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OCTOBER 2016

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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Wellershoff & Partners Ltd. is a strategic research partner of QCAM Currency Asset Management AG. This includes the regular exchange on fundamental developments in the global economy and on financial markets as well as their influence on currency markets. What is more, Wellershoff & Partners Ltd. is available to QCAM Currency Asset Management AG for selected events as well as client meetings.

Imprint
Content, concept, and layout:
QCAM Currency Asset Management AG, Pfäffikon, and Wellershoff & Partners Ltd., Zürich
Editorial deadline: October 17, 2016
FX Monthly is published monthly in English and German.

Contents

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QCAM Insight

Securitized currency solutions: a boon for asset managers and family offices

Imagine being an asset manager managing money for your clients on a discretionary basis whilst having multiple client relationships that are held with several different custodian banks. An operationally easy way to implement currency hedges in this context is through securitized currency solutions.

High demand for hedged portfolios

With heightened volatility on currency markets, investors are increasingly asking for hedged portfolios. A portfolio manager needs an easy, transparent and efficient solution for these tasks when handling a large number of client portfolios that sit not just with one custodian bank but with many.

Securitized currency solutions

What are securitized currency solutions? In essence, from a transaction point of view, imagine a conventional FX OTC trade such as a forward or an option where the trade is not settled via the OTC route, but analog a bond trade bearing a security number (ISIN, Valoren) which means the trade gets matched in Euroclear or any similar clearing system. Thanks to this feature, settlement amongst several custodian banks and many individual client portfolios is easy and efficient for a portfolio manager. The credit risk for the client is always the issuing bank.

What does a framework look like for such solutions?

To be able to execute these securitized hedges the portfolio manager first has to do some groundwork. A first step is to set up a panel of issuer banks that can be accessed for these tailored products. That can be done by the asset manager dealing directly with each issuing bank or by using a specialized structuring firm with this infrastructure already in place. The advantages of the latter option for portfolio managers are that it needs less time to get operational, and that the structuring firm serves as the single point of contact for the asset manager. The graph below illustrates such a framework.

One bulk trade, increased transparency

Let us look at how such an FX hedge would be implemented via a securitized currency solution. Assume the base currency of the clients is CHF and they need to be fully hedged versus USD risk based on the portfolio's established hedging guidelines. Instead of calling every custodian bank and transacting an FX forward hedge individually with each bank for each client separately, the portfolio manager who opts for a securitized FX forward simply asks his panel of issuer banks for the price of that tailor-made product.

This not only encourages competitive quotes amongst the issuers and increased transparency, but also makes for a smoother execution process. Once the portfolio manager has selected the preferred issuer based on his requirements (for example, for price, rating or quality of service) he will trade the securitized forward, which will be issued as an ISIN-bearing security. As the product can be set up with small denominations, a split to a large number of client portfolios across various custodian banks is no headache at all. The portfolio manager sends the term sheet with the product details to all custodian banks and instructs them to buy the specified quantity from the issuer, implemented via delivery versus payment.

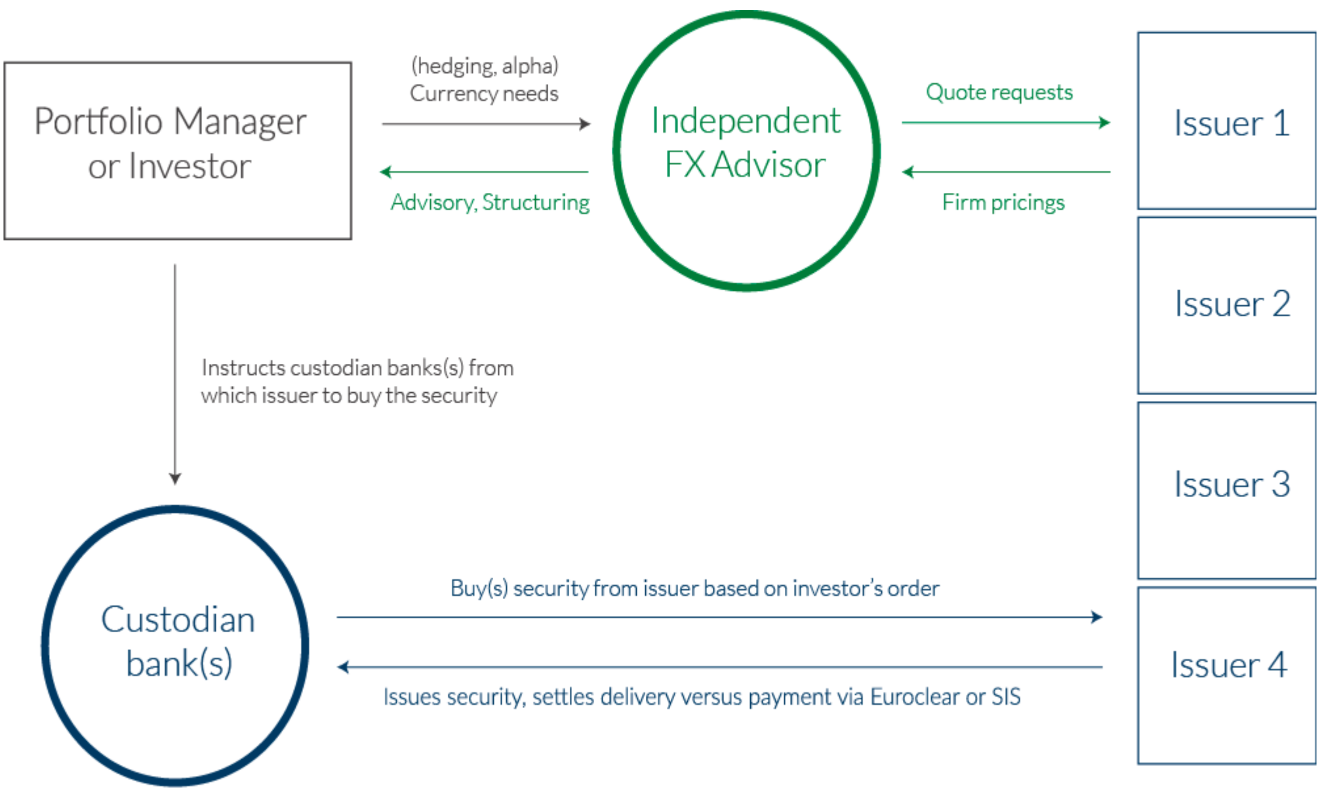
Family offices benefit

Family offices can also profit from securitized currency solutions since they often have only one trading relationship for their currency needs, usually with their main custodian bank. To increase price transparency and competitiveness and to decrease reliance on only one liquidity provider, it is probably a good idea for a family office to have more than one price-provider.

There are several ways how to achieve this. Either an investor can initiate several new banking relationships, each with its attendant complexities of having to sign new documentation (ISDAs, etc.) and to post collateral with each of the banks; or take the route of using securitized currency solutions, which are individually constructed based on the specific needs of the investor.

Independent FX advisors satisfy both investor requirements for securitized currency solutions: proven, high-level FX advisory expertise and a robust issuer network that is already in place.

What the framework looks like



Source: QCAM Currency Asset Management

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The macro perspective

Recovering emerging markets cannot kick-start the global economy

Despite years of expansionary monetary policy the global economy continues to stagnate. That the improving sentiment in the most important emerging markets augur faster global growth is highly doubtful, given the only modest recovery seen in Brazil and Russia and the declining trend growth rates in China.

Autumnal gloom

The mood at the International Monetary Fund and the World Bank annual meetings in early October was far from upbeat, and no wonder. Despite all the extraordinary stimulative measures of the world's central banks, the global economy continues to sputter. And any new thinking on how to meet the growth challenge is conspicuous only by its absence. Instead the familiar remedies were restated: more fiscal stimulus and structural reform. In this autumnal gloom the recent signs of recovery in the emerging markets are a welcome development.

Recessions abating in Brazil and Russia

Indeed in both Brazil and Russia recovery has been underway for some months now. Granted it will still take several more quarters before either country again contributes positively to global economic growth. The Brazilian economy in particular slid deeply into recession through a combination of economic and political crises in 2014. For several months now sentiment indicators in Brazil have anticipated the imminent end of the long recession. The rising crude oil price and a calmer political scene have reinforced this improved outlook. Sentiment indicators are also upbeat in Russia. As in Brazil, the brighter outlook for Russia also reflects the rising crude oil prices in the first half of this year, which in turn brought stability to the ruble.

Another RBI rate cut

Among the BRICS, India witnessed the least economic turbulence in 2016. The central bank, the Reserve Bank of India, has been the source of some concern in recent months. Besides a surprise change in leadership this year, the RBI also introduced new decision-making processes for its monetary policy. The interest rate cut made at the first meeting of the newly formed Monetary Policy Committee may have been a surprise but the ongoing decline in inflation is a persuasive argument in its favour. September's consumer price inflation at 4.3 percent is the lowest rate in over a year. Given the RBI's 5 percent inflation target ample room remains for more rate cuts ahead.

Chinese real estate boom lifts the economy

China is the most important developing country for the global economy. In the first half of the year, besides the decline in its trend growth rate – ongoing for years now – some other flagging economic indicators added to China's economic gloom. At least for the present, we can report, the intermittent fears of a cyclical downturn in China have evaporated. A sharp rise in property prices in particular has helped to calm the situation. In addition to the price turnaround, we see a marked increase in steel and cement consumption, reliable indicators of activity in the construction sector. For the third quarter of the year Wellershoff & Partners' proprietary *W&P GDP Growth Stat for China* sees growth accelerating from 5.9 to 6.2 percent year-over-year.

