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Global FX Strategy
Global Emerging Markets Research
27 November 2013

Global FX Strategy 2014

Abnormal normalisation still means limited USD strength

Global FX Strategy

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Global FX Outlook 2014: Abnormal normalisation still means limited USD strength

- **The dollar index is finishing 2013 with its third best annual performance in a decade (+3%). In contrast to previous dollar-positive environments like 2005 and 2008, this year's rally came without higher cash rates or high volatility, and with much more USD strength versus emerging markets than against G10.**
- **Many of the peculiarities which generated this pattern carry over into 2014. EM's growth advantage over the G10 remains near a decade low; external imbalances are improving more in Europe and the US than the rest of the world; Fed policy remains highly experimental; but risk premia in rates markets and in rates and FX vol are generally small.**
- **The environment sounds conducive to another year of broad, and in some cases significant, USD gains as US rates normalise. There are two wrinkles, however. First, with global inflation near a 40-year low, the normalisation most fear should remain confined to bonds rather than the policy rates which tend to be more influential on currencies. Second, FX valuations outside of vol markets are much better, which should limit the decline in non-USD currencies.**
- **With such offsets, the dollar's path will probably be no more linear than in 2013, even if that trajectory is nonetheless higher. Expect 3% gains on the DXY but less than 1% on the broader JPM index (JPMQUSD). The biggest losers in spot terms (Dec 2014 targets) should be JPY (106), EUR (1.30), SEK (6.85), IDR (12500), MYR (3.35), BRL (2.40), CLP (540), TRY (2.15) and ZAR (10.70), while the biggest winners should be NZD (0.83), ILS (3.45), MXN (12.40), CNY (6.00) and KRW (1020). Except for MYR, the weak EMs should beat the forwards.**
- **Six global themes influencing the forecasts – growth rotation, inflation/deflation, asset bubbles (housing), rate normalisation, valuation and global imbalances – are discussed on pages 6 to 15. Idiosyncratic ones are detailed on pages 16 to 18.**
- **Volatility: VXY should mean-revert to 9%. Vols price little risk premium for a market with two large leverage sources (EM bonds, yen shorts) and tangible liquidation triggers (higher US 10-yr rates). Alpha generation via systematic gamma or forward vol selling will remain tough in the absence of risk premia. Spike risks, however, are easily hedged via calendar spreads/FVAs along flat curves. Own troubled EM vols (BRL, TRY, MYR) funded with the resilient (RUB, MXN, SGD). Cross-yen vols trade cheap: buy 6M AUD/JPY vs. USD/JPY.**
- **Top macro themes and trades: (1) Growth rotation (re-enter short AUD/NZD & sell AUD/MXN); (2) Policy divergence (re-enter long USD/JPY and USD/TRY; buy GBP/JPY); (3) External imbalances (re-enter long USD/IDR, stay short USD/CNY); and (4) Valuation (buy USD/CZK).**
- **Top FX technical recommendations: Stay long USD/JPY, USD/ILS and USD/SEK; and buy MXN/CLP, USD/CAD and USD/CZK. Stay short PLN/HUF and sell AUD/NZD.**
- **Top systemic and regional wildcards: (1) Fed/Bank of England labour market models are wrong; (2) ECB does whatever it takes to generate inflation; (3) Japanese policymakers fumble the consumption tax and TPP; (4) China requires sub-7% growth to achieve rebalancing; (5) elections in five big emerging markets deliver market-unfriendly governments; (6) peripheral Europe booms; and (7) US politics becomes dysfunctional (again).**

The dollar is ending 2013 up 3% trade-weighted, its third best annual performance in a decade behind 2008's 7% rally after Lehman defaulted and 2005's 5% gain after Fed tightening. This year's rally differs from previous ones in several respects. First, it has come without an increase in FX volatility or an increase in US short-end rates, compared to 2008 when FX volatility tripled from 8% to 24% (based on VXY Global) and 2005 when the Fed funds rate rose 200bp. Second, it has come mainly versus emerging markets currencies, unlike 2008 when the dollar strengthened versus all currencies but the yen, and 2005 when G10 currencies fell 10% as Latam and EM Asia rallied (charts 1 and 2). This very abnormal rate normalisation process – this year's Treasury bear steepener has been the longest and largest in at least three decades – has not been easy to monetise judging from fund manager returns, which were lower in 2013 than in 2012 for all classes but Fixed Income Sovereigns (chart 3).

Nine months into this normalisation process it is well acknowledged how **unique the current cyclical and policy environments are.** The growth advantage of emerging markets relative to the G10 is near a decade low (chart 4); global inflation has fallen to its lowest in forty years (chart 5); central bank policy in some countries is transitioning from one experiment (asset purchases) to another (rate guidance); every G10 economy plus China is eschewing

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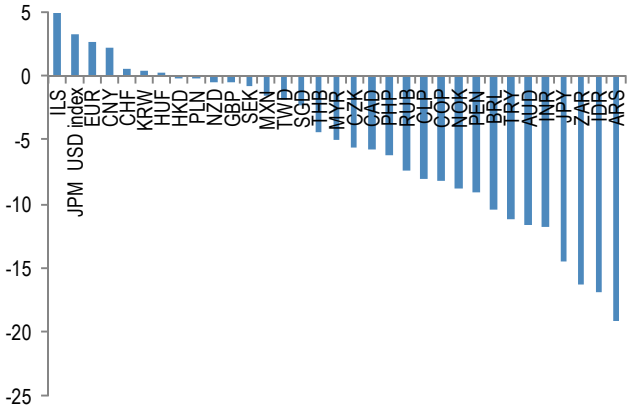
rate rises to contain house prices; and yet risk premia in rates markets and in rates and FX vol markets are generally below average. The environment sounds conducive to another year of broad – and in some cases significant – USD gains as US rates normalise, except for two wrinkles. First, with global inflation near a 40-year low, the rate normalisation most fear should remain confined to bonds rather than the policy rates which tend to be more influential on currencies. Second, FX valuations outside of vol markets are much better, which should limit the decline in non-USD currencies. So expect the following: small gains on the USD index (3% on DXY, 1% on JPMQUSD); a path as erratic in 2014 as in 2013 due to conflicting elements; and alpha generation highly dependent on short-term tactical trading rather than strategic USD longs except in a handful of currencies (JPY, IDR, TRY).

Primarily this Outlook extends the message and the strategy we first outlined in May when the global rates sell off began (see The beginning of the end of easy money, May 24, 2013), though it more broadly considers six global macro themes shaping the year ahead. These include:

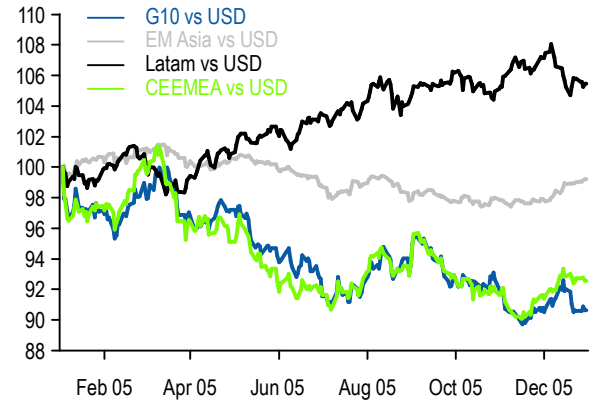
- **Global growth**: Which countries will lead and lag, and for how long? What is the new normal on emerging markets growth given the required rebalancing in many?
- **Global inflation**: Will the ECB reach another whatever-it-takes moment on deflation; is Europe the only part of the world with a low inflation problem; who follows the Swiss and Czechs in targeting the exchange rate as an inflation-generating strategy; and is disinflation as worth trading in FX as it is in bonds?
- **Asset bubbles**: Where are bubbles (versus simply high prices); how will central banks address them; and will that response prove positive or negative for currencies where asset prices like housing are bubbling over?
- **Rate normalisation**: Who are the first movers in 2014; are money markets appropriately priced for that outcome; how disruptive will tapering be; and is forward guidance worth much?
- **Valuations**: Do fixed income and FX still have a valuation problem; are there any risk premia worth earning in FX cash and derivatives markets; and is valuation a reliable and profitable trading signal in FX?
- **Global imbalances:** Have current accounts/basic balances shifted enough to protect 2013's vulnerable currencies (AUD, JPY, BRL, TRY, ZAR, INR, IDR) next year, or to undermine 2013's stronger currencies (EUR, GBP); and will America's grind towards energy independence ever matter for floating currencies (CAD, MXN), as opposed to just OPEC's trade surplus?

Chart 1: 2013's USD rally was the third biggest in 10 years...
Currency performance vs USD indexed to Jan 1, 2013. USD is J.P. Morgan USD index (JPMQUSD on Bloomberg).



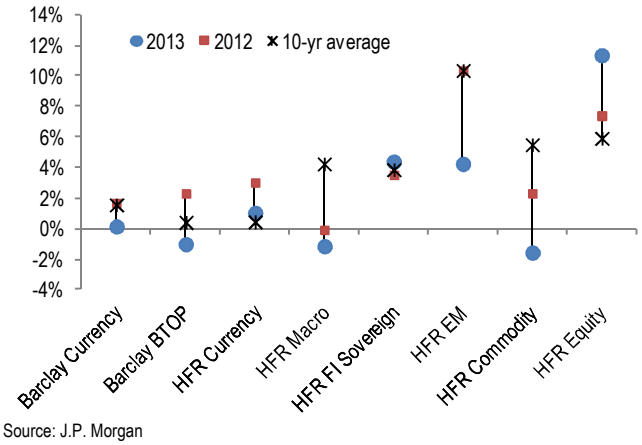
Source: J.P. Morgan

Chart 2: ...but quite unlike the 2005 Fed tightening
Currency performance vs USD indexed to Jan 1, 2005 = 100



Source: J.P. Morgan

Chart 3: Except for fixed income funds, manager returns were lower in 2013 than 2012
Manager returns across fund types: currency (first three), global macro, emerging markets, fixed income sovereign, commodities and equities.



Source: J.P. Morgan

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Discussion of idiosyncratic influences follows on pages 16 to 18. Page 25 is a best attempt at medium-term trades, but for full disclosure, we aim to be as tactical in 2014 as in 2013, when we reduced average holding periods on trades to about one month given reversals in economic and policy momentum across countries (see Post-mortem on page 26).

1. Global growth: lots of brief, minor rotations

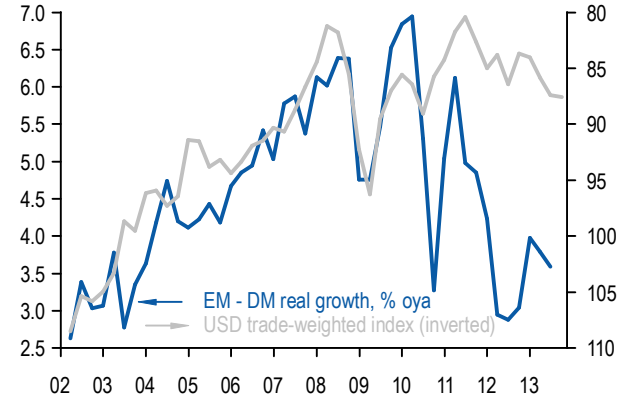
Several developments defined global growth in 2013: Europe's exit from recession; Japan's ballistic expansion (over two times potential); America's almost-customary inconsistency; the emerging markets' slowdown; a global acceleration to trend (3%); and a narrowing of the EM/G10 growth gap (chart 4). While not all currencies correlate positively or consistently with growth momentum – it also matters whether growth moves interest rates and whether a country runs a current account deficit or surplus – every year there are a few countries where cyclical momentum can be decisive for the currency. Hence the importance of which countries lead and lag next year and for how long.

Relative to their current quarter-on-quarter run rate, some of the countries likely to perform **better** in 2014 are the US and Mexico, and **worse** would be China, Japan and UK. In the **US**, real GDP growth could accelerate from an average quarterly pace of 2% this year to 3% by mid-2014 as the record fiscal drag of the past three years (chart 6) fades. **Mexico**, also a victim of unintended fiscal tightening through slow budget execution in 2013, could accelerate to 3.5%. Although this less-drag-more-growth US outlook is widely shared, it is nonetheless one which justifies a US 10-yr rate closer to 3.5% if realised, so should strengthen the dollar against currencies where central banks are easing (JPY, AUD)/biased to ease (EUR), or currencies where external imbalances remain large (ZAR, TRY, INR, IDR, BRL, CAD). Note that most big emerging markets – **India, Turkey, Russia, South Africa** – should accelerate next year but in all cases probably achieve nothing better than potential.[1] This performance alone is unlikely to protect their currencies from a US upturn which pushes US rates much higher. One caveat, however. The reason this US upturn and its rates/FX consequences could prove temporary events for a quarter or two is simply the proven interest-rate sensitivity of the US economy.

China's sequential deceleration from its current 8% in late 2013 to 7% in Q1 2014 results from the opposite forces as the US: a fading of small-scale fiscal stimulus from July

Chart 4: A narrower EM-G10 growth gap has strengthened the dollar through lower commodity prices and EM capital flight

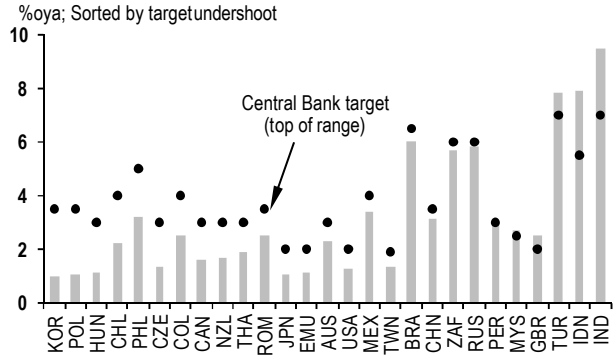
Difference between EM and G10 growth versus USD trade-weighted index



Source: J.P. Morgan

Chart 5: Global inflation: generally there's too little, not too much

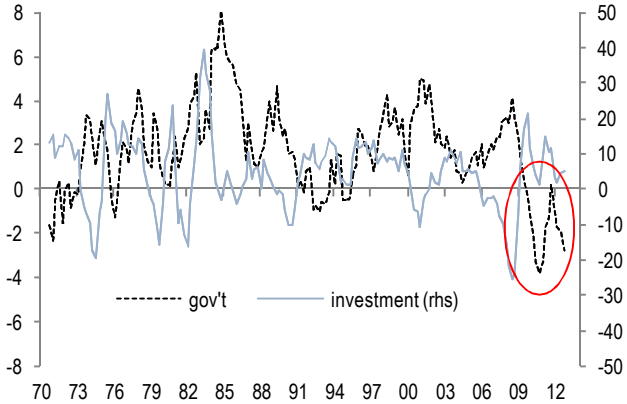
CPI inflation (% oya) versus target



Source: J.P. Morgan

Chart 6: Why favour the US? Less of the greatest fiscal drag in history

Real GDP growth by component, q/q saar, 4-quarter rolling sum



Source: J.P. Morgan

[1] J.P. Morgan's estimates of 2014 real GDP versus potential (in parentheses) for the big emerging markets: China 7.4% (8%), Brazil 2.3% (3%), Russia 2.2% (2.3%), India 5% (6%), Indonesia 4.9% (5%), Turkey 3.8% (4%) and South Africa 3.1% (3.1%).

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2013 and the lagged effects of credit growth (total social finance) which began slowing since May 2013. Like the US's upturn, China's slowdown is also a consensus view, whether gleaned from client conversations or measured in consensus surveys. But that outcome would still be material for FX markets given that commodity currency returns correlate positively with China growth (through commodity prices) and are about 5% stronger than they deserve to be if China growth slows to 7% (chart 7). Thus another reason we expect AUD to underperform in 2014.

Japan's slowdown is trickier to link to a USD/JPY trend since the hit to growth from the consumption tax (Q2 2014 real GDP -4.5%) will be partly offset by increased fiscal spending plus additional BoJ easing in April (¥1 trn of ETF purchases plus ¥10 trn of JGBs). So this unusually uneven growth profile – probably the most erratic of any globally – is more a tactical risk to bullish USD/JPY view. Targets are 104 in Q1, 100 in Q2, 102 in Q3 and 106 in Q4.

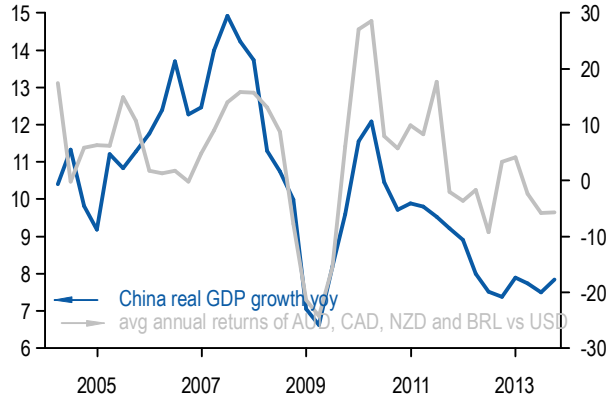
Growth in the **UK** has probably peaked in sequential terms, but even should it slow from its current 3.5% to 2.5%-3% next year, that pace would remain well above potential of around 1.8%, making the UK's performance unique globally. The **Euro area** should step up from the current 0.8% pace to 1.5% on easier financial conditions plus a few country-specific drivers (Spanish competitiveness, payment of Italian government arrears), but even this achievement would be insufficient to reverse the region's low inflation/deflation challenge. Since inflation more than growth would shape ECB policy which in turn influences EUR/USD, we would downplay this growth pick-up as so meaningful for the currency. Even a return to +1% growth is unlikely to ease the ECB's inflation challenge given the amount of slack in the region.

2. Global inflation: the problem is too little, not too much

It seems misguided to speak of inflation when global CPI increases are amongst the weakest in fifty years;[2] when the majority of G10 and EM central banks are failing to meet their inflation targets (chart 5); and when China's probable speed limit (7% now, 6% eventually) continues to sap commodity price momentum. The reason to focus on inflation is because **markets don't price very much of it**

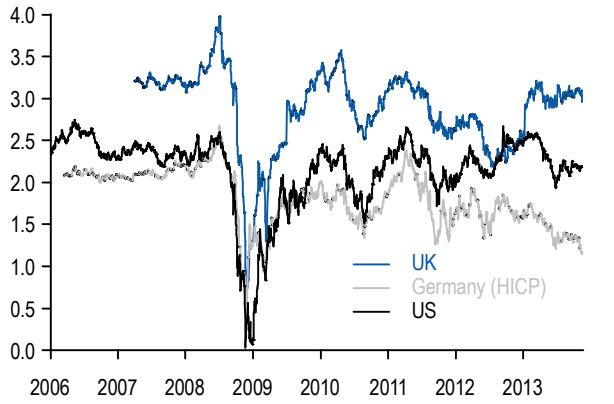
[2] G10 CPI inflation is running at 1.1% year-on-year and EM inflation at 5.1%. For G10 this rate is close to record low, excluding the stint of deflation which followed Lehman's default. EM inflation in aggregate has been climbing for about a year, however, even though it remains below target in several countries (chart 5).

Chart 7: If China grows by 7%, commodity FX should decline 5%
China real GDP growth versus spot returns on basket of commodity currencies (CAD, AUD, NZD, BRL and RUB).



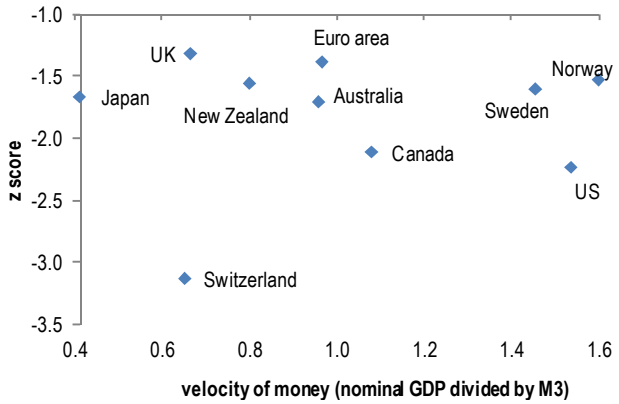
Source: J.P. Morgan

Chart 8: Linkers markets do not discount materially higher inflation just because central bank balance sheets are at record size
Breakeven inflation from 10-yr inflation-linked bonds



Source: J.P. Morgan

Chart 9: Money velocity: none to speak of
Velocity of money nominal GDP divided by M3 in level terms (x-axis) and as number of standard deviations from 20-yr average (y-axis)



Source: J.P. Morgan

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even in the wake of massive QE programs (chart 8), and because inflation's re-emergence is the **single biggest risk to the G10's easy money policies.** Conversely deflation has been the motivation for exchange rate targeting in Switzerland (EUR/CHF 1.20 floor from August 2011) and Czech Republic (EUR/CHF 27.00 floor from November 2013), and indirect exchange rate focus in Japan (QQE from April 2013).

Thus the interesting currencies in 2014 will be those where rising inflation motivates quicker tightening than what is discounted, or where disinflation/deflation triggers whatever-it-takes policies such as further easing, currency intervention or currency pegs. Only **NOK** sits in the first camp, **JPY**, **EUR** and possibly **ILS** in the second, and **USD** and **GBP** quite hard to handicap. Due to concerns about the housing market, the **Norwegian** curve prices no hikes in 2014 despite above-target inflation, low unemployment and decent domestic growth.

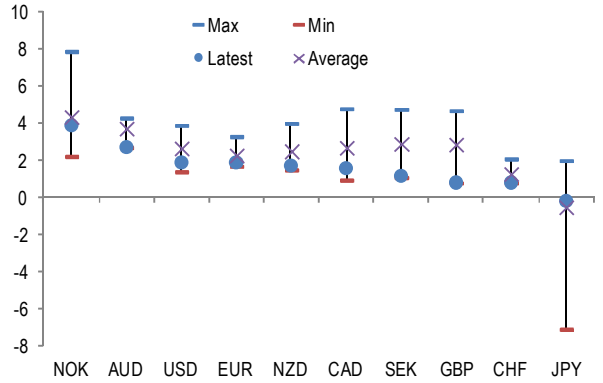
Japan will almost certainly fail to meet its 2% inflation target, so prompt further BoJ easing in April. The **ECB** could ease as well, but with cash rates already at zero in Japan and the Euro area, easier money due to low inflation is only meaningful for the currencies as US rates rise and their rate differential to the US grows. Thus **the inflation trade in EUR/USD may be more of a 2015 story** when the Fed begins tightening than a 2014 event. **Israel** seems unlikely to peg its currency, but it is likely to intervene substantially in 2014 to curb shekel strength. Still, ILS should end the year near current levels given Israel's basic balance surplus (3% of GDP).

Risks around **US** and **UK** inflation seem balanced by comparison, but if we had to choose the country in which the forecast has a slightly downside edge, it would be the US. This is due to very weak import price inflation, which contains goods price inflation.

What to watch as lead indicators for budding inflation? For the monetarists, it is **velocity of money** (chart 9). For more traditionalists, it would be **wage growth** (chart 10). Neither is flashing even amber, much less red, despite massive central bank balance sheet expansion since Lehman. Money velocity is well below its long-run average globally, and even more so in countries like the US and Switzerland where balance sheets have quadrupled over the past five years. Wage growth is highest in Norway and rising quickly in Japan but remains below average everywhere. In Japan's case, current wage increases have only climbed to 0% year-on-year.

Chart 10: Wage pressures: Highest in Norway, rising rapidly in Japan but below average everywhere

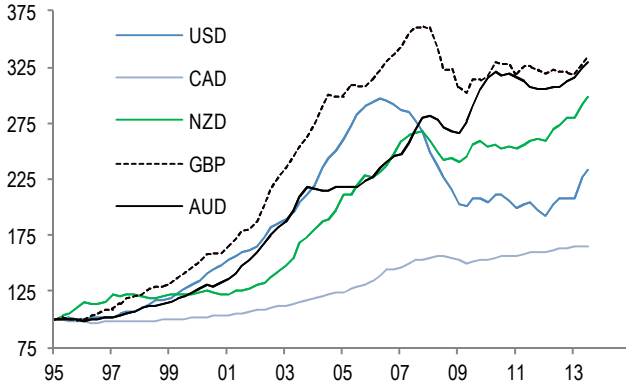
Wage inflation (preferred measure of JPM economists for each country) currently and versus the high, low and average of the past 20 years



Source: J.P. Morgan

Chart 11: House prices are more problematic in some countries than others

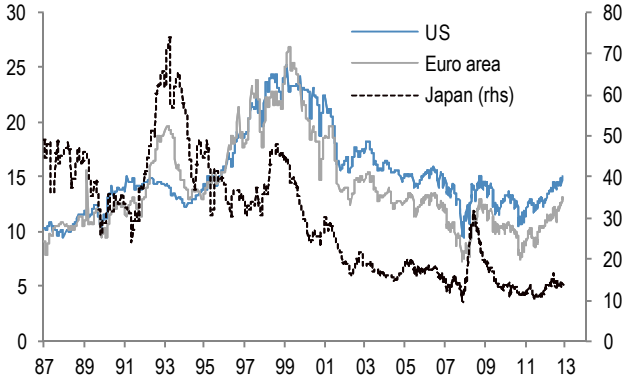
Indexed to 1995 =100



Source: J.P. Morgan

Chart 12: Equity P/Es are slightly above average for US and Europe

12-mo forward P/Es on US, Euro area and Japanese stock markets. Note that Japan is on a different scale due to the extraordinary level reached in early 1990s.



Source: J.P. Morgan

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3. Asset bubbles: how to handle housing

Even if unprecedented money creation hasn't created goods and wage inflation, it has (by design) created asset price inflation. There's nothing wrong with that outcome, until asset price inflation morphs into an asset bubble which threatens financial market stability during rate normalisation. Throughout the QE era, Cassandras have labelled everything from the S&P500 to US Treasuries to emerging market debt to AUD/USD an asset bubble. **But an appreciating asset isn't a bubble unless it exhibits three characteristics**: extreme valuation, extreme price momentum and investor leverage. There isn't hard science behind these criteria: it is more a smell test based on the stylised facts of every high-volatility collapse in an asset prices which also triggered a national or global recession. So Japanese real estate in 1980s, internet stocks in 1990s, US housing in 2000s and peripheral European debt tick the boxes, but nothing in the QE era seems to.

