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FEBRUARY 2018

FX MONTHLY

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Economic activity ++ Inflation ++ FX markets ++ Financial markets
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QCAM Insight

Cryptocurrencies – A brief introduction

Philipp von Stauffenberg, Business Development
QCAM Currency Asset Management AG

For the better part of the last six months, cryptocurrencies have been one of the financial world's favourite topics. Following a breath-taking rally, increasing the combined market value by more than 3,000 percent in 2017 as well as a hefty 60 percent correction over the course of the last six weeks, it seems this still nascent market could have gotten rid of most speculators without descending into financial insignificance.

Since we, as currency managers, strongly believe in the importance of keeping up with changes that could impact FX markets and in light of the intensifying efforts to incorporate distributed ledger solutions into conventional financial security trading, it is time to take a look at how this market and its underlying technology works. For this reason, we have decided to not only keep an eye on these markets but also to regularly share our insights and findings. In this sense, the following is meant to serve as a brief introduction to what cryptocurrencies are and where they are traded.

What are cryptocurrencies?

The term cryptocurrencies is commonly applied to a range of decentralised digital currencies that use cryptography for security. The first cryptocurrency, Bitcoin, was introduced in 2009 by one or multiple programmers going by the pseudonym Satoshi Nakamoto.

Bitcoin emerged from the argument that today there is a need for a new medium of exchange which allows for direct transactions between two parties, without either being exposed to any counterparty risk. The idea is that these risks can be overcome through a cryptographic proof-of-work concept, which makes transactions involving cryptocurrencies secure and renders the involvement of a trusted third party obsolete.

This proof-of-work concept, also known as mining, requires certain users (known as miners) who hold a copy of the transaction ledger (blockchain), to collect and verify all transactions and ensure funds are not transferred multiple times. This mining process is meant to be highly transparent and decentralised since it is overseen by the user network, where every transaction is published. Apart from validating transactions, mining is usually the method by which cryptocurrencies are created and initially distributed, which is often intended to replicate the costs associated with production of precious metals.

As of February 2018, the website *CoinMarketCap.com*, the leading platform for tracking cryptocurrencies, lists

1,527 cryptocurrencies, of which 142 have a market capitalisation above USD 100 million. Currently, the total market cap for these 1,527 cryptocurrencies amounts to USD 418 billion. Although there are many cryptocurrencies with large market capitalisations, it is important to consider that cryptocurrency trading is dominated by few (see table), with Bitcoin far ahead of the others. The top ten make up over 80 percent of the total market capitalisation and over 60 percent of the daily trading volumes.

The cryptocurrency market

As is the case with conventional FX markets, cryptocurrencies can be bought and sold in peer-to-peer exchanges as well as through organized exchanges. There are a large number of online cryptocurrencies exchanges that vary in liquidity, tradable pairs, underlying technology and fee structures as well as regulations and degrees of anonymity offered. The majority of these exchanges offer between 50 to 100 tradable pairs, of which in most cases only one or two involve conventional currencies – mostly USD, KRW or JPY. Like many conventional exchanges, they mostly operate on central limit order books and charge fees ranging from 0.2 to 2 percent.

Up to now no dominant cryptocurrency exchange has emerged. Currently, according to *CoinMarketCap.com*, there are 184 exchanges. The ten largest exchanges (see graph) have a daily trading volume above USD 8 billion, which makes up about 50 percent of the overall 24-hour volume in the exchange traded market.

Further information

For the interested reader, we recommend the original paper, "Bitcoin – A Peer-to-Peer Electronic Cash System" by Satoshi Nakamoto. It can be found on *https://bitcoin.org/bitcoin.pdf* and provides a basic description of the ideas underlying cryptocurrencies. Further, for data on exchange rates, market capitalisations and trade volumes, websites such as *CoinMarketCap.com* or *Blockchain.info* provide a basic overview. In a future issue of *FX Monthly* we will focus on some specific problems that blockchain technology poses for frictionless trading.

The ten largest cryptocurrencies

Name	Founded	Market cap.[1]	to the USD	1 year	1 month
Bitcoin	2009	145,713	$8,641.30	767.39%	-36.30%
Ethereum	2015	82,579	$846.19	6,484.15%	-35.50%
Ripple	2012	40,515	$1.04	16,848.74%	-43.74%
Bitcoin Cash	2017	21,045	$1,240.49	-	-49.88%
Cardano	2017	9,480	$0.37	-	-54.78%
Litecoin	2011	8,722	$158.01	4,352.13%	-28.82%
Neo	2014	7,269	$111.83	-	-27.53%
Stellar	2014	7,053	$0.38	22,030.99%	-34.51%
EOS	2017	6,032	$9.05	-	-35.10%
IOTA	2016	4,932	$1.77	-	-49.19%

[1] Market capitalisation in mn US dollars

The ten largest crypto-exchanges

Name	Location	Titles	Website
OKEx	Hong Kong	431	www.okex.com
Binance	Tokyo	267	www.binance.com
Upbit	South Korea	213	www.upbit.com
Bithumb	South Korea	12	www.bithum.com
Bitfinex	Hong Kong	103	www.bitfinex.com
Huobi	Beijing	190	www.huobi.com
Kraken	San Francisco	45	www.kraken.com
Bittrex	Seattle	262	www.bittrex.com
GDAX	San Francisco	12	www.gdax.com
HitBTC	Hong Kong	437	www.hitbtc.com

Source: *CoinMarketCap.com*, data as of 11 February 2018

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The macro perspective

Early signs of inflationary pressures

Inflation watchers see a harbinger of higher US inflation in the recent US wage data. This has boosted the argument that the Phillips curve is alive and well, namely, that shortages of workers must eventually lead to higher prices. Inflation is also gradually trending higher in Switzerland, causing the real interest rate to become even more negative. In contrast, the ECB appears to have more time before it needs to tighten.

US wages provide some potential evidence

After a nine-year economic expansion in the US, the output gap has been steadily closing, as can be observed in a variety of indicators, including one related to employment. Nonfarm payrolls rose by 200,000 in January, compared to December's initial 148,000, which was subsequently revised up to 160,000. The American economy is continuing to create jobs at a very healthy pace, keeping the unemployment rate at around 4 percent, the lowest level since 2000.

The mystery of how the unemployment rate could fall so low without triggering an acceleration in wage growth is partially explained by the latest data. Average hourly earnings were revised up from 2.5 percent year-over-year in December to 2.7 percent. And then January's wage growth came in at 2.9 percent, making it the sharpest increase in over eight years.

Corporate tax cuts should help too

The White House was quick to claim that this was evidence that its corporate tax cuts were already working their magic, as companies passed along benefits to their employees. We think that, just a few weeks after the president put his signature to the new law, it is a bit too soon to claim credit for rising wages. From a macroeconomic point of view, the numbers are consistent with the logic that a tighter labour market should eventually lead to higher wages and, in turn, to higher inflation. That the yield on ten-year US Treasuries spiked following the wage data news only reinforces the argument that bond yields were low also because the markets saw no evidence of inflation. Now, apparently, they can – at least in the recent US wage data.

It is worh recalling that the US Fed says it targets the personal consumption expenditures (PCE) price deflator, which uses a different methodology than the consumer price index (CPI). The PCE deflator was 1.7 percent year-over-year in December and the core PCE deflator was just 1.5 percent. Both readings are below the Fed's 2 percent inflation target, suggesting that if wage pressures are rising, we don't yet see this feeding through to the Fed's chosen inflation target. Accordingly, if the Fed wants to continue making the case that it is on a path of gradual tightening, then the current data supports such a stance. We would add that the headline and the core CPI rates, which often get more play in the media, tend to be around 0.3 percentage points higher than the PCE deflator.

Eurozone inflation still trailing

The European Central Bank targets the so-called "Harmonised Index of Consumer Prices" (HICP). Its target is officially "below 2 percent," with the added qualification

that it should be "below, but close to, 2 percent over the medium term." By that rather loose definition – just how long is "the medium term"? – the ECB still has room to be accommodative with its monetary policy. The year-over-year rate was 1.3 percent in January. The core rate stood at 1 percent, close to where it has been hovering for some time. The recent strength of the euro against the US dollar also helps to dampen imported inflation, considering that the import of goods and services constitutes 23 percent of the Eurozone's GDP.

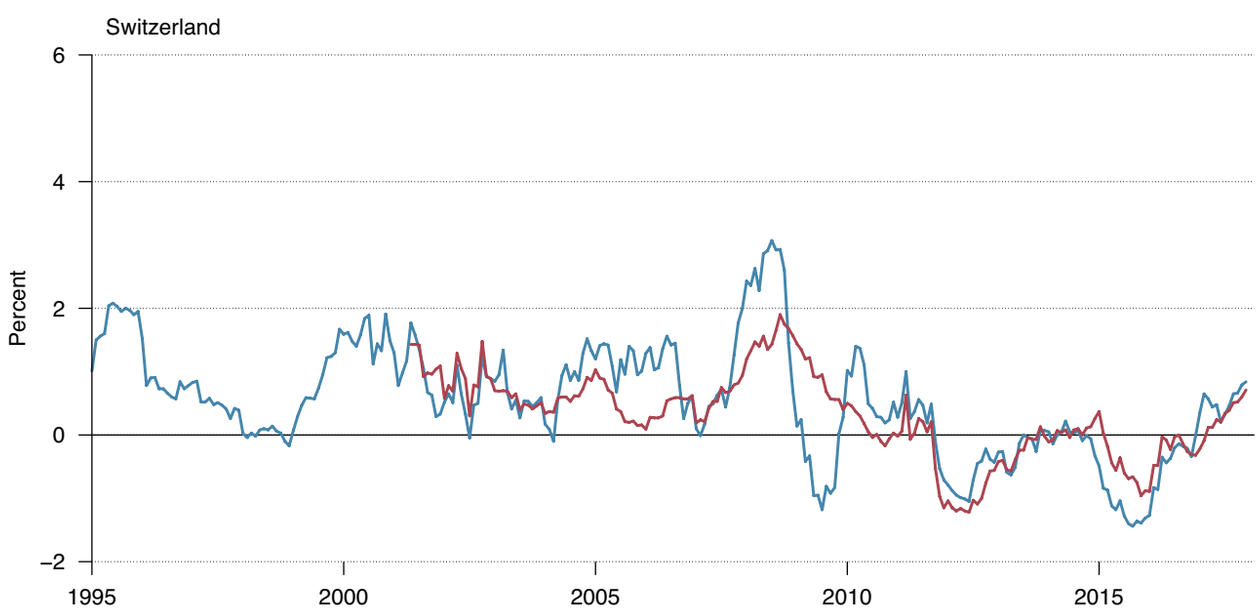
Easing monetary conditions in Switzerland

As a result of the Swiss franc's weakening path against the euro over the past year, the inflation of import prices has reversed, climbing up from negative levels and increasing 4.6 percent year-over-year in December. This has helped to lift consumer prices closer to 1 percent. With a policy target rate of -0.75 percent, that negative rate is getting even more negative in real terms. In other words, the Swiss National Bank is effectively easing further. If the SNB were to hike rates before the ECB, therefore, a data-dependent Swiss central bank would have its main argument in place for having taken such a step.

