



BRAZIL'S 1998-1999 CURRENCY CRISIS

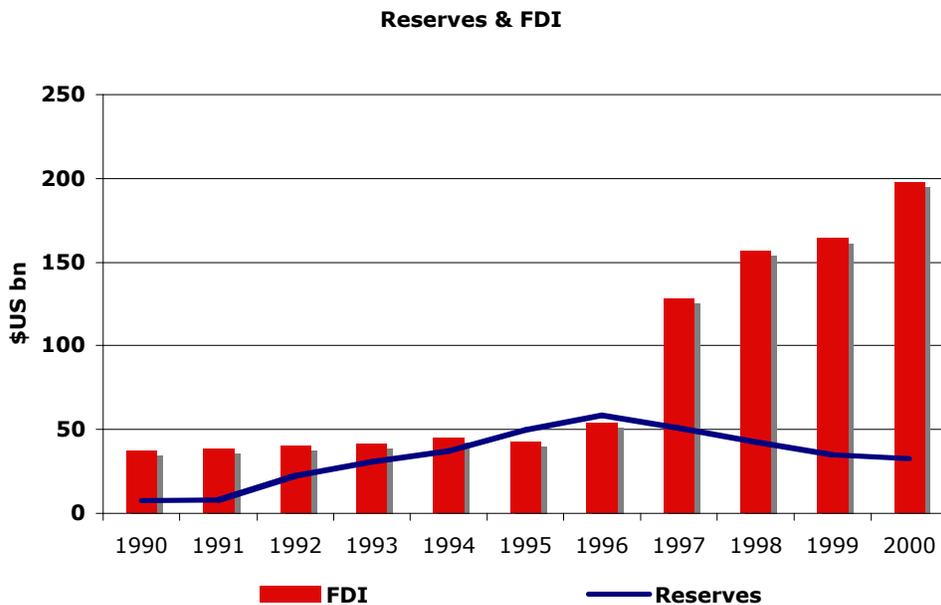
Mike Evangelist

Valerie Sathe

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INTRODUCTION

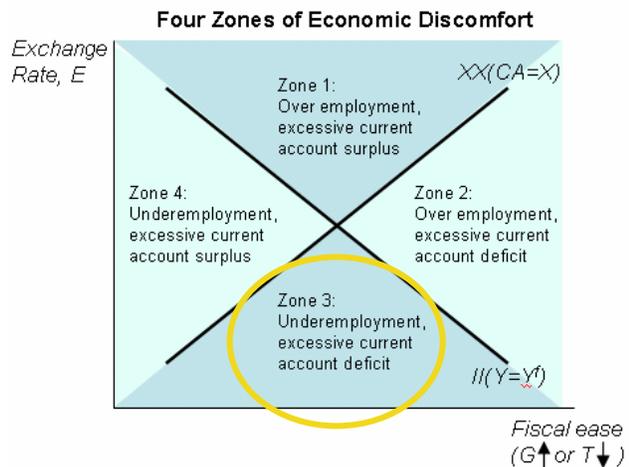
After a decade of inflation rates ranging from 100% to nearly 3,000% per year, Brazil's central bank made an effort during the 1990s to reign in inflation and public spending. In 1994, the government reissued the *real* and instituted a crawling peg. The new currency, in combination with interest rates in excess of 30%, stabilized inflation for the first time in decades. High interest rates lowered inflationary pressures, by reducing the incentive to hold currency. Investors, attracted by high interest rates, poured money into the Brazilian economy at unprecedented rates. In 1997 foreign direct investment grew by 140% over the year before. The table below shows the rapid increase in foreign direct investment and international reserves during the 1990s.