It is beyond the scope of this *Outlook* to detail how Treasuries, US stocks or EM debt fail the bubble test, though for the curious, we will gladly provide a few metrics on demand. (Chart 12 provides an example, showing forward P/Es on major stock indices at only slightly above-average levels.) Instead the *Outlook* focuses on **global housing**, since it is the sector most prone to asset bubbles historically for the simple reason that acquiring property almost always entails assuming leverage. Housing is also the asset class most closely linked to most major currencies – and sometimes the renminbi – given its interaction with monetary policy and influence on financial stability.

In most countries, housing and currency performance correlate positively (table 1, last column), though this statistic oversimplifies a relationship which varies over the business cycle. A **currency-positive** housing market is one of rising prices in a strong economy with limited household indebtedness. Thus higher prices could reinforce stronger activity data, promote rate normalisation and attract capital inflows, without the threat that higher rates trigger a financial crisis as mortgage servicing become onerous. A **currency-negative** housing market is one of rising prices in a weak economy with high household indebtedness. Thus as the central bank tightens to contain a leverage build-up, it triggers a collapse in asset values and either a slowdown or a recession. The UK housing cycle in the early 2002 was an example of the first, and the US housing cycle in the late 2000s an example of the second.

Table 1 details this cyclical and leverage variables for G10 housing markets plus China to assess **where and how this issue amplifies or neutralises the monetary policy influences on FX**. The shaded countries – **Canada,**

Table 1: Housing markets, household vulnerability and cyclical conditions in the major economies plus China

	Policy	House prices					Cyclicals[2]		Household vulnerability		FX correlation with HPI[5]	
	Real policy rate[1]	cumulative % change past 10 yrs	past 5 yrs	past 1 yr	All time high?	Current vs peak	GDP growth	Inflation	Household debt/GDP[3]	Household debt/income[4]	past 5yrs	past 10yrs
US	-1.2%	15%	3%	12%	No	-21%	2.8%	1.2%	82%	114%	-0.40	-0.24
Japan[6]	-1.1%	-26%	-11%	-2%	No	-43%	1.9%	1.1%	74%	122%	0.30	0.34
Canada	0.0%	43%	6%	2%	Yes	NA	2.0%	1.1%	96%	150%	0.33	0.36
Australia	0.3%	58%	22%	8%	Yes	NA	1.9%	2.2%	113%	168%	0.59	0.62
New Zealand	1.1%	78%	23%	10%	Yes	NA	3.6%	1.4%	94%	NA	0.74	0.57
UK	-1.7%	32%	3%	4%	No	-7%	3.2%	2.2%	93%	151%	0.73	0.65
Sweden	1.2%	71%	11%	3%	Yes	NA	2.0%	-0.1%	84%	167%	0.64	0.31
Norway	-0.9%	107%	40%	3%	No	-1%	2.0%	2.4%	65%	200%	0.78	0.38
Switzerland	0.3%	38%	23%	5%	Yes	NA	2.0%	-0.3%	NA	186%	0.25	0.67
Germany	-1.0%	13%	18%	9%	Yes	NA	1.3%	1.2%	58%	88%	0.24	NA
France	-1.0%	66%	1%	-1%	No	-4%	-0.4%	0.6%	57%	97%	NA	NA
Netherlands	-1.4%	-2%	-20%	-4%	No	-20%	0.4%	1.6%	127%	280%	NA	NA
Denmark	-0.5%	35%	-13%	3%	No	-17%	2.4%	0.7%	139%	302%	NA	NA
Spain	0.4%	5%	-33%	-8%	No	-33%	0.4%	-0.1%	79%	133%	NA	NA
China[7]	3.0%	57%	26%	9%	Yes	NA	7.8%	3.2%	20%	NA	-0.40	-0.49

[1] policy rate deflated by current CPI inflation

[2] latest quarter for real GDP growth, latest month for headline CPI inflation

[3] Q1 2013 figures from ECB and national sources

[4] latest available (2011) figures from OECD on household debt to disposable income

[5] based on year-on-year changes in trade-weighted FX and house prices

[6] based on Japan nationwide land prices

[7] based on discontinued NRDC index plus current Soufun index

Source: J.P. Morgan

Australia, New Zealand, UK, Sweden, Norway and Switzerland – are the ones commonly considered to have a housing problem because prices are at or close to their all-time highs (UK house prices are 7% below their peak and Norwegian ones 1% below), and because most have experienced significant price momentum over the past five and ten years. Policymakers in most have an incentive to lift rates and/or impose macro-prudential measures (loan-to-value restrictions, higher bank capital requirements) to contain prices.

Where central banks use macro-prudential measures as a substitute for rate hikes, currencies could fall if money market curves price in tightening. **NOK** fell victim to this approach in 2013. The Norges Bank is unlikely to rely exclusively on such tools in 2014, however, since CPI inflation is also high, the output gap closed and rate hikes justified (see Section 4 on Rate Normalisation below). We doubt high household indebtedness will fully deter the central bank since growth is decent (2%), but this indebtedness constraint is one reason we expect only 25bp of hikes next year. Housing similarly limits **SEK** since the central bank is unlikely to tighten when the economy is experiencing deflation. The same conclusion holds for **AUD**: no tightening and indeed easing as long as Australian growth and inflation are slowing. Property prices are not so relevant for **CHF** either over the next year given how low CPI inflation is; the SNB has already raised capital requirements to address financial sector risks. **CAD** has been and will remain constrained by the BoC's preference for macro-prudential tools rather than rate hikes to contain housing in the context of high household debt.[3]

House price trends are only bullish for **NZD** and **GBP**. New Zealand is the only major economy experiencing a house-price boom plus above-trend growth and rising inflation risks, which is why this year's macro-prudential measures are insufficient (expect 75bp of hikes in 2014). High household indebtedness is less concerning when the economy is strong. The **UK** is a mild version of New Zealand: high house prices and CPI, but more slack so less BoE urgency to lift rates. Think of housing therefore as a factor which raises the odds of earlier MPC hikes (now discounted to begin in Q4 2015), so a small positive for sterling.

In emerging markets the major housing issue is in **China**, but this issue strangely affects some G10 currencies (like AUD) more than China's renminbi. House price gains over the past ten years have been as robust in China as in any G10 economy (table 1), and while differences in leverage ratios make the China market less susceptible to the feared hard landing, the administrative means used to cool this sector are part of the reason the Chinese authorities would probably tolerate/or encourage a growth slowdown in 2014. Weaker Chinese growth means little now for CNY, which actually should strengthen (JPM Q4 2014 USD/CNY target of 6.00) as the PBoC moves towards a market-determined exchange rate (i.e. band widening) in the context of a decent surplus in the basic balance (see grey box on page 15). If China ever manages to cool housing activity, the indirect casualty would be AUD/USD.

[3] On Canada, see also *CAD and the risk of a housing bust: a clear and present danger*, Hebner and Chandan, November 5, 2013.

4. Rate normalisation: all at the long end; policy rates barely move anywhere

For a year which presented enormous drama over the beginning of the end of easy money, **2013 in fact delivered more easing than tightening**: $1trn (35%) increase in the Fed's balance sheet; ¥67trn (42%) increase in the Bank of Japan's balance sheet; 50bp easing from the ECB (but €700bn contraction in the balance sheet); plus easing from the RBA (-50bp), Poland (-175bp), Hungary (-235bp), Mexico (-100bp) and Chile (-50bp). Policy rates have only risen in a handful of countries, and almost always to stem inflation pressure for currencies sunk by Fed taper talk (Brazil +225bp, Indonesia +175bp, India +75bp in effective call money rate and Turkey +100bp in effective CBRT funding rates). The only rate normalisation occurred at the long end, with 10-yr US, UK, Australia and New Zealand all up more than 100bp; Germany +46bp; and EM local markets +120bp (basis GBI-EM index).

Next year won't look than much different across the curve: Fed tapering in January but no hikes until late 2015; neither a rate cut nor QE from the ECB; no hikes from the Bank of England; another ¥60trn (25%) in BoJ asset purchases; and another 25bp cut from the RBA. EM easers should include Hungary (-40bp), Russia (-75bp) and Chile (-25bp). **Australia** is the only money market which seems mispriced relative to these projections, since the curve – adjusted for term premia – is flat next year (chart 13).

The only countries normalising policy rates should be New Zealand (+75bp) and Norway (+25bp) amongst the majors, and Brazil (+50bp), South Africa (+50bp), India (+25bp) and Indonesia (+25bp) amongst the emerging markets. Since in the G10 these rate moves still leave rates well below average, the moves are hardly worthy of being called rate normalisation. And its not even clear these moves will affect currencies much given that money market curves (adjusted for about 10bp of term premia a year) already discount about 100bp of RBNZ rate hikes next year (charts 13-14).

The issue is more whether the further normalization of long-end US rates, which remain too low for an economy likely expand at 2.5% to 3% each quarter in 2014, **can support the dollar consistently in 2014 if policy rates will**

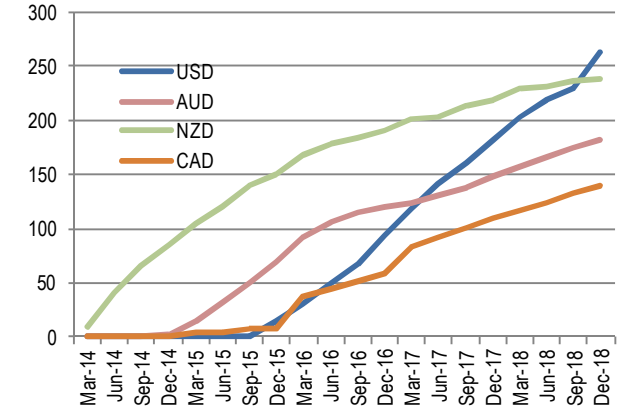
remain at zero until mid-2015. The distinction between cash and 10-year rates is important: since cash rates determine FX carry and hedging costs, only changes in policy rates should have a durable influence on currencies. Higher bond yields only make currencies attractive to investors like central banks who buy unhedged fixed income as a matter of policy, but even they tend to have shorter-maturity benchmarks.

So **a Treasury sell-off in which Fed funds does not budge isn't that compelling for USD bulls**: they will still need to sit in zero-yielding cash for 18-months – and low-yielding cash for years – to realise decent carry. The strange nature of 2014 rate normalization, in which the US curve bear steepens as cash rates remain at zero, is one reason we expect only single-digit gains in the US dollar index. Until and unless US cash rates are higher, non-dollar currencies will experience fits of strength when Treasury yields top out. We think that top is 3.65% on 10-yr US, so near the historically steep levels, and particularly so for a low-inflation environment.

5. Valuations: many markets have become rich again

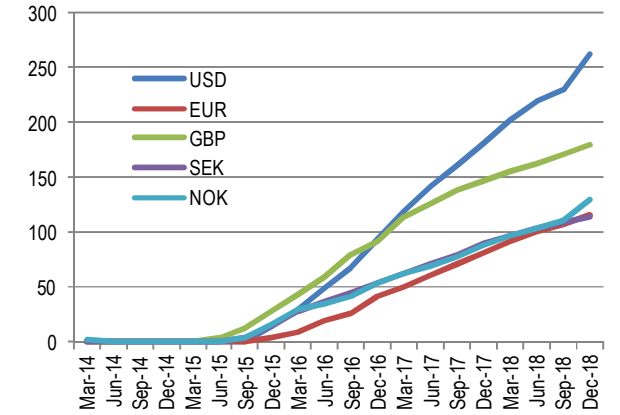
Though low inflation should allow the Fed a long pause between the start of tapering (January 2014) and the onset of tightening (mid 2015), the initial phases of tapering will probably prove disruptive for markets and bullish for the dollar and for volatility for a simple reason: **valuations in rates markets and rates and FX vol markets are rich.** This has been the lesson after every extended period of low interest rates as even former Chairman Greenspan, whose policies ironically are associated with the sub-prime bubble, presciently foretold.[4] Rates and FX markets hardly exhibited the valuation problems which triggered the sub-prime crisis, but the were still quite obviously misaligned judging by several metrics. In late April 2013, real 10-yr rates in the US were negative; Fed funds futures priced in less tightening for 2014 than the FOMC projected (chart 15); many non-USD currencies traded 5-10% expensive to standard fair value models[5]; and risk premia in rate and FX vol markets (spread between implied and realised volatility) were below average and sometimes negative (chart 16 and 17). We, like many, were not oblivious to these mispricings; we simply expected expensiveness to persist until late 2013/early 2014, when we expected Fed taper talk to begin.

Chart 13: Cumulative tightening priced over the next five years
Based on OIS rates and adjusted for 10bp of term premium per annum



Source: J.P. Morgan

Chart 14: Cumulative tightening priced over the next five years
Based on OIS rates and adjusted for 10bp of term premium per annum



Source: J.P. Morgan

Nine months later, valuations are better on some measures but still poor on others. In **FX cash**, short-term fair value models suggest that many major currencies (AUD, NZD, EUR) are close to fair value, while one G-10 currency (NOK) and several EM currencies (TRY, ZAR, MXN, CLP) are 3%-7% too cheap. Long-term econometric fair value models suggest that TRY, ZAR, PLN and NOK are cheap (see *Long-term valuation* on page 130). More mechanical fair value models based on the real exchange rate's deviation from trend also highlight JPY, CAD, SEK, INR, ZAR and TRY as oversold with high odds of generating positive total returns going forward (see box 1on page 13). Cheap valuations will not protect currencies against spikes in Treasury yields, but they do caution against extreme forecasts and buy-and-hold short positions at this stage in the valuation cycle. Indeed, a valuation-based trading rule suggests owning these but only for investors with long investment horisons of at least a year, corresponding to the typical mean-reversion cycle.

[4] "History has not dealt kindly with the aftermath of protracted periods of low risk premiums." Alan Greenspan, Jackson Hole, August 2005.

[5] The models are updated in the *Daily FX Fair Value Regressions Chartpack* posted every London morning on the Global FX Strategy page of jpmm.com. The pack is also available by subscription.

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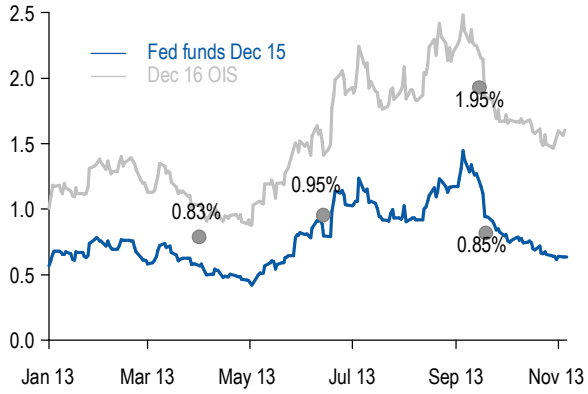
US rates still exhibit worrying richness, however, since money markets price an end-2015 funds rate of 0.52% compared to revised Fed projections of 0.85% (chart 15), and an end 2016 rate of 1.87% compared to the FOMC's 1.95%. Maybe investors expect a Fed chaired by Janet Yellen to prove even more dovish than Bernanke's Fed, but such tame pricing will be repeatedly challenged if the US delivers 2.5% to 3% growth next year with declining labour participation and a falling unemployment rate.

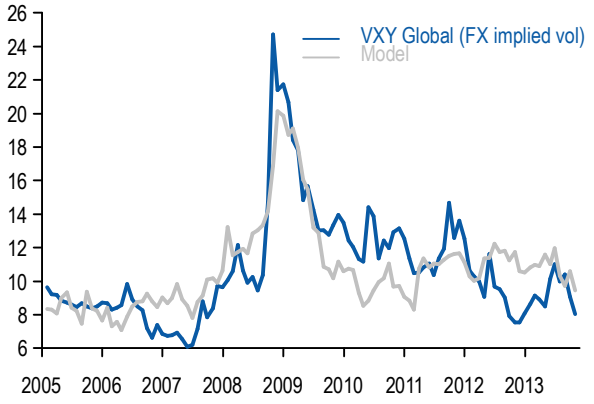
Relatedly, **FX volatility** was about two percentage points too low for the mediocre global business cycle last spring (chart 16), and volatility premia (spread between implied and realised vols) were close to zero on average. **US rate vol** sat near a decade low, and carried no risk premium either judging from the spread between implied and realised vols (chart 5). Current pricing is still complacent since rate vol now carries little premium (chart 17). Neither does FX vol in aggregate nor across numerous pairs (chart 18). Hence our core options recommendations (1) Focus on the flatness of vol term structures to set up low slide, long vega hedges via FVAs (GBP, NOK, SEK); (2) own cross-yen versus USD/JPY vol as a more efficient deleveraging hedge than outright USD/JPY calls; and (3) buy weighted baskets of (TRY, BRL, MYR) 1-yr straddles funded by (RUB, MXN, SGD) 1-yr straddles. See *Volatility* on page 28.

Chart 15: Bond valuations – As in May, markets are more dovish than the Fed on policy rates for end 2015 and 2016
Dec 15 Fed funds futures and Dec 16 OIS versus FOMC projections at quarterly press conference in March, June and September.



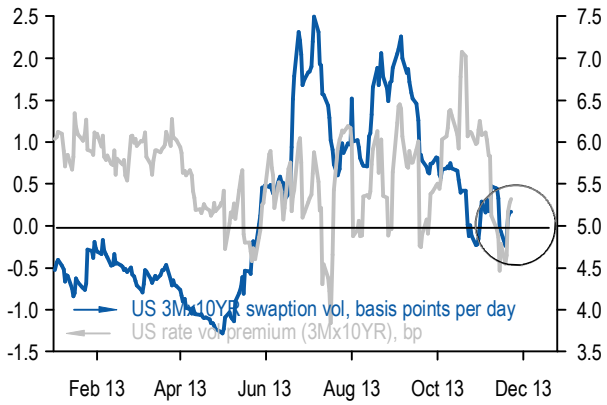
Source: J.P. Morgan

Chart 16: FX volatility – 2% too low in spring 2013, 1.5% too low now
Actual versus predicted level of VXY Global index of 3-mo implied vol across 22 currencies. Based on regressing VXY on J.P. Morgan global composite PMI index



Source: J.P. Morgan

Chart 17: Vol premia (US rates) – As in May, the vol premium is low
US 3Mx10YR swaption vol (blue series) and swaption vol premium (implied minus realised volatility – grey series)



Source: J.P. Morgan

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Box 1: A trading rule based on REERs

Are extreme moves in real effective exchange rate indices a good signal for mean reversion? To answer this question, we backtested the following strategy. Every month, identify currencies which exceed certain REER thresholds (1, 1.5 and 2 for a 10-yr rolling z-score).Using threshold of 1.5 as an example, currencies that had a z-score of less (more) that -1.5 (+1.5) were identified as cheap (rich) and purchased (sold) against USD (and held till the z-score reverts to zero). Results from this strategy were then aggregated separately (1) by FX type (EM, G10), and (2) over various backtesting horizons (starting 1990, 10-yr and 5-yr). Table A1 summarizes the results for a z-score threshold of 1.5, while charts A1 and A2 present the information ratios (IR) for total and spot returns, respectively, across thresholds. Our findings are as follows.

- **REERs have not been an effective signal of future returns** as indicated by poor monthly averages (see rows 2 and 15 in table A1). Even though the majority of trades were profitable with hit rates of above 50% (rows 5 and 18), the average monthly returns were poor adjusted for volatility as indicated by poor IRs (row # 3 and 16), except for the last five years.
- **REERs are better at identifying cheap FX for *total return* investors, particularly in EM**. Average monthly returns from the long-only trades identified by the strategy are positive across the board (row #7) with higher IRs (row 8). Meanwhile, **the strategy works poorly in identifying rich currencies on a total return basis**. Chart A1 shows that the IRs from long-only trades (solid lines) are higher than those from short-only trades (dotted lines) across the board, with the strategy working best in EM FX. Longs benefit from positive carry on average, while shorts are penalized, resulting in this IR profile.
- **REERs are better at identifying rich EM FX on a *spot return* basis** (as the negative carry is not accounted for), but a poor job in identifying cheap FX (chart A2).

Which currencies meet these thresholds currently? The cheapest with most total return upside are (z-score in parenthesis) **INR** (-2.8), **ZAR** (-2.0), **TRY** (-1.7), **JPY** (-1.5), **CAD** (-1.4) and **SEK** (-1.4), while the richest with most spot return downside are **NZD** (+2.2), **CNY** (1.6) and **RUB** (1.3).

Chart A1: Total returns: REERs are best at identifying cheap EM FX

Total returns IR by trade type; uses maximum available history for backtesting

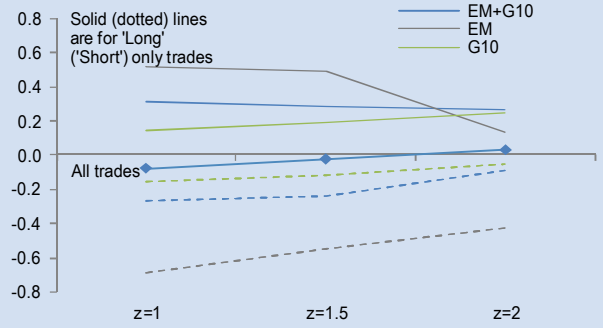


Table A1: Summary statistics from the REER backtest

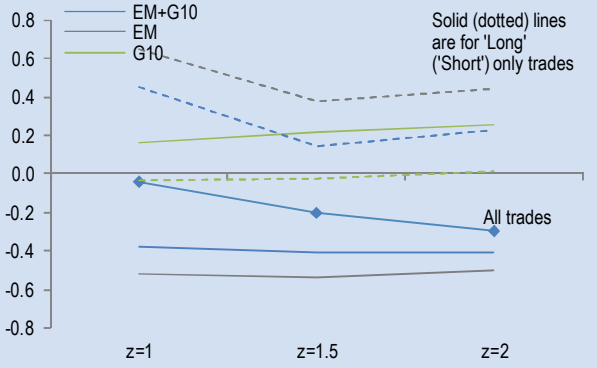
By FX type (EM, G10) and test horizon; Uses 1.5 as threshold for REER z-score

#	Test universe:	EM and G10			G10 only			EM only		
	Test horizon:	Max*	10y	5y	Max*	10y	5y	Max*	10y	5y
1	**Total returns**									
	All (long and short) trades									
2	Avg annual returns (%)	-0.1%	-3.4%	2.4%	0.1%	-1.5%	3.1%	0.2%	-4.9%	2.5%
3	Info ratio (avg returns/SD)	-2%	-51%	37%	2%	-22%	50%	2%	-60%	32%
4	# of trades	61	34	17	36	16	13	28	21	17
5	Hit rate (# of trades)	56%	52%	53%	56%	50%	54%	57%	52%	53%
	Long only									
7	Avg annual returns (%)	2.2%	1.9%	3.0%	1.4%	1.8%	2.8%	4.9%	2.3%	4.6%
8	IR	28%	22%	27%	19%	22%	27%	49%	27%	38%
9	# of trades	31	15	12	19	8	7	14	7	7
10	Hit rate	67%	67%	57%	63%	75%	57%	71%	57%	57%
	Short only									
11	Avg annual returns (%)	-2.2%	-4.8%	0.1%	-1.2%	-3.4%	0.5%	-4.8%	-6.0%	0.3%
12	IR	-24%	-49%	1%	-12%	-31%	4%	-55%	-60%	2%
13	# of trades	30	19	5	17	8	6	14	14	10
14	Hit rate	45%	41%	44%	47%	25%	50%	43%	50%	50%
	Spot returns									
	All (long and short) trades									
15	Avg annual returns (%)	-1.2%	-0.3%	4.4%	0.9%	-0.3%	3.9%	-3.2%	0.3%	5.1%
16	IR	-20%	-4%	67%	14%	-4%	63%	-40%	4%	63%
17	# of trades	70	34	17	36	16	13	36	21	17
18	Hit rate	64%	62%	62%	67%	56%	69%	61%	67%	71%
	Long only									
19	Avg annual returns (%)	-3.7%	2.0%	1.1%	1.7%	2.7%	2.6%	-5.4%	0.7%	1.4%
20	IR	-40%	23%	10%	22%	34%	24%	-53%	8%	12%
21	# of trades	36	15	12	19	8	7	18	7	7
22	Hit rate	59%	67%	57%	74%	75%	57%	44%	57%	57%
	Short only									
23	Avg annual returns (%)	1.4%	-0.6%	4.2%	-0.3%	-2.0%	2.1%	4.4%	0.5%	5.5%
24	IR	15%	-7%	35%	-3%	-18%	15%	38%	5%	46%
25	# of trades	34	19	5	17	8	6	18	14	10
26	Hit rate	69%	59%	75%	59%	38%	83%	78%	71%	80%

* Maximum available history is ued starting 1990

Chart A2: Spot returns: REERs are best at identifying rich EM FX

Spot returns IR by trade type; uses maximum available history for backtesting



Source: J.P. Morgan

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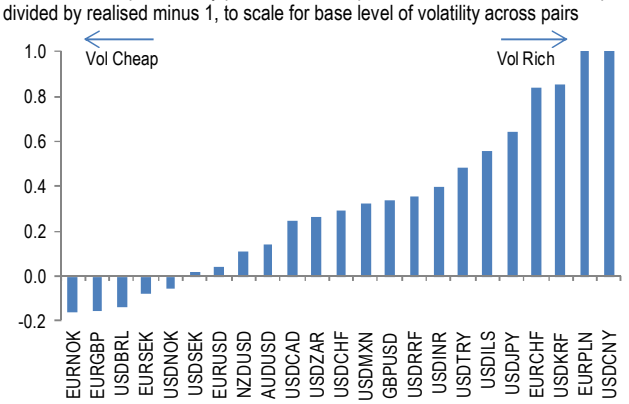
6. Global imbalances: little progress

When the inevitable vol shocks occur, **those currencies which were most vulnerable in 2013** due to large current account deficits **will remain vulnerable in 2014.** That is the conclusion from the cross-country examination of external imbalances detailed in box 2 on page 15. As shown in the table on that page, some G10 currencies (AUD) and several EM currencies (ZAR, MXN, TRY, RUB, IDR) exhibit a decent, positive correlation with the their current account balances or their basic balances (current account plus foreign direct investment plus equity portfolio flows). This is intuitive since higher surpluses (larger deficits) imply greater (lesser) demand for the local currency. Major currencies like USD, EUR and GBP do not correlate as closely in these single-factor models possibly because demand for these as global reserve currencies creates captive demand for their assets which can offset poor or worsening long-term fundamentals signaled by the current account and long-term capital flows.

