

I Exchange rate statistics

Effective exchange rates

www.bis.org/statistics/eer.htm

A nominal effective exchange rate (NEER) is an index based on a trade-weighted average of bilateral exchange rates. A real effective exchange rate (REER) is the NEER adjusted by some measure of relative prices or costs. Changes in the REER thus take into account both nominal exchange rate developments and a country's inflation differential vis-à-vis trading partners.

For both policy and market analysis, effective exchange rates (EERs) provide a useful summary indicator of the overall strength or weakness of a country's currency. EERs can thus serve various purposes: as a measure of international price and cost competitiveness, as components of monetary/financial conditions indices, as a gauge of the transmission of external shocks, as an intermediate target for monetary policy or as an operational target. Accurate measures of EERs are thus essential for both policymakers and financial market participants. An appreciable amount of work went into adjusting trade weights for the entrepot trade that takes place in Hong Kong SAR, which makes a difference for the trade weights for China in particular.³⁷

The BIS EER indices currently cover 61 economies (including individual euro area countries and, separately, the euro area as an entity). Nominal EERs are calculated as geometric weighted averages of bilateral exchange rates. The weighting scheme adopted is based on Turner and Van't dack (1993).³⁸ The weights are derived from manufacturing trade flows and capture both direct bilateral trade and third-market competition by double-weighting. Real EERs are calculated on the basis of the same weighted averages of bilateral exchange rates and are adjusted by relative consumer prices in the comparator countries. Since September 2016, the BIS has also released daily data on nominal EERs to complement the monthly data that have been published since 2006.

US dollar exchange rates

www.bis.org/statistics/xrusd.htm

The BIS nominal exchange rate data set contains USD exchange rates for currencies of approximately 190 economies at daily, monthly, quarterly and annual frequencies. These exchange rate series, which draw on central bank data as well as other sources, are used for the calculation of the BIS nominal and real effective exchange rate series and as an input to the BIS International Banking and Financial Statistics.

³⁷ See M Klau and S Fung, "The new BIS effective exchange rate indices", *BIS Quarterly Review*, March 2006, pp 51–65.

³⁸ P Turner and J Van't dack, "Measuring international price and cost competitiveness", *BIS Economic Papers*, no 39, November 1993.

Daily data are available for 79 currencies. While the starting date of most daily series ranges from 1970 to 1995, series starting in the 1950s are available for 14 currencies. For lower frequencies more historical data are available: the monthly, quarterly and annual series are substantially longer than the daily ones for several currencies. These time series are calculated as end-of-period figures or as averages over daily data, but extended backwards with the additional low-frequency historical data. Most monthly, quarterly and annual series start in 1957. The longest exchange rate series is for GBP/USD, for which monthly data are available starting in 1791.

For the most recent periods, daily data from the European Central Bank (ECB) is the main source, complemented with data from the United States Federal Reserve. Exchange rates are measured at 13:15 GMT for the ECB data and 17:00 GMT for the Federal Reserve. Using data mainly from these institutions, each of which supplies data on a large number of currencies, maximises comparability across countries in terms of quotation time and market. Data are taken from other BIS member central banks for periods for which no data from the ECB or the Federal Reserve are available. The Deutsche Bundesbank is a key source for historical data. The International Monetary Fund's *International Financial Statistics* is another source for historical information, as it includes monthly and quarterly exchange rates for 190 economies going back to the 1950s. The documentation of the BIS data set provides detailed information on the sources used for each currency and time period.

