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Brazil – Exchange Rate

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BRL: Between Common and Idiosyncratic Factors

- **In our view, USD/BRL behavior in the short term is likely to be determined by: (i) terms of trade; (ii) the willingness of foreigners to hold Brazilian assets; and (iii) the global strength (or weakness) of the US dollar. These fundamentals should drive the fair price for USD/BRL during a given period.**
- **According to our model, the current fair price for BRL/USD is 3.90, taking into account commodities prices, the 10-year US Treasury bond yield, Brazil country risk, EM currencies basket, and the interest rate differential.**
- **The difference between BRL/USD and the model's forecast is the error that we have dubbed as "market noise." In our opinion, noise is strongly linked to the outlook for the adoption of fiscal adjustment measures from 2019 onward, which means that noise will decline significantly as market confidence in fiscal reforms increases, and rise as confidence declines.**
- **Our baseline scenario is that once electoral uncertainties are dissipated and the confidence in fiscal adjustment increases, the BRL should strengthen from the current level to 3.80 per US dollar at end-2018. For 2019, we forecast 4.10 per US dollar, under the assumptions of fiscal reforms but with ongoing higher international risk aversion.**
- **Under a lack of confidence in fiscal adjustments, the country risk perception should deteriorate from current levels, and consequently, the BRL should weaken.**

Forecast Revisions

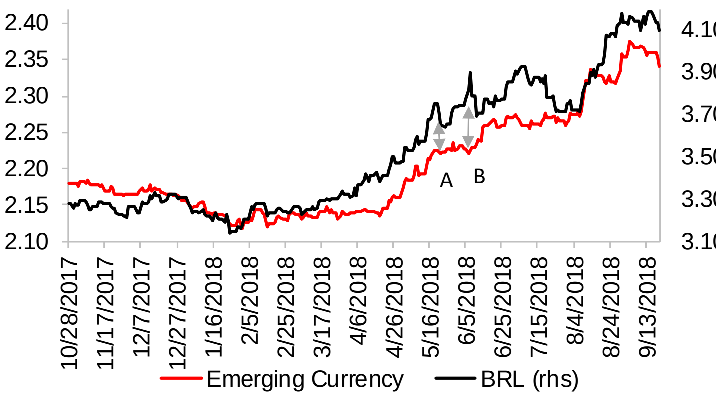
Variable	2018	2019
BRL/USD (year-end)	~~3.50~~ **3.80**	~~3.57~~ **4.10**
BRL/USD (average)	~~3.62~~ **3.68**	~~3.54~~ **3.95**

Source: Santander estimates.

Introduction

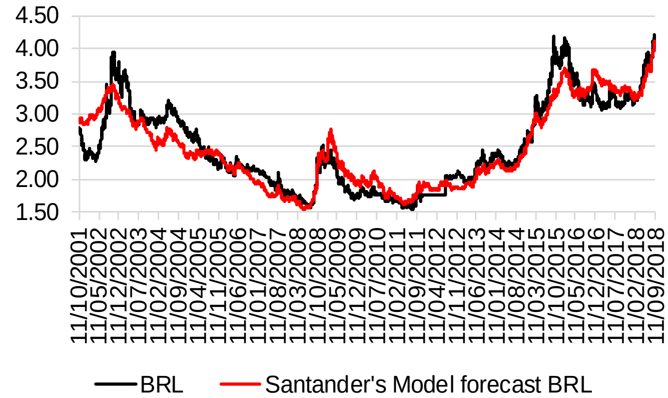
Like other emerging currencies, the BRL has been in a depreciation trend since February. EM currencies' weakening against the USD has been due to both common factors, such as the Federal Reserve guidance change in February, followed by the threat of world trade protectionism, as well as to idiosyncratic factors, such as election uncertainties and economic policy meddling and/or fragility.

Figure 1. BRL and EM currencies basket against USD



Sources: Bloomberg and Santander estimate.
Emerging currencies basket is composed by Argentina; Bulgaria, Chile, China, Colombia, Dominican Republic, Egypt, El Salvador, Hungary, Indonesia, Lebanon, Malaysia, Nigeria, Pakistan, Panama, Peru, Philippines, Poland, Serbia, South Africa, Thailand, Tunisia, Turkey and Ukraine.

