannual raises and then to progressively more frequent increases. The inflation rate accelerated and the inflation stability of the early 1970s was lost. By 1985, inflation had surpassed 200 percent, with no prospect of subsiding.

Brazilian economists have long recognized that in a setting of full, compulsory indexation, orthodox monetary restraint is not a satisfactory answer to inflation. The idea that inflation has inertia, by virtue of the indexation law and practice, implies the need for an alternative stabilization strategy, namely, "heterodoxy." The issue is not only to control demand, but, more important, to coordinate a stop to wage and price increases, which feed on one another. The ill-fated Cruzado Plan of 1986 was designed to accomplish this. The plan gave central place to a coordinated incomes policy, including cutting back wage increases, partial adjustment of wage contracts that had not yet been adjusted, and vigorous enforcement of price controls. Inflation would be killed overnight; euphoria would ensue. Since Brazil's inflation was not the outcome of inflationary money creation—the government was perfectly able to finance itself in the capital market—it was altogether plausible to use the stopping of the wage-price process as the central disinflationary measure. It was not plausible, however, to take advantage of the prevailing calm by immediately stepping up demand with a major expansion. The boom was short-lived, price controls became binding, and markets became distorted. (The government ultimately had to use the air force to round up cattle that were being withheld from the market.) Not surprisingly, the episode ended in a wave of corrective inflation. By late 1987, Brazilian inflation was running at nearly 400 percent and rising.

The Cruzado Plan is of interest because it highlights the basic conception of inflation in Brazil: inflation is sui generis, characterized by the inertia of an implicit or explicit indexation scheme and the resulting inability of restrictive monetary policy to promote disinflation rather than recession. The plan also highlights Brazil's low threshold for pain. Implementation of a restrictive demand policy to reinforce the incomes policy was never considered; to the contrary, demand was actually stimulated. The failure of subsequent stabilization programs has much to do with these two points.

The following years were marked by repeated unsuccessful attempts to stop inflation. Each stabilization was shortly followed by another round of inflation, with successively higher peaks. Most introduced a new money or at least skipped a few zeros, but each plan had its own name and its own special features: some did not specify any measures at all, others called for the freezing and inflationary erosion of all nominal assets, all had some particular mechanism to disarm inflation inertia. There was the Cruzado Plan, Cruzado 2, the Plan Bresser, the Summer Plan, the Collor Plan, Collor 2, and finally the Real Plan (named after the new currency that it introduced), which is still in place and, though incomplete, may be the lasting solution to Brazil's inflation.

The Real Plan uses neither wage-price controls nor the confiscation of assets. And in the Brazilian context, a sharp contraction of demand was also out of the question. Recognizing that even without extreme inflation rates inertia and coordination were major problems, the architects of the plan had to devise some way to bring wage- and price-setting into a noninflationary regime. This time, rather than readjusting all contracts to coordinate a simultaneous disinflation, they chose an elaborate move into a unified reference value. Wages were converted into this unit of account in March 1994, at their average over the previous four months, thus avoiding inflationary erosion. Once converted, wages were indexed on an annual basis for another year. The unit of account, in turn, was linked to the dollar, and when the stabilization formally began, it became the new currency—the real—at a parity of one to one.

In the immediate aftermath of stabilization, the new money appreciated against the dollar by nearly 15 percent, reinforcing the disinflation. However, over the next year, various forms of wage adjustment sharply raised wages. Just as under the previous stabilization plans, disinflation was incomplete and there was no assurance that it would continue.

Poststabilization Tensions

Once inflation had been brought down by the shift into a new money, several critical developments followed. Key features are highlighted here, some of which are discussed in more detail below.

—The exchange rate was fixed at one to one on the dollar as Brazil emerged from the transition period. Then the real appreciated significantly against the dollar between 1994 and 1996, reinforcing the disinflationary effect of the monetary reform. Depending on the measure—wages, the consumer price index (CPI), or manufactured goods prices—the appreciation was between 3 and 76 percent. With excessive real appreciation, as evidenced by Brazil's trade problems, the initial slipping of the real followed by the implementation of a crawling peg have created a relatively stable, though strongly appreciated, real exchange rate.

—A huge increase in real wages occurred in the process of shifting to the new money. This increase was the product of a combination of factors, including deliberate wage policy, indexation, some inertia being carried over into the new money, and real appreciation. One statistic suffices to illustrate the magnitude of the change: the real income of the bottom 50 percent of the income distribution rose by 35 percent over 1993–95.

—A very rapid rise in industrial production and a shift to large external deficits were driven by the return of credit and real wage growth. The risk of reigniting inflation persuaded the government to raise real interest rates to extremely high levels (just as in Germany in 1925). In 1995, real interest rates averaged over 40 percent; bankruptcy was pervasive and a large number of banks were destroyed. But as a disinflation strategy, it worked.

—The high interest rates not only slowed growth and significantly increased the problems of the banks, but also led to very large capital inflows. Foreign exchange reserves increased from $32 billion in December 1993 to $52 billion in December 1995; by late 1996, they had risen to $59 billion.

—A significant deterioration of the external balance resulted from import trade liberalization in the early 1990s, strong demand, and real appreciation. From near equilibrium in 1992, the external balance had moved to a deficit of $24 billion by 1996, and it is still rising.

Table 2. Median Real Monthly Wage Income, by Income Group, 1990–95
September 1995 reais, except as indicated

Income group	*1990*	*1993*	*1995*	*Percent change, 1993–95*
Bottom 10 percent	29	23	42	83
Bottom 50 percent	96	86	116	35
Top 10 percent	1,707	1,648	2,044	24

Source: Author's calculations based on data from the PNAD, a household survey conducted by the Instituto Brasileiro de Geographia e Economia (IBGE).

Real Wages and Real Income

The stabilization has been a massive political success not only because there is no longer any inflation, but also because there have been substantial gains in real income for all workers, and in particular, the poor. This section reviews the basic facts on real wages, income distribution, and the reduction of poverty in the aftermath of stabilization.

In the years 1990–92, per capita GDP was falling. The year of the stabilization, 1994, as well as 1995, were characterized by strongly rising GDP per capita. But beyond the growth in output, a lot happened on the side of real wages. In São Paulo, for example, real wages increased by 26 percent between 1993 and 1996.[5] The real minimum wage also increased significantly. The minimum wage plays a key role in the Brazilian economy; it directly affects the 21 percent of the labor force estimated to work below the minimum wage, and is also a benchmark wage for the formal sector. Rodrigo Reis Soares shows that the minimum wage exerts a significant influence on real earnings. Moreover, the reduction in inflation reduced the inflationary erosion of the real wage over the indexation cycle.[6]

The gain in real wages has led to a major redistribution of income in Brazil. Household survey evidence shows both a rise in real wages overall and a rise in the relative wages of low-income workers.[7] Table 2 shows the distribution of real wage changes. While real labor income has increased for every decile of the distribution, the average