China allows CNY strength to dampen inflation

In the emerging markets, aggregate inflation has been hovering around 4 percent for the past two years – an unusually low rate for a group of countries that that have been growing at around 6 percent on average. This is largely thanks to China, the heavyweight in the group. China has recorded average annualised inflation of below 2 percent over the past year. However, this has come at the price of allowing its currency to appreciate 10 percent against the US dollar over the same period.

Swiss inflation starts picking up again, lowering real interest rates



Source: Thomson Reuters Datastream, Wellershoff & Partners

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FX market talk

What, no «Greenspan-Put»?

The spike in volatility in equity markets in recent weeks has been a reminder that central banks are not there to guarantee the returns of low-volatility products or, in fact, the returns of any financial instruments. A lot of what drives markets lies beyond the scope of central banks. The monetary authorities cannot steer the huge shifts in demographics, energy prices, corporate tax rates, the fiscal deficit, presidential tweets or the weather. And in the currency markets, while central banks can intervene, peg, unpeg or tweak rates, ultimately the fundamentals matter. Yet another reason to stick to the basics and take a look at the mother of all currency indicators: purchasing power parity, or PPP.

Valuations relative to the Swiss franc

Our chart on the next page shows a snapshot of the Swiss franc relative to fifteen currencies, as measured in purchasing power parity terms.

While many short-term push and pull factors temporarily drive currencies towards or away from their PPP values, this metric is the best indicator we have of the longer-term fundamental trend of a particular currency pair. It also helps us to assess the return potential for trades. Since history shows that extreme valuation gaps tend to close when the fundamentals reassert themselves, it is worth keeping an eye on the PPP values.

The Swiss franc currently appears fairly valued relative to the US dollar, where our PPP estimate for USDCHF is 0.955, but it is currently around 6 percent too expensive relative to the euro (we estimate EURCHF PPP at 1.22). Given the current strong tailwind of growth in the Eurozone, we think the euro is likely to overshoot against both the USD and CHF.

AUD expensive, JPY too cheap

Looking at our chart, the most over-valued currency pair is AUDCHF, which has been buoyed by a pick-up in commodity prices and growth dynamics in Asia-Pacific. At the other end of the spectrum, the most undervalued currency against the Swiss franc is the Japanese yen. The 23 percent valuation gap between the yen and the franc suggests that the yen should be a lot stronger. The Bank of Japan is pursuing an extremely accommodating monetary policy, however, which is helping to keep the yen cheap.

To give an example of how PPP works, for the PPP level of the yen to move towards its current spot price, we would need several years of high inflation in Switzerland. For example, if the Swiss managed to achieve an annual average inflation rate of 6 percent per year, it could close that gap within four years. That does not appear very likely from what we currently know. The fundamentals are not easy to change quickly, which is why the probability is higher that the spot rate will adjust to the PPP and not the other way round.

Sterling, NOK and SEK cheap

Relative to the Swiss franc, cheap European currencies include the NOK and the SEK, with each currently undervalued by around 13 percent. Despite a rebound, Sterling

continues to be cheap too. Our PPP estimate for GBPCHF is 1.54, implying that Sterling is currently undervalued by about 14 percent against the Swiss franc. But any investor who thinks that Sterling will close this gap in 2019 will need rock-steady nerves to ignore the likely flood of Brexit-related noise and price volatility before that result might come to pass.

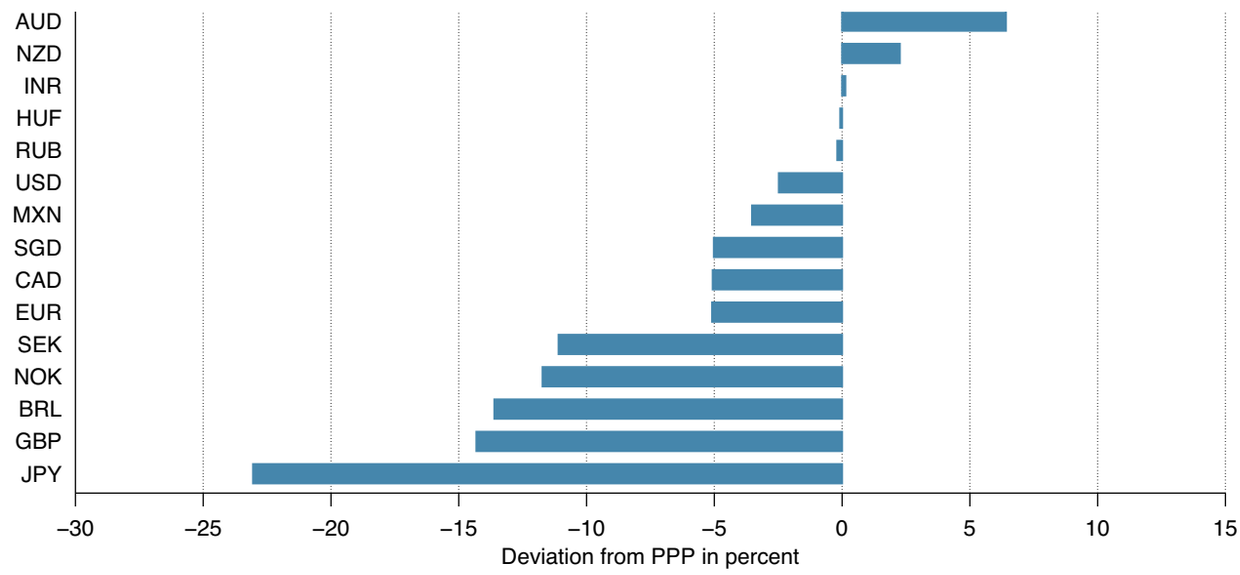
Differentiation with the emerging markets

The chart shows that there is quite a large difference in the valuations between currencies in the emerging markets index. On the stronger side, we currently find the Indian rupee, the Hungarian forint, the Russian rouble and the Mexican peso. Relative to the Swiss franc, these four currencies are currently fairly valued. At the other extreme, the Brazilian real is cheap – an undervaluation of around 14 percent. For investors holding the diversified emerging market local currency bond index (GBI-EM), the weighted undervaluation against the Swiss franc currently stands at 9.5 percent. Against the US dollar and the euro, this basket of emerging market currencies is currently also undervalued by around 8 to 11 percent. For longer-term investors, the potential for returns are enhanced when buying EM currencies during a period of undervaluation, as we currently have.

CNY broadly in line with PPP

While the Chinese renminbi is not shown on the chart, our PPP calculations for USDCNY are 6.60 and for EURCNY 8.46. This implies that the renminbi is relatively closely aligned with the USD (5 percent cheaper than its PPP value), and the euro (10 percent cheaper than its EURCNY PPP level). In contrast, the CNY is around 6 percent above its CHFCNY PPP level. Taken as a whole, the CNY appears fairly valued against a basket of USD, EUR and CHF.

15 currencies ranked against CHF, in PPP terms



Source: Thomson Reuters Datastream, Wellershoff & Partners

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Economic activity

As the new year gets underway, the global economy continues to grow strongly. In the US, capacity utilisation in January reached 77.9 percent, the highest level in three years. Compared to the previous month, both industry and services rose yet again. And sentiment in the new year is also good on the consumer side. Unsurprisingly, the US labour market has been very dynamic in recent months. Consumers' current optimism is likely to be reflected in a high growth contribution from private consumption in the first quarter of 2018, as was already evident in the previous quarter.

As in the US, the economic engine in Switzerland is still in full swing. However, for the first time since September 2017, the KOF Economic Barometer recorded a slight decline in January. The mood of companies, as measured by the PMI Switzerland, has also deteriorated slightly. Nonetheless, Switzerland is expected to grow very dynamically in 2018 as well. In addition to the domestic economy, export-oriented sectors in particular should provide significant impulses for growth, as they benefit strongly from the ongoing health of the global economy.