Source: Economist Intelligence Unit

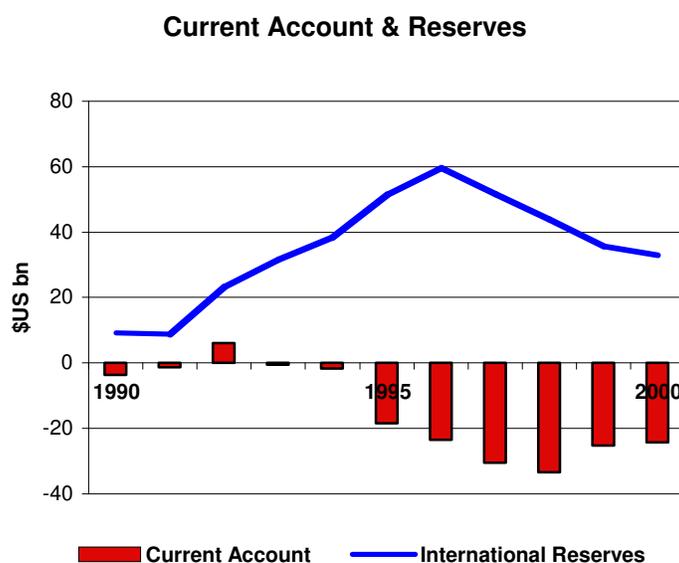
BRAZIL'S KEY ISSUES

Despite successfully lowering inflation, Brazil still faced many of the economic problems that have plagued Latin American countries for decades. In terms of the "Four Zones of Economic Discomfort", Brazil has chronically been in Zone 3, with varying degrees of underemployment and current account deficits. After growing steadily throughout the 1980s, GDP per capita at PPP leveled off and even dropped



slightly during the early 1990s. In addition, unemployment climbed to 14% in 1998 from a low of 6% a decade earlier. It is probable that investors were most concerned by Brazil's profligate spending. By 1999, Brazil owed \$244 billion or 46% of GDP to foreign creditors. And despite efforts to raise taxes and control government spending, Brazil's yearly governmental budget deficits remained in the 6-7% range throughout the 1990s.

In addition, the country began to run consistent current account deficits starting in 1995. By 1998 the current account deficit ballooned to an unprecedented 4.2% of GDP. For the second straight year, the current account deficit was not entirely financed through financial inflows. As seen in the table below, Brazil depleted its reserves in 1997 and 1998 to finance the current account deficit.



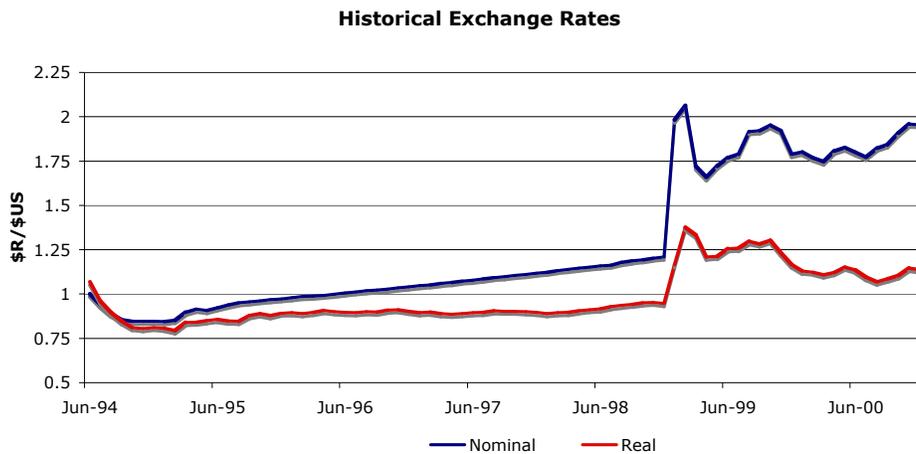
Source: Economist Intelligence Unit

INSTITUTION OF CRAWLING PEG SYSTEM

Between 1994 and 1998, the *real* was set to a crawling peg which permitted the currency to depreciate at a controlled rate against the dollar. Brazil had weathered the earlier South East Asian financial crisis fairly well, but Russia's 1998 default on its debt sent international investors into a panic. Investors that previously displayed confidence in Brazil's economy suddenly lost faith in the government's ability to maintain the *real's* crawling peg. It is arguable whether investor response was solely a product of the Russian financial crisis or a more fundamental concern over Brazil's economic policies. Perhaps investors, lured by high interest rates and investment opportunities, were initially able to overlook Brazil's budget deficits and precarious foreign exchange reserves.

