Brazil in the 1997-1999 Financial Turmoil

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In February 1999, following months of speculative pressure and in spite of a large IMF rescue package, the Brazilian *Real* was devalued. Brazil's turmoil was the latest episode in the financial contagion that began with Thailand's devaluation in July 1997, spread to other Asian countries such as Korea and Indonesia, and worsened with Russia's devaluation and default. Although Brazil was a victim of the unsettled international capital markets, it did have fundamental problems. Its innovative *Real Plan* led to a dramatic decline in inflation, but also to an overvalued currency and current account deficit. Moreover, inadequate fiscal consolidation led to fears of default, high interest rates, and a consequent debt spiral.
On April 14th and 15th (2000), a number of distinguished Brazilian and international academics, current and past high level officials of the Brazilian government, and leading figures from the international investment community, gathered at the Royal Sonesta Hotel in Cambridge to discuss the Brazil's recent crisis. The program opened on with (an off the record) dinner speech on April 14th by Arminio Fraga Neto, Governor of the Central Bank of Brazil. This report summarizes the main proceedings from April 15th. These proceedings were divided in four sessions, covering the events the followed the *Real Plan*, the crisis period, the counterfactual of what would have happened if fiscal retrenchment had been pursued, and the events since the February 1999 devaluation. The format for each session was a number of short presentations by leading experts bringing diverse viewpoints, followed by a free ranging general discussion. The day's debate provided a great deal of information and many spirited exchanges. For those who were not able to attend we hope that that this report gives the essentials and flavor of the discussion.

Session 1: Disinflation and Exit Strategy
Chair: Jeffrey Frankel
Panelists:
Edmar Bacha: BBA Securities
Gustavo Franco: PUC-Rio
John Williamson: Center for International Economics

To provide background for the conference's discussion of the turmoil period, the first session considered the successes and limitations of the *Real plan* and its aftermath. The panelists were asked to consider a number of questions. Was the post-plan real appreciation caused by inflation inertia or nominal appreciation? Was it wise to pursue a gradual realignment strategy instead of a policy of prompt realignment or a totally fixed exchange rate? What were the fiscal and real activity costs of gradual realignment? What was the perceived benefit of gradual realignment in terms of avoiding a persistent inflation backlash?
Edmar Bacha opened with a reminder that the first of the modern efforts to reduce inflation came as far back as 1985. In the following years a number of plans were tried and abandoned. He noted that Brazil

was a peculiar case of a highly indexed economy that was "never dollarized." The main obstacle to doing away with inflation, he opined, was the difficulty of suppressing the indexation.
In 1994, with inflation accelerating, a new reform plan based on the idea of a parallel currency that would eventually shift to a real currency was formed. The monetary reform was to involve no wealth confiscations; and the government would only do what was pre-announced. Once again, however, the momentum of wage inflation posed a problem for the reform. In early 1995 there was an opportunity to fix some of the flaws (e.g., by refusing to follow through with planned wage increases in the public sector.) But the government chose not to do so, actually granting a large increase in the minimum wage (and by extension in pensions).
With the new exchange rate regime proving too inflexible to avoid large imbalances in the external account, the government finally did away with wage indexation in March 1996. After this, according to Bacha, there was a much better chance that monetary policy would be able to hold prices down.

Gustavo Franco divided his presentation into a number of points.

- He first observed that Brazil had endured seven years of hyperinflation before the *Real plan*. Hyperinflation is a serious disease "taking one generation to develop, and one generation to deal with," he said.
- Initially there was a high risk of a backlash, with an election close and the favorite candidate from the workers' party.
- In addition to monetary reform there was also a heavy agenda of structural reforms. This lead to difficult issues of sequencing. The two reform processes were intertwined.
- "We had luck," Franco said. It proved possible to pass key constitutional amendments. And no one could have imagined that the finance minister would last.
- He reminded the group that the plan began with a floating exchange rate, and evolved into a band system. Things began well with an initial nominal appreciation. However, pressure developed to stop the appreciation. A floor was placed on the number of domestic currency units per dollar. After the Mexican crisis, pressure mounted to put a ceiling on the dollar exchange rate. Thus a de facto band system had emerged. Later the band was allowed to drift. Franco described the newly evolved regime as a "mitigated float."
- Turning to capital controls, Franco said the government was committed to the principle that every dollar that came in had the right to go out. The real issue related to the rights of domestic savers in a country with a real threat of electing a left wing government. The government was worried that if savings left they might not come back.
- From mid-1996 onwards the rate of depreciation was 7 to 8 percent year. Taking into account the initial overvaluation the authorities had to decide on whether to keep to this rate of drift or pursue something more drastic. The complicating factor was the interest rate and its relation to the fiscal situation. With gradual devaluation a high rate was "needed to cover the arbitrage," Franco said.
- If the devaluation had not taken place Brazil would have ended up with the same real exchange rate as it has now. In Franco's view,

a dramatic fall in the exchange rate would make a new band system likely.