Based on the **current account**, the countries which have improved the most over the past two years are Hungary, Switzerland, Korea, Poland and Turkey. Those which have worsened the most are Indonesia, South Africa, Russia and UK. Entering 2014, the **best of the best** (current account surplus which is rising) are Switzerland, Korea, Hungary and Euro area. The **worst of the worst** (current account deficit which is deteriorating) are South Africa, India (note that the forward outlook is much improved for India), New Zealand and UK. Based on the **basic balance**, the countries which have improved the most over the past two years are Hungary, Korea, Turkey, Japan and Norway. Those which have worsened the most are Sweden, South Africa, Indonesia and New Zealand. Entering 2014, the **best of the best** (basic balance surplus which is rising) are Hungary, China, Norway and Switzerland. The **worst of the worst** (basic balance deficit which is deteriorating) are South Africa, Turkey, US and Canada.

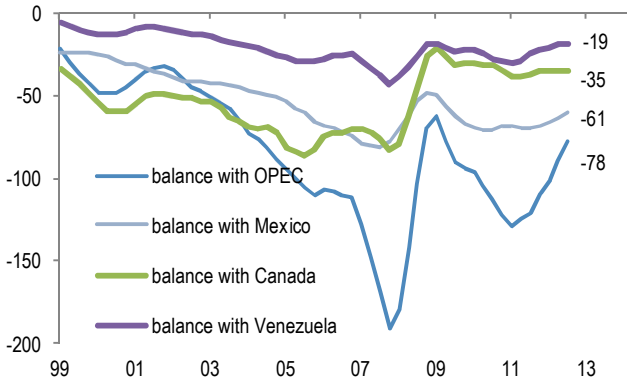
Beyond this metric, the issue of **US energy independence** will no doubt remain central to long-term views on the dollar, since the US energy book is undeniable and the conceptual arguments compelling (lower energy imports, lower current account deficit, or lower energy costs, so faster economic growth). Unfortunately, as we have detailed in previous publications, this issue has much more psychological than empirical influence on the dollar for several reasons: (1) the energy trade deficit is falling primarily versus regions like OPEC with pegged currencies rather than those such as CAD and MXN with floating ones (chart 19); (2) the worsening in Canada's current account owes more to electronics and forestry, and Mexico's to income payments; (3) the US non-energy trade deficit is worsening even as the energy deficit falls; and (4) the increase in US oil and gas production required to close even the overall trade deficit is probably beyond the US capacity.[6] So as fascinating as this issue is, it lends **next to no structural support to the dollar** through the balance of payments. Neither do portfolio equity flows (judging from the monthly TIC report) nor foreign direct investment (judging from the quarterly balance of payments report). So as and when the dollar rallies in 2014, it will be mainly a cyclical rather than structural phenomenon.

Chart 18: Vol premia (FX by pair) – Small for most G-10 pairs
Normalised risk premium by pair. Normalised premium calculated as 1-mo implied divided by realised minus 1, to scale for base level of volatility across pairs



Source: J.P. Morgan

Chart 19: American production has come more at the expense of OPEC, Venezuela and Mexico than Canada
US trade deficit by country/region, 4-quarter sum, US$ bn



Source: J.P. Morgan

[6] See *American energy independence and the dollar: the arithmetic is too challenging without Fed help*, Normand, March 15, 2013; and *Energy independence and the dollar: An update in six charts*, Normand, September 23, 2013.

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Box 2: Current account and basic balance trends

A common way to assess the external imbalances for a country is through its current account balance. This measure does not take into account how a deficit is financed (long-term flows like FDI and equity portfolio vs short-term rate-sensitive flows), however, nor does it account for whether surplus countries may also be the beneficiaries of long-term capital inflows too. Hence the use of the cumbersome-to-construct but quite useful **basic balance** instead, which is the sum of the current account, net FDI and net equity portfolio flows.

The basic balance of countries is better correlated with EM FX performance than the CA balance. Table B1 shows the beta between trade-weighted currency indices and the current account and basic balance, both contemporaneous and lagged. The results indicate that (1) FX of EM countries running large external deficits (and AUD in G10) have a positive beta with the CA or basic balance (while the majority of G10 FX does not have a positive beta); and (2) for these currencies, on average, the relationship with the basic balance is stronger than that with the CA balance (as measured by R-square; see last column).

How do various countries stack up on this metric entering 2014? Chart B1 compares the latest CA balance (x-axis) to the basic balance (y-axis) for various countries. While the two measures are broadly correlated, some divergences do emerge. Among the CA surpluses countries, **Sweden** stands out as having a large basic balance deficit. Meanwhile, **Hungary** and **China** have the highest basic balance. For most of the remaining CA surplus countries, the basic balance is less than the CA balance but still a surplus. Among countries running CA deficits, the basic balance shows an improvement except for Canada and the US. Notably, **Australia** and **Mexico** run a basic surplus, even though they are CA deficit countries. Finally, chart B2 summarizes the latest trends in the basic balance for various countries. Since 2011, the most improvements have come from **Hungary**, while **South Africa** and **Sweden** have experienced the most deterioration.

Chart B1: Basic balance versus current account balance

Based on 1-year rolling sum; black line is the unit line; % of GDP

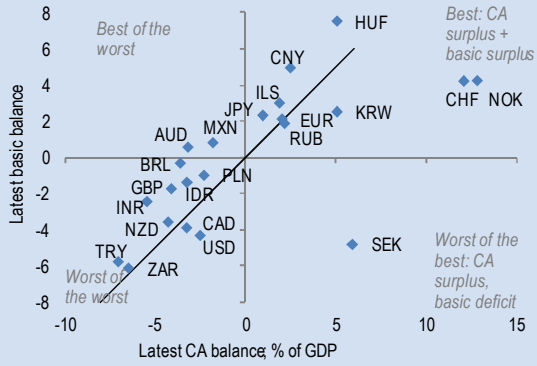


Table B1: The FX of countries with the largest CA deficits have a tighter (positive) relationship with the basic balance

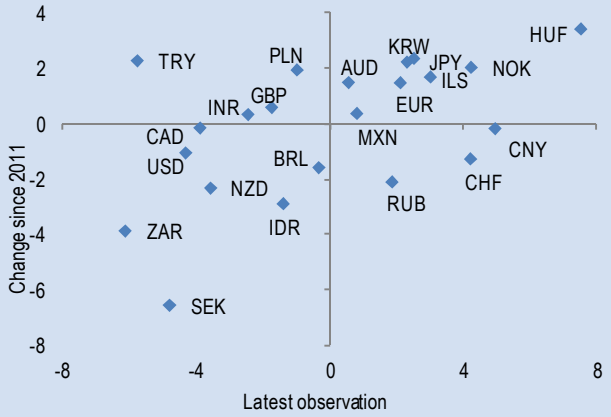
10-year beta of ln(trade-weight index) regressed against the basic/ CA balance (contemporaneous and 6-months lagged)

	CA balance				Basic Balance			
	Beta		R2		Beta		R2	
	Contemp.	6m lag	Contemp.	6m lag	Contemp.	6m lag	Contemp.	6m lag
EUR	-0.039	-0.039	34%	26%	-0.015	-0.017	24%	27%
GBP	0.001	-0.011	0%	0%	-0.015	-0.012	19%	13%
JPY	-0.077	-0.054	42%	18%	-0.033	-0.024	33%	18%
USD	-0.027	-0.025	36%	28%	-0.025	-0.024	43%	39%
AUD	**0.041**	**0.055**	**32%**	**55%**	**0.011**	**0.019**	**10%**	**30%**
NZD	0.003	0.008	1%	6%	-0.007	0.003	7%	2%
CAD	-0.025	-0.026	46%	46%	-0.021	-0.022	27%	29%
CHF	-0.001	-0.002	0%	0%	0.006	0.008	8%	12%
SEK	-0.008	-0.019	4%	23%	-0.007	-0.010	29%	43%
NOK	-0.003	-0.004	2%	3%	0.000	0.000	0%	0%
BRL	-0.064	-0.055	43%	29%	-0.042	-0.038	11%	8%
PLN	-0.028	-0.020	18%	9%	-0.023	-0.012	16%	5%
HUF	-0.012	-0.014	48%	58%	-0.011	-0.013	57%	66%
ILS	-0.008	-0.008	4%	9%	0.004	-0.006	1%	4%
ZAR	**0.058**	**0.058**	**50%**	**55%**	**0.025**	**0.034**	**12%**	**22%**
MXN	**0.020**	**-0.001**	**1%**	**0%**	**0.105**	**0.097**	**42%**	**34%**
TRY	**0.040**	**0.040**	**37%**	**40%**	**0.046**	**0.048**	**53%**	**54%**
RUB	**0.030**	**0.028**	**59%**	**50%**	**0.026**	**0.023**	**77%**	**60%**
CNY	-0.004	0.000	2%	0%	-0.007	-0.003	11%	2%
KRW	-0.026	-0.004	4%	0%	-0.011	0.004	8%	1%
IDR	**0.027**	**0.027**	**30%**	**22%**	**0.028**	**0.025**	**27%**	**18%**

Source: J.P. Morgan

Chart B2: Basic balance trends: SEK and ZAR have deteriorated the most, while HUF has improved the most

Change in basic balance since 2011 versus the latest observation; % of GDP



Source: J.P. Morgan

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Implications for USD index

Of these six macro themes, only two seem unambiguously USD-positive for next year:

(1) Growth rotation, since the cases for US acceleration and China deceleration seem the clearest globally; and

(2) Rate normalisation, since US bonds look richer than almost all others globally entering a year when the big buyer (Fed) will be withdrawing its sponsorship.

The other themes are more ambiguous, or at least less-consistently USD-positive over the course of 2014:

(3) Inflation, or lack of it, seems to bias EUR and JPY lower if the ECB and BoJ could ease again, though low US inflation could also justify a very extended period at a zero Fed funds rate beyond mid-2015. That outcome could prove USD-deadly later in 2014 as and when US Treasury yields peak.

(4) FX valuations are mainly poor in derivatives markets through the lack of vol premia than they are in cash markets, where numerous currencies (TRY, ZAR, PLN and NOK) screen very cheap on fundamental and technical fair value models.

(5) Global imbalances only favour the dollar versus a handful of EMs (BRL, TRY, ZAR, IDR) and G10 ones (AUD, CAD), not all pairs (certainly not EUR and CHF); and

(6) Asset bubbles are more a constraint on interest rates in AUD, CAD and SEK than they are in NZD and NOK.

Hence the tame forecasts for the USD index of only 3% gains on DXY and 1% on JPMQUSD. While 2014 is largely a year of unfinished business around bond yield normalisation, it is not a year of Fed funds normalisation nor systemic financial crisis engendered by gross valuation misalignments and asset bubbles.

Implications by pair: idiosyncratic factors, year-end forecasts and conviction rating

By currency pair, our **highest-conviction** views are modest gains on the USD index; USD strength versus JPY, AUD, IDR, MYR and TRY; USD weakness vs CNY and KRW; GBP outperformance on the European crosses; EUR/CHF's range; NZD outperformance within the commodity FX bloc; and MXN outperformance within Latam after the initial Fed tapering. Our **lowest-conviction** views are that EUR/NOK and EUR/USD will decline; that USD/BRL strength is limited to 2.45; and USD weakness versus PHP and TWD. The longer research notes in this book provide details, but in terms of the key idiosyncratic factors also driving the 2014 forecast, we highlight the following (Q4 target in parentheses):

- **EUR (1.30)**: Of the forces which drove the currency higher in 2013 – a record current account surplus, stable front-end rates versus the US, diverging central bank balance sheet trends, investor underweights in euro assets – only one of these should persist into 2014 (current account surplus). Spread widening is the main and probably the only force for weakening the currency, and the burden for this move rests mainly with the Fed (the ECB is far from doing whatever it takes to generate inflation). Expect a **range but with a lower mean** in 2014 (1.30) than in 2013 (1.32). **Vols** are about 2 points too low, but the more unique opportunity is in selling **euro-based correlations**.
- **GBP (EUR/GBP 0.81)**: The UK is looking like a **punchier version of the US**, with dovish central bank guidance but solid economic growth (only UK and New Zealand are delivering above-trend growth). So rate differentials, which continue to correlate about 70% with EUR/GBP and GBP/USD, should support the currency as unemployment breaches the BoE's 7% threshold in 3Q14. Risks higher in H1 due to **M&A** flows (Verizon-Vodafone), and lower in H2 as BoE shifts the goalposts rather than tighten this year. **GBP vol** is a buy through FVAs due to policy uncertainty around this event and a rather flat vol curve. The external position will probably be a wash: the current account deficit is near a record high, but the basic balance improved due to FDI and equity portfolio inflows. The **Scottish referendum** should be a non-event.
- **JPY (106):** BoJ and Fed policy will diverge for a second consecutive year through Fed tapering in January and BoJ easing in April, extending the most powerful long-term driver of USD/JPY (chart 20). **Two balance of payments dynamics are worth monitoring**, both yen-negative. FDI outflows from Japanese corporate is on track to reach a record high in 2013 despite massive yen depreciation. Also, Japanese investors may finally rotate into foreign assets, having ironically been net sellers in 2013 for the first time in history. But with the macro community quite short already, the explosive, high-volatility phase of yen weakness has passed. Hence the preference for yen put spreads, RKOs and butterflies rather than outright yen puts.
- **NZD (0.83):** Kiwi faces another year of stability versus the US dollar but **trade-weighted strength.** The RBNZ should be the first developed market central bank to lift rates next year (+75bp) as the economy enters its third consecutive year of **above-trend growth**. Those hikes are discounted but would nonetheless elevate NZD as the G-

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10's high yielder. An **election** in late 2014 will probably stoke aggregate demand: if the incumbent National government doesn't loosen fiscal policy, the next Labour government probably will. **NZD vol** remains a poor taper hedge given New Zealand's growth/rate momentum.

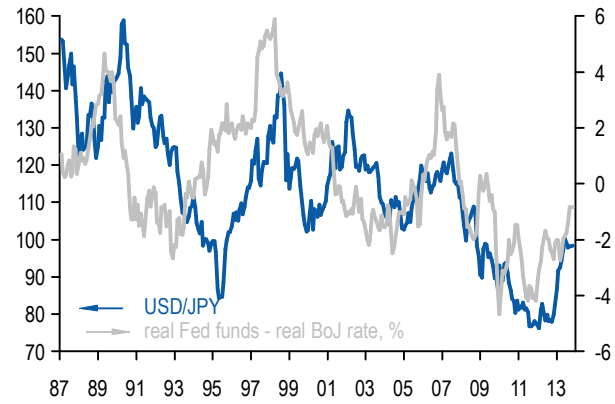
- **AUD (0.90)**: Aussie should **fall** again versus USD and NZD, **but less than in 2012**. But unlike 2012, it should probably outperform some commodity currencies like BRL and CLP. A few offsets are in play. Rate differentials will narrow on RBA cuts, Chinese growth should slow and commodity prices should remain anaemic, but Australian export volumes should remain strong and domestic growth pick up mid-year. **AUD/USD vol** is the preferred taper hedge given the Fed/RBA divergence and a flat curve, but the currency's sensitivity to shocks it somewhat reduced by a short base on the IMMs.

- **CAD (1.04):** As with AUD, Fed tapering should weaken CAD given the Canadian economy's inferior performance and the possibility of additional macro-prudential measures on housing in Q1. Assuming some growth re-coupling later in 2014, Canada's terms of trade could improve and halt the deterioration of the country's external position (chart 21). Like NOK, CAD appreciation would be limited since household indebtedness and the prevalence of floating rate mortgages will ensure that the BoC proceeds extremely slowly with rate normalization. **CAD vols** are more depressed than those of other commodity currencies like AUD and NZD, neither rare the policy/cyclical risks great enough to make CAD a preferred hedge.

- **CHF (EUR/CHF 1.22)**: Without a shift in monetary policy, EUR/CHF should remain range-bound as the SNB maintains the 1.20 floor but the balance of payments caps the euro's upside. As long as ECB policy remains ultra loose, **trade the range on spot, fade intermittent richness in the EUR/CHF skew and fade spikes in the USD/CHF-EUR/USD vol spread**. As in Japan, a notable flow worth monitoring is **FDI outflows**, which have ratcheted up in 2013 to about half the record size (SF46bn on a net basis versus the record SF80bn in 2006).

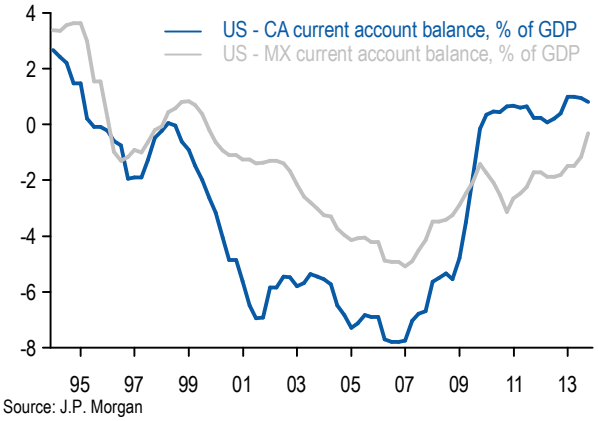
- **NOK (EUR/NOK 8.00)**: NOK has been a perennial and premature favourite on the expectation that the economy was overheating, but the central bank has consistently balked at tightening due to fears of currency strength. **What has changed?** At such cheap levels on the currency, inflation is now a more limiting factor on the Norges Bank's anti-NOK stance. Expect **only limited appreciation** since rate hikes will be small (+25bp) and trading accounts are already long (foreign banks have

Chart 20: USD/JPY: real policy rates correlate better than real bond yields and suggest a target of at least 105
Fed funds and BoJ call rate differential deflated by actual CPI differential



Source: J.P. Morgan

Chart 21: NAFTA currencies' external positions are quite poor relative to the US
Differences in current account balances as percentage of GDP



Source: J.P. Morgan

liquidated only 20% of their cumulative NOK purchases from the preceding three years). **Norway's external position** is also weakening, with energy exports in structural decline. Own USD/NOK vol given the macro uncertainties and flat curves.

- **SEK (EUR/SEK 8.90):** The krona should deliver the **worst performance within Europe.** Equity and FDI outflows have deteriorated to record levels in 2013, more than offsetting Sweden's current account surplus and bringing the country's **basic balance** to its worst level since 2002, while low inflation threaten a rate cut. **Own USD/SEK vol** for similar reasons as NOK: macro/policy risks and a flat curve.

- **Latam (USD/MXN 12.40, USD/BRL 2.40): MXN** is the only currency in Latin America likely to appreciate vs. the dollar in 2014. Banxico has closed the door to further easing, and energy reform will likely be passed by the end of 2013. Despite tighter monetary policy, **BRL** will

likely decline in 2014 (but beat the forwards) on worsening fiscal performance, electoral uncertainty and (relatedly) weaker capital inflows. CLP should decline on rate cuts (-50bp); COP should fall too but by less given BanRep tightening in 2H14 (+75bp).

- **EM Asia (USD/CNY 6.00, USD/KRW 1020, USD/INR 62, USD/IDR 12500 and USD/KRW 1020):** The beginning of Fed tapering will be a critical, but not the sole factor driving Asian currency returns in 2014. The resumption of Fed **tapering should drive an average of 5% depreciation** where it is the most relevant due to poor/deteriorating external positions and reliance on bond inflows **(IDR, MYR, and THB)**. Outside of these currencies, Asia FX looks relatively resilient in 2014, given healthy current account balances and FX reserve buffers. Cyclical lift and a return of equity investors should drive modest appreciation averaging 0-2% for CNY, KRW, TWD, SGD, INR, and PHP, of which **KRW and SGD** will be top performers. Specific trades include long KRW versus short MYR, short IDR through options, long INR through options, long CNH for carry, and long SGD versus short ASEAN.
- **CEEMEA: EUR/PLN 4.15, EUR/HUF 2.90, USD/TRY 2.80, USD/ZAR 10.00, USD/RUB 33.70)**: Most currencies in the region are likely to weaken into 2014 as the Fed tapers, with **TRY and ZAR**, the countries with the largest current account deficits in the region being hit hardest, followed by RUB and PLN. **ILS, HUF, CZK should outperform**. As we move towards 2H14, Fed tapering risks should be better reflected in market pricing and we look for broad-based moderate EMEA EM FX appreciation to follow. We hold an underweight TRY versus overweight RUB, with a bias to rotate into select CE-3 FX overweights in 2014. For a fuller discussion of the EM outlook, see *Emerging Markets Outlook and Strategy for 2014*, Joyce Change and Luis Oganes, November 26, 2013.

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Global and regional wildcards for 2014

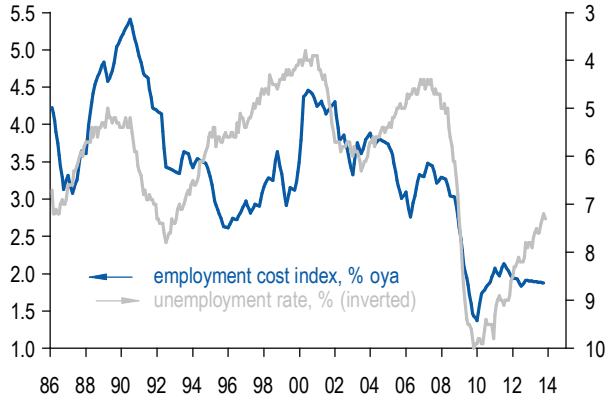
1. The Fed/Bank of England labour market models are wrong. Since so much of the tame USD index view next year rests on the assumption that US cash rates remain at zero until at least mid-2015, all bets are off if the Fed is forced to pull forward its first tightening. Quicker tightening would only occur if inflation began to emerge in goods prices or wages, something neither we nor the Fed currently anticipate given the surplus of discouraged workers who could re-enter the labour force, and the sub-trend performance of EM economies. But if the Fed's model of the labour market is wrong and indeed the participation rate fails to revive, the US unemployment rate could be below 6.5% by end 2014, an event which could severely challenge its benign outlook for wage and broader CPI inflation (chart 22). Any pulling forward of the expected first Fed hike and any increase in the pace of expected tightening would be dollar-positive versus almost all currencies. The **wildcard pair is USD/JPY**, since it could be caught between the cross-currents of higher US rates (yen-negative) and high rates/FX vol (yen-positive).

The **Bank of England** could face a similar challenge to its inflation narrative in late 2014 when the UK unemployment rate is very likely to fall below the 7% threshold, a level which might see wage gains accelerate if the Bank's expectation for higher productivity doesn't materialize (chart 23). Persistent **Japanese inflation**, so beyond the temporary lift above 2% due in 2014 from the consumption tax, would be disastrous for USD/JPY and the Nikkei since it would prompt the Bank of Japan to taper and trigger a spike in JGBs and FX/rate vol. This risk is probably more for 2015, however.

2. The ECB does whatever it takes to generate inflation. The ECB under Mario Draghi isn't as single-needle as under Jean-Claude Trichet[7], such that Draghi has launched or proposed initiatives (LTROs, OMT) which have exceeded what most observers would have thought possible under the ECB's mandate Still, the bar seems high for the ECB to become much more aggressive to address deflation. Further cuts in the refi rate to zero are possible but feckless, since eonia is already near that level. Negative deposit rates could be counter-productive if banks simply absorb that tax on depositors and pass it on to consumer and corporate borrowers. Large-scale asset purchases would be politically incendiary since there is no federal debt, thus forcing the ECB to buy the bonds of countries still deemed in the core to be insufficiently reformed. FX intervention is also low-

[7] Former ECB President Trichet was fond of reminding observers that the ECB's compass had only one needle -- inflation -- so its policies would only ever be guided by price pressures rather than growth, employment or sovereign stress.

Chart 22: US wage inflation: employment costs are unusually low relative to the unemployment rate
US unemployment rate (%, inverted) versus employment cost index (% change oya)



Source: J.P. Morgan

odds, since G-4 central banks only engage in such practices in exceptional circumstances and (almost always) by mutual agreement. A whatever-it-takes approach only makes the wildcard list because Draghi's ECB has proven quite inventive over the past two years. This is a key risk factor for EUR/USD and the euro crosses.

3. Japanese policymakers misjudge the consumption tax and/or the Trans-Pacific Partnership fails to win approval, effectively snapping Abe's third arrow. Japanese growth will probably plunge in Q2(-4.5% q/q saar) when the consumption tax is hiked from 5% to 8% in April 2014, as it has done following previous increases in 1989 and 1997. The recession which followed the 1997 hike is clearly the wrong benchmark since it coincided with the Asian financial crisis. And the BoJ will probably ease again in April. Hence the growth rebound we expect to +1.2% in Q3 and +1.7% in Q4. But should the economy fail to lift quickly, the Nikkei and USD/JPY will probably decline, especially given the length in both markets which would prevail at that time. There are other risks to Abenomics too if key legislation fails. Two important bills are one to eliminate tariffs on some agricultural products, and another governing state secrets to empower the government to better secure sensitive information and increase penalties for those who leak them. If these measurements impair Abe's popularity and he exhausts political capital on them, it may be difficult to conduct the further structural reform which global investors expect.

