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Currency Asset Management

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Emerging market currencies – attractive returns, but tread carefully

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QCAM Currency Asset Management AG
Huobstrasse 9
8808 Pfäffikon SZ
Schweiz

Wellershoff & Partners Ltd.
Zürichbergstrasse 38
8044 Zürich
Schweiz

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QCAM Currency Asset Management

QCAM Insight

Emerging market currencies – attractive returns, but tread carefully

Investing in emerging markets offers diversification benefits and attractive returns but it also presents some challenges that investors have to face. Proper currency-hedging of emerging market investments can be complicated.

Characteristics of emerging markets

With higher expected returns, emerging markets offer interesting opportunities to investors. However, higher interest rates translate into higher hedging costs for investors based in developed markets (DMs) because, according to theory, the interest-rate parity cancels out the yield difference. So, how should emerging market currencies be incorporated into the already complex hedging discussions?

Although the global currency market is regarded as liquid and as the largest of financial markets, in fact, only a few of the world's currencies are liquid and freely tradable for investors. The first challenge for investors is thus the hurdle of market access. The currencies of Brazil, China or Korea as example, are not easily accessible for foreign investors. Often physical currency transactions come with conditions requiring, for example, a local branch office. The problematic of this on-shore/off-shore theme can be partially solved with so-called Non-Deliverable Forwards (NDFs).

Non-Deliverable Forwards

Some currencies that are not freely convertible can be hedged by using NDFs. In a forward foreign exchange transaction between two freely convertible currencies the respective amounts are exchanged at maturity at the agreed forward exchange rate. With NDFs, at maturity the NDF rate (the agreed forward exchange rate) is compared with a predefined reference exchange rate. Resulting differences are paid in the convertible currency per value date. Thus, no payment need be made in the non-convertible currency. The practical implementation of hedging with NDFs requires some technical capabilities. Banks often quote NDFs versus the US dollar only. To mitigate market risk, an appropriate offsetting USDCHF trade needs to be made as soon as the NDF's fixing rate is set. Furthermore, the various central banks follow diverse accounting procedures to set their daily exchange rate and these differences must also be considered.

Forward contracts and NDFs are the standard hedging instruments for emerging market currencies, as they are for DM currencies too. Hedging high-interest-rate currencies against the Swiss franc can, as already noted, be expensive. Thus many investors conclude that they should only partially hedge their emerging market investments or even skip the process entirely. But there are alternatives to costly forward contracts and NDFs.

Alternatives to NDFs

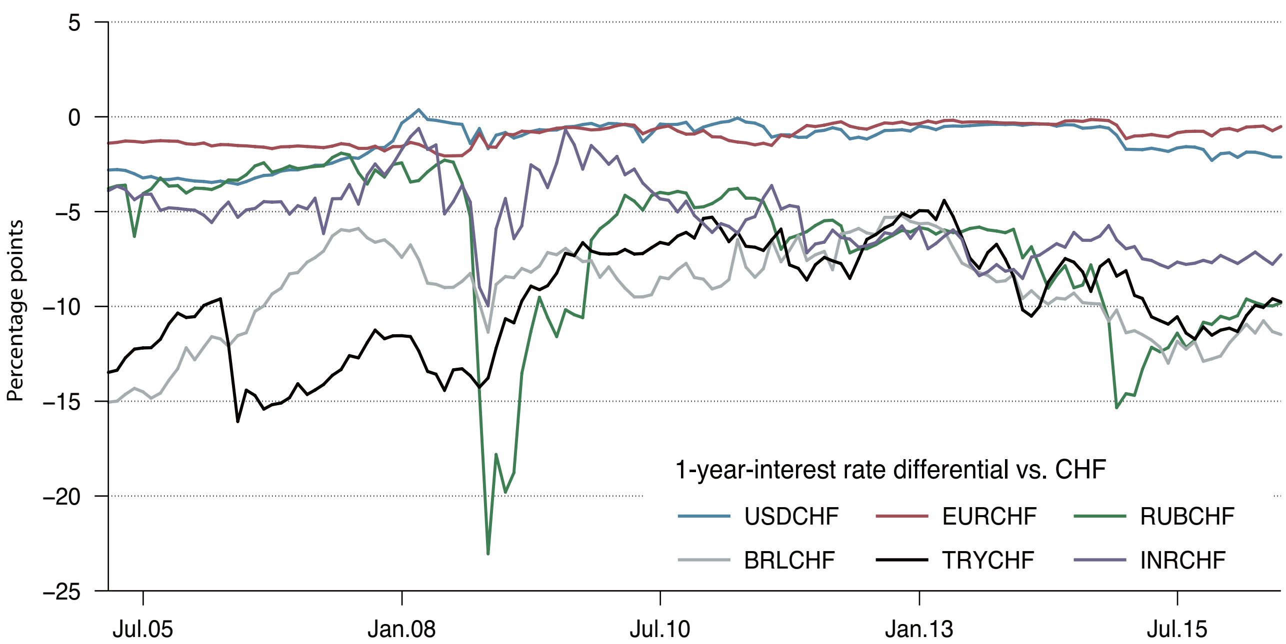
Option contracts can be an alternative to forward contracts and NDFs. Using such derivatives enables investors to use a hedging instrument that is tailormade to their needs. The flexibility of choosing the exact strike/hedge rate and maturity is a big advantage of an option. Moreover, options constitute the right to sell and buy an asset, not an obligation, thus granting investors even more flexibility in their decisionmaking. But options come with a cost premium that is higher for emerging market currencies than DM currencies. This premium can be lowered by using a Risk Reversal strategy. The Risk Reversal strategy is a combination of two options. A Put on the to be hedged EM currency is purchased, while simultaneously a Call is sold to finance the costs of this structure. This strategy can dramatically lower hedging premiums, cutting them even to a zero-cost level. The disadvantage of a zero-cost Risk Reversal approach is that investors don't participate in the appreciation of the EM currency above the Call price and if it depreciates, the hedge rate lies above the forward contract or NDF price.

According to an investors market view and risk appetite, the range of Call and Put hedge rates can be set more narrow or wider for each respective hedge period. Hence, risk reversals allow investors to steer their hedging costs and provide some flexibility compared to forward contracts or NDFs.

Bottom line

Investment opportunities in emerging markets appear attractive from a returns point of view but they require well-conceived and well-executed currency hedging strategies. Besides regulatory hurdles and cost considerations, there are operational and technical aspects to analyze and assess before making an investment decision. Understanding the available instruments for currency hedging allows an investor to construct a more flexible risk-return profile.

Hedging emerging market currencies is expensive



Source: Bloomberg, QCAM Currency Asset Management, Wellershoff & Partners

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The macro perspective

Emerging markets have the last laugh

The Bank of England proffered a rate cut to soothe market participants shaken up by Brexit. The Bank of Japan has again expanded its asset-purchasing program. In the end the emerging markets turn out to be the biggest beneficiaries of this global glut of expansive monetary policy – as long, that is, as the Fed doesn't spoil the party.

Signs of life in emerging markets

The data coming from the largest emerging economies makes it clear that the depths of the recent slump are now behind us. Thanks to the largesse of the country's economic policy, China's economy has been stabilized. Wellershoff & Partners runs its own metric on the Chinese economy, the *W&P GDP Growth Stat for China*, which has proven more reliable than official GDP statements. It shows China's economy growing in the second quarter not by 6.7 percent, as the government asserted, but still by 5.9 percent and thus a bit more than in the previous quarter. After last year's slowdown, we now see signs that recovery in the crucial housing market is underway. With help from both regulatory and monetary measures, China's housing market has indeed revived.

Along with recovering growth, the more transparent communication from the People's Bank of China has also reduced monetary policy worries. Although the renminbi has depreciated more since April than it did last summer – when the PBoC, in a surprise move, devalued the currency by 2 percent and sent shock waves across global financial markets – so far this summer markets have been serene.

Russia's economy is also gaining some traction. Yes, it contracted again in the second quarter but it also posted year-over-year GDP growth of -0.6 percent, a rate not seen since 2014. Even Brazil showed indications of economic renewal. Finally, South Africa, Korea and Taiwan joined the choir of improving economic data from the emerging markets.

Strong economy – strong currency?

Does economic recovery imply a recovery to those emerging market currencies that have been battered in recent years? A look at the long-term relationship of economic growth and exchange rates disappoints. Neither most academic analysts nor we find any statistically significant connection between a country's economic growth and its currency's exchange rate.

Over the long term, the concept of purchasing power parity functions well with emerging market currencies. It takes the different rates of inflation in each currency pair into account to calculate a neutral exchange rate. The chart shows the value of a theoretical currency, consisting of a basket of 14 emerging market currencies against the Swiss franc. The chart shows that the value of this currency basket tracks closely with purchasing power parity over the long term.