- On the question of the advantages of flexibility versus the need for an anchor, Franco expressed the belief that rigidity was useful insofar as it forced the political agenda towards "doing the right things." He said that everyone who went to the president arguing for devaluation complained about this pressure (e.g., the pressure for social security reform). "For a long time," he added, "complacency was avoided by the discipline of the peg."

John Williamson spoke in approving terms about the *Real plan*, the essence of which he described as taking the unit of indexation and converting it into the unit of account. He pointed out with evident satisfaction that there had been a conference at the Institute of International economics exploring this idea. Unfortunately, Brazil did not pursue the idea in its earlier reform plans. But Williamson said it "worked like a dream in 1994," ideally suited as it was to Brazilian conditions. There remained, however, the issue of the exit strategy. They needed to build a regime that would allow depreciation in the future. Williamson said he favored some sort of band system. Turning to the actual band system that was pursued, he noted that the wide band was not operative. He expressed the view that making the narrow band the operational target was a mistake, and added that he felt the "crawl was too slow." More speculatively, he conjectured that a faster rate of depreciation of the central rate would have been possible without a higher interest rate if a wider band had been operational.

He concluded by expressing skepticism about the need for a "strong nominal anchor," pointing out that the devaluation did not lead to a big rise in prices. Such a rise in prices should have happened if the nominal anchor "theology" was correct.

General Discussion

The general discussion began was preceeded with a warning from the chairman that comments should be limited to period before mid 1998. Eliana Cardoso commented first, noting that Chile still has a fully indexed economy, and it has managed to be more stable than Brazil. Gustavo Franco responded that there still is some indexation in the Brazilian system. A little does not hurt, but beyond a certain level it is "poisonous," he said, adding that Chile remains "within these bounds." Eustaquio Jose Reis said that the difference between Chile and Brazil is the importance of trade in the economies. The traded sector is much larger in Chile. He said that exchange rate stabilization is much less suited to Brazil, and expressed surprise that it worked. Andres Velasco countered the assertion that indexation is widespread in Chile. Under military governments, he pointed out, wages were allowed to fall in real terms. Cardoso disagreed with Velasco on the limited indexation in Chile, pointing to financial contracts. Velasco accepted that it was true for financial contracts, but reiterated that it was not true for wages.

Paulo Leme turned the discussion to fiscal issues, noting that there was a good fiscal adjustment initially, but by the fourth quarter of 1997 fiscal problems had emerged. He believes that there was a good opportunity to push for fiscal adjustment at that time. The opposite happened, however, and the fiscal situation got worse. Gustavo Franco concurred, saying that the deficit needed to be kept at 3 ½ percent of GDP. But the fiscal balance went the other way despite the large number of tightening measures that were undertaken. The central bank was surprised by the inability to meet the target, he confided. And added that the markets were not impressed when Brazil tried to put together a further fiscal package after Russia.

Pierre Oliver Gourinchas asked about the communications between the central bank and the government. Franco responded that there were discussions. He said that what bothered the president was the trend in interest rates not exchange rates. The focus of the discussions was on timing. The belief was that nothing should be done about devaluation in the midst of the crisis.

Assaf Razin observed that Israel's stabilization was fiscally based even more than it was exchange rate based. He added that Israel also had an indexing system in wage negotiation. It was suspended in 1985, but it came back in full force. Nonetheless, Israel was able to reduce inflation, though it did return.

Continuing on the fiscal theme, Eliana Cardoso pointed out that there had been fiscal subsidies to various institutions. These were not part of the budget. As a result, it is not enough to look just at the budget numbers.