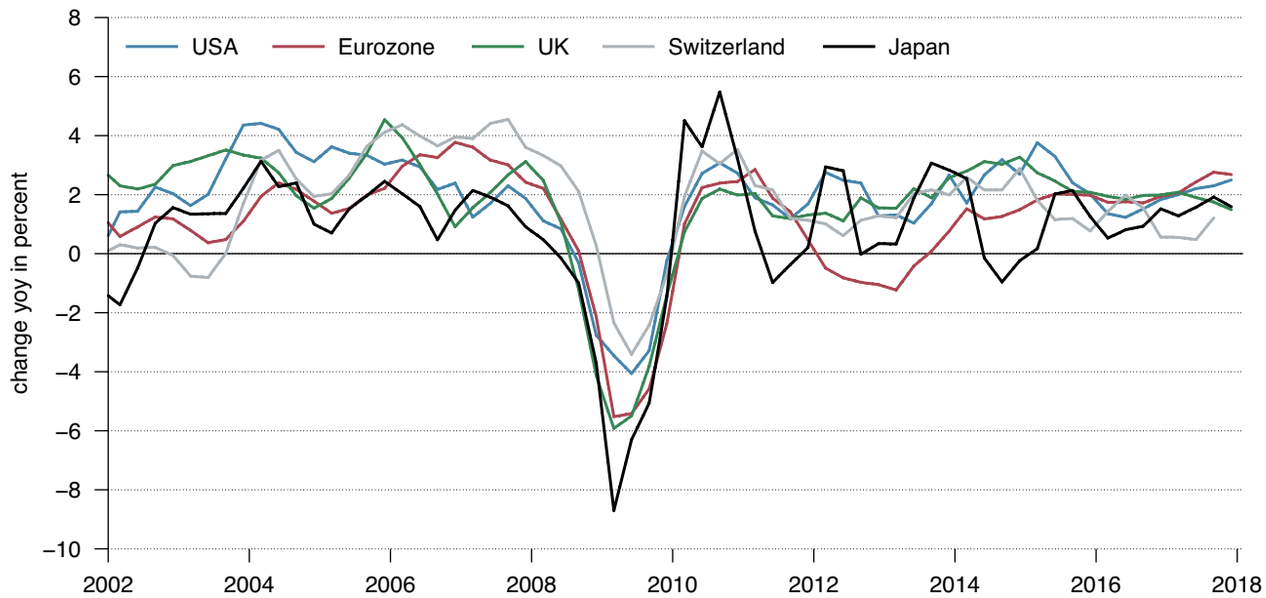
Growth overview

	Trend growth[1]	Real GDP growth[2]				W&P economic sentiment indicators[3]			
		Q2/2017	Q3/2017	Q4/2017	Q1/2018	10/2017	11/2017	12/2017	1/2018
United States	1.7	2.0	2.2	2.3	2.5	3.6	3.3	3.2	3.6
Eurozone	1.0	2.1	2.4	2.8	2.7	3.1	3.2	3.4	3.3
Germany	1.4	2.1	2.3	2.7	2.9	3.7	3.7	3.9	4.0
France	0.7	1.1	1.9	2.3	2.4	1.8	2.0	2.3	2.0
Italy	0.2	1.3	1.5	1.6	1.6	1.9	1.9	1.9	1.6
Spain	1.6	3.0	3.1	3.1	–	2.7	2.8	2.7	2.8
United Kingdom	1.8	2.1	1.9	1.8	1.5	2.6	2.3	2.8	2.7
Switzerland	1.5	0.6	0.5	1.2	–	2.2	2.6	2.6	2.5
Japan	0.4	1.3	1.6	1.9	1.6	2.6	2.7	2.7	2.8
Canada	1.6	2.3	3.6	3.0	–	0.9	1.0	1.4	1.7
Australia	2.4	1.8	1.9	2.8	–	2.5	2.4	2.5	2.6
Brazil	1.4	-0.5	0.8	1.4	–	2.1	3.6	3.0	2.3
Russia	0.1	0.5	2.5	1.8	–	2.1	1.8	2.2	2.3
India	7.7	6.1	5.7	6.3	–	7.2	7.3	7.6	7.3
China	7.4	6.9	6.9	6.8	6.8	6.8	6.7	6.9	6.9
Advanced economies[4]	1.4	2.2	2.1	2.4	2.4	3.5	3.4	3.4	3.6
Emerging economies[4]	6.0	5.1	5.3	5.6	5.6	5.3	5.4	5.7	5.6
World economy[4]	3.5	3.7	3.7	4.0	4.1	4.4	4.4	4.7	4.7

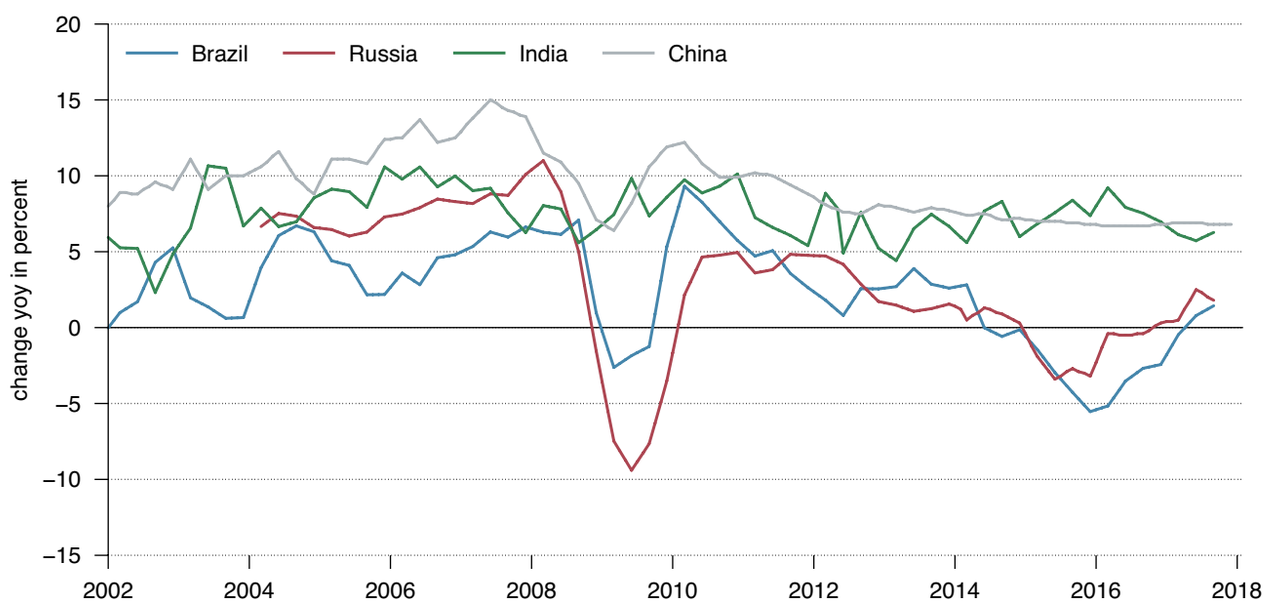
[1] Current year-on-year trend growth rate of real GDP, in percent, according to the proprietary trend growth model of Wellershoff & Partners.
[2] Year-on-year growth rate, in percent.
[3] Wellershoff & Partners economic sentiment indicators are based on consumer and business surveys and have up to 6 months lead on the year-on-year growth rate of real GDP.
[4] Calculations are based on nominal GDP weights derived from purchasing power parity exchange rates.

Source: European Commission, Penn World Table, Thomson Reuters Datastream, Wellershoff & Partners

Economic growth in advanced economies



Economic growth in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

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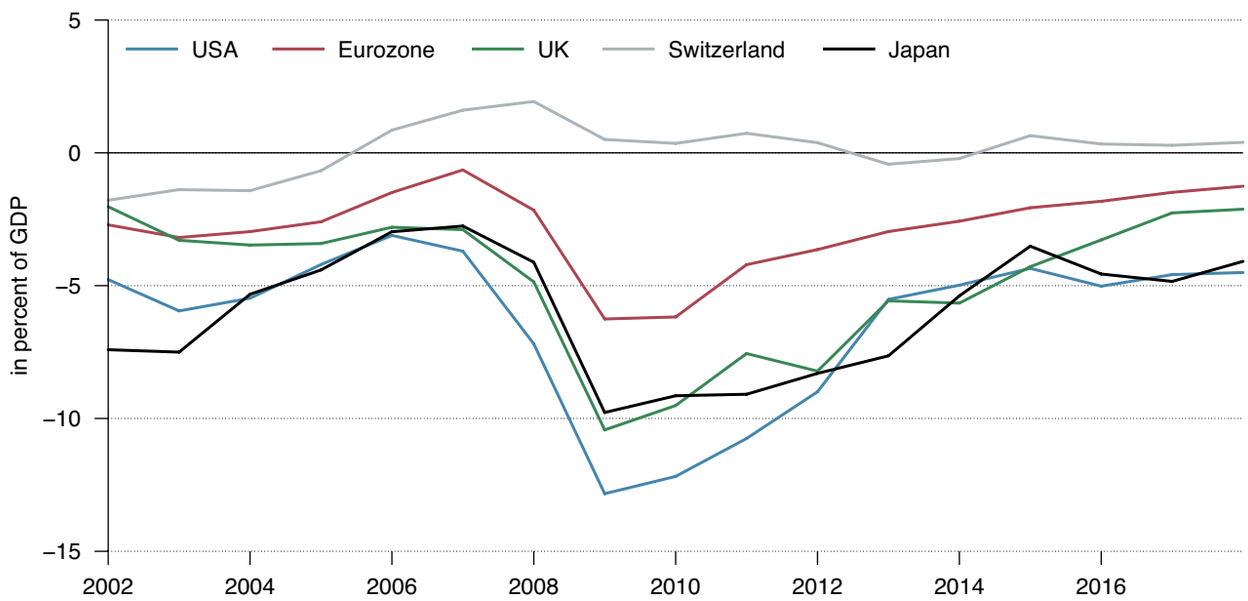
Economic indicators

Overview

	Global GDP share[1]		Current account[2]		Public debt[2]		Budget deficit[2]		Unemployment rate[3]	
	Ø 5 years	Current	Ø 5 years	Current	Ø 5 years	Current	Ø 5 years	Current	Ø 5 years	Current
United States	23.5	23.9	-2.3	-2.6	105.4	106.1	-4.9	-4.5	5.6	4.1
Eurozone	16.3	16.0	3.6	4.0	108.9	107.1	-2.2	-1.3	10.7	8.7
Germany	4.7	4.7	7.8	8.0	78.8	69.1	0.5	1.5	6.4	5.4
France	3.4	3.3	-1.0	-1.7	119.7	124.6	-3.6	-2.8	9.9	9.4
Italy	2.6	2.4	2.0	2.9	155.4	155.2	-2.6	-1.6	11.9	10.9
Spain	1.7	1.7	1.4	1.6	114.8	116.0	-5.2	-2.4	21.9	16.4
United Kingdom	3.6	3.2	-5.3	-4.4	113.8	120.3	-4.2	-2.1	5.7	2.4
Switzerland	0.9	0.8	10.2	10.7	44.8	43.6	0.1	0.4	3.2	3.3
Japan	6.3	6.0	2.5	3.9	215.6	223.3	-5.2	-4.1	3.4	2.8
Canada	2.2	2.1	-3.1	-2.9	88.9	87.7	-1.3	-1.8	6.8	5.9
Australia	1.8	1.8	-3.0	-2.4	37.1	42.3	-2.6	-1.8	5.8	5.5
China	14.2	15.5	1.9	1.2	42.0	50.8	-2.4	-3.7	4.0	–
Brazil	2.8	2.6	-2.7	-1.8	71.3	87.7	-7.4	-9.3	9.3	11.8
India	2.8	3.1	-1.2	-1.5	69.0	67.1	-6.8	-6.2	–	–
Russia	2.2	1.8	2.8	3.2	15.5	17.7	-2.3	-1.5	5.4	5.1