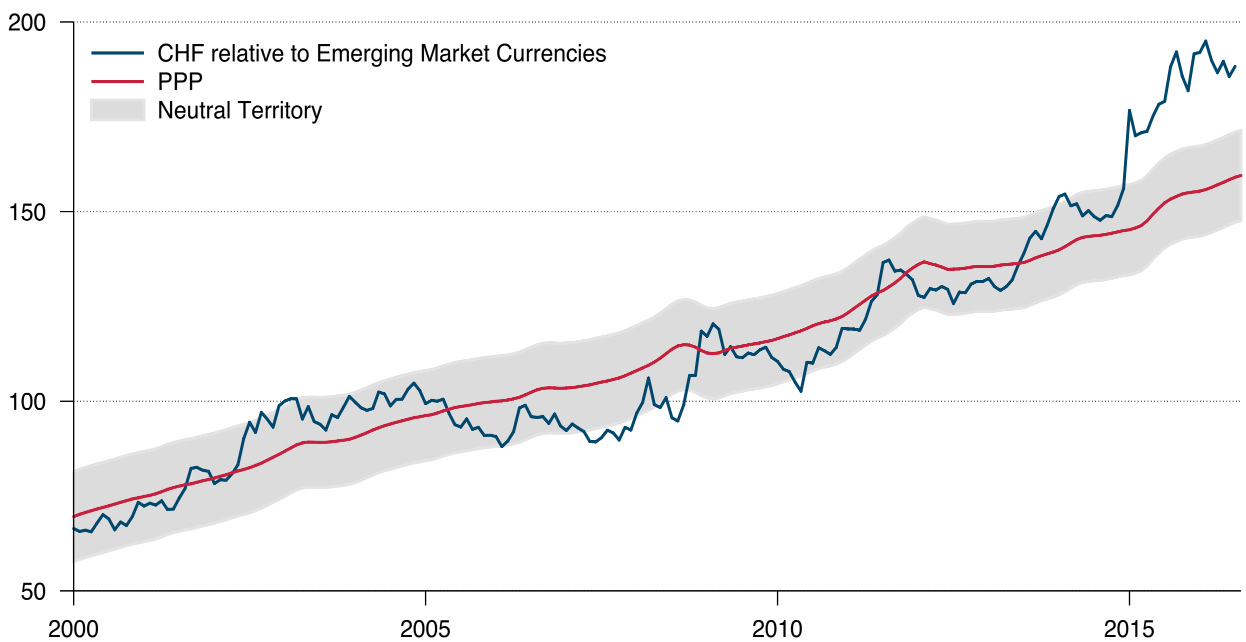
At the moment, this currency basket is far above the neutral exchange rate and thus is significantly undervalued, to an extent not seen in the past 16 years. But one caveat must be noted: identifying a currency as plainly undervalued says nothing about when it might begin to appreciate. In the short term, considerations other than purchasing power parity determine a currency's value. If global growth is robust, world trade is lively and commodity prices are trending upward, emerging market currencies tend to strengthen. On the other hand, a feeble global economy or a stronger US dollar tend to weaken emerging market currencies.

The Fed can end the party

Along with a no-longer-ascending US dollar and rising commodity prices since February, the industrialized world's central banks are helping to drive up emerging market currencies. While the Brexit vote added uncertainty to the global economic outlook and pushed interest rates in the industrialized countries even lower, emerging market currencies could once again appreciate.

The Fed now constitutes the greatest danger for emerging market investments. Despite the recent weaker US economic data, the Fed has pointedly left the door open to further interest rate hikes. Any incipient US rate hike would definitely remove the punchbowl from the emerging markets' party.

Emerging market currencies are significantly undervalued versus the CHF



Source: Thomson Reuters Datastream, Wellershoff & Partners

FX market talk

Hollow promises in Japan

The Bank of Japan's monetary policy is highly expansionary and the government has just launched a new stimulus package. But the Japanese economy just can't get moving and the yen resists further weakening. Can we expect even more expansionary, perhaps even more unconventional policy measures from the BoJ ahead? And what consequences might they have for Japan's currency?

Wide-ranging fiscal and monetary measures

Compared to a year ago, Japan's economy grew by just 0.5 percent in the first quarter of 2016. Core inflation retreated in the second quarter, posting a mere 0.5 percent rise year-over-year in June. Meanwhile, Japan's M2 money supply grows by about 3 percent every month, year-over-year, fed by years of the government's asset purchasing programs. At -0.1 percent, Japan's prime interest rate has been in negative territory since January of this year. Now, the BoJ further expanded its monetary policy in August. In addition, the Japanese government recently launched a new stimulus package totaling around CHF 260 billion.

Fizzled end effects

What can be expected from these monetary and fiscal measures? The fiscal expenditures will probably provide a slight boost to the Japanese economy, since the government's spending outlays ultimately end up more or less directly in the national accounts. But given the economy's anemic reaction to the previous round of monetary policy measures, little palpable effect can be expected from these most recent efforts. The financial markets will likewise probably remain unimpressed. In recent months neither the hoped-for weakening of the yen nor the goal of a stronger stock market ever actually materialized from such efforts. The yen has appreciated versus the US dollar since mid-2015 while the Nikkei has only managed to move sideways.

Losing trust in Abenomics

How is it, then, that Japan's strenuous monetary and fiscal efforts have produced so little in the way of positive results? At least two reasons come to mind, the first being that confidence is vanishing in the government's programs. But when Japanese corporations, for instance, withhold investments because they doubt the government's prescriptions for reviving the economy, their worries becomes self-fulfilling and the economy indeed remains stalled. The second reason Japan's economy resists the intensive treatment it has received lately lies with the financial markets, where the search for safe assets, including the yen, dominates. Given current global uncertainties – a frail US recovery, Brexit's rollout in Europe – the Bank of Japan's efforts are increasingly drowned out.

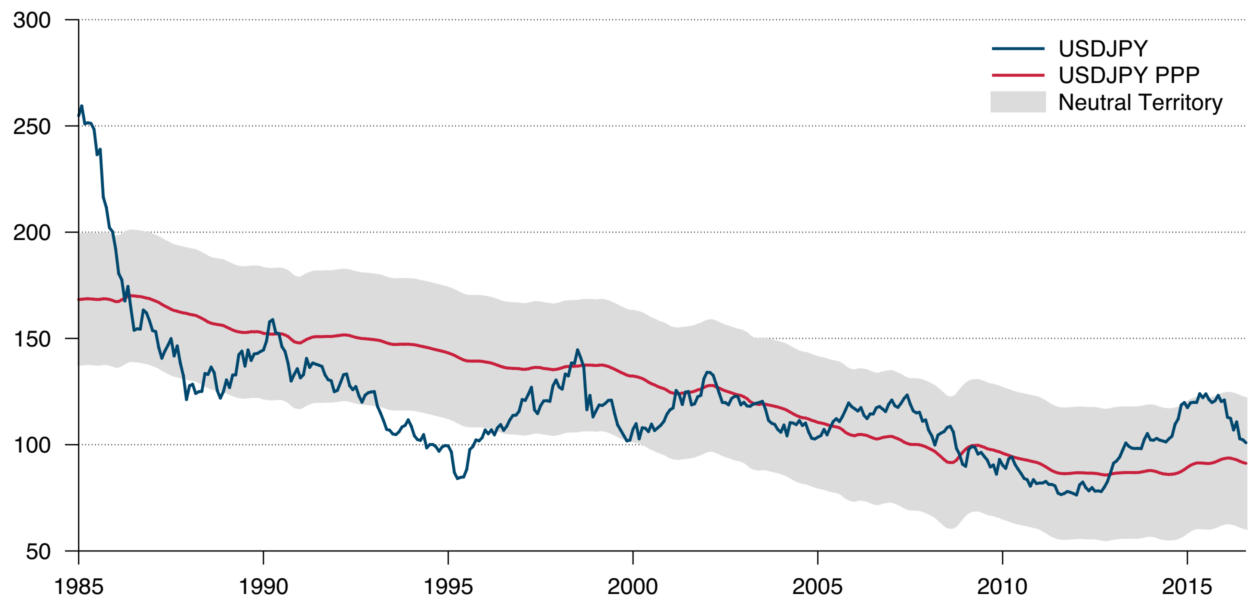
Hold the helicopters!

We think the Japanese authorities now confront a decisive policymaking moment: Either they can acknowledge that factors like demography and productivity are the ones that really influence economic performance, with profound implications for Japan's stiff immigration barriers and inflexible labor market, or they can look at recent events and feel cornered, concluding that only further rounds of more-of-same is the answer. The BoJ's recent denial that it was considering deploying "helicopter money" speaks volumes. Things have come so far, stagnation is now so entrenched, that Japan's central bank actually had to explicitly state that it has no intention of delivering newly created money to public, private or corporate coffers.

Keep open yen positions

Once again, a round of monetary and fiscal measures promised bright outcomes but only delivered more gloom. These are challenging days for currency markets, we know. For orientation in such times, we look to some immutable realities. Medium- to longer-term, we believe the Japanese yen will eventually align with its purchasing power parity levels versus other currencies. We therefore think that holders of yen can expect this convergence to continue for now, with the yen appreciating to an appropriate level. In such cases, even overshooting parity is not uncommon. At the same time, however, we would not advise investors to now open new yen-positions.

The yen won't weaken again despite further monetary and fiscal measures



Source: Thomson Reuters Datastream, Wellershoff & Partners

Economic activity

Surprisingly perhaps, the UK's second-quarter GDP growth rate rose from 2.0 percent to 2.2 percent year-over-year. Since the Brexit vote was held on June 23, near the end of the quarter, Britain's decision to quit the EU left no apparent statistical traces in the data. But the latest leading indicators are already signaling a slowdown looming for the UK economy.

Many observers had been expecting stronger second-quarter GDP growth in the US. In recent years, a distinct catch-up effect has been evident in this quarter. But with GDP growing by only 1.2 percent, the US economy posted its slowest growth in three years. The prime reason for this lackluster showing is the weak investment activity. We think the development of private consumption will be a key factor to watch now. And in this regard, some good news came from the labor market, with 255 000 new jobs added in July, following June's solid results.

With GDP growth of 1.6 percent year-over-year in the second quarter, the Eurozone posted a higher growth rate than did the US for the second quarter in a row. Spain's economy is a particularly bright spot, growing 0.7 percent over the previous quarter and a solid 3.2 percent year-over-year.

Growth overview

	Trend growth[1]	Real GDP growth[2]				W&P economic sentiment indicators[3]			
		Q3/2015	Q4/2015	Q1/2016	Q2/2016	4/2016	5/2016	6/2016	7/2016
United States	1.7	2.2	1.9	1.6	1.2	2.6	2.4	3.2	2.9
Eurozone	1.0	1.6	1.7	1.7	1.6	2.0	2.1	2.1	2.1
Germany	1.4	1.7	1.4	1.6	–	2.2	2.2	2.6	2.6
France	0.7	1.1	1.3	1.4	1.4	1.6	1.8	1.5	1.5
Italy	0.2	0.8	1.1	0.9	–	1.9	2.0	1.2	1.3
Spain	1.6	3.4	3.5	3.4	3.2	3.2	3.1	3.3	3.2
United Kingdom	1.8	2.0	1.8	2.0	2.2	2.5	2.7	2.9	2.2
Switzerland	1.5	0.7	0.3	0.7	–	1.0	1.1	1.3	1.0
Japan	0.4	1.8	0.8	0.0	–	1.8	1.9	1.9	1.9
Canada	1.6	1.0	0.3	1.1	–	0.4	0.9	1.3	1.5
Australia	2.4	2.7	2.9	3.1	–	3.5	3.5	3.4	3.5
Brazil	1.4	-4.4	-5.9	-5.1	–	-2.3	-3.0	-2.0	-0.4
Russia	0.1	-3.7	-3.8	-1.2	-0.6	-1.8	-0.2	1.7	-1.1
India	7.7	7.6	7.2	7.9	–	5.9	6.0	6.4	5.2
China	7.4	6.9	6.8	6.7	6.7	8.2	8.1	7.7	7.5
Advanced economies[4]	1.4	2.1	1.9	1.4	–	2.4	2.4	2.8	2.6
Emerging economies[4]	6.0	4.6	4.5	4.8	–	4.7	4.8	4.7	4.4
World economy[4]	3.5	3.3	3.2	3.1	–	3.1	3.1	3.2	3.1

[1] Current year-on-year trend growth rate of real GDP, in percent, according to the proprietary trend growth model of Wellershoff & Partners.