Andres Velasco expressed disagreement with the view that a fixed exchange rate induces fiscal discipline. Declining reserves under a fixed exchange rate regime tends not to cause alarm. Exchange rate depreciation, in contrast, does get attention, he said. This led to a lively exchange, with Marcio Garcia agreeing and Richard Cooper saying that recent evidence suggests otherwise. Márcio Garcia pointed out that, in the months previous to the devaluation, the perception one got by reading the Brazilian press was that the unpopular high interest rates, lack of growth and growing unemployment were all Central Bank´s fault due to the mismanagement of the exchange rate. That stood in marked contrast with Argentina, where the pain caused by the currency board were endured by the population as a necessary one. Therefore, he concluded, in Brazil the quasi fixed exchange rate seemed to have failed in gathering the necessary political support to induce fiscal discipline.

Zia Qureshi commented that the inflation outcome was not all that bad. But added that the exchange rate is not the only possible nominal anchor. He asked if it could have been replaced with something else. John Williamson responded that it was not an exchange-rate-based stabilization. Based as it was on a parallel currency, it was something quite different. Posing the question, "Can one get by without a nominal anchor?" Williamson's own answer was--no. Richard Cooper responded that the US does not have a nominal anchor. Later Gustavo Franco said that the only way that you can avoid having an anchor is to have a budget surplus. Cooper disagreed with this statement if it was meant to "apply to the world," but allowed that it was possibly applicable to Brazil. Franco assented that it need not be true as a general statement, but it had been crucial for Brazil.

Ilan Goldfajn wondered what it meant to have a band when you are not using that band. Gustavo Franco disagreed with the implication that it was not a band. Jeffrey Frankel interjected "that one percent is not a band," reasoning that exchange rates under the Bretton Woods system were pegged only within a one percent range. Franco admitted that they had felt that one percent was a lot of room to work with, but "that they had underestimated the difficulties of working with the markets."

On the question of the size of the overvaluation, John Williamson expressed the view that it was relatively minor. They would have gotten away with it, he speculated, if the world had not been so turbulent.

Eduardo Borensztein asked the panel about the effectiveness of capital controls in Brazil's situation. He added that he was not implying that all controls should be removed, but said that it is important to be aware of their limitations. Gustavo Franco responded that capital controls were never meant to be an instrument to prevent a crisis. John Williamson

also expressed skepticism about the efficacy of capital controls, stressing that you should neither overstate what they can do, nor underestimate the damage that they can cause.
Responding to a question form Pierre Oliver Gourinchas, Franco recounted that there was discussion on what the lowest possible interest rate would have been in 1997 under different monetary regimes. He added that the binding constraint on interest rates is fiscal; now the central bank can lower the interest rate, but there is a limit imposed by fiscal and balance of payments situations. At the beginning of the *Real plan*, he added, there was no net foreign investment. In response to the reforms there has been a significant increase in foreign direct investment, which makes in safer to run a current account deficit.

Session 2: Crisis and Defense
Chair: Andres Velasco (New York University and NBER)
Panelists:
Peter Garber (Deutsche Bank)
Thomas Glaessner (The World Bank)
Luiz Correa Do Lago (PUC-Rio and Lorentzen Group)

For the second session, attention shifted to the difficult period that followed the Asian crisis and worsened with Russia's devaluation and default. Participants were asked to reconsider a set of questions that had occupied the minds of financial market participants and policy makers as Brazil struggled to defend its currency. Was the 1998 impact on Brazil an example of pure contagion? Was the G-7 "paying for time," and did it work? Compared to other crisis countries, how exposed was Brazil to speculative attack? Did it stand a better chance of defending the peg with high interest rates? How did the health of the financial system, the public debt problem, and the degree of capital account freedom contribute to the crisis? Would a firmer commitment to the peg have avoided the crisis? Did Brazil fold under overwhelming external pressure or did it invite the attack with its indecisiveness? What have we learned about the value of "preventative" rescue packages?
In a May 1998 report on Brazil, **Peter Garber** recalled that Deutsche Bank was cautiously optimistic about its prospects. Given the global regime, at that time they did not see a tremendous urgency to deal with the exchange rate, though they did believe it was overvalued. They also saw a need to accelerate fiscal reform and were worried about the short maturity (and indexed nature) of the debt.
This relatively relaxed attitude changed following the Russian crisis, as inferences about IMF (and US government) policy was made. Up to then the belief had been that Russia was of major geopolitical significance to the US, and that is what kept the money in. After the Russian crisis private banks negotiated with the Russian government about a restructuring of the debt. A key issue in these negotiations was that foreign investors would be treated on equal term with domestic investors. According to Garber, the Russians were perceived to be negotiating in good faith. A restructuring was agreed to that offered a reasonably high coupon, allowing investors to do well if things turned out well. This program, however, was not acceptable to the IMF, Garber reported. Their main concern was that it would "blow out the fiscal program," and they insisted that a much lower coupon would be paid. In essence, the fund was closing the gap by expropriating the foreign investors.
In Garber's view, this was a new policy for the IMF, and investors had to consider how far the policy would be pushed. Old calculations of risk-