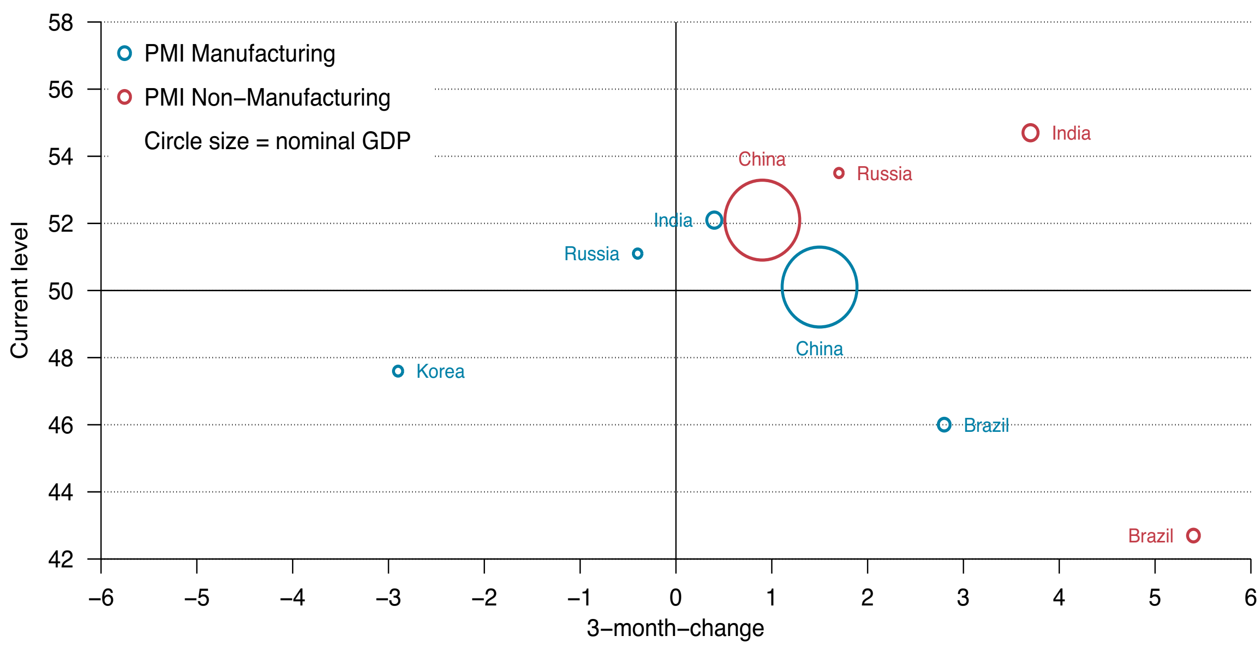
Fragile sources of growth in China

In our view, neither the real estate boom nor the rise in the GDP growth rate can be traced to any inherent new strength in China's economy. Instead, once more, the authorities have intervened decisively, arresting and reversing the slippage in property and GDP growth. The real estate boom came with a substantial expansion of credit, we note. All told, China's public, corporate and private sector debt now totals more than two-and-a-half times its annual GDP. In contrast to many industrialized countries, the bulk of this debt is in the corporate sector.

Bottom line

Brazil and Russia are recovering. India looks set to grow at least at its current levels. But if emerging economies really are to drive growth in the industrialized countries, China has to contribute more. While the Chinese authorities have the resources to stabilise the economy, they are unable to reverse the stubbornly declining trend growth rate. The search for ways to accelerate the recovery of the global economy will therefore have to continue.

Broad-based sentiment upswing in the emerging markets



Source: Bloomberg, Markit, Wellershoff & Partners

FX market talk

Prepare for currency market flash crashes

Flash crashes – precipitous price drops and equally abrupt recoveries – are becoming normal on financial markets, including, increasingly, on currency markets. That pattern has caught our attention, especially given the ongoing monetary policy challenges.

Crash, Boom, Bang

A flash crash is a steep and sudden drop in prices, which then recover at a similarly rapid pace. Flash crashes have been with us for years now, and they are occurring with increasing regularity. Perhaps the best-known early incident was on May 6, 2010, when the Dow Jones Industrial Average Index fell by 9 percent in mere minutes, and recovered just about as quickly. India's benchmark stock market index, the Nifty 50, fell by 16 percent in just eight seconds on October 5, 2012, forcing the market to shut down for a quarter-hour. And back in the US, on August 24, 2015, the Dow fell around 8 percent in just half an hour.

Currency market flash crashes

The flash crash phenomenon has recently spread to currency markets, where so far this year, two such spasms have been observed. On October 7 the British pound tumbled by more than 6 percent versus the US dollar on Asian markets, making Sterling the second currency this year, after the South African rand, to experience a flash crash.

A flash crash usually indicates low market liquidity. We find it noteworthy that the currency markets, which are broadly considered quite liquid, now increasingly face flash crashes, especially given the ongoing monetary policy challenges globally.

Growing importance of high-frequency trading

The precise cause of a flash crash can be difficult to determine. Clearly the phenomenon is made possible by technological innovation. For one thing, the new trading technologies enable orders to be placed extremely quickly and to spread rapidly across markets. One obvious assumption is that the increase in flash crashes results from the growing importance of high-frequency trading. High-frequency trading employs massive computing power to execute trades according to pre-set algorithms. As a rule it is characterised by short deadlines and high sales volumes. Securities are sold within seconds. According to various sources, around half of the volume traded today derives from high-frequency trading.

High-frequency scapegoat

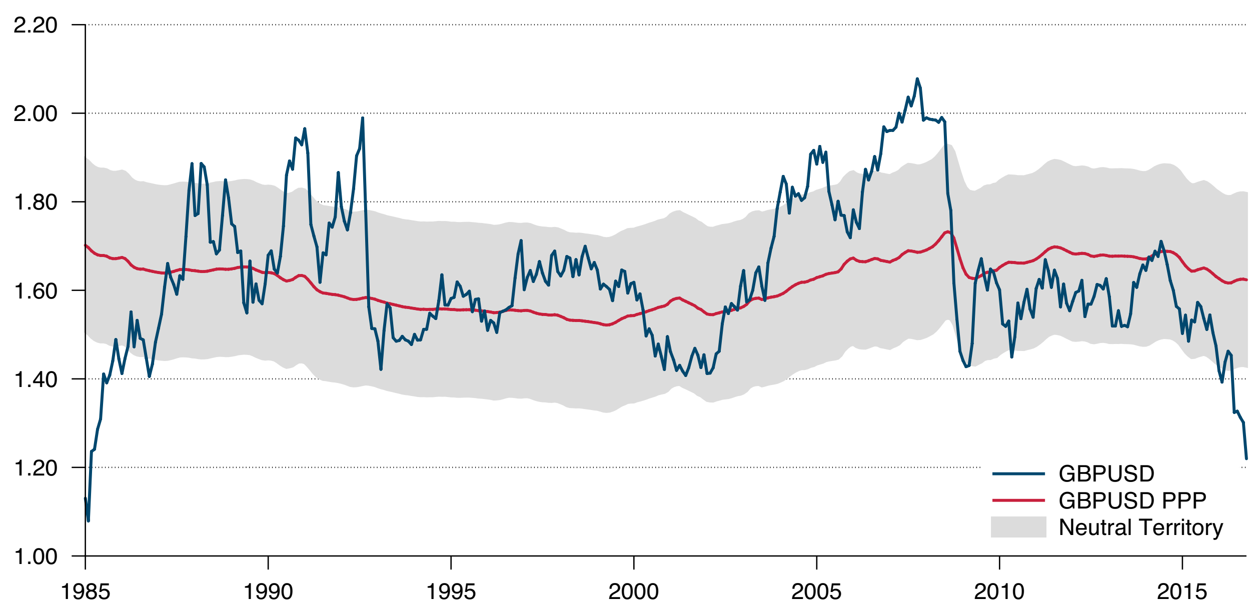
Given the disorder caused by flash crashes, it is understandable that high-frequency trading is vilified. That sentiment is evident in the voices, particularly in Europe, calling for its tighter regulation. But things are really not quite that simple. The view is widely held that around 80 percent of registered high-frequency traders are so-called market makers. They provide the market with the liquidity it needs to accommodate buyers and sellers wishing to trade at different times and in different amounts.

In addition, high-frequency traders often pursue arbitrage strategies that exploit small price differences that may exist between identical investments on different exchanges. This behaviour is also generally considered useful. The situation becomes less clear when high-frequency traders pursue directional strategies based on privileged information they might receive from relevant exchanges, or when they use their technical advantages to distort market prices.

Preparation is vital

High-frequency trading is a reality that will not be disappearing anytime soon. Clearly this is also true for currency markets. We think it pays to prepare for these new conditions. There are some reasonable ways to do this. Our first piece of advice would be that investors should spread their unhedged currency risks as widely as possible. Stop-loss contracts – long a popular method of distributing risk – can actually be a liability in the era of high-frequency trading. Introducing limits to stop-loss orders appears to be a reasonable response. But this approach in turn bears the risk that a stop-loss order will not be executed precisely when a falling price reflects more than a short-term excess but rather a fundamental development.

Tracking the GBPUSD exchange rate



Source: Thomson Reuters Datastream, Wellershoff & Partners

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Economic activity

In the US, after August's sharp retreat from 52.9 to 49.4, the ISM Manufacturing Index staged a comeback in September, climbing to 51.5 points. The ISM Non Manufacturing Index was even more buoyant, rising from 51.4 to 57.1 points for the month. Thus the service sector in the US enjoyed an above-average improvement in sentiment. After all, this level has only been surpassed twice in the past two years.

With 156 000 new jobs created in August, the US labour market could not match the above-average levels of June (271 000 new jobs) and July (275 000). At the same time, private consumption is again proving essential for the US economy.

In the UK, second-quarter GDP growth was revised a notch, from 2.2 to 2.1 percent, year-over-year. Sentiment indicators picked up meaningfully. The Purchasing Managers' Index hit its highest level since June 2014. Whether this upbeat outlook survives the latest concerns about a "hard Brexit" remains to be seen.