4. Chinese policymakers require sub-7% growth to achieve rebalancing. Only the most charitable grader would conclude that the Chinese authorities accomplished much of the desired sectoral rebalancing in 2013. Credit as a share of GDP grew from about 185% to a new record high of 200%; house prices continue to mark new all-time highs;

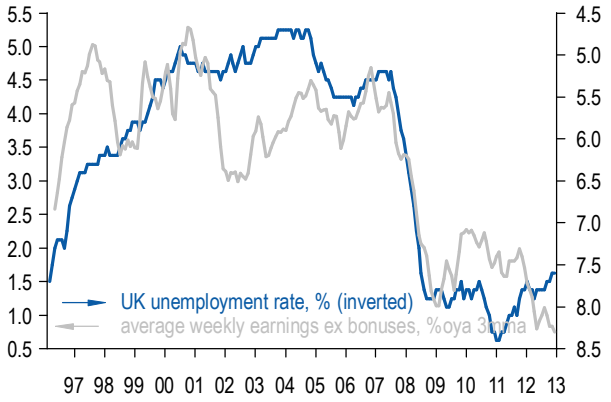
and fixed asset investment continues to expand at a rapid pace (20% oya) even if that speed is down from 25% to 30% pre-Lehman. So if the authorities indeed value less credit-intensive growth, more affordable housing and a more equitable split between investment and consumption, a phase of weaker overall growth will probably be required. (Economies generally don't accelerate and rebalance, unless policymakers also devalue the currency). The problem for FX forecasting is that it is unclear what rate of growth is consistent with China's rebalancing objectives, and to what degree the authorities prioritise growth versus balance in any given quarter, semester or year. Hence the inclusion of this issue as a wildcard, both in terms of magnitude and timing.

5. Elections in five big emerging markets deliver market-unfriendly governments. All of EM's big current account deficit countries hold elections in 2014: **Turkey** in March (municipal) and August (presidential); **Indonesia** in April (House of Representatives) and July (Presidential); **South Africa** between April and July (parliamentary); **India** in May/June (parliamentary); and **Brazil** in October (Presidential and congressional). See the *Event risk calendar* on page 133.

Policy risks around these vary considerably. **India's** has decent odds of delivering a strong decisive government (rather than a weak fractured one), so carries upside risk for INR. For **Brazil**, political risk is larger than around the 2006 and 2010 elections but is in no way comparable to 2002. Fiscal performance may deteriorate further in the run-up to October polls, but whoever wins will be required to undertake a policy adjustment to consolidate public finances, lower inflation and liberalise the economy. **Turkey's** campaigns will likely be noisy but the outcome market-friendly. The ruling AKP will likely prevail in municipal election and current PM Erdogan would likely prevail if he stood for President, with the current President Gul becoming prime minister. Policy is unlikely to change with this outcome. Similarly in **South Africa**, the ANC will likely win a lower majority (60% versus 69% in 2009) but nonetheless ensure continuity. The outlook is less certain for **Indonesia**. Contenders for the Presidency will not be known until after parliamentary elections in April, since parties must win 20% of those seats to nominate a candidate (see *Emerging Markets Outlook and Strategy for 2014*, Joyce Change and Luis Oganes, November 26, 2013).

6. Peripheral Europe booms. Despite undeniable rebalancing in the periphery over the past three years – all but Portugal and Greece are running current account surpluses, and primary balances are better than in the US and UK – the periphery is undeniably not growing much. Italy and Greece are still contracting, and those which

Chart 23: UK wage inflation: similarly tame relative to unemployment
UK unemployment rate (%, inverted) versus average weekly earnings ex bonuses (% change oya, 3mo moving average)



Source: J.P. Morgan

expand (Spain, Portugal, Ireland) do so at a rate too weak (0.2% to 0.4% annualised) to ensure debt sustainability. The consensus expects about 0.5% expansion for 2014; we expect a slightly brisker pace of 0.7%-0.8% oya. So the scope for surprise is meaningful given that expectations remain low. Even though investors are no longer short the euro nor euro stocks and bonds (see *Euro* on page 66), a periphery which expands much more than consensus (1% oya?) would cause enough of a rethink on ECB policy to price in some tightening risks over the next two years and push EUR/USD above 1.40.

7. US politics becomes dysfunctional (again). This risk scenario comes last because it seems almost assured yet also the least consequential for markets. This year's government shutdown, the third-longest on record, is almost unnoticable in US activity data. It is also invisible in US asset prices, aside from the widening of US CDS spreads, cheapening of t-bills and modest (2%-3%) richening of major reserve currencies during the melodrama. So despite the event risks in January 2014 when a continuing resolution expires and in mid-to-late March when the debt ceiling becomes binding, it is difficult to see Washington's dysfunction becoming a more material event next year than this year. Most investors and hedgers know that shutdowns have little cyclical impact because not much of the federal government actually shuts, and they (correctly) presume that Congress would not trigger a technical default to advance an ideological debate. US politics will become more interesting in 2015 given **November 2014 Congressional elections**. On current polls, it seems likely that Republicans keep the House and gain some Senate seats, though fall short of a majority. So the prospects for the market-relevant reforms (tax, energy) look dim until after the 2016 Presidenital race.

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Emerging Markets FX

- **In Asia, Fed tapering will be a critical but not sole driver of FX returns in 2014, with IDR and MYR the most vulnerable to Fed policy. INR will prove to be relatively more resilient.**
- **Cyclical lift and a return of equity investors should support other parts of Asia FX. The most attractive longs in 2014 will be KRW and SGD; CNY is set for another year of stable returns from attractive carry.**
- **EMEA EM FX to weaken in the first half of 2014 as Fed tapering begins, with valuations and country specific factors to play a more important role in 2H**
- **We hold an UW TRY versus OW RUB GBI-EM Model Portfolio allocation, with a bias to rotate into select CEE FX overweights in 2014**
- **Latin American currencies are likely to suffer in 1Q14 on global risk aversion and liquidity premium re-pricing on the back of Fed tapering induced volatility; idiosyncratic factors (fundamentals/politics) are expected to be the main drivers once systemic volatility ebbs**
- **Remain neutral MXN (due to Fed taper likely to start in January) and BRL,; on the fundamentally-driven FX, we move CLP to UW in the GBI-EM Model Portfolio**

EM Asia FX: Pockets of resilience in a tapering world

The beginning of Fed tapering will be a critical, but not the sole factor driving Asian currency returns in 2014. We expect idiosyncratic factors to provide relative value opportunities similar to 2013 and see pockets of reasonably resilient performance in EM Asia. The resumption of Fed tapering will drive an average of 5% depreciation where it is the most relevant: IDR, MYR, and THB. Outside of bond flows driven currencies, Asia FX looks relatively resilient in 2014, given healthy current account balances and FX reserve buffers, and a range-bound DXY limiting the impact from Fed tapering. Cyclical lift and a return of equity investors should drive modest appreciation averaging 0-2% for CNY, KRW, TWD, SGD, INR, and PHP.

Currencies with the highest dependency on bond inflows to support their BoP are most vulnerable, with IDR and MYR topping the list. Historical inflows on the back of a search for yield (IDR) and high carry-to-vol (MYR) led to high foreign ownership of local bonds (33% in Indonesia and 42% in Malaysia), which in turn funded fiscal balances and the BoP. Both economies had to make policy shifts in 2013 to adapt to the new post-QE external equilibrium conditions, but these responses remain insufficient. The current account in IDR will only narrow 0.2% of GDP to -3.4% next year, and MYR's surplus will dwindle further to 0.6% of GDP against continued structural outflows. Therefore, both currencies remain susceptible to tapering's impact on investment flows. We prefer short IDR through a long 6m USD/IDR 12,000/13,000 call spread, and an outright short MYR/KRW targeting 315.

The outcome in INR is binary for next year, but we are biased for better performance compared to 2013. Central government elections in 2Q14 and the resulting actions from rating agencies will have a large impact on India risk. The bullish case is for a strong government post the election which would improve the investment climate thereby improving BoP funding. India will also have a narrowing current account deficit funding requirement next year ($55bn FY2014 versus $88bn 2013). The bearish alternative is an adverse political outcome which puts fiscal consolidation in jeopardy, and which would risk a rating downgrade to junk, thus renewing stress on INR. Independent of these risks, we expect the RBI under Dr. Rajan to continue to create solutions to attract capital flows. We recommend a long 6m 64/61 USD-INR put spread.

North Asia has greater potential for upside from growth and equity inflows, compared to ASEAN. North Asian currencies are driven more by foreign equity flows than bond flows compared to South East Asia—with the exception of Singapore— where bond flows dominate by a factor of 4 to 1 compared to 1 to 1.5 bond to equity inflow ratio in the North (Korea and Taiwan). North Asia has also kept a high beta to final manufactured goods demand compared to South East Asia where domestic policy drives the growth cycle and exports are dominated by global infrastructure commodities demand.

The top Asian currency outperformers in 2014 will be KRW and SGD. In 2014, we expect KRW bond flows to remain flat even as the Fed tapers, while equity investors will continue to increase allocations in Korea. Corporate inflows from Korea's large trade surplus will put more downward pressure on USD/KRW, and there remains a considerable overhang of earlier corporate dollar hoarding. As in 2013, BOK smoothing will determine the pace of KRW performance but ultimately not the direction. For South East Asia, SGD shares the best characteristics with North Asia with a large and resilient current account surplus, high beta to global growth, and relatively high foreign equity versus bond flow exposure. However, versus the USD, SGD performance is complicated by the fact that other more vulnerable South East Asian currencies (and JPY) together represent 33% of the S$NEER policy basket. Therefore we prefer to express constructive SGD views

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against regional peers rather than the dollar outright. We recommend being long 3m SGD versus a basket of IDR, MYR, PHP, and THB.

CNY is set for another year of stable returns from attractive carry, although ongoing evolution in the FX regime may erode carry-to-vol. Chinese growth will structurally slow in 2014 but exports will remain well supported and the outlook remains dominated by the trend towards exchange rate flexibility and interest rate liberalization. Rising domestic funding costs will encourage Chinese corporates to execute carry trades via borrowing in USD to fund onshore CNY assets. Our Dec14 forecast for CNY is 6.00. Sell 3m USD/CNH forward outright targeting 6.04 on spot.

EM Asia FX top trades:

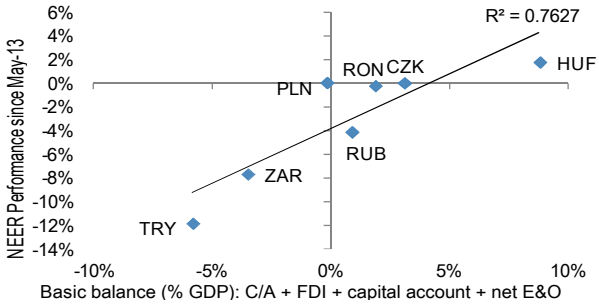
- Long KRW versus short MYR – sell MYR/KRW targeting 315
- Short IDR through options – buy a 6m USD/IDR 12,000/13,000 call spread
- Long INR through options - buy a 6m 64/61 USD/INR put spread
- Long CNH for carry - Sell 3m USD-CNH forward outright targeting 6.04 on spot
- Long SGD versus short ASEAN – Buy 3m SGD versus a basket of IDR, MYR, PHP, and THB

EMEA EM FX: Remain UW TRY versus OW RUB

EMEA EM FX to weaken in the first half of 2014 as Fed tapering begins, with valuations and country specific factors to play a more important role in 2H. Most of the performance of EMEA EM currencies against the US dollar since May 2013 sell-off can be explained by the size of a country's *basic balance* as a % of GDP, highlighting investor concerns over Fed tapering's effect on the financing of current accounts. We think this price action will extend into the first part of 2014, and may be reinforced by portfolio outflows, which was largely absent in 2013. Most currencies in the region are likely to weaken into 2014, with TRY and ZAR, the countries with the largest current account deficits in the region being hit hardest, followed by RUB and PLN. ILS, HUF, CZK should outperform. As we move towards 2H14, Fed tapering risks should be better reflected in market pricing and we look for broad-based moderate EMEA EM FX appreciation to follow.

We hold an UW TRY versus OW RUB GBI-EM Model Portfolio allocation, with a bias to rotate into select CEE FX overweights in 2014. For now we remain UW TRY versus OW RUB. In the absence of rate hikes, we continue to think that TRY is the most vulnerable currency in the region to tapering risks and its real effective exchange rate will need to depreciate further in order for the current account deficit to adjust convincingly. In RUB, the currency's attractive carry-to-volatility characteristics still makes it an ideal candidate to hold against our UW TRY position in the short run, particularly as the CBR have delayed rate cuts and the seasonality lifts into 1Q14. We acknowledge the medium term risks to the RUB outlook however and will look to rotate out of this allocation in 2014 into fundamentally cheaper CEE currencies.

Chart 1: Much of the variation in EMEA EM relative FX performance since May can be explained by the relative basic balances



Source: JPMorgan

EMEA EM FX top trades:

- OW RUB versus UW TRY in GBI-EM Model Portfolio
- PLN: buy 4M USD call/PLN put (strike 3.17) vs sell 1Y EUR calls/PLN put (strike 4.35)
- HUF: buy 4M USD call/HUF put (strike 228) vs sell 1Y EUR calls/HUF put (strike 317)
- Long NGN 6M T-bills (FX unhedged)
- Long 6M USD call/TRY put RKO (strike 2.10, barrier 2.25), indicative cost 37bp (spot ref 2.007,vanilla equivalent cost 2.47% mid).
- Long 6M USD/CZK call spread (strikes 20.75, 21.5) with 21.75 RKI barrier on high strike, indicative cost 71.5bp, max payout to cost 6.6:1, breakeven 20.32, spot ref (20.17)

Latin America FX: UW CLP in the GBI-EM Model Portfolio; hold tactical long UYU

Latin American currencies are likely to suffer in 1H14 on global risk aversion and liquidity premium re-pricing on the back of Fed tapering induced volatility, while idiosyncratic factors are expected to drive corrections once systemic volatility ebbs. From a fundamental perspective, most Latin American countries are likely to show below-potential GDP growth in 2014. Exceptions are Peru and Mexico, which are expected to grow around potential, thus improving their 2013 performance. Moreover, we see current account deficits (as % of GDP) narrowing down in most countries. Finally, inflation is

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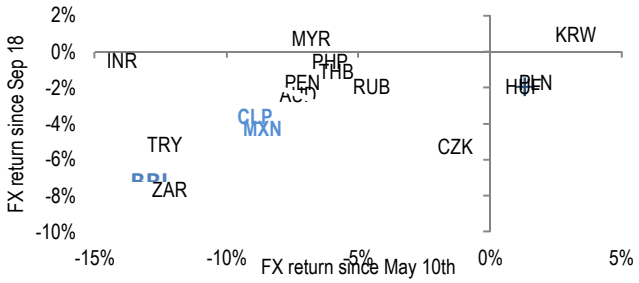
likely to hover at worrisome levels in Brazil and Uruguay. The fundamental picture compounds with the Fed's asset purchase tapering likely to start by January, and with J.P. Morgan commodity forecasts favoring oil prices relative to metals and soft commodities. In this framework, we anticipate more accommodative monetary conditions in Chile and Peru (this last by the decline in reserve requirements), while only Brazil and Colombia are expected to hike rates in 2014. In the GBI-EM Model Portfolio we are UW Latin America FX.

BRL is to continue weakening in 2014 (following a -11.0% slippage against the dollar YTD). Indeed, J.P. Morgan expects USD/BRL at 2.40 by end of 2014, implying a 4.2% depreciation with respect to the 2.30 level expected by December 2013. Brazil's BCB is expected to continue its hiking cycle, and we see the Selic rate up to 10.5% by February 2014. Moreover, BCB will likely continue its swap-based FX intervention in 2014 (currently BCB has a $66.6bn short swap position), but the risk is for more discretion and less rules. We see USD/BRL trading in a 2.30-2.50 range in 1H14, and between 2.35-2.55 in the second half of the year. The high carry advocates taking long BRL positions close to the range ceiling while shorting BRL through options closer to the lower bound.

We highlight that MXN is the only currency in Latin America likely to appreciate vs. the dollar in 2014 (to 12.4 by end of 2014 from 12.9 December 2013). On the domestic front, Banxico closed the door to further easing as real domestic rates are close to zero-bound and fiscal thrust has been penciled in for 2014 thus supporting growth recovery. We remain optimistic in having the structural reforms passed before this year-end, in particular the energy one. We moved MXN back to neutral (from OW) in the GBI-EM Model Portfolio, on the assumption of Fed tapering now starting in January (previously April). We remain positive in having the structural reforms passed before this year-end, in particular the all-important energy reform. Of note, positioning remains flat and our short term model shows a relatively cheap MXN, factors that could offset in part a spike in global uncertainly drove by Fed tapering. Levels between 13.3-13.4 have proved good entry levels to short USD/MXN. We close the short USD/MXN risk reversal recommendation (exp. date Aug 2, 2014) as Fed tapering in January might put upward pressure on vols.

On the fundamentally driven FX, we feel bearish CLP while favor COP into 2014. We moved CLP to UW (from neutral) in the GBI-EM Model Portfolio. On the domestic front, a so-far mild economic deceleration gave Chile's BCCh room to cut 50bp in 4Q13. Going forward, our economists foresee another 50bp in cuts to materialize in 1Q14, leaving the monetary policy rate at 4.0%. Inflation, hovering below the floor of the target (3±1) is a concern for BCCh. Inflation

Chart 2: BRL, MXN and CLP have underperformed even after the Fed delayed the asset purchase tapering back in September



Source: JPMorgan

breakevens have moved downward substantially in the last month, despite the weaker CLP. In all, our economists forecast USD/CLP at 525 at end-2013 and 540 at end-2014. Finally, we expect China to decelerate again in early 2014, and this may have a negative impact on copper prices while the pick-up in global copper supply could eventually put further downward pressure on prices.

Several factors may support the COP in 2014. First, J.P. Morgan remains modestly bullish energy commodities, particularly oil. Second, Colombia's BanRep is likely to start normalizing rates in 2H14. Finally, further BanRep USD purchases are likely to remain mild given concerns of sterilization costs. Moreover, the recent clarifications of tax calculations may finally ignite portfolio inflows into local TES as foreign ownership remains well below peers (offshore investors only hold 6.5% of Colombian local government bonds vs. 61% in Peru Soberanos, for example). We keep our call for BanRep to remain on hold though 1H14, forecasting the first step of a rate normalization process for 3Q14.

We hold a tactical short USD long UYU (target: 20.8; stop: 22.2) into the end of 2013 and 1Q14. However, remain cautious in the long run, as from a valuation perspective the UYU remains appreciated in real terms to both USD and BRL. However, high inflation together with the political cycle is likely to prompt central bank intervention in the spot market, if need be (net international reserve position stands at $16.2bn). We remain neutral PEN as Peru's BCRP is likely to keep intervening in the spot market (sold $4.2bn in 2013 defending 2.81 level).

Finally, we see further acceleration of ARS crawling peg (to 45% a.r. from the current 25%) amid declining reserves and capital controls. Of note, recent cabinet changes suggest that the risk for multiple FX regime has increased.. Declining soy price remains the main exogenous risk factor going forward (J.P. Morgan is forecasting -30%oya in 1H14).

Latin America FX top trades:

- UW CLP in GBI-EM Model Portfolio
- Hold a tactical short USD/UYU (target: 20.8; stop: 22.2)

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Four global macro themes and top trades

Our short-term trade recommendations are outlined and tracked each Friday in *FX Markets Weekly (*see: *Post-Mortem: 2013 forecasts and trade recommendations* on page 26). This section focuses on the more substantive global macro issues that we expect to play a key role for more extended periods through the coming year.

1) Growth rotation

Relative economic momentum remains a powerful, if inconsistent, driver of exchange rates. Looking beyond the inevitable quarter-on-quarter noise, we are relatively confident that 2014 will see a step-up in growth in the **US** (2.5% vs 1.6% in 2013) and **Mexico** (3.4% vs 1.4%) as fiscal drags fade. The **UK** may ease a little, but not sufficient for it to lose its status as the fastest-growing economy in G10, closely followed by NZ. Growth remains a challenge for AUD as **China** reverts to 7% growth and Australian policymakers increasingly emphasise the role of a weaker exchange rate in promoting economic rebalancing. Re-enter AUD shorts, versus NZD and MXN.

- **Buy 6-mo AUD/NZD put fly** (1.10x1.06x1.02 in 1x2x1 notional). Cost 60bp from a spot ref of 1.1132.
- **Sell AUD/MXN at 11.96** with a stop at 12.32.

2) Policy divergence

FX remains in thrall to central bank policy. 2013's major trends were all the product of policy initiatives, from the euro's ascent (23% contraction in the ECB's balance sheet) to the yen's descent (34% expansion in the BoJ balance sheet), and the furore around Fed tapering. Policy is unlikely to change in such a radical way in 2014, hence FX trends are unlikely to be as pronounced, but potential nevertheless exists to position for modestly divergent policy trends. On the weak side are **JPY** (the BoJ to modestly augment its QQE programme in the spring), **AUD** (one more rate cut plus more verbal intervention at least to ensure the currency gets the message) and externally challenged **EM currencies** should 10-yr UST attain our 3.65% target on tapering. By contrast, USD will finally get to benefit from stability in the Fed's balance sheet, while a strong economy which undermines forward guidance is a positive prospect for **GBP**. Disinflation is expected to remain an issue for the ECB, reversing this year's policy bias (possibility of negative rates instead of a much slimmer balance sheet), so too **EUR** strength (see Theme #4).

- **Re-enter USD/JPY with a 4-mo 104-108 call spread with a 110 RKI** on the upper strike. Cost 76bp from a spot ref of 101.43.
- **Buy a 4-mo GBP/JPY at-expiry-digital call, strike 175.** Costs 13.5% of payout. Spot ref 164.09.
- **Buy a 6-mo USD/TRY 2.10 call, RKO 2.25**. Costs 37bp (vanilla equivalent is 2.47%). Spot ref 2.007.

3) External imbalances

The interplay between tapering and external imbalances (large current account deficits, an over-reliance on bond inflows) delivered this year's most extreme FX movements. FX valuations in many cases are less challenging now than last year, hence the reality of tapering may prove less disruptive than the prospect. Nevertheless the policy response in some countries such as **Indonesia** and **Malaysia** to the reality of less abundant capital inflows has been inadequate – IDR remains vulnerable to the downdraft from sharply higher UST yields given that foreign investors own over 30% of the local bond market and the current account deficit will be near 3.5% of GDP. China's balance of payments remains a source of support for the currency, both the current account and the size/mix of capital flows. **CNY** thus remains an attractive carry trade, albeit with the trend towards exchange rate flexibility and interest rate liberalization reducing some of the risk-adjusted carry.

- **Re-sell IDR through a 6-mo USD/IDR 12,000-13,000 call spread**. Costs 251bp from a spot ref of 12,120.
- Roll existing long CNH exposure through a **3-mo USD/CNH forward outright,** sold at 6.0980.

4) Valuation

The lesson from the collapse in the yen is that valuation matters for FX, but only insofar as there is a policy catalyst for mean-reversion. Many currencies are substantially misaligned at present – the two most extreme cases in G10 are **NZD** (22% expensive in REER terms) and **NOK** (14% undervalued). But neither are suitable candidates for mean-reversion since the RBNZ is scheduled to hike interest rates next year while the Norwegian outlook is clouded by the downturn in housing market. A more promising candidate is the euro – the second most expensive G10 currency. But rather than sell EUR/USD, we buy **USD/CZK** as a bearish EUR proxy. USD/CZK can perform no worse than EUR/USD with the EUR/CZK floor now in place, but there is the asymmetric potential for it to perform better should the CNB raise the floor or the market move to discount such a scenario. This asymmetry is similar to that in **USD/CHF**, but CZK crucially lacks the current account support which made USD/CHF such a frustrating vehicle for USD bulls this year.

- **Buy a 6-mo USD/CZK call spread, strikes 20.75-21.50 with an RKI** on the upper strike at 21.75. Cost 71.5bp (spot ref 20.17).

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Post-mortem on 2013 forecasts and trade recommendations

FX forecasts

Last November's year-ahead outlook projected little momentum in the trade-weighted dollar (only a 2% decline in JPMQUSD) based on the following: Europe and China would stabilise in 2013; global liquidity would expand through Fed/BoJ asset purchases; but global growth would remain too mediocre to deliver much momentum in FX; and valuations were too poor in most currencies to attract sustained buyers of non-USD currencies. Hence the year-end targets of EUR/USD 1.34, GBP/USD 1.63, USD/JPY 79, AUD/USD 1.07, NZD/USD 0.83, USD/CAD 0.96, USD/BRL 1.95, USD/MXN 12.00, USD/CNY 6.15, USD/KRW 1020, USD/TRY 1.75 and USD/RUB 30.79 (see *Global FX Strategy 2013: Less stress, less value, tougher returns*, November 21, 2012). Within Europe, most currencies were expected to outperform the euro as a more stable Euro area sponsored even stronger growth upturns in Scandinavia, Switzerland and Central Europe, and flows into the higher-yielding ones (ex CHF). Relative to the forecasts, the currency with the most asymmetric bias was JPY, which could have turned out much weaker than the original projection depending on the outcome of December 2012 election and spring 2013 BoJ policy. The consensus at that time projected USD strength within the G10 but USD weakness versus emerging markets.

In retrospect, we were far too conservative on USD/JPY, particularly its ability to motor in a year when Japanese investors net sold foreign assets (i.e. USD/JPY's rally has been an entirely foreign-driven move). We also misread China's late-2012 stability as durable so missed the economy's slowdown in Q1/Q2 2013 as well as the slump in other big EMs like Brazil, India and Turkey. We also expected no Fed taper talk until late 2013, so the forecasts for commodity currencies and emerging markets with which we entered 2013 were dead wrong except for NZD/USD, USD/CNY and USD/KRW. Some redemption came with EUR/USD, GBP/USD and EUR/CHF, as we always thought a turn in the Euro area economy would revive the euro given the extent of underweights in the currency and underlying assets. The Scandis forecasts were too bullish: we misunderstood how the Norges Bank would prioritise the currency over containing housing/inflation, and we overestimated the Swedish growth upturn.

The only wholesale rethink on views came in May, when we published *The beginning of the end of easy money* as global bond markets sold off. That piece argued for only selective USD strength because (1) other economies like Western and Central Europe plus New Zealand were gaining momentum; (2) position concentrations from the QE era were mainly in emerging markets; and (3) the dollar had no structural support from either equity or FDI flows. That view was non-consensus then relative to the prevailing narrative that the dollar was beginning a cyclical and structural upturn which would generate sizable and broad gains. The message from that May research note carries on in this 2014 outlook.