return tradeoffs could not be used. A high yield would not be enough to attract foreign investors given the newly perceived danger of expropriation, thus undermining an possibility of an interest rate defense of the currency.

As investors looked around to see what other countries might be affected by this new policy stance, Brazil came to be compared to Russia along such dimensions as the maturity of the debt and the slowness of fiscal adjustment. It was inferred that any future program of debt restructuring would also hit foreign investors.

In the end the fund gave up its harsh talk about forcing losses on creditors later in the year, Garber said. In the case of the Brazil program the harsh terms were not demanded, though as a matter of general policy such talk still lingers. He summed up by reiterating that the "whirlwind" that followed Russia was in part the price of demanding that investors pay.

Thomas Glaessner comments were addressed to the "Was Brazil an example of contagion?" question, looked at from the point of view of a then financial market participant. (He was then with then with the Soros Fund). He said that the perception was the currency was overvalued, and that there were doubts the necessary adjustments though deflation would have been politically possible. That did not seem to fit with the pragmatic approach Brazil usually took. There were also doubts about the willingness of President Cardoso to follow through.

Fiscal concerns, near-term and structural, loomed large in the deliberations, and lots of attention was given to debt dynamics. He also agreed with Garber that IMF policy towards Russia had changed perceptions. The debt problem created a situation in which raising interest rates was problematic; and the lack of a clear explanation of what the policies were made the situation worse. The travails of Long Term Capital Management (LTCM) made matters worse, as banks were cutting credit lines to both countries and hedge funds.

In sum Brazil faced a combination of problems--investors' need to reduce leverage, the Russia problem, a fiscal problem. Glaessner concluded by saying that it is too simplistic to view Brazil's difficulties as purely contagion.

Luiz Correa do Lago began his presentation by reporting that by the time of the Russian Crisis, Brazilian exporters believed that the problem of the appreciation of the exchange rate existed but was being dealt with through gradual but steady devaluation in a context of almost zero inflation. He noted that Brazilian industry was experiencing a large increase in productivity and that there was a perception that the banking system was in good shape. There were grounds to hope that contagion was not inevitable, notably in view of the high level of international reserves and of the fact that Brazil had survived the Asian crisis reasonably well.

On the negative side, however, he pointed out that the absence of fiscal restraint and the mounting public debt were undermining credibility both domestically and externally. This was compounded by a perception of the disassociation between fiscal and monetary policy makers. The only possible policy response appeared to be an increase in interest rates, but the private sector was unsure what impact this would have, as it might only aggravate the government deficit. What really concerned the private sector was that it seemed unlikely that true fiscal restraint could be successfully implemented. In response, investors and large companies attempted to hedge, purchasing dollar-indexed government bonds (-by the way an imperfect hedge as exchange variation is taxable in Brazil).

However, a devaluation of the size that eventually occurred was not anticipated.

Correa do Lago closed by saying that the average cost of debt to large Brazilian companies was basically determined by their access to international markets and to BNDES loans, which were key elements in their investment decisions, noting that before the Russian Crisis the level of interest rates on those loans had not been prohibitive and was not directly linked to the level and fluctuations in the cost of the domestic public debt.

General Discussion

Eduardo Fernandez-Arias commented that while the source of international financial contagion after the Russian default was exogenous to emerging countries, contagion affected countries differently depending on their fundamentals, so it is wrong to say that it is a pure contagion problem. This touched off a debate on how to define contagion. Peter Garber, expressing uncertainty on how to interpret Fernandez-Arias' comment, noted that the conditions that Brazil faced changed. "You could," he offered, "call this contagion or not." Andreas Velasco suggested that it is best to identify changes in fundamentals as exogenous. This led to considerable murmurs of disagreement.

