BRAZIL – EXPLAINING THE HIGH LEVEL OF REAL INTEREST RATES AND IMPLICATIONS FOR INVESTORS

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- Despite the large gradual decline over the past 10 years, local interest rates in Brazil still remain exceptionally high compared to other EM countries.
- This raises some important questions for investors in EM debt: are interest rates justified economically and from a risk-return standpoint, or do they offer an opportunity for outsized risk-adjusted returns? And is the secular trend towards gradually lower real interest rates still in place? These questions are particularly relevant now, as Brazil's central bank has just embarked on a new rate cutting cycle.
- We identify three main factors that explain why rates have been particularly high in Brazil: (1) the recent history of hyperinflation, (2) the structurally low savings rate, and (3) the high share of subsidized and directed lending in the economy.
- We believe the first factor should gradually diminish as the central bank extends its track record of keeping the inflation rate contained in the mid-single digits. As a result, we expect gradually lower real rates over the coming years. However, we see little reason to expect significant changes in the low national savings rate or the share of subsidized and directed lending, and thus full convergence to levels seen in other EM countries is unlikely for some time.
- At current levels, we believe yields on longer-term fixed rate bonds more than compensate for credit, inflation, and exchange rate risk. And while taxes on fixed-income capital inflows (the IOF tax) reduce overall returns for foreign investors, they remain small relative to the large yield premium at longer investment horizons.

In August, Brazil's central bank surprised the markets by cutting its policy rate by 50bps and ending the monetary tightening cycle that started in early 2010. This was followed by another 50bps cut in October, even though annual inflation has remained above the upper end of the target range. As a result, a passionate debate ignited about the merits of this change in policy. In our view, it boils down to two key questions. The first question is whether the central banks' more pessimistic assessment of global economic conditions and Brazil's business cycle prove to be correct. The second and more fundamental question relates to the appropriate level of interest rates needed to keep inflation contained in Brazil, or more specifically if the so-called neutral policy rate is still on a declining path.

Interest rates in Brazil have been exceptionally high for a long time, and while rates have been gradually declining (Figure 1), they are still stubbornly high compared to other emerging market countries (EMs). This note takes a closer look at the fundamental factors behind Brazil's high interest rates. Understanding these factors will help to anticipate the likely path of interest rates in Brazil as well as assess the risks involved.

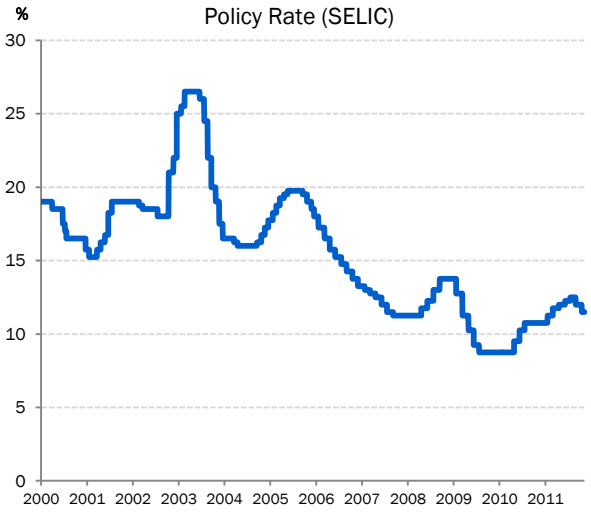

Figure 1: Policy Rate (SELIC), 2003-2011
(Source: Bloomberg)

Comparing rates across counties

Figure 2 compares recent policy rates across major emerging and developed countries. Brazil clearly stands out. However, focusing on current nominal rates can be somewhat misleading. Countries are at different stages in their respective monetary policy cycles. Brazil just passed the peak of the latest monetary tightening cycle. However, rates in most advanced economies still remain at exceptionally low levels and even some EMs have not yet raised rates since the Lehman crisis. Moreover, the comparison of nominal rates fails to take into account differences in underlying inflation rates. To get a better sense of real rates (i.e. inflation adjusted) over the course of a cycle, we took averages over a 4 year time period (which includes both the peak and the trough of the latest rate cycle for most countries) and adjusted for average rates of inflation over that time period (Figure 3). Brazil is still the clear outlier by a wide margin.