Table 1. Performance statistics 2008 – 2013

	2013	2012	2011	2010	2009	2008	2008-2013 avg
***I. Macro Trade Recommendations* portfolio**							
Cash							
# of trades	52	28	42	89	61	85	357
Success rate	56%	61%	60%	53%	64%	59%	58%
Average return per trade (%, unweighted)	0.5%	0.2%	0.0%	0.0%	1.0%	2.0%	0.7%
Average holding period (calendar days)	20	26	25	23	20	31	24
Derivatives (non-digital)							
# of trades	29	33	27	27	21	3	140
Success rate	28%	85%	74%	62%	62%	0.0%	61%
Average return per trade (%, unweighted)	-0.2%	0.3%	0.9%	0.3%	0.5%	-0.6%	0.3%
Average holding period (calendar days)	64	58	71	54	59	66	61
Derivatives (digital)							
# of trades	3	5	10	4	21	5	48
Success rate	67%	80%	50%	25%	38%	20%	44%
Average return per trade (%, unweighted)	25%	11.9%	-0.9%	-6.7%	-4.7%	-3.6%	-0.4%
Average holding period (calendar days)	60	38	87	60	55	54	61
***II. FX Derivatives* portfolio (relative value)**							
Vol r.v							
# of trades	34	46	37	45	32	13	207
Success rate	76%	52%	62%	69%	63%	77%	65%
Average return per trade (unweighted)*	0.3	0.1	0.1	0.7	0.1	0.3	0.3
Average holding period (calendar days)	66	84	44	99	73	53	73
Vol plus directional r.v							
# of trades	11	25	16	4	-	-	56
Success rate	36%	60%	75%	50%	-	-	59%
Average return per trade (bp, unweighted)	-6	17.8	12	-8	-	-	9.7
Average holding period (calendar days)	113	59	27	50	-	-	60
Digital							
# of trades	-	-	-	-	-	3	3
Success rate	-	-	-	-	-	33%	33%
Average return per trade (%, unweighted)	-	-	-	-	-	8%	8%
Average holding period (calendar days)	-	-	-	-	-	33	33
***III. Technical Strategy* portfolio**							
# of trades	31	20	33	52	46	87	269
Success rate	58%	40%	58%	46%	57%	43%	49%
Average return per trade (%, unweighted)	0.8%	0.4%	0.1%	0.0%	0.1%	0.2%	0.2%
Average holding period (calendar days)	158	114	54	36	10	9	27

*P&L in vol points

Trade recommendations

Since 2008 J.P. Morgan's FX trade recommendations have been detailed each Friday in *FX Markets Weekly*. They are classified as either (1) macro directional trades (cash, non-digital options and digital options); (2) derivatives relative value; and (3) technical trades.

I. Macro trade recommendations

Of the **three types of macro trade recommendations**, cash positions delivered decent returns, directional options trades (non-digital) delivered poor returns and digital trade delivered very good returns. We entered 2013, like most investors, broadly short yen and long high-yielders, and

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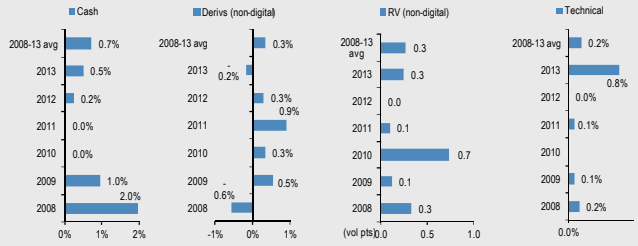
generated sizable returns until the global rates sell-off this spring. As rates backed up, we resisted the consensus view of buying USD vs. Europe and instead focussed on the high-risk EMs like IDR, TRY and ZAR. Of the 52 **cash trades** recommended this year, 56% have generated a profit, with average returns of 0.5% (table 1 and charts 2 and 3). These returns have been much higher than the measly gains in 2012 (0.2% per trade) and 0% on cash trades in 2010 and 2011, when the EMU crisis generated even more market reversals than the Fed tapering debate has. Note that since May trades have been quite short-term, reflecting our lack of conviction around the Fed outlook. The average holding period on cash trades fell this year to 20 days, so the second shortest in our five-year model portfolio history.

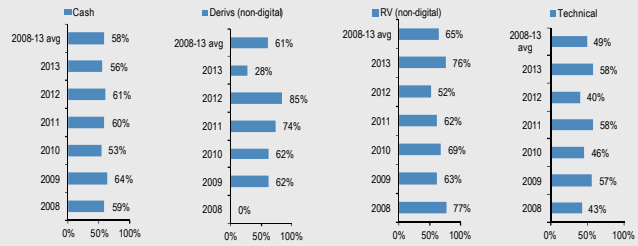
Compared to cash, derivatives recommendations have been mixed. Of 29 **directional non-digital recommendations**, only 29% were correct, and the average loss per trade was 0.2%, the worst since 2008. **Digital** recommendations were much better: 3 trades with 67% success and average returns of 25%. One trade was KRW/JPY higher and the other a Q1 dual digital of EUR/NOK lower and EUR/GBP higher.

Chart 2: 2008-2012 performance summary: Average returns per trade



Source: J.P. Morgan

Chart 3: 2008-2011 performance summary: Success rate by type of trade



Source: J.P. Morgan

II. Relative value derivatives recommendations

Relative value options positions posted their second-best performance in five years. Of 34 relative value trades, 76% were closed at a profit. Average returns of 0.3 vol points were comparable to 2008 but much lower than the 0.7 points average return in 2010 (table 1). **Vol plus directional recommendations** performed worse, with a 36% success rate and average returns of -6bp. See the *Derivatives Post-mortem* on page 34 for a fuller discussion.

III. Technical trade recommendations

The **technical trades** portfolio had its best year in six, with average returns of 0.8% per trade on a success rate of 58%. The portfolio shorted EM FX broadly during the global rates sell-off, though it also generated decent gains from trading intra-European and intra-CEEEMA crosses throughout the year.

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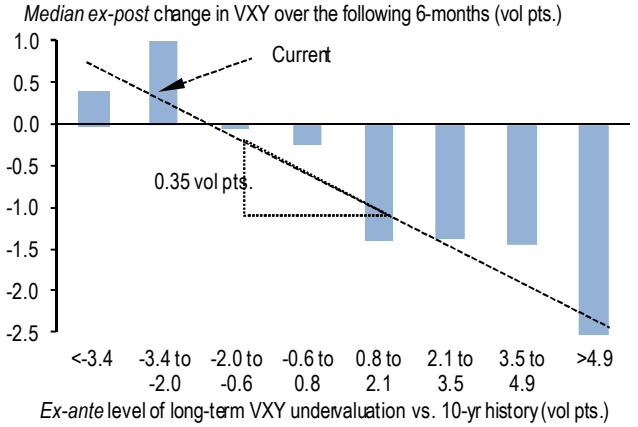
Volatility: No risk premium in sight

- **VXY is ending 2013 nearly unchanged despite an abnormally low starting point and a taper shock that triggered massive unwinding of EM bond positions.**
- **2014 should be more of the same. FX vols are still low and should mean-revert ~1.0 vol higher; we target 9.0 on the VXY by year-end, with a risk bias to the upside stemming from continued US rate noise and a potential flushout of the short yen leverage.**
- **With thin-to-non-existent risk premium, prospects for vol alpha from systematic selling of gamma (short-dated straddles) or forward vol (FVAs) looks poor.**
- **Focus instead on the flatness of vol term structures to set up low slide, long vega hedges via FVAs.**
- **Buy vol preferentially in externally challenged EM currencies over those in G10 and better quality EM. Buy weighted baskets of (TRY, BRL, MYR) 1Y straddles funded by (RUB, MXN, SGD) 1Y straddles.**
- **Cross-yen vols are cheap relative to USD/JPY vols. Hedge the liquidation risk of yen shorts via 6M AUD/JPY vs. USD/JPY yen call switches.**

2013: More bark, less bite

FX vols (basis VXY Global) are ending 2013 nearly unchanged, which is a remarkable feat considering their abnormally low starting point at the beginning of the year (8.0), the magnitude of the US rate shock that threatened to end the multi-year EM liquidity binge, a first-in-17-years US government shutdown, and the scale of option buying that the market had to absorb in order to implement a single strategic directional view (yen weakness). Admittedly, an element of seasonal softness towards the end of the year colors this bearish assessment, and detracts from the fact that VXY did spend 70% of the year above our year-end forecast of 9.0. It is hard to escape the sense though that the glut of liquidity in financial markets and the massive dollar reserves at the disposal of EM central banks for intervention /firefighting are helping douse greater vol follow-through in market disruptions. While this potentially caps upside from long vol bets and makes tactical entry/exit considerations more important than usual, it is incorrect to advocate a bearish vol stance going into 2104 when many of the same themes from this year will extend into next. Vol levels remain depressed and structural challenges facing deficit

Chart 1: Mean-reversion in vols: VXY tends to rally ~0.35 vols over the following 6-months for every 1 vol of historical undervaluation
(VXY_T- $VXY_{ROLLING\ 10\text{-}YR\ AVG}$) grouped into various buckets to represent *ex-ante* historical undervaluation vs. median *ex-post* 6-mo changes in VXY for each bucket



Source: J.P.Morgan

EM economies will likely come to the fore again as the Fed begins tapering, offset only partially by a slightly more constructive global growth backdrop and less frenzied yen put demand. We look for vols to drift marginally higher in 2014, targeting 9.0 on the VXY by year-end with substantial spike risks stemming from renewed EM stress and/or disappointment on the Japanese front that causes paring back of heavy yen shorts. Vol alpha generation will continue to remain tough in an environment bereft of risk premium, focus instead on hedging liquidation risks in EM and yen using bleed efficient long vega constructs.

2014: Modest drift higher, spike risks abound

2014 should largely adhere to the 2013 vol script since a number of common themes from this year will carry over into next. For one, initial conditions are similar to those at the beginning of 2013. VXY Global is trading around 8.1 at the time of going to print, almost exactly at last December's levels and still a good 2.5-3.0 vols below its long-run norm, though no longer as severely underpriced vis-à-vis global growth indicators (e.g. PMIs) as they were last year. The latter is almost entirely a function of the PMIs having moved higher this year to close the gap, driven by solid growth in DM and recent signs of an export-led spillover onto EM. The starting point in a vol forecasting exercise is critical because it governs the potency of mean-reversion, arguably the most predictable and statistically significant influence on vol over a multi-month horizon. As a rule of thumb, every 1 vol pt. of medium-run historical cheapness on the VXY is followed by 0.35 pts. of average gains over the following 6-months (chart 1), and has historically been a fairly reliable gauge of the direction, if not always the magnitude, of future moves; by this yardstick alone, the VXY is slated for a ~1vol rally by the middle of next year. In addition to subdued nominal levels,

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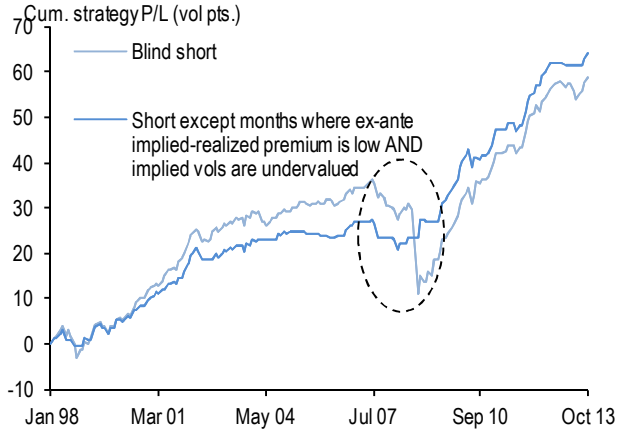
particularly worrying for vol sellers should be the thin-to-non-existent risk premium in option prices. ATMs trade flat with, or even at a discount to realized vols in many currencies instead of their usual 1-1.5 vol premium, and vol term structures have flattened to levels where the term premium for holding longer-expiry options over shorter-dated ones has fallen to multi-year lows (more on this in a subsequent section, see charts 6,7). Oversold, thin risk premia environments are not ones to be cavalier about selling vol in; simulations suggest that the threat of large'08 like drawdowns inherent in blind short gamma investing can be mitigated to a decent extent through the use of valuation and/or risk premium triggers (chart 2). Both filters are currently flashing amber, which should logically map into a moderately bullish bias on the VXY. There are offsets however in the form of more constructive cyclical conditions and fewer negative growth surprises next year that should act as vol dampeners. Our economists have penciled in a return to a slightly above trend pace of global growth in 2014 as fiscal drag in the US recedes, policy impulse in G4 remains growth supportive and EM exports continue to benefit from the rising tide in DM. The composite influence of these factors is expected to amount to a 0.9 vol rally in the VXY over the next 4-quarters (chart 3), so **we target 9.0 on the index by year-end**.

The Fed story imparts upside risks to the baseline forecast, with EM rather than G7 likely to bear the brunt. Granted that taper has now become common market jargon that no longer carries the same shock value it did in Q2. But that does not inoculate emerging markets against stress if US rates resume their uptrend, for the simple reason that volatility is the outcome of leverage intersecting with shocks; while the shock is better telegraphed and perhaps less potent this time around, it is hard to imagine that the multi-year build-up in EM bond market leverage has already re-adjusted to the new reality of higher funding costs in the space of a few months. Despite sizeable EM debt outflows in H2, the outstanding stock of EM bond longs remains substantially higher above their pre-QEI levels, and anecdotal accounts suggest that a significant portion of those bond positions were not directly liquidated but hedged with more liquid FX in the aftermath of the May/June turmoil. Proxy-hedging via FX is here to stay and will continue to add to EM noise next year; EM policymakers have also hinted at a greater acceptance of currencies acting as shock absorbers during stress and less inclined at the margin to intervene against fundamental weakness. The threat of another EM meltdown is not far-fetched and is likely to keep EM vols solidly bid over G7.

A second potential source of vol spike risk is the extent

Chart 2: Vol selling is a less hazardous game with valuation and/or risk premium-based safety catches in place

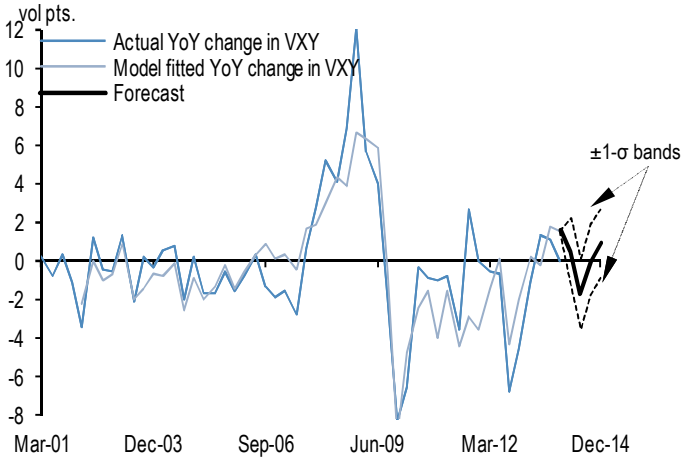
Cumulative returns from a stylized 3M vol selling strategy applied to VXY G7, with and without a valuation/risk premium based "on-off" switch. The latter de-activates a blind short strategy when implied vols are either severely cheap on a historical basis (< 3 vols vs. rolling 3-yr avg.) or 3M implied- 2M realized vol premium < 0.25 vol pts. Stylized strategy P/Ls simplistically calculated as VXY3M implied vol_{T-1M} – (1/3*VXY 1-mo realized vol_T + 2/3*VXY 2M implied vol_T). Monthly data since '98.



Source: J.P.Morgan

Chart 3: VXY is likely to mean-revert ~1.0 vol higher over 2014, even accounting for a slightly better global growth outlook next year

YoY change in VXY_T = 10.8 – 1.0*VXY_{T-1Y} – 0.6*Global growth $_T$ + 1.6*rolling 4-quarter std. deviation of global growth $_T$. Quarterly data since 2001.



Source: J.P.Morgan

of outstanding short yen positioning and the potential for disorderly washouts. Yen was without doubt the currency story in the first half of the year, and is unlikely to cede the limelight in 2014. Technicals this time around are however far less conducive to a repeat 20% fall in the currency: the latest IMMs peg the existing stock of yen shorts at close to the year's highs and second only to the carry-trade bubble peak of 2007 (chart 4), implying asymmetric directional risks – the marginal spot rally from here is unlikely to be as volatile as the marginal sell-off. Anecdotal evidence suggests that option market positioning

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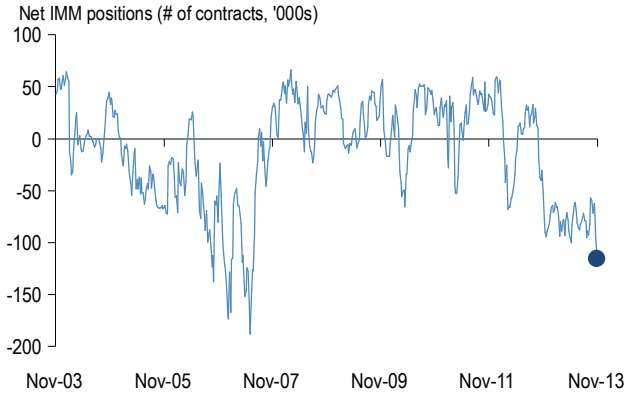
should extend this imbalance, since the bulk of the H2 vintage weak yen option structures that have been instituted have been of the low premium, limited upside variety such as USD call spreads, RKOs and butterflies. In contrast to the frenzy of outright yen put buying in Q1 that paid the street out of vol, the recent flow has likely supplied dealer books with vega between 102- 105 strikes, the hedging of which can have a self-perpetuating effect of dampening spot rallies. It is hard to call the precise the shock that can unwind some of this leverage: exogenous events in EM could trigger a rush for exit doors as happened this summer, as could domestic policy disappointment with third arrow measures, adverse impact of the consumption tax hike/TPP or some combination thereof. Prudence dictates owning some form of protection for weak yen portfolios, we suggest cross-yen vs. USD/JPY yen call switches as low cost alternatives to owning outright yen calls.

A less threatening source of upside vol risk in Q1 will be another round of fiscal skirmishes in the US. Less threatening because despite the enormity of the first government shutdown in 17 years, FX markets were little impacted outside of injecting a modest amount of Washington risk premium into the dollar; vols turned out to be altogether indifferent to Beltway shenanigans. Come next spring, market participants could potentially find themselves facing the same issues that they did this fall, but it could well turn out to be a film whose ending is known. The base case fallout of renewed DC dysfunction is also benign because the resulting dollar weakness is usually vol unfriendly, and carry trades could perversely receive support from a delaying of tapering expectations. Nonetheless, a destabilizing US debt default deserves an honorary mention in a 2014 risk catalog; we file this one away under the category of dangerous but unlikely.

Barren landscape for FX vol alpha

Bread-and-butter alpha strategies in FX vol had a sub-par 2013, and that underperformance is likely to carry over into 2014. After the OMT-rush of 2012, systematic gamma selling came back down to earth in 2013 (table 1). YTD returns from the strategy have been below par, with neither hefty implied/realized vol premia available to monetize for large parts of the year, nor a policy driven vol suppressant at play. Trend compression in the former over the past two years has taken it down to zero currently (chart 5) and the situation is unlikely to improve materially next year absent a serious vol spike that lifts implieds from their current torpor. Policy (read tapering) will hinder rather than help vol selling by keeping spike risks elevated and EM carry trades on the edge. We see another sub-par year looming for sell-and-hold gamma strategies, and tactical timing will remain the dominant driver of returns.

Chart 4: The large outstanding stock of yen shorts presents a potential source of vol spike risk in the event of liquidation



Source: J.P.Morgan

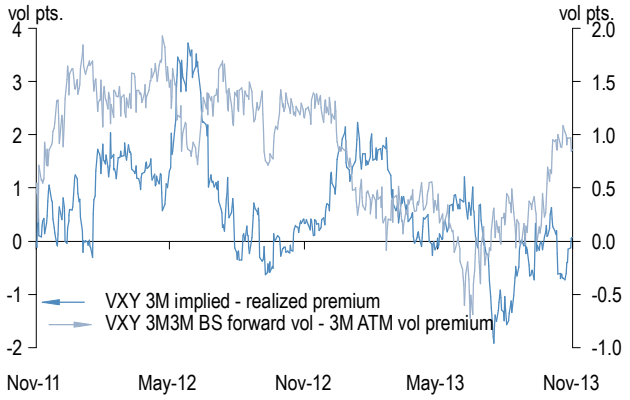
Table 1: The barren landscape for vol alpha in FX: returns from short-dated vol swap and FVA selling have been sub-par in 2013…

Full-year returns in vol pts. from selling 3M vol swaps and 3M3M FVAs across G10, EM and (G10 + EM) currencies, rolled every month. No transaction costs.

Year	$VXY_{INITIAL}$	Short 3M vol swaps			Short 3M3M FVAs		
		G10	EM	Global	G10	EM	Global
2004	10.0	(2.3)	2.5	(0.8)	(0.3)	3.6	1.7
2005	10.3	1.4	5.6	3.1	2.1	3.7	3.0
2006	8.7	3.3	9.9	5.6	2.0	1.9	1.9
2007	6.8	(6.7)	(1.1)	(3.6)	(2.7)	0.1	(1.2)
2008	9.7	(25.4)	(28.4)	(27.8)	(10.6)	(18.3)	(14.8)
2009	21.8	9.4	26.9	19.0	2.6	10.6	7.0
2010	13.5	7.6	10.5	9.2	4.3	4.1	4.2
2011	12.6	3.6	1.8	2.6	0.7	(1.8)	(0.7)
2012	12.6	13.6	16.4	15.1	9.7	9.9	9.8
Median	**10.3**	**3.3**	**5.6**	**3.1**	**2.0**	**3.6**	**1.9**
2013	8.1	(2.1)	2.9	0.6	0.5	2.2	1.4
2014	8.0	?	?	?	?	?	?

Source: J.P.Morgan

Chart 5: ….and the underperformance looks set to continue in 2014 owing to the decline in risk premia over the past two years, both in gamma and along the curve



Source: J.P.Morgan

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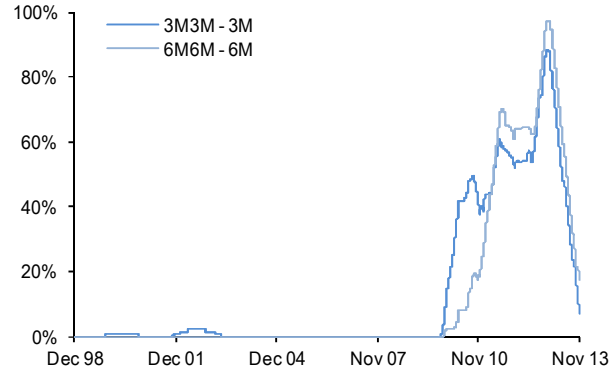
Short gamma is not the only alpha vol strategy to face an uphill battle against low implied vols and thin risk premia; forward vol selling is also in the same boat. In our year-ahead publication last year, we had flagged short-dated FVA selling a more reliable source of alpha in a market where the trend decline in vol that drove outsized short gamma returns in 2012 was unlikely to repeat. The former would at least capture the half-decent static slide from rolling down from forward into spot vols along upward sloping curves even if base vols traded sideways or even drifted modestly higher. So it proved – table 1 illustrates the outperformance of systematically selling 3M3M FVAs over 3M straddles, particularly in G10 during the first quarter when vol curves were steep enough. But that cushion rapidly disappeared as term structures progressively flattened through the rest of year (chart 5), to an extent that we are rapidly converging towards the low vol/flat curve years of the last decade when tradeable FVA selling opportunities when few and far between (chart 6). Admittedly, vol curves have re-steepened of late and we will take whatever the market gives us via tactical trade recommendations next year, but we are not hopeful that this will last; the recent uptick may well be an artifact of the increasing impact of quiet year-end dates on gamma vol marking that is artificially depressing short-dated vols, and may pass once the new year comes around.

If short vol proves ineffective, will long vol work? **Long gamma did return positive P/Ls in select pairs, however more interesting hedging opportunities reside in longer tenors.** While USD/JPY and high yielding EM FX hogged the limelight this year, no currency delivered better gamma performance overall than the Scandies (table 2). USD/NOK in particular benefitted from the largest 3-day spike in spot on record (+7.5%) on the back of the June FOMC and Norges Bank slashing rate projections. Even excluding this extraordinary occurrence, the annualized average P/L of long USD/NOK 3M straddles drops to 2.5vols, and that of USD/SEK to 2.8vols, still placing the two at the top of the gamma heap. In contrast, USD/JPY long was a H1 trade that largely gave back its gains in H2, and buying EM gamma turned out to be a timing exercise, with none-too-impressive returns outside the May-June episode. Table 2 shows that owning 1Y vols proved systematically more resilient across currencies, underscoring the value of positioning early for vol spikes, as well as the option market's focus on shedding short theta positions that suppressed front-end vols after the passage of each significant event. The heightened attention to near dates is evident in the term structure of vols, with the slide down from 3M3M forward vols to 3M spot vols much steeper than that over subsequent 3-month horizons (see chart 7 for the generic term structure of 1M, 3M and 1Y vols N-months forward, averaged across 45 G10 and EM pairs). The low

Chart 6: Tradeable forward vol selling opportunities have dwindled rapidly and are approaching the sterile years of the mid-2000s
% of times that the BS forward vol – spot implied vol premium for the VXYG7 basket exceeded 1vol pt. over rolling 1-yr windows



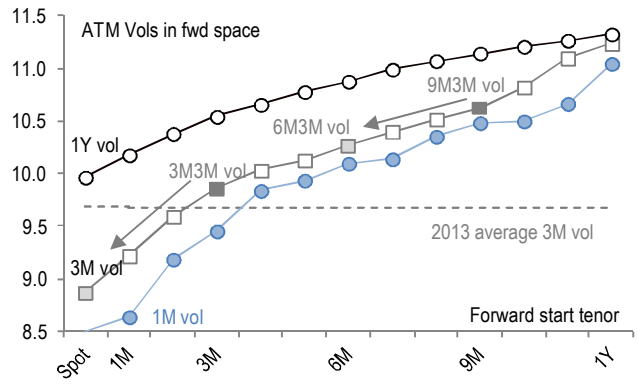
Source: J.P.Morgan

Table 2: Long Scandi, Antipodean and USD/JPY gamma were profitable this year. 1Y vols were more resilient than short dates
Avg. P/Ls (in vol pts., annualised) of delta-hedged long straddles held to expiry. Ranking in decreasing order of returns for 3M tenor.

