

Brazil – Exchange Rate

Stickernomics – What Do the Prices of Soccer Stickers Around the World Tell Us About Exchange Rates?

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- Like Big Macs, soccer stickers, sold since 1970 by the Italian firm Panini, are highly standardized and globalized goods, and thus, in theory, should be useful for purchasing power parity comparisons.
- The average deviation of worldwide sticker prices from U.S. prices is 25.8%, similar to that for Big Macs (27.8%). However, Big Mac prices correlate better with GDP per capita than the price for soccer stickers, which in our view probably reflects a higher content of local labor in making the sandwich and the different pricing strategies of McDonald's and Panini.
- Brazil has the cheapest stickers in the world (USD 0.59/packet). Stickers (and Big Macs) are more expensive in Switzerland than anywhere else. In general, stickers are cheap in Latin America and expensive in Europe (especially Eastern Europe, considering income levels).

Figure 1. Price in USD of a Packet with 5 Stickers

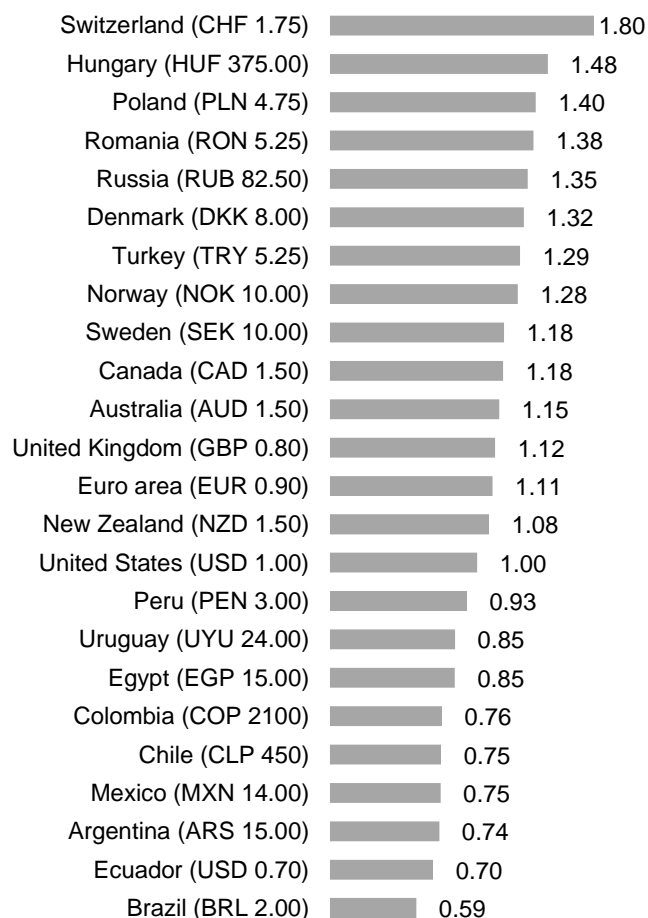
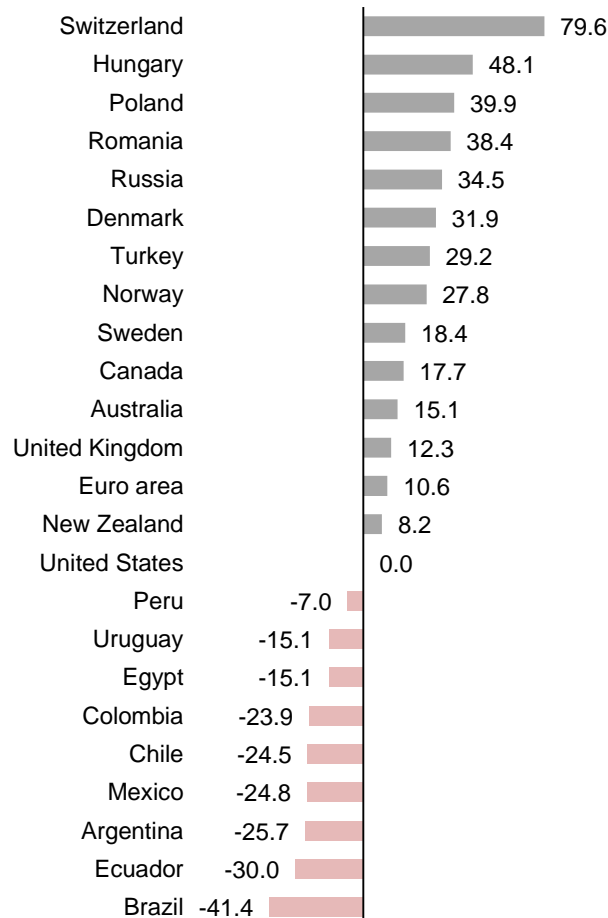