Nominal effective exchange rates

Period averages; 2010 = 100¹

Table I1

	2013	2014	2015	2016	Q2 17	Q3 17	Q4 17	Nov 2017	Dec 2017	Jan 2018
Algeria	94.0	94.0	86.3	80.7	82.1	78.0	74.8	74.9	74.2	72.9
Argentina	76.0	53.2	55.8	36.3	33.3	29.5	29.4	29.5	29.3	26.6
Australia	103.2	97.9	88.7	89.4	91.1	93.4	90.9	90.3	90.1	91.6
Austria	99.9	100.9	98.1	99.2	99.1	100.5	100.8	100.8	100.9	101.1
Belgium	100.5	101.5	97.7	99.2	99.2	101.3	101.5	101.5	101.6	102.0
Brazil	83.9	81.2	64.0	65.4	71.5	71.4	69.7	69.6	68.6	69.5
Bulgaria	101.8	103.8	101.9	104.0	104.8	106.7	107.4	107.5	107.6	107.8
Canada	99.3	93.4	84.5	82.9	82.0	86.8	85.8	85.5	85.3	86.7
Chile	102.8	91.7	88.0	88.6	90.8	91.8	93.2	93.3	92.6	95.7
China	111.9	114.7	125.7	119.9	115.7	116.6	117.9	117.9	117.8	118.6
Chinese Taipei	104.7	104.8	108.5	108.1	116.6	114.2	114.7	114.9	114.9	114.7
Colombia	102.9	98.9	79.8	75.0	78.6	75.4	75.6	75.0	75.4	77.5
Croatia	96.3	96.7	94.5	96.9	98.3	99.8	98.6	98.4	98.6	100.2
Cyprus	100.6	101.6	99.0	100.7	100.6	102.8	102.9	103.0	103.0	103.3
Czech Republic	97.1	92.6	90.3	92.8	94.5	98.1	99.9	100.3	100.0	101.0
Denmark	98.9	100.5	97.2	99.3	99.8	101.5	101.9	101.9	102.2	102.3
Estonia	99.5	102.1	101.9	103.9	103.1	104.9	105.3	105.4	105.6	105.6
Finland	99.4	101.7	99.9	102.0	101.5	103.7	104.1	104.1	104.4	104.6
France	99.9	100.8	96.9	98.5	98.7	100.7	100.9	100.9	101.1	101.4
Germany	100.1	101.5	97.0	99.0	99.0	101.4	101.7	101.7	101.9	102.3
Greece	100.1	101.0	98.0	99.8	100.2	102.0	102.3	102.3	102.3	102.6
Hong Kong SAR	98.0	99.5	107.2	108.9	109.1	106.5	106.5	106.7	105.9	103.8
Hungary	92.8	90.3	87.1	88.1	88.5	91.1	89.8	89.7	89.4	90.7
Iceland	98.8	104.8	106.9	119.7	138.9	131.4	132.4	133.6	132.2	131.1
India	77.2	74.9	78.0	76.1	79.8	78.1	77.5	77.5	77.8	77.0
Indonesia	86.5	77.5	75.1	76.4	76.8	75.1	73.9	74.0	73.4	73.0
Ireland	99.7	100.0	93.4	95.6	96.2	99.1	99.3	99.2	99.5	100.2
Israel	104.0	106.7	108.3	112.1	120.8	118.4	120.4	120.5	120.2	120.8
Italy	100.4	101.8	98.2	100.0	100.0	102.2	102.6	102.6	102.8	103.2
Japan	87.1	81.5	76.6	88.3	86.7	84.8	83.1	83.3	82.7	82.5
Korea	104.5	111.6	113.3	112.2	116.2	113.4	116.4	117.0	118.4	117.9
Latvia	101.4	103.2	103.8	105.8	104.4	106.1	106.2	106.2	106.3	106.3
Lithuania	100.4	102.7	103.5	105.7	104.3	106.1	106.2	106.3	106.4	106.3
Luxembourg	100.1	100.6	98.3	99.1	99.1	100.2	100.4	100.4	100.4	100.7
Malaysia	100.9	99.4	90.8	86.2	82.8	82.4	84.5	84.4	85.8	86.7

Nominal effective exchange rates (cont)