5. See *Conjuntura Econômica*, various issues.

6. See Neri, Considera, and Pinto (1996), Reis Soares (1997), and Rocha (1996a).

7. Data are from tabulations reported in Instituto Brasiliero de Geographia e Economia (IBGE) (1995).

real wage of those in the bottom 10 percent nearly doubled between 1993 and 1995. And the relative position of the poorest group has risen dramatically: between 1993 and 1995, the ratio of those in the top 10 percent wage to that of those in the bottom 10 percent declined from 72 to 49.[8]

The same phenomenon occurred under the Cruzado Plan. In 1986 the real median income of the poorest group briefly recorded an increase of 77 percent, but this did not last in either absolute or relative terms. Price controls provided a temporary stabilization that ended in a blowout.[9]

The real wage gains and their distribution can also be considered in terms of the issue of poverty. This is a central issue in Brazil, where income distribution is extraordinarily bad, even by third world standards.[10] In the decades preceding the Real Plan, the income distribution had grown steadily worse: in the 1960s the income share of the poorest 60 percent was 25 percent and by the 1990s it had fallen to only 16.3 percent. Over the same period, the share of the richest 10 percent increased from 39.7 to 49.7 percent.[11] The Real Plan—taken together with other domestic developments, including growth, the restoration of bank credit, and improvements in agriculture—has led to a dramatic improvement in poverty.[12] The real wage gains and increased employment moved almost 13 million people over the poverty line during the first year of the plan. The proportion of poor in the population fell to the levels during the Cruzado Plan, a decade earlier. The data are

8. It seems reasonable to ask how real wages could increase so substantially. The answer is that the share of labor in Brazil's GDP is actually very low: about 30 to 35 percent, according to oral tradition (no estimates from the income side are available).

9. Brazil's heterodox stabilization under the Cruzado Plan followed a path very similar to that of Peru in the mid-1980s, under Alain Garcia: a big hike in wages, fixed exchange rates, a boom, and a big bust.

10. Deininger and Squire (1996) show that the ratio of the top quintile to the bottom quintile of the income distribution, averaged over 1960–89, is 23 for Brazil, exceeded only by Armenia (24), Honduras (28), and Guinea-Bissau (29). For Chile, this ratio is 14, and the average for East Asia is 7.

11. See Bonelli and Ramos (1992, table 1, p. 5).

12. For a discussion of the evolution and measurement of Brazilian poverty, including in the context of the Real Plan, see Rocha (1996a, 1996b), Neri, Considera, and Pinto (1996), and Sonia Rocha, "Crise, Estabilizção, e Pobreza—1990 a 1995," *Conjunctura Econômica*, January 1997, pp. 22–26.

impressive: between 1990 and 1995, the total number of poor declined from 42 million to only 30.4 million, and the fraction of poor, from 30 percent to only 21 percent.[13]

The real wage gains and their favorable effects on the income distribution actually understate the extent to which the situation has improved for workers.[14] The disappearance of the inflation tax on real balances accounts for some increase in real income, as does the elimination of the variation of real income within the adjustment cycle. It is important to recognize that the restoration of credit that always comes with a reduction of inflation also raises the standard of living.

Consumption boomed soon after the plan was initiated. Credit expansion reinforced the spending impact of the rise in real wages.[15] The share of consumption in GDP rose to 82.1 percent, in contrast to an average of 77 percent over the period 1980–94. The only time in the past fifteen years when consumption reached similar levels was 1986, the year of the Cruzado Plan; indeed, the share was virtually identical at that time—82.3 percent. The comparison is uncomfortable.

A major rise in real wages is a feature common to many countries that have undergone stabilization programs, in Latin America and elsewhere. To the extent that real wage increases and a consumption boom have ultimately led to the failure of several stabilizations, or at least to difficulties, this must be held out as a prospect for Brazil.[16] As discussed, the Real Plan has been successful in creating growth with an improved income distribution. Real wage gains have been significant across the board, and in the bottom half of the distribution, in particular. The obvious question is how to make these effects last. Alternatively, one could ask what is the other side of the coin of the gains in real wages and income. If these gains are coupled with external borrowing and overvaluation, then caution is important, because this stabilization may not last long enough—as the Cruzado Plan did not—to increasingly

13. See Sonia Rocha, "Crise, Estabilizção, e Pobreza—1990 a 1995," *Conjunctura Econômica*, January 1997, p 26.

14. Even before the introduction of the Real Plan, Cardoso, Paes de Barros, and Urani (1995) had noted the adverse impact of certain macroeconomic conditions—in particular, inflation—on income distribution.

15. Real credit to consumers expanded by 98.7 percent in the period July 1994 to July 1996; see *Conjuntura Econômica*, various issues.

16. See Kiguel and Liviatan (1992), Dornbusch, Goldfajn, and Valdés (1995), and Rebelo and Vegh (1995).

and rapidly translate into reforms and the resulting advances in productivity. At best it is a prepayment on reform, at worst, an unaffordable consumption boom.

The Real Exchange Rate

In the aftermath of the Mexican collapse, the real exchange rate has come to assume a special place in judging the success of a stabilization program. Even though other factors contributed to the massive meltdown in Mexico—for example, shortening of debt, dollarization, expansionary credit policy—the large real appreciation played a major role in setting the scene for a crisis.[17] Going beyond the Mexican case, Ilan Goldfajn and Rodrigo Valdés provide a detailed study of large real appreciations worldwide.[18] For a cross-section of ninety-three countries, they do not find a single case of a real appreciation of 35 percent or more (adjusted for trend and fundamentals) that did not ultimately result in a major depreciation. And even for somewhat more moderate real appreciation, they find that the probability of a large real depreciation is very substantial.

It is important therefore to ask where Brazil stands in this regard. The issue of real appreciation inevitably arises, because the Brazilian data are very striking. As always, interpretations differ. Analyzing the industrial price index for São Paulo relative to Brazil's trading partners since the inception of the Real Plan, Edmar Bacha concludes that there was a modest real appreciation of 6 percent by mid-1996. The Instituto de Economia do Setor Público (IESP) reports a real exchange rate in industry and shows roughly the same results. Eliana Cardoso investigates a broad range of indexes to conclude that, by some measures, real appreciation has been as high as 40 percent under the Real Plan. Alfonso Pastore and Maria Pinotti likewise find evidence of substantial real appreciation.[19]

Goldman Sachs uses a model-based approach to determine fundamental exchange rates as benchmarks for judging over- or undervaluation. Based on this model, by February 1997 the real was overvalued

