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FX MONTHLY

QCAM Insight ++ The macro perspective ++ FX market talk
Economic activity ++ Inflation ++ FX markets ++ Financial markets
Number of the month

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Contents

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QCAM Insight

Smart beta in FX

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By now, you must have heard the term "smart beta" investing. Smart beta has become extremely popular as an alternative to passive as well as active investing. Assets invested in smart beta equity exchange-traded funds and products listed globally reached a new record high of USD 497 bn at the end of November 2016[1]. Blackrock, one of the biggest ETF providers, projects smart beta assets will reach USD 1 trillion globally by 2020, and USD 2.4 trillion by 2025.

Smart beta and FX – an effective liaison?

How "smart" is smart beta? Is it another fad? Also, what does foreign exchange have to do with smart beta given no clear "beta" exist for this market?

Let's start with the "smart" part: It is well documented, by academic research and in the "quant" investment world that most of the returns achieved by active managers can be explained by systematic exposure to a small number of persistent factors such as value, momentum, carry, etc. By systematically exposing to these factors, one can achieve risk adjusted outperformance compared to the average active managers as well as passively holding the market portfolio.

Holding a "beta" such as an S&P 500 portfolio, we essentially overweight stocks with high prices relative to those with low prices, which obviously doesn't make much sense. Furthermore, the S&P 500 index is concentrated on a few mega cap stocks, lacking true diversification. The "smart" thing to do would be to construct a portfolio of stocks, assigning those exhibiting higher value and/or momentum characteristics with larger weightings. Hence the "smart beta": the portfolio construction is derived from a set of factors that are known to deliver long-term returns which outperform the beta.

Factor Investing and FX Smart Beta

When I started working in asset management 20 years ago, factor investing was not widely available or accessible to investors. Hence many active managers were rewarded with high fees by merely trading smart beta, not producing actual alpha. Today, given the availability of data and technology, factor investing should be the new benchmark for all active management.

Now let's talk about factor investing or smart beta in FX. First, it turns out that those factors driving returns in stocks such as carry, momentum or value, are shown to exist in other asset classes such as bonds and commodi-

1 According to London-based ETF industry consultant ETFGI.

ties as well as in FX. Because FX has no natural "beta", it seems more appropriate to call it "factor investing". As the term becomes more and more popular, there is no ambiguity that smart beta in FX refers to factor investing.

Carry trades: Picking up the nickels before the steam roller

Carry trades consist of borrowing in currencies (funding currency) with low interest rates to buy and hold currencies (target currency) with high interest rates. The risk that underlies the returns however is that exchange rates can move in a volatile and dramatic fashion. For example, the popular Yen carry trade: From August 2008 to January 2009, the Australian dollar depreciated 43 percent against the Yen, and other frequently traded carry pairs such as the New Zealand dollar and the British pound lost 42 percent and 39 percent against the Yen, respectively. Warren Buffet said once that the carry trade is like picking up the nickels before the steam roller. But this is also why carry trade works. It rewards investors bearing the risk of sudden and dramatic shifts in exchange rates.

Following the trend: Momentum strategy

Momentum strategy simply means buying those assets that have produced positive returns in the past and selling those that have produced negative returns. As a "jump on the bandwagon" style of investing, momentum strategy is closely associated to trend following. Numerous academic studies have found that the momentum strategy is a good hedge for carry, not just for FX, but also for other assets such as equities and commodities. There are countless ways to build a momentum strategy, as a Google search will confirm. In my humble opinion, a successful momentum strategy lies on two principles. First, keep it simple. Too many parameters are bound to fail. Second, stick to the rules. There will be times that the market is directionless and the momentum strategy doesn't work. Apply your stop-loss and portfolio allocation rules, but don't change your momentum model.

Value investing: spot the upside potential

In FX, "value" means that it is possible to subject economies, especially emerging markets, to an analysis similar to that used in "value investing" for stocks, only instead of choosing companies that are fundamentally undervalued, one uses the rules to select countries that have the greatest potential for currency appreciation based on macroeconomic fundamentals. Investors seek out emerging markets due to their higher growth rates. Numerous academic research as well as my book published in 2012 have shown that the best way to benefit from emerging market growth is through currencies; investing in EM growth via EM currencies is also favorable due to higher liquidity in FX compared to other asset classes.

Watch out data miners

Because Smart beta strategies depend on back testing, it is tempting for smart beta fund providers to data mine, or tweak and twist data to obtain a desirable result. As we all know, the more overfitting the strategy is, the more likely it will fail when it goes live. Smart beta fund providers who have shining back testing results but fail to provide a simple explanation why their strategy works, should be avoided. It is important to choose a smart beta fund that has proven to have intellectual honesty.

Factor investing at QCAM

In recognition of the growing importance of smart beta and Factor Investing in the world of FX, QCAM Currency Asset Management is currently working on the offering of both product-based solutions and specialized advisory services in this area.

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The macro perspective

Still some rocks on the road to recovery

Positive sentiment persists in the global economy as the fourth quarter approaches. But before the year ends, various central banks will face some key policy decisions, and the long-delayed debate about the US debt ceiling also looms.

The good news coming from the global economy lately did not stop during the last month. In particular, the highly optimistic mood of companies stands out. With the exception of South Korea, the purchasing managers' indexes for the manufacturing sector in the world's twenty largest economies were all above the 50-point mark. The economic climate indicators are now pointing to a growth rate for the global economy of more than 4 percent – implying a significant surge in the run-up to the end of the year.

Upbeat mood in the Eurozone continues

The pickup in Eurozone economic sentiment is still very broadly supported. All major indicators maintained or even improved on the previous month's levels. In many countries, sentiment indicators are at or above record levels, both in the manufacturing sector and among consumers. In Germany, for one example, consumer sentiment rose to a 16-year high! The *European Sentiment Indicator*, a composite indicator based on European Commission data from all member countries, rose to 111.9 points in August, its highest level in over a decade. Aggregated sentiment indicators for the Eurozone now foresee a growth rate of 2.5 percent for the third quarter, given the upbeat sentiment picture.

The European Central Bank procrastinates

Inflation rates are also rising in the Eurozone. Consumer prices increased at an annual rate of 1.5 percent in August. Despite the favorable economic situation, at the beginning of September ECB president Mario Draghi postponed announcing the manner in which the bank's bond purchase program would be wound down. A decision may be taken at the next ECB meeting, on 26 October. The euro's recent strength is probably one reason for the delay. In response to Draghi's speech, the euro rose to over 1.20 USD for the first time since the beginning of 2015.

US still faces big decisions

The US will also confront some big issues before the end of the year, related to both monetary and fiscal policy issues. First, the Federal Reserve still needs to announce specifics for its plan to trim its bloated balance sheet. In addition, the data published at the next Fed meeting, at the end of September, should clarify whether a further rate hike can be expected this year. And after a surprising cross-party deal between President Donald Trump and congressional Democrats, the American debt ceiling discussion was postponed again, this time until December.

Consumption cannot drive US growth indefinitely

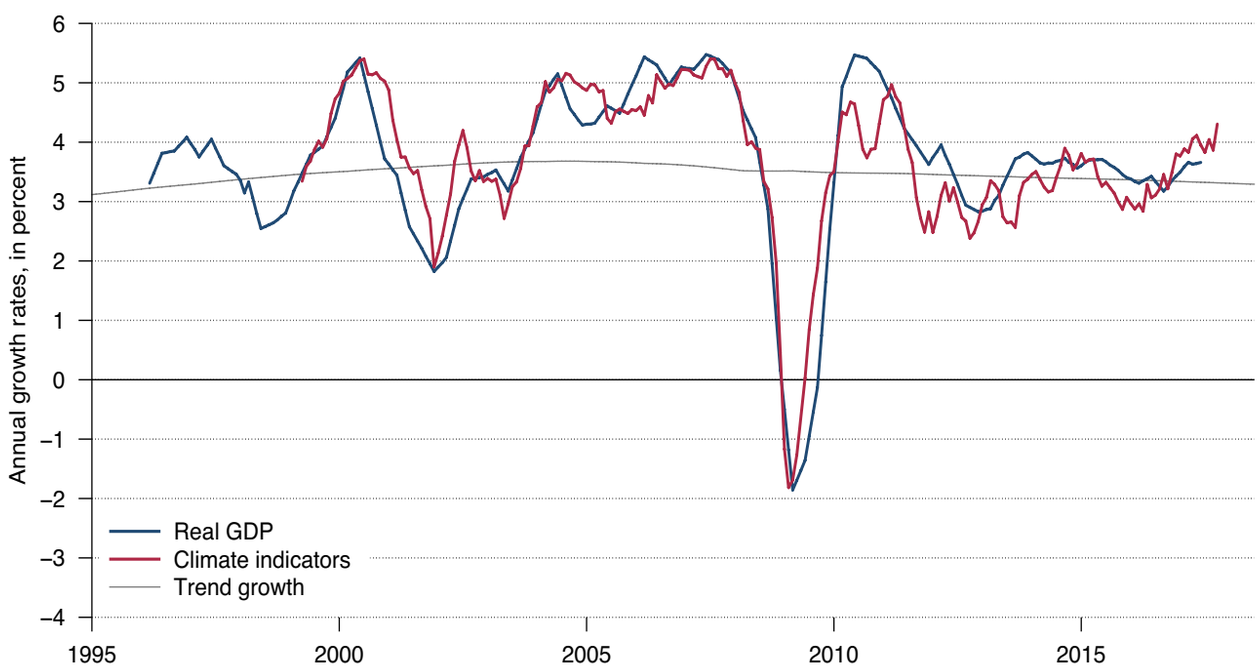
In addition, the United States is facing a long-term problem with weak corporate investment. Private consump-

tion again managed to contribute the most to overall economic growth in the second quarter, but this does not represent a sustainable growth model in the long term. Households' rising expenditures are increasingly financed by their declining savings rates. And any growth in consumer demand can hardly be fuelled by wages. Nominal wage growth has stagnated at 2.5 percent, while consumer price inflation is at an annual rate of 1.7 percent. That doesn't leave much money to finance a significant increase in consumption! And consumer sentiment, however positive it may be, cannot change this fact.