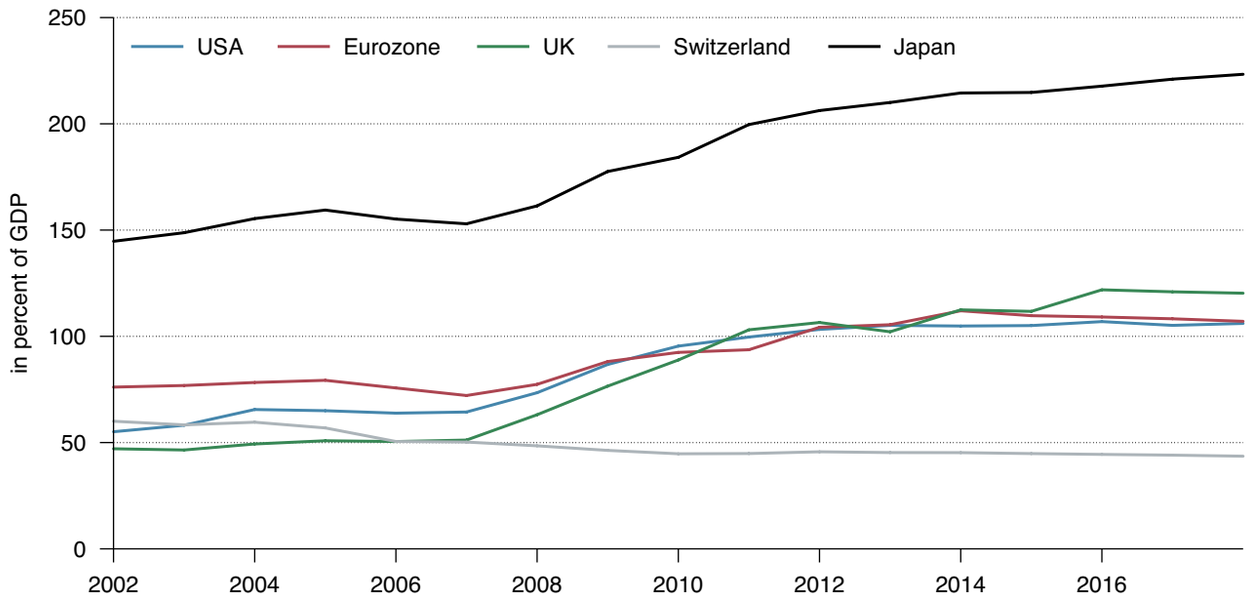
[1] In percent; calculations based on market exchange rates. [2] In percent of nominal GDP. [3] In percent.

Budget deficits in advanced economies

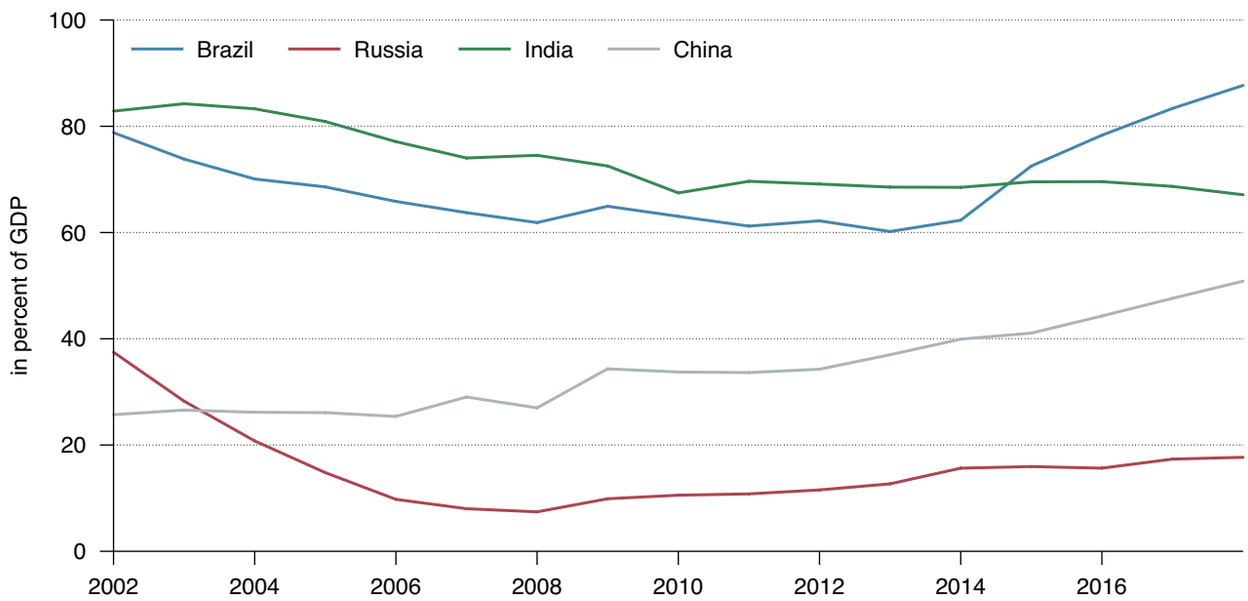


Source: Thomson Reuters Datastream, Wellershoff & Partners

Public debt in advanced economies



Public debt in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

Inflation

Inflation is likely to pick up slightly throughout the year in most regions and countries. This stems from the fact that the economy is developing very robustly almost everywhere and the production gap is either steadily narrowing or has in fact already closed. Inflation is likely to increase more in the US and Switzerland than in the Eurozone. In those two countries unemployment is at low levels and they are approaching full employment. Wages are likely to rise faster and stronger there than in the Eurozone.

Although there are major differences among the individual countries in this regard, the Eurozone unemployment rate was 8.7 percent in December. This relatively high value implies greater restraint in wage growth, which is why we do not expect any inflationary impulses from this region. Compared with 2017, total inflation stood at 1.3 percent in January, down from 1.4 percent in December. The European Central Bank is unlikely to be satisfied with this retreat, targeting an inflation rate below, but close to, 2 percent. One reason for the slightly lower inflation rate may be energy prices, which rose by only 2.1 percent in January year-over-year after a 2.9 percent in December.

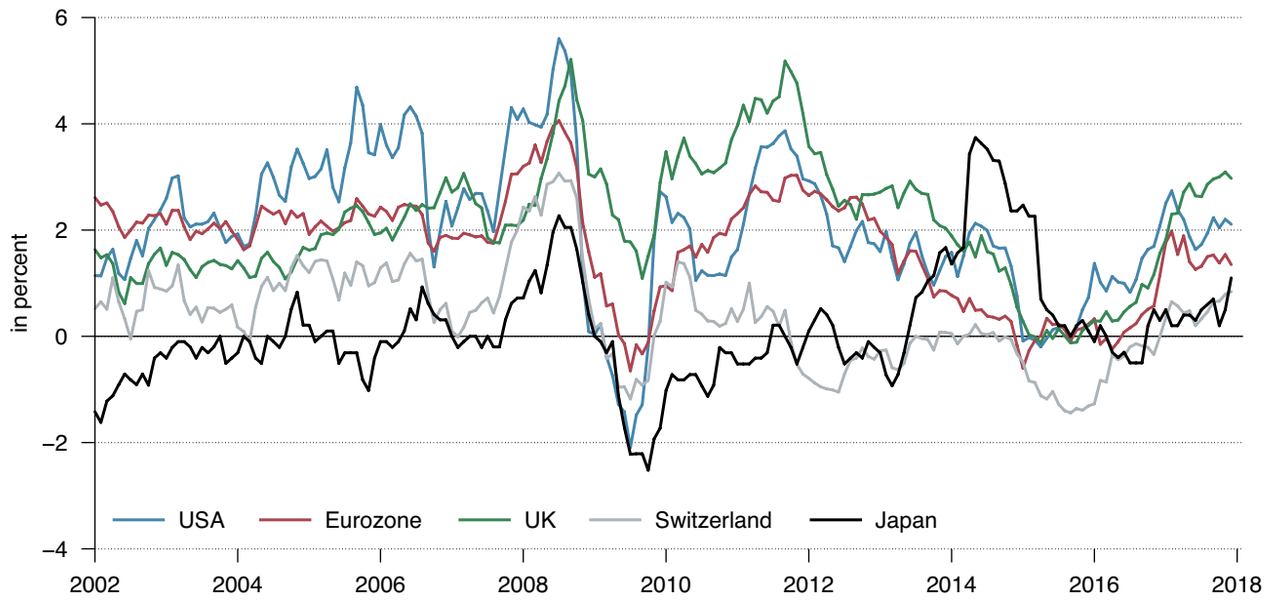
Inflation overview

	Ø 10 years[1]	Inflation[2]				Core inflation[3]			
		10/2017	11/2017	12/2017	1/2018	10/2017	11/2017	12/2017	1/2018
United States	1.7	2.0	2.2	2.1	–	1.8	1.7	1.8	–
Eurozone	1.4	1.4	1.5	1.4	1.3	0.9	0.9	0.9	1.0
Germany	1.3	1.6	1.8	1.6	1.6	1.6	1.7	1.6	1.6
France	1.1	1.1	1.2	1.2	1.4	–	–	–	–
Italy	1.4	1.0	0.9	0.9	0.8	0.5	0.4	0.4	0.6
Spain	1.3	1.6	1.7	1.1	0.5	0.9	0.8	0.8	–
United Kingdom	2.4	3.0	3.1	3.0	3.0	2.7	2.7	2.5	2.7
Switzerland	0.1	0.7	0.8	0.8	0.7	0.5	0.6	0.7	0.5
Japan	0.3	0.2	0.5	1.1	–	0.2	0.3	0.4	–
Canada	1.6	1.4	2.1	1.9	–	0.9	1.3	1.2	–
Australia	2.4	1.9	1.9	1.9	–	1.9	1.9	1.9	–
Brazil	6.1	2.7	2.8	3.0	2.9	4.0	3.9	3.8	–
Russia	8.6	2.7	2.5	2.5	2.0	2.5	2.3	2.1	1.9
India	7.7	3.6	4.9	5.2	5.1	–	–	–	–
China	-0.3	-0.2	-0.6	-0.3	1.5	2.3	2.3	2.2	1.9
Advanced economies[4]	1.5	1.6	1.8	1.8	–	1.3	1.4	1.4	–
Emerging economies[4]	3.3	1.2	1.3	1.6	–	2.5	2.5	2.4	–
World economy[4]	2.3	1.5	1.6	1.7	–	1.6	1.6	1.6	–