Richard Cooper said he was fascinated by Garber's characterization of Russia. Among the G-7, he said, it was Germany that was most out front in providing help. It was not true that the US had a commitment to bail out Russia under any circumstances. This was an inference of the financial community. The financial community makes its own inferences--these are not fundamentals--and they can change very quickly, said Cooper. But he added that Brazil was in a very fragile condition, and in difficult circumstances this leads to crisis. "You cannot have an avalanche without a steep slope," he concluded.

Jeffrey Frankel reported how things had looked from the viewpoint of the Clinton administration after the Russian devaluation and default, noting that the G-7 responded to the systemic crisis with a number of initiatives. At a September 14 speech to the Council of Foreign Relations, the President called the international financial crisis the worst of the post-war period, made a number of proposals, and labeled Congress irresponsible for failing to approve the IMF quota increase and New Arrangements to Borrow, which it subsequently did. Most importantly, the Fed lowered interest rates, followed by virtually all other major central banks. One goal of the campaign was to reverse the impression in some quarters that politicians in the major industrial economies had not been paying attention to the crisis in emerging markets. Frankel posed the question: Did these actions make a difference by buying time (for deleveraging, etc.)? Taking up the leveraging point, Thomas Glaessner said that leverage was between 3 to 1 and 5 to 1 at many hedge funds. LTCM's high leverage, he said, was the exception and not the rule.

Pierre Olivier Gourinchas turned the questioning to bank runs and multiple equilibria. He asked about the perceptions of market participants: "Did they run because everyone else in running?" Peter Garber responded that he did not see it as a run problem. Rather he believes there were fundamental problems. Brazil, he said, did have high reserves and an IMF program without punitive terms. But it was not clear that this would be enough.

Gustavo Franco raised the issue of burden sharing. He recalled that he first heard the words burden sharing in the context of Russia at the spring meetings of the IMF in 1998. He thought it unfair that Brazil was compared to Russia. For Brazil he believed it was inappropriate to approach banks before a crisis and talk about burden sharing. The important thing was to avoid a burden in the first place. Nouriel Roubini agreed that there are big differences between countries that are in crisis situations that determine the possibilities for bail-in programs--for example, being illiquid as opposed to being insolvent. A complex application of the doctrine of private sector burden sharing is required. Continuing on the theme of the need to differentiate, Takatoshi Ito said that he little sympathy for investors who had lost in Russia. It was "a real moral hazard play," he complained. He added that Russia might have been a blessing in disguise, leading the private sector to reduce its reckless lending. Peter Garber said that Russia was a "double whammy"--both a direct loss and a change in policy as a result of the changing of the voluntary contracts between Russia and its creditors.

Graciela Kaminsky reported commented on research that has been done on the channels of contagion. Event analysis does not point to a large impact of LTCM. By the time of the LTCM problem the developing markets had collapsed and were recovering; developed markets were the ones collapsing, she said.

Shang-Jin Wei pointed out the striking differences in the trends of capital flows of different types.

Session 3: What Would Fiscal Retrenchment Have Accomplished?

Chair : Eduardo Loyo
Panelists:
Eliana Cardoso (World Bank)
Marcio Garcia (PUC-Rio)
Paulo Leme (Goldman Sachs)

Fiscal issues were at the heart of the financial turmoil that engulfed Brazil in 1998. The third session debated whether the difficulties could have been avoided if the spiraling of the deficit and debt could have been avoided. Was it all a fiscal problem? How did fiscal retrenchment impact domestic absorption? How did fiscal retrenchment (or the lack of it) affect the dynamics of the public debt? Could greater retrenchment have avoided the devaluation? What is the appropriate public debt management under external speculative pressure?

Eliana Cardoso began the session with a discussion of the three views as to the underlying nature of Brazil's vulnerability. One view was that a fiscal deficit was always a problem for Brazil, and what made Brazil vulnerable was the overvalued exchange rate. The second view was that the problem this time round was the fiscal deficit. The third view was that Brazil was made vulnerable by both its fiscal deficit and overvaluation. Turning to the question of whether a fiscal contraction would have solved the problem, she noted that the key question was how tough the fiscal policy would have to be. She observed wryly, that for fiscal solution to have solved the problem, the country would have to have been other than Brazil.