China rejoins the "good news club"

After a cheerless spell in the second quarter, Chinese companies were able to recover completely in the third quarter. The independent *W&P GDP Growth Stat for China*, which is calculated using sector-level production data, rose again in August. The indicator now signals an annual growth rate of 6.5 percent for the Chinese economy. There is also a lot going on in China this autumn. The Communist Party Congress, which is held every five years, will begin on October 18. This event, however, will probably be far more interesting from a political point of view than from a macroeconomic perspective.

Positive sentiment persists in the global economy



Source: Thomson Reuters Datastream, Wellershoff & Partners

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FX market talk

China's renminbi flows with commodity currencies

The commodity currencies are now the rising stars on currency markets. The fluctuations of the Chinese renminbi, on the other hand, raise some questions. Why is China's central bank letting the already overvalued currency appreciate further?

The US dollar continues to struggle. At the moment everything seems to be undercutting the greenback. President Donald Trump's inability to implement his economic policy agenda, falling inflation rates, a hesitant central bank, the economic damage done by massive hurricanes, the tensions with North Korea – the US dollar certainly can't be envied right now.

Commodity currencies: the market's new darlings

What's striking here is not only how quickly the narrative on financial markets has turned against the dollar, but also how broadly the dollar has now fallen in value. In the second quarter, it was the euro, the Nordic currencies and the Swiss franc that rose sharply against the dollar. Now the commodity currencies have recently joined in. The Canadian dollar, the Russian ruble, the Chilean peso and the South African rand have all appreciated by 3 to 5 percent against the greenback lately.

Looking at recent developments in commodity prices, the commodity currencies' appreciation is not really surprising. In particular, industrial metals' prices have risen sharply since the beginning of the year. The markets for copper, zinc, aluminum and steel all benefit from the boom in China's construction sector and Chinese industry generally. The fact that the prices of industrial metals have in the meantime risen significantly more than China's economic indicators would suggest that the commodity markets are once again speculating on a new super cycle.

Unusually strong fluctuations in the renminbi

The Chinese renminbi is not one of the currencies that have gained the most against the dollar recently. At first glance, the renminbi's appreciation by a good 3 percent since the beginning of the third quarter does not seem particularly spectacular. But let's remember: it was an even smaller exchange rate movement that sent the markets into a spin in the summer of 2015, triggering the biggest global stock market correction in the past three years. So, if the Chinese currency is fluctuating, it should be carefully examined. And in terms of its history, the latest developments are indeed extraordinary. Three of the five largest weekly exchange rate fluctuations in the last 18 months have taken place over the past six weeks.

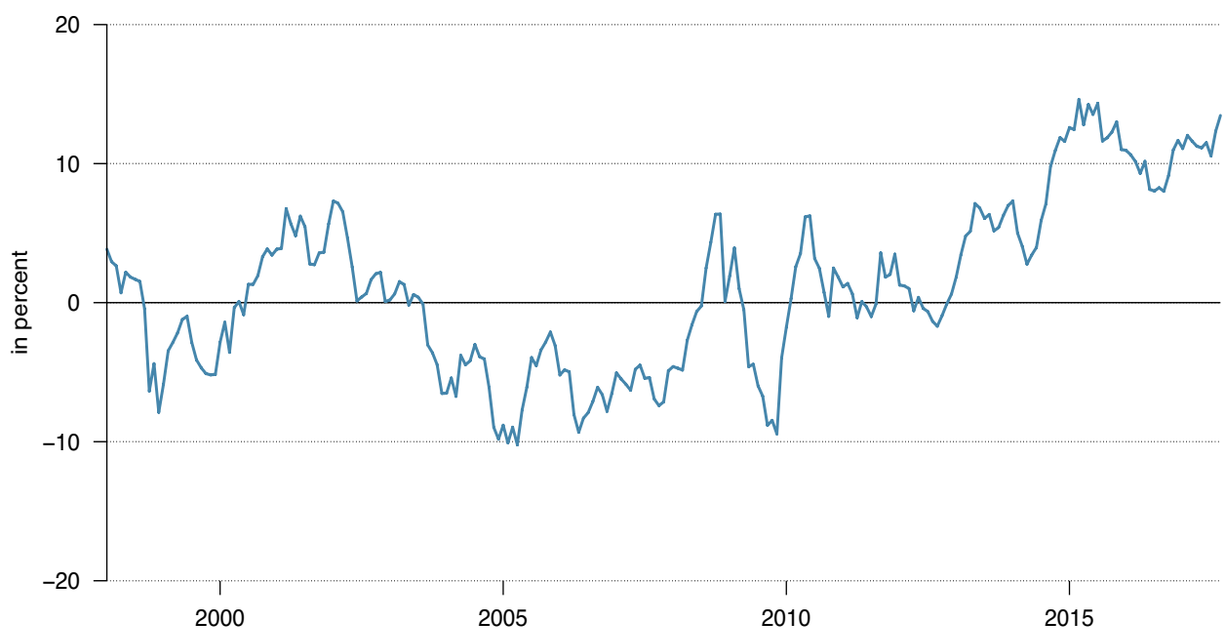
That even small exchange rate movements are already causing turmoil is due to the fact that the renminbi belongs to a dwindling group of tightly controlled exchange rates. The People's Bank of China sets the central exchange rate daily and, through the purchase and sale of foreign currency holdings, ensures that the exchange rate transactions on the market remain within a tightly defined band.

Probably nothing extraordinary

In contrast to the trauma of August 2015, the recent currency movements have not witnessed the depreciation of the renminbi, but rather its appreciation. This explains the serene response of financial markets. However, looking at the Chinese currency's valuation, one wonders why the People's Bank of China is allowing the further appreciation of a currency that, on a trade-weighted basis, is already highly overvalued. After all, China does not have to battle with an inflation problem that would have to be mitigated by a stronger currency. The capital outflows that plagued the country in 2015 and 2016, costing the central bank roughly a trillion US dollars in foreign exchange reserves, have long since come to a stop. Are political motives at play now, perhaps in connection with the upcoming Chinese Communist Party Congress, kicking off on 18 October?

We believe there is a much simpler explanation. The currency's unsteady appreciation and depreciation path aims to hinder any sustained speculation on a clear exchange rate trend. Of course, this only works as long as no clear trend is apparent. However, looking at the valuation of the renminbi in the graph below, it quickly becomes apparent that, over the long term, the risk of depreciation is much greater for the renminbi than is its appreciation potential.

CNY: Trade weighted deviation from PPP



Source: Thomson Reuters Datastream, Wellershoff & Partners

Economic activity

The optimistic mood evident in the Swiss economy is increasingly at odds with the country's weak economic dynamics. Although the purchasing managers index in the manufacturing sector as well as consumer sentiment have both risen to record levels lately, Switzerland's GDP only managed to grow by 0.3 percent in the second quarter, well below expectations, also on a year-over-year basis. As imports rose by 5.5 percent in the second quarter, foreign trade weighed on growth, despite strong export figures. On the consumer side, demand was up only slightly.

In the US, industrial sentiment improved sharply in August. At 58.8 points, the ISM Manufacturing Index is higher than it's been in the past six years. Consumers also continue to be very optimistic. On the other hand, the labor market report for the past month generated little enthusiasm on financial markets. Outside of agriculture, only 156 000 new jobs were created in the US in August. Compared to July, however, the figures are still at a decent level. Economic climate indicators now show the US economy growing at a dynamic annual rate of 3 percent.

