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Briefing Paper

Paying the Bills in Brazil: Does the IMF's Math Add Up?

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EXECUTIVE SUMMARY

The IMF has recently approved a \$30 billion loan to Brazil, with the idea that the government should eventually be able to stabilize its growing public debt burden at a sustainable level. This paper looks at the trajectory of the country's debt to assess whether such an outcome is likely. The evidence indicates that Brazil is extremely unlikely to reach a sustainable level of debt service, and return to a normal growth path, until a partial default has allowed the country to write off some of its debt.

Brazil's public debt rose from 29.2 percent of GDP in 1994 to nearly 62 percent of GDP at present. (See Figure 1). The budget deficit is currently running at about 6 percent of GDP for 2002. The real interest rate on Brazil's debt has averaged 16.1 percent over the last eight years (1994-2001). With interest rates at this level, deficits quickly grow through time; as this year's deficit increases next year's interest burden, the debt burden becomes explosive.

The paper examines several possible scenarios for Brazil's debt (see Figure 2):

- Assuming a 16.1 percent annual real interest rate for the future, the same as its average over the last eight years: This scenario is explosive, with the debt-to-GDP ratio quickly reaching implausible levels.² By 2009, the debt is projected to exceed 100 percent of GDP. It would be more than 188 percent of GDP by 2016. Of course these levels would not be reached; along this path, financial markets would demand ever higher risk premiums, which would raise the interest rate to higher levels yet, and default would cut short the process of accelerating debt accumulation.
- The implicit real interest on the public debt for the first six months of 2002 was 15.5 percent, or 33.5 percent at an annual rate. If we take an extremely conservative estimate for the 2nd half of the year, and project an annual rate of 21.0 percent for the year 2002, the debt is rapidly explosive. If we assume annual interest rates at the (underestimated) 21.0 percent rate for 2002, the ratio of debt-to-GDP would reach more than 100 percent in 2007. By 2012, the ratio of debt-to-GDP would pass 200 percent. On this path, which may best represent Brazil's current situation, the financial markets will very quickly give up hope that Brazil will be able to repay its debt in full.

¹ This figure somewhat understates the debt burden, since it assumes the debt-to-GDP ratio will be 61.9 percent at the end of 2002. According to Brazil's central bank, the debt-to-GDP ratio had already risen to 61.9 percent of GDP at the end of July.

- Assuming, as an optimistic scenario, that the real interest rate falls to 10 percent over the next two and a half years and stays at this level (real rates this low were achieved only once in the last eight years): the debt-to-GDP ratio will still rise to extremely high levels. By the end of 2010 it would reach almost 80 percent of GDP. By 2016, it would have grown to almost 90 percent of GDP. As in the other scenarios, these projections assume that the interest rate does not rise, even though the debt-to-GDP ratio grows substantially. This is almost impossibly optimistic, as investors would surely become increasingly concerned about the probability of default as the debt-to-GDP ratio continued to rise.

The paper also considers the possibility of stabilizing the debt-to-GDP ratio by running larger primary budget surpluses (see Figure 3). This would require such huge primary budget surpluses that it would not be potentially achievable.

There is also the possibility that the central bank could switch to a much lower short-term interest rate policy -- the nominal rate is currently still high at 18 percent -- and thereby eventually lower the interest burden of the debt. This would be difficult for a number of reasons, including the exchange rate risk, and the risk of default -- which is difficult to reverse now that the debt-to-GDP ratio is so high. But in any case, a trajectory that includes a new central bank policy with much lower short-term interest rates is not on the agenda, and is definitely not part of the IMF's current loan agreement. Therefore the projections included in this paper would cover the range of possibilities that could be expected if Brazil continues its current policies.

On the basis of current policies, as well as past and present economic data, a scenario under which Brazil's debt burden stabilizes at a sustainable level would have to be regarded as an extremely low-probability event. It would depend on Brazil's economic and fiscal policy meeting targets that could not be regarded as plausible, and/or a world in which international financial markets behaved very differently than they have in the past. If the IMF cannot produce a credible intermediate or long-range projection under which Brazil could stabilize its debt service at a sustainable level, then the purpose of this \$30 billion loan agreement is questionable.