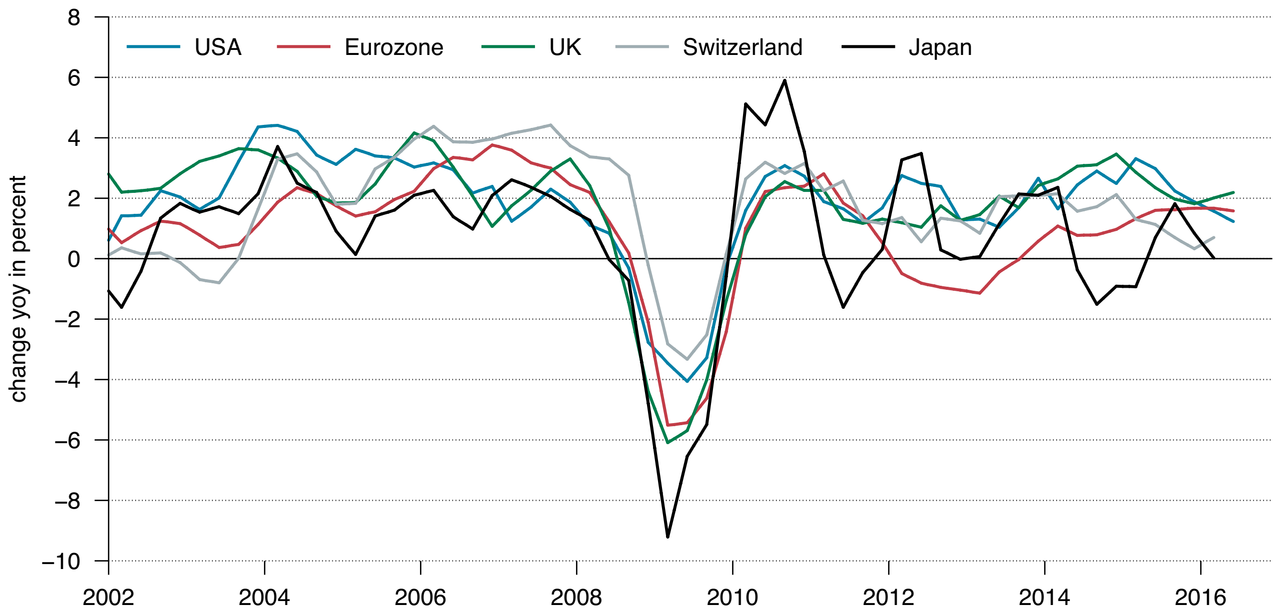
[2] Year-on-year growth rate, in percent.

[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.

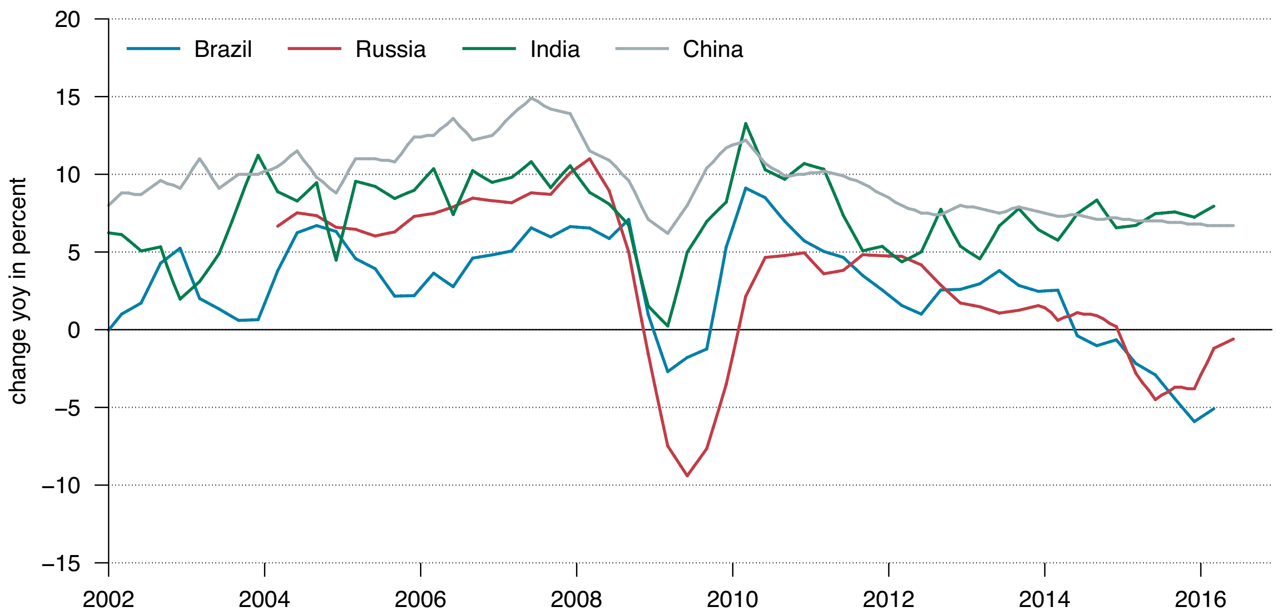
[4] Calculations are based on nominal GDP weights derived from purchasing power parity exchange rates.

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

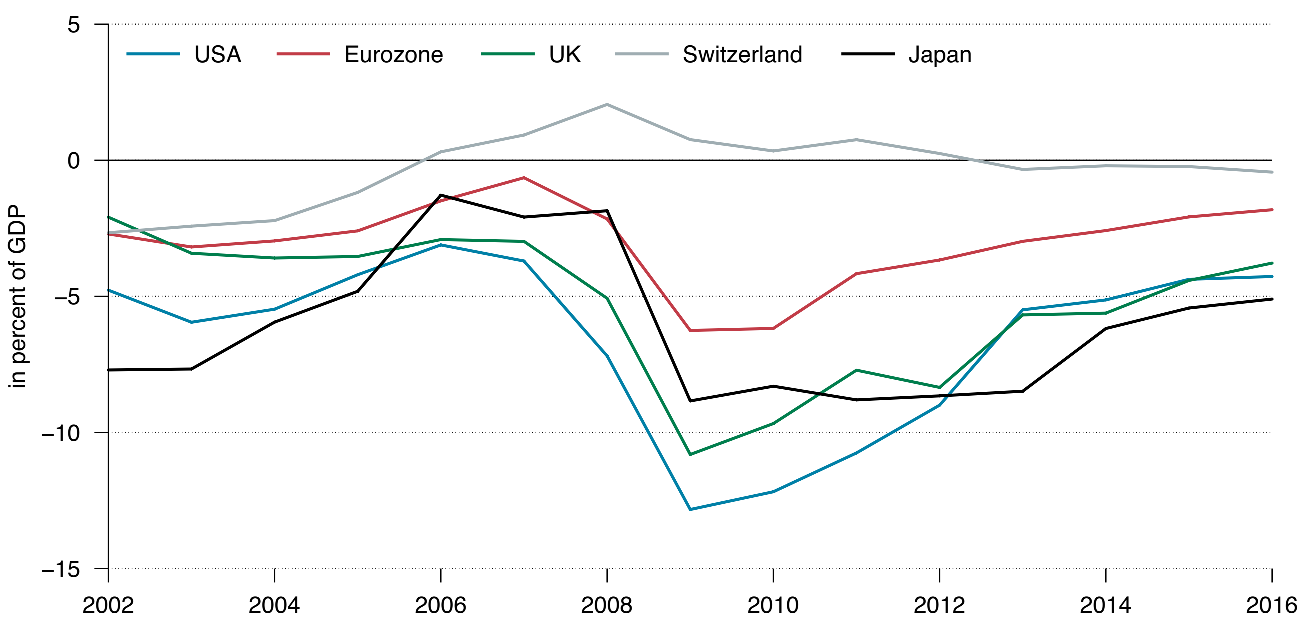
Economic indicators

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	25.1	-2.6	-2.5	111.3	114.2	-7.0	-4.3	7.2	4.9
Eurozone	17.2	16.0	2.6	3.8	105.1	109.6	-3.1	-1.8	11.2	10.1
Germany	4.9	4.7	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	9.9
Italy	2.8	2.5	0.3	2.1	144.5	160.3	-3.0	-2.3	11.1	11.6
Spain	1.8	1.7	0.1	1.1	101.6	117.4	-7.6	-3.7	23.8	19.9
United Kingdom	3.7	3.7	-3.9	-5.9	110.9	115.3	-6.4	-3.8	3.8	2.2
Switzerland	0.9	0.9	9.9	10.6	45.6	46.2	0.0	-0.4	3.0	3.1
Japan	6.8	6.0	1.5	3.4	220.8	233.1	-7.5	-5.1	4.0	3.1
Canada	2.4	2.0	-3.0	-3.5	86.0	92.3	-2.0	-2.4	7.1	6.9
Australia	1.9	1.6	-3.7	-3.6	30.8	39.1	-3.3	-2.4	5.6	5.8
China	12.5	15.4	2.1	2.6	39.3	46.8	-1.1	-3.1	4.1	–
Brazil	3.1	2.1	-3.3	-2.0	64.2	76.3	-4.9	-8.7	5.7	–
India	2.6	3.1	-2.7	-1.5	67.3	66.5	-7.5	-7.0	–	–
Russia	2.6	1.5	3.5	4.2	14.0	18.4	-0.8	-4.4	5.7	5.4