Period averages; 2010 = 100¹

Table I1

	2013	2014	2015	2016	Q2 17	Q3 17	Q4 17	Nov 2017	Dec 2017	Jan 2018
Malta	99.8	100.2	94.9	96.6	96.7	99.7	99.7	99.6	99.6	100.2
Mexico	98.3	95.6	84.5	72.8	73.4	75.4	70.9	71.0	70.1	70.0
Netherlands	99.9	101.1	97.1	98.7	98.8	101.0	101.1	101.1	101.3	101.6
New Zealand	111.1	115.6	107.8	109.1	111.1	111.8	107.0	106.1	106.8	108.6
Norway	101.1	95.6	85.8	84.0	83.8	85.5	83.4	83.5	81.7	83.4
Peru	105.7	104.0	103.0	102.0	105.6	104.1	104.4	104.8	104.3	103.4
Philippines	105.8	103.7	110.2	106.1	101.5	97.7	97.5	97.6	98.2	95.9
Poland	94.9	96.5	93.7	91.4	94.7	95.4	96.2	96.3	97.0	98.1
Portugal	100.3	100.9	98.8	100.0	100.2	101.3	101.5	101.5	101.6	101.8
Romania	96.3	97.2	95.0	95.8	94.9	95.6	95.3	95.0	95.1	94.9
Russia	95.0	80.8	56.9	52.9	62.5	58.1	58.7	58.3	58.3	58.7
Saudi Arabia	99.7	101.4	111.1	113.1	114.1	111.4	111.4	111.6	110.9	108.7
Singapore	108.2	109.4	109.7	111.1	110.9	111.3	111.7	111.7	111.8	111.7
Slovakia	100.2	101.6	99.3	100.7	100.1	101.5	101.4	101.4	101.4	101.5
Slovenia	100.6	101.7	100.0	101.3	101.1	102.4	102.6	102.6	102.7	102.8
South Africa	75.8	68.3	64.6	57.2	64.0	62.1	60.1	58.3	62.2	65.4
Spain	100.5	101.7	98.4	100.4	100.7	102.6	102.9	102.9	103.0	103.4
Sweden	110.5	106.5	100.1	100.8	98.6	101.9	99.7	99.1	98.5	99.9
Switzerland	112.6	115.5	125.3	124.6	125.5	123.1	119.9	119.7	119.4	119.7
Thailand	103.5	100.9	105.4	102.8	106.7	107.7	109.3	109.5	109.8	110.1
Turkey	78.9	69.4	64.2	59.1	49.8	48.7	44.9	44.0	44.3	44.0
United Arab Emirates	103.2	105.1	114.9	118.0	118.5	115.6	115.7	115.9	115.1	112.9
United Kingdom	101.1	108.1	114.1	102.7	97.5	95.7	97.1	97.0	97.8	98.2
United States	99.4	102.3	115.2	120.3	121.2	117.0	118.0	118.2	117.8	115.2
Venezuela	70.8	69.5	77.1	56.3	50.6	49.7	49.8	49.9	49.8	49.1
<i>Memo:</i>										
<i>Euro area</i>	<i>100.1</i>	<i>102.5</i>	<i>95.1</i>	<i>98.5</i>	<i>98.6</i>	<i>102.7</i>	<i>103.3</i>	<i>103.2</i>	<i>103.5</i>	<i>104.2</i>

¹ An increase indicates an appreciation of the economy's currency against a broad basket of currencies.

Real effective exchange rates

CPI-based; period averages; 2010 = 100¹

Table I2

	2013	2014	2015	2016	Q2 17	Q3 17	Q4 17	Nov 2017	Dec 2017	Jan 2018
Algeria	101.5	102.8	97.8	96.1	100.8	95.7	92.8	92.9	92.0	92.4
Argentina	90.1	73.9	86.4	70.9	77.4	71.7	74.3	74.0	75.9	69.5
Australia	102.9	98.2	89.6	90.3	92.0	94.6	92.1	91.6	91.3	93.0
Austria	100.7	102.1	99.6	100.8	101.0	102.2	102.9	102.9	103.0	103.1
Belgium	100.5	100.4	96.3	98.7	99.1	100.9	101.0	101.0	101.1	102.0
Brazil	90.0	88.9	74.0	78.3	84.6	84.0	81.6	81.5	80.2	81.3
Bulgaria	100.8	99.8	96.6	96.8	97.0	98.6	99.5	99.7	99.8	101.6
Canada	97.2	91.4	83.2	81.5	80.4	84.8	83.6	83.5	83.0	84.7
Chile	101.6	92.0	90.2	91.5	93.3	93.8	95.1	95.2	94.2	97.7
China	115.6	118.3	129.7	124.4	118.9	119.9	121.4	121.3	121.5	122.6
Chinese Taipei	101.0	100.2	102.2	101.8	108.4	106.5	107.2	107.6	107.1	106.4
Colombia	100.1	95.3	77.8	74.9	78.3	74.4	73.7	73.1	73.4	75.6
Croatia	96.3	95.5	92.2	92.6	93.4	94.2	93.6	93.6	93.2	95.0
Cyprus	98.2	96.8	91.7	91.2	90.4	91.2	91.5	91.8	91.2	90.4
Czech Republic	95.9	90.6	88.0	90.3	92.3	96.1	97.6	98.1	97.5	99.7
Denmark	97.3	98.2	94.7	96.0	95.6	97.7	97.2	97.2	96.9	97.1
Estonia	103.0	103.9	101.7	102.4	102.8	105.4	105.3	105.7	105.3	105.9
Finland	99.1	100.9	97.5	98.4	96.9	98.5	98.8	99.0	98.9	98.5
France	97.2	97.3	92.9	93.5	93.1	94.6	94.6	94.6	94.7	95.1
Germany	97.7	98.6	93.5	94.7	94.3	96.8	97.0	96.9	97.5	97.1
Greece	96.2	94.6	89.5	89.5	89.9	90.1	90.6	90.3	90.6	90.1
Hong Kong SAR	103.1	107.4	118.1	121.5	121.9	118.9	118.7	118.9	118.4	115.9
Hungary	95.9	92.0	88.0	88.6	89.4	92.1	90.6	90.7	90.2	92.2
Iceland	104.5	111.8	115.1	129.6	150.4	142.4	143.5	144.6	143.1	142.2
India	89.4	90.8	97.8	98.7	103.6	103.7	103.7	104.2	104.1	102.7
Indonesia	93.0	87.1	88.9	92.5	95.0	93.3	91.6	91.7	91.4	91.3
Ireland	97.1	96.2	89.0	90.2	89.7	92.2	91.3	91.3	91.2	91.4
Israel	102.2	103.3	103.0	104.5	110.8	108.1	109.4	109.4	109.0	109.3
Italy	99.5	99.6	95.0	95.4	94.9	96.7	96.1	95.9	96.2	96.8
Japan	79.7	75.1	70.3	79.6	77.2	75.2	73.7	73.9	73.4	73.1
Korea	103.9	109.9	110.9	109.2	113.3	110.9	112.7	112.9	114.4	114.2
Latvia	99.3	100.4	99.9	100.7	100.6	101.2	101.7	101.7	101.7	101.6
Lithuania	100.2	101.1	99.4	101.2	101.6	103.2	103.8	104.0	103.8	104.1
Luxembourg	101.1	101.2	98.9	99.1	99.3	100.3	100.2	100.1	100.0	99.7
Malaysia	99.7	99.3	91.6	87.8	86.0	85.6	88.0	88.1	89.5	91.4