INTRODUCTION

The International Monetary Fund (IMF) has now approved \$30 billion in additional loans to Brazil's government to help it meet its debt service commitments on prior loans. This money was widely seen as providing Brazil with the breathing space necessary to get its economy back on track. However, it is not clear that even with this new loan, that Brazil will be able to meet its financial obligations. If the debt is already unpayable, then the IMF's decision to grant a new loan is simply burying Brazil under an even greater debt burden. In this case, it will only be able to escape from its debt burden, and resume sustainable growth, after a partial default has allowed the country to write off a significant portion of its public debt.³

Brazil has experienced an enormous run-up in both the public and foreign debt under the current administration. The public debt rose from 29.2 percent of GDP in 1994 to nearly 62 percent of GDP at present. The budget deficit is currently running at about 6 percent of GDP for 2002.⁴ While Brazil's government is currently taking extraordinary measures to meet its obligations, including running a primary budget surplus equal to 3.75 percent of GDP, these may prove inadequate. The real interest rate on Brazil's debt has averaged 16.1 percent over the last eight years (1994-2001). With interest rates at this level, deficits quickly grow through time; as this year's deficit increases next year's interest burden, the debt burden becomes explosive.

This paper examines the current trajectory of Brazil's government debt. It projects the path for this debt relative to GDP under several different scenarios, and describes the conditions that would have to be met in order to keep the debt-to-GDP ratio at a level that could be sustained.

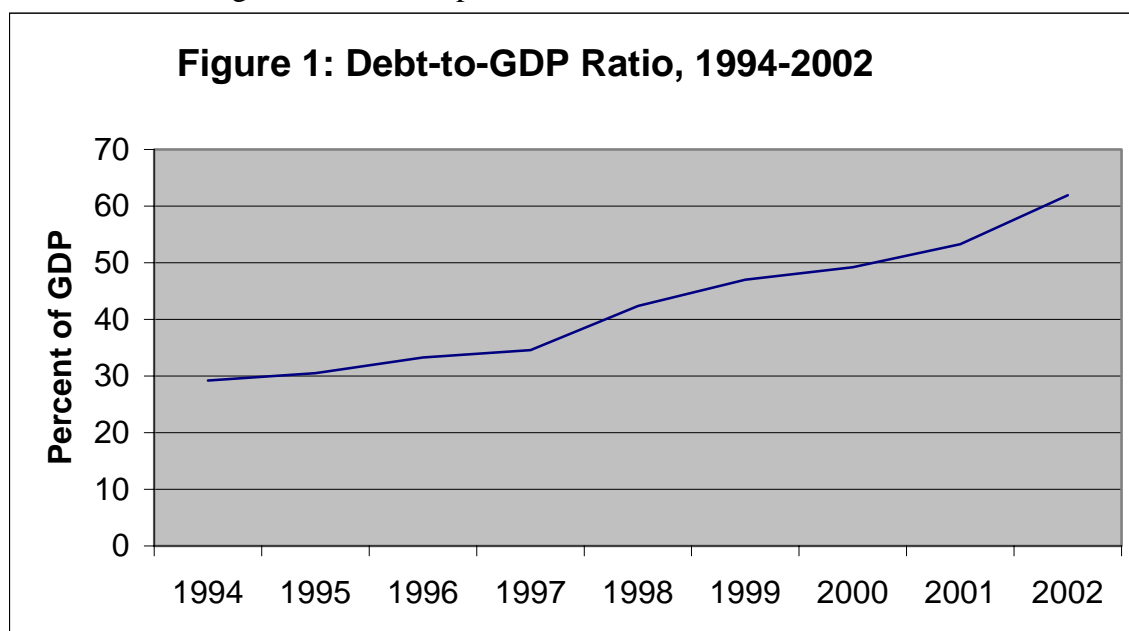
THE CARDOSO DEBT EXPLOSION

Under the current administration, Brazil has experienced an extraordinary run-up in its national debt. One benefit of the hyperinflation of the early nineties was a sharp reduction in Brazil's debt burden, as the real value of the debt plummeted. The debt fell from 37.9 percent of GDP at the end of 1991 to 29.2 percent of GDP at the end of 1994. However, the debt began to rise again

³ There is another possibility, that does not seem likely for reasons discussed below, that the Central Bank could embark on a new, lower-interest rate policy for its short-term rates that could eventually reduce the interest burden on the public debt to a sustainable level. (See below).