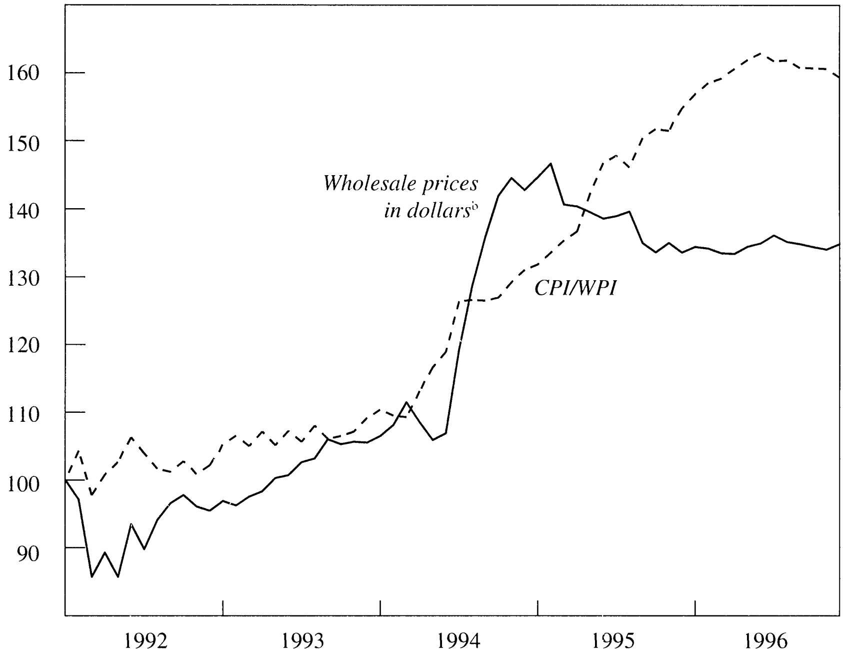
17. See Dornbusch, Goldfajn, and Valdés (1995) and also Sachs, Tornell, and Velasco (1996).

18. Goldfajn and Valdés (1996).

19. Bacha (1996); Instituto de Economia do Setor Público, *Indicadores IESP* 6(58), January–February 1997; Cardoso (1996); Pastore and Pinotti (1996).

Figure 4. Two Indicators of Currency Overvaluation, 1992–96[a]

Index, January 1992 = 100



Source: Author's calculations based on data from from IMF, *International Financial Statistics*, various issues.
a. Sample period is January 1992 to December 1996. Data are monthly; tic marks correspond to January.
b. Wholesale price index divided by index of nominal exchange rate (real to dollar).

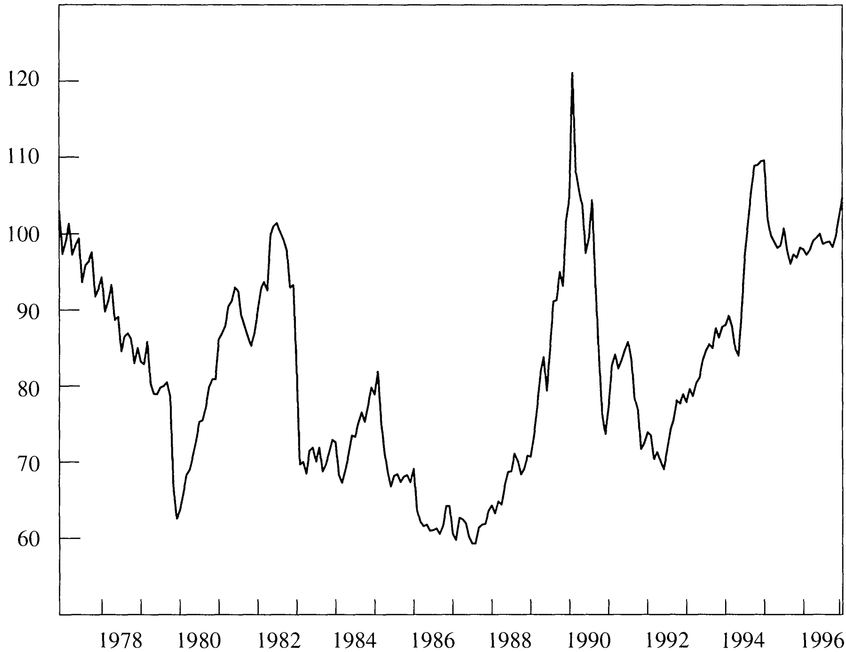
by 19.1 percent. Gustavo Franco, one of the leading architects of the Real Plan, rejects the hypothesis of overvaluation on the grounds that Brazil is in an unprecendented situation, for which past data are not relevant; the present combination of high productivity growth, an open economy, and stable money is unique in Brazil's history.[20]

Figure 4 presents two indicators of overvaluation for Brazil. One series is the Brazilian wholesale price index, deflated by the real-to-dollar exchange rate; that is, wholesale prices in dollars. This measure shows an increase of about 25 percent over January 1994, before the adoption of the Real Plan. However, it makes no adjustment for prices in dollars of goods in competitor countries, whether Argentina, with its

20. Ades (1996); Franco (1996).

Figure 5. J. P. Morgan Real Effective Exchange Rate, 1977–97[a]

Index, 1990 = 100



Source: J. P. Morgan currency index database, available on J. P. Morgan's worldwide web page.
a. Effective exchange rate index based on nonfood wholesale prices. Sample period is January 1977 to February 1997. Data are monthly; tic marks correspond to January.

increased price level, or Europe and Japan, where prices in dollars have fallen sharply in the past several years.

The other series in figure 4 shows the ratio of the Brazilian consumer price index to the wholesale price index. This serves as a rough proxy for the price ratio of nontradables to tradables. By this measure, the relative price ratio has risen by almost 50 percent since early 1994. This represents an extraordinary shift in relative prices, as could be expected from the large shifts in income distribution and real wages discussed above.

Figure 5 reports the J. P. Morgan real effective exchange rate since January 1977.[21] A rise in this index represents a real appreciation. By

21. During periods of high inflation, measurement of real exchange rates is poor

Table 3. Alternative Measures of the Real Exchange Rate, 1993–96
Index, 1990 = 100

Real exchange rate measure	*1993*	*1994*	*1995*	*1996*
CPI/WPI	114	129	154	172
Exchange rate indexes[a]				
J. P. Morgan, nonfood wholesale prices	82	95	101	97
IPEA, manufactured goods prices	82	89	94	92
Fundap, industrial goods prices	89	96	98	97
Fundap, CPI	82	93	112	120
IPEA, wages	107	139	196	245

Source: CPI and WPI data are from IMF, *International Financial Statistics*, various issues. J. P. Morgan data are from the J. P. Morgan currency index database, available on J. P. Morgan's worldwide web page. IPEA data are provided directly from the Instituto de Pesquisa Econômica Aplicada. Fundap data are from Instituto de Economia do Setor Público, *Indicadores IESP* 6(58), January–February 1997.
a. Indexes are constructed so that an increase represents an appreciation of the real. Effective exchange rate indexes are deflated as indicated.

this measure, the real exchange rate has been quite high for over two years, its level matched only by brief episodes on the eve of the Collor Plan and the 1982 debt crisis. This time series illustrates how hard it is to decide on a benchmark for assessing the real appreciation. Compared with the average for the period 1980–94—when Brazil's performance deteriorated—the current real effective exchange rate has appreciated by 35 percent. Of that, 5 percent is due to the very recent rise in the value of the dollar relative to European currencies and the yen. Table 3 reports several real exchange rate measures, including trade-weighted (effective) exchange rates, all of which show some real appreciation.

The possibility that this real appreciation represents an overvaluation arouses concern because large real appreciations have almost invariably ended in external crises. The problem accumulates over time and induces a growing external deficit. The exchange rate becomes unsustainable whenever events undercut the rollover of debt and the financing of current account deficits. Even without an actual crisis, overvaluation cuts into growth and in this fashion signals its unsustainability.