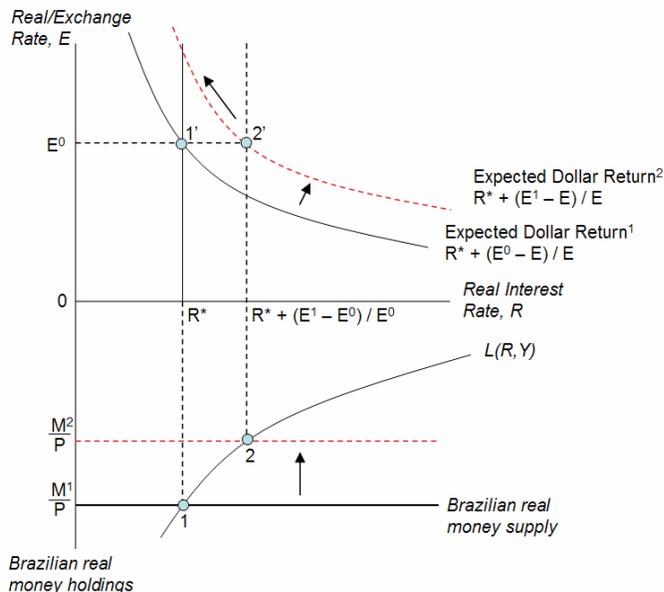
DEVALUATION OF THE REAL

Regardless, in 1998 investors expected Brazil's central bank to eventually devalue the *real*. Over the previous two years, the central bank was able to use its foreign exchange reserves to prevent the currency from drastically depreciating. Between 1996 and 1998, Brazil's reserves dropped by \$24 billion or 40%. While the IMF provided a \$41.5 billion loan in 1998 to help Brazil defend its currency, the central bank decided to devalue the *real* by 8% in January 1999. By the end of the month, the *real* depreciated 66% against the U.S. dollar.



BALANCE OF PAYMENT CRISIS MODEL AND AA-DD MODEL

The balance of payments crisis model is perhaps the best way to analyze Brazil's devaluation. By 1999, the current account was in deficit, exchange rate reserves were declining, and unemployment reached its highest level in over a decade. Combined with the Russian default and recent East Asian crisis, investors had good reason to believe that the central bank could no longer maintain the crawling peg.

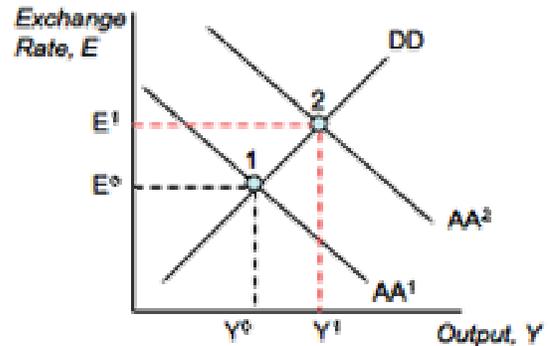


The diagram on the left demonstrates the general concept behind the balance of payments crisis model. A country with a fixed exchange rate begins at point 1 with the exchange rate set at E^0 . Given excessive government spending, a current account deficit, or an international financial crisis, investors will expect the central bank to devalue the domestic currency. These expectations shift the foreign returns curve upward. This shift occurs, because the foreign returns curve

is a function of the domestic exchange rate. If the domestic currency is expected to depreciate, then investors can earn higher returns abroad.

The domestic interest rate will initially remain below the shifted foreign returns curve and investors will begin to exchange domestic currency for foreign currency. In return, the central bank uses its reserves to meet this demand causing the domestic money supply to decrease to M^2/P . Eventually, the country will run out of foreign exchange reserves and it will be forced to devalue its currency.

The AA-DD model further explains how a devaluation affects output and real money supply. The following diagram represents the case where a country with a fixed exchange rate begins at point 1 where the exchange rate is fixed at E^0 and the country is at full employment level Y^0 . When the central bank devalues the currency, the exchange rate shifts upward or depreciates against the foreign currency to E^1 . Domestic goods are now less expensive and output will expand to Y^1 as a result of an increase in export demand.