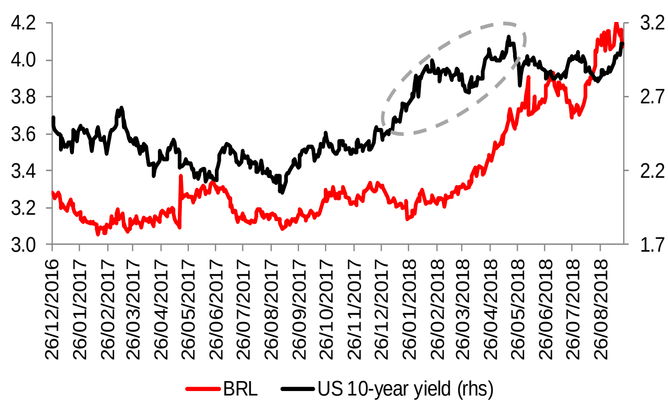
Figure 2. USDBRL vs. BRL model outcome



Sources: Bloomberg and Santander estimate.

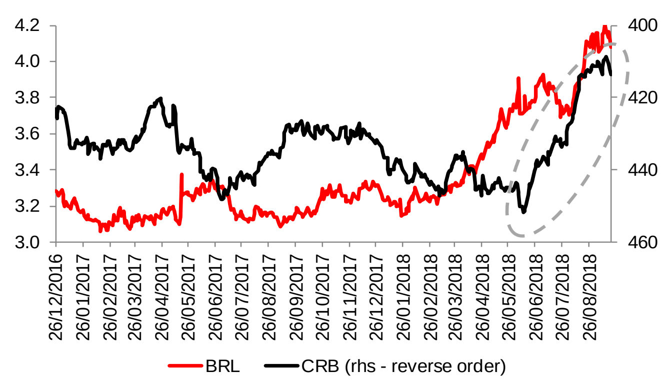
The BRL has followed EM currencies' movement most of the time this year, detaching during a few periods. In Figure 1 we highlight points A and B in mid-May, when markets reacted to the truckers' strike. Recently, the BRL has again become detached from the behavior of the EM currencies basket. According to our model for the BRL, around BRL 20 cents of the recent BRL level cannot be explained by market conditions (international and/or domestic). We attribute this error in the model to election uncertainties and their impact on the market's expectations regarding the management and timing of fiscal reforms.

Figure 3. BRL vs. US 10-year yield



Sources: Bloomberg and Santander.

Figure 4. BRL vs. Commodities prices index



Sources: Bloomberg and Santander.

Figure 5. BRL vs. Brazil CDS 5-year

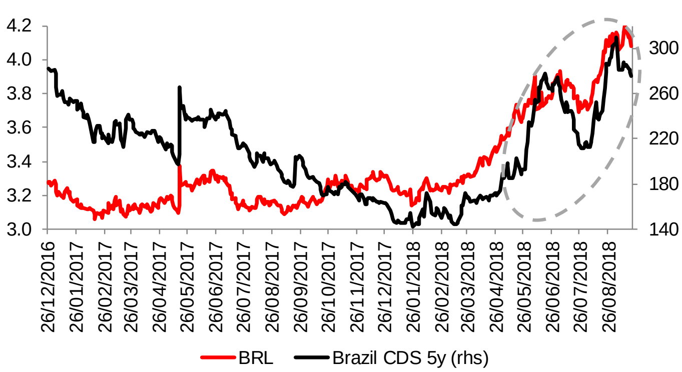
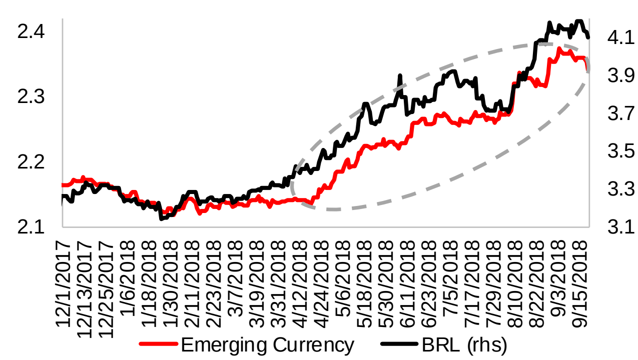


Figure 6. BRL vs. EM currencies basket



Sources: Bloomberg and Santander.