Large real appreciation, without fundamental support, involves increased vulnerability and, for that reason, makes a country more prone to crisis. When and how the crisis comes about depends on the particular circumstances. For example, a political reversal could break a pattern

because wage and price data are not synchronized. The bias is systematic, in that the relevant price is understated (because of reporting lags) and consequently the reported real exchange rate is overdepreciated relative to the true rate.

of continuity and credibility and lead to a sell off; a bout of easy money would hasten such a crisis, a fragile banking system with foreign currency exposure would magnify the collapse, and a liquid debt structure would accelerate and magnify the collapse. Financial considerations are all important in interpreting specific events, but must not be misconstrued as the primary or sole source of a collapse.

Before a crisis, there is little agreement on what is a misaligned real exchange rate. Because of that disagreement, real appreciation can run its course. But theory can help to predict what should happen to equilibrium relative prices. If an economy undergoes reform, specifically, significant trade opening and restructuring that reduces employment and hence leads to a decline in the equilibrium wage in dollars, real appreciation is the wrong development. The basic point is that reforms that reduce employment, at least in the medium term, in themselves create an overriding presumption that real depreciation is necessary.

Brazil has opened trade very substantially. Quotas have been almost completely abandoned, and the average tariff fell from 51 percent to only 14 percent between 1988 and 1994.[22] Import penetration in manufacturing has increased sharply. Imports as a percentage of apparent consumption rose from 4.4 in 1989 to 15.5 in 1995.[23]

Economic reform—trade liberalization, deregulation, restructuring, privatization and government downsizing, opening the capital account—has two important impacts. First, by improving resource allocation, its raises productivity and hence the long-run economic prospects of the economy.[24] This effect might best be summarized as an increase in the valuation of equity in those industries that benefit from liberalization; and it is not unambiguous, because opening will trim the scope for collusive profits and hidden subsidies. Nevertheless, in combination, the reform measures invariably make the economy more attractive to outside investors and hence raise the valuation of assets.

Second is the impact of the reform measures on labor. In the long run, it is plausible that a country that uses its resources more effectively

22. See Cardoso (1996) and Abreu, Carneiro, and Werneck (1996).

23. See Mesquita Moreira and Correa (1996, table 2). It is interesting to note that there is no commensurate rise in the ratio of exports to production. Although this ratio did rise over the period 1989–95, it did so only from 10.1 to 14.9 percent. It is the differential opening on the import side that is of interest here.

24. This point is central to the discussion in Franco (1996).

and puts itself in a position to attract foreign investment will also pay higher real wages. But that is definitely not the case in the short run, before the reallocation of resources is substantially underway and investment in new plant and equipment is realized. In fact, in the short run the *equilibrium* wage in dollars must fall. Thus stock prices and equilibrium wages in dollars (or the exchange rate) are likely to move in opposite directions.

Despite the argument that trade liberalization calls for real depreciation and a decline in wages in dollars, one cannot presume that in a live situation involving a complex set of reforms, including a return to the world capital market, this must actually happen. In fact, I have shown that exactly the opposite can take place: real wages rise and the real exchange rate appreciates. But that precisely highlights the tension. In the labor market, the reforms call for wages in dollars to fall in order to accommodate the reduction in labor demand in the government sector and in import-competing businesses that face unprecedented competition. Yet wages in dollars are driven up by the dominant effect of capital inflows.

There are two ways in which such a situation might arise without incurring short-term employment problems. In one case, a boom in physical investment uses labor in the implementation process and, over the longer term, creates new jobs in the domestic goods and export sectors at unchanged or even increased wages. It is conceivable that this could be accomplished by pervasive deregulation and increased efficiency in public finance, or improved market access abroad. The expansion of exports due to the elimination of a host of implicit taxes, for example, would be sufficient. The more antiexport bias there is in the initial system, the better the chance that reform will pay for itself in the labor market, without any need for wage cuts and depreciation. In the typical distorted economy, though, exports have long received special attention and anti-import bias has increasingly been superimposed. In such a case, the overwhelming presumption is that there will be wage cuts and depreciation.

Measures to increase the profitability of exports, including, for example, privatizing ports and allowing access to imported intermediate goods at reduced tariffs, can translate into substantial export expansion. But such expansion is not often large enough to absorb the excess labor generated by the reforms. Even though exports expansion is strong, unemployment is high. To a significant extent, depreciation and the reform of labor market institutions are substitutes; without either, unemployment is certain to rise. Even with credible reform, it takes a very long time to realize the investment required to expand net exports and the high growth needed to absorb the excess labor.

Deflation does not come quickly and hence the economy is trapped in a situation of high unemployment. Lower levels of wages and prices in dollars are the most effective solutions to the problem, although one can always find some other reforms that might help. Argentina is a good case in point: widespread restructuring and real appreciation have caused unemployment to rise to nearly 20 percent, and investment is not booming. The wage in dollars must fall in order to help create employment. Given the fixed exchange rate, that means deflation, which, in this case as always, is painful and hence slow.

The alternative way to accommodate deregulation, restructuring, and trade liberalization is by means of a domestic spending boom. The Diaz Alejandro effect—a short-run rise in real demand—and access to the world capital market will both push in this direction, and fiscal expansion can help. But a spending boom is clearly only a short-term solution. After a year or two, as productivity gains take hold and the spending effect wears off, unemployment increasingly becomes a problem. Moreover, this is unlikely to be an economy in which resources are reallocated to export expansion and import substitution, but rather, one that overspends on imports and neglects to build the jobs on the trade front that ultimately support high wages. As a result, in the longer run major imbalances arise. The other side of the coin, a large external deficit, reflects the availability of ''cheap'' imports, a high level of domestic demand, and easy financing in the world market. When financing suddenly stops, the corrective depreciation is substantial.

When trying to explain why a particular real exchange rate is not overvalued, governments often point to productivity gains. They note that reforms have translated into vastly improved opportunities for firms; as a result, firms are competitive, even at a significantly appreciated real exchange rate. This argument needs scrutiny for two reasons. First, why is there real appreciation if firms are so much more efficient? Real wages may rise without a deterioration in unit labor costs. But a rise in prices in dollars would suggest that productivity improvements are not dominant, and for that reason, competitiveness is lost. Typi-

Table 4. Change in Industrial Production, Employment, and Productivity, 1970–95
Percent per year

Period	*Production*	*Employment*	*Productivity*
1970–80	9.0	6.5	2.4
1980–90	−0.2	−0.4	0.2
1990–95	2.1	−5.1	7.5

Source: Considera (1996, table 1, p. 41).

cally, it is not possible to find a price index that focuses uniquely on international competitiveness, and yet it is often inappropriate to refer instead to export growth rates. More likely than not, both imports and exports are rising at double-digit rates and net exports are deteriorating.

Second, at a more fundamental level, large productivity gains may simply mean high unemployment. If firms shift to increasingly capital-intensive technology and their investment predominantly takes the form of capital deepening and shifting to higher quality using imported intermediate goods, the labor market problem remains. Quite a few firms succeed and give the impression that it is possible to live with almost any exchange rate, but that is no answer to the problems of the labor market, the domestic economy, or the financial sector.