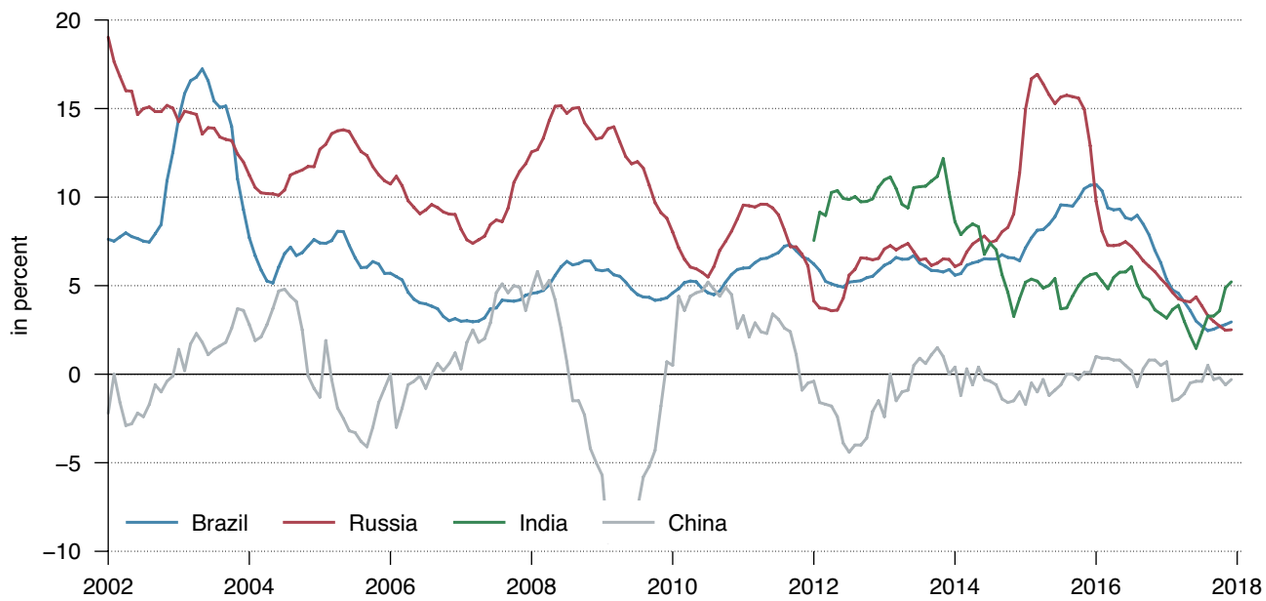
[1] Average annual consumer price inflation, in percent.
[2] Year-on-year change of the consumer price index (CPI), in percent.
[3] Core inflation is a measure of inflation that excludes certain items that can experience volatile price movements, such as energy and certain food items; year-on-year change of the core consumer price index, in percent.
[4] Calculations are based on nominal GDP weights derived from purchasing power parity exchange rates.

Source: Thomson Reuters Datastream, Wellershoff & Partners

Consumer price inflation in advanced economies



Consumer price inflation in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

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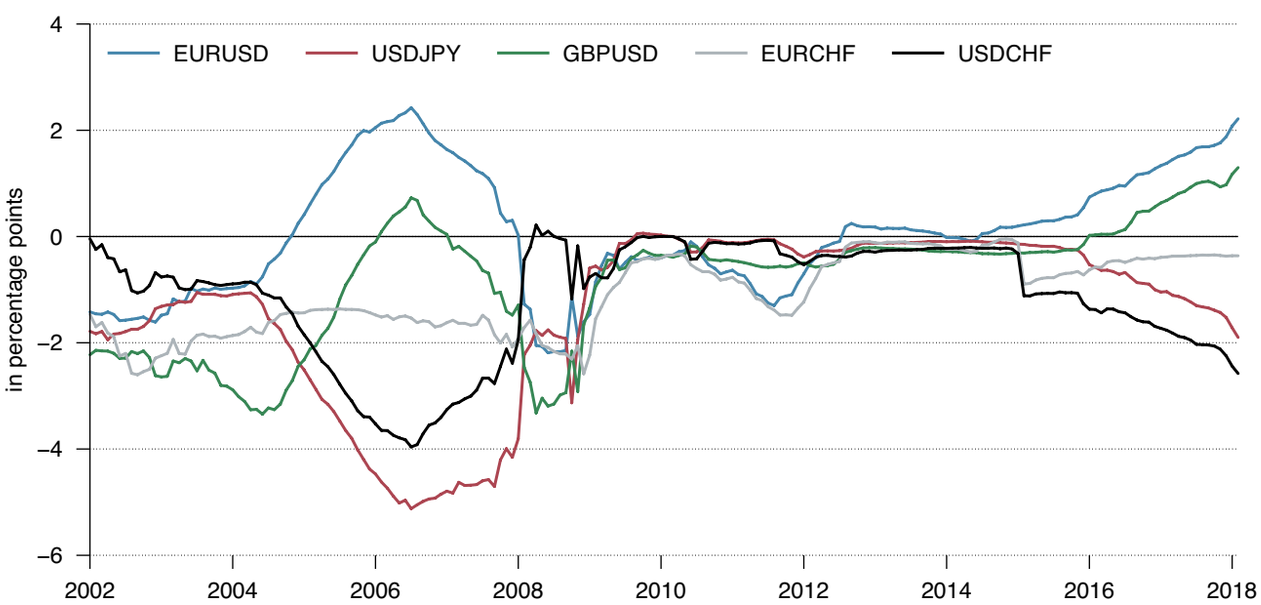
Interest rates

Interest rate differentials overview

	Current exchange rate	Interest rate differentials 3 months[1]				Interest rate differentials 12 months[1]			
		Current	1 year ago	Ø 5 years	Ø 10 years	Current	1 year ago	Ø 5 years	Ø 10 years
EURUSD	1.236	2.21	1.35	0.68	-0.01	2.57	1.82	0.93	0.15
USDJPY	107.5	-1.90	-1.04	-0.54	-0.51	-2.22	-1.58	-0.84	-0.76
GBPUSD	1.388	1.30	0.68	0.10	-0.37	1.46	0.96	0.18	-0.34
EURCHF	1.154	-0.37	-0.41	-0.38	-0.67	-0.28	-0.40	-0.40	-0.76
USDCHF	0.934	-2.58	-1.76	-1.06	-0.66	-2.85	-2.22	-1.33	-0.91
GBPCHF	1.296	-1.28	-1.08	-0.96	-1.03	-1.39	-1.26	-1.15	-1.24
CHFJPY	115.1	0.68	0.72	0.52	0.15	0.64	0.64	0.50	0.14
AUDUSD	0.786	0.33	-0.45	-1.44	-2.45	0.75	0.19	-0.91	-1.89
USDCAD	1.260	-0.17	-0.08	0.51	0.52	-0.28	-0.48	0.26	0.28
USDSEK	8.045	-2.28	-1.64	-0.58	0.29	-2.52	-1.91	-0.74	0.12
USDRUB	57.8	4.77	9.01	9.34	8.27	4.28	7.94	8.76	8.27
USDBRL	3.299	4.88	10.91	11.19	10.29	4.35	8.89	10.24	9.90
USDCNY	6.343	2.86	3.18	3.49	3.07	2.43	2.26	3.06	2.69
USDTRY	3.809	12.10	10.51	9.91	9.73	12.65	10.57	9.74	9.88
USDINR	64.32	7.47	7.47	8.68	7.77	4.47	4.68	6.49	5.90

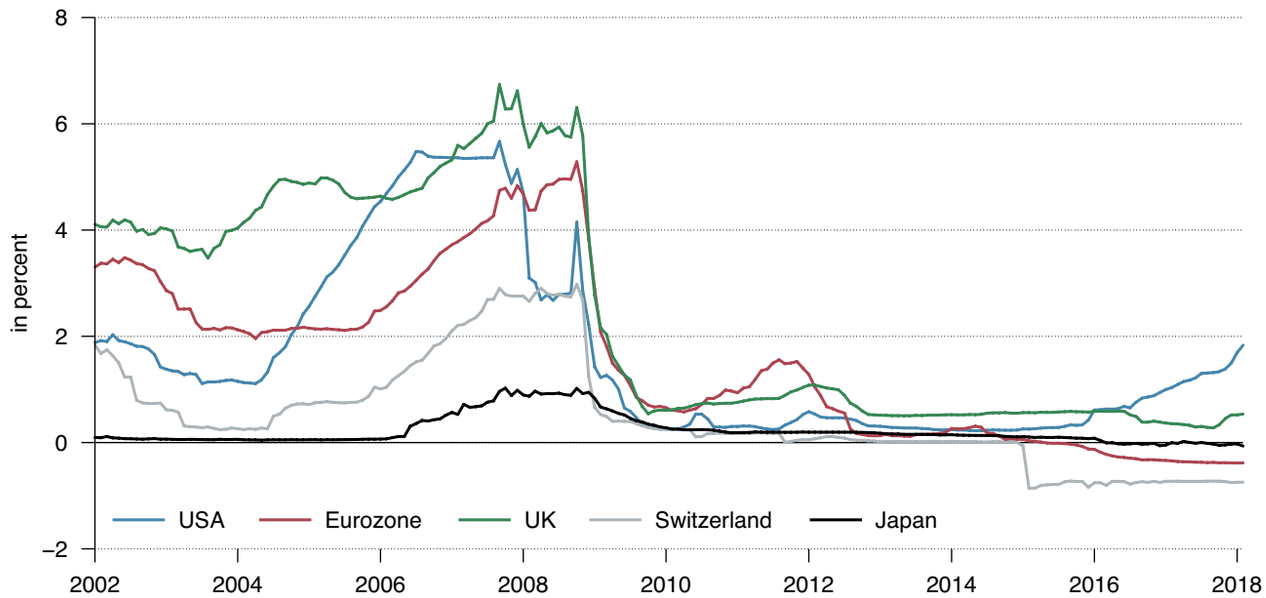
[1] The gap in interest rates between the second currency and the first one, in percentage points; e.g. US dollar minus euro for EURUSD.