Cardoso recalled that the average real interest rate was 22 percent over the crisis period. It was high both because of the fiscal situation and the need to maintain the exchange rate. "What was the alternative?" she asked. One possibility was higher inflation though reduced sterilization of capital inflows. This was not considered acceptable given the goal of reelecting the president and the fact that inflation was highly politically unpopular.

"Who was right?" Cardoso asked. She observed that those who called for devaluation are now chanting victory. They claim that all that was needed was a different exchange rate regime. Others say--"It's still too early to tell."

Marcio Garcia provided a brief technical discussion of debt dynamics in the second half of the 1990s. He stressed that the main culprits were high interest rates--caused by the weak fiscal stance and the weakly credible exchange rate regime--and the accumulation of assets of doubtful value.

He then turned to explanation of the high interest rates, noting that the rate is the sum of the international rate, the forward premium, and what he called the "Brazil risk." He showed that both the forward premium (future divided by spot) and the "Brazil risk" tended to rise in times of international financial turbulence. Focusing on the forward premium, he noted that it can, in turn, be divided into the expected depreciation and "exchange rate risk." On his reading of the empirical evidence, fiscal retrenchment is central to reducing both exchange rate risk and "Brazil risk."

Finally he turned to debt maturity, arguing that the maturity of the debt must be lengthened. To do this the debt must be indexed to prices, interest rates or the exchange rate. To bring inflation down under an inflation-targeting regime interest rates must sometimes be raised. With interest rate indexing of the debt, however, this would significantly increase the fiscal burden, leading to a potential lack of credibility of the inflation commitment. With the IMF putting limits on exchange rate link debt, the remaining option is inflation-linked debt. He observed that there is strong demand for such debt from the financial markets, as many players (pension funds, insurance companies) have long-lived liabilities that are indexed to the price level. He stressed that investment requires long term financing, and that public securities act as a benchmark for other markets (mortgages, corporate bonds, etc.). Therefore, waiting for the time when it will be possible to issue long bonds denominated in domestic currency may present to heavy a toll on Brazilian economic growth.

Paulo Leme opened by saying that financial markets viewed Brazil's stabilization as successful. But the key question related to how it was it working given the deterioration in the fiscal accounts. A number of factors drove the deterioration of the primary balance, including inherited increases in public sector wages, increases in investment, and a reverse Tanzi effect. The restructuring of the debts of the state governments also made the debts more transparent in the balance sheets. So, although money was not printed to cover the deficits, a lot of debt was created. This caused a crowding out of the private sector, which was forced to borrow abroad. This borrowing was in turn encouraged by a stable exchange rate.

As confidence ebbed, the authorities created more "dollar hedge" to allow private capital to stay in the country. Eventually, however, this was seen as not being enough, as investors came to see debt default as very likely. At the time, Leme said he was almost alone in disagreeing. He felt that defaulting would have been very costly to the government, including the cost of restructuring the banking system.

Leme closed on a cautious note, saying that the recent improvements are temporary, and that a lasting improvement in the fiscal position is imperative.

General Discussion

Assaf Razin expressed amazement about the size of the spread between lending and borrowing rates in Brazil. He wondered if this came from a policy of high reserve requirements. He also asked what impact this had on saving and investment. Eliana Cardoso reported that spreads increased in 1994/95 as reserve requirements increased and banking became a more risky business. Eustaquio Jose Reis offered that there was a dramatic reduction in saving, but this might have been due to a decline in the precautionary saving motive as inflation decreased. Marcio Garcia added that hyperinflation destroys credit markets. Credit had been so expensive that nobody wanted to use it. This is changing, he said, and the percentage of credit in GDP has risen. Now the price of credit matters more, he added.

Ilan Goldfajn reported on work that tries to explain the spread. He noted four factors: reserve requirements, the lack of competition, taxes, and the fact that the judicial system has not been kind to the recovery of collateral. He also asked about foreign exchange linked debt, wondering what the optimal level was. "Should it be zero?" he asked.

Gustavo Franco pointed out that a large spread is not a recent phenomenon. Historically, the main reason was inflation. More recently the large spread is due to taxes of various types. He also informed the group that the main use of the revenues from the reserve requirements was to fund various redistributive schemes.