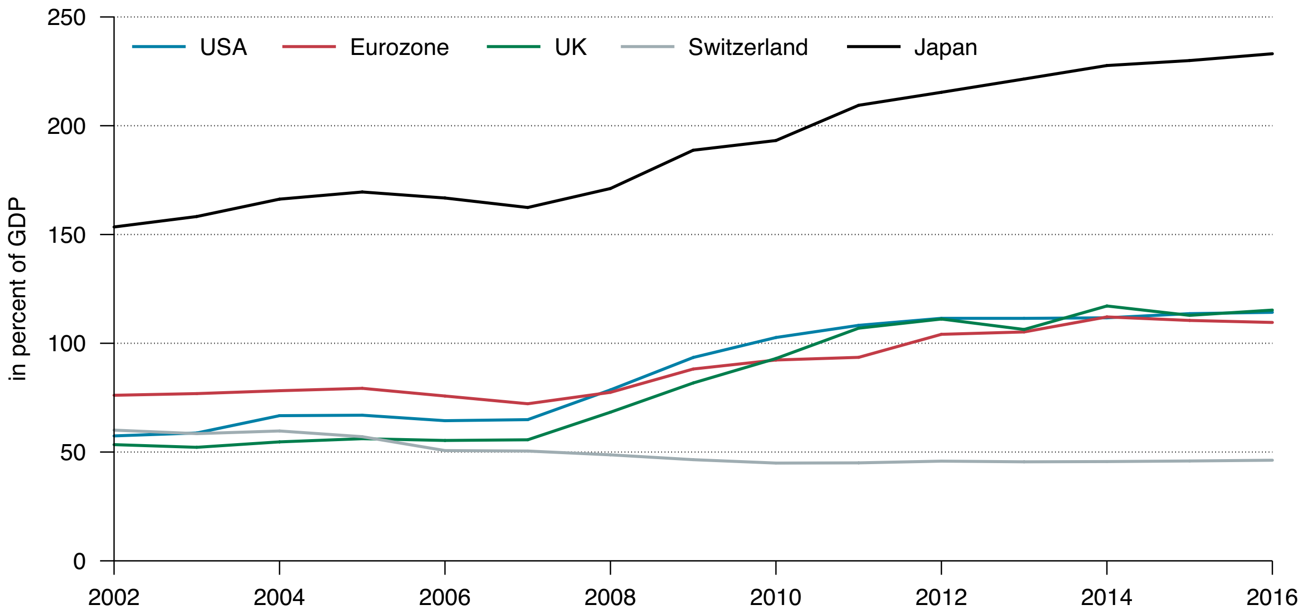
[1] In percent; calculations based on market exchange rates. [2] In percent of nominal GDP. [3] In percent.

Budget deficits in advanced economies

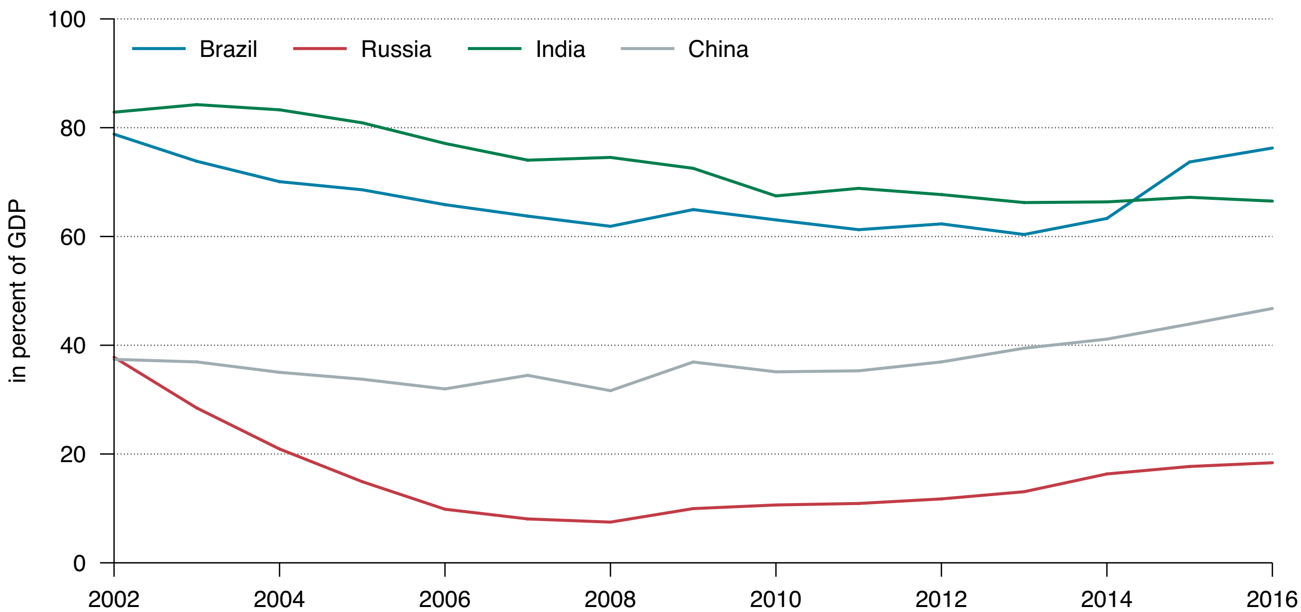


Source: Thomson Reuters Datastream, Wellershoff & Partners

Public debt in advanced economies



Public debt in emerging economies



Source: Thomson Reuters Datastream, Wellershoff & Partners

Inflation

For the second month in a row the Eurozone's annual core inflation rate in July was 0.9 percent. Overall inflation, at 0.2 percent, remains well below the core rate. Once again, low energy prices explain this discrepancy. Although the price of WTI crude oil fell from 50 US dollars a barrel in June to just 42 US dollars in August, we expect the gap between overall and core inflation rates in the Eurozone to close toward the end of this year.

In the US we expect overall inflation to reach roughly 3 percent year-over-year in Spring 2017, taking the base effects of the crude oil price into account. Until its recent retreat, the oil price had been making an overall inflation rate of 3.5 percent look plausible. One way or another, though, rising inflation will soon seriously challenge the Fed.

In Russia, overall inflation rose 7.2 percent in July compared to a year earlier, 0.3 percentage points lower than June's rate. Brazil also saw year-over-year inflation slow a bit, from 8.8 percent in June to 8.7 percent in July. Let's remember, in January of this year overall inflation was at a rate of 10.7 percent in Brazil.

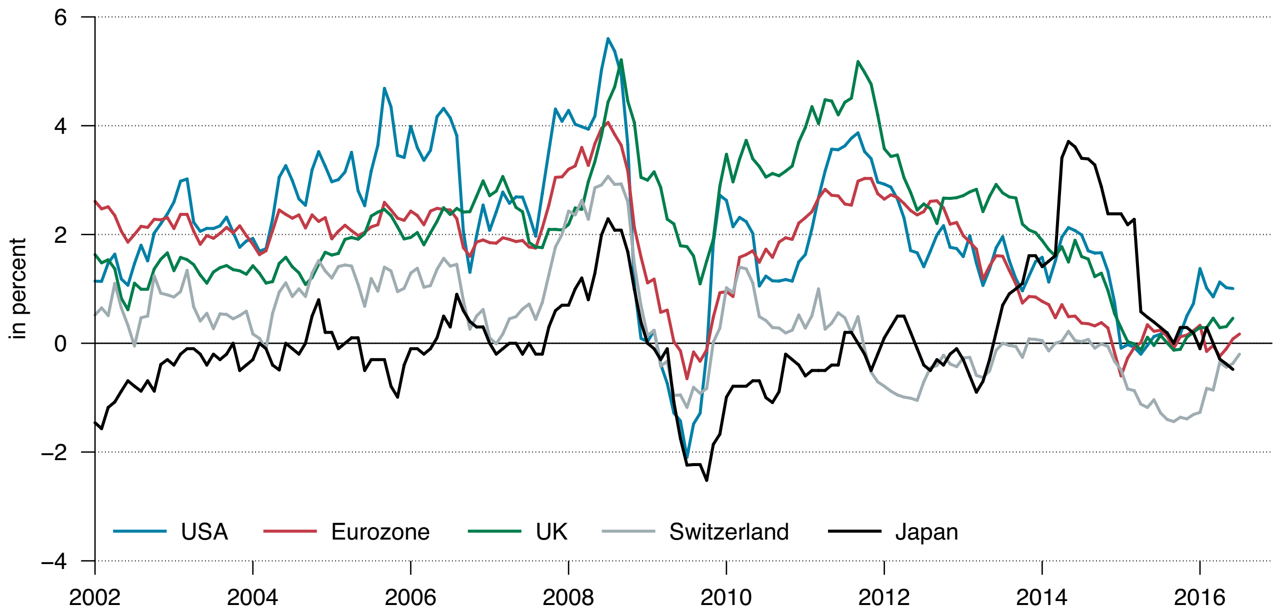
Inflation overview

	Ø 10 years[1]	Inflation[2]				Core inflation[3]			
		4/2016	5/2016	6/2016	7/2016	4/2016	5/2016	6/2016	7/2016
United States	1.8	1.1	1.0	1.0	–	2.1	2.2	2.3	–
Eurozone	1.5	-0.2	-0.1	0.1	0.2	0.8	0.8	0.9	0.9
Germany	1.4	-0.1	0.1	0.3	0.4	1.2	1.1	1.2	1.3
France	1.2	-0.2	0.0	0.2	0.2	–	–	–	–
Italy	1.6	-0.5	-0.3	-0.4	-0.1	0.5	0.6	0.5	0.6
Spain	1.6	-1.0	-1.0	-0.8	-0.6	0.7	0.7	0.6	–
United Kingdom	2.4	0.3	0.3	0.5	–	1.2	1.2	1.4	–
Switzerland	0.2	-0.3	-0.4	-0.4	–	0.0	-0.1	-0.2	–
Japan	0.3	-0.3	-0.4	-0.5	–	0.7	0.7	0.5	–
Canada	1.6	1.7	1.5	1.5	–	2.2	2.1	2.1	–
Australia	2.5	1.2	1.1	1.0	–	1.6	1.6	1.6	–
Brazil	6.0	9.3	9.3	8.8	8.7	7.8	8.2	7.7	–
Russia	9.4	7.3	7.3	7.5	7.2	7.6	7.5	7.5	7.4
India	8.1	5.5	5.8	5.8	–	–	–	–	–
China	2.9	2.3	2.0	1.9	–	1.5	1.6	1.6	–
Advanced economies[4]	1.6	0.5	0.5	0.5	0.6	1.5	1.5	1.5	1.5
Emerging economies[4]	5.3	4.2	4.1	4.0	4.0	3.0	3.1	3.1	3.1
World economy[4]	3.1	2.2	2.2	2.2	2.2	1.9	2.0	1.9	1.9