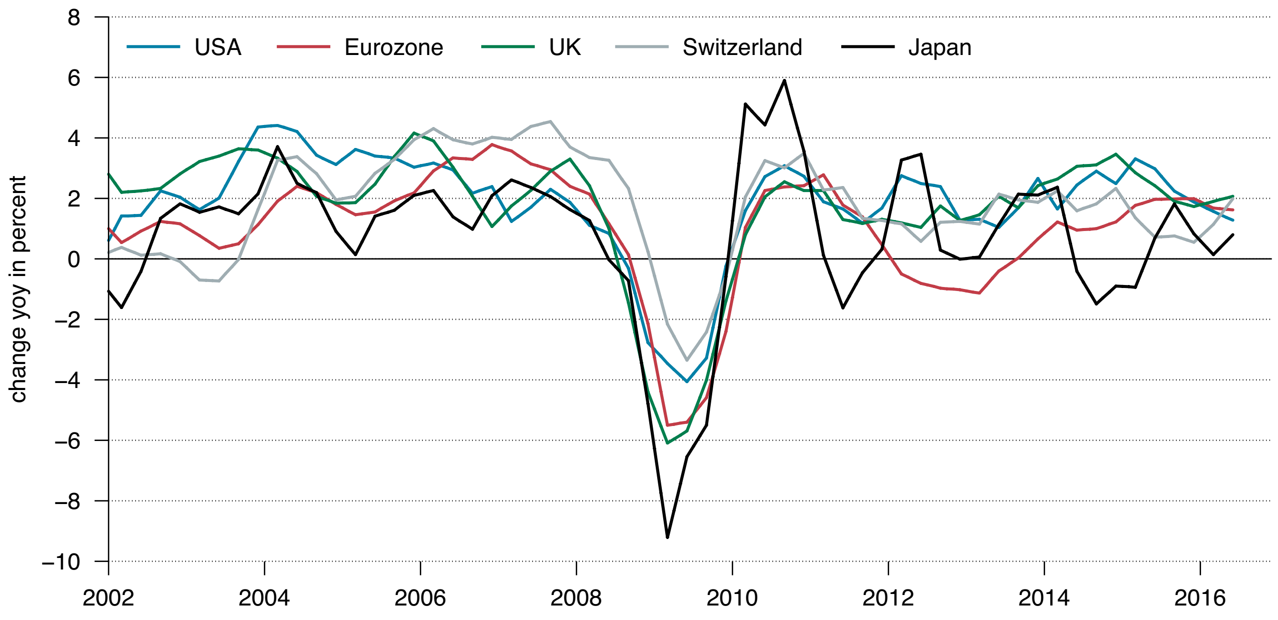
Growth overview

	Trend growth[1]	Real GDP growth[2]				W&P economic sentiment indicators[3]			
		Q4/2015	Q1/2016	Q2/2016	Q3/2016	6/2016	7/2016	8/2016	9/2016
United States	1.7	1.9	1.6	1.3	–	3.2	2.9	1.9	3.0
Eurozone	1.0	2.0	1.7	1.6	–	2.1	2.1	2.0	2.2
Germany	1.4	1.3	1.8	1.7	–	2.6	2.6	2.4	2.7
France	0.7	1.3	1.4	1.3	–	1.5	1.4	1.6	1.7
Italy	0.2	0.9	0.9	0.7	–	1.2	1.3	0.9	1.0
Spain	1.6	3.5	3.4	3.2	–	3.3	3.2	2.8	3.0
United Kingdom	1.8	1.7	1.9	2.1	–	2.9	2.2	2.4	2.5
Switzerland	1.5	0.6	1.1	2.0	–	1.2	1.0	0.5	1.0
Japan	0.4	0.8	0.1	0.8	–	1.9	1.9	2.0	2.0
Canada	1.6	0.3	1.2	0.9	–	1.3	1.5	1.0	1.7
Australia	2.4	2.8	3.0	3.3	–	3.4	3.5	3.3	3.2
Brazil	1.4	-5.9	-5.4	-3.8	–	-2.1	-0.3	-0.5	-0.5
Russia	0.1	-3.8	-1.2	-0.6	–	1.7	-0.3	1.0	1.0
India	7.7	7.2	7.9	7.1	–	6.5	6.5	6.9	6.9
China	7.4	6.8	6.7	6.7	6.7	7.7	8.9	8.6	8.6
Advanced economies[4]	1.4	2.0	1.5	1.6	–	2.8	2.5	2.0	2.7
Emerging economies[4]	6.0	4.5	4.8	4.8	–	4.7	5.5	5.5	5.5
World economy[4]	3.5	3.2	3.2	3.2	–	3.3	3.6	3.3	3.7

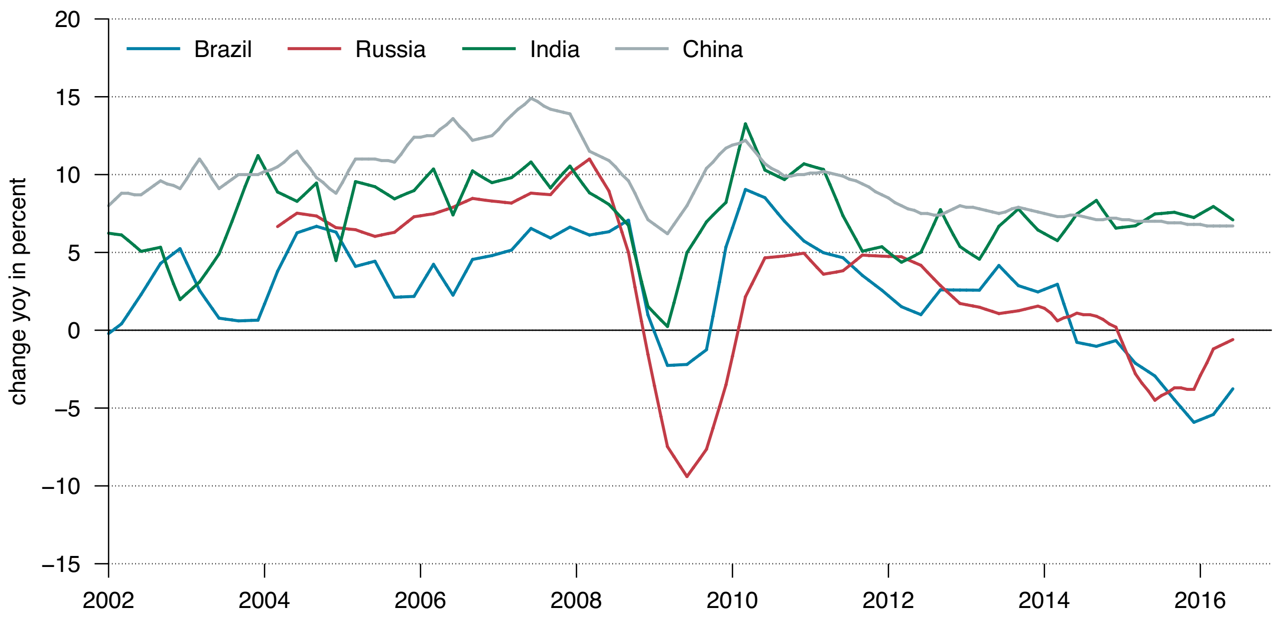
1 Current year-on-year trend growth rate of real GDP, in percent, according to the proprietary trend growth model of Wellershoff & Partners.
2 Year-on-year growth rate, in percent.
3 Wellershoff & Partners economic sentiment indicators are based on consumer and business surveys and have up to 6 months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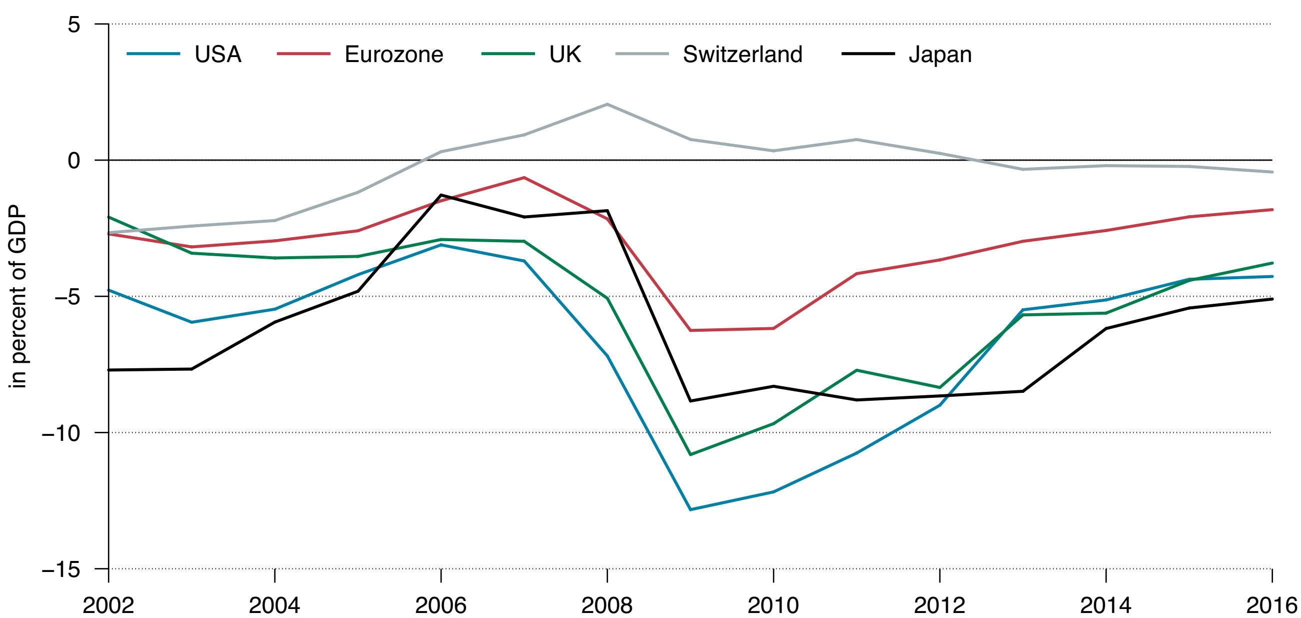
Economic indicators

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	22.4	24.7	-2.6	-2.5	111.3	114.2	-7.0	-4.3	7.2	5.0
Eurozone	17.2	15.9	2.6	3.8	105.1	109.6	-3.1	-1.8	11.2	10.1
Germany	4.9	4.6	7.2	9.2	82.4	75.2	0.0	0.3	6.8	6.1
France	3.6	3.3	-0.8	-0.7	112.6	121.6	-4.3	-3.4	9.6	9.6
Italy	2.8	2.5	0.3	2.1	144.5	160.3	-3.0	-2.3	11.1	11.5
Spain	1.8	1.7	0.1	1.1	101.6	117.4	-7.6	-3.7	23.8	19.6
United Kingdom	3.7	3.5	-3.9	-5.9	110.9	115.3	-6.4	-3.8	6.8	4.9
Switzerland	0.9	0.9	9.9	10.6	45.6	46.2	0.0	-0.4	3.0	3.2
Japan	6.8	6.3	1.5	3.4	220.8	233.1	-7.5	-5.1	4.0	3.1
Canada	2.3	2.0	-3.0	-3.7	86.0	92.1	-1.9	-2.5	7.1	7.0
Australia	1.9	1.7	-3.6	-3.5	31.0	40.9	-3.3	-2.9	5.6	5.6
China	12.7	15.1	2.3	2.4	37.4	46.3	-1.0	-3.0	4.1	–
Brazil	3.1	2.4	-3.3	-0.8	64.2	78.3	-4.9	-10.4	7.4	11.8
India	2.6	3.0	-2.6	-1.4	68.8	68.5	-7.5	-6.7	–	–
Russia	2.6	1.7	3.5	3.0	13.6	17.1	-0.8	-3.9	5.7	5.2