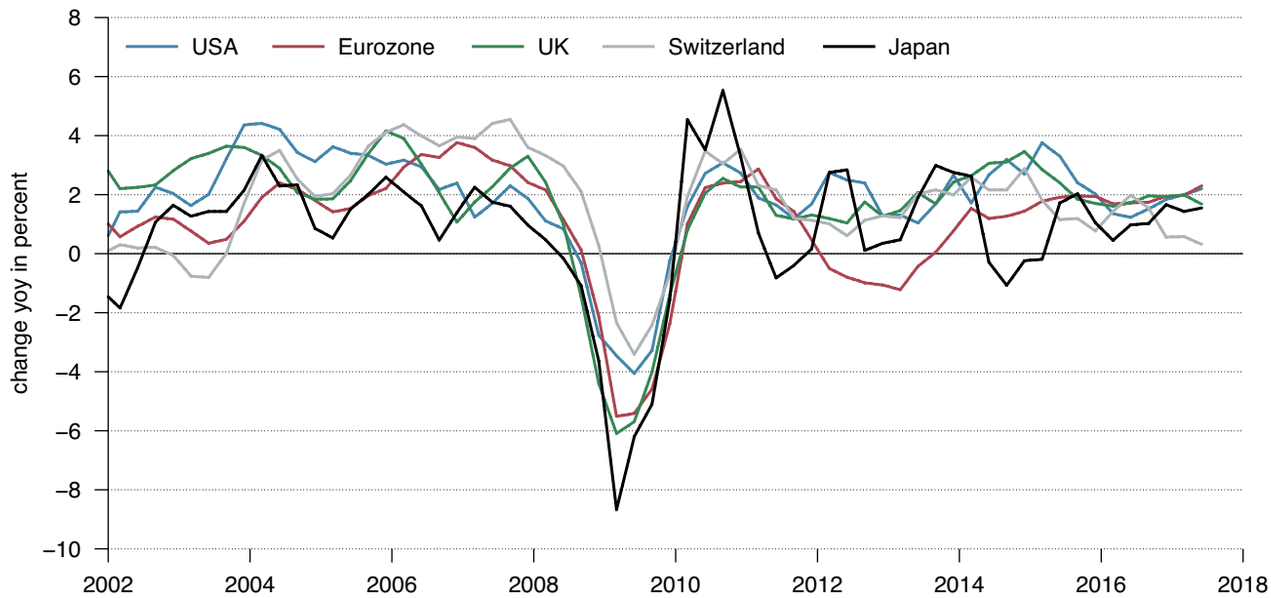
Growth overview

	Trend growth[1]	Real GDP growth[2]				W&P economic sentiment indicators[3]			
		Q3/2016	Q4/2016	Q1/2017	Q2/2017	5/2017	6/2017	7/2017	8/2017
United States	1.7	1.5	1.8	2.0	2.2	2.7	3.1	2.5	3.1
Eurozone	1.0	1.7	1.9	2.0	2.3	2.3	2.6	2.7	2.8
Germany	1.4	1.9	1.9	1.9	2.1	2.9	3.3	3.4	3.3
France	0.7	0.9	1.1	1.1	1.7	1.5	1.7	1.7	1.9
Italy	0.2	0.9	1.2	1.3	1.5	0.8	0.8	0.7	1.4
Spain	1.6	3.2	3.0	3.0	3.1	2.3	2.4	2.2	2.5
United Kingdom	1.8	2.0	1.9	2.0	1.7	2.3	2.5	3.0	2.5
Switzerland	1.5	1.5	0.6	0.6	0.3	1.2	2.0	1.8	2.0
Japan	0.4	1.0	1.7	1.4	1.5	2.4	2.4	2.4	2.4
Canada	1.6	1.5	2.0	2.3	3.7	1.8	1.6	1.4	1.2
Australia	2.4	1.9	2.4	1.8	1.8	2.5	2.5	2.5	2.6
Brazil	1.4	-2.8	-2.4	-0.4	0.2	2.6	1.8	1.5	2.0
Russia	0.1	-0.4	0.3	0.5	2.5	2.5	0.6	2.8	1.8
India	7.7	7.5	7.0	6.1	5.7	7.3	7.2	6.8	7.2
China	7.4	6.7	6.8	6.9	6.9	6.5	6.7	6.9	7.1
Advanced economies[4]	1.4	1.5	1.8	2.1	2.0	2.8	3.1	2.8	3.1
Emerging economies[4]	6.0	4.8	5.0	5.1	5.3	5.0	5.1	5.0	5.4
World economy[4]	3.5	3.2	3.5	3.7	3.7	3.8	4.1	3.9	4.3

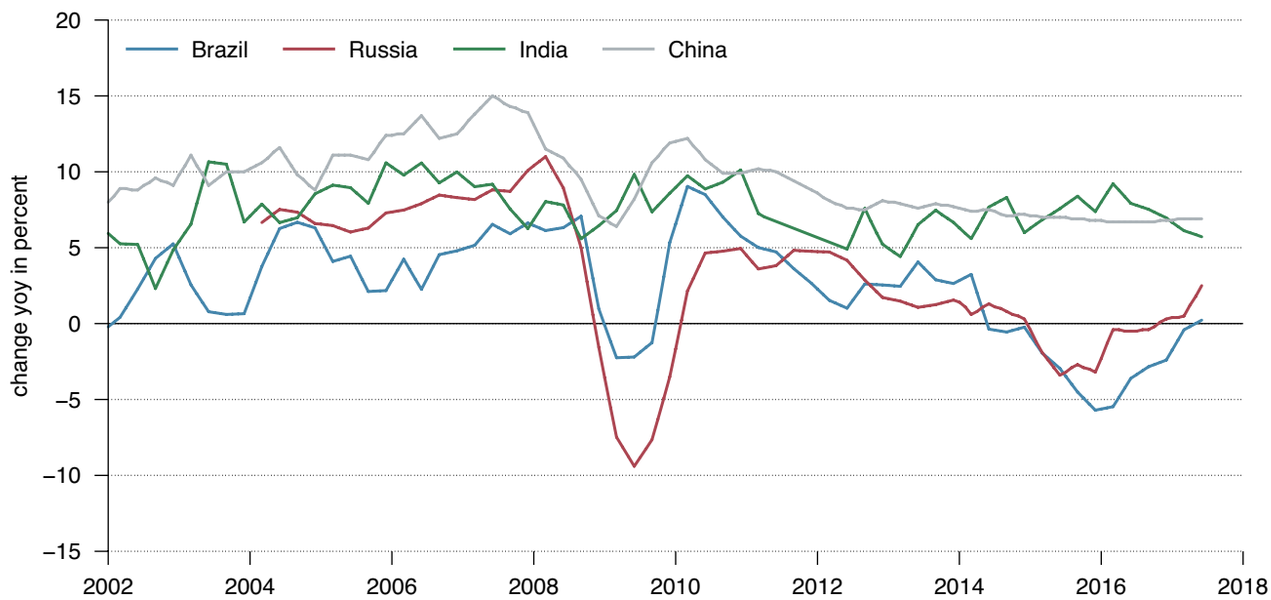
[1] Current year-on-year trend growth rate of real GDP, in percent, according to the proprietary trend growth model of Wellershoff & Partners.
[2] Year-on-year growth rate, in percent.
[3] Wellershoff & Partners economic sentiment indicators are based on consumer and business surveys and have up to 6 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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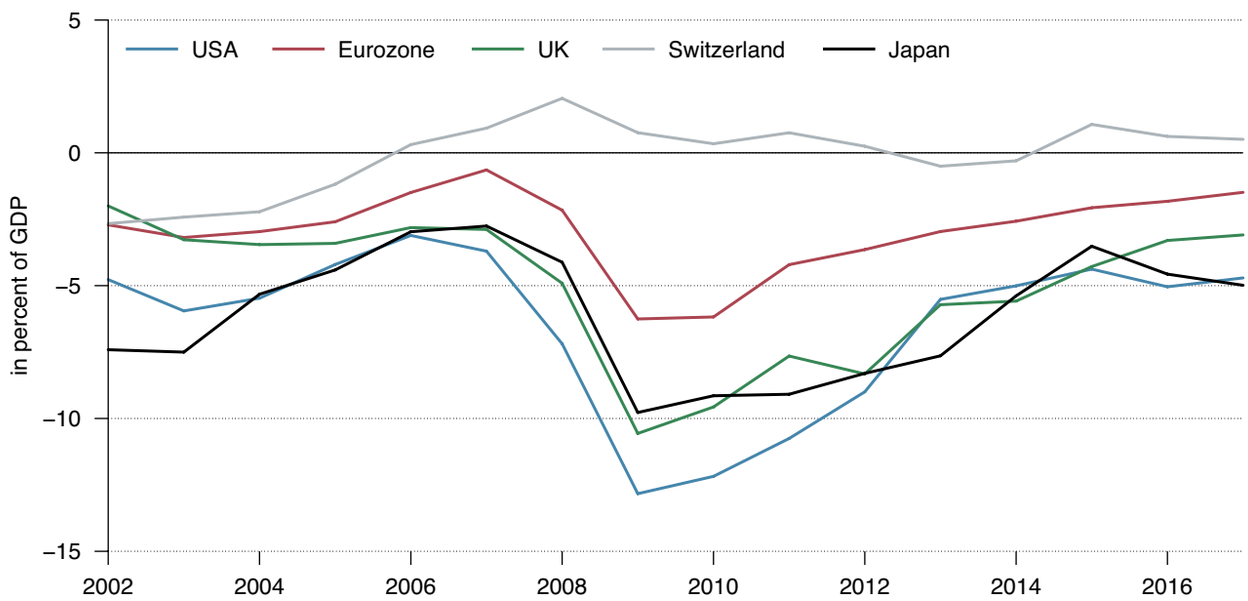
Economic indicators

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	22.9	24.9	-2.5	-2.4	105.2	107.8	-5.8	-4.7	6.4	4.4
Eurozone	16.6	15.0	3.2	4.0	108.1	108.3	-2.6	-1.5	11.2	9.1
Germany	4.8	4.4	7.7	7.5	82.1	73.5	0.3	0.7	6.6	5.7
France	3.5	3.1	-0.9	-1.2	117.2	124.9	-4.0	-3.0	9.8	9.2
Italy	2.6	2.3	1.3	2.1	152.0	157.4	-2.8	-2.1	11.8	11.2
Spain	1.7	1.6	1.1	2.1	110.2	116.9	-6.6	-3.1	23.4	17.1
United Kingdom	3.7	3.2	-4.3	-3.9	111.9	122.9	-5.4	-3.1	6.1	4.5
Switzerland	0.9	0.8	10.6	11.3	45.4	44.1	0.2	0.5	3.1	3.0
Japan	6.7	6.2	1.9	3.7	214.1	225.9	-5.9	-5.0	3.7	2.8
Canada	2.3	2.1	-3.2	-2.9	88.0	91.2	-1.4	-2.4	7.0	6.2
Australia	1.8	1.7	-3.5	-2.8	34.3	42.9	-2.9	-2.2	5.7	5.6
China	13.5	15.1	2.2	1.3	40.0	49.3	-1.7	-3.7	4.1	4.0
Brazil	2.9	2.7	-3.0	-1.3	67.1	81.2	-6.1	-9.1	8.4	12.8
India	2.7	3.1	-2.0	-1.5	69.1	67.8	-7.1	-6.4	–	–
Russia	2.4	2.0	2.9	3.3	14.7	17.1	-1.8	-2.6	5.4	5.1