The increase in output should raise money demand; therefore, the central bank will purchase foreign assets to increase money supply. The country ends up at point 2 with a depreciated currency and output increased above full employment. A country may choose to devalue its currency to realize the following benefits: an increase in employment, an improvement in the current account, and an increase in foreign reserves.

BRAZIL'S ECONOMIC DATA

Brazil's actual economic data leading up to the devaluation is consistent with the balance of payments crisis model. Given Brazil's rapidly expanding current account deficit, chronic government spending, and the Russian financial crisis, the conditions were in place for a balance of payments crisis. The data shows that Brazil suffered a drastic reduction in reserves as investors exchanged *real* for foreign currency. Capital flight reached \$28 billion in 1998 following \$10 billion in lost capital the year before.

The model above assumes an initial starting point at full employment; however, with an unemployment rate above 14% in 1997 and 1998, it is likely that Brazil's output was well below full employment. With IMF support it is possible that Brazil could have avoided devaluation, but in addition to building reserves, the central bank may have hoped that the devaluation would increase output to full employment levels. The table below shows that real GDP was relatively unchanged leading up to the devaluation in 1999, but then in 2000 there was a large jump in productivity and a decline in unemployment.

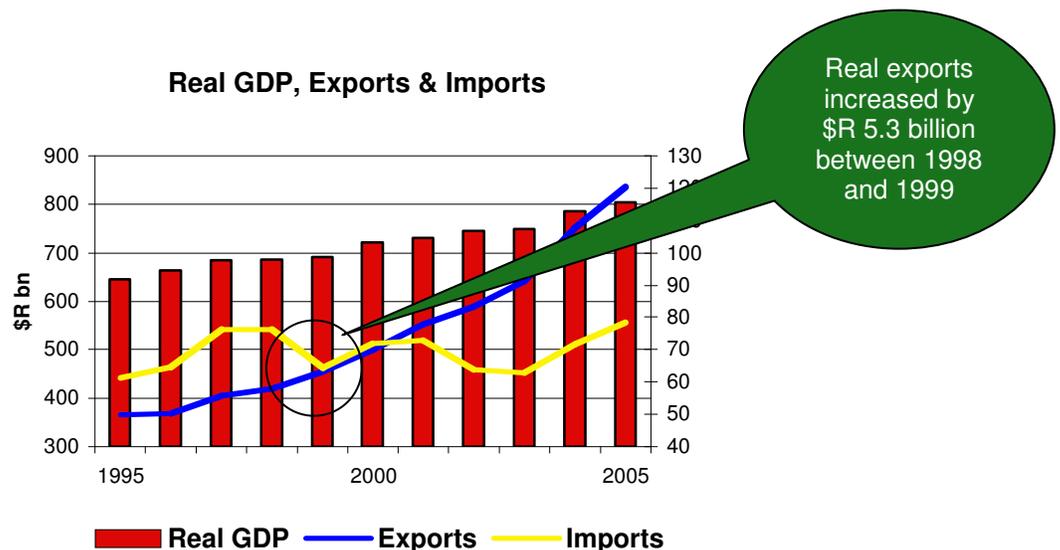
Investors, foreseeing a devaluation, began exchanging domestic currency in 1998. As the data below shows, the central bank raised interest rates from 1996-1998 in an effort to slow the outward flow of capital. After the devaluation, investors slowed their exodus from the *real*, resulting in an increase in the money supply and a decrease in the interest rate.

Effect of Devaluation (1996-2001)

	1996	1997	1998	1999	2000	2001	2002
Real GDP (\$R bn)	664	686	687	692	722	731	745
% change	2.7%	3.3%	0.1%	0.8%	4.3%	1.3%	1.9%
Unemployment	10.6	14.2	14.1	13.3	11.3	11.7	12.3
Money market rate	27.5	25.0	29.5	26.3	17.6	17.5	19.1

Source: Economist Intelligence Unit

Post devaluation, we would expect to see an improvement in Brazil's current account given that exports are now less expensive on world markets, while Brazilian consumers find imports to be more expensive. The graph below shows that Brazil's actual GDP data reflects the accuracy of these predictions. In fact, there is little evidence of a J-curve effect given the near immediate increase in exports.