Interest rate differentials

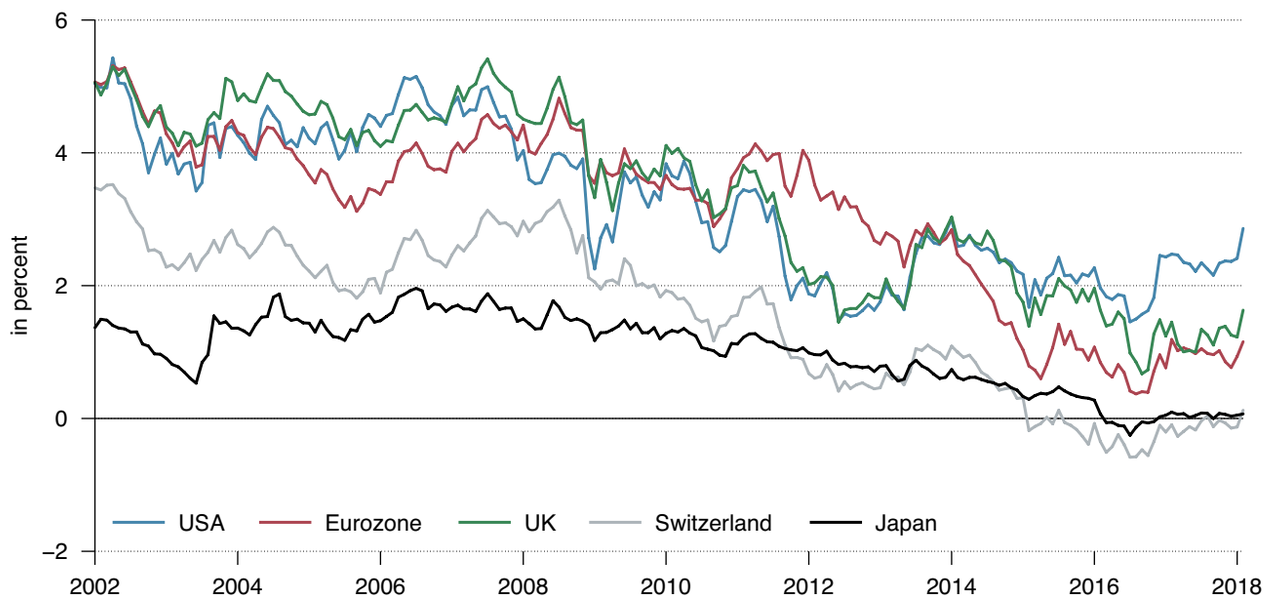


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

3-month Libor



10-year government bond yields



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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FX markets

The weakening trend of the US dollar continued into the new year. The stock market correction and the subsequent rise of the volatility index on February 5 triggered the usual flight into the ten-year US government bonds and the US dollar. However, despite higher interest rates and market expectations that the Fed will raise rates faster and more steeply than the ECB, the euro continued to appreciate, buoyed by the Eurozone's glowing corporate sentiment. This was evident in very strong reading of the Eurozone PMI in the first month of 2018. The euro's years of undervaluation versus the dollar could soon be over, as EURUSD is slowly approaching its purchasing power parity level of 1.28. However, because such swift moves are often accompanied by a tendency to overshoot PPP, it is quite conceivable that this exchange rate might flip, with the dollar soon undervalued against the euro.

Comparatively strong economic growth also explains why some currencies adjacent to the euro – for example, CHF, NOK and SEK – have recently weakened against the common currency. And as long as the Eurozone's economy continues to grow, its well-known structural problems, which are particularly evident during recessions, will likely be forgotten.

FX overview

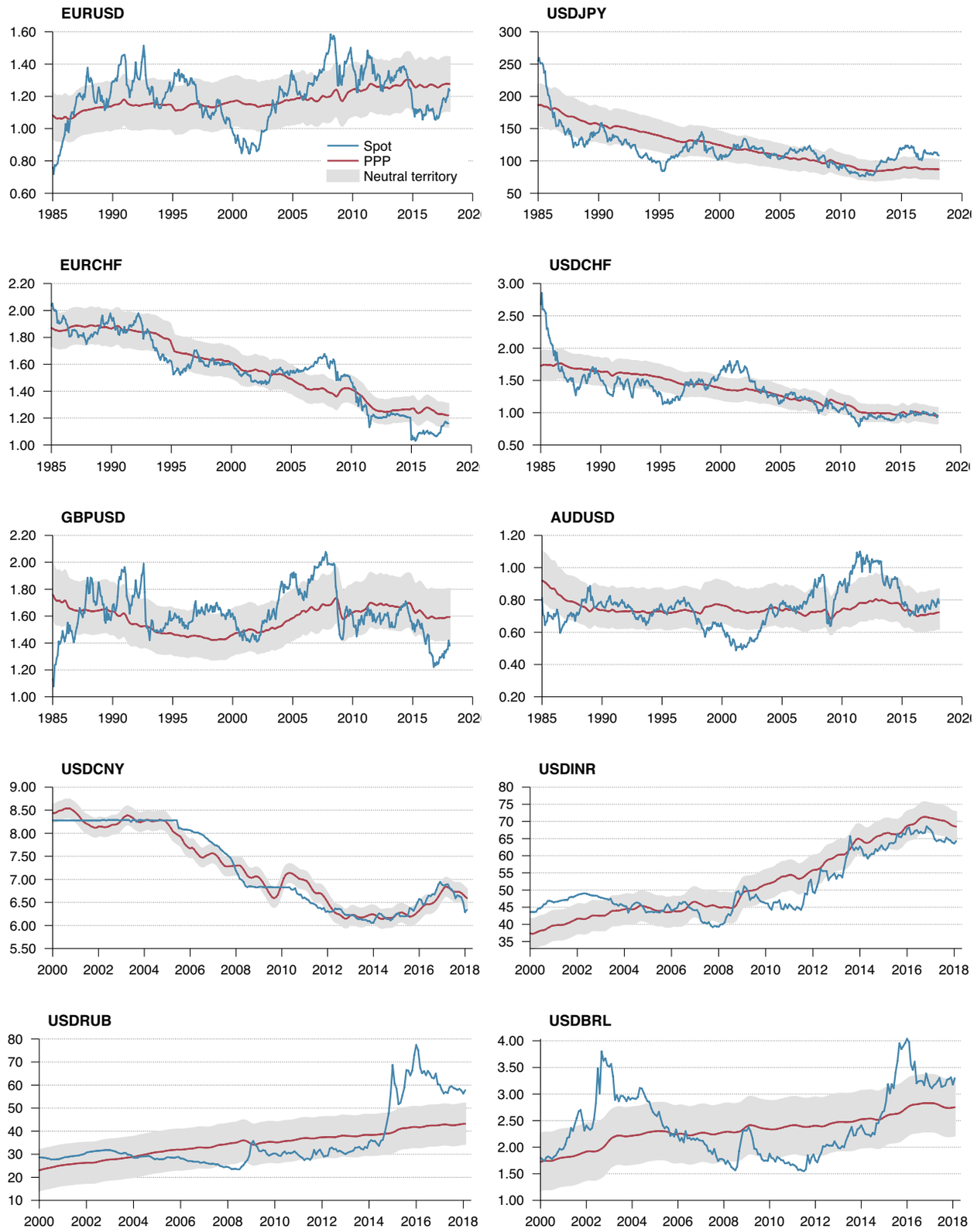
	Current exchange rate	Performance[1]				Purchasing Power Parity[2]		
		YTD	3 months	1 year	5 years	PPP	Neutral territory	Deviation[3]
EURUSD	1.236	2.9	4.7	16.5	-8.0	1.28	1.11 - 1.44	-3.2
USDJPY	107.5	-4.6	-4.9	-5.6	15.0	87.1	72.1 - 102.1	23.4
GBPUSD	1.388	2.6	5.4	11.0	-10.7	1.59	1.43 - 1.8	-12.8
EURCHF	1.154	-1.4	-1.2	8.2	-6.6	1.22	1.13 - 1.31	-5.5
USDCHF	0.934	-4.2	-5.7	-7.1	1.6	0.96	0.83 - 1.08	-2.4
GBPCHF	1.296	-1.7	-0.5	3.1	-9.3	1.52	1.31 - 1.73	-14.9
CHFJPY	115.1	-0.4	0.8	1.6	13.2	91.1	77.1 - 105.1	26.4
AUDUSD	0.786	0.5	3.6	2.9	-24.0	0.72	0.62 - 0.87	8.7
USDCAD	1.260	0.6	-1.4	-3.7	25.7	1.21	1.1 - 1.31	4.5
USDSEK	8.045	-1.7	-4.8	-9.9	27.7	7.21	6.24 - 8.18	11.6
USDRUB	57.8	0.4	-4.1	-0.5	92.3	43.2	34.5 - 52	33.7
USDBRL	3.299	-0.6	-0.4	5.9	67.7	2.75	2.22 - 3.29	19.9
USDCNY	6.343	-2.6	-4.3	-7.8	1.8	6.59	6.4 - 6.79	-3.8
USDTRY	3.809	0.5	-2.0	3.4	115.6	2.99	2.7 - 3.27	27.6
USDINR	64.32	0.8	-1.4	-4.0	19.6	68.5	64.2 - 72.8	-6.1

[1] Performance over the respective period of time, in percent.