Suman Bery noted that we usually think of the primary surplus as the driver of debt dynamics. But he reminded the group that the work of Garcia and Bevilaqua accorded a much larger role to interest rates. Given the size of the increased interest payout, he also asked that more attention be paid to the impact of the increase in income received by the holders of the debt instruments on aggregate demand. Paulo Leme reported evidence that the income increase goes mainly to consumption.

Addressing the options outlined by Eliana Cardoso, Zia Qureshi asked if the option of relying on a sharp increase in interest rates while also seeking fiscal tightening was internally consistent when the fiscal position is very sensitive to the interest rate. Cardoso answered that history has shown that it is not consistent. The government hoped that having a large enough primary surplus could turn things around, but there was a major political constraint to its achievement. The choice was to pursue policies that had the least risk of igniting inflation.

Gustavo Franco pointed out that there are deeper causes behind the deficit than high interest rates, giving the example of agricultural subsidies.

Turning attention to the debt structure, Eliana Cordoso observed that the maturity of the debt is endogenous. The maturity tends to become short close to a crisis, she said, and added "governments don't borrow short because they like it." Andreas Velasco countered that borrowing long is an option, but governments have to pay for it. Cordoso agreed there is some choice, but it's limited. Paulo Leme added that what is needed is to build the low-inflation credibility of the central bank. With greater credibility, the ability to place long-term paper would improve.

Session 4: Devaluation and Fallout

Chair: Martin Feldstein (Harvard and NBER)
Panelists:
Suman Bery (The World Bank)
Ilan Goldfajn (PUC-Rio)
Nouriel Roubini (US Treasury Department and NBER)

The day's last session turned to impact of the February 1999 devaluation. Among the questions posed to the panelists: Why has the pass-through from the exchange rate to prices been so small? Why has the contractionary impact of the devaluation been so small? How fast could interest rates have been reduced? Was it worth defending the peg for so long? What would have been the outcome of letting the peg go earlier? And what has been the impact of the Brazilian devaluation on the region?

Suman Bery opened the session noting that the 1999 devaluation was but a "waystation" in a lengthier process of structural reform. He agreed with Gustavo Franco that an enormous task still lies ahead. He added that whatever triumphalism there is about the success so far, it does not come from the Brazilian officials.

Reflecting on the day's discussion, Bery noted that word credibility had been used a lot. One of the reasons the malign effects of the devaluation were limited was an evident commitment by Brazil to globalization which had become increasingly evident over the 1990s. Such a commitment was not consistent with the inflationary closed-economy regime that had existed previously. In responding to the devaluation, the authorities had substantiated their commitment that capital and trade controls would not be imposed; also the fiscal package that had passed though the Congress following the shift to a floating regime had additionally signaled broad-based political support for the model. As a result of this hard-won credibility, economic agents (particularly labor) had not responded by demanding indexation, as had been feared. In that sense, the aftermath of the devaluation provided proof that the regime change had indeed taken root.

Notwithstanding the success with the devaluation, Bery closed by highlighting the enormous agenda ahead. To be seen as an economy on a sustainable growth path there must be fiscal reform--including reform at the sub national level. "It is a long-run job," he said, "and he hoped that the crisis was just a hiccup along the way."

Ilan Goldfajn concentrated his remarks on two of the questions posed by the organizers. Why was the pas-through so small? And why was the contractionary effect so mild in relation to the expectation? He observed that the pass though was large in Mexico, and that there was reason to believe that it would be worse in Brazil. But it has not turned out that way. To explain why he turned to the results of some cross-country regression analysis. The results suggest that Brazil devalued when conditions were favorable to a low pass-through. For example, Brazil was in recession, with GDP shrinking by 0.12 percent in 1998, and inflation was less than 2 percent.

Turning to the issue of the mild recession, Goldfajn observed that it had been a "pre-announced crisis." The government allowed investors to hedge their positions. By bearing this cost the government transferred a large part of the cost to future generations.

Nouriel Roubini set out to touch on all the questions posed for the session.

