What’s behind the recent underperformance of the BRL?

• The BRL has underperformed other Brazilian assets and other currencies in the past year. This report examines whether or not the recent all-time-low interest rate differential between Brazil and the U.S. is responsible for this.

• We find that the narrower interest rate differential, the bigger the impact of a change in the benchmark Selic rate on the exchange rate.

• After incorporating this effect into our models, we concluded that the BRL should be weaker than assumed in our base-case scenario. However, the very low interest rate differential is something new, and we need more time to estimate its impact on the FX market more accurately.

Over the last year, a benign international environment — with stronger, widespread global growth — has supported risk assets. Domestically, expectations of reform approvals also bolstered Brazilian assets.

The risk premium (measured by the 5-year CDS spread) for investing in Brazil shrank to about 170 bps, from 250 bps at the beginning of 2017. The overall decline in inflation allowed the central bank to reduce the Selic further, cutting it by more than half, to 6.50% p.a. (from 13.75% p.a.). Meanwhile, lower interest rates helped reduce companies’ funding costs, lowering the financial expenses of leveraged firms and fueling gains in the Ibovespa stock index, which soared to near 85,000 pts (from 60,000). Among the key Brazilian assets, the BRL underperformed. After trading around 3.25 BRL/USD for most of 2017, the exchange rate recently returned to 3.40 BRL/USD.

The following charts show how the BRL has decoupled from other Brazilian assets, especially since 2H17.

Compared with other emerging market or commodity currencies, the BRL’s underperformance also stands out. Between January 2017 and April 2018, out of 21 currencies, only the Turkish lira (TRY) lost more value against the USD than the BRL.
What’s behind the BRL’s underperformance vs. other assets?

Anchored expectations and the widespread decline in inflation (due to the high idle capacity in the economy) paved the way for a sustained reduction in the Selic rate. Lower monetary policy rate affects other assets: long-term interest rates fall, stocks rise as corporate funding costs fall, and risk premiums (measured by CDS spreads) decline in the face of a better outlook for the Brazilian economy.

The impact is the opposite only on the exchange rate. Over the past year, the narrowing interest rate differential between the U.S. and Brazil — caused by repeated cuts in the Selic and rate hikes by the Federal Reserve — undermined the attractiveness of carry trade operations\(^1\), justifying a weaker exchange rate.

More importantly, however, is the fact that the interest rate differential recently reached an all-time low, which may somehow have a potentially greater impact on the exchange rate than when the carry-trade was less attractive. We analyzed whether the interest rate differential reached such a level that the impact caused by a falling Selic became more significant, causing the BRL to underperform other assets and currencies despite the more benign domestic and global environment. Our point is that marginal changes in the Selic may have a greater impact on the exchange rate when the interest rate differential is narrow than when it is very wide.

\(^1\) A large interest rate differential encourages players to borrow abroad to invest in countries that pay higher yields (such as Brazil), boosting capital flows and causing the currency to appreciate. These are known as carry-trade operations. The opposite is also true. When the interest rate differential narrows, the BRL tends to weaken as the carry-trade become less appealing.
Can the assumption that a historically-low interest rate differential is responsible for the BRL’s underperformance be tested?

In our models, the exchange rate is a function of country risk (measured by 5-year CDS spreads), a proxy for terms of trade, and the interest rate differential. We used two distinct specifications:

- Model 1: Interest rate differential is measured using Selic - Fed Funds Rate.
- Model 2: Interest rate differential is measured using the logarithm of Selic - Fed Funds Rate.

The following charts illustrate the impact of a decline in the interest rate differential on the exchange rate in each model.

![Impact of interest rate differential on the BRL - Model 1](Source: Itaú)

![Impact of interest rate differential on the BRL - Model 2](Source: Itaú)

In model 1, a decline in the interest rate differential to 20 pp from 25 pp, for instance, causes exactly the same impact on the currency as a decline to 5 pp from 10 pp. In other words, any 5-pp drop in the differential weakens the BRL by 1.5% against the USD, regardless of the starting point.

In model 2, we take into account the interest rate differential at each phase. In this case, a decline in the interest rate differential to 20 pp from 25 pp has a milder impact on the exchange rate (depreciation of about 1.5%) than a decline to 5 pp from 10 pp (about 5.0%). Importantly, a reduction of the interest rate differential in this model, to near 0 pp from the current 5 pp, would have an even sharper impact on the Brazilian currency (exceeding 10%).

Since January 2017, the interest rate differential between Brazil and the U.S. has fallen to 5 pp, from about 12.5 pp. Based on model 1, the impact of this reduction on the exchange rate is a depreciation of just 2.3% on the BRL. In model 2, the impact is as large as 6.5%.

The following chart shows the gap between the actual and forecasted exchange rate under these two models. Some points are noteworthy:

(i) Both models seem to accurately capture the exchange-rate dynamics for over 15 years, including crises, such as in 2008. The explanatory power of the two specifications (measured by R2) is high, although slightly higher in model 2.

(ii) For most of the sample period, the gap between the Selic and Fed Funds ranged between 10 pp and 20 pp (average: 12 pp), so that the impact of a decline in the interest rate differential in models 1 and 2 was quite similar (around 1.5% for a reduction of 5 pp).
(iii) At the margin (i.e., in recent months), when the interest rate differential hit all-time lows, model 2 better captured the BRL path. This finding backs our assumption that the interest-rate differential has reached such a level that its reduction may have a potentially larger impact on the BRL than at times when the differential shrank, but from higher levels.

Conclusion:

There are two broad risks to the exchange-rate scenario for 2018 and beyond. The first risk involves the political and macro landscape, both domestic and external. The second risk, and the object of this analysis, is specific to idiosyncrasies of the FX market. We showed that, the interest rate differential reaching its lowest level on record could have a potentially greater impact on the currency than in periods when the gap narrowed from higher levels. Importantly, even after the expected pause in the monetary easing cycle in Brazil, the interest rate differential will continue to recede as the Fed raises interest rates.

This is a new scenario, and we will need to carry out more analyses to properly gauge its impact on the FX market, especially in the face of the challenges in estimating its non-linearity. Based on our forecasts for risk premiums, commodity prices and the interest rate differential, model 1 suggests an exchange rate of 3.25 BRL/USD by year-end. Model 2 puts the exchange rate closer to 3.40 BRL/USD, representing downside to our call for the Brazilian currency.

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