Table 4 reports trend growth rates of Brazilian productivity over the period 1970–95. Claudio Considera, from whom these data are taken, cautions that the measurement of productivity may be flawed because of difficulties in measuring value added.[25] Even so, it is evident that if firms adjust to a high real exchange rate, the issue of how to sustain full employment remains. Budget deficits and a shift in the income distribution toward labor are, at best, temporary solutions. In Brazil's case, the large real appreciation reflects the redistribution of income and is accommodated by the rise in spending that has followed from strong wage increases and budget expansion. Unemployment has not yet risen precipitously, but the tension is already present both in the labor market and in the external balance.

The Budget Issue

The budget deficit is among the more important unresolved issues in the aftermath of Brazil's stabilization. Table 5 reports annual budget

25. Considera (1996).

Table 5. Budget Balances and Public Debt, 1991–96
Percent of GDP

	Annual balance[a]				
	Primary budget[b]		*Operational budget*[c]		
Year	*Total*	*Federal*	*Total*	*Federal*	*Accumulated debt*
1991	3.0	0.8	1.5	0.3	43.5
1992	2.3	1.3	−2.2	−0.8	42.8
1993	2.6	1.4	0.3	0.0	36.4
1994	4.3	3.0	0.5	1.6	28.5
1995	0.3	0.6	−4.8	−1.6	31.7
1996	−0.7	0.4	−3.9	−1.7	35.1

Source: Data are provided directly by the Central Bank of Brazil, the Brazilian Ministry of Finance, and Garantia.
a. Positive numbers indicate surplus.
b. Excludes interest payments.
c. Includes inflation-adjusted interest.

balances and public debt for Brazil over the period 1991–96. The melting down of debt under the Collor freeze helped to improve the budget by cutting debt service. However, the very high real interest rates of 1995 have restored much of that debt. The operational budget deficit, which reflects substantial state deficits rather than federal deficits, is not so large as to create a financing problem for Brazil. But in conjuction with the still high levels of debt, it will certainly make a new spell of high interest rates troublesome. It is also clear that the deficit is too large and sticky for major reforms to wipe out soon. Thus, if there is a problem, the budget deficit and the debt will make it worse—possibly much worse. Without a problem, in a growing economy the deficit will not push up the debt ratio dramatically. From that point of view, gradual deficit reduction is a plausible strategy.

Brazil's public finances are attracting the most attention in financial markets. Efforts to promote higher national saving and financial stability must focus on the budget. Nevertheless, the real exchange rate issue seems more serious. Even countries without fiscal problems experience currency crises—for example, Mexico.

To What Extent Has Brazil Reformed?

Brazil has a history of pervasive statism, from public sector enterprises to trade protection, from administered labor markets to price management in oligopolistic sectors. The surprise is just how well Brazil did when it was doing well. In emerging economies around the world, the race is on to reform, downsize the state, and strive for openness as a means of improving productivity and gaining access to external resources. How well is Brazil doing, compared to other countries? The answer is unambiguous: not very well. A number of surveys report on reform. Whether their approach is broad or highly specific, they all conclude that Brazil is among the slow or incomplete reformers.

One survey that ambitiously covers the world is conducted by the Heritage Foundation and the *Wall Street Journal*.[26] The topics covered include trade, taxation, government intervention, monetary policy, foreign direct investment, the banking sector, wages and prices, property rights, regulation, and black markets. The scores range from 1 (free) to 5 (repressed). Brazil is placed ninety-fourth out of 150 countries, with a score of 3.35, which falls in the category of "mostly not free." In this survey, Brazil performs as well, or poorly, as Mexico, better than Venezuela (3.60), but worse than Pakistan (3.10). It ranks far worse than Chile (2.25) and South Korea (2.45), and even than Argentina (2.65)—which, like Brazil, is penalized by the survey's use of long-term rather than recent inflation data.[27]

Another survey of reform performance is provided by the Inter-American Development Bank.[28] It covers a comprehensive set of indicators of structural reform, including the external sector, tax policy, financial policy, privatization, labor market regulation, and the pension system. Countries are assessed, according to a four-fold system, as early or late reformers and slow or fast reformers. Brazil emerges as a late and slow reformer, as do Venezuela and Mexico.[29] Argentina and Chile, by contrast, are early and fast reformers.

The World Economic Forum (under the direction of Jeffrey Sachs), evaluates a group business survey on a number of indicators—giving special weight to openness, financial and labor markets, budgets, and regulation—to form a "competitiveness" index for forty-nine coun-

26. Holmes, Johnson, and Kirkpatrick (1997).

27. The emphasis on a history of low inflation, as opposed to a recent episode that remains on probation, is appropriate because so many stabilization programs have failed.

28. Inter-American Developent Bank (1996) and Lora (1997).

29. See Lora (1997, p. 19).

tries.[30] In this horse race, Brazil ranks as number 48, one position behind Venezuela and far behind Mexico (33) and Chile (18), and is trailed only by Russia.

Economic Freedom of the World, 1975–95 is an annual assessment of economic freedom issued by a group of market-oriented institutes.[31] For a group of 103 countries, an index summarizes four sets of criteria: money and inflation, government operation and regulation, takings and discriminatory taxation, and restraints on international exchange. Over the period 1993–95, Brazil ranks as number 97. The report concludes that "Brazil's policies conflict with economic freedom in almost every area."[32]

The American Express Bank provides a score card for a group of forty-three developing countries.[33] Using the criteria of macroeconomic stability, human capital, market orientation, export orientation, and investment, countries are sorted into five groups, according to their degree of "tiger-ness" (in allusion to the Asian "tiger" economies). Those in the top group are "confirmed tigers" and those in the bottom group are "stragglers." Brazil, which scores 30 out of 100 points, is placed in the next-to-last group, as an "emerging tiger." Within this group it ranks last, tied with Zimbabwe. Of the entire sample, only Pakistan and Nigeria have lower scores than Brazil and are classified as stragglers.

Brazil has brought down inflation and its performance is certainly not among the worst of reformers worldwide. But this summary of surveys shows that Brazil is, at best, in the middle of the field and, by all accounts, is a reluctant and tardy reformer.

The Policy Problem

The problem facing Brazil's policymakers can be summarized in a simple diagram that focuses on the social objective of high real wages,

30. For a discussion of the index, see Jeffrey D. Sachs, "Why Good Policy Matters," *World Link*, July–August, pp. 8–9.

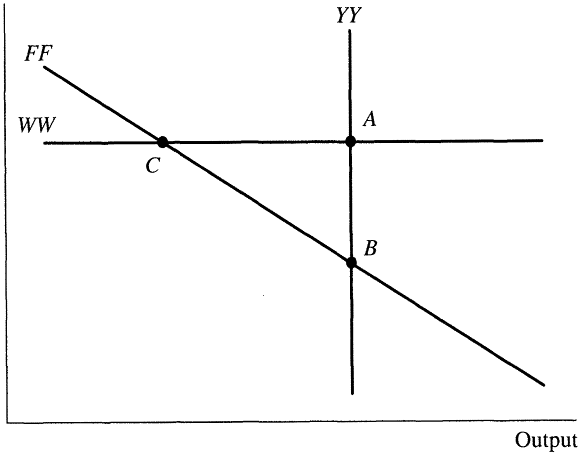
31. Gwartney, Lawson, and Block (1996).