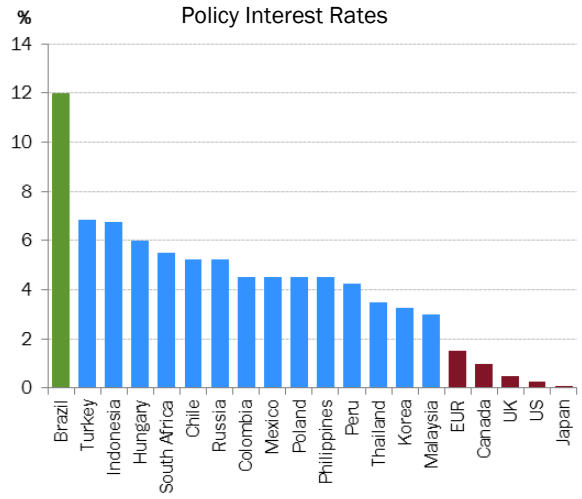

Figure 2: **Policy Interest Rates, October 2011**
(Source: Bloomberg)

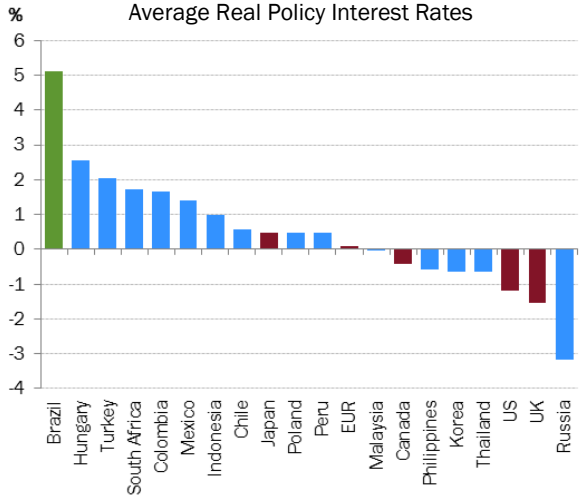

Figure 3: **Average Real Policy Interest Rates, October 2007-September 2011**
(Source: Bloomberg, Haver Analytics)

Factors explaining high rates

So what exactly are the underlying factors behind Brazil's high real interest rates? Not surprisingly, this has been a hotly debated topic in Brazil for quite some time and many potential explanations have been proposed, some more convincing than others. We believe it boils down to three key factors:

1. History of hyperinflation: Brazil's inflation rate averaged well over 100% annually during the 1980s and exceeded 1000% annually during the first half of the 1990s. Only in the second half of the 1990s—after a currency reform that introduced the Brazilian Real (BRL)—were policy makers finally able to stabilize inflation in the single digits. We believe the relatively fresh memory of extraordinarily high inflation rates still has a profound impact on economic behavior in Brazil. In particular, we believe there is a tendency in Brazil to overestimate medium-term inflation risk. As a result, the central bank has to be particularly vigilant (both in terms of the level of policy rates as well as the timing of rate hikes) in order to keep inflation expectations contained. Overestimating inflation risks also fosters the tendency to borrow even at very high nominal rates and the reluctance to invest at fixed nominal rates, as upward inflation shocks benefit borrowers and hurt lenders.

2. Low savings rate: Brazil's national savings rate is very low compared to most advanced and emerging economies (Figure 4). In 2010 it was just 16%. Among other EM peers only Turkey had a lower savings rate at about 12.5%. Brazil's Latin American peers have savings rates at or above 20% and most Asian economies have rates around 30% (and as high as 50% in China). A low savings rate in a country with substantial investment needs causes upward pressure on interest rates, as there is a shortage of savings to finance investment at "normal" interest rates. Another way of looking at this is through domestic demand. The flip side of a low savings rate is a high consumption rate, which means—when combined with significant investment demand—that domestic demand is too high and needs to be curbed through higher interest rates in order to avoid overheating.

