

lowered interest rates and restored confidence among Brazil's financial institutions, which then invested more in the B3.

Retail participation has jumped to 15% of the B3's total volume, from 10% in 2016. Like first-time investors elsewhere, Brazil's novices tend to be younger (the average age is 32), poorer (investments average in the hundreds of reais) and more risk-tolerant (most invest directly, rather than in funds) than other punters. Their reliance on tips from social media has led to concerns. XP has faced criticism for its compensation model, which charges fees for each transaction and links brokers' pay to sales.

The real threat to the retail craze is fiscal uncertainty, says Paulo Bilyk of Rio Bravo, an asset manager. A hint of that came in the second half of 2020. Generous stimulus, amounting to about 8.5% of GDP, has fuelled a better-than-expected recovery. But when in September Paulo Guedes, the economy minister, suggested funding new spending by postponing court-ordered payments to citizens—creative accounting of the kind that got Ms Rousseff into trouble—investors got jittery. The Ibovespa fell by 2.4% that day. A handful of firms have since cancelled listings.

Long-term interest rates are creeping up and the central bank has signalled that it may raise its policy rate. For now, though, an informal survey by *The Economist* of more than 60 Brazilians who bought their first stocks in the past two years found that most plan to keep investing. Mr Dissenha, the programmer, says his earnings helped him afford a house and spend time with his infant daughter. He opened accounts for his wife, her mother and her sister. "I could do this as a job," he says, half-joking. ■

## The Big Mac index

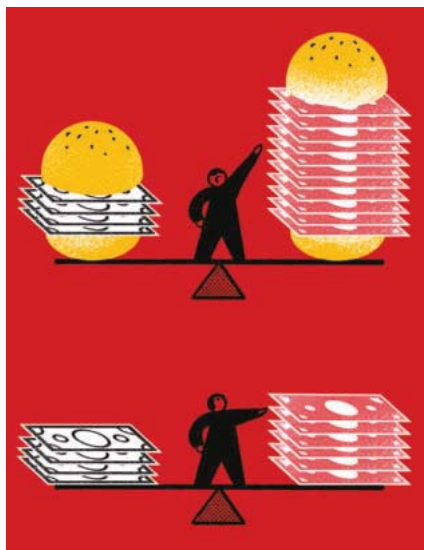
# Out of joint

WASHINGTON, DC

## What burger prices tell you about currency wars

DESPITE A RECENT bout of weakness, the dollar still looks strong. Consider the Big Mac index, our lighthearted measure of currency valuation. Of the currencies of the 20 trading partners studied by America's Treasury, our measure suggests that all have gained relative to the greenback since July, but that all apart from the Swiss franc are still cheap. That gives the incoming Biden administration, which has promised to take "aggressive trade-enforcement actions" against currency manipulators, lots to chew on.

Our burger-based index is premised on the idea that prices should adjust over the



long run, so that the same basket of tradable goods costs the same everywhere. Converting prices into dollars at prevailing exchange rates lets you judge whether a currency is too cheap or too dear. To avoid the problem that people buy different things in different places, we compare the price of just one good: the McDonald's Big Mac. The burgers are not exactly the same across countries—India's Maharaja Mac, for instance, does not contain beef—but they are consistent enough. A burger in Thailand costs 25% less than in America when its price is converted to dollars at prevailing exchange rates, for example, suggesting that the Thai baht is undervalued.

As wages tend to be lower in poor countries, though, Big Macs there may be cheaper. So we also calculate an index that adjusts for GDP per person. On this basis the Thai baht is no longer cheap relative to the dollar. The number of trading partners with undervalued currencies falls to 11.

Is the Big Mac index consistent with recent American policy on currency manipulators? The two do not assess quite the same things. Our index records outcomes; policymakers, by contrast, try to punish countries that intentionally depress their currencies. America's Commerce Department says it looks unkindly on currencies only if they are cheap because of government action. The Treasury is also concerned with manipulation, not undervaluation; it looks for evidence of intervention, as well as persistent trade imbalances.

Still, given currency gyrations over the past year, the Big Mac index could act as a cross-check on American policy. When covid-19 first spread, investors fled to the dollar, only for the trend to reverse after the Federal Reserve flooded markets with liquidity. Swings in the Mexican peso meant that, according to our index, it went from being 53% undervalued against the dollar to 61% undervalued over the first half of

2020, before the move was unwound. By contrast, the Vietnamese dong remained oddly stable against the dollar in the first half of last year.

Consistent with this, Mexico has escaped penalties from the Treasury and the Commerce Departments; Vietnam has not. On December 16th the Treasury labelled it a currency manipulator, citing its huge goods surplus with America and its intervention in foreign-exchange markets. The Commerce Department has whacked tariffs on imports of tyres from Vietnam, arguing that a depressed dong acted as a subsidy for producers.

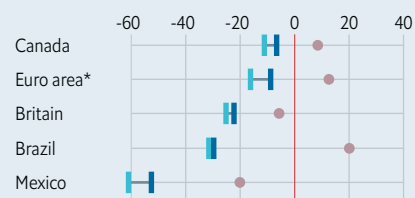
On other fronts, though, America's recent actions are at odds with our index. The Treasury also branded Switzerland a manipulator, based partly on its currency intervention of around \$100bn (14% of GDP) in the year to June. Both versions of our index, though, suggest that the Swiss franc is overvalued against the dollar.

The Commerce Department also used manipulation to justify tariffs on imported twist-ties from China, used to seal plastic bags. (The country has not been labelled a manipulator since January 2020, but it is still on the Treasury's watch list.) Incoming officials may want to note that, after adjusting for GDP, our index suggests the yuan is in fact overvalued relative to the dollar by 2.5%. Food for thought. ■

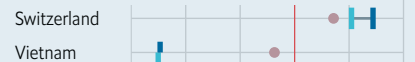
## The Big Mac index

Local currency under(-)/over(+) valuation against the dollar, %  
Selected currencies

■ July 2020 ■ January 2021  
● GDP-adjusted index, January 2021



## Designated currency manipulators by US Treasury



## On US Treasury watch list



\*Weighted average of member countries †Added to watch list in December 2020 ‡Average of five cities §Maharaja Mac  
Sources: Eurostat; IMF; McDonald's; Refinitiv Datastream; The Economist

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