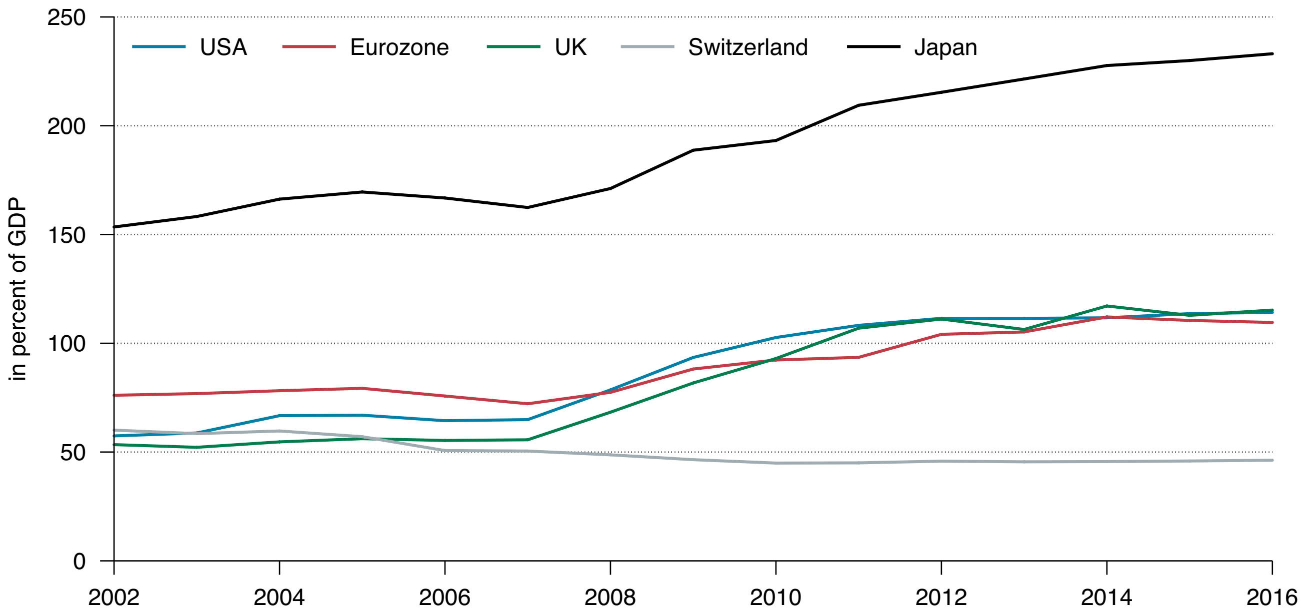
[1] In percent; calculations based on market exchange rates. [2] In percent of nominal GDP. [3] In percent.

Budget deficits in advanced economies

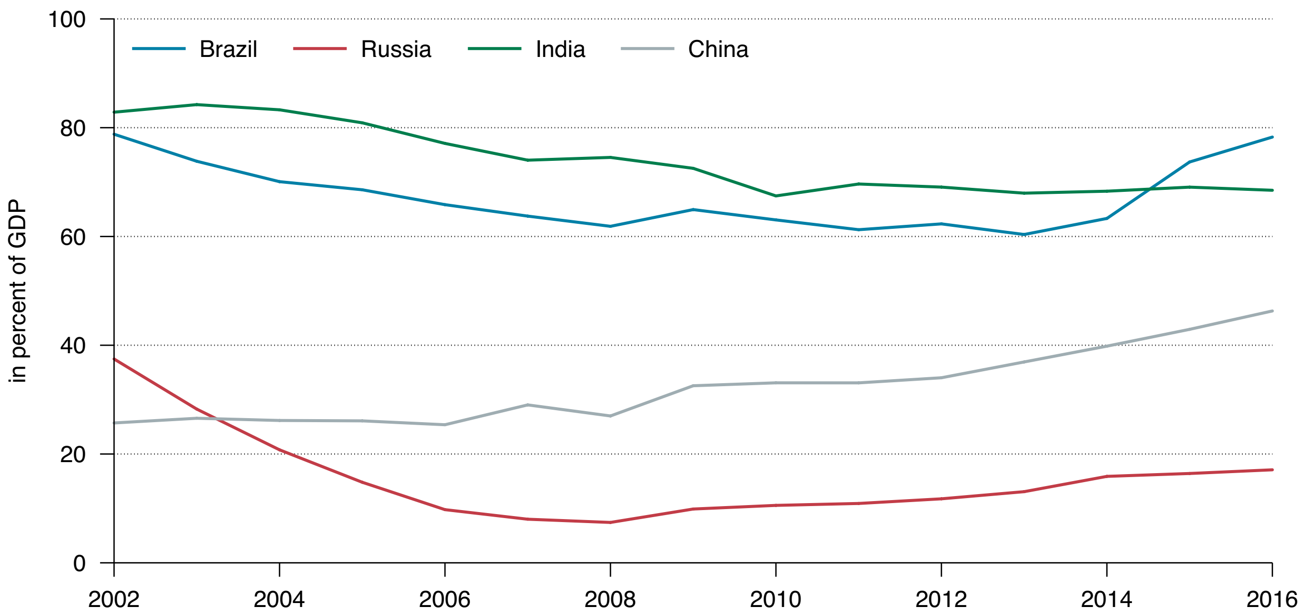


Source: Thomson Reuters Datastream, Wellershoff & Partners

Public debt in advanced economies



Public debt in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

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Inflation

In the industrialized economies a 0.2 percentage point rise in inflation was posted in September. In the Eurozone, overall inflation rose similarly, broadly across all member countries. Germany was among the leaders of the pack with an annual inflation rate of 0.6 percent.

In Switzerland, inflation contracted by 0.2 percent in September compared to a year earlier. In January this rate was -1.2 percent. We think a further increase in inflation is probable in the coming months in Switzerland. The reasons: the base effects of low energy prices and the Swiss franc's appreciation. Wellershoff & Partners anticipates Switzerland's annual overall inflation rate to climb to 0.5 percent by spring 2017.

US data shows the overall inflation rate climbed by 0.3 percentage points in August to 1.1 percent year-over-year. With the base effect of low crude oil prices felt even more strongly there than in Switzerland, Wellershoff & Partners expects annual overall US inflation to rise by 1 percentage point by spring 2017.

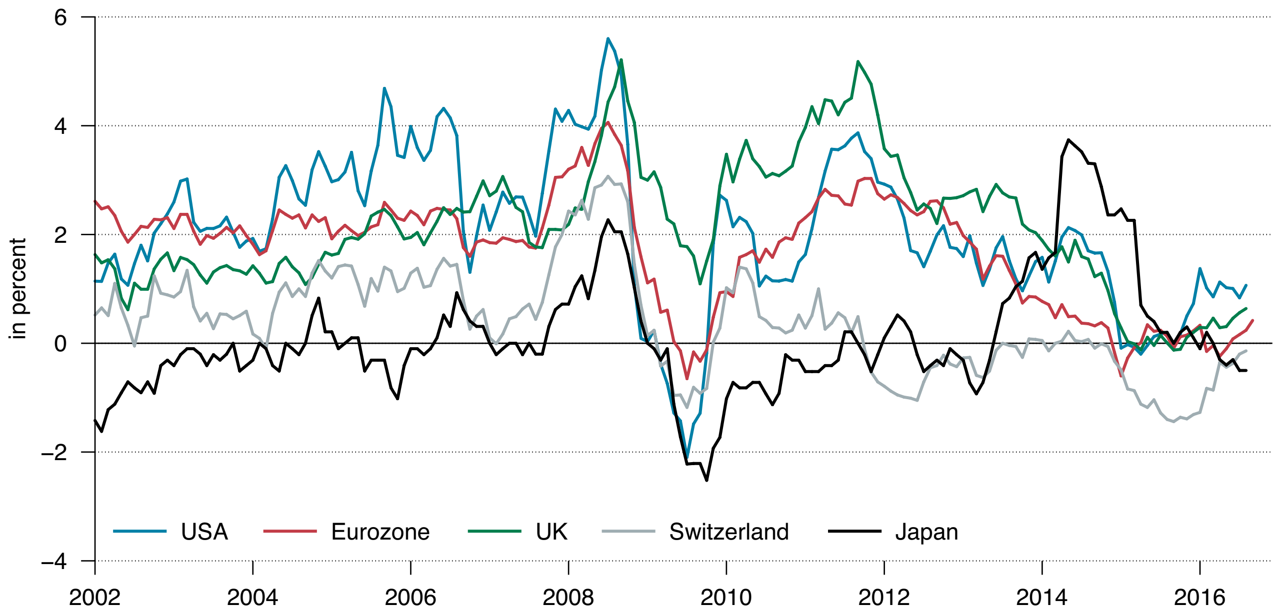
Inflation overview

	Ø 10 years[1]	Inflation[2]				Core inflation[3]			
		6/2016	7/2016	8/2016	9/2016	6/2016	7/2016	8/2016	9/2016
United States	1.8	1.0	0.8	1.1	–	2.3	2.2	2.3	–
Eurozone	1.5	0.1	0.2	0.2	0.4	0.9	0.9	0.8	0.9
Germany	1.4	0.3	0.4	0.4	0.6	1.2	1.3	1.1	1.2
France	1.2	0.2	0.2	0.2	0.4	–	–	–	–
Italy	1.5	-0.4	-0.1	-0.1	0.1	0.5	0.6	0.4	0.5
Spain	1.5	-0.8	-0.6	-0.1	0.3	0.6	0.7	0.9	–
United Kingdom	2.4	0.5	0.6	0.6	1.0	1.4	1.3	1.3	1.5
Switzerland	0.1	-0.4	-0.2	-0.1	-0.2	-0.2	0.0	0.0	-0.1
Japan	0.3	-0.3	-0.5	-0.5	–	0.5	0.3	0.2	–
Canada	1.6	1.5	1.3	1.1	–	2.1	2.1	1.8	–
Australia	2.5	1.0	–	–	–	1.6	–	–	–
Brazil	6.1	8.8	8.7	9.0	8.5	7.7	7.3	7.5	–
Russia	9.3	7.5	7.2	6.8	6.4	7.5	7.4	7.0	6.7
India	8.1	5.8	6.1	5.0	–	–	–	–	–
China	0.1	0.5	0.2	-0.7	–	1.6	1.8	1.6	–
Advanced economies[4]	1.5	0.5	0.5	0.6	0.7	1.5	1.5	1.5	1.5
Emerging economies[4]	5.2	4.0	4.0	3.4	3.4	3.1	3.2	3.0	3.0
World economy[4]	3.1	2.2	2.1	1.9	2.0	1.9	1.9	1.9	1.9