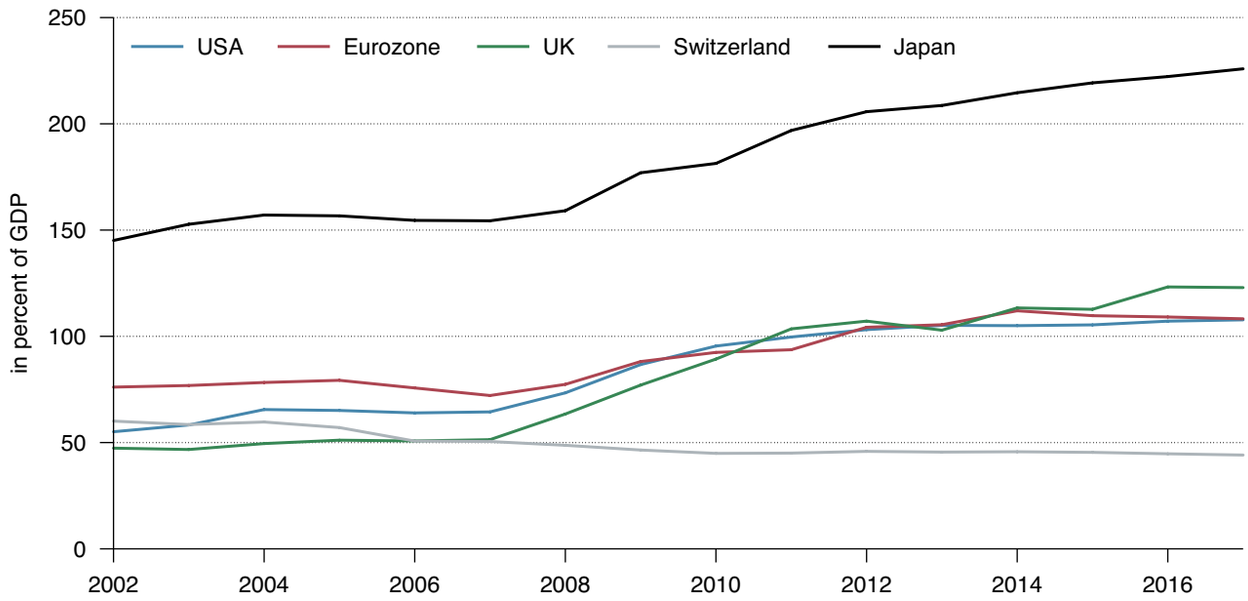
[1] In percent; calculations based on market exchange rates. [2] In percent of nominal GDP. [3] In percent.

Budget deficits in advanced economies

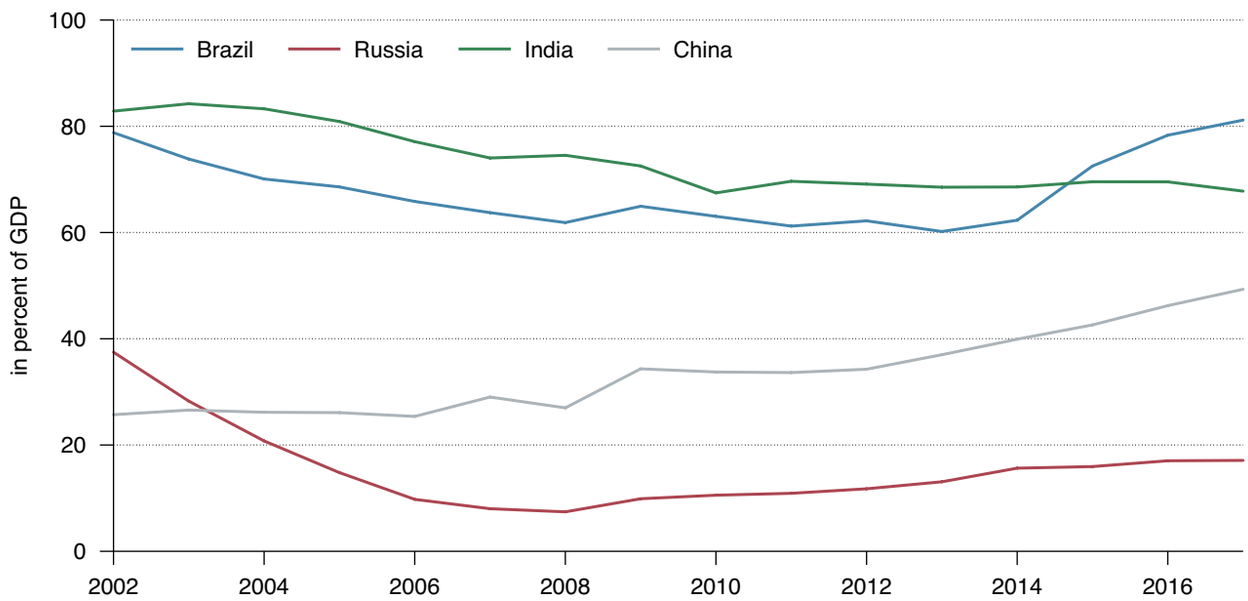


Source: Thomson Reuters Datastream, Wellershoff & Partners

Public debt in advanced economies



Public debt in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

Inflation

At 1.5 percent, annualized inflation in the Eurozone rose to a four-month high in August. Germany even managed to post a year-over-year increase in inflation of 1.8 percent. In France, consumer prices rose again in August by almost 1 percent compared to a year ago, after inflation had eased somewhat in spring. However, we note, this rise in inflation rates also seems to be largely driven by energy and food prices. At 1.2 percent per annum, the core inflation rate for the Eurozone remains unchanged, well below the European Central Bank's target of 2 percent.

In Japan, inflation stagnated for the fourth month in a row, posting a month-over-month increase of 0.4 percent in July, a rate that still doesn't match the country's quite dynamic economy. Core inflation in Japan rose to 0.5 percent during the same period.

Swiss consumer prices again increased slightly in August. Compared to August 2016, an inflation rate of 0.5 percent was recorded. As a result of the depreciation of the Swiss franc, in nominal and in real terms on a trade-weighted basis over the past months, the upswing in inflation is likely to continue.

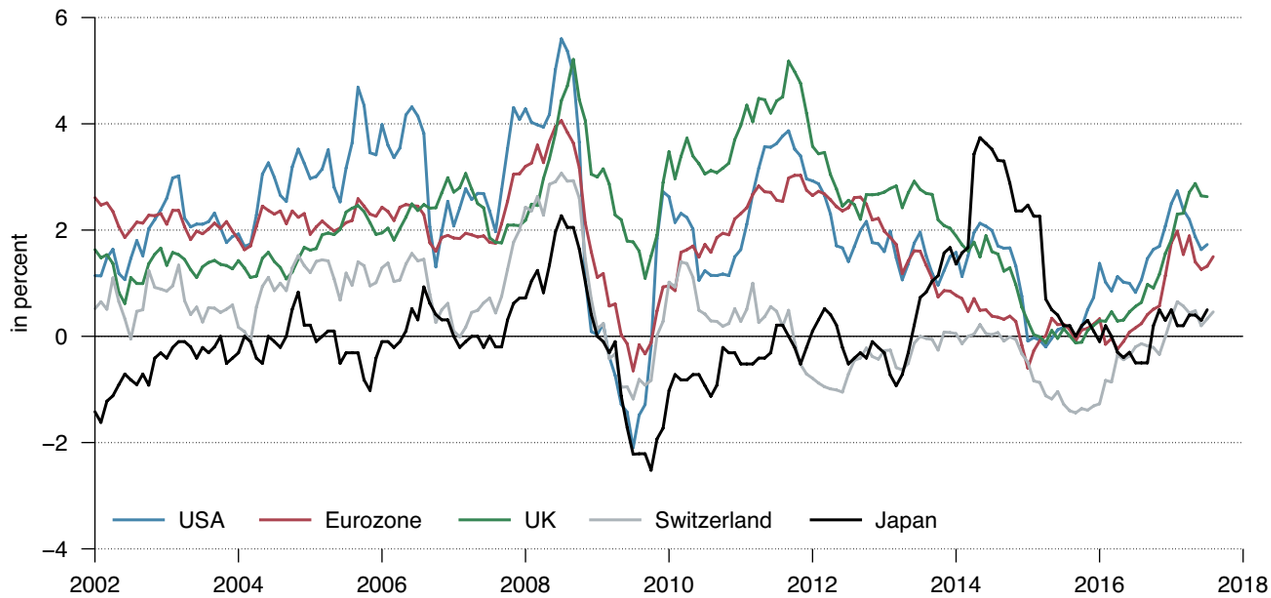
Inflation overview

	Ø 10 years[1]	Inflation[2]				Core inflation[3]			
		5/2017	6/2017	7/2017	8/2017	5/2017	6/2017	7/2017	8/2017
United States	1.7	1.9	1.6	1.7	1.9	1.7	1.7	1.7	1.7
Eurozone	1.4	1.4	1.3	1.3	1.5	0.9	1.1	1.2	1.2
Germany	1.3	1.5	1.6	1.7	1.8	1.5	1.6	1.8	1.8
France	1.1	0.8	0.7	0.7	0.9	–	–	–	–
Italy	1.5	1.4	1.2	1.1	1.2	0.7	0.9	0.8	0.4
Spain	1.4	1.9	1.5	1.5	1.6	1.0	1.2	1.4	–
United Kingdom	2.3	2.9	2.6	2.6	–	2.6	2.4	2.4	–
Switzerland	0.1	0.5	0.2	0.3	0.5	0.2	0.2	0.3	0.4
Japan	0.3	0.4	0.3	0.5	–	0.1	0.0	0.1	–
Canada	1.6	1.3	1.0	1.2	–	0.9	0.9	0.9	–
Australia	2.4	2.0	1.9	–	–	1.5	1.5	–	–
Brazil	6.2	3.6	3.0	2.7	2.5	4.5	4.2	4.2	–
Russia	9.0	4.1	4.4	3.8	3.3	3.8	3.5	3.3	3.0
India	7.8	2.2	1.5	2.4	–	–	–	–	–
China	0.0	1.5	1.5	1.4	1.8	2.1	2.2	2.1	2.2
Advanced economies[4]	1.5	1.6	1.4	1.5	1.5	1.3	1.3	1.3	1.3
Emerging economies[4]	3.4	0.9	0.8	0.9	1.4	2.6	2.6	2.5	2.5
World economy[4]	2.4	1.3	1.1	1.2	1.5	1.6	1.7	1.6	1.6