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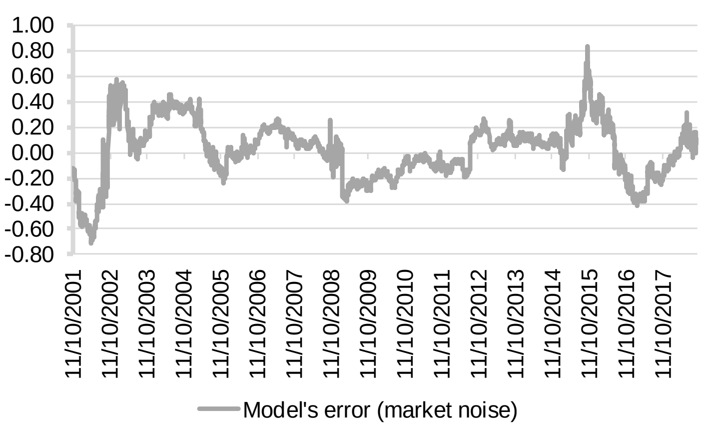
We reckon that there is a tight relationship between the impact of Brazil risk on EM risk and vice-versa, which is difficult to disentangle. In our model specification for BRL, the coefficients represent the estimated effect of its corresponding variable, holding all other variables constant. This helps to differentiate the impact of Brazil-specific deterioration from EM-driven market stress.

Given our assumptions for this year were that: the pace of US monetary normalization would be faster than consensus expectations; commodity prices would be in a downward trend, election uncertainties would abound, having negative impacts on Brazil country risk; and there would be a significant reduction of carry trade due to ongoing monetary easing in Brazil. Our measurement brings important insights on the future: (i) the unexpected worsening of EM risk, in addition to market noise, justifies a current fair value for BRL of 3.90/USD rather than our previous forecast of BRL/USD at 3.50; and (ii) if EM risk remains high, an eventual improvement in the Brazil risk should not change the fair level for BRL significantly. Regarding the error in the model for the BRL, which we term market noise, we see it as strongly linked to the outlook for the adoption of fiscal adjustment measures from 2019 onward, which means that it could decline significantly as market confidence in fiscal reforms increases, and rise as such confidence declines.

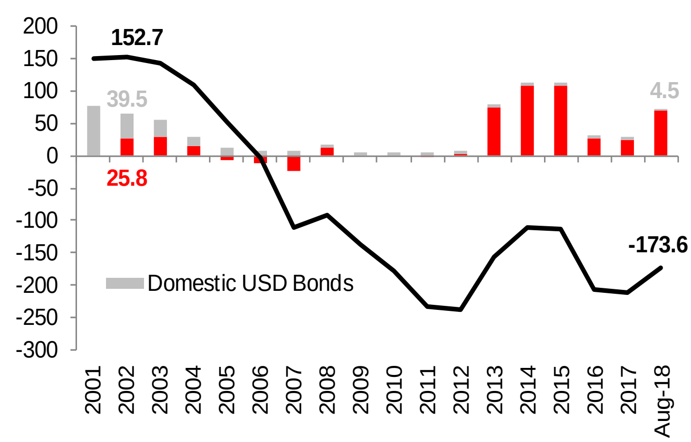
The good news regarding the market noise is that it seems small compared with market noise in 2002 and 2015, both political crisis moments, or in 2008, arising from the credit crunch (Figure 7), it seems small. At current prices, the maximum market noise reached BRL 58 cents (BRL) in December 2002, BRL 26 cents in October 2008, and BRL 83 cents in September 2015; currently it is hovering in the 10-30 cents range. At prices as of August 2018, market noise reached BRL 1.40 in December 2002, BRL 40 cents in October 2008, and BRL 1.00 in September 2015.

Figure 7. Market noise (BRL/USD)



Source: Santander estimate.

Figure 8. USD exposure of the public sector vs. hedging instruments – USD bn



Sources: Bloomberg and Santander estimate.