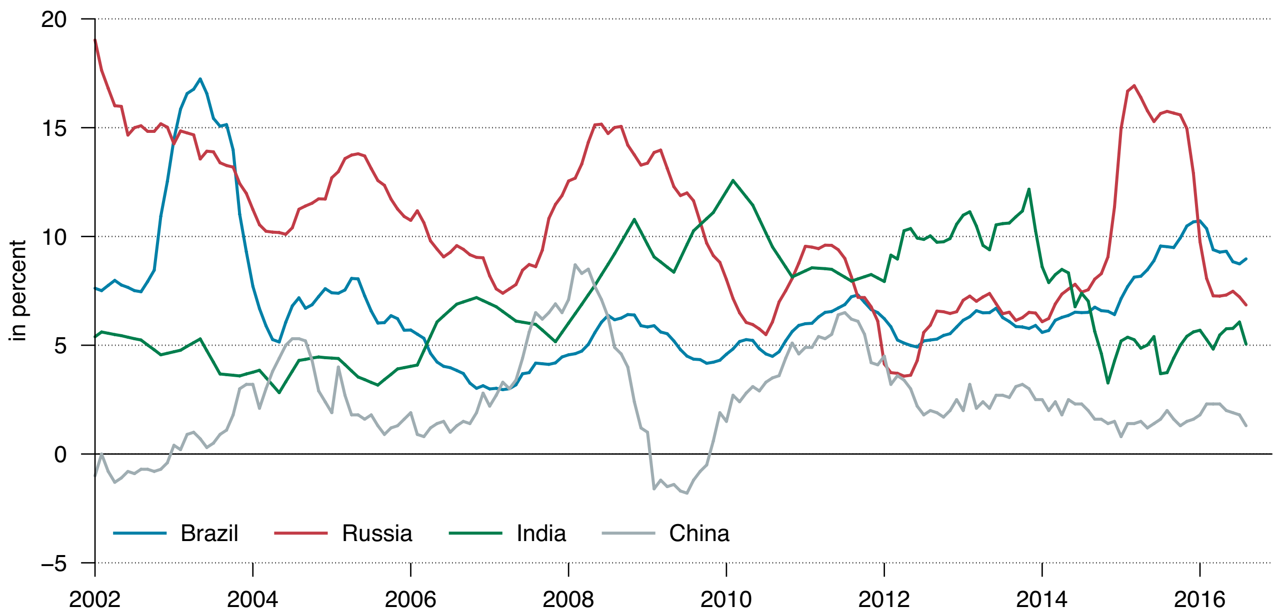
[1] Average annual consumer price inflation, in percent.
[2] Year-on-year change of the consumer price index (CPI), in percent.
[3] Core inflation is a measure of inflation that excludes certain items that can experience volatile price movements, such as energy and certain food items; year-on-year change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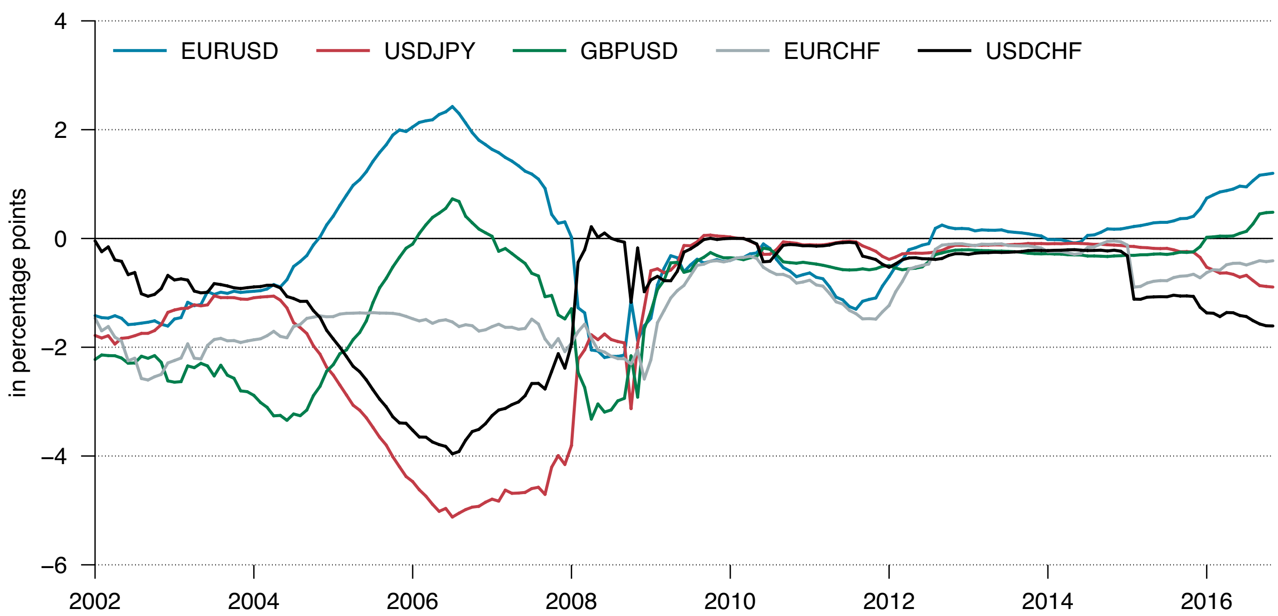
Interest rates

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	1.101	1.17	0.37	0.21	-0.09	1.63	0.71	0.36	-0.03
USDJPY	104.0	-0.89	-0.23	-0.26	-0.92	-1.48	-0.59	-0.51	-1.08
GBPUSD	1.219	0.48	-0.26	-0.24	-0.58	0.80	-0.20	-0.25	-0.61
EURCHF	1.091	-0.44	-0.67	-0.42	-0.85	-0.44	-0.67	-0.53	-0.93
USDCHF	0.990	-1.61	-1.04	-0.63	-0.75	-2.07	-1.38	-0.89	-0.90
GBPCHF	1.207	-1.13	-1.30	-0.86	-1.33	-1.27	-1.58	-1.15	-1.51
CHFJPY	105.1	0.72	0.81	0.37	-0.17	0.59	0.79	0.38	-0.18
AUDUSD	0.757	-0.59	-1.60	-2.20	-2.60	0.16	-0.90	-1.56	-2.17
USDCAD	1.327	0.02	0.48	0.77	0.45	-0.46	0.06	0.52	0.26
USDSEK	8.833	-1.50	-0.67	0.30	0.34	-1.85	-0.93	0.13	0.27
USDRUB	63.0	8.92	11.36	8.98	7.47	8.31	11.23	8.52	7.71
USDBRL	3.195	12.73	14.09	10.53	9.84	10.70	14.64	10.26	9.74
USDCNY	6.714	1.92	2.87	3.79	2.43	1.44	2.59	3.46	2.19
USDTRY	3.094	7.94	11.16	8.93	9.65	7.64	10.70	8.75	9.89
USDINR	66.56	7.47	7.47	8.79	7.14	5.41	6.32	6.38	4.57

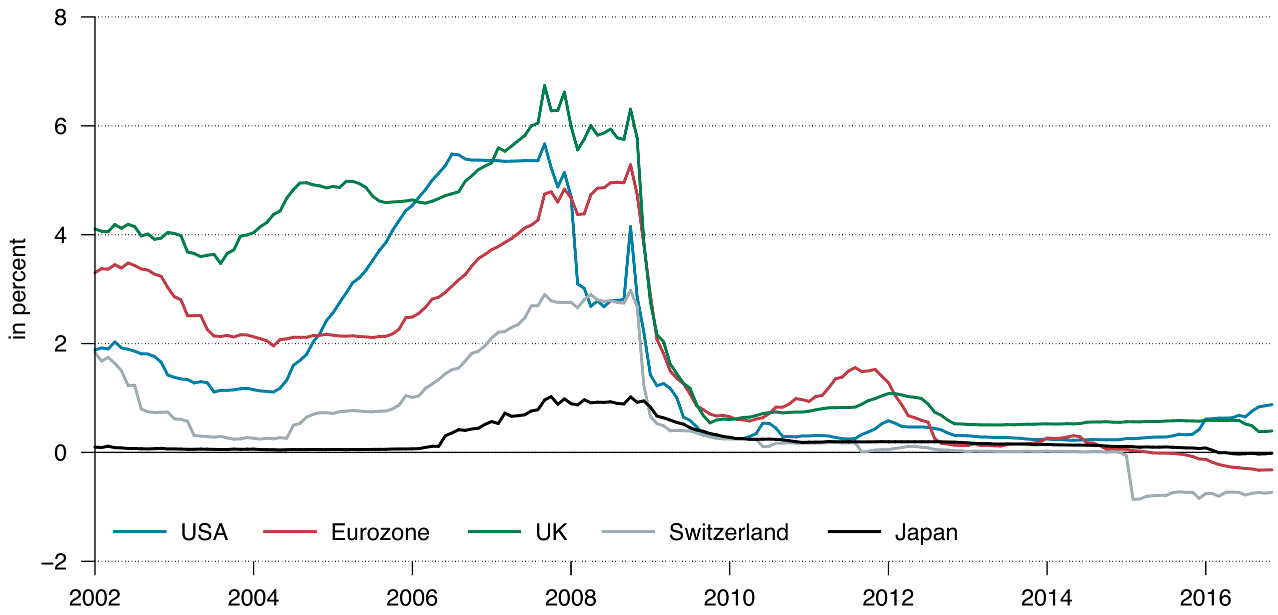
[1] The gap in interest rates between the second currency and the first one, in percentage points; e.g. US dollar minus euro for EURUSD.

