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Latin American Currency Highlights

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Latin American countries have a shaky history when it comes to stable foreign exchange. Several countries are facing economic and political upheaval, which may significantly impact the value of their currencies. Using the Moody's Analytics Currency Depreciation Indicator, we evaluate the coming year for 15 Latin American countries. The indicator uses data on real effective exchange rates and trade to determine the risk of a large currency depreciation. The indicator reflects a country's risk of depreciation relative to the global experience as well as the country's own historical context.

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Latin American Currency Highlights

- Several Latin American countries are facing economic and political upheaval, which may significantly impact the value of their currencies.
- Belize, Mexico, Nicaragua and Peru have historically low probabilities of a currency depreciation.
- Brazil, Chile, Colombia, Ecuador, Guyana and Paraguay hover in the middle.
- Argentina, Bolivia, Costa Rica, Panama and Uruguay are the most vulnerable to a currency depreciation among the Latin American countries we evaluated.

Latin American countries have a shaky history when it comes to stable foreign exchange. Several countries are facing economic and political upheaval, which may significantly impact the value of their currencies. Using the Moody's Analytics Currency Depreciation Indicator, we evaluate the coming year for 15 Latin American countries. The indicator uses data on real effective exchange rates and trade to determine the risk of a large currency depreciation. The indicator reflects a country's risk of depreciation relative to the global experience as well as the country's own historical context.

We see evidence that about two-thirds of the countries in Latin America are not at risk. Our model also predicts that two-thirds will see their odds of a depreciation event decrease over the coming year. However, what makes this indicator particularly useful is its ability to distinguish among a group of similar countries those that might be most at risk for a currency depreciation.

METHODOLOGICAL DETAILS

The Moody's Analytics Currency Depreciation Indicator provides clients with a data-driven indicator covering 105 countries. Our methodology relies on a regression model with known currency crisis explanatory variables to generate monthly forecasts of the probability of a future currency depreciation event. We then construct an indicator based on predicted probabilities generated by our model.

In our model a depreciation event is defined as a 3% decrease of real effect exchange rate over one month or as no change in three months with a greater than 5% decrease in foreign reserves. The second criterion reflects when a country might have had a depreciation but for the intervention of the central bank. Many countries' central banks either target an exchange rate or seek to minimize exchange rate volatility. Not including these "non-events" would under-estimate the importance of currency depreciation predictors.

We regress our event variable on known currency crisis variables such as exchange rate volatility, exchange rate overvaluation, trade balances, and import cover using panel regression techniques. While a panel regression typically leads to considering fixed effects to capture the time-insensitive probability that one country's currency might have a higher, or lower, likelihood of depreciating, we choose to use a random effects model over fixed effects.

Fixed effects have two downsides that we would like to avoid. First, fixed effects eliminate our ability to include dummy variables that group countries together because of perfect multi-collinearity. For example, we might expect that currencies under a currency-peg regime would have a lower probability of experiencing a depreciation. Second, fixed effects limit our ability to cluster errors. We prefer clustering errors

Latin American Ranking

Currency depreciation indicator, Feb 2019

Country	Indicator	Global percentile	Country percentile
Nicaragua	12	0.073	0.046
Mexico	24	0.083	0.084
Peru	33	0.194	0.047
Belize	83	0.448	0.051
Colombia	105	0.330	0.099
Ecuador	110	0.562	0.052
Chile	133	0.410	0.105
Guyana	153	0.835	0.050
Paraguay	173	0.625	0.075
Brazil	191	0.597	0.102
Panama	203	0.789	0.067
Costa Rica	211	0.784	0.072
Bolivia	235	0.892	0.070
Uruguay	258	0.825	0.096
Argentina	314	0.832	0.204

Source: Moody's Analytics

because we have an unbalanced panel and those countries with the smallest panels are also candidates for exchange rate fluctuations. In addition, the concept of clustering errors fits in line with the idea of risk; those countries that have larger errors are riskier.

In addition, we forecast over multiple horizons and average across horizons to utilize all available information. A one-month-ahead forecasting model can project out one year, but errors compound and therefore are quite large. In contrast, a one-year-ahead forecasting model has smaller errors on the 12-month horizon but does not use the most recent data when forecasting the coming month. By averaging across the suite of forecasting models we make the most of recent data while still maintaining narrow forecast errors over longer horizons.

We use the predicted probability of a currency depreciation to construct an indicator that incorporates both the global percentile and the country-specific percentile. The global percentile is the percentile of the predicted probability in the whole data set (>31,000 observations) whereas the country-specific percentile is the percentile within the country's history. Thus, a country receives a high rank when its predicted probability is high relative to the rest of the world and its own historical experience.