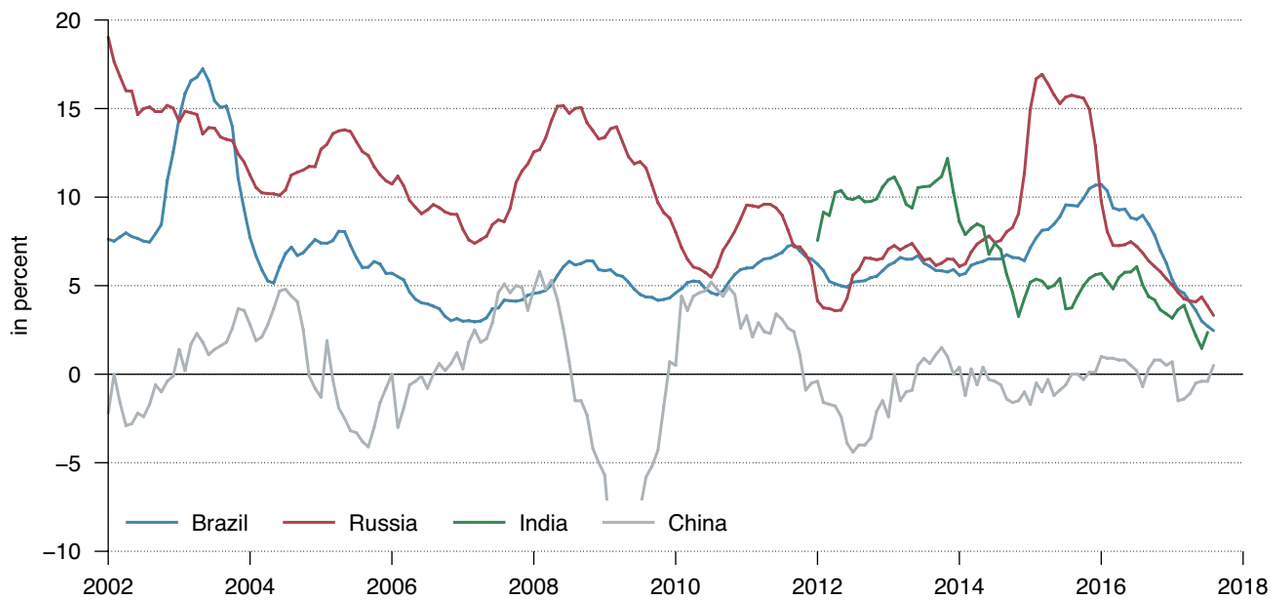
[1] Average annual consumer price inflation, in percent.
[2] Year-on-year change of the consumer price index (CPI), in percent.
[3] Core inflation is a measure of inflation that excludes certain items that can experience volatile price movements, such as energy and certain food items; year-on-year change 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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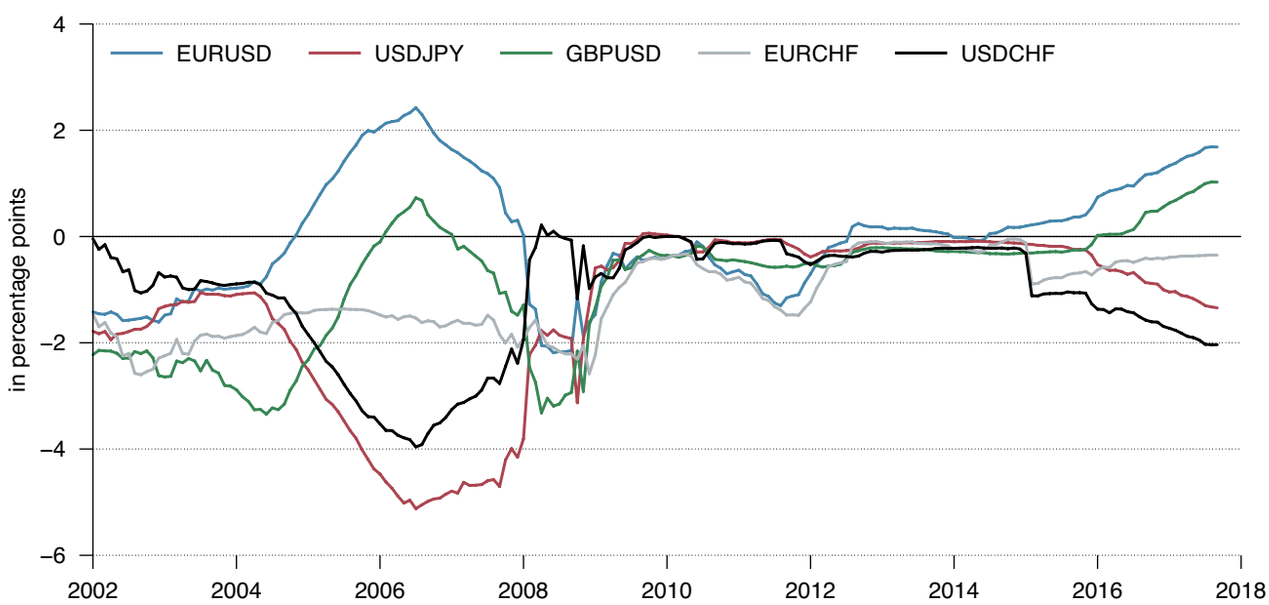
Interest rates

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	1.196	1.70	1.18	0.54	-0.09	1.98	1.62	0.78	0.04
USDJPY	111.0	-1.36	-0.90	-0.42	-0.59	-1.63	-1.46	-0.71	-0.81
GBPUSD	1.359	1.00	0.48	0.00	-0.47	1.03	0.80	0.06	-0.46
EURCHF	1.149	-0.35	-0.42	-0.36	-0.73	-0.26	-0.40	-0.40	-0.81
USDCHF	0.960	-2.05	-1.60	-0.90	-0.64	-2.24	-2.02	-1.18	-0.86
GBPCHF	1.305	-1.05	-1.12	-0.90	-1.12	-1.21	-1.22	-1.11	-1.31
CHFJPY	115.6	0.69	0.70	0.48	0.05	0.61	0.56	0.46	0.04
AUDUSD	0.800	-0.18	-0.60	-1.66	-2.54	0.11	0.15	-1.10	-2.03
USDCAD	1.217	0.13	0.04	0.59	0.52	0.15	-0.43	0.33	0.29
USDSEK	7.963	-1.85	-1.48	-0.32	0.37	-1.98	-1.75	-0.49	0.23
USDRUB	57.6	6.43	9.29	9.38	8.18	6.12	8.66	8.81	8.24
USDBRL	3.129	6.45	13.16	10.84	10.15	5.53	11.29	10.36	10.18
USDCNY	6.543	3.04	1.93	3.52	2.93	2.67	1.47	3.14	2.60
USDTRY	3.442	11.48	8.25	9.12	9.41	11.23	8.03	8.99	9.55
USDINR	64.12	7.47	7.47	8.65	7.55	4.46	5.22	6.58	5.80

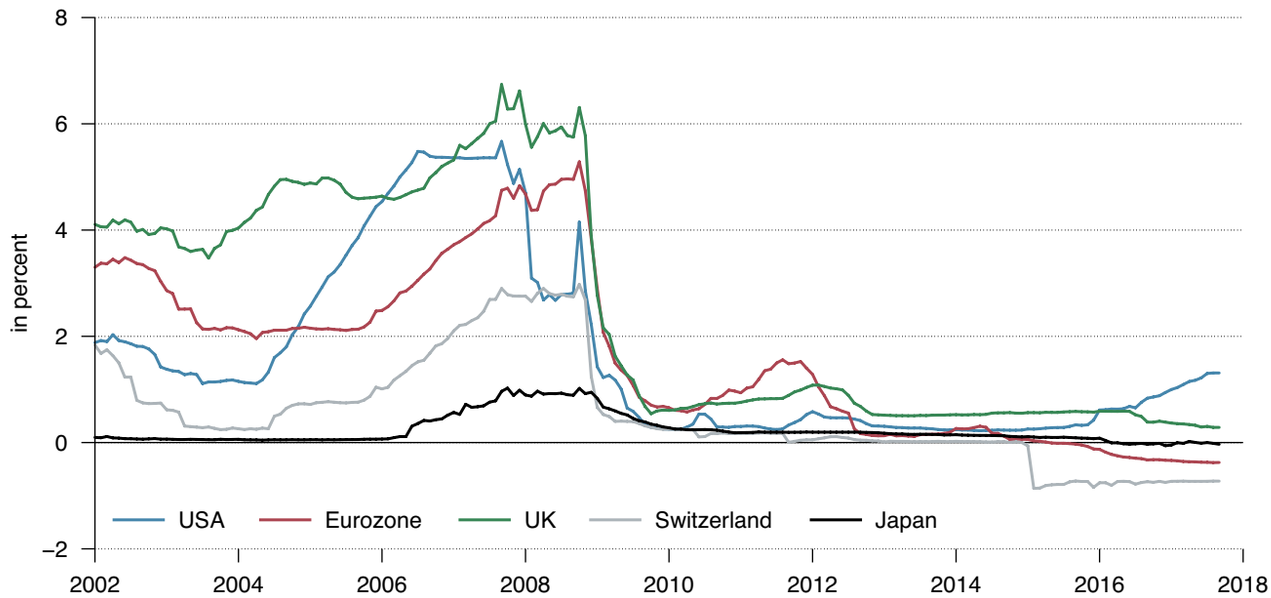
[1] The gap in interest rates between the second currency and the first one, in percentage points; e.g. US dollar minus euro for EURUSD.

