

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

	2014	2015	2016	2017	Q3 17	Q4 17	Q1 18	Feb 2018	Mar 2018	Apr 2018
Algeria	94.0	86.3	80.7	79.6	78.0	74.8	72.6	72.5	72.5	72.8
Argentina	53.2	55.8	36.3	31.4	29.5	29.4	26.6	26.8	26.5	26.9
Australia	97.9	88.7	89.4	92.2	93.4	90.9	90.0	89.9	88.6	87.9
Austria	100.9	98.1	99.2	99.8	100.5	100.8	101.4	101.5	101.7	101.8
Belgium	101.5	97.7	99.2	100.1	101.3	101.5	102.5	102.7	102.9	102.9
Brazil	81.2	64.0	65.4	71.7	71.4	69.7	71.9	73.2	73.1	70.8
Bulgaria	103.8	101.9	104.0	105.8	106.7	107.4	108.2	108.2	108.5	108.9
Canada	93.4	84.5	82.9	84.7	86.8	85.8	85.2	85.6	83.3	84.6
Chile	91.7	88.0	88.6	92.3	91.8	93.2	98.4	100.1	99.4	100.3
China	114.7	125.7	119.9	116.9	116.6	117.9	120.8	121.9	122.0	123.1
Chinese Taipei	104.8	108.5	108.1	115.2	114.2	114.7	114.6	114.6	114.5	114.1
Colombia	98.9	79.8	75.0	77.4	75.4	75.6	90.1	95.2	97.5	101.5
Croatia	96.7	94.5	96.9	98.5	99.8	98.6	100.4	100.5	100.6	101.0
Cyprus	101.6	99.0	100.7	101.6	102.8	102.9	103.6	103.8	103.8	104.2
Czech Republic	92.6	90.3	92.8	96.2	98.1	99.9	101.4	101.8	101.5	101.8
Denmark	100.5	97.2	99.3	100.5	101.5	101.9	102.8	103.0	103.2	103.5
Estonia	102.1	101.9	103.9	103.9	104.9	105.3	106.0	106.1	106.4	107.1
Finland	101.7	99.9	102.0	102.5	103.7	104.1	105.2	105.4	105.7	106.2
France	100.8	96.9	98.5	99.6	100.7	100.9	101.8	102.0	102.1	102.1
Germany	101.5	97.0	99.0	100.1	101.4	101.7	102.7	102.9	103.0	103.1
Greece	101.0	98.0	99.8	101.0	102.0	102.3	102.9	103.0	103.1	103.2
Hong Kong SAR	99.5	107.2	108.9	108.4	106.5	106.5	103.1	102.9	102.6	102.9
Hungary	90.3	87.1	88.1	89.4	91.1	89.8	90.4	90.3	90.3	90.5
Iceland	104.8	106.9	119.7	134.0	131.4	132.4	132.5	132.2	134.2	134.9
India	74.9	78.0	76.1	78.4	78.1	77.5	75.9	75.8	75.1	74.6
Indonesia	77.5	75.1	76.4	75.9	75.1	73.9	71.5	71.2	70.3	70.2
Ireland	100.0	93.4	95.6	97.5	99.1	99.3	100.6	100.8	100.8	100.6
Israel	106.7	108.3	112.1	119.5	118.4	120.4	119.1	117.6	118.8	117.0
Italy	101.8	98.2	100.0	101.0	102.2	102.6	104.1	104.5	104.8	104.9
Japan	81.5	76.6	88.3	85.1	84.8	83.1	84.4	84.5	86.1	85.0
Korea	111.6	113.3	112.2	115.4	113.4	116.4	116.7	115.8	116.5	117.2
Latvia	103.2	103.8	105.8	105.2	106.1	106.2	106.6	106.7	106.9	107.5
Lithuania	102.7	103.5	105.7	105.2	106.1	106.2	106.7	106.7	107.0	107.6
Luxembourg	100.6	98.3	99.1	99.6	100.2	100.4	100.8	100.9	100.9	100.9
Malaysia	99.4	90.8	86.2	82.9	82.4	84.5	87.0	87.1	87.2	87.8

Nominal effective exchange rates (cont)