[2] Purchasing power parity (PPP) is estimated based on the relative development of inflation rates in two currency markets; the neutral territory is determined by +/- 1 standard deviation of the historical variation around the PPP value.

[3] Deviation of the current spot rate from PPP, in percent.

Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners



Source: Thomson Reuters Datastream, Wellershoff & Partners

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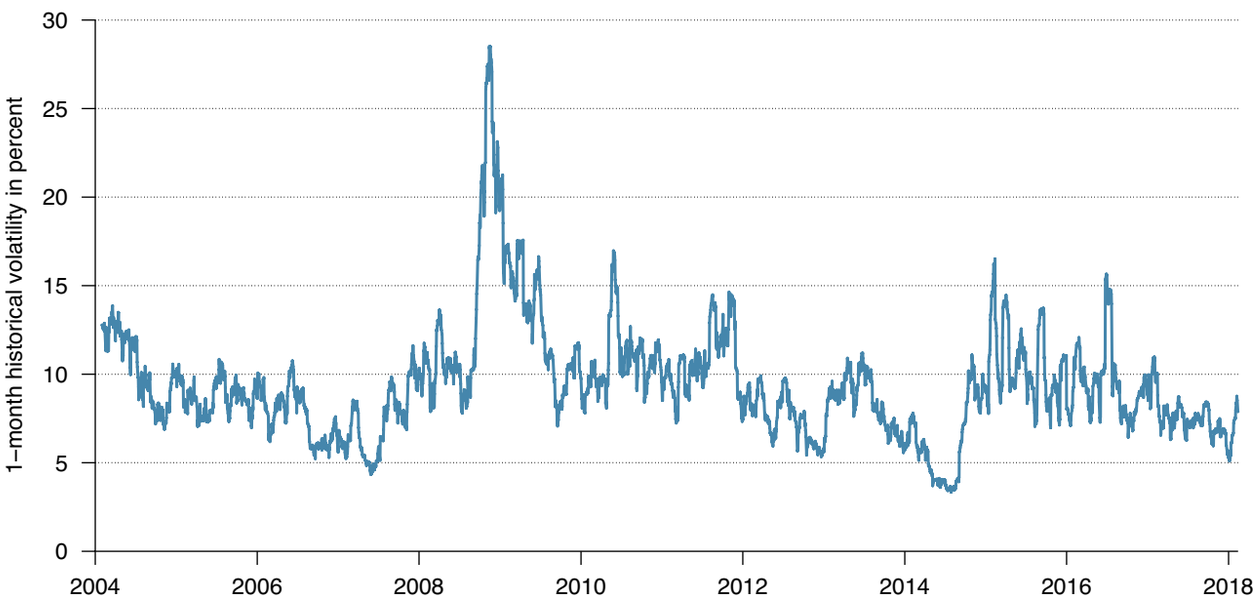
FX volatility

FX volatility overview

	Current exchange rate	Volatility 3 months[1]				Volatility 12 months[1]			
		Historical	Implied	Ø 5 years[2]	Ø 10 years[2]	Historical	Implied	Ø 5 years[2]	Ø 10 years[2]
EURUSD	1.236	7.1	7.7	8.5	10.6	7.0	7.5	8.8	10.9
USDJPY	107.5	7.6	9.5	9.9	10.9	7.9	9.5	10.2	11.4
GBPUSD	1.388	8.4	9.0	8.5	9.9	8.0	8.7	8.9	10.5
EURCHF	1.154	5.8	6.5	5.8	6.5	5.5	6.3	6.3	7.0
USDCHF	0.934	7.6	8.2	8.8	10.6	7.2	8.1	9.3	10.9
GBPCHF	1.296	8.2	8.0	8.8	10.2	8.3	8.1	9.2	10.7
CHFJPY	115.1	6.9	8.1	9.8	11.6	7.3	8.3	10.4	12.2
AUDUSD	0.786	8.0	9.4	10.0	12.4	8.0	9.7	10.5	12.8
USDCAD	1.260	7.7	7.4	7.9	9.7	7.4	7.7	8.2	10.1
USDSEK	8.045	9.2	8.9	9.9	12.5	8.7	9.0	10.3	12.8
USDRUB	57.8	9.1	11.1	16.2	14.6	10.3	11.5	16.5	15.6
USDBRL	3.299	10.9	12.8	15.0	15.5	13.2	14.1	15.4	16.1
USDCNY	6.343	4.2	6.1	3.6	3.2	3.3	6.3	4.5	4.8
USDTRY	3.809	10.9	12.7	12.3	13.2	10.7	14.2	13.5	14.4
USDINR	64.32	4.6	5.7	7.8	9.5	4.0	6.8	9.1	10.5

[1] Annualized volatility, in percent. [2] Average of implied volatility.

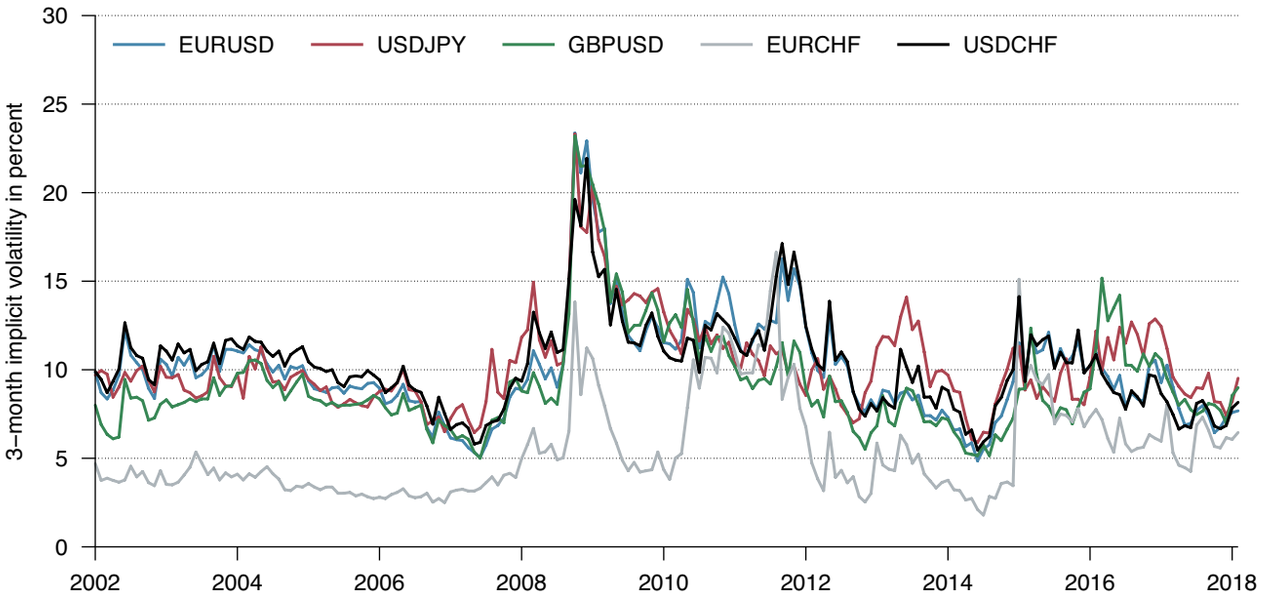
QCAM volatility indicator[3]



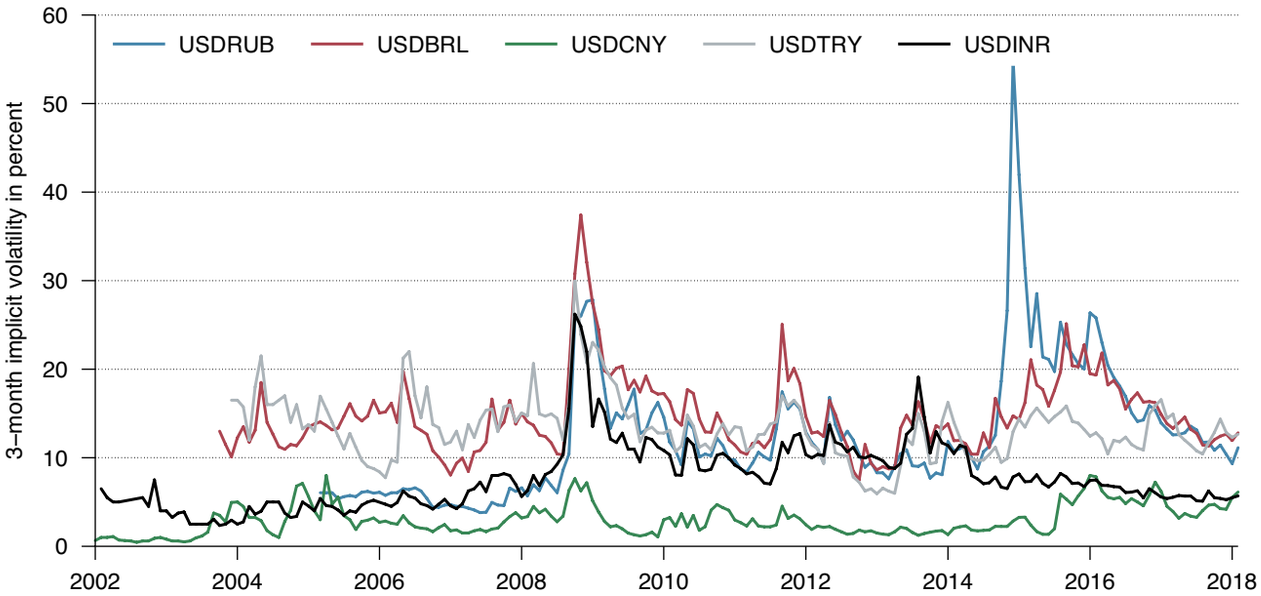
[3] The QCAM volatility indicator measures general volatility in global FX markets; the indicator is based on historical volatility of the main exchange rates, which are weighted by trading volume.