DNS - PNL	1M tenor		3M tenor		6M tenor		1Y tenor	
statistics	Avg PNL	Sharpe	Avg PNL	Sharpe	Avg PNL	Sharpe	Avg PNL	Sharpe
USD/NOK	25.7	1.4	9.9	1.4	4.4	1.4	2.2	1.0
USD/SEK	15.0	1.6	6.0	1.2	3.1	1.0	1.5	0.7
NZD/USD	12.5	1.0	3.2	0.6	2.7	0.7	1.4	0.5
AUD/USD	4.9	0.4	1.2	0.2	1.3	0.4	0.6	0.3
USD/JPY	5.2	0.4	0.4	0.1	(0.4)	(0.1)	(0.2)	(0.1)
USD/BRL	(4.0)	(0.3)	0.2	0.0	0.9	0.3	0.4	0.2
USD/CHF	2.3	0.3	0.1	0.0	(0.4)	(0.2)	(0.2)	(0.1)
GBP/USD	0.5	0.1	0.1	0.0	(0.7)	(0.4)	(0.4)	(0.3)
USD/TRY	(3.9)	(0.3)	(0.9)	(0.2)	0.9	0.3	0.5	0.2
USD/CAD	(1.1)	(0.2)	(0.9)	(0.3)	(0.9)	(0.5)	(0.4)	(0.3)
EUR/USD	0.5	0.1	(2.2)	(1.0)	(2.1)	(1.3)	(1.0)	(0.9)
USD/RUB	(9.1)	(1.2)	(3.9)	(1.0)	(1.7)	(0.8)	(0.9)	(0.6)
USD/INR	(15.4)	(1.2)	(4.3)	(0.8)	(0.3)	(0.1)	(0.1)	(0.1)
USD/ZAR	(15.9)	(1.2)	(5.6)	(0.9)	(2.5)	(0.7)	(1.3)	(0.5)
USD/MXN	(18.0)	(2.2)	(6.1)	(1.4)	(1.9)	(0.6)	(0.9)	(0.4)

Source: J.P. Morgan

Chart 7: The term structure of vols is much flatter in the back-end
Generic term structures of ATM vols N-months forward, averaged across G10 and EM currency pairs



Source: J.P. Morgan.

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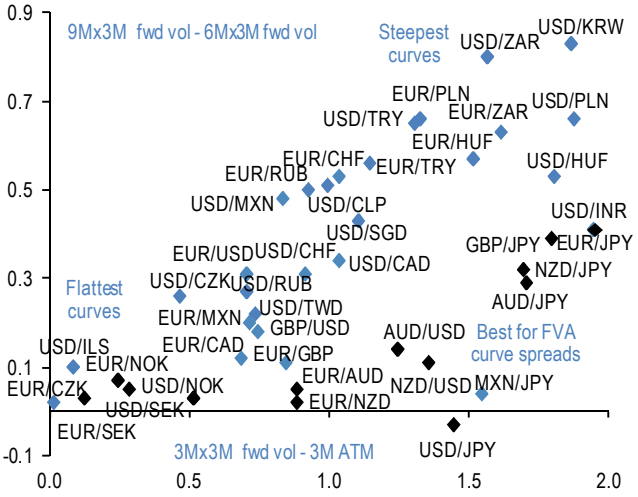
static implied cost of holding 3M vol in 9M time forward vols leads us to **advocate long 9M3M FVAs** in pairs that stand out in chart 8 for the flatness of their curves (EUR- and USD-Scandies, and EUR/Antipodean crosses, which we refer to as "group 1"). Meanwhile another set of pairs (USD- and JPY- Antipodean crosses, USD/JPY, EUR/JPY and GBP/JPY, the "group 2") present enough segmentation between the short- and long-ends of their vol curves such that buying longer-expiry forward vols funded with shorter-dated forward vols is attractive from a slide perspective, even with an overweight on the back leg – we advocate weighted (vega weights 1.5:1) **long 9M3M vs. short 3M3M FVA spreads** in these pairs. Chart 9 shows that long 9M3M FVA positions in group 1 and group 2 pairs have reached an inflection point this year, holding on to gains garnered in vol spikes, unlike in previous years. The FVA spread strategy applied to group 2 currencies has been a consistent performer over time, its historical return trajectory facing only one speed bump in the form of the post-OMT vol collapse, an occurrence unlikely to repeat in 2014. The front-end FVA short is an important element of these spreads, since nearly every currency pair in this group is a high-beta underlying whose vol curves tend to trade steeper-than-average and revert swiftly from vol spikes; rolldown along steep front-end curves is crucial to retaining long vol gains on the back-end during vol spikes.

Troubled EM vols preferential buys over G10 and/or resilient EM

Externally challenged EM FX is likely to remain vulnerable to volatility in core bond markets, hence their vols should remain preferential buys over G10 and better quality EM. In addition to the considerable amount of print space that has been devoted to EM fundamentals over the past few months, we note that relative EM vs. G7 positioning was a key differentiator of their vol responses around the taper episode this year. While length in EM was still running near multi-year highs before the event, longs in G10 carry had long been rinsed (and flipped to shorts based on IMMs) starting in Q1when concerns around Chinese growth had first surfaced. Asynchronous deleveraging and positioning differentials in G10 and EM provided currency investors with unusual initial conditions heading into the taper scare: even as EM retained its usual inverse link to USD/macro-volatility, dollar strength against G10 during stress was not a given. If anything, the large stock of USD/JPY longs – a substantial of source of USD length in H1 – raised the risk of perverse dollar weakness during deleveraging. Six months on, a few of these factors have changed, but the broad set-up remains similar. Positioning in EM is lighter after relentless outflows in H2 (chart 10) but dollar length against G10 also remains substantial. Familiarity with the notion of an eventual taper and already

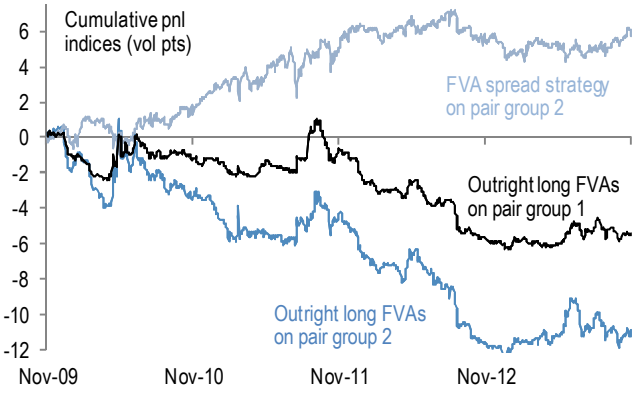
Chart 8: Scandinavian FX, EUR/AUD and EUR/NZD are the top pairs for owning outright long FVAs, while JPY-crosses, AUD and NZD offer good value in owning long back/short front FVA spreads



Source: J.P. Morgan.

Chart 9: Long FVA positions started becoming profitable this year, and intra-curve FVA spreads resumed their P/L uptrend

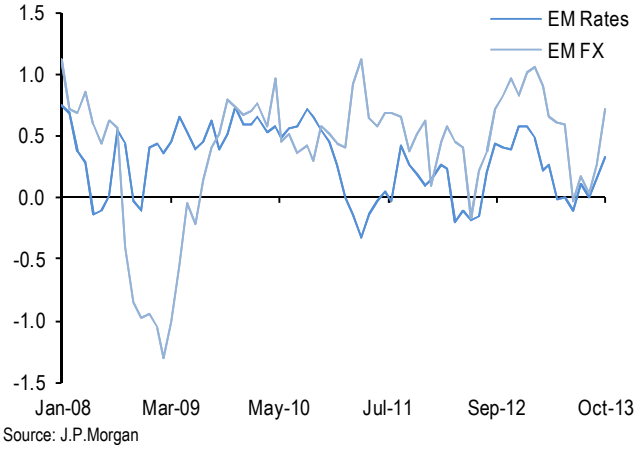
Cumulative average PNLs from FVA strategies (see text for details).



Source: J.P. Morgan.

Chart 10: EM positions have lightened up after the taper scare

Aggregate investor positioning in rates and FX according to monthly client positioning surveys conducted by JPMorgan's regional EM research teams



Source: J.P.Morgan

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extant EM bond hedges reduce the edge in paying EM vols outright, but still keeps us comfortable preferentially owning EM vols over G10 vols through the current late-stage Fed easing regime, and arguably makes long vol funding decisions more critical than before.**Owning EM vols is easier said than done on account of the high costs of carry.** The clean trade is to buy outright EM vol (straddles and/or puts), but the theta/slide involved is painful since implied yields in most troubled currencies have blown out post-Q2 (1Y TRY, INR, BRL implied yields all 300-350bp wider), and vols/skews have re-priced to permanently higher levels that make fresh entry optics poor. There is little that can be done about the latter since it represents a regime shift from pre-taper levels that will not be easily undone as the easy money spigot is gradually turned off. But the negative carry in long EM vol positions can be mitigated via carefully constructed long/short spreads that mimic outright long vol exposures. Our approach is to select longs out of a narrow subset of fragile currencies (BRL, TRY, ZAR, INR, MYR) and fund them with smaller sized shorts in G10 or better quality EM (MXN, RUB, KRW, SGD) that can improve on the negative carry without sacrificing sensitivity to vol spikes.

Table 3 presents the result of such an exercise: the trades listed are weighted so as to deliver identical trough-to-peak P/Ls during taper 1.0 as the outright long vol leg, but with significantly better pre- and post- event staying power, and better net carry (a blend of vol curve slide and implied-realized premium). Chart 11 visually illustrates these advantages: a lookback at this year's performance shows that buying 120K vega of USD/TRY 1Y ATM straddles against selling 120K vega of USD/RUB 1Y ATM straddles (both legs delta-hedged) matched the ~5.0 vol return from owning 100K vega of USD/TRY straddles standalone, but the bleed on the spread in the lead-up to the summer rate shock was negligible compared to the ~3 vols of negative carry on the outright long, and it did a better job of retaining P/Ls after the non-taper. Incidentally, the TRY vs. RUB vol switch is the mirror image of the cash trade (short TRY/RUB) that our EMEA strategists are currently holding in their model portfolio; the lira is still viewed as too rich relative to the fair value that a 'sustainable' Turkish C/A deficit level can support, while the RUB funding merely helps mitigate the negative carry. A perusal of the list in table 3 suggests that **one could do worse than buying a weighted package of (BRL, TRY and MYR) 1Y ATMs vs. (RUB, MXN and SGD) as a core bearish US rate play for next year.** We have no quarrel with the RUB and SGD shorts due to the managed nature of their baskets. MXN is the one that we are the most wary about despite it having been one of our better vol shorts this year because of the still sizeable overhang of MXN longs. G10 is conspicuously absent from the short list despite its relative

Table 3: Owning weighted combinations of long (BRL, TRY, MYR) vols vs. short (RUB, MXN, SGD) vol can create carry efficient exposures to taper 2.0 induced volatility

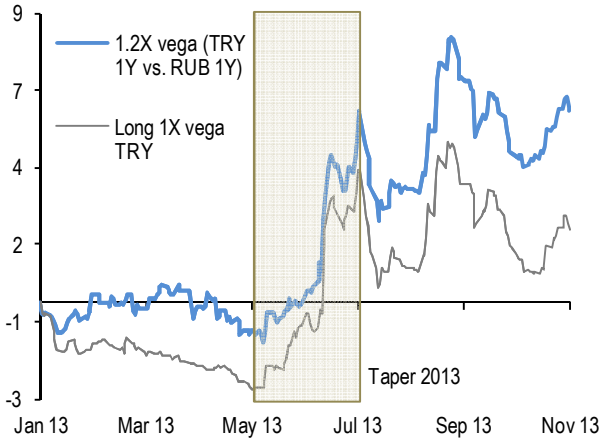
Weighted long/short 1Y ATM straddle spreads (delta-hedged) that mimic the evolution of the long vol leg only but also have the following desirable properties: (a) carry savings vs. pure long vol leg > 0, where carry is defined as (1/2)*6M ATM vol + (1/2)*3-mo realized vol – 1Y ATM vol; (b) outperform the long only vol trade in the lead-up to, and after the May/June taper scare. Vega weights selected to generate the same trough-to-peak P/L as 1X vega of the outright vega long.

Long	Short	Vega Long	Vega Short	Corr. vs. pure long	Carry savings vs. pure long	Spread out-performance pre-taper (Jan-May)	Spread out-performance post-taper (Sep-Nov)
BRL	RUB	1.3	-1.0	98%	1.5	1.7	1.7
BRL	MXN	1.7	-1.0	97%	1.4	1.7	1.7
MYR	SGD	2.4	-1.3	96%	0.8	1.5	0.6
TRY	RUB	1.2	-1.2	98%	1.5	1.9	1.8

Source: J.P.Morgan

Chart 11: Selling USD/RUB 1Y vols to fund the purchase of USD/TRY 1Y vols outperformed owning USD/TRY vols outright this year, but with significantly better carry that allowed it to remain in the hunt for longer vis-à-vis the outright long in the lead-up to the shock

Cumulative P/Ls in vol pts. from i) owning USD/TRY 1Y ATM straddles outright (1X vega), and ii) owning long 1Y USD/TRY vs. short 1Y USD/RUB ATM straddle spreads. Both sets of trades delta-hedged daily using option expiry matched forwards/ NDFs and BS forward deltas, and rolled into fresh ATM strikes every month. No transaction costs.



Source: J.P.Morgan

inertness on valuation grounds – at 7.9 in EUR/USD 1Y ATM for instance, there is very little value left in using them as funding vehicles. Rather, low vol bases and flat curves in the back-end make for low bleed, low maintenance long vol bets via FVAs from attractive levels as discussed earlier.

Yen options: JPY call hedges in play, cross-yen still cheap, back-end curve steepness to persist

Yen bearishness remains the most favored macro-investing theme among currency investors, and hence presents the largest liquidation risk from a vol standpoint. Yen puts hogged much of the limelight in

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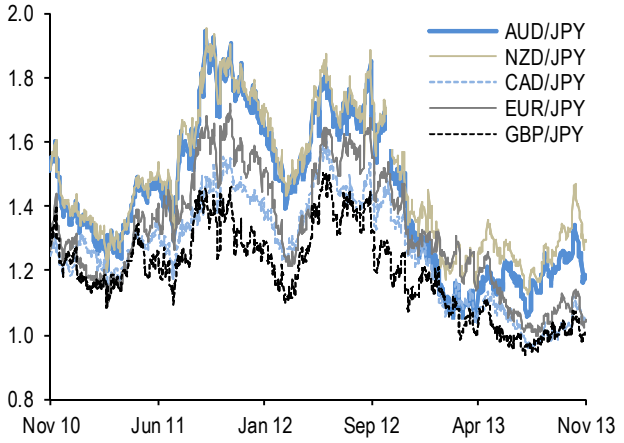
option circles in 2013: their richening across the yen complex has left the traditional anti-risk side of risk-reversals (i.e. yen calls) looking relatively inexpensive across the bloc, and the focus on USD/JPY in particular as the most liquid weak yen play has left USD/JPY vols looking high vis-à-vis their traditionally higher beta cross-yen brethren. This is not a new observation by any stretch; we had noted the underpricing of cross-yen vols relative to USD/JPY vols in this publication last year, but the vol spread failed to mean-revert forcefully and there are lessons to be learnt from the price action. The first is that demand for USD calls/JPY puts will remain a persistent feature of FX markets for a while – enthusiasm around the yen bear trend can ebb and flow through the course of the year, but the macro community is not going to easily discard a trend that plays on a once-in-a-generation shift in Japanese policy. The second is that sensitivities of yen-crosses vis-à-vis USD/JPY have shifted lower, with a more pronounced decrease in 'up-betas' compared to 'down-betas'. In other words, USD/JPY rallies may no longer beget sharp AUD/JPY rallies (say) since the carry-on/carry-off milieu of the EU crisis years has given way to a more differentiated trading environment where idiosyncratic Australian issues could impede participation of the AUD-cross on the upside But this is less true of periods of yen strength that tend to coincide with deleveraging episodes when high-beta currencies like AUD usually suffer steep losses, hence cross-yen sell-offs still outstrip those in USD/JPY. Hence owning the cross-yen/USDJPY vol RV is more rewarding using low strikes as a stress hedge.

Historical location and past performance point to AUD/JPY as the preferred vehicle to position in option spreads vs. USD/JPY. The cheapness of cross-yen puts relative to USD/JPY puts is approaching a historic extreme (chart 12). In part, AUD/JPY put vols were singled out for punishment this year on account of Uridashi flows that picked up in the wake of Abenomics and have the effect of supplying the option market with low strike vols (a typical structure sells 2Y-5Y AUD puts/JPY calls with RKIs). To avoid vega remark pain from this continued supply, our inclination is to position in shorter-maturities (3M-6M) and roll strikes periodically. Chart 13 illustrates the efficacy of such a strategy this year, simulating YTD returns from systematically holding a "clean" hedge (6M 35D USD puts/JPY calls) versus a proxy one (6M 35D AUD/JPY vs. USD/JPY yen call switch), assuming equal JPY notionals on each leg. While the takeaway is apparent, we are less enthused by strong returns from the proxy hedge in Q1 that owed more to idiosyncratic AUD weakness than anything else (and may or may not repeat in 2014), and more concerned about its performance during yen rallies. On the

Chart 12: Cross-yen puts are approaching historic lows in pricing relative to USD/JPY

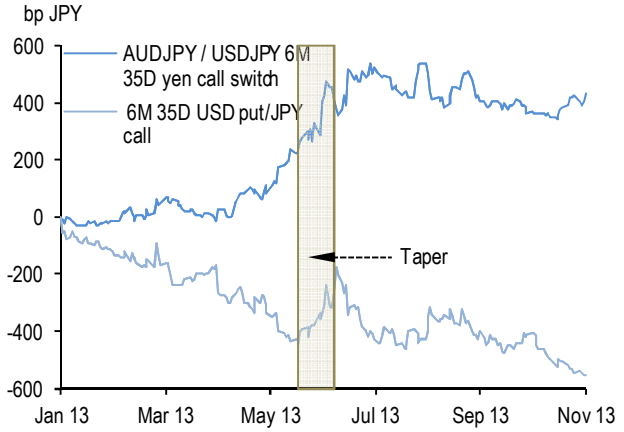
Ratio of 6M 35D currency put/JPY call option premia to 6M 35D USD put/JPY call option premium.



Source: J.P.Morgan

Chart 13: Owning cross-yen vs. USDJPY yen call switches turned out to be better hedges for bearish yen portfolios than straight USD puts/JPY calls

Cumulative P/Ls from owning 6M 35D AUD puts/JPY calls vs. selling 6M35D USD puts/JPY calls, equal JPY notionals. Options are **not** delta-hedged re-struck into fresh 6M 35D strikes monthly. No transaction costs.



Source: J.P.Morgan

latter, the taper experience (highlighted on chart 13) justifies the choice of the proxy hedge. The caveat is that option spreads will tend to kick in most forcefully only when the yen rally is hefty enough to trigger wide-spread pain across the cross-yen bloc, so they will not track every little tick higher in the currency. Hence these ought to be viewed as low premium (~30bp for 6M 35D switch vs. 170bp for USD/JPY standalone), easy bleed baseline hedges that yen bearish portfolios should persistently hold, and need to be tactically supplemented using straight USD puts/JPY calls when the price action so demands.

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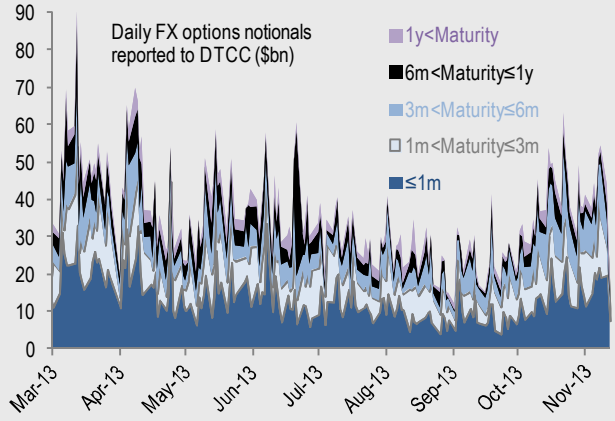
The BIS survey, and a first look at the CFTC repository

The latest BIS Triennial Central Bank survey indicates that volumes and mark-to-market values of FX options traded globally remain at significantly lower levels than 2008 peaks. Outstanding FX option notionals stand at $15.1trn, a 2.2% share of the $693trn total OTC derivatives market, and mark-to-market value at $362bn (1.8% of the global $20.1trn). BIS data also indirectly suggest that market participants are progressively moving away from longer tenors and favoring shorter maturities. Indeed, while outstanding FX option *notionals* have increased 24.5% compared to the $12.1trn of end-June 2010, the total mark-to-market *dollar value* of FX options has dropped by $94bn (i.e. a -20.6%). Part of this drop is likely due to the strengthening of USD vs. JPY, and to lesser extent vs. EUR (see prevalence of the two pairs in Figure 3). Another explanatory factor could be that option buyers have increasingly resorted to premium reducing strategies, such as knock-in and knock-out barriers, call or put spreads, fly's, etc. But it can decidedly be said that a significant driver of the drop in FX option market value is due to the decrease in long dated activity. This can be inferred from the series of semiannual BIS surveys, which offer greater granularity on maturities and currencies. These show that instruments of maturities 1y and less form 73.4% of the class of OTC FX derivatives, with maturities 1y to 5y making up 18.9%, and 5y+ maturities the remaining 7.7%. The corresponding proportions as of end-June 2010 were 71.5%, 20.1% and 8.3%, respectively. Now, FX options account for only a fraction of the BIS FX derivatives category - 18.6% of the outstanding notionals, for 13.9% of the outstanding market value, with the largest portions formed by Forwards and Swaps (48.8% of notional amounts) and Currency Swaps (32.5%). Therefore this indication on the distribution of option maturities is an indirect one, however it is telling when it comes to identifying the parts of the term structure that receive the most attention from market participants.

A more direct picture of FX option trading patterns can be gleaned from data reported to the US CFTC this year, this time without the benefit of history. They offer a valuable source of information on FX options traded between US-based entities. It is estimated that the volume made publically available represent about 25% of global volumes. This proportion will increase significantly in the coming years as similar efforts are advanced worldwide, notably in Europe. Thus, a major regulatory overhaul is occurring in compliance with the terms of the European Market Infrastructure Regulation (EMIR), which requires the reporting of derivatives traded in the European Union to commence by February 12, 2014 .

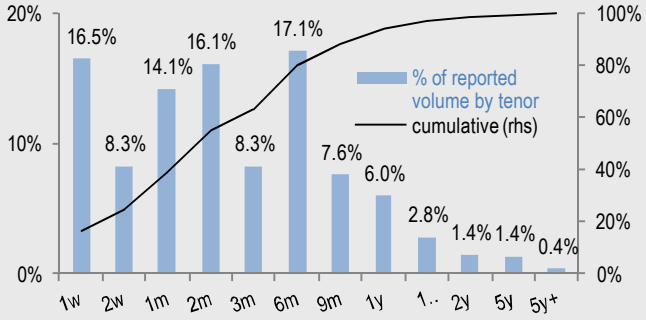
CFTC repository data confirm the practical observation, as they show that trading was highly tactical in nature, with volumes fluctuating widely by days (Figure 1), and very concentrated in short dates (Figure 2.). This is consistent with a market positioning at short horizons around major market events.

Figure 1: Volumes in FX options have been volatile
Daily FX options volumes reported to the US-based DTCC (USD notionals, in $bn), with breakdown by option maturities.



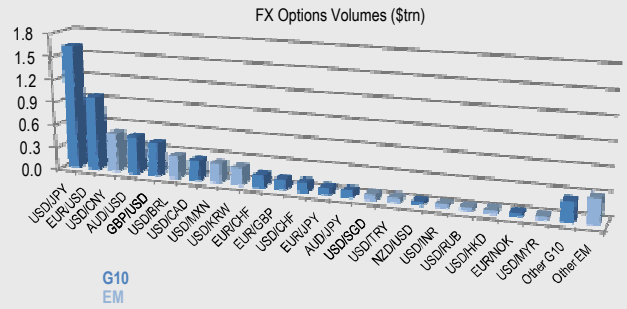
Source: Bloomberg, J.P. Morgan

Figure 2: ... and concentrated around the very short dates and 6M
Aggregate FX option volumes (USD notionals) reported to the US DTCC, with a breakdown by maturities, for the period Mar-01 to Nov-12.



Source: Bloomberg, J.P. Morgan

Figure 3: FX pairs most traded in options by US counterparties
Ranking by aggregate notionals in 2013. USD/CNY includes CNH options.



Source: Bloomberg, J.P. Morgan

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Post-mortem: 2013 FX Derivatives Trade Recommendations

Our trading volume dropped this year, while the proportion of trades involving EM currencies rose significantly, from one third in 2012 to nearly half of the trades this year, mirroring institutional clients' interest to a great extent. Achieving consistent returns in relative value trading proved challenging, in a market increasingly trading on macro data.

We were less active and less efficient in vanilla option trading, notably because the breakdown in USD correlations was detrimental to the strategy of conditional trades - which take advantage of dislocations in skews across two pairs relative to their actual spot dynamics – a consistent performer until last year. We put on only two such trades, both leveraging the richness in USD/JPY vs cross-JPY vols, with mixed results. The overall PNL is distorted by a carry strategy in ARS which was upset by the steady depreciation in spot/widening in fwd as capital controls were tightened and the holdout on Argentina's debt was left unresolved.