Interest rate differentials

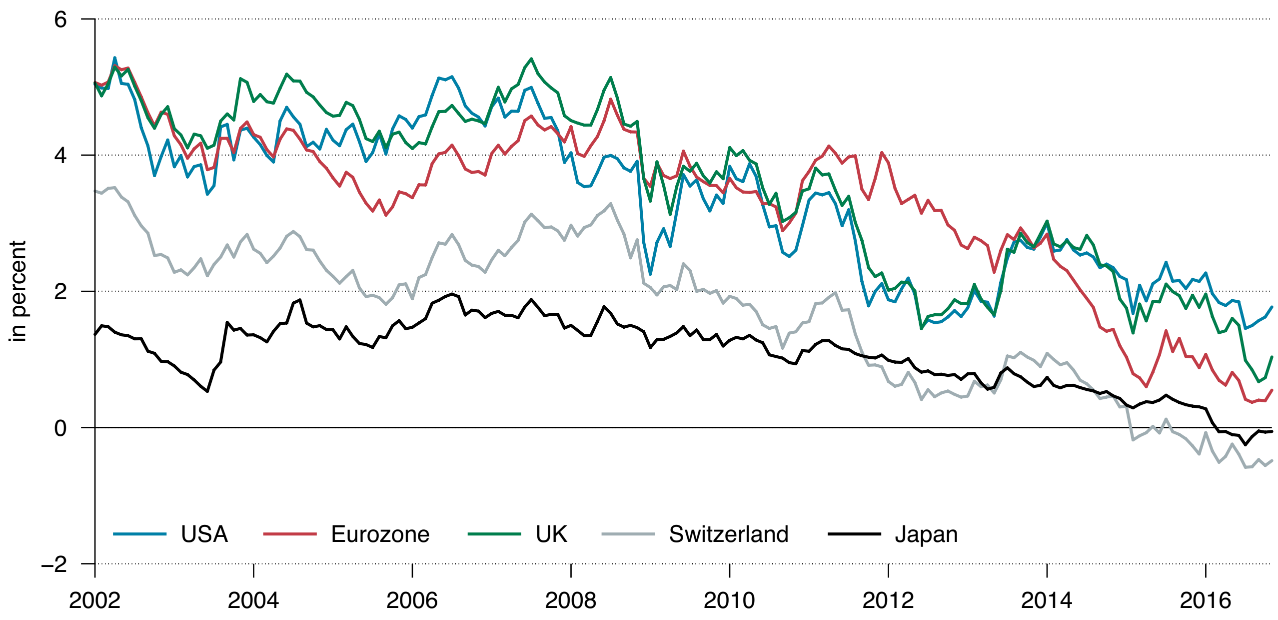


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

3-month Libor



10-year government bond yields



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

FX markets

In the early morning hours of October 7 in Europe, the GBPUSD exchange rate became the latest victim of a financial market flash crash. Month-over-month versus G-10 currencies, the pound lost an average of 5.5 percent. Since the Brexit vote on June 23, that loss amounts to some 15 percent for the pound. Versus the Swiss franc, the pound's mispricing on a purchasing power parity basis has grown to more than 22 percent. This suggests significant recovery potential for the pound. However, the discussions about a "hard Brexit" and Scotland's latest independence moves are likely to burden the pound for some time to come.

Meanwhile, Brazil's real has gained almost 20 percent versus the US dollar this year. That would put it at the top of a hypothetical appreciation table. Its departure from purchasing power parity has been reversed and the currency has returned to its historical deviation levels.

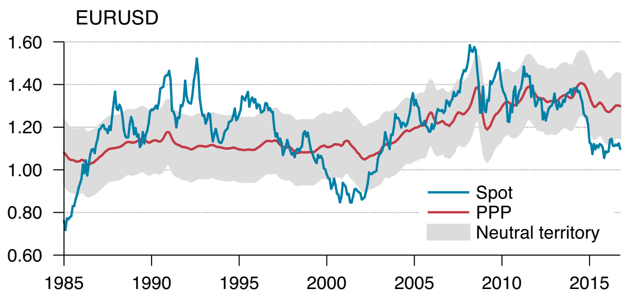
The Russian ruble is another story when it comes to purchasing power parity deviations. It's been on a dizzying run, appreciating some 14 percent versus the US dollar. Nevertheless, on a purchasing power parity basis we still see a mispricing of over 55 percent versus the US dollar.

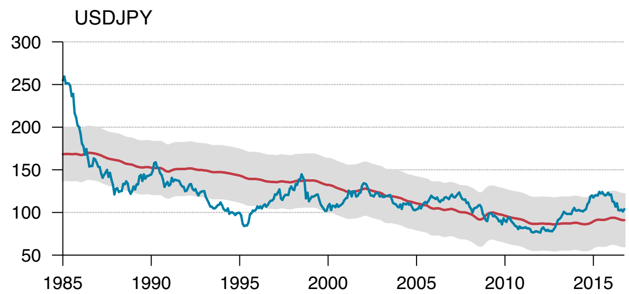
FX overview

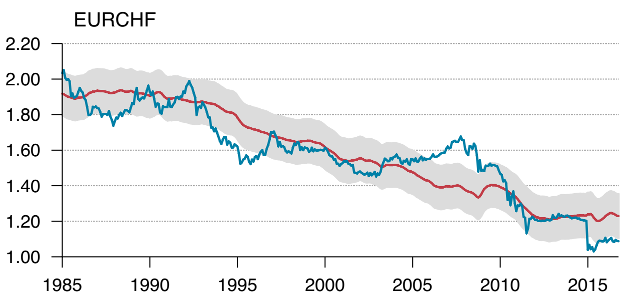
	Current exchange rate	Performance[1]				Purchasing Power Parity[2]		
		YTD	3 months	1 year	5 years	PPP	Neutral territory	Deviation[3]
EURUSD	1.101	1.4	-0.8	-3.2	-19.6	1.30	1.15 - 1.45	-15.2
USDJPY	104.0	-13.5	-1.3	-13.2	35.4	91.0	60.6 - 121.4	14.3
GBPUSD	1.219	-17.3	-8.5	-19.9	-22.5	1.62	1.43 - 1.82	-24.9
EURCHF	1.091	0.3	0.0	-0.1	-11.7	1.23	1.11 - 1.35	-11.3
USDCHF	0.990	-1.1	0.8	3.2	9.8	0.97	0.73 - 1.20	2.3
GBPCHF	1.207	-18.2	-7.8	-17.4	-14.9	1.56	1.28 - 1.84	-22.6
CHFJPY	105.1	-12.6	-2.1	-15.9	23.3	88.8	73.7 - 103.8	18.3
AUDUSD	0.757	4.1	-0.8	3.7	-25.2	0.71	0.60 - 0.82	6.5
USDCAD	1.327	-4.4	2.7	2.3	29.3	1.20	1.13 - 1.27	10.4
USDSEK	8.833	4.8	4.1	8.6	32.1	7.19	6.27 - 8.12	22.8
USDRUB	63.0	-13.7	0.0	0.7	101.6	40.4	32.6 - 48.2	55.8
USDBRL	3.195	-19.2	-1.1	-16.6	81.9	2.86	2.35 - 3.37	11.7
USDCNY	6.714	3.4	0.4	5.8	5.2	6.68	6.45 - 6.92	0.5
USDTRY	3.094	6.0	7.4	4.9	68.2	2.56	2.36 - 2.76	20.7
USDINR	66.56	0.6	-0.5	2.1	35.5	73.4	69.8 - 77.0	-9.3

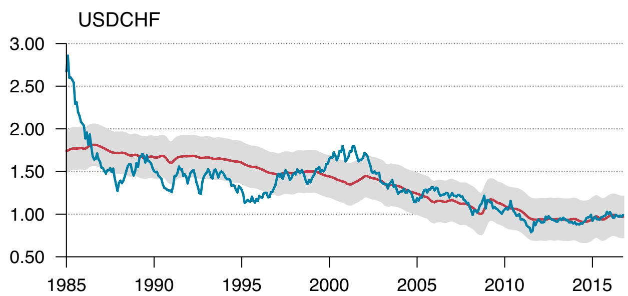
1 Performance over the respective period of time, in percent.
2 Purchasing power parity (PPP) is estimated based on the relative development of inflation rates in two currency markets; the neutral territory is determined by +/- 1 standard deviation of the historical variation around the PPP value.
3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

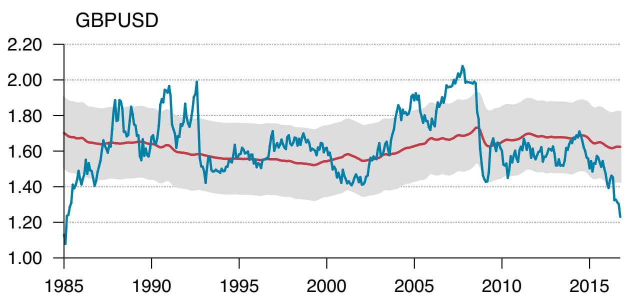
Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