32. Gwartney, Lawson, and Block (1996, p. 125).

33. Grice (1997).

Figure 6. The Latin Triangle

Wage in dollars



Source: Author's model, as described in text.

the target of full employment, and the constraint of limited external deficits. Figure 6 shows three schedules. Along and above *WW*, the wage in dollars, and hence the real wage, is at least at its minimum acceptable level. But the real wage affects competitiveness, as do the levels of demand and output. Along *FF*, the external balance reaches its target level. Points above and to the right of *FF* correspond to unacceptable deficits. Finally, points to the left of *YY* represent unemployment (informality), while points to the right of *YY* correspond to overheating.

The diagram is deliberately drawn to highlight a policy conflict. At *B* there is full employment and external balance, but the real wage is unacceptably low; this might be called the International Monetary Fund equilibrium. At *A* the real wage is politically acceptable and there is full employment, but the deficit is too large. I call this the Latin equilibrium; it is the typical overborrowing equilibrium. Finally, at *C* there is unemployment with the target real wage. This represents the familiar retrenchment in response to external deficits, but in a situation where devaluation is not acceptable. It is typical of the year before an election, just before expansion starts.

The obvious solution is to break out of the overdeterminacy by means of a boost to productivity: workers can have their jobs, their real wages, and their competitiveness, all at the same time. But if productivity does not grow, or if improvements are predominantly labor saving, protection would be an alternative course of action. As would borrowing, in the hope that the situation would sort out in time. Neither alternative is good economic policy.

How Vulnerable Is Brazil?

As noted above, it is very unlikely that Brazil will suffer the fate of Mexico. There are good reasons why Brazil is a very different story. In particular, there is no single point of acute vulnerability, and policymakers operate with maximum flexibility. *Jogo de cintura* and *jeitinho* are essential concepts of Brazilian policymaking, consistency is not.[34] Other points in Brazil's favor are as follows:

—Brazil has not promised anything, is performing beyond expectations, and keeps alive hopes for doing more in the future. No firm line has been drawn and no date has been set as decisive. Hence there is no cause for disillusionment, and that is a great source of stability.

—Brazil has no explicit inflation target or nominal exchange rate commitment. As a result, the government has been able to move to a crawling peg exchange rate to avoid further real appreciation. That leaves the question of whether there is overvaluation, but it eliminates the prospect of a nominal anchor that will gradually and inevitably sink the ship.

—Brazil has $60 billion in foreign exchange reserves. When problems come and speculators attack, reserves are never enough—neither in Britain nor in Mexico—but high reserves deter attacks in the first place. Moreover, it is unlikely that the Brazilian government would just stand by and watch, or even accommodate a fall in reserves, as did its Mexican counterpart.

—There is political continuity. President Cardoso, who is considered a reformer, is expected to seek and win reelection in 1998, on the basis of the record of low inflation. Optimists will interpret the reelection as

34. These terms defy translation; loosely, they refer to getting around rules and bureaucracy in order to get things done.

a mandate to "continue" reforms. And it will encourage the market to believe that there will not be any exchange rate experiments.

—Notwithstanding the recovery from the 1995 slowdown, inflation is not picking up. As a result, there is no need for a renewed slowdown and the attendant political risk to the popularity of President Cardoso.

—Brazil does not have an external financing problem and there is none in sight, as yet. The current account deficit, although rising, is less than $30 billion, far below that of Mexico as a share of GDP. So far, external financing has been possible with declining interest rates. A substantial portion of the deficit is being financed by direct investment, so that liquidity issues are commensurably less salient.

—If the external balance were to become a problem, controls could mitigate it. In fact, some of the liberalization measures of the early 1990s have already been reversed.

—Significant public sector assets have yet to be privatized. Their privatization will not only provide budget revenues, but can also be a source of external financing. More broadly, it will foster Brazil's reputation as being in a reformist mode.

From this list, one must conclude that Brazil will be able to hold on to stabilization and go forward, with moderate reform and much financing . . .? But it cannot hold on forever. Since the basic policy mix is bad and reform is slow, growth performance and financial stabilization will wear thin. Ultimately, that would create sufficient vulnerability that even Brazil might face, if not a speculative attack, at least an attrition of capital inflows. The fact that this point may be far off must not encourage the view that Brazil can wait to complete its program of stabilization and reform.

In discussing the possible overvaluation of the real, Franco recognizes that large current account deficits—for example, the 6 to 7 percent of GDP in Mexico in 1994—are perilous.[35] He further emphasizes that it does not make sense for emerging economies to aim to eliminate their deficits. His golden mean is 3 percent, large enough to take advantage of world capital markets and small enough to avoid risk. Brazil is very likely to leave that safe place during 1997, unless the government either imposes more trade restrictions or slows down demand. Forecasts for the current account deficit in 1998, the election year, now run to 5

35. Franco (1996).

percent of GDP. There is a conflict between external stability and domestic growth; with a strongly appreciated real exchange rate, options narrow and risks increase. If reform is to pave the way for Brazil's future, reform must come soon and forcefully.[36]

Conclusion

To date, Brazil's stabilization has been limited to lowering inflation, while real wages have been raised dramatically and the real exchange rate has been allowed to appreciate significantly. The public celebrates the end of inflation, but in fact it is celebrating the large rise in real incomes, which it associates with the end of inflation rather than with real wages and a real exchange rate that are potentially unsustainable.

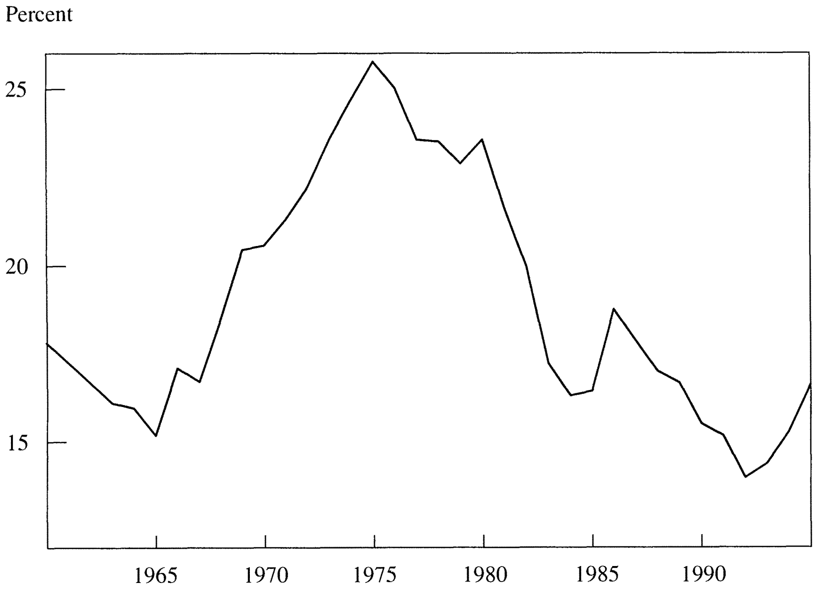
There is pervasive evidence that good economic policy leads to high growth. Good economic policy not only comprises a set of institutions, raging from a lean government to functioning open markets, it also includes high rates of saving and investment. In Brazil, the rate of saving is low and so is the rate of investment. Figure 7 shows that the share of investment in GDP (in constant prices) is currently barely 16 percent and has been low for a decade. If the consumption boom should give way to saving and investment, and to reform in the fast lane, the Real Plan will have been a brilliant platform for a dramatic shift in Brazilian performance.