Figure 2. Deviation from U.S. Price (%)



Sources: Panini, *LatinAmerican Post*, Brazil Central Bank, Santander estimates. See the text below for further details.

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Stickers, Sandwiches, and the Law of One Price

Highly standardized and globally traded goods are often used to test the so-called “law of one price,” which states that “a good must sell for the same price in all locations” (otherwise one could profit from simply buying the good in one market and selling where it is more expensive). Deviations from the baseline price are thus attributed to temporary dislocations of the market exchange rate, so they can provide a gauge of whether a given currency is undervalued or overvalued relative to a predefined standard (usually the U.S. dollar).

In practice, non-negligible transport and transaction costs, as well as differences in labor costs, among other factors, reduce the value of such single-good analyses to merely anecdotal. However, as *The Economist* puts it, in describing its famous Big Mac Index, “Burgernomics was never intended as a precise gauge of currency misalignment, merely a tool to make exchange-rate theory more digestible.”¹ In this spirit, we applied the same calculations to national team soccer stickers, which every four years become a favorite conversation topic among kids from 3 to 80 in Brazil and a number of other countries.

Buy Stickers in Brazil, Sell in Switzerland

Sticker prices’ variation across the world is similar to that for Big Macs on average, the absolute variation in relative (to the U.S.) sticker prices across countries in our sample is 25.8%, whereas in *The Economist*’s database the same metric is 27.8%. Stickers are the most expensive in Switzerland, where the standard packet with five stickers costs the equivalent to USD 1.80 (see Figure 1). In Brazil, the cheapest country in our sample, you can buy the same good for less than a third of that price, at USD 0.59. (However, Brazilians complained a lot when the stickers were released this year, as the price of the packet in *reais* doubled from the 2014 level, to BRL 2.00. CPI inflation in the same period was only 32%.)

The correlation between prices and income (measured by GDP per person in current dollars) is much weaker in the case of stickers than that of Big Macs. In part, we believe this can be explained by labor costs, which are probably not strongly determinant to the market price of stickers (unlike sandwiches, stickers can be manufactured in a few hubs and shipped without losses in quality). The main divergence is between Latin America and Eastern Europe, regions with similar income levels. For some reason we cannot grasp (perhaps simply a pricing strategy, reflecting distinct market profiles), stickers are much cheaper in Latin America. In rich European countries (notably Switzerland), both Big Macs and stickers are expensive (see Figure 4).

Figure 3. Sticker Prices and GDP per Person

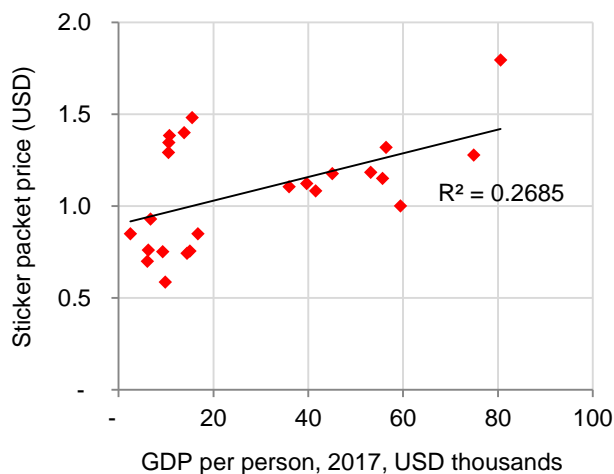
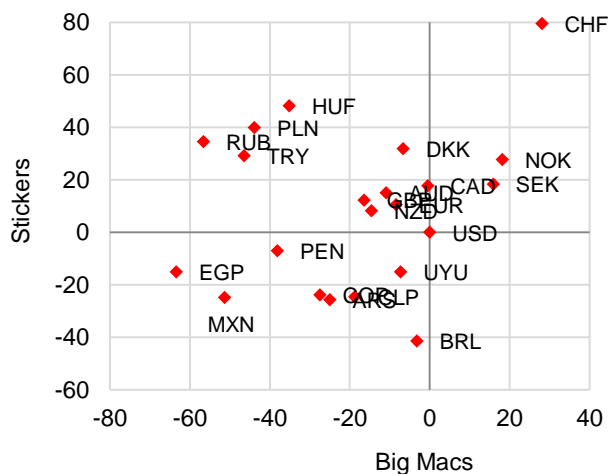