There are several reasons for such varying market reactions. The most important, in our view, is the improvement in macro fundamentals, especially improvement in external solvency. In our opinion, macro fundamentals warrant a more benign trend for asset prices than that seen in 2002 and 2015. Brazil's public sector currently has a large net-long foreign currency exposure: excluding the external sovereign debt (USD133 billion) from the stock of reserves, local USD-linked bonds (USD4.5 billion), and the outstanding notional of FX swaps (currently at USD69 billion), the balance is around USD173 billion, and the current account deficit (CAD) is 0.8% of GDP. In 2015, Brazil had a lower net-long foreign currency exposure at USD100 billion, and CAD was around 4.0% of GDP; in 2002 Brazil's net foreign currency exposure was USD152 billion short, while CAD was also around 4.0% of GDP.

Model for BRL

In short, we think that the USD/BRL equilibrium exchange rate is likely to be determined by: (i) terms of trade; (ii) the willingness of foreigners to hold Brazilian assets; and (iii) the global strength (or weakness) of the US dollar. In order to capture the daily movements of these variables, we ran a second version of the short-run model, assuming: (i) 10-year Treasury yield, as a measure of risk aversion; (ii) emerging currencies basket, as a measure of EM risk and global US dollar strength; (iii) commodity prices (CRB index) as a measure of terms of trade; and (iv) interest rate differential (the one-year Pre-CDI swap subtracted from the one-year U.S. Treasury yield).

Therefore, our model to explain the performance of the BRL can be written in general as:

$$log\ e_t = \beta_0 + \beta_1\ log\ CRB + \beta_2 \log GT10 + \beta_3 \log EM + \beta_4 \log BZ\ CDS + \beta_5\ [\log(1+\mathrm{i}) - \log(1+\mathrm{i}^*)] \qquad (3)$$

As summarized in the equation above, we expect: (i) higher commodity prices to appreciate the *real* (β_1<0); (ii) higher volatility (hence lower risk appetite) to depreciate the currency (β_2>0); (iii) a globally stronger US dollar and worse environment in emerging countries to depreciate the BRL (β_3>0); (iv) a higher country risk perception to depreciate the currency (β_4>0); and (v) higher interest rate differential to appreciate the currency (β_5<0).

We ran again the short-run model for BRL with data ranging from January 2006 to September 2018 (daily frequency), employing the Generalized Method of Moments (GMM). We chose this approach also in order to control for "endogeneity" problems, which occur when the economic variables are mutually dependent, as is the case here. Forecasts for BRL before 2006 are out of the model's sample.

Conclusion

We believe it is worth noting that BRL movements have always amplified those of our EM currency basket (its benchmark). BRL's beta – the sensitivity of the currency to the EM currencies basket – is high among EM currencies. This means that external factors, more specifically international risk aversion, are highly important to BRL behavior.

In this piece, we argued that market confidence that fiscal adjustment measures will be adopted from 2019 onward is important to USDBRL. We forecast BRL 30 cents of discount from the current BRL level in the event that consensus adopts as a baseline scenario the approval of fiscal reforms next year.

Our baseline scenario is that once electoral uncertainties are dissipated and the confidence in fiscal adjustment increases, and thus the country risk perception should recede from the current level of 275bps to 200bps, and consequently, BRL should strengthen against US dollar. However, under this scenario EM risk aversion should remain high (and, most important, in an upward trend), we forecast that BRL strengthening will be less than expected previously.

Because of this, we are revising upward our forecast for BRL to 3.80 per US dollar at end-2018 from 3.50 per US dollar, and to 4.10 per US dollar at end-2019 from 3.57 per US dollar, under the assumptions of a reformist president being elected by the end of 2018 but with ongoing higher international risk aversion.

Figure 9. BRL Model forecasts (Base and Stressed scenario)

	Current prices	Baseline		Stressed
	Sep 20, 2018	2018	2019	2018
BRL	4.08	**3.80**	**4.10**	**4.50**
CRB	414	410	400	410
US 10-year yield	3.1	3.3	3.5	3.3
Brazil 5-year CDS	275	220	300	400
EM (ex- Brazil)	2.3	2.3	2.4	2.5
Interest rate differential	5.5	5.5	6.0	5.5

Source: Santander estimate.

Under more pessimistic scenario, where the confidence in fiscal adjustments from 2019 onwards does not increase with the end of election race, we foresee a stressed scenario for Brazilian asset prices, especially for BRL/USD. Under a lack of confidence in fiscal adjustments, the country risk perception will deteriorate from the currently level of 275bps to something around 400bps, and consequently, BRL will weaken.

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