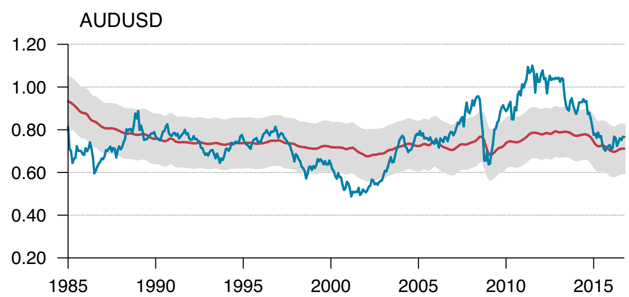


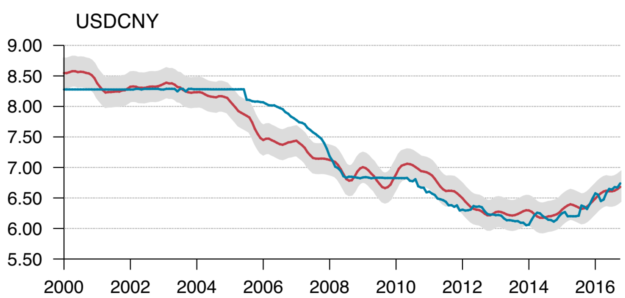


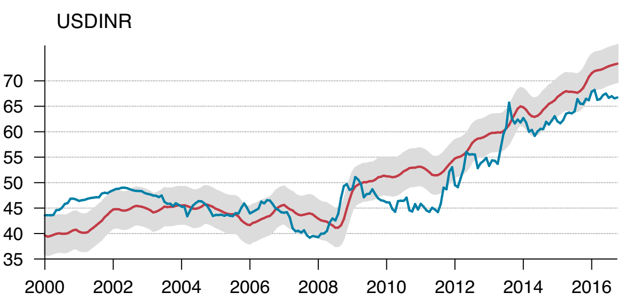


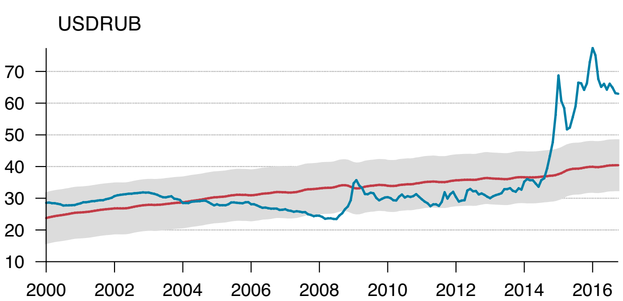


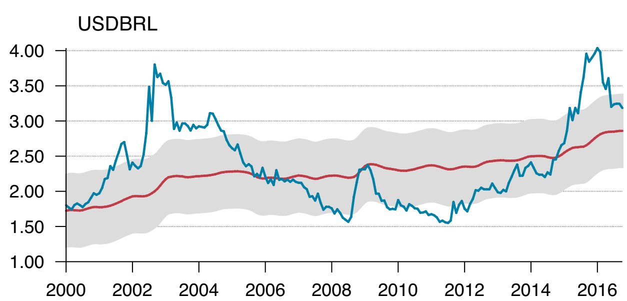












Source: Thomson Reuters Datastream, Wellershoff & Partners

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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	1.101	6.5	8.9	9.2	10.4	9.0	9.4	9.7	10.7
USDJPY	104.0	11.1	11.5	9.7	10.8	10.9	11.3	10.4	11.1
GBPUSD	1.219	11.5	12.4	8.3	9.7	12.2	12.2	8.9	10.1
EURCHF	1.091	4.2	5.6	5.6	6.2	5.8	6.9	6.6	6.6
USDCHF	0.990	6.7	8.7	9.7	10.5	8.6	9.6	10.3	10.8
GBPCHF	1.207	11.1	12.1	8.8	10.0	12.5	12.0	9.4	10.4
CHFJPY	105.1	10.4	11.2	10.9	11.5	11.0	12.0	11.6	11.9
AUDUSD	0.757	9.4	10.5	10.7	12.4	11.8	11.3	11.4	12.7
USDCAD	1.327	8.4	9.3	8.1	9.8	9.6	9.4	8.6	10.1
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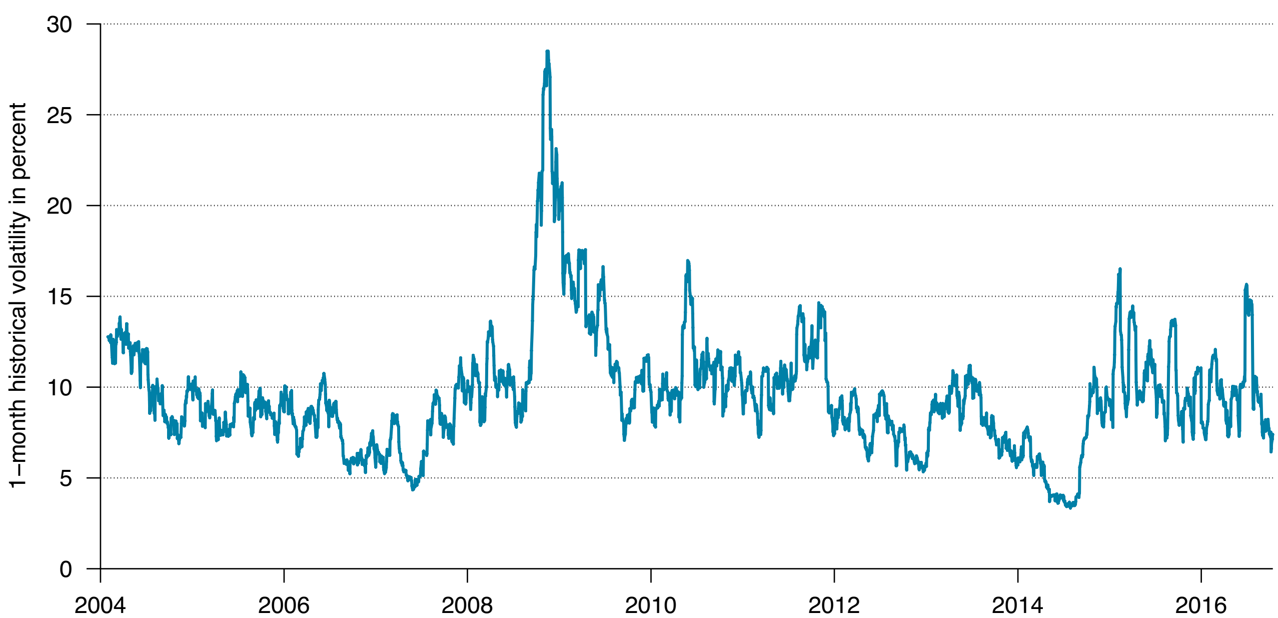
USDBRL	3.195	14.0	16.8	14.9	15.3	17.7	17.1	15.4	15.7
USDCNY	6.714	2.1	5.0	2.9	2.9	2.6	6.5	3.8	4.5
USDTRY	3.094	11.6	11.7	11.6	13.2	11.5	13.4	13.0	14.6
USDINR	66.56	3.2	5.9	9.3	9.5	4.2	7.5	10.3	10.4

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

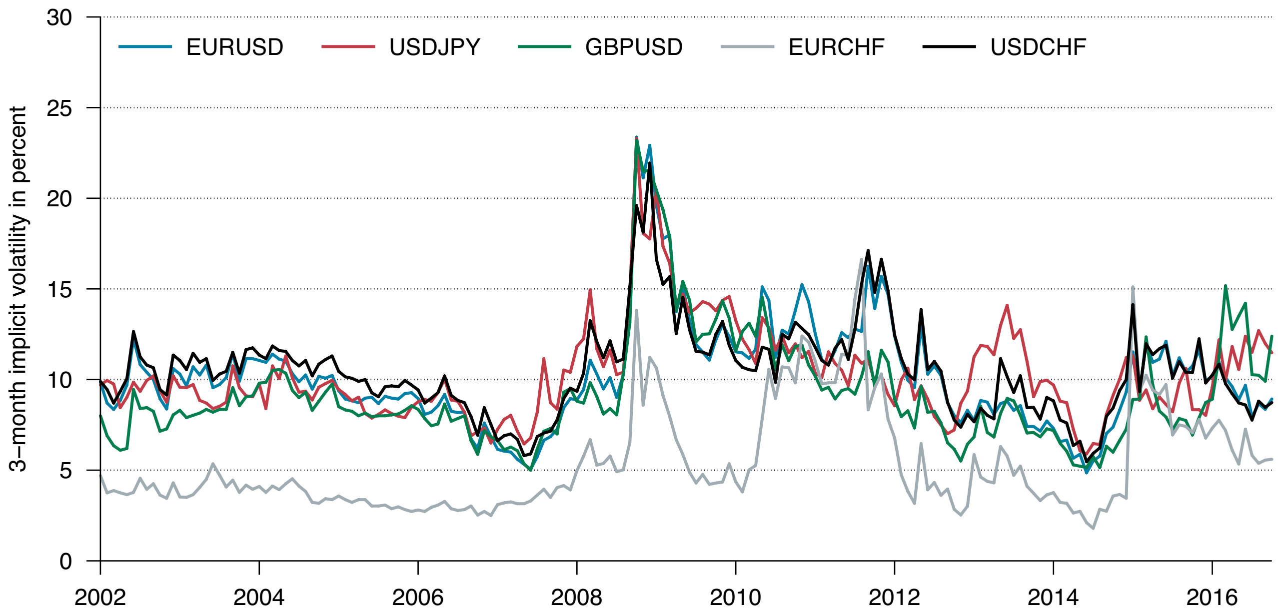
QCAM volatility indicator[3]



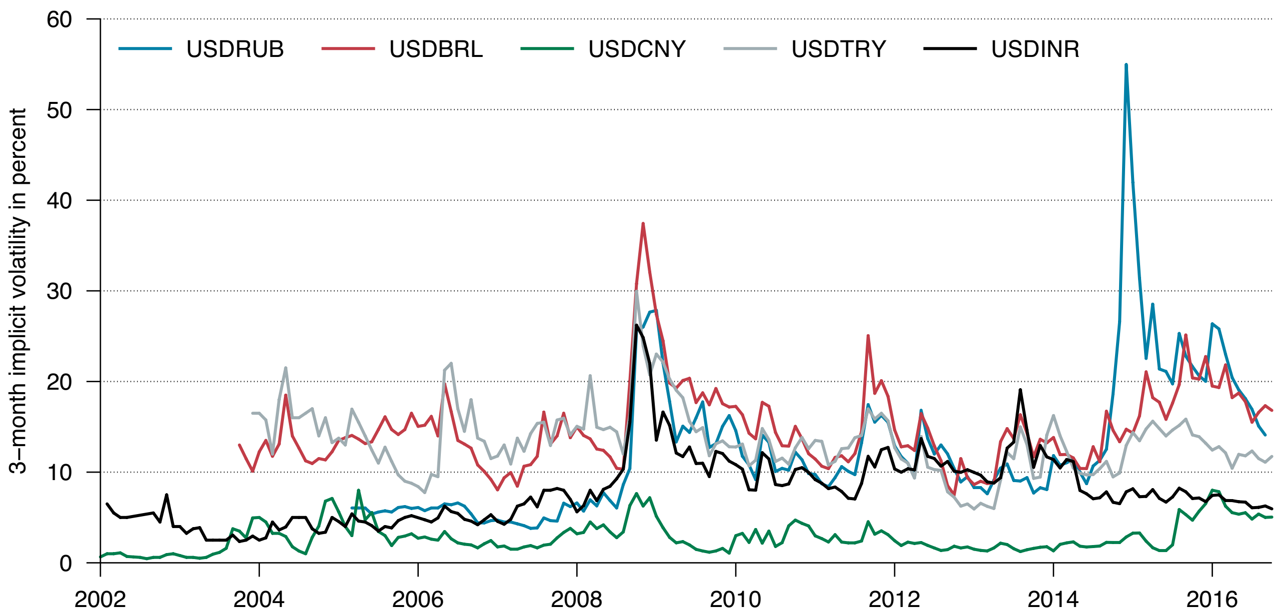
[3] The QCAM volatility indicator measures general volatility in global FX markets; the indicator is based on historical volatility of the main exchange rates, which are weighted by trading volume.