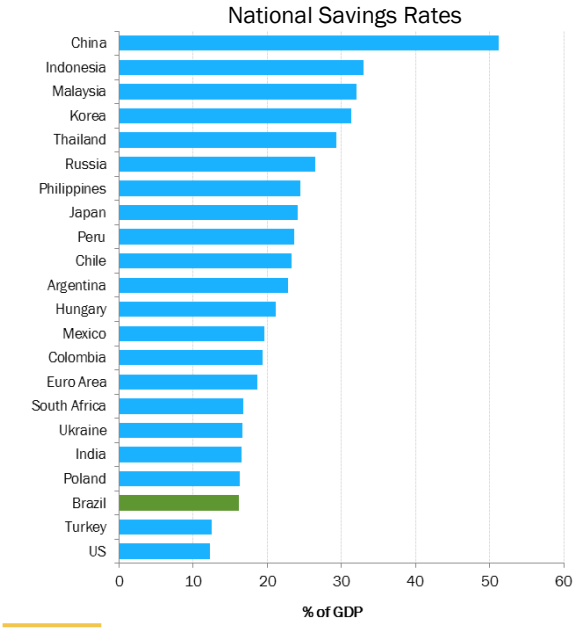

Figure 4: National Savings Rates, 2010.
(Source: Haver Analytics, Stone Harbor calculations)

3. High share of subsidized lending: The third key factor that is contributing to pressure on interest rates is the large share of earmarked and subsidized credit in Brazil. This takes place through government-backed financial institutions, especially the state development bank BNDES. BNDES' lending represents roughly 20% of total credit in the economy, while total earmarked lending (including rural and housing credit) stands at about 35% (Figure 5). Much of the earmarked lending is tied to the "long term interest rate" (TJLP), which generally does not change when the central bank moves the policy rate (the SELIC target rate). The TJLP was last raised in 2003 and has since been cut in half (from 12% to 6%). The lack of response to market rates weakens the transmission of monetary policy. Since a substantial share of credit does not react to the policy rate (or market interest rates), the central bank has to compensate by keeping rates higher for non-subsidized credit in order to achieve the same tightening effect. The end result is a higher level of market interest rates.

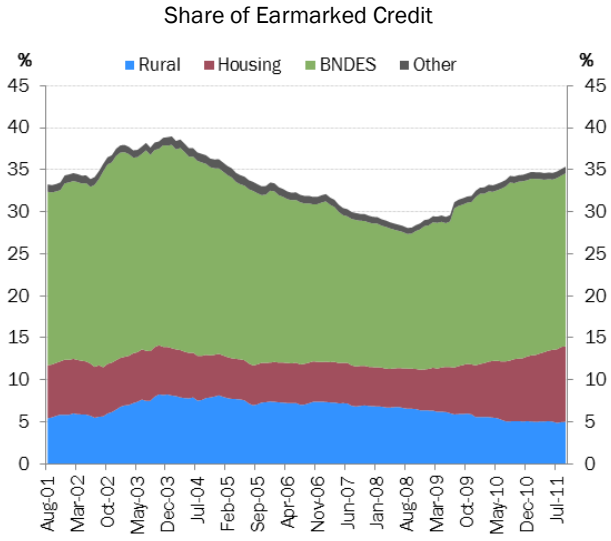

Figure 5: Share of Earmarked Credit, 2001-2011
(Source: Haver Analytics, Stone Harbor calculations)

Looking ahead

Having identified the main factors responsible for Brazil's high interest rates we can take a look at the likely development in the future. In our view, the key question is if these factors are going to persist or gradually decline in the future.