Interest rate differentials

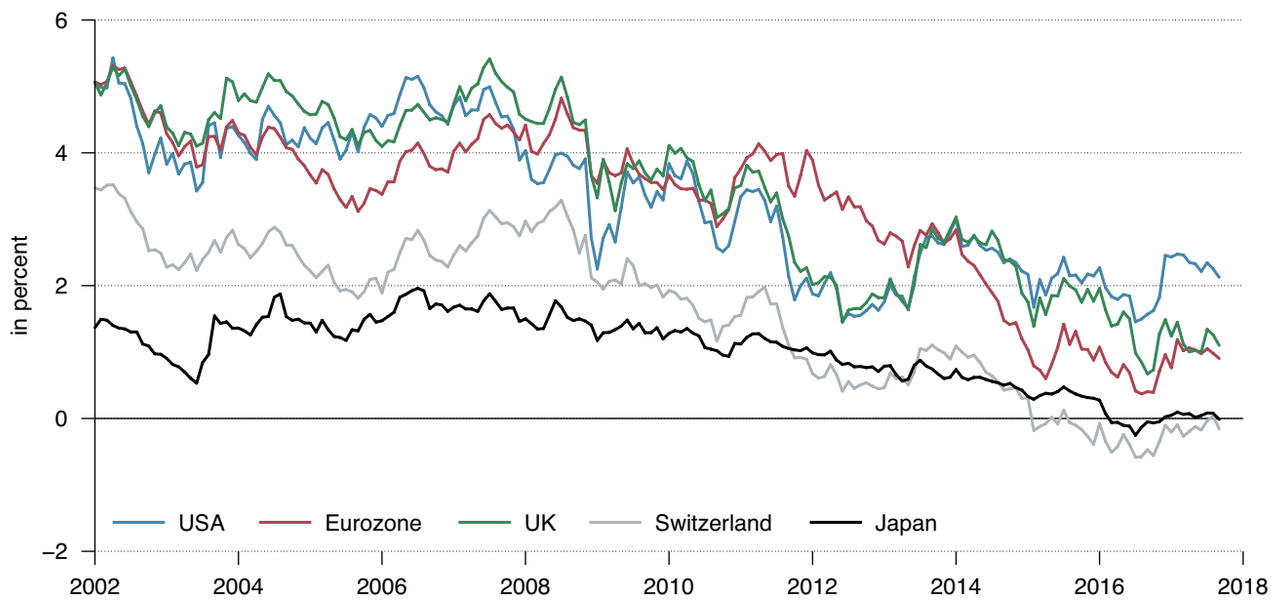


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

3-month Libor



10-year government bond yields



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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FX markets

At the beginning of September, the US dollar's trade-weighted exchange rate fell to its lowest level in 33 months. Anxiety over further rocket launches or bomb tests by North Korea and the damage caused by hurricanes Harvey and Irma presumably contributed to the latest devaluation of the American currency. In addition, the unexpected resignation of Fed vice chair Stanley Fischer triggered fresh uncertainties about American monetary policy. With Fischer gone, President Trump could soon be in a position to fill five of the twelve seats on the Federal Open Market Committee. Due to the weak US dollar, the markets now estimate the chances of a further interest rate hike this year at only 28 percent.

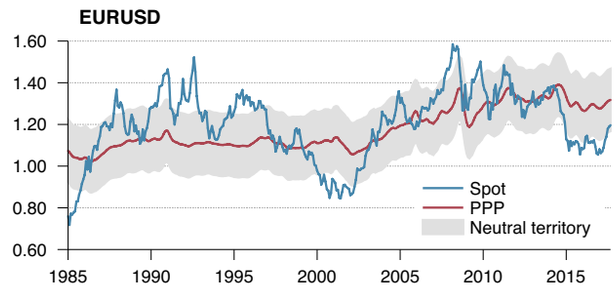
At the end of August, the EURUSD exchange rate climbed above the 1.20 mark for the first time in more than two and a half years. The strengthened EU currency does not make the European Central Bank's withdrawal of its ultra loose monetary policy any easier. Indeed, at the beginning of September, ECB president Mario Draghi called the strengthening euro a "source of uncertainty." The euro's development, in any case, needs to be closely monitored. At the ECB's meeting in early September, no plans were announced for the gradual winding down of its bond purchase program. However, an announcement on this change of policy is now expected at the central bank's next meeting, on 26 October.

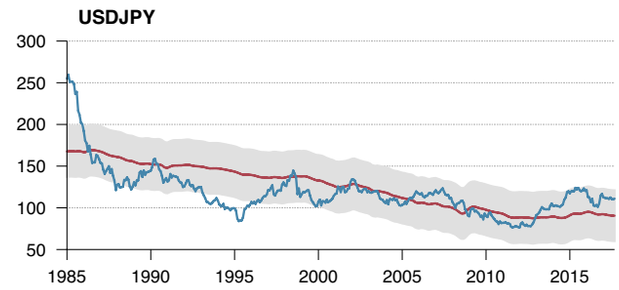
FX overview

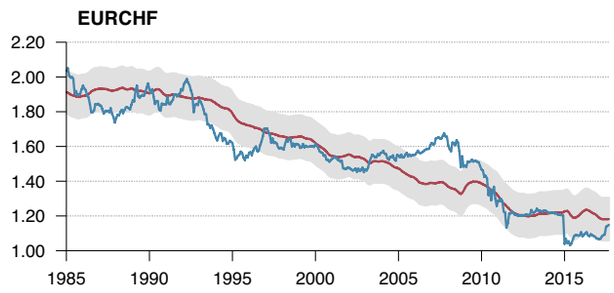
	Current exchange rate	Performance[1]				Purchasing Power Parity[2]		
		YTD	3 months	1 year	5 years	PPP	Neutral territory	Deviation[3]
EURUSD	1.196	-7.3	6.8	6.4	-9.0	1.32	1.17 - 1.47	-9.2
USDJPY	111.0	8.5	0.3	8.4	41.8	90.6	60.2 - 120.9	22.6
GBPUSD	1.359	-17.0	6.2	3.0	-16.3	1.62	1.42 - 1.82	-16.1
EURCHF	1.149	-14.4	5.4	5.0	-5.5	1.18	1.06 - 1.30	-2.8
USDCHF	0.960	-7.7	-1.3	-1.3	3.8	0.93	0.70 - 1.16	3.5
GBPCHF	1.305	-24.0	4.8	1.7	-13.1	1.48	1.20 - 1.76	-11.8
CHFJPY	115.6	16.7	1.7	9.8	36.6	90.1	74.8 - 105.5	28.3
AUDUSD	0.800	-6.6	5.0	6.7	-24.3	0.71	0.60 - 0.83	12.1
USDCAD	1.217	8.1	-8.1	-7.4	25.7	1.20	1.13 - 1.28	1.1
USDSEK	7.963	9.0	-8.5	-6.0	21.7	7.33	6.40 - 8.27	8.6
USDRUB	57.6	56.3	-0.3	-11.2	89.0	42.5	34.1 - 50.9	35.5
USDBRL	3.129	35.4	-4.8	-6.0	55.7	2.81	2.30 - 3.31	11.5
USDCNY	6.543	-4.6	-4.0	-1.9	3.6	6.79	6.56 - 7.02	-3.6
USDTRY	3.442	79.8	-1.9	15.9	92.1	2.87	2.64 - 3.11	19.7
USDINR	64.12	22.4	-0.5	-4.3	17.8	71.0	67.4 - 74.6	-9.6

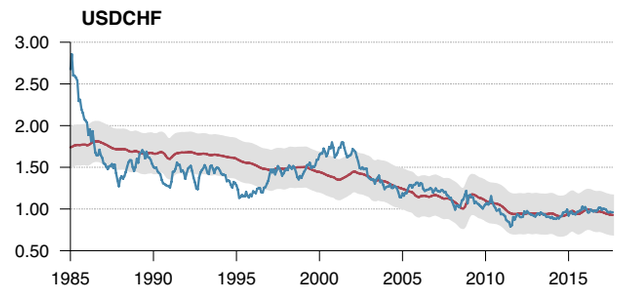
[1] Performance over the respective period of time, in percent.
[2] Purchasing power parity (PPP) is estimated based on the relative development of inflation rates in two currency markets; the neutral territory is determined by +/- 1 standard deviation of the historical variation around the PPP value.
[3] Deviation of the current spot rate from PPP, in percent.

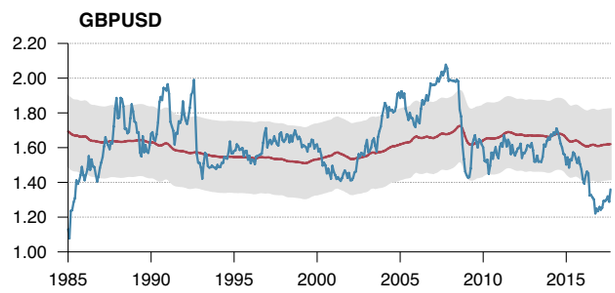
Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