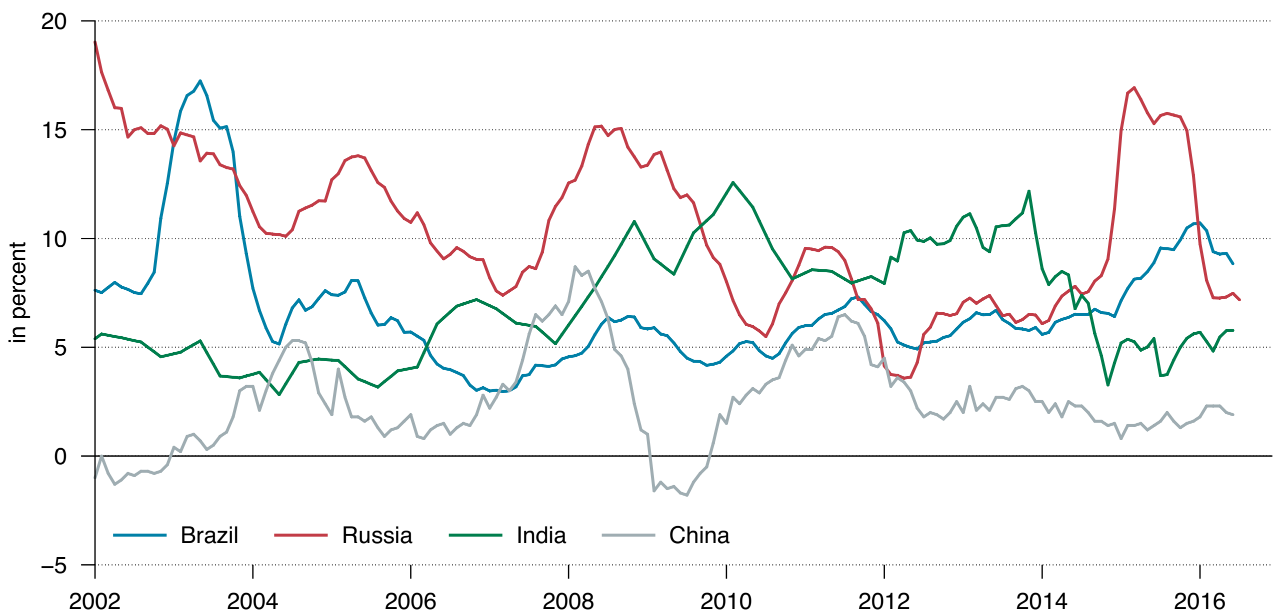
[1] Average annual consumer price inflation, in percent.
[2] Year-on-year change of the consumer price index (CPI), in percent.
[3] Core inflation is a measure of inflation that excludes certain items that can experience volatile price movements, such as energy and certain food items; year-on-year change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

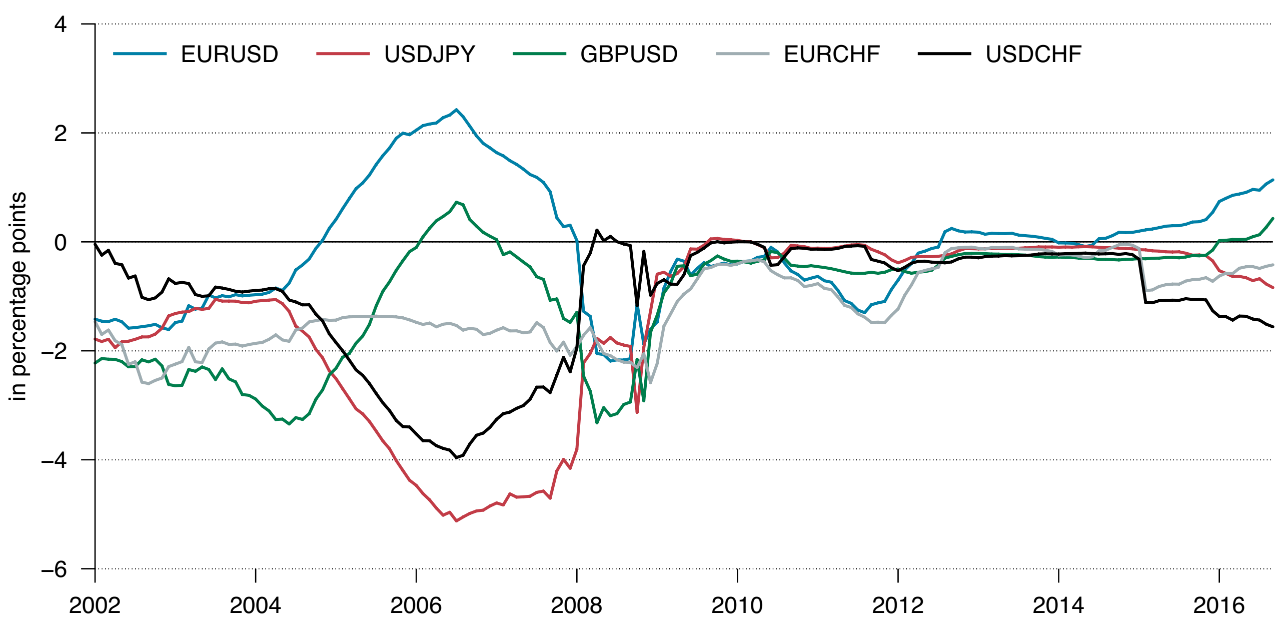
Interest rates

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	1.118	1.11	0.34	0.13	-0.08	1.59	0.73	0.27	-0.03
USDJPY	100.9	-0.84	-0.23	-0.23	-0.99	-1.43	-0.60	-0.47	-1.13
GBPUSD	1.293	0.43	-0.26	-0.27	-0.58	0.80	-0.21	-0.31	-0.62
EURCHF	1.088	-0.45	-0.70	-0.45	-0.86	-0.43	-0.68	-0.57	-0.94
USDCHF	0.973	-1.56	-1.05	-0.58	-0.79	-2.02	-1.42	-0.84	-0.92
GBPCHF	1.259	-1.13	-1.31	-0.86	-1.37	-1.21	-1.63	-1.15	-1.54
CHFJPY	103.7	0.72	0.82	0.35	-0.20	0.59	0.81	0.37	-0.21
AUDUSD	0.770	-0.65	-1.65	-2.31	-2.60	0.18	-1.05	-1.67	-2.19
USDCAD	1.294	0.08	0.42	0.80	0.43	-0.42	-0.06	0.55	0.25
USDSEK	8.436	-1.44	-0.66	0.42	0.32	-1.77	-0.97	0.25	0.27
USDRUB	64.8	9.43	12.38	8.83	7.28	8.72	12.06	8.40	7.56
USDBRL	3.157	13.26	13.88	10.47	9.76	11.59	13.33	10.22	9.69
USDCNY	6.645	1.99	2.77	3.89	2.43	1.50	2.55	3.55	2.19
USDTRY	2.950	8.74	10.84	8.91	9.75	8.26	10.33	8.73	10.01
USDINR	66.86	7.47	7.47	8.80	7.05	5.47	6.61	6.29	4.51

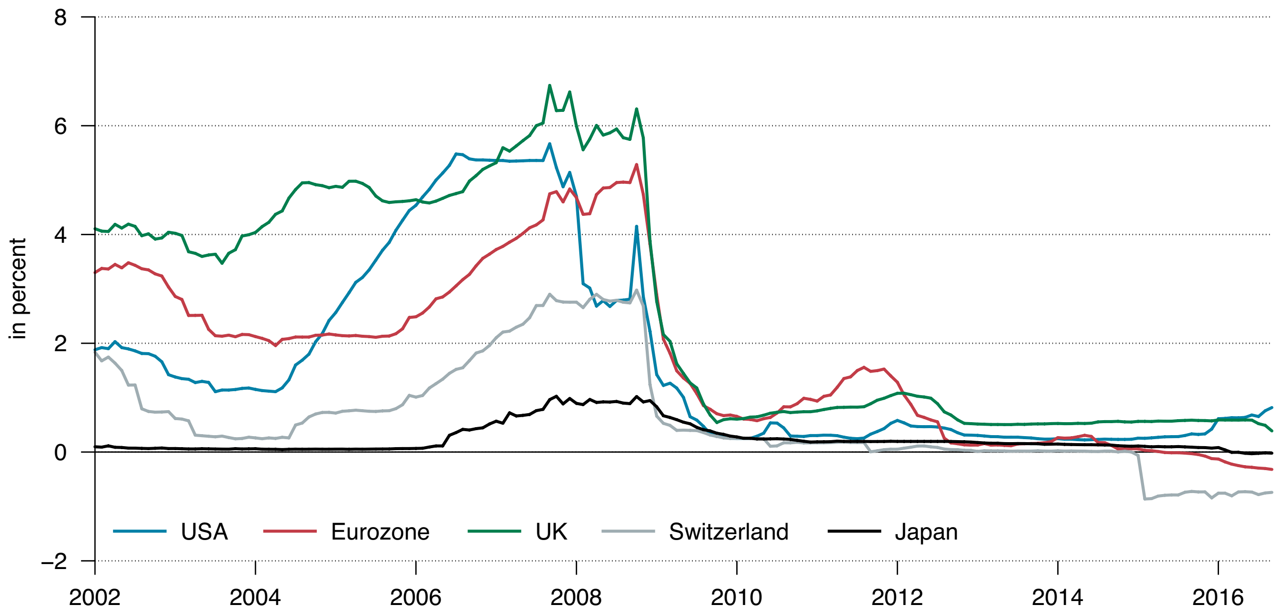
[1] The gap in interest rates between the second currency and the first one, in percentage points; e.g. US dollar minus euro for EURUSD.