But if, as is more likely, muddling along continues to be the rule—with the real appreciation limiting the profitability of industry, external finance taking center stage, the macroeconomy being played to assure President Cardoso's reelection in 1998, and so forth—Brazil cannot expect to move to the 7 to 9 percent growth rate that routinely characterize successful emerging economies. The country is still celebrating the success at reducing inflation; but it is time to start thinking about how to realize sustained high growth.

Capital markets do not reliably provide a stable bridge for wages to rise ahead of investment and jobs. It might appear possible, in the short run, to spend the income ahead of investment and output expansion by

36. Paulo Rabelo de Castro rightly emphasizes the need for the widening and deepening of reform; "Brazil Needs More Than the Real Plan for Growth," *Wall Street Journal*, November 29, 1996, p. A7.

Figure 7. Investment as a Share of GDP, 1960–95[a]



Source: Author's calculations based on Brazilian national accounts data provided directly by the Instituto de Pesquisa Econômica Aplicada (IPEA).
a. Calculated using constant prices.

borrowing to finance deficits, but this almost always results in a crisis. Even with international capital mobility, the way to get ahead is to put the horse in front of the cart. Successful reformers have gone slow on consumption spending; they have emphasized competitiveness, saving, and investment as means of implementing the opportunities opened up by economic reform. A real appreciation strategy, while seemingly helpful in terms of inflation, invariably derails the growth process. The real exchange rate is a key component of success, as the case of Chile bears out.[37] If Brazil does not shift to reform and saving, the Real Plan will prove to be nothing but another botched populist stabilization plan.

37. See Dornbusch and Edwards (1994) and Williamson (1996).

Comments and Discussion

William R. Cline: I like Dornbusch's paper. I agree with most of it. My comments seek to push the implications somewhat further and to take a few exceptions.

This is an important paper. It clarifies Dornbusch's views on Brazil. Last summer the financial press had Dornbusch sounding the alarm. He had been among the few—certainly, he was the most conspicuous—to predict the Mexican peso crisis, so his new warnings on Brazil seemed significant. Now, however, one can breathe a sigh of relief that the Dornbusch rating system has upgraded Brazil from "crash" to "muddle through."

Dornbusch's central conclusions are, first, that Brazil cannot reach its growth potential without further reform. I agree with that. Second, however, he seems to place exchange rate depreciation at the top of the list of reforms needed and fiscal adjustment somewhat below that. I would certainly reverse that order of priority. Moreover, it would be helpful if the paper pursued the substance of how to reduce the real exchange rate without destabilizing the success on inflation.

The key issues of the paper are these: First, it suggests that there was a golden era of high growth in the 1960s and 1970s. I think that it is important to note, however, that there were severe imbalances in that growth, especially in the 1970s. In fact, I published a book with Brookings in February 1981 that refers to Brazil's strategy for responding to the 1970s oil shock as "aggressive," with expansionary policy, increased protection, and higher borrowing. This left "burdensome external debt that will inhibit future efforts at high growth."[1]

Second, the paper states that the Real Plan is the first potentially successful stabilization plan. I think that Dornbusch's evaluation is broadly valid, pending further reform. And the plan certainly has an elegant design. Its main problem, in my view, has been the inadequate fiscal adjustment. This, in turn, has necessitated excessively tight money. A consequence is excessively high real interest rates, which, in the context of an abundant international capital market, mean large capital inflows in response to interest arbitrage. Large capital inflows, in their turn, drive the widening of the current account deficit. The challenge is to reduce these imbalances, and there has been some progress. For example, the real interest rate has fallen substantially in the past year, and there has been some success in curbing excess demand.

The third issue that the paper raises is real exchange rate appreciation. The real exchange rate has indeed increased. The Institute of International Finance estimates that the exchange rate deflated by relative wholesale prices has increased by 15 to 20 percent under the Real Plan. It seems to me that this is probably more germane than the up to 60 percent real appreciation suggested by some other measures. Is even 15 to 20 percent real appreciation too much? It is important to keep in mind that before the Real Plan, the current account was in balance. There was a zero external deficit, which is excessively low for a large developing country.

There is the question of the appropriate current account target. Dornbusch cites Gustavo Franco as preferring a figure of 3 percent of GDP. That kind of magnitude has considerable merit. Suppose that one wanted the external debt to stabilize at 40 percent of GDP. It would take a current account deficit of about 3 percent of GDP, on the one hand, and real growth of about 5 percent plus a rise in world dollar prices of about 3 percent, on the other, to be compatible with that target. From this example, 3 percent might be appropriate; the current account deficit of about $24 billion last year is at about that level.

Brazil's export base, however, is relatively weak, because this is a large and inherently relatively closed economy. Recent work confirms economists' previous expectations that exports are particularly relevant

1. Cline (1981, p. 133).

in analyzing the sustainability of the current account deficit.[2] Mexico's current account deficit, as a fraction of exports of goods and services, was 50 percent before the peso crisis. By the same measure, Brazil's current account deficit this past year was 40 percent. So, there may not be as much comfort from the low fraction of GDP as one would like to think. These numbers suggest that a current account deficit of around $30 billion is starting to get into a zone in which one has to be very careful.

In sum, I tend to agree that the real exchange rate appreciation is a potential source of vulnerability. The questions are, on the one hand: how much vulnerability does it pose? And on the other: what to do about it?

I would note, by the way, that the "Tequila effect" of early 1995 was beneficial to Brazil because without that shock in the capital markets, policymakers would not have undertaken demand-curbing measures, and so the external imbalance would have become even wider.

Fourth, the paper says that there will be no collapse in Brazil like the Mexican peso crash. Again, I agree. One reason is that Brazil has no comparable commitment to a quasi-fixed exchange rate. Another reason is that its $60 billion of reserves have considerable protection from a fast runoff because they have minimum term limits. Their most volatile component is the so-called CC-5 accounts, which are, basically, bank deposits and have already been drawn down. Brazil's so-called trade credit is probably exaggerated by speculative flows, but when and if they start to run off, the authorities are quite capable of very carefully scrutinizing whether these credits were, in fact, for trade.

Dornbusch is right. Brazilian pragmatism means that interventions will be taken if necessary, and that the government is unlikely to stand by and witness an utter collapse in the name of adherence to a rigid ideological position on an exchange rate peg. The most eloquent evidence for this so far is the increase in protection for automobiles in 1995.