Real effective exchange rates (cont)

CPI-based; period averages; 2010 = 100¹

Table I2

	2013	2014	2015	2016	Q2 17	Q3 17	Q4 17	Nov 2017	Dec 2017	Jan 2018
Malta	98.5	97.8	92.8	94.2	94.0	96.4	96.9	96.7	97.1	96.3
Mexico	101.9	101.0	90.9	79.1	82.3	84.9	80.9	81.2	80.5	80.6
Netherlands	99.6	100.3	96.1	96.9	96.6	98.8	98.3	98.3	98.1	98.4
New Zealand	109.5	113.0	104.7	105.3	107.4	108.1	102.9	102.1	102.5	104.6
Norway	97.9	93.4	85.2	85.6	85.5	87.3	84.9	85.0	83.0	84.9
Peru	104.8	102.8	101.9	99.9	102.4	100.4	99.0	99.3	98.6	97.5
Philippines	109.4	109.5	117.0	113.3	109.8	106.1	106.5	106.6	107.4	105.8
Poland	96.1	96.6	92.1	88.3	91.5	91.9	93.1	93.3	93.9	95.7
Portugal	99.6	98.9	96.7	97.7	97.9	98.1	98.2	98.1	97.9	97.5
Romania	100.9	101.7	98.0	96.3	94.0	95.2	96.0	95.9	96.0	96.0
Russia	106.7	96.2	77.8	76.5	92.0	85.6	85.9	85.3	85.4	86.4
Saudi Arabia	102.9	105.4	116.5	121.1	119.6	117.0	115.9	116.3	115.1	112.6
Singapore	112.5	112.3	110.5	109.7	108.2	108.2	108.0	108.3	108.1	108.0
Slovakia	101.4	101.5	98.2	98.2	97.1	98.3	98.3	98.4	98.2	98.6
Slovenia	99.0	99.1	96.2	96.5	96.3	97.0	97.1	97.3	97.0	96.4
South Africa	82.0	77.0	75.5	70.1	80.9	78.9	76.5	74.1	79.3	83.9
Spain	99.8	99.2	94.5	94.9	95.2	96.1	97.2	97.3	97.2	96.5
Sweden	106.3	100.9	93.9	94.5	92.2	95.7	93.2	92.7	92.2	93.1
Switzerland	103.4	104.5	111.2	108.9	108.4	105.9	102.6	102.5	101.9	102.3
Thailand	104.9	101.8	103.9	100.1	102.8	103.6	105.1	105.3	105.3	105.5
Turkey	90.4	85.4	84.0	82.4	75.3	74.1	70.5	69.3	70.0	70.4
United Arab Emirates	95.4	96.9	108.4	111.2	111.4	107.9	108.5	108.4	108.2	106.9
United Kingdom	103.1	110.3	115.5	103.4	98.8	97.4	99.0	98.9	99.7	99.9
United States	97.5	99.6	110.5	114.5	115.0	111.0	111.3	111.5	110.8	108.8
Venezuela	137.1	208.4	481.2	852.5	1,628.2	2,120.8	2,817.6	2,854.9	3,032.9	3,182.1
<i>Memo:</i>										
<i>Euro area</i>	97.7	98.2	89.7	91.5	91.2	94.4	94.8	94.6	95.0	94.6

¹ An increase indicates an appreciation of the economy's currency against a broad basket of currencies.