⁴ The average monthly deficit for the first 7 months of 2002 is 5.95 percent of GDP (Instituto de Pesquisa Econômica Aplicada, <http://www.ipeadata.gov.br>).

after 1994, with the growth of the debt accelerating in recent years as a result of the growing interest burden. Figure 1 shows the path of the debt-to-GDP ratio since 1994.



Source: Tanner and Ramos 2002

The interest burden has been rising both because of the larger debt outstanding each year, and because Brazil has been paying relatively high interest rates on its debt. There are several causes for the high interest rates. The first is the series of external shocks from international financial markets, which started when the US Federal Reserve began a series of short-term interest rate increases in February of 1994. The Mexican peso crisis was next at the end of that year, followed by the Asian financial crisis (beginning August 1997). The Russian crisis in 1998 added to investors' fears about lending money in emerging markets.

In addition, there were factors specific to Brazil that raised its interest rates. By the end of 1997, foreign investors began to demand a substantial risk premium because they feared that Brazil would be forced to abandon its fixed exchange rate. With high nominal interest rates and very low inflation, the real interest rate on Brazil's debt rose to more than 20 percent in 1998.⁵ With encouragement and financial support from the IMF, Brazil clung to the fixed exchange rate until January of 1999, when it became unsustainable, and collapsed.

The fact that the government had staked much of its credibility on maintaining the exchange rate, and was nonetheless forced to abandon it, surely worsened its standing with creditors. The IMF also demanded that Brazil deliberately maintain high interest rates in the wake of its devaluation, in order to stem inflation. As a result, the nominal (overnight/selic) interest rate, set by the

⁵ This estimate is taken from the implicit real interest in Table 2 of Tanner and Ramos (2002).

Central Bank, averaged 26 percent in 1999, with monthly rates as high as 48 percent.⁶ This rate remains high at 18 percent today.

In the last two years, the additional risk of a national default, as the financial markets have recognized the unsustainable nature of Brazil's debt, has added a substantial risk premium to Brazilian debt. Argentina's default on its \$141 billion sovereign debt in December of 2001, the largest in history, undoubtedly added to investors' fears. With Brazil's national debt now approaching 62 percent of GDP, and growing rapidly, lenders are understandably concerned about the prospects of being repaid.

Finally, beginning in May of 2002 when the Workers' Party (PT) presidential candidate Inacio (Lula) Da Silva pulled ahead in the polls for October's election, interest rates on Brazilian debt again rose, and debt growth accelerated with the fall in the currency (since about 40 percent of the public debt is denominated in dollars). It is unclear how much of this recent crisis is attributable to actual market fears of a change in regime, and how much the latter merely served as a trigger for investors to recognize already existing problems of debt sustainability. Nonetheless this latest crisis has added another element of instability that affects interest rates, especially after major foreign banks began cutting their credit lines to Brazilian companies.

THE FUTURE OF BRAZIL'S DEBT

In August the IMF offered to lend Brazil an additional \$30 billion. This loan is to be disbursed in stages, with each disbursement conditioned on Brazil meeting a set of targets set down by the IMF. Figure 2 shows three possible trajectories for the debt-to-GDP ratio over the next ten years, assuming that Brazil's government adheres to the budget target set by the IMF in its latest loan package.⁷ This target calls for Brazil to maintain a primary budget surplus of 3.75 percent of GDP. The middle line in the graph assumes that the real interest rate on Brazil debts averages 16.1 percent in the future, the same as its average over the last eight years.⁸