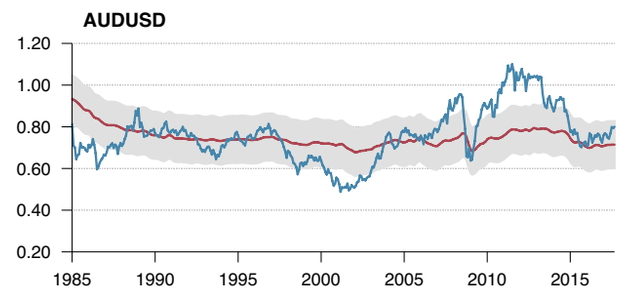


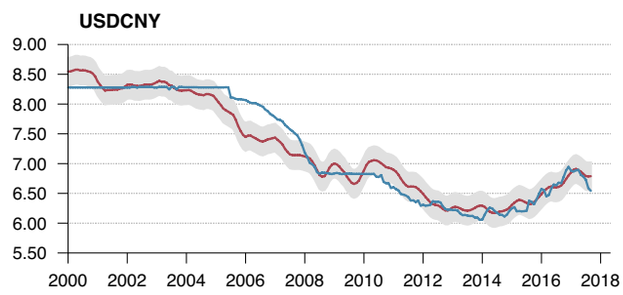


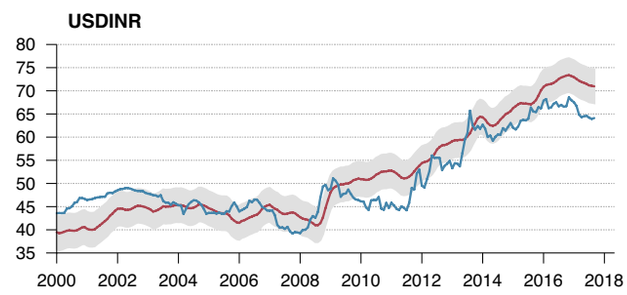


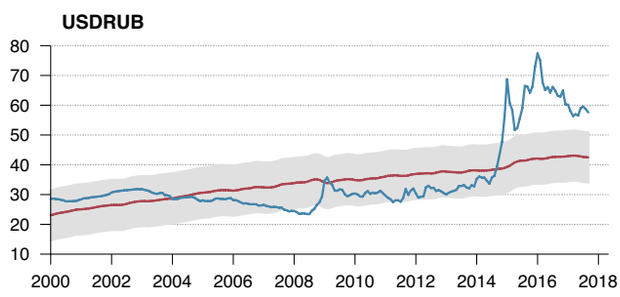


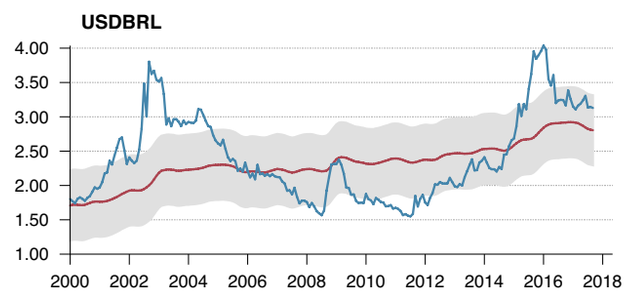












Source: Thomson Reuters Datastream, Wellershoff & Partners

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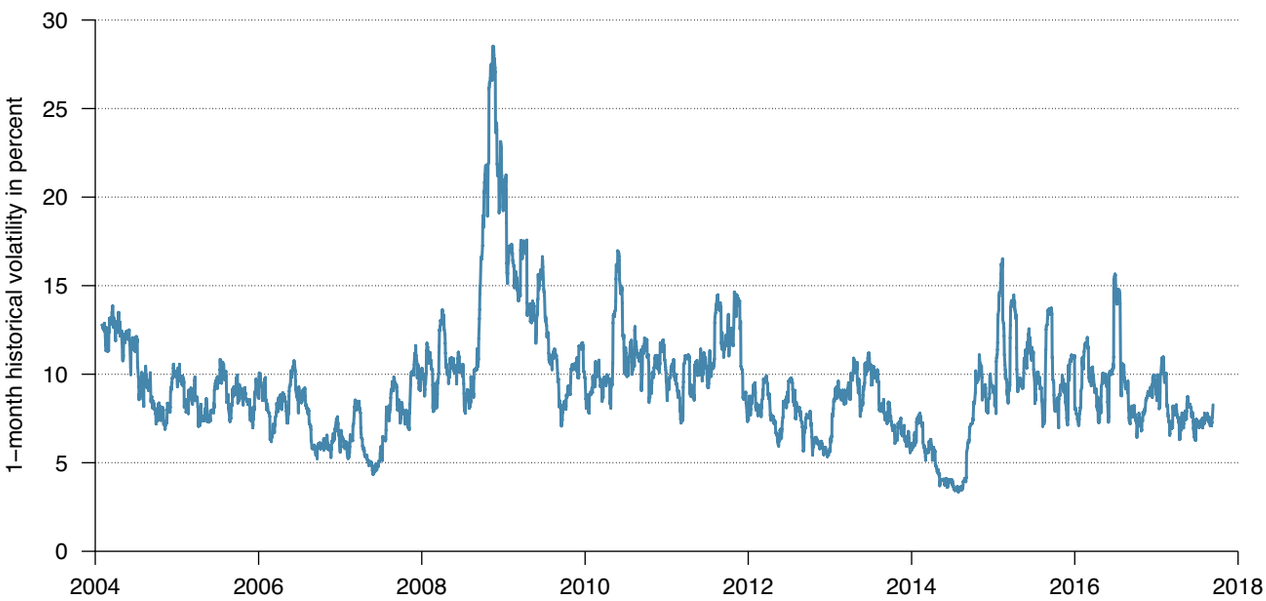
FX volatility

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	1.196	7.1	8.1	8.6	10.6	7.8	8.0	9.0	10.9
USDJPY	111.0	7.9	9.5	9.9	11.0	9.9	9.7	10.3	11.4
GBPUSD	1.359	7.1	9.0	8.4	10.0	9.3	8.8	8.8	10.5
EURCHF	1.149	6.3	6.8	5.6	6.5	5.0	6.7	6.3	6.9
USDCHF	0.960	8.0	8.4	8.9	10.6	7.5	8.3	9.4	10.9
GBPCHF	1.305	8.6	9.4	8.7	10.3	9.2	9.3	9.1	10.8
CHFJPY	115.6	7.5	8.8	10.1	11.7	8.4	9.8	10.8	12.2
AUDUSD	0.800	8.5	8.8	10.0	12.6	8.8	9.6	10.6	13.0
USDCAD	1.217	8.0	8.4	7.8	9.9	7.7	8.3	8.2	10.3
USDSEK	7.963	8.6	9.1	10.0	12.6	9.0	9.2	10.5	12.8
USDRUB	57.6	10.8	12.0	16.1	14.4	13.1	13.3	16.4	15.4
USDBRL	3.129	8.5	11.3	14.7	15.6	14.4	13.0	15.1	16.1
USDCNY	6.543	3.4	4.3	3.3	3.2	2.8	4.9	4.2	4.8
USDTRY	3.442	7.5	11.0	11.8	13.3	11.9	13.2	13.1	14.5
USDINR	64.12	2.9	5.2	8.2	9.5	3.7	6.7	9.4	10.5

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

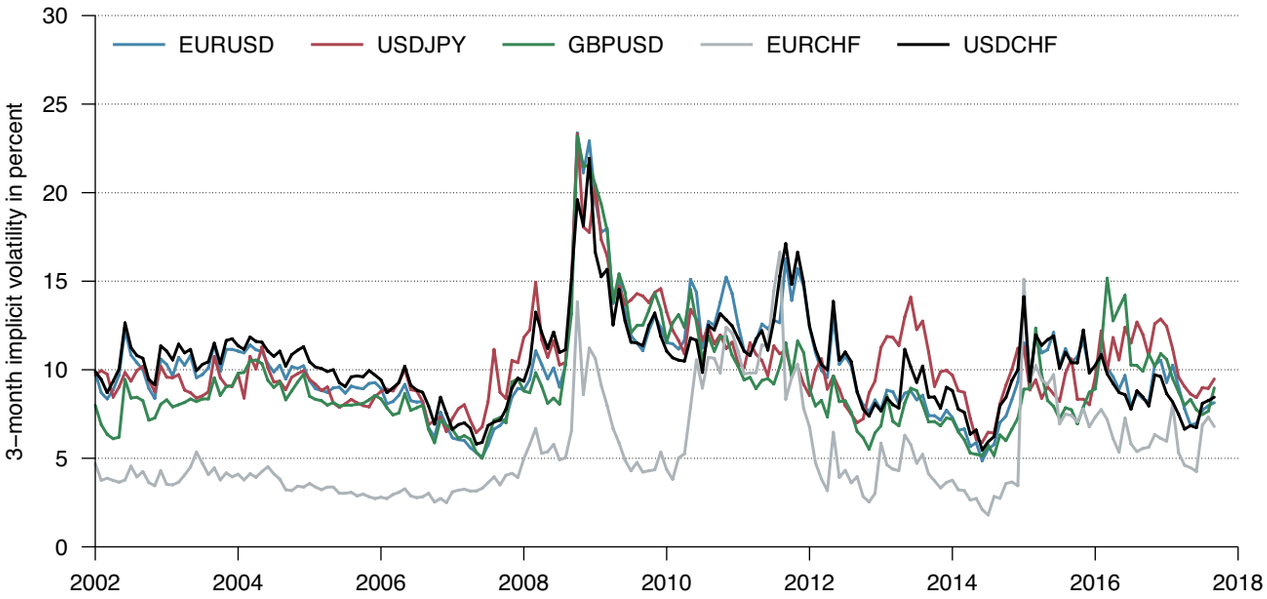
QCAM volatility indicator[3]



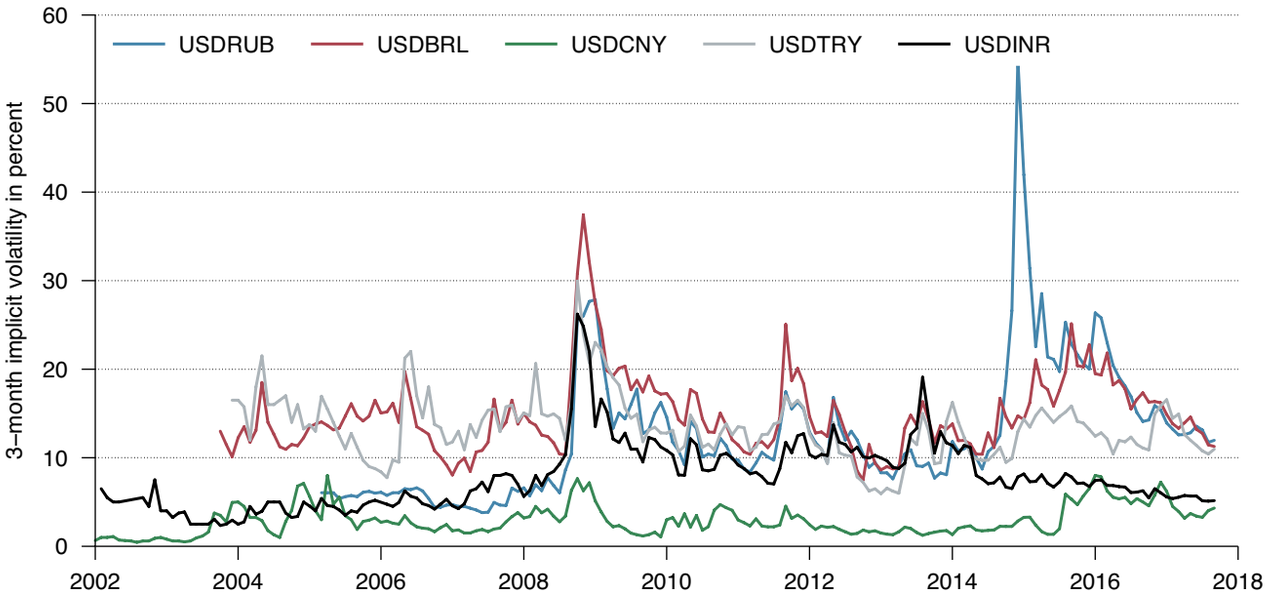
[3] The QCAM volatility indicator measures general volatility in global FX markets; the indicator is based on historical volatility of the main exchange rates, which are weighted by trading volume.