The impact of past hyperinflation should diminish gradually as the central bank extends its track

record of keeping inflation contained in the mid-single digits. This is a slow process though. Moreover, the central bank surprised markets in August by initiating a rate cutting cycle despite the fact that annual inflation rates have remained above the upper end of the 4.5 +/-1% target range since May 2011. As a result, we believe further gains in central bank credibility will depend on evidence that inflation rates are actually converging again towards the target. We expect this to happen over the coming quarters, in part due to the lagged effects of the economic slowdown and the past rate hikes and in part due to base effects from sharp commodity price increases last year. Inflation tends to be sticky in Brazil so the effect of the economic slowdown on inflation is relatively slow; however, if we get confirmation (as we expect) over the coming months and into 2012 that underlying inflation pressures are abating, the central bank's credibility and ability to contain inflation expectations should be reinforced.

We have seen a similar behavior in the past in other EM countries as they tackled persistent high inflation. For example, in Mexico, Colombia, and Chile during the second half of the 1990s and in Turkey during the first half of the 2000s. In each case, after inflation reached single digit rates it still took years of relatively high real policy interest rates to keep inflation in the mid single digits (or in the case of Turkey upper single digits). We believe this process is slower in Brazil, since the inflation experience in the 1990s was significantly worse; nonetheless, it should continue.

As for the next factor mentioned above, the low savings rate, we do not expect significant changes in the near future. Brazil's low savings rate appears to be mostly structural. Figure 6 shows the annual national savings rate over the past 20 years. The current rate is in line with the long-term average and has remained broadly stable for several years before moving lower in 2009. Investment rates, on the other hand, are higher now than in the early and mid-2000s and we expect them to remain high given the current efforts to raise infrastructure investment and the large investments needed in the natural resource sector (including development of the pre-salt oil reserves). Thus, the pressures arising from high investment demand and low savings are unlikely to diminish much. Fiscal tightening would help raise the national savings rate (through higher public savings) but we see little political will for meaningfully tighter fiscal policy at this juncture. The economy is already heavily taxed and government spending programs remain very popular. Moreover, the government is already running a substantial primary surplus (targeted slightly above 3% in 2011).

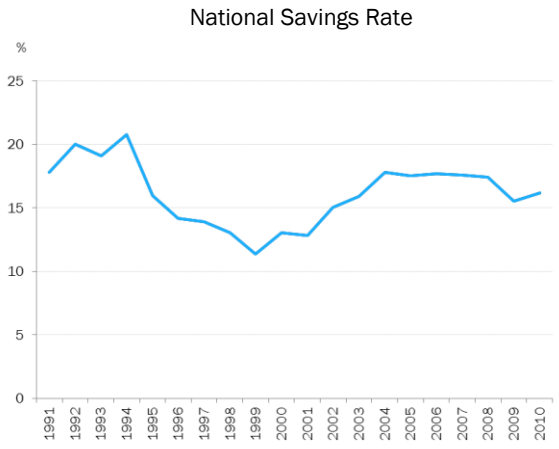

Figure 6: **National Savings Rate, 1991-2010**
(Source: Haver Analytics, Stone Harbor calculations)

Similarly, with regard to the high share of subsidized lending, we do not expect significant changes in the near future. The political will to restrict directed and subsidized lending or raise BNDES' lending rates appears to be lacking, especially given the large investment needs in Brazil, the large role BNDES has in providing long term financing to the corporate sector, and the still underdeveloped housing finance market. For these reasons, we expect real rates in Brazil to remain higher than in most other EMs for a substantial period of time, notwithstanding the likely continuation of the gradually declining trend.

Decomposing yields

Declining real rates would clearly be supportive of returns on local bonds, but if that process is slow the resulting downward shift of the yield curve would also be gradual. Of course, it could happen faster

than we anticipate but our base case assumption is a more gradual decline. Nevertheless, we believe local debt in Brazil remains very attractive as the high level of yields more than compensates for the exchange rate risk, especially for investors with longer investment horizons.