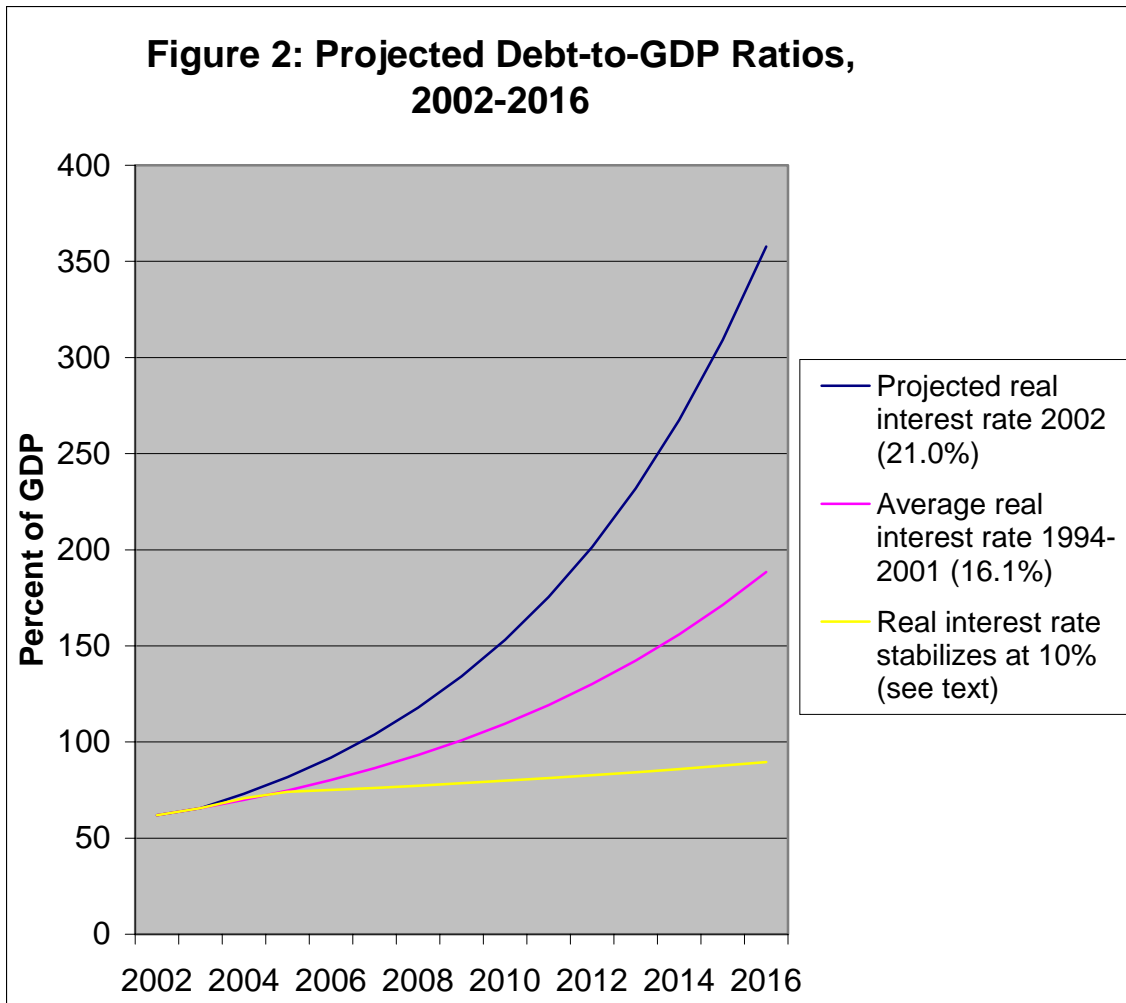
⁶ Instituto de Pesquisa Econômica Aplicada, <http://www.ipeadata.gov.br>

⁷ These calculations assume that real GDP grows at a 3.5 percent annual rate, the projected growth rate for Latin America and the Caribbean that appears in World Bank 2002 (Table A3.1).