Period averages; 2010 = 100¹

Table I1

	2014	2015	2016	2017	Q3 17	Q4 17	Q1 18	Feb 2018	Mar 2018	Apr 2018
Malta	100.2	94.9	96.6	98.0	99.7	99.7	100.8	101.1	101.1	101.0
Mexico	95.6	84.5	72.8	71.8	75.4	70.9	71.6	72.2	72.4	73.6
Netherlands	101.1	97.1	98.7	99.7	101.0	101.1	102.2	102.4	102.5	102.5
New Zealand	115.6	107.8	109.1	110.8	111.8	107.0	108.5	108.8	108.2	108.4
Norway	95.6	85.8	84.0	84.8	85.5	83.4	83.9	83.6	84.7	84.5
Peru	104.0	103.0	102.0	105.1	104.1	104.4	112.8	116.8	118.3	120.1
Philippines	103.7	110.2	106.1	99.9	97.7	97.5	93.5	92.6	92.0	92.4
Poland	96.5	93.7	91.4	94.5	95.4	96.2	98.0	98.4	97.5	98.0
Portugal	100.9	98.8	100.0	100.7	101.3	101.5	103.1	103.7	103.9	104.0
Romania	97.2	95.0	95.8	95.2	95.6	95.3	95.1	95.2	95.2	95.5
Russia	80.8	56.9	52.9	60.4	58.1	58.7	58.4	58.3	58.1	54.7
Saudi Arabia	101.4	111.1	113.1	113.2	111.4	111.4	108.1	107.9	107.9	108.3
Singapore	109.4	109.7	111.1	111.2	111.3	111.7	111.5	111.3	111.6	111.8
Slovakia	101.6	99.3	100.7	100.8	101.5	101.4	101.7	101.8	101.9	102.0
Slovenia	101.7	100.0	101.3	101.7	102.4	102.6	103.1	103.2	103.3	103.5
South Africa	68.3	64.6	57.2	62.8	62.1	60.1	66.4	67.0	66.9	65.7
Spain	101.7	98.4	100.4	101.6	102.6	102.9	105.1	105.8	106.1	106.2
Sweden	106.5	100.1	100.8	99.9	101.9	99.7	98.7	99.2	97.1	95.2
Switzerland	115.5	125.3	124.6	123.6	123.1	119.9	121.2	122.6	121.2	119.2
Thailand	100.9	105.4	102.8	107.4	107.7	109.3	110.8	110.9	111.5	111.8
Turkey	69.4	64.2	59.1	48.2	48.7	44.9	43.3	43.6	42.4	40.8
United Arab Emirates	105.1	114.9	118.0	117.7	115.6	115.7	112.6	112.3	112.5	113.0
United Kingdom	108.1	114.1	102.7	96.7	95.7	97.1	98.6	98.7	99.0	100.2
United States	102.3	115.2	120.3	120.1	117.0	118.0	116.8	117.3	117.9	118.0
Venezuela	69.5	77.1	56.3	50.3	49.7	49.8	16.4	0.0	0.0	0.0
<i>Memo:</i>										
<i>Euro area</i>	<i>102.5</i>	<i>95.1</i>	<i>98.5</i>	<i>100.5</i>	<i>102.7</i>	<i>103.3</i>	<i>105.4</i>	<i>105.8</i>	<i>106.1</i>	<i>106.3</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

	2014	2015	2016	2017	Q3 17	Q4 17	Q1 18	Feb 2018	Mar 2018	Apr 2018
Algeria	102.8	97.8	96.1	97.9	95.8	92.9	90.2	89.6	90.0	90.4
Argentina	73.9	86.4	70.9	74.3	71.7	74.3	71.4	71.7	72.6	75.6
Australia	98.2	89.6	90.3	93.3	94.6	92.1	91.1	90.8	89.7	88.9
Austria	102.1	99.6	100.8	101.6	102.2	102.9	103.1	103.0	103.6	103.7
Belgium	100.4	96.3	98.8	99.9	101.0	101.1	102.3	102.4	102.5	102.6
Brazil	88.9	74.0	78.3	84.6	84.0	81.6	83.8	85.2	84.9	81.9
Bulgaria	99.8	96.7	96.8	98.1	98.6	99.5	100.6	100.8	100.3	101.0
Canada	91.4	83.2	81.5	82.8	84.8	83.6	83.2	83.6	81.5	82.9
Chile	92.0	90.2	91.5	94.5	93.8	95.1	100.0	101.4	101.0	102.0
China	118.3	129.8	124.4	120.6	119.9	121.5	125.4	127.6	125.9	126.2
Chinese Taipei	100.2	102.3	101.9	107.4	106.7	107.3	106.2	106.6	105.8	106.0
Colombia	95.3	77.8	74.9	76.5	74.4	73.7	87.9	92.9	95.2	99.2
Croatia	95.5	92.2	92.6	93.5	94.2	93.6	94.8	94.7	95.0	95.4
Cyprus	96.8	91.7	91.2	90.8	91.2	91.5	91.2	91.4	91.8	92.3
Czech Republic	90.6	88.0	90.3	94.1	96.1	97.6	99.4	99.8	99.0	99.4
Denmark	98.2	94.7	96.0	96.4	97.7	97.2	97.6	97.9	97.8	98.3
Estonia	103.9	101.7	102.4	103.8	105.4	105.3	106.7	107.0	107.1	107.9
Finland	100.9	97.5	98.4	97.6	98.5	98.8	99.4	99.4	99.8	100.4
France	97.3	92.9	93.5	93.7	94.7	94.6	95.5	95.2	96.1	96.1
Germany	98.6	93.5	94.7	95.5	96.9	97.0	97.6	97.7	98.1	97.9
Greece	94.6	89.5	89.5	89.9	90.1	90.7	89.7	89.3	90.6	91.3
Hong Kong SAR	107.4	118.1	121.5	120.9	118.9	118.7	115.6	115.7	115.3	116.2
Hungary	92.0	88.0	88.7	90.4	92.1	90.6	91.6	91.5	91.2	91.7
Iceland	111.8	115.1	129.6	145.0	142.4	143.5	144.0	143.7	146.1	146.5
India	90.8	97.8	98.8	103.1	103.8	103.8	100.6	100.1	99.3	99.0
Indonesia	87.1	88.9	92.5	94.0	93.4	91.7	89.4	88.8	88.0	87.9
Ireland	96.2	89.0	90.2	90.4	92.2	91.4	91.9	92.1	92.4	91.7
Israel	103.3	103.0	104.5	109.3	108.1	109.4	107.2	105.7	106.9	105.2
Italy	99.6	95.0	95.4	95.5	96.7	96.1	97.6	97.8	98.1	98.2
Japan	75.1	70.3	79.6	75.7	75.2	73.7	74.5	74.4	75.8	75.0
Korea	109.9	110.9	109.2	112.5	110.9	112.7	113.2	112.3	113.1	113.8
Latvia	100.4	99.9	100.7	100.8	101.2	101.7	102.2	101.9	103.2	103.6
Lithuania	101.1	99.4	101.2	102.2	103.2	103.8	104.2	104.1	104.5	105.4
Luxembourg	101.2	98.9	99.1	99.6	100.3	100.2	100.2	100.6	100.4	100.5
Malaysia	99.3	91.6	87.8	86.2	85.7	88.0	90.6	90.5	90.6	90.9