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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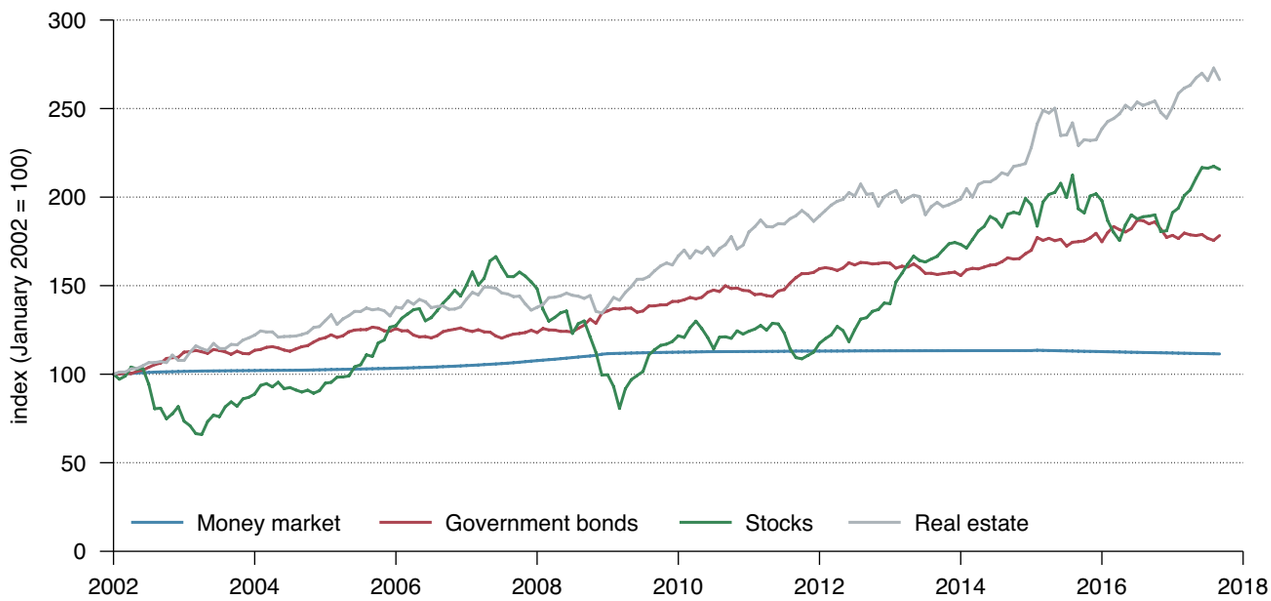
Financial markets

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	-0.5	-0.2	-0.7	-1.5	-0.5	-0.2	-0.7	-1.5
Swiss government bonds	-0.1	-0.5	-3.3	10.5	-0.1	-0.5	-3.3	10.5
Swiss corporate bonds	0.6	0.0	-1.2	10.5	0.6	0.0	-1.2	10.5
Swiss equities (SMI)	12.8	1.3	12.3	62.1	12.8	1.3	12.3	62.1
European equities (Stoxx600)	8.0	-2.0	13.5	64.2	14.7	3.1	18.0	54.8
UK equities (Ftse100)	7.2	-0.1	13.8	54.6	7.3	1.8	10.0	28.0
Japanese equities (Topix)	7.4	1.3	22.6	141.0	8.2	1.0	12.6	74.9
US equities (S&P 500)	12.7	2.4	19.4	92.5	5.3	0.5	16.3	94.7
Emerging markets equities	30.1	10.2	24.1	28.8	21.5	8.1	20.9	30.3
Global equities (MSCI World)	15.3	3.3	19.0	71.0	7.6	1.3	16.0	72.9
Swiss real estate	6.2	-1.1	6.0	32.7	6.2	-1.1	6.0	32.7
Global real estate	8.5	1.8	3.7	44.5	1.3	-0.1	1.1	46.2
Commodities	-3.0	4.0	1.0	-43.2	-9.4	2.1	-1.5	-42.6
Brent oil	-5.4	11.2	9.6	-53.8	-11.7	9.2	6.8	-53.3
Gold	15.4	5.7	0.1	-22.9	7.7	3.7	-2.4	-22.0

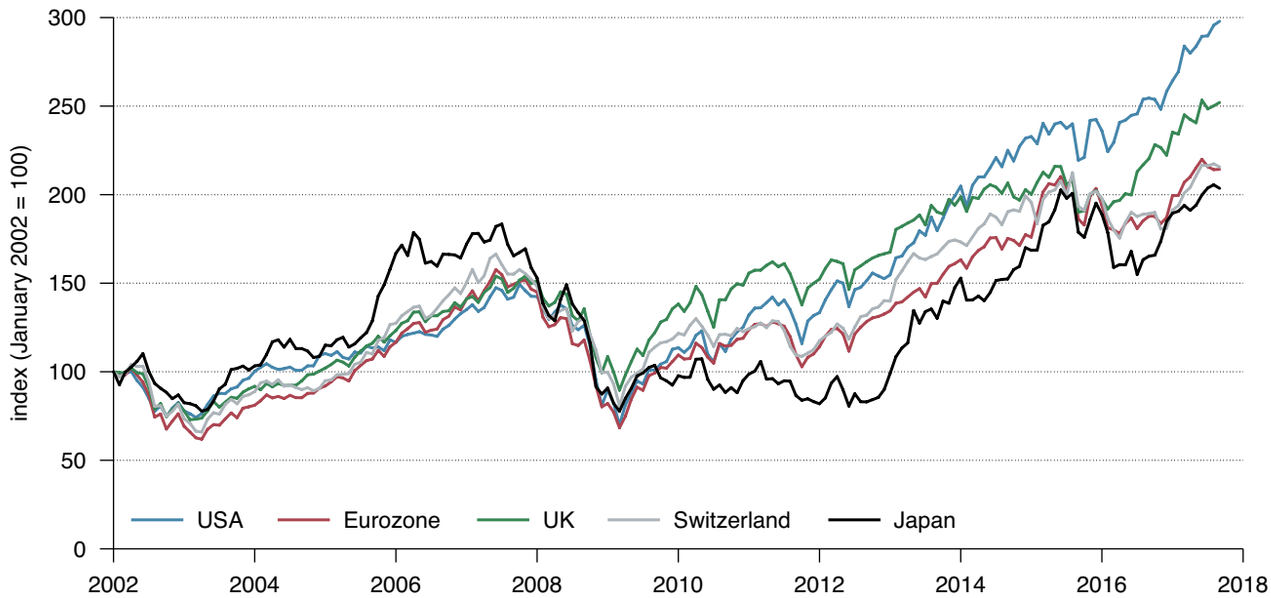
[1] Performance over the respective period of time, in percent.

Performance of selected Swiss asset classes

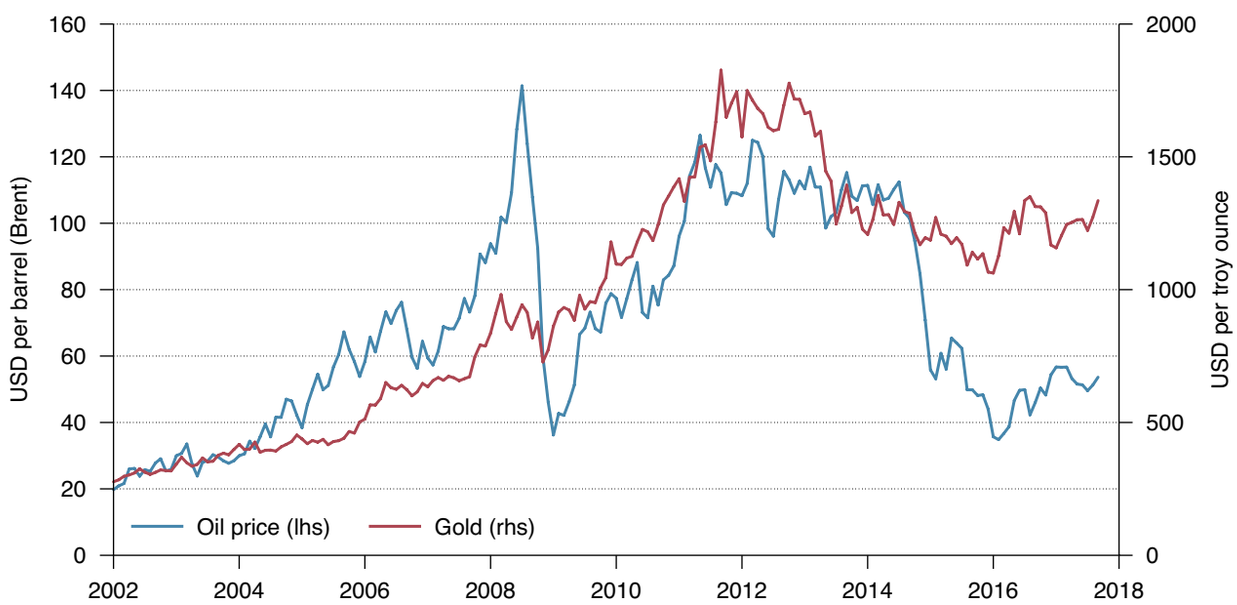


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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

104 quarters

The last recession? Many Australians probably can't remember when that was. No other industrialized country has experienced the uninterrupted growth of the Land Down Under over the past quarter century. With 104 consecutive quarters of growth, Australia has overtaken the Netherlands for this enviable record. And Australia's economic outlook continues to look good.