



## The Big Mac Index

## Sizzling

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## Food for thought about exchange-rate controversies

## Cash and carry

The hamburger standard

	Big Mac prices		Implied PPP <sup>†</sup> of of the	Actual dollar exchange rate July 2nd	Under(-)/over(+) valuation against the dollar, %
	in local currency	in dollars			
United States <sup>‡</sup>	\$3.41	3.41			
Argentina	Peso 8.25	2.67	2.42	3.09	-22
Australia	A\$3.45	2.95	1.01	1.17	-14
Brazil	Real 6.90	3.61	2.02	1.91	+6
Britain	£1.99	4.01	1.71 <sup>§</sup>	2.01 <sup>§</sup>	+18
Canada	C\$3.88	3.68	1.14	1.05	+8
Chile	Peso 1,565	2.97	459	527	-13
China	Yuan 11.0	1.45	3.23	7.60	-58
Czech Republic	Koruna 52.9	2.51	15.5	21.1	-27
Denmark	Dkr 27.75	5.08	8.14	5.46	+49
Egypt	Pound 9.54	1.68	2.80	5.69	-51
Euro area**	€3.06	4.17	1.12 <sup>††</sup>	1.36 <sup>††</sup>	+22
Hong Kong	HK\$12.0	1.54	3.52	7.82	-55
Hungary	Forint 600	3.33	176	180	-2
Indonesia	Rupiah 15,900	1.76	4,663	9,015	-48
Japan	¥280	2.29	82.1	122	-33
Malaysia	Ringgit 5.50	1.60	1.61	3.43	-53
Mexico	Peso 29.0	2.69	8.50	10.8	-21
New Zealand	NZ\$4.60	3.59	1.35	1.28	+5
Peru	New Sol 9.50	3.00	2.79	3.17	-12
Philippines	Peso 85.0	1.85	24.9	45.9	-46
Poland	Zloty 6.90	2.51	2.02	2.75	-26
Russia	Rouble 52.0	2.03	15.2	25.6	-41
Singapore	S\$3.95	2.59	1.16	1.52	-24
South Africa	Rand 15.5	2.22	4.55	6.97	-35
South Korea	Won 2,900	3.14	850	923	-8
Sweden	SKr33.0	4.86	9.68	6.79	+42
Switzerland	SFr6.30	5.20	1.85	1.21	+53
Taiwan	NT\$75.0	2.29	22.0	32.8	-33
Thailand	Baht 62.0	1.80	18.2	34.5	-47
Turkey	Lire 4.75	3.66	1.39	1.30	+7
Venezuela	Bolivar 7,400	3.45	2,170	2,147	+1

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Venezuela	Bolivar 7,400	3.45	2,170	2,147	+1
Colombia	Peso 6,900	3.53	2,023	1,956	+3
Costa Rica	Colon 1,130	2.18	331	519	-36
Estonia	Kroon 30.0	2.61	8.80	11.5	-23
Iceland	Kronur 469	7.61	138	61.7	+123
Latvia	Lats 1.39	2.72	0.41	0.51	-20
Lithuania	Litas 6.60	2.61	1.94	2.53	-24
Norway	Kroner 40.0	6.88	11.7	5.81	+102
Pakistan	Rupee 140	2.32	41.1	60.4	-32
Paraguay	Guarani 10,500	2.04	3,079	5,145	-40
Saudi Arabia	Riyal 9.00	2.40	2.64	3.75	-30
Slovakia	Koruna 61.3	2.49	18.0	24.6	-27
Sri Lanka	Rupee 210	1.89	61.6	111	-45
UAE	Dirhams 10.0	2.72	2.93	3.67	-20
Ukraine	Hryvnia 9.25	1.84	2.71	5.03	-46
Uruguay	Peso 62.0	2.59	18.2	23.9	-24

<sup>1</sup>Purchasing-power parity; local price divided by price in United States <sup>†</sup>Average of New York, Chicago, Atlanta and San Francisco <sup>‡</sup>Dollars per pound <sup>\*\*</sup>Weighted average of prices in euro area <sup>††</sup>Dollars per euro

Sources: McDonald's; *The Economist*

AMERICAN politicians bash China for its policy of keeping the yuan weak. France blames a strong euro for its sluggish economy. The Swiss are worried about a falling franc. New Zealanders fret that their currency has risen too far.

All these anxieties rest on a belief that exchange rates are out of whack. Is this justified? *The Economist's Big Mac Index*, a light-hearted guide to how far currencies are from fair value, provides some answers. It is based on the theory of purchasing-power parity (PPP), which says that exchange rates should equalise the price of a basket of goods in any two countries. Our basket contains just a single representative purchase, but one that is available in 120 countries: a Big Mac hamburger. The implied PPP, our hamburger standard, is the exchange rate that makes the dollar price of a burger the same in each country.

Most currencies are trading a long way from that yardstick. China's currency is the cheapest. A Big Mac in China costs 11 yuan, equivalent to just \$1.45 at today's exchange rate, which means China's currency is undervalued by 58%. But before China's critics start warming up for a fight, they should bear in mind that PPP points to where currencies ought to go in the long run. The price of a burger depends heavily on local inputs such as rent and wages, which are not easily arbitrated across borders and tend to be lower in poorer countries. For this reason PPP is a better guide to currency misalignments between countries at a similar stage of development.

The most overvalued currencies are found on the rich fringes of the European Union: in Iceland, Norway and Switzerland. Indeed, nearly all rich-world currencies are expensive compared with the dollar. The exception is the yen, undervalued by 33%. This anomaly seems to justify fears that speculative carry trades, where funds from low-interest countries such as Japan are used to buy high-yield currencies, have pushed the yen too low. But broader measures of PPP suggest the yen is close to fair value. A New Yorker visiting Tokyo would find that although Big Macs were cheap, other goods and services seemed pricey. A trip to Europe would certainly pinch the pocket of an American tourist: the euro is 22% above its fair value.

The Swiss franc, like the yen a source of low-yielding funds for foreign-exchange punters, is 53% overvalued. The franc's recent fall is a rare example of carry traders moving a currency towards its burger standard. That is because it is borrowed and sold to buy high-yielding investments in rich countries such as New Zealand and Britain, whose currencies look dear against their burger benchmarks. Brazil and Turkey, two emerging economies favoured by speculators, have also been pushed around. Burgernomics hints that their currencies are a little overcooked.