Real effective exchange rates (cont)

CPI-based; period averages; 2010 = 100¹

Table I2

	2014	2015	2016	2017	Q3 17	Q4 17	Q1 18	Feb 2018	Mar 2018	Apr 2018
Malta	97.8	92.8	94.2	95.0	96.4	96.9	96.5	96.7	96.9	97.1
Mexico	101.0	90.9	79.1	80.9	84.9	80.9	82.3	82.9	83.4	84.2
Netherlands	100.3	96.1	96.9	97.3	98.8	98.3	99.0	99.2	99.3	99.6
New Zealand	113.0	104.7	105.4	107.1	108.1	103.0	104.3	104.4	104.2	104.1
Norway	93.4	85.2	85.6	86.5	87.3	84.9	85.7	85.6	86.6	86.5
Peru	102.8	101.9	99.9	101.3	100.4	99.0	106.2	109.7	111.5	112.7
Philippines	109.5	117.0	113.3	108.4	106.1	106.5	103.6	102.4	102.5	103.0
Poland	96.6	92.1	88.4	91.4	91.9	93.1	95.0	95.4	94.0	94.5
Portugal	98.9	96.8	97.7	97.7	98.1	98.3	98.6	98.3	100.1	100.5
Romania	101.7	98.0	96.3	95.0	95.2	96.1	97.0	97.1	97.0	97.1
Russia	96.2	77.8	76.5	88.7	85.6	85.9	85.9	85.7	85.4	80.6
Saudi Arabia	105.0	114.9	117.8	114.7	112.9	111.0	111.3	110.9	110.7	110.9
Singapore	112.3	110.5	109.7	108.3	108.3	108.1	107.3	107.1	107.2	106.9
Slovakia	101.5	98.2	98.2	97.7	98.3	98.3	99.2	99.2	99.4	99.8
Slovenia	99.1	96.2	96.5	96.4	97.0	97.1	97.0	97.1	97.3	97.9
South Africa	77.0	75.5	70.1	79.6	79.0	76.5	85.2	85.9	86.0	84.4
Spain	99.2	94.5	94.9	95.7	96.1	97.2	97.9	98.6	98.6	99.3
Sweden	100.9	93.9	94.5	93.5	95.7	93.2	92.0	92.7	90.5	88.9
Switzerland	104.5	111.2	108.9	106.5	105.9	102.7	103.6	104.8	103.5	101.8
Thailand	101.8	104.0	100.2	103.5	103.6	105.1	105.8	105.7	106.1	106.8
Turkey	85.4	84.0	82.4	73.4	74.1	70.6	69.7	70.0	68.6	67.1
United Arab Emirates	96.9	108.4	111.2	110.6	108.0	108.6	108.1	107.9	107.4	107.2
United Kingdom	110.3	115.5	103.5	98.1	97.4	99.0	100.3	100.5	100.5	101.9
United States	99.6	110.5	114.5	113.7	111.0	111.3	110.3	110.6	111.4	111.8
Venezuela	208.4	481.2	852.5	1,983.2	2,120.8	2,817.6	1,061.5	1.6	0.8	0.6
<i>Memo:</i>										
<i>Euro area</i>	98.2	89.8	91.5	92.5	94.4	94.8	95.8	95.7	97.1	97.3

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