While currency devaluation may help a country improve current account deficits and return the economy to full employment, there are some negative aspects. For instance, Brazil's sizeable public debt held in U.S. dollars was instantaneously increased with the depreciation. Although, as Krugman and Obstfeld mention in *International Economics Theory and Policy*, in contrast to the East Asian economies, Brazil managed to avoid a financial sector collapse because they held comparatively less dollar denominated debt (694). Once the *real* was devalued, the central bank had little choice but to institute some form of a floating rate regime. Its credibility compromised, the central bank will find it difficult to revert back to a fixed rate regime that only functions if

investors trust the central bank. The devaluation also strained relations with neighboring countries like Argentina who are deeply affected by Brazil's economic policy. A mixed blessing is that Brazil will find it difficult to run large current account deficits. Each year since the devaluation, the current account has improved and in 2003 it was positive for the first time since the early 1990s. Perhaps limitations on international borrowing will actually help Brazil by restraining its ability to run large current account deficits. Finally, foreign direct investment increased after the devaluation to a high of \$197 billion in 2000 because foreign investors were able to buy relatively inexpensive Brazilian assets.

RECOMMENDATIONS TO PREVENT A CRISIS

As early as 1997, Brazil realized that there was market pressure for the *real* to depreciate. That year, the central bank used a net of \$7.5 billion in reserves to defend the *real's* crawling peg. Furthermore, it was clear from the current account deficit, stalled GDP growth, and soaring public debt that the country had economic problems. During this time, the East Asian financial crisis showed that even countries with strong economies are subject to the whims of finicky investors. Provided this evidence in 1997, there was no reason for the Brazilian government not to expect an attack on the *real*.

With a pegged exchange rate and nearly \$100 billion in public debt, the Brazilian central bank could do little to improve its situation. Monetary policy is ineffective under a managed exchange rate regime and fiscal policy was not feasible given the amount of public debt and a budget deficit at 6% of GDP. Given the limitations of fiscal and monetary policy and the impending investor panic, the Brazilian government should have come clean in 1997. Instead of propping up the exchange rate for two more years, while also increasing its IMF debt, Brazil could have initiated a managed depreciation.

One way to accomplish a managed depreciation is by instituting a basket peg that would have enabled Brazil to select a combination of currencies that more accurately reflected the *real's* actual value. Another advantage of a basket peg is that while less stringent than a crawling peg, it still provides enough structure to prevent the Central Bank from expanding the money supply as it accumulates debt.

There are several advantages to this approach. By publicly recognizing the *real's* overvaluation, the central bank signals to the market that it is acting transparently. Even though investors expected the devaluation, the suddenness still came as a shock. Obviously the IMF would not have loaned Brazil \$41.5 billion in 1998 if they knew for certain that the central bank planned to devalue the *real* months later. Not only did the country take on additional debt, the sudden devaluation damaged Brazil's credibility.

Up until 1996, capital flight was not an issue for Brazil. However, over the next two years the country lost nearly \$30 billion in investment. While a managed depreciation would not prevent capital flight, it may have lessened its extent. In fact, capital flight fell to \$2.6 billion in the year

of the devaluation. A large portion of this drop is because there were fewer capital assets left with in the country, but perhaps Brazil could have avoided the initial flight by enacting transparent, preemptive monetary policy.

CONCLUSIONS

Given Latin America's turbulent economic history, it obvious that a fixed exchange rate was not the only cause of Brazil's recent economic woes, nor is a floating exchange rate going to fix all of Brazil's problems. Under a floating rate regime, the government will now be tempted to print money freely in order to pay off debt. Inflation is the primary reason that Brazil adopted a crawling peg in the first place. To counteract this temptation, the Brazilian government must reign in its public debt and budget deficit spending. It appears that the current government takes spending seriously, because 2005 foreign debt was at its lowest point since 1997. In addition, the 2004 budget deficit was at a comparatively low at 3% of GDP. Brazil has also managed to keep their exchange rate under control. Low inflation, disciplined fiscal policy, and a floating exchange rate are all policies endorsed by the IMF. While Brazil still runs budget deficits and owes a sizeable amount to creditors, the country has taken steps toward more stable economic policy. Brazilians can only hope that these policies lead to economic growth for Latin America's largest economy.

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