- On the pass-through, he reminded the gathering that while it has been large in Indonesia, it has been small in other crisis-affected countries.
- Turning to the impact on the real economy, Roubini observed that while Asia had significant (though short) contractions, in countries such as Italy and the United Kingdom devaluations had been expansionary. Why was Brazil not like Asia? Among the factors he thinks are important: substantially reduced indexation; a credible policy of tight money (with credibility enhanced by the reputation of Central Bank head Armino Fraga Neto); a recession had compressed aggregate demand; and the positive impact on confidence of adjustment to the primary fiscal balance. He added

that financial sector weakness had been a key problem in Asia, but was less severe in Brazil, partly due to the greater presence of foreign banks. Banks were allowed to hedge their positions using the government's reserves at a significant fiscal cost. So there was a significant amount of bail out. Also the banks were holding a large amount of public debt that turned out to be extremely profitable.

- On interest rates, Roubini believes that high rates were needed to restore credibility. The experiences of Korea, Thailand and Brazil show that this is necessary.
- Was it worth defending the peg for so long? No, answered Roubini. The Real plan was beneficial, but there remained the issue of the "exit strategy." "It should have been let go earlier," Roubini said. "But not in the middle of the Asia/Russia crisis." By early 1999, leverage in the world financial system had been reduced, so letting go of the peg was feasible. If, on the other hand, the currency had been let go when reserves were high but the banks' positions were unhedged, then the damage to the banking system would have been greater.
- On the regional impact, Roubini thinks that there has been a significant negative impact on Argentina and Uruguay. He also noted that a number of countries were cut off from international capital markets in 1999, but he finds it difficult to tell how much of this was due to Brazil.

General Discussion

Session Chairman Martin Feldstein began the questioning by asking how Brazil managed to allow domestic players to hedge before foreign speculators came in and exhausted the reserves. Roubini answered that there was a significant outflow of reserves to finance the "exits" of foreign investors. Suman Bery observed that there was a lot of arbitrage borrowing when the exchange rate regime had credibility. The situation became more doubtful after the Russian default, when Eurobonds issued by Brazilian corporates took a hit. This opened up attractive repurchase possibilities which were exploited. While the Central Bank lost reserves, arguably the national balance sheet improved.

On the pass-through question, Eliana Cardosa reminded the group that the impact had been modest following devaluations in 1979 and 1983. In was only large in 1993. She said that people forgot to look at the older pre-hyperinflationary episodes.

Andres Velasco questioned what he saw as the conventional wisdom on the timing of the devaluation. The view could be summed up as "They should have done it sometime, but not the week after Russia." He said that this is not what theory suggests. The message that he takes from the theory is "that it is better to do it when the world is collapsing." Roberto Rigobon disagreed, pointing out that Venezuela devalued after the Mexican crisis and blamed it on Mexico and then devalued again in March. "It was devastating to Venezuela's reputation," said Rigobon. Assaf Razin wondered which generation of currency models applied best to Brazil. There wasn't a banking problem and the real devaluation appears to have generated output gains. The first generation crisis models (a la Krugman) seem to apply, he concluded.

Edmar Bacha directed attention to the significant overshooting of the exchange rate after the devaluation. He said that this didn't happen in Europe. Part of the explanation, he contended, was that the US Treasury and the IMF were appalled at what the Brazilians did. The lack of coordination made Washington angry, and they showed their anger through the press. The initial reaction of the market was that there wasn't a lender of last resort. Nouriel Roubini observed that overshooting occurs in many countries. What was particular about Brazil was that there was a great degree of uncertainty about what the regime would be. Once the uncertain was resolved, things stabilized, he said. Marcio Garcia asked why the Brazil risk appears to have remained so high, with the spread over treasuries of Brazilian bonds remained larger than those of their Argentinean counterparts even after the devaluation. Ilan Goldfajn answered that there is great uncertainty about what the steady state level of interest rates is. Suman Bery said that the underlying sources of country risk had kept evolving over the Real plan. At the time that the international support package had been organized (in late fall 1998), the dominant view was that the Asian crises had reflected liquidity concerns. This had been a large part of the "precautionary" element in the initial package designed by the Fund. In his view a significant fraction of the remaining country risk today relates to doubts about whether there can be sustained fiscal adjustment at low inflation. There is a need for additional expenditure adjustments to convince markets that Brazil is serious, Bery added. But on the positive side, he said that there are degrees of freedom, both fiscal and monetary, that did not exist a year ago.

Andreas Velasco said that while it is true that "the world didn't end last year," it is also true that growth will not be good this year. The key question, he said, is how do we get Brazil growing again. Ilan Goldfajn countered that it is not fair to compare Brazil with Asia given the depth of the recessions they bounced back from.