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

Implied volatility



Implied volatility



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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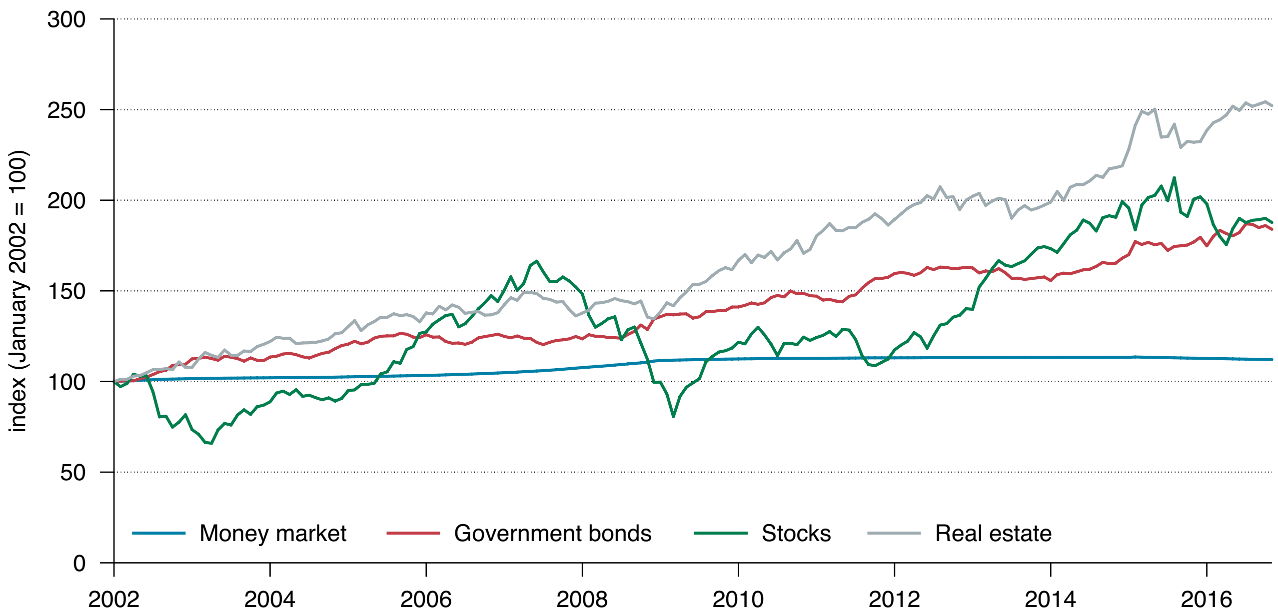
Financial markets

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	-0.6	-0.2	-0.7	-0.8	-0.6	-0.2	-0.7	-0.8
Swiss government bonds	5.2	-1.4	4.9	18.6	5.2	-1.4	4.9	18.6
Swiss corporate bonds	2.9	-0.6	2.7	15.7	2.9	-0.6	2.7	15.7
Swiss equities (SMI)	-5.2	-1.2	-3.4	64.7	-5.2	-1.2	-3.4	64.7
Eurozone equities (Stoxx600)	-4.4	0.4	-2.2	68.9	-3.6	0.6	-2.4	49.0
UK equities (Ftse100)	16.3	6.6	15.2	54.7	-4.0	-0.4	-4.7	32.7
Japanese equities (Topix)	-11.4	3.3	-8.7	98.9	2.9	6.4	8.8	63.2
US equities (S&P 500)	6.5	-0.6	9.1	94.5	6.5	0.3	12.5	114.8
Emerging markets equities	16.3	4.9	8.6	11.1	16.3	5.9	11.9	22.7
Global equities (MSCI World)	4.3	0.1	4.8	63.0	4.2	1.1	8.1	80.1
Swiss real estate	5.7	-1.0	8.6	32.4	5.7	-1.0	8.6	32.4
Global real estate	5.1	-6.5	5.8	64.9	5.1	-5.7	9.1	82.2
Commodities	9.0	-1.7	-4.8	-42.2	9.0	-0.8	-1.9	-36.2
Brent oil	45.3	9.5	4.6	-54.6	45.3	10.5	7.8	-49.8
Gold	17.8	-5.8	7.3	-25.1	17.8	-4.9	10.6	-17.3

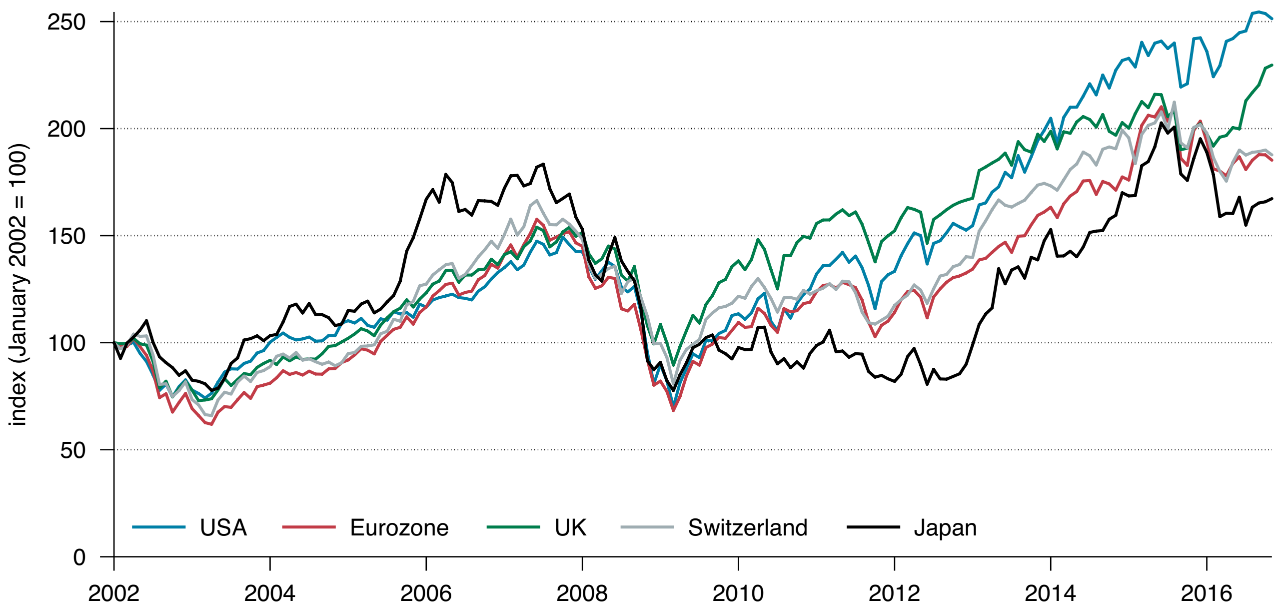
[1] Performance over the respective period of time, in percent.

Performance of selected Swiss asset classes

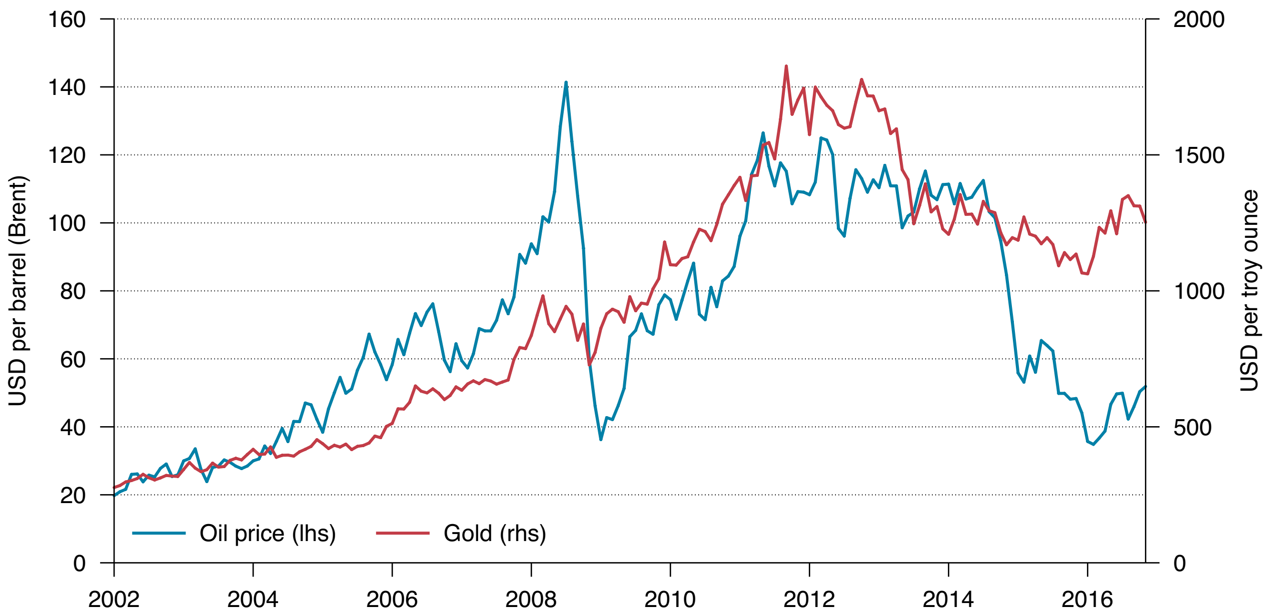


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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

1489

The year that England's King Henry VII ordered the minting of the first pound coins. The British pound has seen a lot since then, from continental blockades to world wars. Thus Brexit perhaps can only be regarded as exceptional from a very short-term historical perspective.