To illustrate this point we believe it is useful to decompose yields into several components (Figure 7).[1] In a first step, we can split the nominal 10 year government bond yields into real yields and break-even inflation (which includes both expected inflation and any inflation risk premium). Break-even inflation is currently around 5.3% (5.2% continuously compounded) which seems reasonable given Brazil's inflation outlook[2].

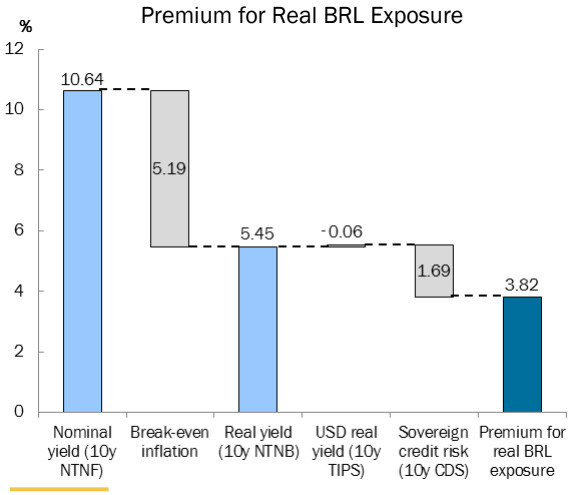

Figure 7: **Yield Decompositions*: 10 year bond, November 8, 2011.**
(Source: Bloomberg, Stone Harbor calculations)

*/ Yields are expressed at continuously compounded rates to allow for a linear decomposition.

That leaves real yields on Brazil's inflation-linked government bonds at about 5.6% (5.45% continuously compounded) at 10 year maturity. In comparison, real yields on inflation-linked US treasuries are slightly negative at about -0.06%. Of course, these are very different assets and the large spread between both can be interpreted as a risk premium, compensating investors for the risks involved in holding Brazilian Real (BRL) denominated debt of the government of Brazil, thus involving both credit risk of the sovereign and the risk of changes in the real (i.e. inflation adjusted) exchange rate. We can approximate the premium for credit risk by the credit default swap (CDS) on the government of Brazil. 10 year CDS spreads are currently 170bps (169bps continuously compounded) for Brazil. Even if we assume that there is no credit risk in US treasuries (despite current 10y US sovereign CDS spreads of around 66 bps), we still end up with a premium of 390bps (382bps continuously compounded) annually for real BRL exposure.

This means that a held-to-maturity investment today in Brazil's local currency sovereign bonds (including the purchase of CDS protection) would outperform US treasury bonds as long as the BRL does not depreciate by more than 390bps annually in real terms (i.e. inflation-adjusted) relative to the USD. Over the 10 years to maturity, this equates to about 46% cumulatively. That is a substantial cushion against real currency depreciation. To put this in perspective, during the crisis year 2008 the BRL depreciated 30% in nominal terms (and that was reversed over the next year). Moreover, similar premiums in other EM countries are substantially lower, even though we see little reason to believe that Brazil's currency is more at risk of a large and sustained depreciation. For example, in Mexico the premium is currently 55bps, in Colombia 189bps, in Chile 145bps, in Poland 49bps, and in Turkey only 36bps. This means that returns on Brazil's local sovereign bonds should outperform other EM local currency bonds as long as the BRL does not substantially underperform other EM currencies.

We can perform a similar decomposition of Brazil's bond yields into nominal US treasury yields, Brazil's credit risk premium, and the premium for nominal BRL exposure. This is shown in Figure 8. The premium is now at 7.19% annually (equivalent to 6.89% continuously compounded) which compounds

[1] Yields are expressed at continuously compounded rates to allow a linear decomposition, i.e. to ensure that the components add up to the total. For example, a yield of 11.22% at annual compounding (which was the yield of the 10y bond on November 8, 2011) is equivalent to a continuously compounded rate of 10.64%.
[2] Brazil's inflation target is 4.5% with inflation risk tilted somewhat on the upside as inflation has been higher over the past year (7.3% y/y in September 2011) and since 2005, when Brazil first adopted the 4.5% target, inflation averaged 5.1%.

to about 100% over 10 years, thus offering substantial protection against nominal BRL depreciation.