Interest rate differentials

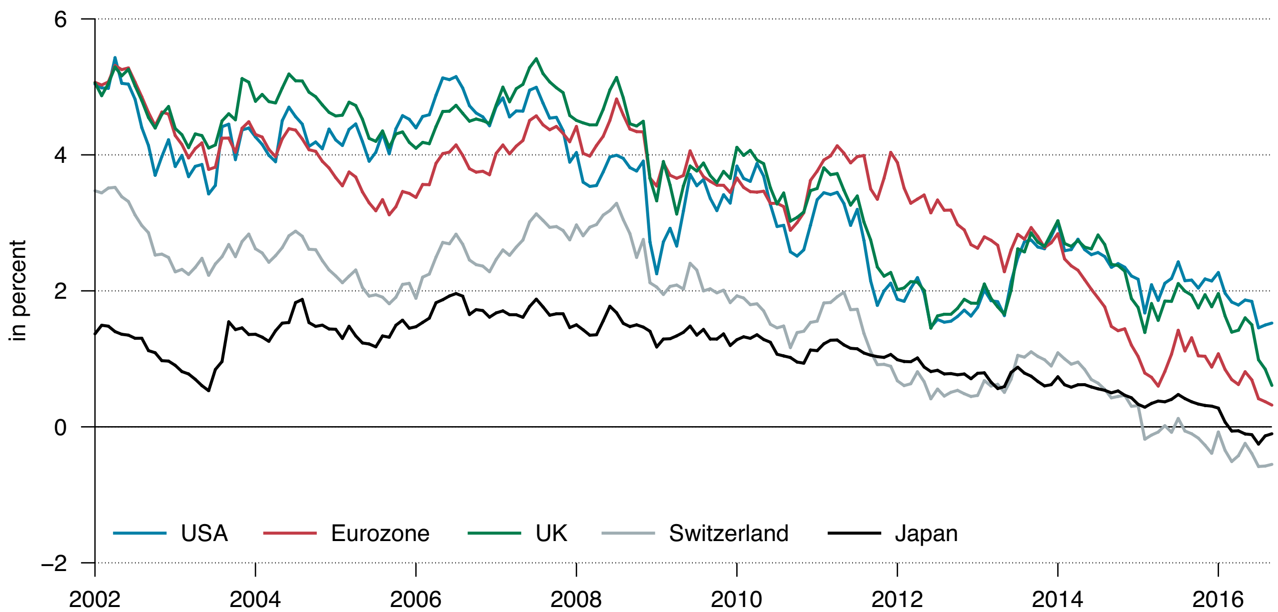


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

3-month Libor



10-year government bond yields



Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

QCAM®
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FX markets

The initial uproar following the Brexit vote has subsided on currency markets. Neither the GBPUSD nor the GBPCHF exchange rates have moved significantly in the past four weeks. Versus the G-10 currencies generally, however, the pound now trades on average about 10 percent lower than its pre-Brexit levels.

We calculate that the euro still remains about 13 percent undervalued versus the Swiss franc. The latest numbers from the Credit Suisse Pension Fund Index indicate that Swiss institutional investors maintain their skeptical attitude toward the euro. The unsecured euro portion of their holdings has fallen to a record low of 3.5 percent.

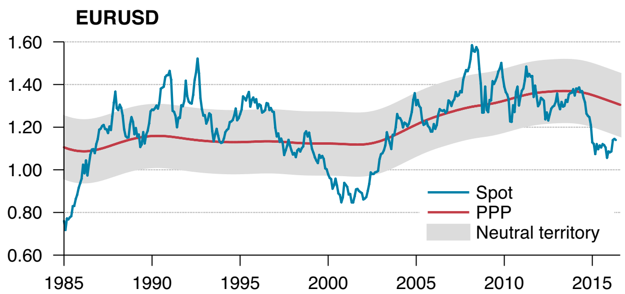
Currency pairs exhibit decidedly different speeds as they align with purchasing power parity. So far this year the Japanese yen has worked down some 14 percent of its undervaluation versus the Swiss franc while the euro has managed a mere 0.4 percent. To put such diverse adjustment speeds in context, Wellershoff & Partners examined all G-10 currencies to see how quickly currency-pair realignments have occurred in the past. The findings indicate that 15 percent of a mispricing is corrected, on average, over six months, 30 percent over a year and 55 percent after two years.

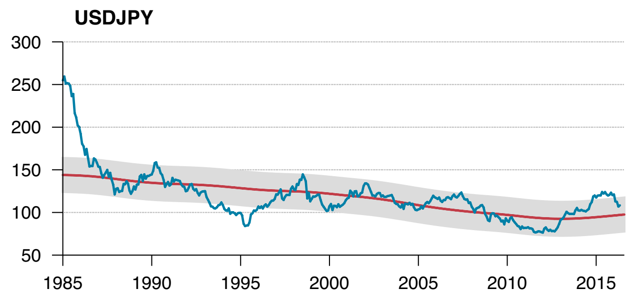
FX overview

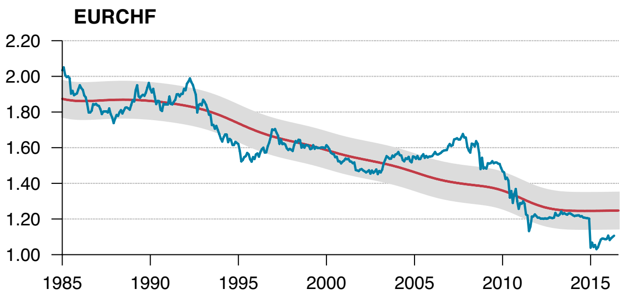
	Current exchange rate	Performance[1]				Purchasing Power Parity[2]		
		YTD	3 months	1 year	5 years	PPP	Neutral territory	Deviation[3]
EURUSD	1.118	2.9	-1.1	0.5	-21.4	1.30	1.16 - 1.45	-14.3
USDJPY	100.9	-16.1	-7.5	-18.9	31.4	97.6	77.8 - 117.4	3.4
GBPUSD	1.293	-12.3	-9.9	-17.0	-20.5	1.63	1.47 - 1.79	-20.7
EURCHF	1.088	0.1	-1.3	0.2	-1.0	1.25	1.15 - 1.35	-12.8
USDCHF	0.973	-2.8	-0.3	-0.3	25.9	0.98	0.79 - 1.18	-1.2
GBPCHF	1.259	-14.7	-10.1	-17.3	0.1	1.60	1.32 - 1.87	-21.2
CHFJPY	103.7	-13.7	-7.3	-18.7	4.4	91.0	78.4 - 103.5	13.9
AUDUSD	0.770	5.8	5.8	4.6	-25.5	0.69	0.57 - 0.82	11.0
USDCAD	1.294	-6.8	0.1	-1.1	30.6	1.21	1.14 - 1.28	7.0
USDSEK	8.436	0.1	2.1	-0.7	29.7	7.07	6.18 - 7.96	19.3
USDRUB	64.8	-11.3	-0.7	-0.2	121.6	38.8	31.6 - 46.1	66.9
USDBRL	3.157	-20.2	-10.1	-10.3	95.4	2.99	2.49 - 3.50	5.5
USDCNY	6.645	2.3	1.9	3.8	4.0	6.44	6.23 - 6.65	3.2
USDTRY	2.950	1.1	-0.6	4.6	65.2	2.33	2.07 - 2.59	26.5
USDINR	66.86	1.1	0.1	2.6	47.4	64.5	61.40 - 67.70	3.6

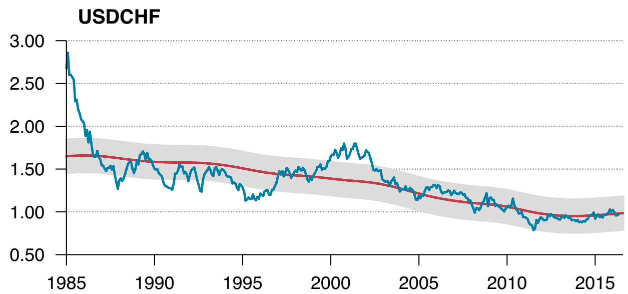
[1] Performance over the respective period of time, in percent.
[2] Purchasing power parity (PPP) is estimated based on the relative development of inflation rates in two currency markets; the neutral territory is determined by +/- 1 standard deviation of the historical variation around the PPP value.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

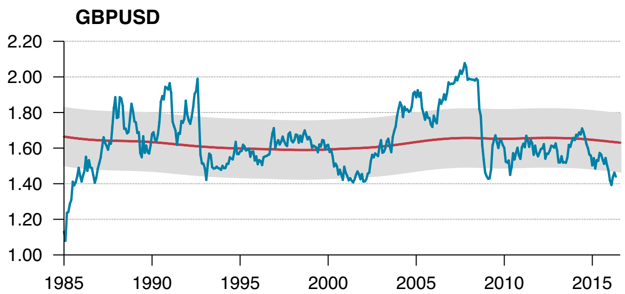
Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