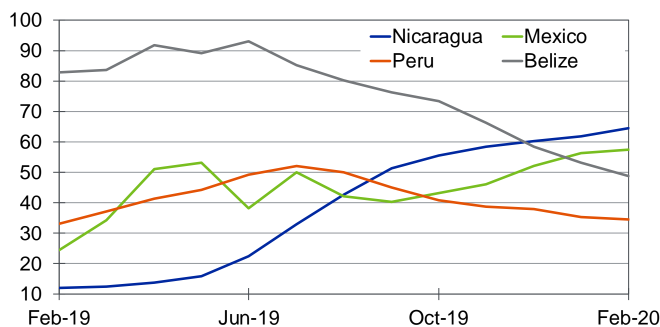
HISTORICALLY STABLE (CDI<100)

Belize, Mexico, Nicaragua and Peru have historically low probabilities of a currency depreciation. Belize is particularly well positioned, since our indicator also implies a decline in the probability over the coming year. Belize has a low recent volatility of its exchange rate. Despite having low foreign reserves relative to the volume of imports, its relatively stable exchange rates reduce the likelihood of imminent currency depreciation. Mexico, Nicaragua and Peru remain historically stable, but the model forecasts a modest deterioration in their likelihoods over the coming year. Nicaragua, in particular, could see a rapid increase during the summer months.

Despite recent volatility related to NAFTA renegotiations, Mexico rates low in our indicator. The model downplays the current risks because from a historical perspective the peso is the most undervalued currency (in real terms) of the Latin American countries in our sample. While further large adjustments are unlikely in the near term, the model anticipates deterioration in Mexico's position. The erosion does not cause Mexico to slide out of the "safe" zone, but it is headed toward historical norms.

Historically Stable

Currency depreciation indicator, 100=avg risk



Source: Moody's Analytics

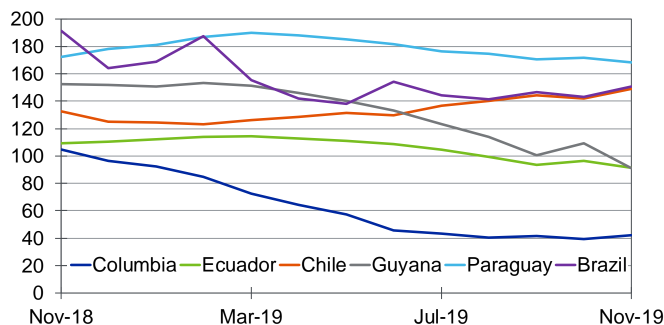
ON-THE-EDGE (100<CDI<200)

Brazil, Chile, Colombia, Ecuador, Guyana and Paraguay hover in the middle, higher than the historical average, but not facing imminent threats. Three countries are trending toward historical stability, while the other three remain in this category. Chile, Ecuador and Paraguay see little change in their predicted probability over the coming year. They all exhibit slightly high exchange rate volatility, and recent growth in their exchange rates are troubling. Ecuador's ratio of imports to foreign reserves is particularly worrisome.

Brazil has the highest recent exchange rate volatility of the group, but its position is predicted to improve over the coming year.

On the Edge

Currency depreciation indicator, 100=avg risk



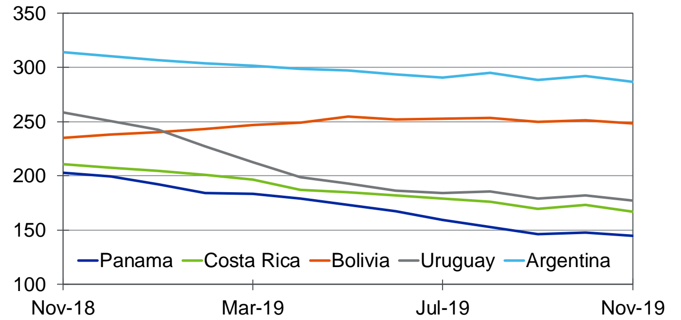
Source: Moody's Analytics

Colombia makes the biggest gains of this group; the model predicts

it will fall safely into the historical stable zone by the end of the year. Despite a poor import cover position, Guyana also will dip below the 100 threshold by the end of the year.

VULNERABLE (CDI>200)

Argentina, Bolivia, Costa Rica, Panama and Uruguay round out the Latin American countries in the model, and are also the most vulnerable to a currency depreciation. Costa Rica, Panama and Uruguay suffer from historic overvaluation and recent exchange rate growth, but the model predicts their risk levels decreasing over the course of the year. All three countries will fall out of the vulnerable category by the end of the year.



Bolivia and Argentina's risk levels remain high throughout the year. The recent volatility spike following the relaxing of capital controls in Argentina drive most of its vulnerability. Bolivia's weakness comes from recently appreciating and becoming the most overvalued currency of the countries considered. Not surprisingly, the longer the currency remains overvalued the more pressure will mount, and consequently the risk of depreciation will increase.

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