CURRENCY OUTLOOK

A range of products and services

How to reduce the impact of exchange rates?

As an exporter, a corporate or an investor operating outside your domestic market, how to protect your business and your profits from volatile exchange rates?

Choosing TAC ECONOMICS solutions means minimizing expensive hedging tools proposed by banks and reducing your uncertainty with currency projections starting from 5K€ per year.

Objective	Provide Financial / Corporate Planning departments of international companies (Treasury / forex management) with short-, medium- or long-term projections on exchange rates
Methodology & Tools	Large range of statistical and econometric modeling tools (Error Correction Models, standard MCO, regime-switching models, Monte Carlo simulations, Value at Risk) as well as outputs from RiskMonitor (TAC ECONOMICS country risk service) on currency risk materialization.
Outputs	Definition of a central scenario for currency outlook (against USD, EUR, GBP...) and computation of confidence intervals around the central projection through Monte Carlo simulations. Models and projections regularly updated (usually on a quarterly basis but possibility of monthly updates according to the needs and models used).

Contact information

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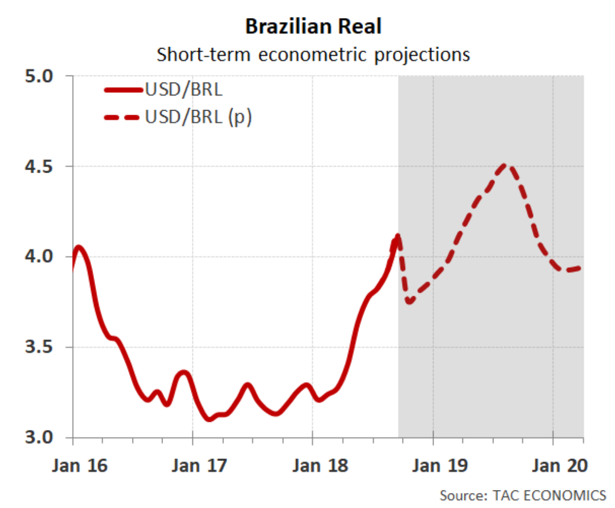
Methodology for Currency Outlook

Currency outlook services aim at providing tangible and operational outputs supporting risk mitigation policies, and based on a large range of quantitative tools both for the short- to medium-term (up to 18 months) and the long-term (from 2 to 10-year horizon).

Short- to medium-term exchange rate projections provide month-by-month as well as end-of-period evolution perspectives on a 1- to 18-month horizon.

Our proprietary tool uses a combination of two different approaches: one is based on econometric modeling including "traditional" determinants of exchange rates (interest rates, inflation, external accounts…) and using both Consensus outlook and TAC ECONOMICS macro scenarios. The other approach is based on RiskMonitor tool, which provides a synthetic Exchange Rate Risk Rating through a set of non-linear models, and which can be associated with past observation of currency depreciation. The combination of the two approaches, associated with Monte Carlo simulation, gives a strong and robust perspective on the exchange rate outlook and probability distribution, and can be directly connected to hedging strategies.



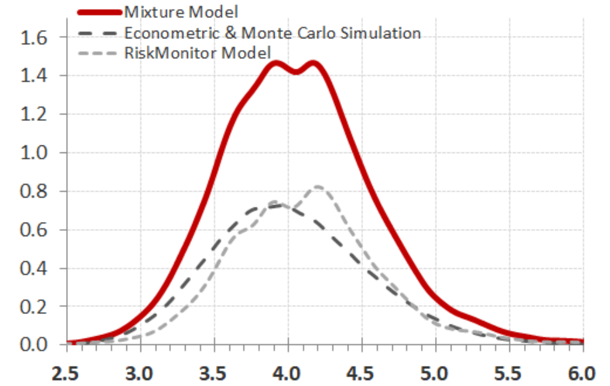
Source: TAC ECONOMICS

Probability density

Brazilian Real (against USD)
Confidence intervals - March 2019

	75%	80%	85%	90%	95%	99%
High	4.6	4.6	4.9	4.9	5.1	5.5
Low	3.4	3.3	3.1	3.1	3.0	2.7

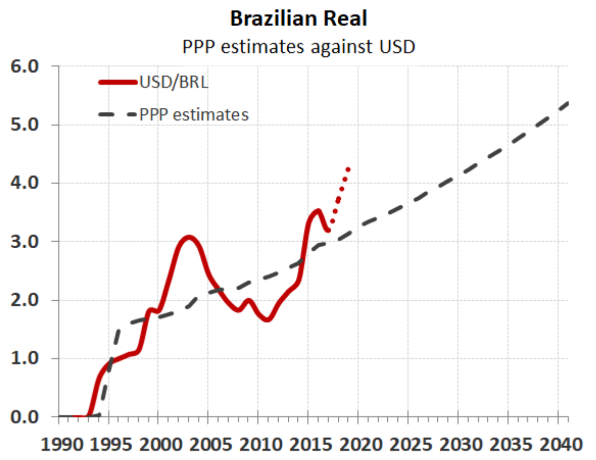
Mean: 4.0 *Mode: 3.9* *Std dev: 0.75*



Long-term exchange rate projections aim at a different objective: by construction, they are representing long-term trends and do not seek to identify cyclical currency movements. They are designed to support computations of return on investment for long-term projects or operations implying a currency risk and to help companies estimating a cost of capital in local currency.