Source: Bloomberg, Thomson Reuters Datastream, QCAM Currency Asset Management, Wellershoff & Partners

Implicit volatility



Implicit volatility



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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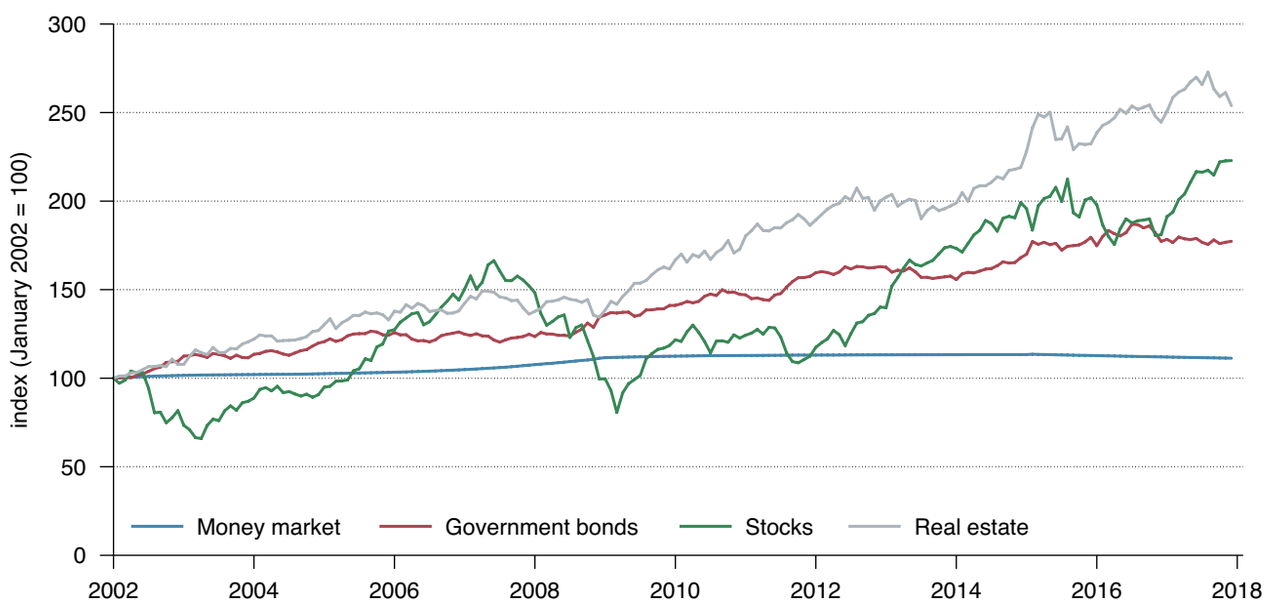
Financial markets

Performance overview

	Performance in either local curreny or USD[1]				Performance in CHF[1]			
	YTD	3 months	1 year	5 years	YTD	3 months	1 year	5 years
Swiss money market	-0.1	-0.2	-0.7	-1.8	-0.1	-0.2	-0.7	-1.8
Swiss government bonds	-3.2	-2.7	-3.4	7.7	-3.2	-2.7	-3.4	7.7
Swiss corporate bonds	-1.6	-1.5	-1.5	8.7	-1.6	-1.5	-1.5	8.7
Swiss equities (SMI)	-6.7	-3.7	6.8	37.2	-6.7	-3.7	6.8	37.2
European equities (Stoxx600)	-4.7	-2.7	3.4	51.8	-6.1	-4.1	11.6	41.8
UK equities (Ftse100)	-6.7	-2.3	2.4	36.2	-8.1	-2.2	5.9	23.7
Japanese equities (Topix)	-5.5	-1.4	12.8	99.0	-5.4	-2.1	11.2	75.4
US equities (S&P 500)	-0.2	4.3	16.6	94.2	-4.3	-1.2	8.7	97.0
Emerging markets equities	0.6	5.2	27.7	25.3	-3.6	-0.3	19.0	27.1
Global equities (MSCI World)	-0.9	3.3	16.9	67.1	-5.1	-2.1	9.0	69.5
Swiss real estate	-3.2	2.3	0.2	31.9	-3.2	2.3	0.2	31.9
Global real estate	-7.0	-4.6	0.3	26.6	-10.9	-9.6	-6.5	28.4
Commodities	-1.6	0.9	-2.1	-37.8	-5.7	-4.4	-8.7	-36.9
Brent oil	-6.6	0.4	11.9	-47.5	-10.4	-4.9	4.3	-46.7
Gold	2.0	4.0	8.7	-18.9	-2.2	-1.4	1.3	-17.7

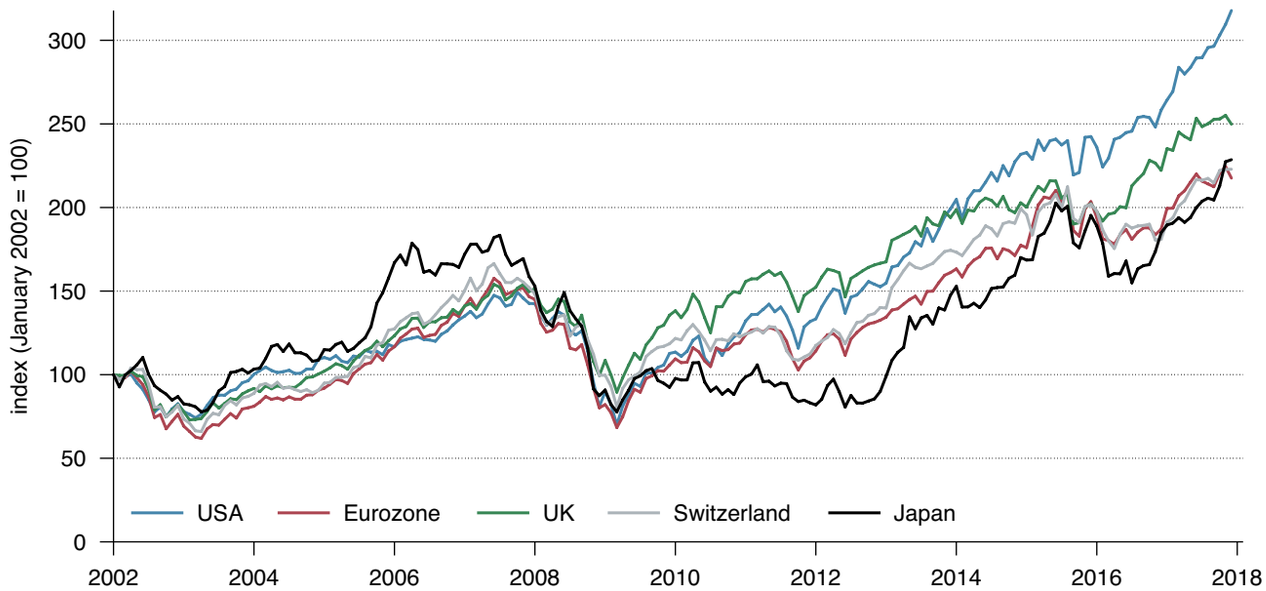
[1] Performance over the respective period of time, in percent.

Performance of selected Swiss asset classes

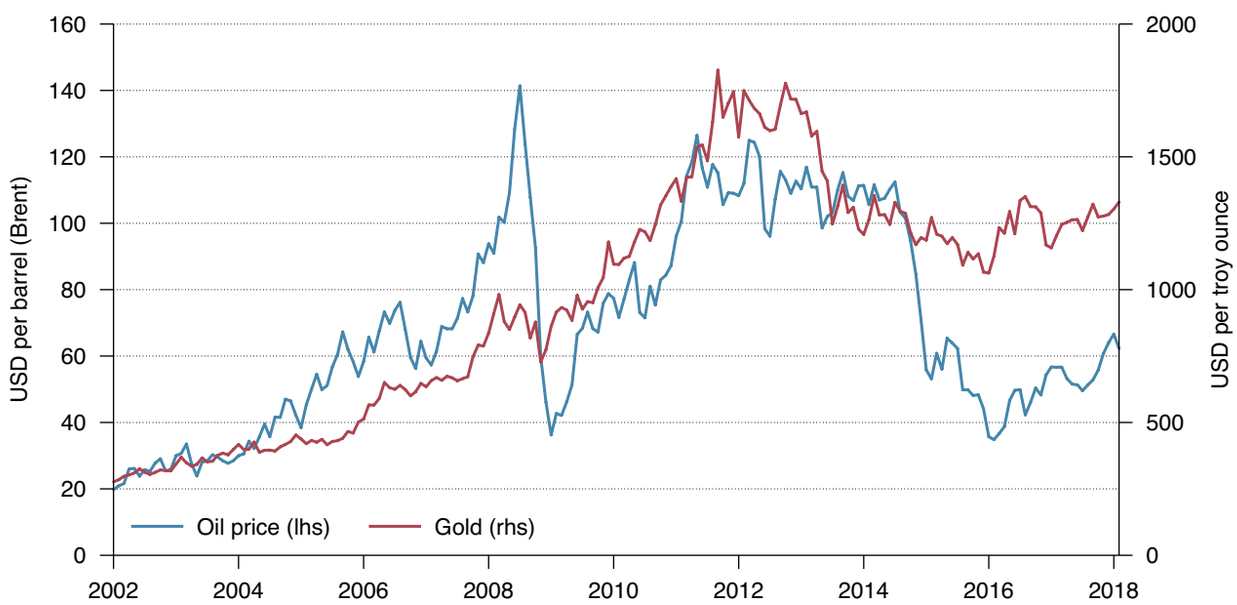


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

Performance of selected equity markets (in local currency)



Performance of selected commodity prices



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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Number of the month

0.19 percent

The interest rate on ten-year Swiss government bonds rose to 0.19 percent at the beginning of February. At the beginning of the year, the interest rate on the *Eidgenossen*, as the Swiss bond is called, was negative, at -0.095 percent. And given the country's quite upbeat economic outlook, this increase was long overdue. We may even witness the Swiss National Bank's first interest rate move this year. It's conceivable and definitely possible.