The fifth issue raised by the paper is wages. It is very encouraging that the wage data show a sharp increase in low-end wages that reduces the poverty index. Is this sustainable? I would point out that much of this increase must be due to the elimination of the inflation tax, rather

2. See Milesi-Ferretti and Razin (1996).

than official wage policy. There are also some statistical questions. The São Paulo wage survey is perhaps affected by the fact that restructuring has shaken out the lower wage workers from the sample, which may tend to exaggerate wage increases.

I guess I do disagree with Dornbusch's proposition that theory says that when a country reduces tariffs, it must also lower wages. It seems to me that this advice may be prudent as a transitory measure, but it does not follow as a steady state. If one believes that lower tariffs increase real output and if one asserts that lower tariffs require lower wages, one must be arguing that trade liberalization requires a redistribution of income away from labor to capital. I see no reason to propose this. Indeed, the Stolper-Samuelson theory would say that for Brazil, with its factor endowments, trade liberalization should have just the opposite effect. In terms of policy, one would be hesitant to recommend trade liberalization if, somehow, it would inevitably result in a major concentration of income.

I think that the problem is that this is a partial-equilibrium approach. A general-equilibrium approach would take cognizance of the fact that protection biases production toward the domestic market. Once protection is reduced, producers have an incentive to reallocate their output toward the export market. In this context, while Dornbusch points to the sharp increase in import penetration, I would also note a substantial increase in exports of almost 25 percent from 1993 to 1996.

Yes, perhaps Brazil did go too far. The decision to increase the minimum wage sharply was probably a populist excess. The minimum wage affects all pensioners, as well as those earning at that level and below. But there has been some correction lately: in 1996 government employees received a zero wage increase.

Sixth, there is the issue of fiscal imbalance. The flavor of the paper, to my taste, somewhat downplays the need for fiscal adjustment. It does say some favorable things about Argentina. But in comparison with Brazil, Argentina has had a similar problem of an initial rise of the real exchange rate; the principal difference is that Argentina has had a more impressive fiscal adjustment. So, in some sense, it is difficult to both be more in favor of the Argentinean case and, at the same time, place more emphasis on the real exchange rate than on fiscal adjustment, as the paper seems to do.

Part of the problem is the traditional measures that are used. Because

Brazil had such high inflation in the past, people have grown accustomed to using the operational deficit, which excludes the inflationary component of interest payments. But with Brazil now approximating more normal levels of inflation, by international standards, one needs to look also at the nominal deficit. The nominal deficit was 7 percent of GDP in 1995 and 6 percent last year. The paper says that the operational deficit is "not so large." I think that in his oral presentation Dornbusch laid greater emphasis on the need for fiscal adjustment, which makes more sense to me.

Just one technical comment. In the oral presentation, Dornbusch said that there is no sign of budget correction for 1997. I think that, formally, the budget calls for a cut in the operational deficit from 4 percent to 2.5 percent of GDP.

The last issue is saving and investment. It is right to emphasize the need for higher saving and investment; one simply cannot expect to achieve 8 percent growth with saving at less than 20 percent of GDP. I would note the link to the country's fiscal posture. The fiscal deficit is an important source of dissaving, and it is no accident that the high-growth Asian countries typically have zero fiscal balances or fiscal surpluses. Moreover, it is not quite accurate to say that growth has been solely consumption based. Certainly, in 1994 and 1995 the growth in investment exceeded that in consumption.

In sum, the paper seems to say that it is essential to depreciate the real exchange rate at this point because it has become overvalued. There should be gradual fiscal adjustments and more reform, although the paper is rather vague on the substance of the additional reform.

For my part, I would emphasize, first, aggressive fiscal adjustment; for example, through constitutional reform that eliminates, or makes more flexible, civil service tenure and overcomes the serious problem of excessive revenue-sharing with the states.

Second, I would pursue gradual real depreciation, rather than anything more ambitious. This raises the operational question of how to adjust the exchange rate without destabilizing the success in reducing inflation. The paper is silent on this issue. One can imagine a sharp devaluation; and it seems likely that a devaluation of 15 or 20 percent or more would, in fact, go a long way toward destabilizing the progress against inflation.

By contrast, some modest acceleration of the crawl, which currently is 0.5 percentage point per month, more or less, to something like 0.8 or 0.9 percent per month, sustained over two or three years could have a fairly good chance of success. The authorities could even cite the recent rise of the dollar against the yen and the deutsche mark as the motivating force for such a change; they could say appropriate words about exchange rate baskets, and so forth. It might also be necessary to increase interest rates somewhat to assure that there is not a sudden pressure on reserves in the face of an accelerated crawl.

In the Brazilian context, it seems quite possible that this kind of a shift could be accomplished without provoking an equal, off-setting increase in domestic prices. Brazilian expectations, it seems to me, are less sensitive to the exchange rate than most; Brazilians have traditionally looked inward at the domestic economy, rather than to the dollar. They are the exact opposite of the Argentineans in this regard. Argentina's experience of hyperinflation without indexation made its public acutely aware of the exchange rate, so that a sharp devaluation of the Argentinean peso would likely have severe inflationary consequences.

Finally, what does the international capital market imply for the feasibility of muddling through? Currently, this market is extremely abundant. It seems quite easy to finance a current account deficit of $25 billion to $30 billion, especially given the large direct investment associated with privatization. If U.S. interest rates increase by no more than, say, 50 basis points, there is no obvious reason to expect a sharp change in that outlook.

Overall, however, it seems to me that there is little doubt that Brazil should move on fiscal reform. At the very least, it needs to avoid further real appreciation of the exchange rate. It also needs to increase saving, and to limit external borrowing as the source of growth.

General discussion: Benjamin Friedman asked Dornbusch how Brazil had achieved such a large rise in real wages, particularly at the bottom of the income distribution, given that GDP growth in the 1990s had been so modest. He noted that real wages have risen for each decile of the income distribution, so that it was not a case of redistribution among wage earners. Dornbusch explained that Brazil has the most unequal distribution of income in the world, after Honduras, and so it was possible to make the poor richer without making the rich poor. The biggest gains have been for the lowest income earners, but their wages were so low that a doubling could easily be covered by most firms. More broadly, there has probably been some erosion of the profit share. Current data are not accurate, but in the 1980s the wage share was as low as 32 percent, so there was ample room for it to expand while maintaining adequate returns to capital generally. Only the firms with heavy exposure to international trade would be badly hurt, and indeed, firms in sectors such as textiles and automobiles are going bankrupt.

William Brainard pointed out that this hypothesis would not explain how the stock market could increase by 30 percent. But Dornbusch noted that Brazil's stock market is only now catching up to the bull market in emerging market stocks. William Branson observed that if wages were only 30 percent of income, a 12 percent rise in real GDP and 40 percent growth in real wages would not reduce the nonwage part of GDP at all, presumably leaving ample room for overall profits to rise. Branson added that the large current account deficit of around 50 percent of exports could raise worries about currency depreciation having substantial *J*-curve effects, and thus pose credibility problems for a policy of depreciation.

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