⁸ This calculation uses the implicit real interest estimate of Tanner and Ramos (2002) for the years from 1994-2000. The implicit real interest for 2001 is estimated at 17.6 percent, with data from the Banco Central do Brasil (BCB). This is derived by adding real interest payments as a share of 2001 GDP (nominal 7.3 percent [BCB 2002, Table III]*), to the change in the real value of the debt in 2001 (4.4 percent of GDP [from BCB 2002, Table XXXVIII]**, derived from $53.3 - [49.4 \times .985]$), minus net public borrowing in 2001 (3.4 percent of GDP [BCB 2002, Table XXXVIII]**, divided by the 2000 year-end debt measured as a share of 2001 real GDP (48.7 percent, derived from $49.4 \times .985$ [BCB 2002, Table XXXVIII]**).

* From BCB, www.bcb.gov.br, Table III Public sector borrowing

** From BCB, www.bcb.gov.br, Table XXXVIII Net debt evolution - conditioning factors



Sources: World Bank 2002, Banco Central do Brasil, Tanner and Ramos 2002, and Instituto de Pesquisa Econômica Aplicada

As can be seen, this scenario is explosive, with the debt-to-GDP ratio quickly reaching implausible levels.⁹ By 2009, the debt is projected to exceed 100 percent of GDP. It will be more than 188 percent of GDP by 2016. Of course this path is clearly impossible. If Brazil were to follow this route, the financial markets would quickly begin to recognize that full repayment of the debt is virtually impossible. They would demand even higher risk premiums, which would raise the interest rate to higher levels yet, and default would cut short the process of accelerating debt accumulation.

⁹ This figure somewhat understates the debt burden, since it assumes the debt-to-GDP ratio will be 61.9 percent at the end of 2002. According to Brazil's central bank, the debt-to-GDP ratio had already risen to 61.9 percent of GDP at the end of July.

In fact, this may already be the scenario that Brazil is facing. The implicit real interest on the public debt for the first six months of 2002 was 15.5 percent, or 33.5 percent at an annual rate. Even if we take an extremely conservative estimate for the 2nd half of the year—only 4.8 percent¹⁰ (or 9.7 percent at an annual rate) we get an implicit real interest rate—almost certainly an underestimate—of 21.0 percent for the year 2002. On this basis, most investors probably view the prospects of having their bonds repaid in full as relatively slim. At this interest rate the debt reaches explosive levels even more rapidly. The top line in Figure 2 shows the path of the debt burden assuming that the real interest rate stays at its 2002 estimated annual real rate of 21.0 percent. In this scenario the ratio of debt-to-GDP is more than 100 percent in 2007. By 2012, the ratio of debt-to-GDP would pass 200 percent. On this path, which may best represent Brazil's current situation, the financial markets will very quickly give up hope that Brazil will be able to repay its debt in full.

Finally, it is worth considering an optimistic scenario, in which interest rates are reduced substantially from their current level. The bottom line in Figure 2 shows the path of the debt-to-GDP ratio assuming the real interest rate falls to 10 percent over the next two and a half years¹¹ and stays at this level. This interest rate is far below the 16.1 percent average of the last eight years. In fact, the real interest rate on Brazil's debt fell below 10 percent only once in this period, in 2000, when an unexpected burst of inflation lowered the real interest rate to 8.9 percent.

Even in this optimistic scenario, the debt-to-GDP ratio will still rise to extremely high levels. By the end of 2010 it would reach almost 80 percent of GDP. By 2016, it would have grown to almost 90 percent of GDP. As in the other scenarios, these projections assume that the interest rate does not rise, even though the debt-to-GDP ratio grows substantially. This is almost impossibly optimistic, as investors would surely become increasingly concerned about the probability of default as the debt-to-GDP ratio continued to rise.