As for pure volatility trades, vol spreads continued to have our favor, while long or short outright positions made up about a third of the trades. The performances on short vol vs long vol trades were antithetic and illustrate the cost in carrying long gamma exposure this year, as 75% of the short vol trades and 25% of the long vol trades ended in-the-money. Inter-currency vol spreads were mostly constructed between EUR and USD pairs involving the same high beta constituent (ex: EUR/KRW vs USD/KRW), as such structures are less liable to tail-risk. Only two spreads were formed with USD/high beta pairs: NZD/USD vs USD/SGD, and USD/NOK vs USD/CAD. Intra-currency vol spreads played mostly on term structure (10 trades, mostly of the short gamma vs long vega form, for 60% success rate), making heavy use of FVAs, but also on skew (two JPY risk-reversal trades, for 50% success rate). Monetizing digital risk remains a tricky exercise, and we had mixed results with the structures we identified as best value. We stuck with 9M DNTs (and a dual DNT), and avoided pairing high beta currencies with low beta ones. GBP/USD failed us by breaking below 1.51 in February on broad USD strength, while GBP/CAD was a consistent performer, before it exited a three-year range in September.

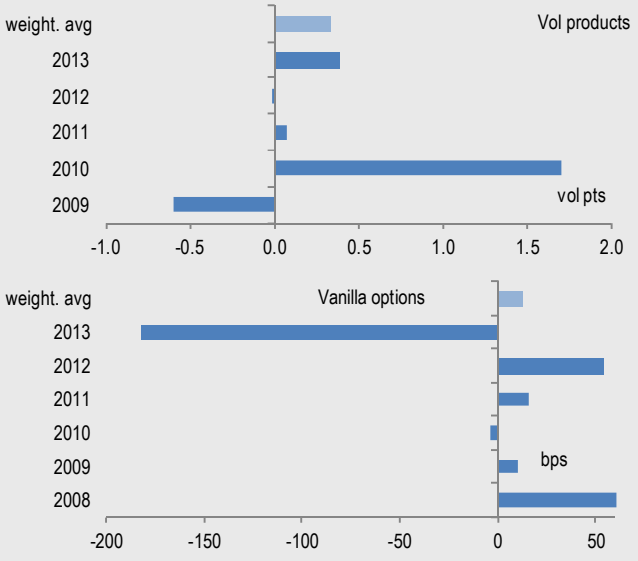
Note: two Correl Swaps (short GBP-JPY, and short GBP-CAD) are not reported, as PNL is quoted in non standard corr. pts (resp -24.0 and +3.4). A long EUR/NOK vol swap (PNL -4.1vol) entered for the Macro book is also excluded.

Table 1: Performance statistics 2008 – 2013

	2013	2012	2011	2010	2009	2008	2008-2013 avg
Vanilla Options							
# of trades	3	9	14	26	27	13	15
Success rate	33%	100%	79%	58%	63%	77%	69%
Average return per trade (bps of notl, unweighted)	-182	53	16	-4	10	60	12
Vol Products*							
# of trades	33	45	37	18	3		27
Success rate	58%	49%	62%	83%	67%		60%
Average return per trade (vol pts, unweighted)	0.4	0.0	0.1	1.7	-0.6		0.3
Digital							
# of trades	6	8	2			3	5
Success rate	33%	50%	50%			33%	42%
Average return per trade (% of notl, unweighted)	-7	-4	-13			8	-3.8
Total							
# of trades	42	62	53	44	30	16	47
Success rate	52%	56%	66%	68%	63%	69%	61%

*Vol products include volatility swaps and Forward Volatility Agreements (FVAs)
Source: J.P. Morgan

Chart 1: 2008-2013 Performance summary: success rate by type of trade (average P/L)



Source: J.P. Morgan

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Long-term Technical Strategy: Commodity currencies and CEEMEA have the most downside

- **The current framework suggests a bullish bias for the USD into 2014 given the reversal from key support levels, positive momentum setup and potential for a renewed trending bias.**
- **The key question is whether the broad consolidation phase persists or a more significant break can develop; we highlight the key markers for the DXY, JPM USD Index and USD pairs.**
- **EUR/USD – The latest break below key-support at 1.3450 constitutes a game change and signals that the countertrend rally from the 2012 low has been reversed. To on the other hand question this bear view and to delay the indicated setback into the 1.2450 handle in favor of an extended recovery to 1.3975 or to 1.4250 it would take a decisive break above 1.3710.**
- **In the Crosses the EUR looks mildly bullish against CEEMEA currencies and quite vulnerable against JPY and MXN.**
- **GBP looks set for a pretty mixed year with the biggest down risks looming against USD, JPY and CHF whereas prospects of booking reasonable gains against Scandies and CEEMEA currencies are not too bad.**
- **The backdrop for JPY remains bearish as we see potential for USD/JPY to approach 105/108; however, the broad underperformance trend is expected to narrow next year.**
- **The key parameters for commodity currencies remain well-defined but note the setup for AUD remains tenuous following the 2013 breakdown; CAD appears increasingly vulnerable, while NZD can still outperform.**
- **Scandies are at risk of booking significant losses against USD, JPY and CHF while the downside potential against EUR looks rather limited.**
- **Apart from ZAR, which looks mixed, we see a tough year ahead for CEEMEA currencies where the road of least resistance is pointing lower, particularly for CE3 currencies and the Czech Koruna.**
- **For Latam FX, MXN is expected to outperform but range parameters against the USD and EUR highlight the key hurdles; BRL should be more tactical next year, while CLP is at risk of underperforming.**
- **For Asia FX, the medium term bullish setup should outweigh short term concerns; KRW and CNY trends are incomplete; SGD and TWD can play catch up, while concerns for INR and IDR linger.**
- **Buy USD/CZK, USD/CAD and MXN/CLP & sell AUD/NZD; maintain long USD/JPY, USD/ILS, USD/SEK & short PLN/HUF.**
- **Watch list: USD/PLN, GBP/USD, SEK/JPY, GBP/JPY, NZD/CAD and USD/ZAR.**

While the USD is closing the year on a positive note (JPM USD Index up nearly 3%), the trajectory over the past year has had its share of twists and turns. Moreover, the strength has clearly not been broad-based. Still, for anyone who bought the Index on the last day of 2012, there were just a handful of days during the early part of the year when that trade was in the red. While the USD has had a difficult time carrying momentum from one year to the next, the current framework suggests a bullish bias into 2014 and increased risk of upside follow-through.

Despite the broad outperformance, many currencies maintained a range bias against the USD over the past year. Looking back at our Outlook 2013 report, we highlighted the potential for a continuation of the consolidation (*Currency Stalemate*, Nov 21, 2012). With most major currencies currently trading within a few percentage points of their 2012 closing prices, the view for a stalemate worked in some ways. In other ways, there were clear shifts including the expected bearish action for JPY and NOK. For the upcoming year, the shifts do not appear complete, while there is a growing risk that the ranges can break in favor of the USD.

In line with the current bullish bias the recovery phase for the USD over the past few weeks reflects a similar framework to the price action from late-2012/early-2013. Taking our cue from the DXY, the October lows effectively held critical support levels at the medium term range lows near 78.60/78.00 much like the price action from 4Q'12. These support levels will remain crucial in 2014 and should maintain the overall upside risks, if not the potential for a continuation of the broad consolidation phase. Moreover, it is worth highlighting the reversal from the equally important 83.00/82.50 support area for the JPM USD index. This area represents the medium term range lows from May, as well as the 38.2% retracement from the 2011 cycle low. Shorter term, the advance from this area has developed with an impulsive, five-wave signature. In turn, the potential for at least another leg up to this rally phase seems high. Importantly, a violation of these support levels would question the bullish outlook for the USD. While the

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backdrop is constructive for the USD, it is worth highlighting the pattern over the past two years, where the USD rallies during the first half and retraces during the second. The critical question is whether it will follow a similar path, or attempt a more sustained rally phase. The key markers remain well-defined to confirm the potential outcome. For the DXY, the 83.40/84.75 resistance levels will be the main focus for a more sustained bullish bias. This area represents the 76.4% retracement from the June high, as well as the 2013 peak. For the JPM USD Index, clearing the 86.24 July high which coincides with the 50% retracement from the 2009 cycle peak would be a clear signal that a deeper really phase can develop. Moreover, an extension through the 88.30/80 zone would confirm the onset of a more sustained bull trend. This area represents the 2010 peak and the 61.8% retracement from 2009. From a momentum standpoint, note the medium term studies for both the DXY and the JPM USD Index are ending the year in an oversold condition. Again, this is similar to the late-2012 timeframe. In line with the bullish USD framework, the setup for rates will be an important focus into year-end and for 2014. As our fixed income technical team notes (Hunter/Seceleanu), there is a high expectation for US rates to maintain the bear trend, while most non-dollar rates remain mired in ranges particularly for those countries where central banks are easing. As important, a number of USD pairs held critical support levels consistent with the bullish story. In this regard, a key focus is on the reversal from the 1.38/1.42 zone for EUR/USD and the 1.63/1.64 area for GBP/USD over the past several weeks. While these levels hold, the risks point to additional downside for both pairs. EUR/USD can seek a closer test of the 1.24 area with risk of an extension into the 1.20/1.18 zone, while the setup for Cable demonstrates an increased risk of retracing back to the 1.51/1.44 zone. Moreover, the medium term uptrend for USD/JPY remains incomplete while suggesting a closer test of the 105/1 while recognizing our view for cross JPY is more mixed into 2014 that our 2013 outlook. For the Scandies, we continue to see potential for additional underperformance against the USD and EUR. For commodity currencies, the bearish risks remain intact against the USD. In this regard, the recovery for AUD/USD from the mid-year lows remains tenuous. Moreover, there is a growing risk that USD/CAD can finally see a break from the long term range. While NZD/USD is unlikely to be immune to the potential USD strength, we sense NZD will attempt to hang in better than the others and outperform on the crosses. Our view for CEEMEA remains bearish with a particular focus on CZK and ILS. The backdrop for Latam FX remains mixed but not MXN should attempt to reassert the outperformance bias. Also, Asia FX will likely remain

Chart 1: JPM USD Index – Weekly Chart: The reversal from the key 83.00/82.50 support zone suggests an increased risk of upside follow-through amid the bullish momentum framework.

Chart 2: DXY – Weekly Chart: Similarly, the reversal from the 79/78 support zone implies additional upside in line with the favorable momentum setup similar to the late-2012 timeframe.

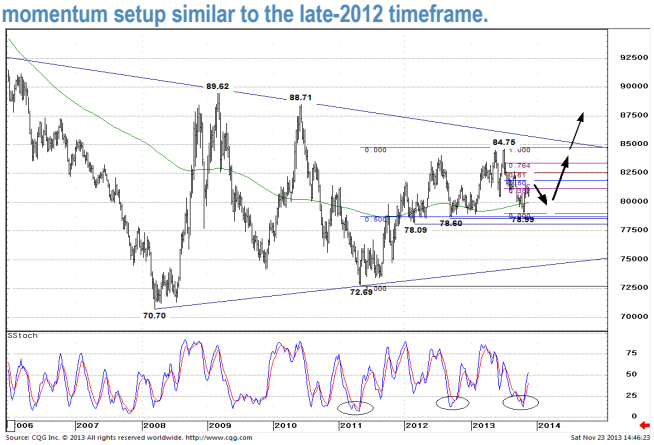
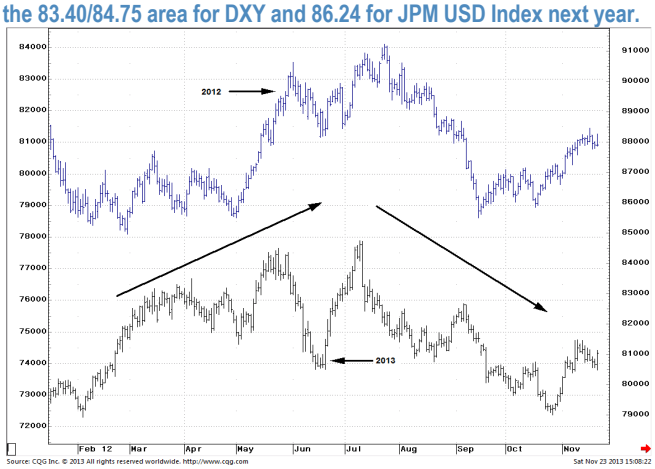


Chart 3: DXY –Daily Chart: the pattern over the past two years has been to rally in the first half and then retrace; the focus will be on the 83.40/84.75 area for DXY and 86.24 for JPM USD Index next year.



mixed as well, but we do not sense the trend for KRW trend is over just yet.

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An extension to 1.40/1.42 in EUR/USD is unlikely while the odds are in favor of a broader decline to at least 1.2465 and a re-test of the 2012 and 2010 lows

Despite having become fairly complex in the last 2 years, the price chart in **EUR/USD** only offers limited upside potential whereas the odds of running into a broader sell-off to the main T-junction at 1.2465 (int. 76.4 %) have already increased significantly via the latest break below key-pivotal support at 1.3462/52 which basically confirmed the countertrend rally top in place at 1.3833.

Only a decisive break above 1.3706 (minor 76.4 %) would now re-open the upside for a potential extension to the key-resistance zone between 1.3977 (monthly trend) and 1.4259/83 (int. 76.4 %/pivot) which would become even more unlikely once 1.3276 (minor 76.4 %) and 1.3104 (September low) would be taken out. Only above 1.4283 we'd on the other hand see room to extend to 1.4944 and to 1.5057/1.5147 (2011 high/76.4 % on big scale/2009 high).

Chart 4: EUR/USD - Weekly Chart – The upside looks capped at 1.3710 at best while a minimum setback into 1.2470 is looming

Given the unsettled, structural problems within Continental Europe and the fact that **10 YR US yields** already confirmed a bottom while the European down cycle in rates appears to be incomplete, we are clearly favoring a broader down-swing in this pair which could even test the 2012 and 2010 lows at 1.2042 and at 1.1876 in case 1.2465is broken decisively on weekly close. The highly correlated **USD Index** shows the mirror image and can therefore be a helpful indicator in terms of determining whether the **USD** has already bottomed. To confirm the latter it would take breaks above 82.67 and 83.40 (pivot/int. 76.4 %) whereas key-support between 78.72/60 and 78.095 (50 %/pivots) has to be defended in order to prevent a sell-off into the 75.54 (int. 76.4 %) handle which would most likely form the D-leg of a much broader triangle consolidation pattern.

So taken everything together, the EUR/USD bear scenario is clearly favored, but a temporary and limited extension higher into the 1.3975 to 1.4250 handle can't completely be excluded yet. Only breaks below 1.3276 and below 1.3104 would confirm the broader downtrend towards at least 1.2465 with the option to re-test former lows at 1.1876 and at 1.1641.

EUR Crosses: While the EUR looks set for an uninspiring range trade against Commodity FX, Scandies, CHF and GBP we see room for decent up-trends in EUR/CEEMEA and substantial setback potential against JPY and MXN.

Given the fact that a wide range of **EUR Crosses** are not providing any interesting setup worth highlighting, as already indicated in the header, we took the freedom to skip these in this report and intend to highlight them instead via special reports once decisive range breakouts have occurred. Where we see interesting setups though is in **EUR/JPY** and in **EUR/MXN** where a profound and an intermediate setback are looming. EUR/JPY is probably the one with the better risk-reward ratio as the market is already coming close to the decisive resistance cluster at 138.35/139.14 (Fib.-projection/2009 high), which as the last major top in the preceding downtrend, portrays the classic target for the so-called accumulation phase of the new and long-term up-trend. The latter was launched from 94.11 in July 2012 and displays a textbook 5-wave structure (wave I on bigger scale = accumulation phase) of which the 5th shows a classical topping pattern in form of an upward sloping converging triangle. That said we see a high risk of running into a severe IInd or B-wave setback to at least 115.04 (50 %) as long as 139.14 is capping the upside. To indicate the launch of a broader setback and to confirm the wave I top in place it would take a break of the row of higher lows at 131.12. It would take a decisive break below 115.04 though to even call for a deeper setback into the 105.43/103.99 (pivot/76.4 %) handle which looks rather unlikely given the dynamics of the rally of the last 1 1/2 years. As for **EUR/MXN** we also see a stronger setback looming as long as massive resistance between 17.9715 and 18.2175/18.3610 (monthly triangle/int. 76.4 %/pivot) is capping the upside. Below, and given the pattern displayed from the 2009 high at 20.0897, we see a high probability of at least missing a corrective E-wave down within a broader triangle consolidation which normally retraces 61.8 % of the preceding wave D. This projects a decline to 16.5659 which can be seen as the decisive T-junction in this view. A break below would only leave little hope to defend the last good support cluster at 16.2798/16.1911 (pivot/int. 76.4 %).

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Chart 5: EUR/JPY - Weekly Chart – Below 139.14, the market is risking a broader 2nd.-or B-wave setback

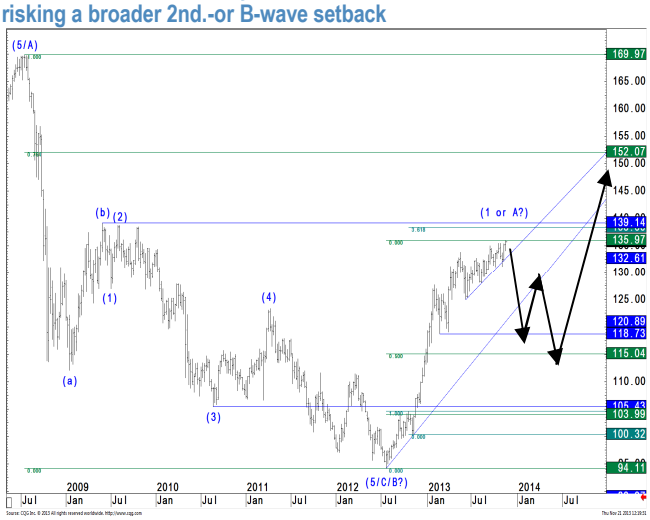


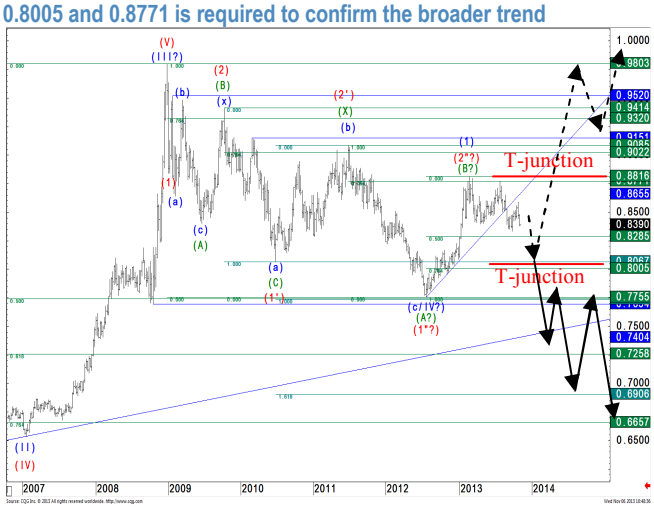
Chart 6: EUR/MXN - Weekly Chart – Below 18.2175 to 18.3610, a minimum setback to 16.5660 can be expected next

The 2014 outlook for GBP looks fairly diverse. While stronger setback risks against USD, JPY and CHF persist we see fairly good prospects of booking reasonable gains against Scandies and CEEMEA currencies

Whether the latest improvement in economic data is sustainable or not is of course the main question and will particularly influence the future course of **GBP** against **USD**, **JPY** and **CHF** where the biggest down-risks persist from a charting perspective. To escape these down-risks and to brighten the picture for GBP significantly it would take breaks above massive resistance at 1.6308/79 (monthly triangle/2009 high) in **Cable**, above 163.11/164.41 (2009 high/int. 38.2 %) in **GBP/JPY** and above 1.5128 (int. 76.4 %) in **GBP/CHF**. In terms of **EUR/GBP** though, we are still left in the dark concerning directions on big scale.

Given the various wave counts as shown in chart 8 we could either be dealing with the resumption of the pre-2009 up-trend (blue scenario) or with the bearish green and red scenarios which are calling for a minimum decline to 0.7694 and to 0.7486 (pivot/C = A in green scenario). Even the bullish blue scenario inherits a setback risk to 0.8285 (int. 50 %) and possibly even to 0.8005 (int. 76.4 %) with the latter being the decisive T-junction and last resort for the bulls. A decisive break below the latter would put the odds in favor of the described bearish scenarios whereas it would take breaks above 0.8587 and 0.8661 (pivot/int. 76.4 %) to get the bulls back in control. For them to be on the safe side and to confirm the resumption of the pre-2009 up-trend it would however take a break above 0.8771 (76.4 %).

Chart 7: EUR/GBP - Weekly Chart – A range breakout between 0.8005 and 0.8771 is required to confirm the broader trend



As for **Cable**, and following the view that a multi-year consolidation triangle has been completed at 1.6379 in January, we still see profound downside risks which basically include a revisit of the 2009 low. Only a break above key-resistance at 1.6308/79 (monthly triangle/last top) would constitute a game change on big scale, calling for a minimum recovery into 1.7332 and 1.7768 (50 %/C = A). Below 1.6308/79 though, the bearish blue and red scenarios are expected to pan out which are both looking for a re-test of the 2009 low at 1.3504. But for the green scenario to be out of the race it would not only take a decisive break below the first major T-junction at 1.5155 (76.4 % of the preceding advance/potential wave 1 sub count from 1.4813 to 1.6262) but also below 1.4339/1.4228 (76.4 % on big scale/pivot) so that at least partial profit taking is recommended towards these key-supports. The latter would have to be broken to receive the final confirmation that the 2009 low at 1.3504 is back in focus. For a first indication that the broader downtrend has been resumed it however takes a decisive break below 1.5819 (minor 38.2 %) whereas a break above 1.6379 would on the

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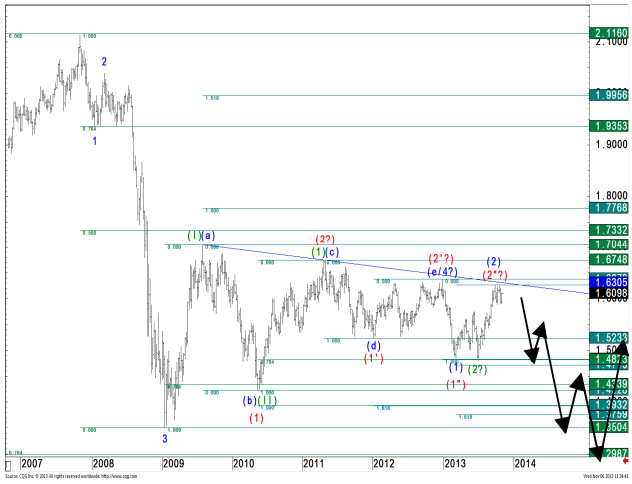
other hand challenge former highs at 1.6748 (2011 high) and at 1.7044 (2009 high) next.

Chart 8: GBP/USD - Weekly Chart – Below 1.6308/79 the odds remain in favor of a minimum decline to 1.4339



The chart picture in **GBP/JPY** also inherits a fairly big setback risk in form of an IInd.-or B-wave setback on bigger scale as long as the main resistance zone between 163.11 and 164.41 (2009 high/int. 38.2 %) is not taken out.

Chart 9: GBP/JPY - Weekly Chart – Below 163.11/164.41 an extended IInd or B-wave setback can be expected

The last major top in the preceding downtrend (163.11) is quite often the target of the accumulation phase (wave I) of a new, long-term up-trend. The shown structure in the bull-trend off the 116.86 bottom (2011 low) is additionally displaying a 5-wave pattern which illustrates the high setback risk below 163.11/164.41. For such a IInd or B-wave setback to receive confirming support though, it takes breaks below key-pivotal supports at 159.55and at 154.07. The final clue that we are indeed dealing with the latter to 139.80 and possibly to 127.68 (50/76.4 %) and not only with an internal 4th wave setback would however only be given via breaks below 146.77/146.00 (38.2 % on 2 scales).

Breaks above 163.11 and 164.41 would on the other hand constitute a game change on big scale, opening the upside for a much broader rally to 183.98/185.01 (50 %/monthly Ichimoku-lagging) and to 189.45 (internal wave 3 projection). A forecast for **GBP/CHF** is a bit trickier as the SNB is still heavily intervening, but given the shown picture in the weekly or monthly chart we see fairly strong setback risks to at least 1.3485 (50 %) if not to 1.2429 (76.4 %) as long as the key-T-junction at 1.5128 (int. 76.4 %) has not been broken decisively. Below, the 2nd corrective leg down (C-wave of a broader IInd or B-wave decline) looks to be missing which would receive confirming and initiating breaks below 1.4347 and 1.4227 (int. 76.4 % on 2 scales). A decisive break above 1.5128 would on the other hand re-challenge the 2012 high at 1.5486 which, if taken out, would make way for a broader recovery to the main T-junction on big scale at 1.6634 (38.2 % on higher scale).

In terms of **GBP/Commodity FX** we see a broad range developing which still offers moderate upside potential to internal 38.2 % retracements on different scales cutting in between 1.8171 and 1.8831 in **GBP/CAD**, at 1.9227 in **GBP/AUD**, between 2.1991 and 2.2463 in **GBP/NZD** and at 10.300 in **GBP/NOK**. These are the decisive T-junctions to distinguish between 4th wave recoveries within still intact, long-term downtrends and new, long-term up-trends. On the downside and in order to defend the straight extension higher view we now keep a close eye on key-supports in form of internal 38.2 % retracements cutting in at 1.6433 in GBP/CAD, at 1.6350/00 in GBP/AUD, at 9.400 in GBP/NOK and at key-pivotal support at 1.8871/63 in GBP/NZD as breaks below these key-supports would call for a much deeper setback to internal 76.4 % retracements at 1.5650 in GBP/CAD, at 1.5114 in GBP/AUD, at 1.8267 in GBP/NZD and at 8.817 in GBP/NOK first. The big picture for **GBP/SEK** is very similar where we see upside potential to an internal 38.2 % retracement at 11.322 which is the key-T-junction on big scale. The latter remains in focus unless the market produces a weekly close below an upward sloping weekly trend line (at 10.21 on Friday, the 29th of November) which would call for a deeper setback into the 9.747 handle (int. 76.4 %) first. The **CEEMEA FX** section we cover later in this report.