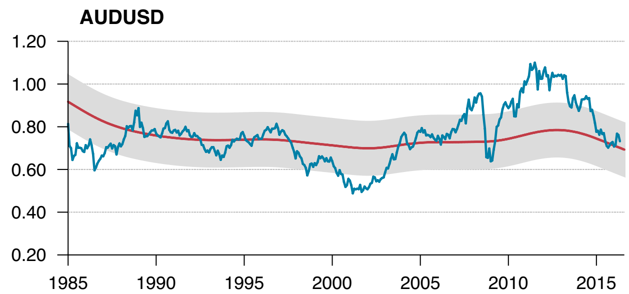


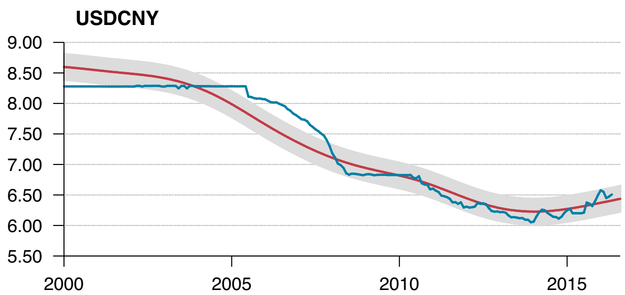


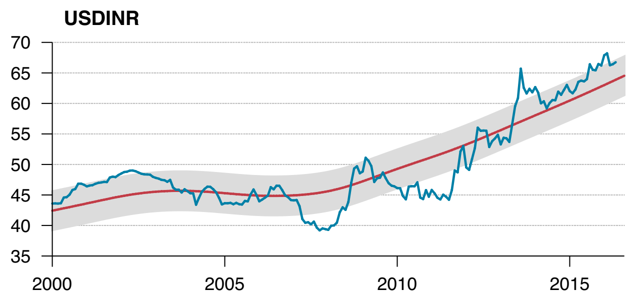


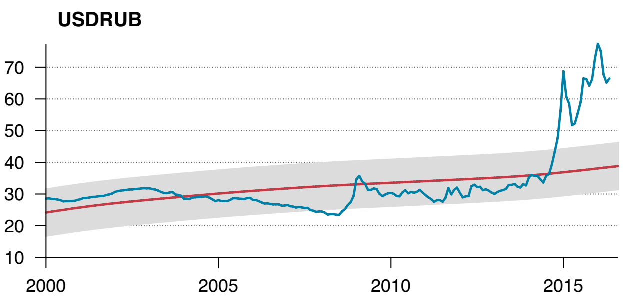


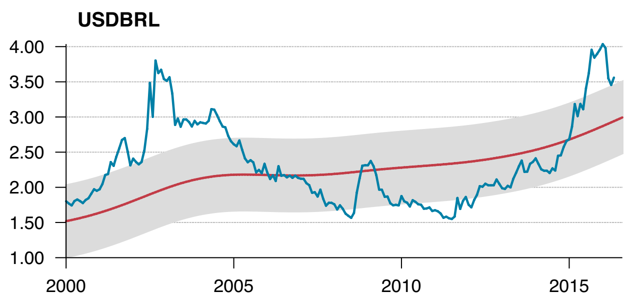












Source: Thomson Reuters Datastream, Wellershoff & Partners

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	1.118	8.9	8.2	9.5	10.4	9.8	8.6	10.0	10.7
USDJPY	100.9	13.4	12.0	9.7	10.7	11.2	11.1	10.4	11.1
GBPUSD	1.293	18.4	10.5	8.4	9.7	11.7	10.2	9.0	10.1
EURCHF	1.088	7.0	5.7	5.8	6.2	6.4	6.8	6.8	6.5
USDCHF	0.973	8.1	8.0	9.9	10.5	9.4	8.6	10.5	10.8
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CHFJPY	103.7	14.3	11.1	11.0	11.4	11.4	11.3	11.7	11.9
AUDUSD	0.770	11.9	10.5	10.9	12.4	12.4	11.0	11.6	12.7
USDCAD	1.294	9.7	9.1	8.2	9.8	9.8	9.1	8.7	10.1
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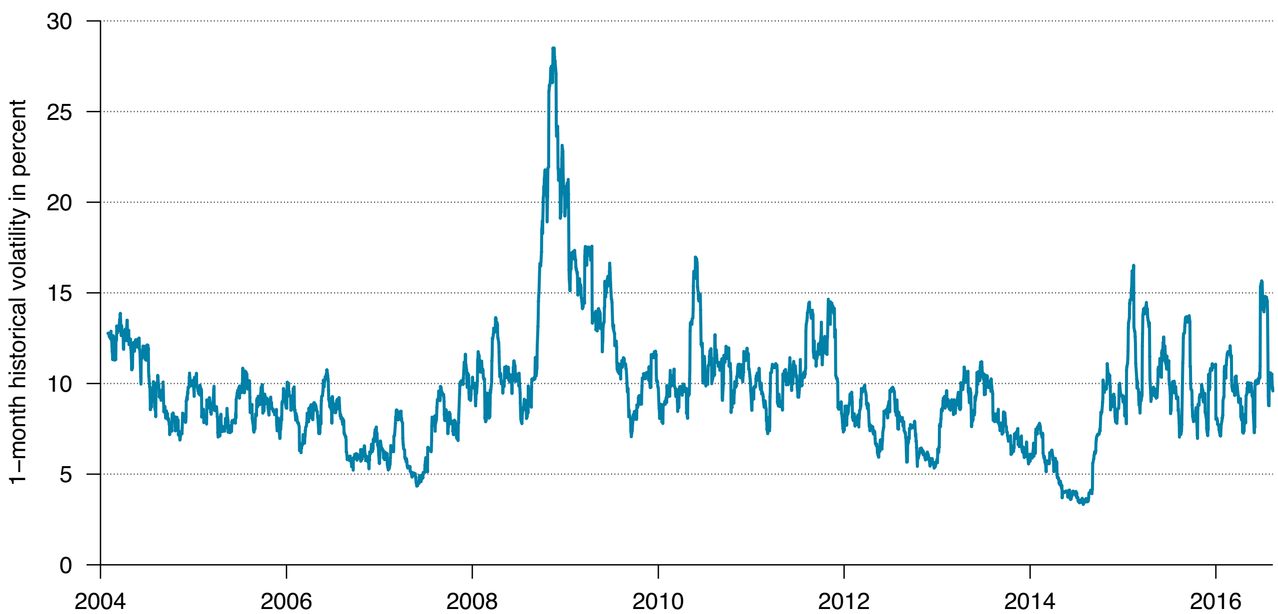
USDTRY	2.950	13.7	12.3	11.7	13.3	12.6	13.6	13.1	14.7
USDINR	66.86	4.4	6.1	9.4	9.5	4.6	7.6	10.4	10.4

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

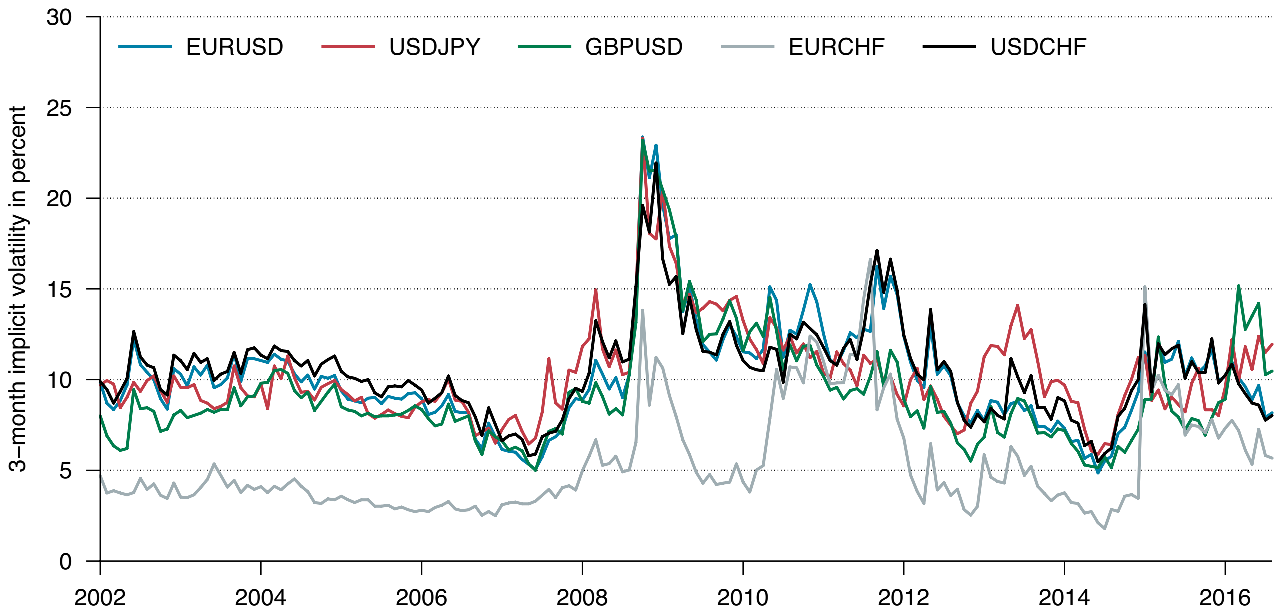
QCAM volatility indicator[3]



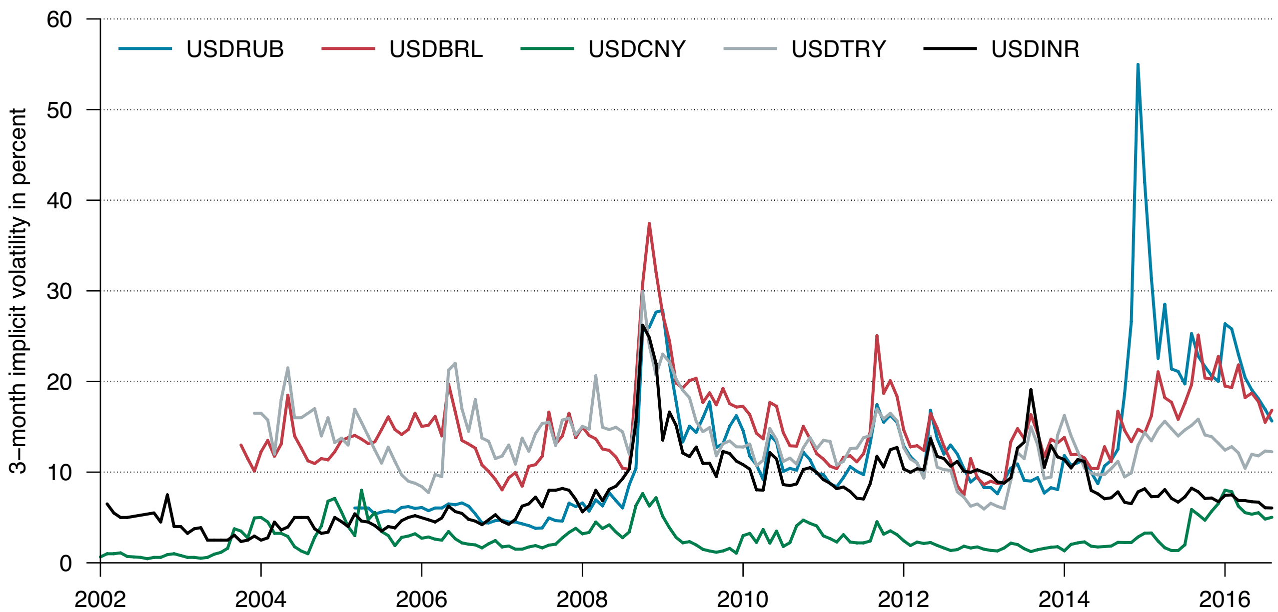
[3] The QCAM volatility indicator measures general volatility in global FX markets; the indicator is based on historical volatility of the main exchange rates, which are weighted by trading volume.