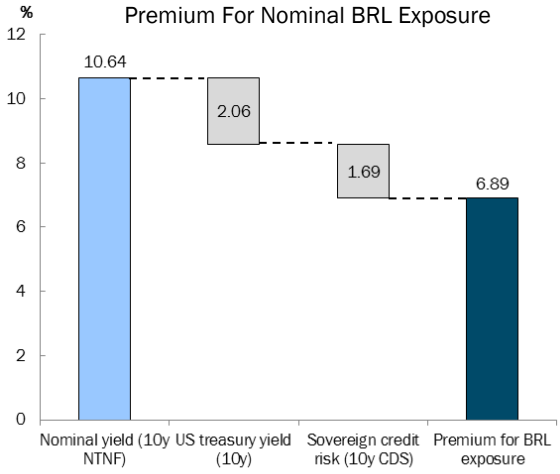

Figure 8: **Yield Decompositions*: 10 year bond, October 19, 2011**
(Source: Haver Analytics, Stone Harbor calculations)

*/ Yields are expressed at continuously compounded rates to allow for a linear decomposition

The role of the IOF tax

A question that naturally arises at this point is the role of Brazil's IOF tax, a special tax imposed on foreign investors in Brazil's local fixed income market. Currently, a rate of 6% applies to investments in government bonds. It is a one-off tax that is charged up-front as funds enter the country. The rationale has been to deter capital inflows, especially short-term flows, which Brazilian policy-makers consider to be responsible for the substantial appreciation of the BRL in recent years, as well as to contribute to capital flow and FX volatility.

However, we believe the IOF tax also had an unintended (but significant) impact on bond yields. Foreign ownership of Brazil's government debt is concentrated in fixed-rate securities and particularly in the longer end of the fixed-rate curve. The IOF tax has reduced after-tax returns and thus demand for bonds. In other words, we believe yields would have fallen further if the tax had not been imposed. However, it is important to keep the magnitude in perspective. Since it is a one-off tax the impact on annual returns declines with longer investment horizons. At a 5-year horizon it is less than 120bps annually and less than 60bps at a 10-year horizon. Compared to the large premium implied in Brazil's bond yields, the IOF tax remains of secondary importance and thus does not change the key conclusion.

The bottom line

Real yields in Brazil are exceptionally high, not just compared to most developed markets but also among EM peers. This remains true even though yields have already fallen substantially over the past 10 years. We believe the level of yields is not justified by underlying credit, inflation, or exchange rate risk. Instead, we have identified several structural economic factors: the low savings rate, high share of directed lending, and the history of hyperinflation. The first two factors are likely to be fairly persistent, but we believe that declining inflation prints over the coming months and into 2012 will strengthen the credibility of the central banks and create room for further rate cuts. As a result, we believe real yields should continue to follow a slowly declining trend.

What does this mean for investors in EM debt? We believe local debt in Brazil continues to offer an opportunity for attractive risk-adjusted returns. The decomposition of yields reveals a large premium for exposure to currency risk (both in real and nominal terms) that is substantially larger than in other EM countries. The premium is large considering past moves of the BRL as well as the strong external position of Brazil's economy in terms of large FX reserves, foreign direct investment flows, and low external debt. As a result, unless Brazil's currency substantially underperforms, we expect investments in Brazil's local debt to over-perform. Moreover, the prospect of further declines in real yields increases the return potential, especially at the longer end of the curve. Finally, the IOF tax lowers after tax returns and likely slows down the gradual convergence of real yields, but it remains small relative to the large yield premium except for investors with short investment horizons.

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