TAC ECONOMICS has therefore developed a set of macro-models based on advanced / extended purchasing power parity theory incorporating traditional / structural determinants for developing countries, e.g. international openness, productivity growth or monetary trends.

TAC ECONOMICS has developed such models for more than 130 developing countries and mature economies across all continents, usually updated every quarter.



Source : TAC ECONOMICS

Illustration: Short-term Brazilian Real projections (Oct. 2018)

The two runners for Presidential elections, Jair Bolsonaro (Partido Social Liberal) and Fernando Haddad (Partido dos Trabalhadores, PT), are massively challenged by the Brazilian people and geographical as well as social fragmentation is extreme suggesting a probable high abstention rate to the second round late October, uncertain elections outcome and likely strong difficulties for the next President in running the country and implement necessary reforms.

Even though markets seem to be welcoming the far-right candidate's ultra-liberal economic agenda, the volatility on exchange rate is expected to remain high during all the projection period, and the Brazilian Real would hover in a large range (USD/BRL 3.6-4.6) up to the beginning of 2020.

Econometric Projections

The Brazilian Real has been regularly affected with a total 25% depreciation year-to-date. Despite massive level of forex reserves (almost USD 380 bn) and large currency swap programme, Brazil suffers from structural weaknesses (large public deficit, low potential growth...) in a context of political uncertainty and global risk aversion.

Selic rate has been kept unchanged since March 2018 (at 6.5%) on the support of low inflation rate. Monetary policy is expected to remain unchanged until the elections in October, then to be tightened when recent currency depreciations are transmitted to inflation.

RiskMonitor Analysis

The average Economic & Financial Risk rating (49.8-C in 2018Q2) illustrates the structural vulnerabilities and medium-term challenges of Brazil. Our 2-year leading Economic & Financial Risk Rating for Brazil was at its highest in 2016Q3 suggesting that maximum difficulties for the country would materialize now. This is in line with our WatchList Indication on Exchange rate and with the turbulences observed on the Brazilian currency from March 2018 (and probably up to 2019).

Consensus Projections

end-of-period value against Euro*

	Mean	Divergence	Max	Min
Oct. 2018	4.60	21%	5.1	4.1
Dec. 2018	4.54	26%	5.1	3.9
Sept. 2019	4.58	31%	5.5	4.1
Mar. 2020	4.57			

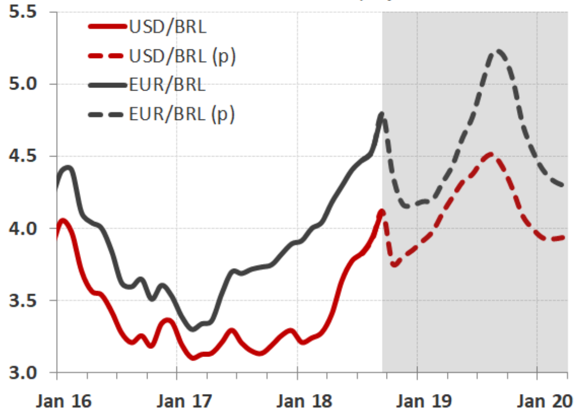
Source: Consensus Inc.

**The divergence index does not include the divergence on EUR/USD.*

TAC ECONOMICS Projections
(Mixed econometric and RiskMonitor approach)

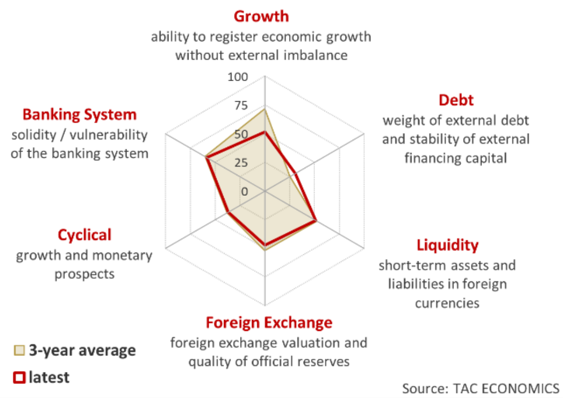
	Spot Oct. 15	March 2019	Sept. 2019	March 2020
EUR/BRL	**4.35**	**4.11**	**5.10**	**4.16**

Brazilian Real
Short-term econometric projections



Source: TAC ECONOMICS

Economic & Financial Risk Rating - Brazil 49.8-C
from 0 (lowest risk) to 100 (highest risk)



Source: TAC ECONOMICS

Probability density

Brazilian Real (/ EUR) Confidence intervals 18 months ahead - March 2020						
	75%	80%	85%	90%	95%	99%
High	5.03	5.14	5.27	5.46	5.75	6.41
Low	3.36	3.28	3.18	3.05	2.86	2.49

Mean: 4.29 *Mode: 4.16* *Std dev: 0.75*