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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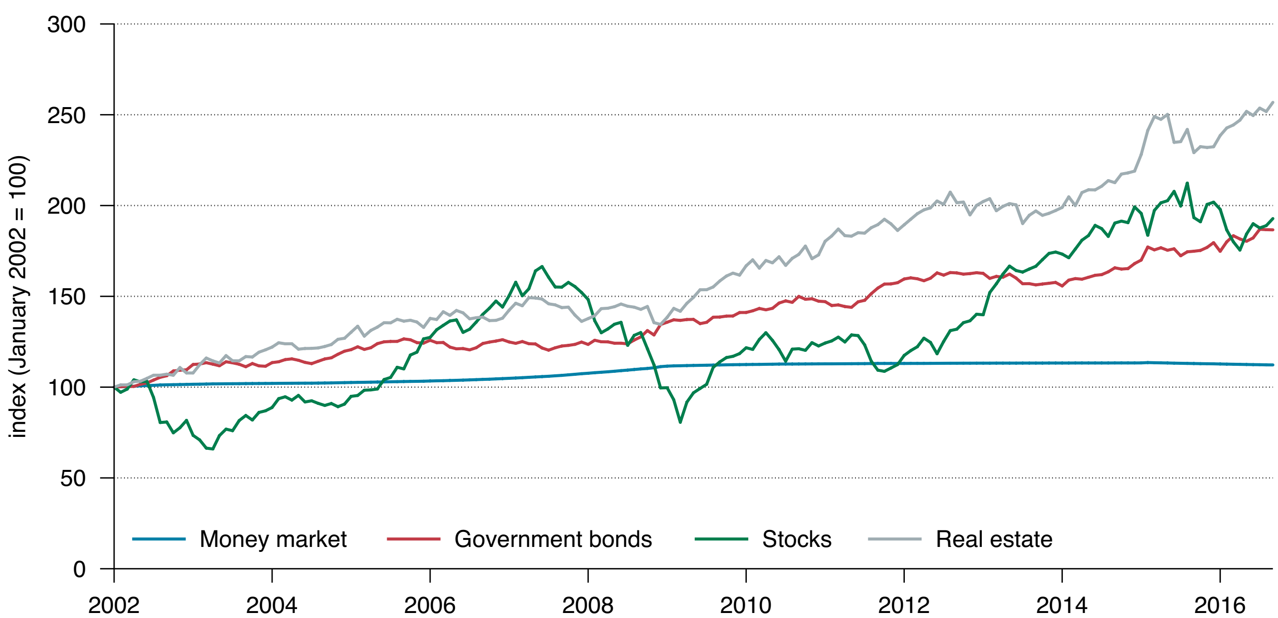
Financial markets

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	-0.4	-0.2	-0.7	-0.7	-0.4	-0.2	-0.7	-0.7
Swiss government bonds	6.8	2.8	6.1	21.7	6.8	2.8	6.1	21.7
Swiss corporate bonds	3.6	1.0	3.2	16.9	3.6	1.0	3.2	16.9
Swiss equities (SMI)	-2.6	5.0	-7.8	85.7	-2.6	5.0	-7.8	85.7
Eurozone equities (Stoxx600)	-2.5	4.4	-7.3	73.6	-2.0	3.0	-7.2	71.9
UK equities (Ftse100)	14.2	14.2	9.5	56.8	-1.8	3.0	-9.3	58.1
Japanese equities (Topix)	-13.5	0.4	-19.0	91.4	0.5	7.4	-1.4	81.6
US equities (S&P 500)	8.3	7.3	7.2	106.4	6.6	7.8	6.9	160.4
Emerging markets equities	16.8	15.8	8.2	5.9	15.0	16.4	7.9	33.7
Global equities (MSCI World)	6.3	6.8	2.4	67.9	4.7	7.3	2.1	111.8
Swiss real estate	7.7	2.2	7.9	40.5	7.7	2.2	7.9	40.5
Global real estate	13.6	6.8	13.6	75.0	11.8	7.3	13.3	120.8
Commodities	7.0	-0.5	-7.1	-46.5	5.3	0.0	-7.3	-32.5
Brent oil	31.2	-2.4	-4.5	-56.6	29.1	-2.0	-4.8	-45.3
Gold	27.4	6.5	21.3	-21.8	25.4	7.0	20.9	-1.3

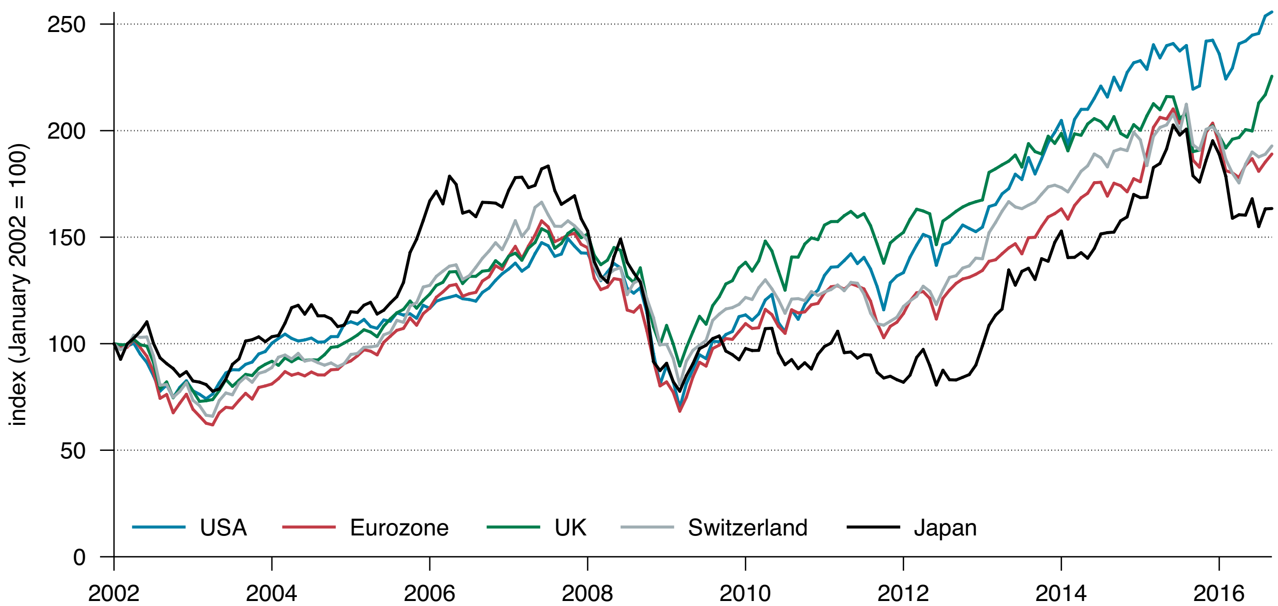
[1] Performance over the respective period of time, in percent.

Performance of selected Swiss asset classes

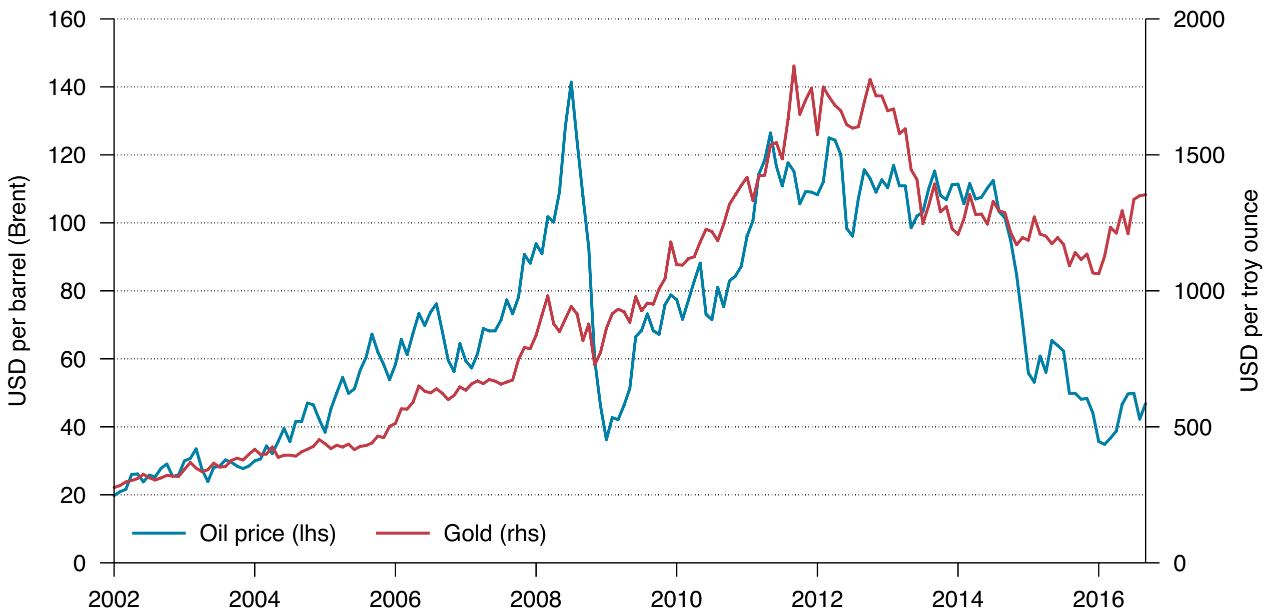


Source: Bloomberg, Thomson Reuters Datastream, Wellershoff & Partners

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

666 interest rate cuts

Since the start of the financial crisis, usually dated by the demise of the investment bank Lehman Brothers in 2008, interest rates have been cut no fewer than 666 times worldwide, according to Michael Hartnett, Chief Investment Strategist at Bank of America Merrill Lynch. 666 rate cuts! And still, stagnation persists in the global economy, as does the flight to secure investments.