Figure 4. Deviations from U.S. Prices, %



Sources: Panini, *LatinAmerican Post*, Brazil Central Bank, *The Economist*, Santander estimates.

The Exchange Rate That Matters

Of course, results from such a limited sample that incorporate so many factors have limited application, as we mentioned previously. Some results confirm the Balassa-Samuelson effect (higher price levels in richer countries), while we think others are probably the consequence of discretionary marketing strategies. For soccer stickers, the only exchange rate that matters is the one used in the informal sticker exchange markets: in São Paulo, we have been seeing the “special” (holographic) stickers

¹ “The Big Mac Index – Global Exchange rates, to go,” *The Economist*, January 17, 2018.



commanding a rising price (often 5:1) compared with regular stickers, which may reflect their relative scarcity or simply their attractiveness in the eyes of young soccer fans.

Data Appendix

According to a press release on Panini's website, its products are sold in more than 100 territories; however, we could find data for only 21 countries and the Euro region (unfortunately, there is very little data from Asia and Africa). The information we compiled is summarized below:

Country	Currency	Price in Local Currency	Unit Quoted	Price per Packet – LCU*	Exchange Rate	Price per Packet - USD
Argentina	ARS	15.00	Packet with 5 stickers	15.00	20.20	0.74
Australia	AUD	0.30	Packet with 5 stickers	1.50	0.77	1.15
Brazil	BRL	2.00	Packet with 5 stickers	2.00	3.41	0.59
Canada	CAD	0.30	Single sticker	1.50	1.27	1.18
Chile	CLP	18,000	40 packets (200 stickers)	450	596.14	0.75
Colombia	COP	2,100	Packet with 5 stickers	2,100	2,759.50	0.76
Denmark	DKK	8.00	Packet with 5 stickers	8.00	6.06	1.32
Ecuador	USD	0.70	Packet with 5 stickers	0.70	1.00	0.70
Egypt	EGP	750.00	50 packets (250 stickers)	15.00	17.67	0.85
Euro area	EUR	0.90	Packet with 5 stickers	0.90	1.23	1.11
Hungary	HUF	75.00	Single sticker	375.00	253.13	1.48
Mexico	MXN	14.00	Packet with 5 stickers	14.00	18.62	0.75
New Zealand	NZD	1.50	Packet with 5 stickers	1.50	0.72	1.08
Norway	NOK	10.00	Packet with 5 stickers	10.00	7.83	1.28
Peru	PEN	3.00	Packet with 5 stickers	3.00	3.23	0.93
Poland	PLN	0.95	Single sticker	4.75	3.40	1.40
Romania	RON	1.05	Single sticker	5.25	3.79	1.38
Russia	RUB	16.50	Single sticker	82.50	61.34	1.35
Sweden	SEK	10.00	Packet with 5 stickers	10.00	8.45	1.18
Switzerland	CHF	0.35	Single sticker	1.75	0.97	1.80
Turkey	TRY	1.05	Single sticker	5.25	4.06	1.29
United Kingdom	GBP	0.80	Packet with 5 stickers	0.80	1.40	1.12
United States	USD	1.00	Packet with 5 stickers	1.00	1.00	1.00
Uruguay	UYU	24.00	Packet with 5 stickers	24.00	28.26	0.85

* Five-sticker packet price estimated assuming no discount/premium relative to smaller or larger bundles, as usually observed. Sources: Panini local virtual stores, LatinAmerican Post, Brazil Central Bank, Santander estimates.



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