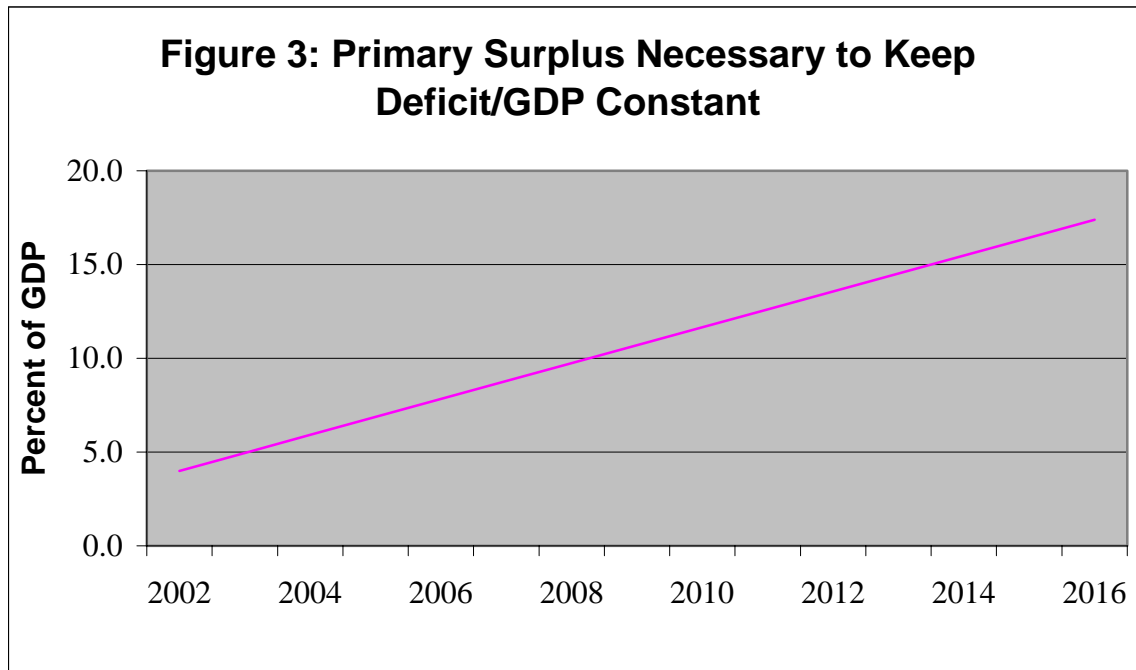
The question of the sustainability of Brazil's debt can be posed in a slightly different way. Even with the primary budget surplus target of 3.75 percent of GDP, the minimum agreed upon with the IMF, the government is currently running an overall budget deficit of 6 percent of GDP. If this deficit is considered the highest acceptable deficit before the financial markets lose confidence, then it is possible to project a path for the primary budget surplus that will be needed in future years to keep the deficit constant at this level.

Figure 3 shows the primary budget surpluses that would be needed to keep the deficit to GDP ratio constant at 6 percent of GDP. By 2009 the primary budget surplus would have to exceed 10 percent of GDP in this scenario, and by 2015 the surplus would have to reach more than 16

¹⁰ This ignores the accelerating trend of the first six months, and takes an average of the monthly nominal interest rate paid during the first half of the year, adjusted for the current inflation rate, applied to the existing debt for the second half of 2002; data from BCB.

¹¹ Presumably it would take some time for the markets to be convinced that the risk of default has become negligible; also more than half of the federal public debt has maturities after January 2004 (Central Bank of Brazil), and the average maturity of the public debt is 22 months (Brazil Letter of Intent to IMF, August 29, 2002, at <http://www.imf.org/external/np/loi/2002/bra/04/index.htm>).

percent of GDP to keep the overall government deficit stable at the current level of 6 percent of GDP. Even this scenario is overly optimistic, since it assumes that interest rates don't rise as the debt-to-GDP ratio reaches more than 130 percent of GDP.



Sources: World Bank 2002, Banco Central do Brasil, Tanner and Ramos 2002, and Instituto de Pesquisa Econômica Aplicada

The above scenarios indicate that Brazil's current government debt has already reached an unsustainable level. In order to keep the debt at a sustainable level, interest rates would have to somehow be brought down to a level far lower than any rates Brazil has experienced in its recent past. Alternatively, the budget deficit could be sharply reduced by running even larger primary budget surpluses. However, the size of the spending cuts or tax increases needed to bring about such huge primary budget surpluses are far too large to be politically feasible. The combination of tax increases and spending cuts necessary to pull Brazil's deficit down to a level that could be sustained would probably be more than 3.0 percent of GDP. (For comparison, this would be the equivalent of a \$300 billion annual tax increase in the United States). Furthermore, tax increases or spending cuts of this magnitude would almost certainly throw Brazil's economy into a severe recession.

Williamson (2002) constructs a scenario in which Brazil's debt burden stabilizes, based on the condition for fiscal solvency $S \geq (r-g) (D/Y)$, where S is the annual primary surplus of the public sector, r is the average real interest rate on the debt, and D/Y is the debt-to-GDP ratio. He calculates that an average real interest rate of 9.2 percent would satisfy this condition, and thus avoid an explosive debt situation. (p.7) There are several problems with this analysis: first, as noted above, in the last eight years (after the hyperinflation of the early nineties) there is only one year in which the

average real interest rate on the debt actually dipped that low, and the average for the eight years was 16.1 percent. It is therefore difficult to foresee a long-term scenario in which 9.2 percent is the average real rate of interest on Brazil's debt. Second, even if it were possible to achieve this equilibrium, the economy would still have to get there from its 2002 level of more than 21 percent. The debt accumulated during this transition to record-low interest rates would make it considerably more difficult to reach a sustainable debt burden than is implied by the above equilibrium condition. Third, Williamson's equilibrium also assumes a 4.0 percent average annual growth rate. This is half a percentage point higher than the projections from the World Bank, more than a full percentage point higher than Brazil's average growth rate over the last eight years. Finally, Williamson also argues that the *real* will begin rising against the dollar at the rate of 1.5 percent annually. Although this is a possibility, the markets do not view it as likely, since Brazilian debt denominated in reais currently carries a premium of more than 5 percentage points over Brazilian debt denominated in dollars. For all of these reasons, Williamson's scenario of a sustainable debt equilibrium is not plausible.

There is one imaginable scenario under which Brazil's debt burden could stabilize at a sustainable level. This would require a deliberate policy change on the part of the central bank, to much lower interest rates. About 37 percent of the net public sector debt is tied to the selic rate, which is set by the central bank and remains very high at 18 percent. The maintenance of high domestic short-term interest rates by the central bank has been a major cause of Brazil's rapid debt growth, especially over the last few years. In theory, investors should be willing to hold Brazilian debt at a rate that exceeds, e.g. US Treasury bonds, by the expected depreciation of the exchange rate, plus a risk premium based on the probability of default.¹² It certainly would have been possible for the central bank to have had much lower interest rates over the last eight years, thereby avoiding the rapid debt build-up that led to the current crisis. The question is, once the debt has reached the level of that it has reached today, where the probability of default is substantial, how far (and how fast) can the nominal rate on Brazilian debt that is denominated in reais be lowered?

Whatever the answer to this question, a scenario that includes a new central bank policy with much lower short-term interest rates is not on the agenda, and is very definitely not part of the IMF's current loan agreement. Therefore the projections included in this paper would cover the range of possibilities that could be expected if Brazil continues its current policies.

On the basis of current policies, as well as past and present economic data, a scenario under which Brazil's debt burden stabilizes at a sustainable level would have to be regarded as an extremely low-probability event. It would depend on Brazil's economy and fiscal policy meeting targets that no one would regard as plausible, and/or a world in which international financial

¹² Brazil's current account deficit, now running at about 3.5 percent of GDP, adds to the problem of reducing the exchange rate risk premium. This is the main connection between Brazil's large foreign debt (which was not discussed in this paper) and the public debt (which is about 80 percent domestically owned). The most recent crisis in Brazil's financial markets (since May 2002) has seen a sharp currency depreciation, and this was exacerbated when some international banks began cutting credit lines to Brazil. On the other side of the equation, the US dollar is overvalued, and could depreciate in the near future; this would reduce Brazil's depreciation risk but would also worsen its trade balance.

markets behaved very differently than they have in the past. If the IMF cannot produce a credible intermediate or long-range projection under which Brazil could stabilize its debt service at a sustainable level, then the purpose of this \$30 billion loan agreement is questionable.

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