In summary: *GBP shows a fairly mixed picture in which bigger setback risks against USD, JPY and CHF persists as long as key-T-junctions are not taken out. The odds of booking decent gains are probably best against CEEMEA currencies and against Scandies whereas GBP/Commodity FX looks like a broader range trade. As for the latter the odds are currently in favor of a range extension higher next.*

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JPY: Still at risk with new highs expected for USD/JPY but trend should narrow in 2014

JPY was the worst performing G10 currency over the past year confirming our bearish views from the 2013 Outlook (*Increased risk of a broad-based bearish shift*, Nov 21, 2012). The breakout through the 84/85 resistance zone for USD/JPY in late-December cemented the bearish JPY bias while confirming a significant basing pattern and a potential long term reversal. The backdrop for JPY remains weak for 2014, but a broad-based downtrend like the one seen over the past year seems less likely. Still, we continue to see potential for USD/JPY to set new highs for the medium term. However, the setup for the crosses is expected to be mixed.

For USD/JPY, the recent breakout from the consolidation or triangle pattern below the May peak is consistent with the view for eventual new highs. The pattern from the 2011 remains quite clear as the consolidation from the May peak is best reflected as a 4th wave triangle pattern amid a five-wave sequence from the 75.31 cycle low. In turn, we see potential for the pair to extend towards the 105/108 target zone. This area includes the triangle objective, fifth wave target from 2011, the 61.8% retracement from the 2007 high and the downtrendline from the 1998 cycle peak. Given the confluence of this zone, we sense the rally will struggle to sustain through this area unless a more significant catalyst develops.

Looking at the backdrop that defined the JPY weakness view for 2013, we note that several factors are intact. The 1990-95 analog remains a key framework as it represents the price action following the reversal from the last cycle low. Importantly, this setup continues to suggest further upside. Last year, we explained how the medium term moving average signals from the monthly Ichimoku indicator had just shifted to a bullish bias. As this indicator maintains the current buy signal, we see room for additional upside. Again, using the cycle bottom from the mid-1990's as a comparison, note that buy signal led to a nearly 35% advance before the signal reversed lower. A similar result would imply that USD/JPY can see a closer test of the 109 area and just above our 105/108 target zone.

The downside levels remain well-defined and should hold to maintain the bullish potential. The 97.50 area represents the triangle trendline support. Violations would question the upside potential and instead argue for a test of the October lows near 96.55. Still, downside breaks here would invalidate the bullish pattern leading to a retest of the critical 93.60/80 zone which includes the June low and the 38.2% retracement of the rally from the September '12 low.

Chart 10: USD/JPY – Weekly Chart: The MT trend remains incomplete as the consolidation below the May peak is viewed as a 4th wave before new highs; targets in the 105/109 zone remain viable.

Chart 11: USD/JPY – Monthly Chart (log scale): The Ichimoku moving average buy signal from last year remains intact; a similar result from the 1995 cycle bottom implies a target near 109.

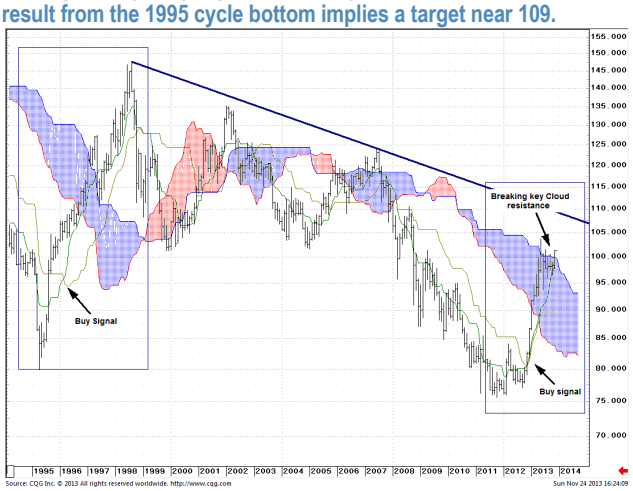

Chart 12: AUD/JPY – Daily Chart: In line with the narrowing of the JPY trend, note that other crosses have struggled below key resistance levels as new highs will be a difficult task.

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Moreover, the implications would suggest a deteriorating backdrop while raising the risk that a deeper correction to the 2011-2013 advance is finally underway. Given the bullish reasons described above, we continue to view this as the alternate scenario.

In line with the mixed view for JPY in 2014, the setup for cross JPY is not as clear cut. In this regard, the rallies for many crosses seem closer to completion especially as longer term targets have either been met, or are within striking distance. As important, the reversals for several crosses from the 2013 highs have developed with an impulsive signature while confirming at least intermediate term tops in place. Note that while additional recovery from the mid-year lows cannot be ruled out particularly as the backdrop for JPY remains weak against the USD, we sense that sustained upside will be a more difficult task.

The key highlight for this view is setup for AUD/JPY as the decline from the April peak developed with a five-wave signature. Moreover, the retracement from August has failed extend above key resistance in the 98.20/101 zone (61.8/76.4% retracement zone and May breakdown area). While this zone holds, the risk of a retest of the critical 86.39 August low remains likely and consistent with the fragile AUD picture.

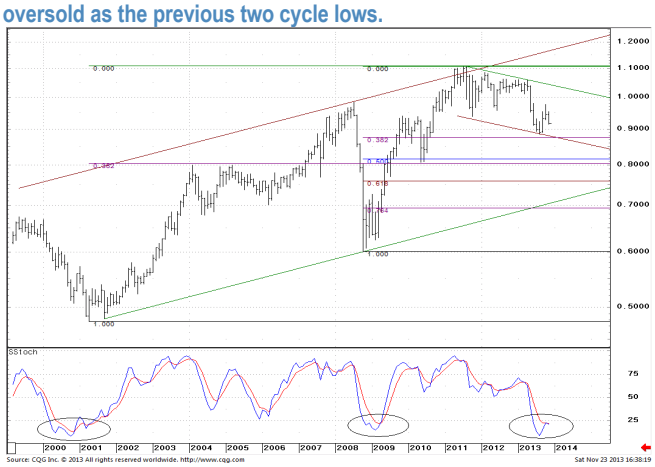
Similarly, CAD/JPY maintains a broad consolidation phase following the sharp decline from the May peak. While key medium term support in the 92/91 zone has contained the downside, a rally back above the 97.50/98.85 resistance area is necessary to confirm another run, if not break of the 101.05 high. Note this is still our preferred view as the pattern also suggests a 4th wave consolidation like USD/JPY. The setup for MXN/JPY is comparable given the reversal from critical support in the 7.25 area - included the 38.2% retracement from the June '12 cycle low. While intact, we can still make a case for a retest, if not break of the 8.45 area and April peak. Note that NZD/JPY has rebounded in a more bullish manner after holding support in the 75.60/75.00 support zone and in line with the resilient NZD backdrop. In turn, this pair has a higher risk of a deeper extension while this support zone holds. Medium term targets enter in the 89/92 zone – highs from late-2007.

Commodity currencies: AUD still at risk; CAD increasingly vulnerable while NZD should outperform

While AUD has recovered from the mid-year collapse against the USD and for the crosses, the view into next year is tenuous at best. Following the breakdown from the broad 2011-2013 consolidation phase, we do see a growing risk that the range parameters have staged a parallel shift lower

Chart 13: AUD/USD –Weekly Chart: Despite holding critical support levels .8850/.8675 zone; the .9930/1.0175 area will maintain the bearish bias. New lows would target the .8500 area, if not near .8000.

Chart 14: AUD/USD– Monthly Chart: One note of caution to the bearish view is the long term momentum framework as it is as oversold as the previous two cycle lows.



and a new consolidation phase is now forming. This is in line with the effective test and hold of critical medium term support levels amid historic oversold conditions. However, that breakdown clearly left some significant technical damage to the medium term framework. In turn, the potential for a sustained recovery phase seems limited given a number of difficult hurdles as well as the mixed bias for the crosses. Moreover, given our view for additional USD strength into next year, AUD/USD should have a difficult time maintaining a persistent advance. Given this fragile setup, our focus will remain on key support levels particularly near the August/September lows. Importantly, this area effectively held the critical .8900/.8675 support zone which included the channel support from the 2011 cycle peak, the reaction low from August 2010 as well as the 38.2% retracement of the rally from the November 2008 low. Given the impulsive, five-wave signature from the July low, this area should hold for the short term timeframe, likely into the first quarter. However, the ability to sustain back above the 1.01/1.02

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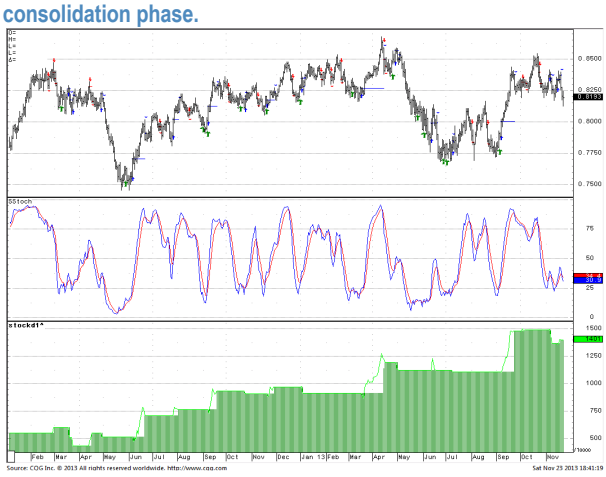
resistance zone should be viewed as a lower probability event. Note this area represents the former range lows from Oct'12 to March'13, as well as the 76.4% retracement of the decline from the April peak and should define the upper boundary of any additional recovery, if not the newly defined consolidation phase. Alternately, upside breaks through this key zone would reassert a more bullish medium term backdrop in line with the deep oversold framework. In this regard, we will be monitoring whether the extreme momentum setup similar to the previous cycle lows on our long term studies shows any sign of registering with the price action. Given the recent price action, this has clearly not been the case. Violations of the .8675 support zone would confirm the onset of a deeper corrective phase, if not another leg down to the bear trend. This price action would imply a deteriorating long term framework while opening the door to an extension into the .8200/.8000 area which includes the 2010 low (May), the 50% retracement from the 2008 low and the 38.2% retracement from the 2001 secular low. Note that EUR/AUD is still at risk of extending the medium term bull trend from the 2012 low. New highs would target the 1.5245/1.5465 zone which includes the 38.2% retracement from the 2008 cycle peak, fifth wave target from the 2012 low and mid-2010 high. With the risk of a potential momentum slowdown, we will be monitoring for signs of a topping pattern. Note the 1.4050/1.3965 support area will be critical for the short and medium term framework.

NZD was one of the strongest currencies over the past year despite a mid-year collapse. Given how well the currency performed highlights the potential for additional outperformance in 2014. Still, we do see an increased risk that the outperformance trend can narrow as some trends appear stretched against important levels and objectives. However, until a sustained shift through important markers, the overall backdrop for NZD should remain favorable. For NZD/USD, while the short term setup can allow for som pause, the long term range and potential contracting triangle pattern below the 2011 cycle peak reflects a corrective bias with bullish implications. The key test for NZD/USD starts with the .8585/.8680 resistance zone. This area represents the April peak and the triangle trendline from the 2011 cycle high. While intact, another swing within this broad range seems likely which will once again put the focus on the critical .7720/.7680 support zone. The importance of this area cannot be overstated as it represents the July low, the triangle trendline support and 76.4% retracement of the rally from the late-2011 low. While intact another run at the range highs, if not a push through them can develop. On the back of this, long term momentum studies are attempting to unwind from the most oversold setup since the mid-2009 timeframe. Importantly, these studies rarely reach similar oversold levels unless the NZD/USD is in a well-entrenched bear cycle (1996-2000 and 2008-2009 as examples). As a result, the extreme overbought setup seen at the 2011 cycle peak has been effectively unwound without much damage to the cyclical trend. Given the potential for the USD to strengthen next year, we are wary of expecting anything more than marginal new highs and would not be surprised by a continuation of the broad consolidation phase. A break of this key support zone is viewed as the alternate scenario. This breakdown would confirm the onset of a deeper corrective phase and a closer test of longer term support levels in the .7455/.7370 zone (May'12/Nov'11 lows). From a tactical standpoint, until a shift from the broad consolidation phase we will use momentum extremes to look for short term trading opportunities. Using a simple framework of buying NZD/USD when the stochastic momentum indicator crosses above an oversold threshold (30) and selling on a cross below an overbought threshold (70) has proven to be an effective strategy since 2011.

Chart 15: NZD/USD –Weekly Chart: The MT range continues to develop; while the short term setup can allow for some additional pullback, the .7720/.7680 zone will maintain the upside bias.

Chart 16: NZD/USD– Daily Chart: Fading short term momentum extremes has been a profitable trading strategy during this broad consolidation phase.



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Note this strategy also uses a conservative stop out rule when the price breaks the lowest low or highest high of the previous three days after a signal is initiated.

Given this backdrop, a key focus will be on AUD/NZD as the setup suggests a continuation of the medium term downtrend. While some pause can develop against the 1.10 area and long term trendline support from the 2005 low, the overall risks point lower. We see potential for the cross to see a closer test of the 1.03/1.04 area, near the lows from 2005. Moreover, we see a growing risk that NZD/CAD can break out of its long term consolidation phase. While the rally has extended into critical medium term resistance near .8790/.8800 (trendline from 1996 high), the rally appears incomplete. In line with our view that CAD is vulnerable to underperformance, we see potential for this cross to stage a bullish breakout. An upside extension would shift the focus to longer term targets near the .9230/.9355 highs from 2005/2004, if not a closer test of the .9746 peak from 1997. Where we do see some risk of NZD underperformance is through EUR/NZD as the cross has shifted into a new range following the reversal from the 1.73 area. Still, the 1.59/1.56 support levels will maintain the potential for a retest of the recent highs

The medium term themes for CAD in 2014 are familiar ones. As the broad consolidation phase continues to develop for USD/CAD, the critical parameters remain well-defined and quite similar to the 2013 Outlook. Again, these levels should define whether USD/CAD maintains the range bias, or a bullish base breakout finally develops. While our view for a continuation of the broad range prevailed over the past year, we see a growing risk that a breakout phase for the upcoming year can happen.

While this view starts with the bullish USD framework, it is also important to note that the advance from the 2011 low remains incomplete. In this regard, if this advance is a larger ABC corrective pattern, then a push above the 1.0658 high from October 2011 should be the likely path consistent with the higher-low from 2012. Moreover, the series of higher lows since May implies a trending bias for USD/CAD. As important, the corrective nature of the decline from the July peak is consistent with the bias for additional upside.

Shorter term, the recent USD strength has taken the pair back to the critical 1.0560/1.0620 resistance zone and highs for the year and where some pullback should develop. As the key range parameters tighten, short term levels can have medium term implications. Also, note that a retracement with a corrective bias would imply an increased risk that a bullish breakout can develop. In turn, any pullback from current levels highlights the importance of short term support levels in the 1.03/1.01 zone.

Chart 17: AUD/NZD– Weekly Chart: Despite the extent of the trend, there is still no sign of a sustained reversal as a test of longer term targets near 1.03/1.04 remains likely.

Chart 18: USD/CAD– Weekly Chart: Despite the extent of the trend, there is still no sign of a sustained reversal as a test of longer term targets near 1.05/1.03 remains likely.

Chart 19: USD/CAD– Daily Chart: The series of higher-highs and lows is in line with the bullish bias; note the 2012-13 uptrendline and 200day MA will continue to act as critical support levels.

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This area includes the September low, the uptrendline from the September '12 and the 200-day moving average which has been an important indicator since May. Violations would question the upside bias/breakout view and instead argue for a deeper pullback into the 1.00 area. As this zone represents the May low, as well as the 61.8% retracement of the rally from the September '12 low and should be a max for any extended corrective phase.

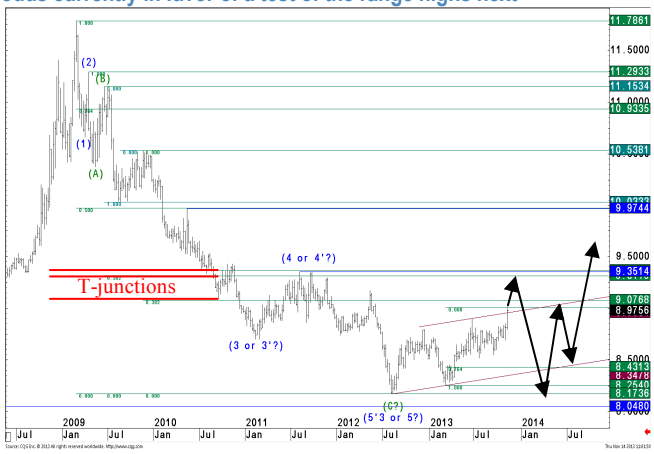
A bullish breakout through the 1.0616/1.0660 zone (June peak and 2011 high from October) would shift the focus to the 1.08/1.0855 zone. This area includes the 38.2% retracement of the decline from the 2009 cycle peak and will define whether a more sustained breakout can develop into the 1.12 zone (50% retrace), if not the 1.16 area (61.8% retracement).

Like USD/CAD, EUR/CAD is approaching key medium term resistance and where some consolidation/retracement can develop. The 1.44/1.47 zone represents the 2011 high, along with the channel resistance from the 2012 cycle low and will be the critical test for the cross for next year as it should define whether a more sustained corrective phase can develop. Still, note that a break below the 1.3885/1.3645 support levels is necessary to confirm a deeper corrective phase.

While the down risks appear to be limited against EUR, we see substantial setback risks for Scandies against USD and quite reasonable ones against JPY and CHF.

The bigger pictures of **NOK** and **SEK** are fairly dire and still inherit substantial down risks, particularly against the **USD** despite the losses already booked lately. But given the generally weak outlook for the **EUR** the downside against

Chart 20: EUR/SEK - Weekly Chart – A broad range trade with the odds currently in favor of a test of the range highs next



the latter looks somewhat limited to major resistance barriers as shown in the chart picture for **EUR/SEK** below at 9.0768 (minor 38.2 %) or at 9.3119/9.3514/9.3663 (int. 38.2 %/2011 high/int. 38.2 % on higher scale).Only a decisive break above the latter on weekly close would re-open substantial upside potential to 9.9798 (50 %) whereas below 9.3119/9.3663 we rather expect a broader range trade to unfold throughout 2014. **EUR/NOK** looks to be a bit ahead in the recovery cycle as key-pivotal resistance at 8.2575 (2010 high) has already been taken out which implies that another key-pivotal resistance at 8.5473 and the 50 % retracement at 8.7132 are now in focus. But as the latter is very often functioning as the primary target for the so-called accumulation phase of a new trend, we also see the upside as somewhat limited as long as 8.7132 is not broken decisively on weekly close. Once the accumulation phase has ended though, indicated via a break below pivotal support at 8.1638, we'd have to be prepared for a minimum setback to the 50 % retracement of the whole accumulation phase (currently at 7.8045).

The down risk for **Scandies** against **CHF** are fairly high as particularly the broader bottoming pattern in **CHFSEK** formed in the last 1 1/2 years illustrates. And with the last major highs at 7.2782 (June high) and at 7.2760 (December 2012) already broken just recently we see substantial upside potential to 7.6357 (201 high) and to 7.9697 (50 %) if not to 8.0492 (potential left shoulder in the monthly chart). **CHF/NOK** seems to be ahead in this process so that the upside potential looks to be limited to 6.871 or to 6.988 (50 %/pivot) from where an intermediate setback could be expected. If this resistance zone would be taken out though, we'd see fresh upside potential to 7.378 (76.4 %).

The greatest sell-off potential for Scandies is however showing against the **USD** where the 2008 rallies in **USD/NOK** and in **USD/SEK** (wave A) followed by classical 3-step countertrend declines to the 2011 lows (wave B) have set the stage for profound rallies (wave C) which could ultimately re-challenge and exceed the 2009 highs in a replica of the 2008 rallies. That said we established strategic long positions in these two currency pairs and intend to add up once the market offers well-defined Fibonacci-supports (Trade section). Only a break and close below weekly trend line support (currently at 5.8543) in **USD/NOK** (see chart above) would be worrisome as it would call for a deeper 2nd wave setback to 5.6265 (int. 76.4 %). A break above the next T-junction in form of an internal 76.4 % retracement at 6.3719 (int. 76.4 %) would on the other hand provide additional confirmation for our bullish outlook which would receive its final confirmation via a break above 6.8193 (76.4 % on highest scale).

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Chart 21: USD/NOK - Weekly Chart – Given the defense of the lower T-junction we see the upside open for a minimum rally to 6.8193

The setup in **USD/SEK** is equally bullish and showing the same setup on big scale which assumes that we have launched a broad based C-wave up which has a projected target at 9.4879 (C = A). In that respect we are now also looking for good risk-rewards to add to a core long position which are currently given at an internal 38.2 % retracement at 6.5542 and at an internal 76.4 % retracement at 6.4036. Only a decisive break below the latter would be worrisome and would put the main support zone between 6.2976 (76.4 % on big scale) and 6.2705/6.2332 at risk again. To on the other hand receive fresh support for our bull view it would take breaks above 6.7162 (weekly trend), above 6.8667 (last top) and ultimately above 7.0789 (int. 76.4 %).

While most of the bad news for ZAR looks to be priced in we still see a generally weak picture for CEEMEA currencies, with CE3 currencies (HUF, CZK, PLN) and in particular CZK looking the weakest.

The broad picture for **CEEMEA** currencies is still looking fairly weak across the board despite the losses already experienced. The currency which suffered the most is probably **ZAR**, but this is at the same time the one where we see most of the bad news as discounted and where prospects of at least showing a balanced performance throughout 2014 are probably best. Only breaks above massive resistance between 13.6946 and 14.3148/14.4015 (int. 76.4 %/wave 3 projection/pivot) in **EUR/ZAR** or equivalent above massive resistance between 10.6133 and 10.7327/10.7900 (int. 76.4 %/wave 3 projection/pivot) in **USD/ZAR** would reverse this mildly positive outlook for ZAR again in favor of a re-test of key-resistance at 11.8708-11.9042 (2008 high/76.4 % on big scale) if not the 2001 high at 13.85001 and of 5.2357 (2008 high) in EUR/ZAR.

Chart 22: USD/ZAR - Weekly Chart – A broader E-wave down to at least 8.0565 seems to be looming

In terms of **TRY** we also see little downside left against **EUR** as **EUR/TRY** is failing to settle above an upward sloping monthly trend line (2.7658 this month) for 4 consecutive months now which inherits setback risks to internal 38.2 % retracements at 2.5776 and at 2.3468. Only a weekly close above 2.7658 would open limited upside potential to 2.9150 (wave 5 projection) and to 2.9410 (monthly trend) whereas **USD/TRY** looks set to extend to 2.2375 (wave 5 projection) as long as monthly triangle support at 1.9551 is not broken on weekly close.

Chart 23: USD/ILS - Weekly Chart – Above triangle support the upside remains wide open for a minimum advance to 3.861

A really interesting setup is given in **USD/ILS** (see chart above) where a huge triangle formation has formed since early 2008. The latter could be part of 2 scenarios which are both positive though, looking for a minimum advance to 3.861 (int. 61.8 %) which is the classical E-wave target in case we'd still be dealing with a consolidation triangle within a broader downtrend. The other possibility would

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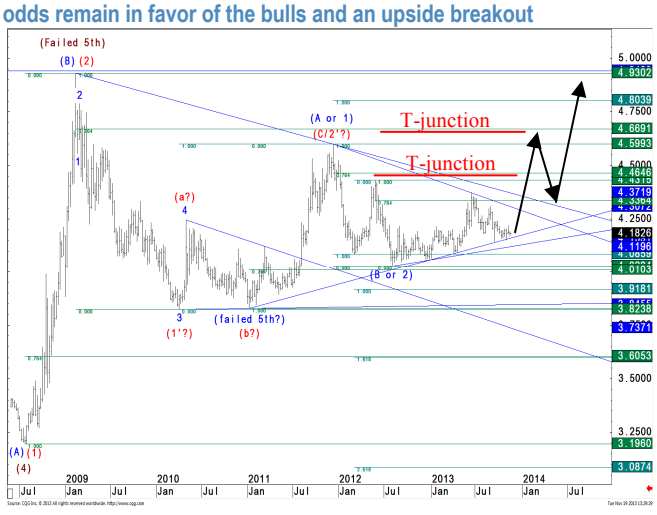
even be a lot more bullish as the 4.299 top in 2009 could have marked a wave 1 or wave A top so that we could be in the process of forming a triangle shaped B.-or 2nd wave setback which would at least challenge 3.952 (int. 76.4 %) in the next advance. Ultimately though, the market would be set to extend to 4.449 where the big C-wave up would match the length of wave A. Given these favorable setups this is one of our strategic long trades combined with a stop below monthly triangle support (currently at 3.476) as a break below the latter would negate the triangle and risk a re-test of former lows at 3.352 and at 3.202.

EUR/ILS and **EUR/RON** appear to be fairly range bound so that we rather keep our focus on **RUB** where we at least see some interesting breaks looming which could provide fresh inspiration. As for **EUR/RUB** we are looking for a range breakout between 44.465/44.700 (last top/76.4 %) and 42.562/391/309 (minor 38.2 %/pivot/38.2 % on higher scale) which would then either call for a re-test and break above the 2009 high at 47.053 or for a much deeper setback to 36.813 if not to 34.538 (int. 76.4 %/C = A). **USD/RUB** is showing a similar setup and would provide fresh buy-signals via breaks above 33.066 (int. 76.4 %) and ultimately above the key-resistance barrier at 34.181/301 (2012 high/76.4 % on big scale). Such breaks would call for a re-test of the 2009 high at 36.529 whereas it would take a weekly close below monthly triangle support at 30.645 to call for a deeper setback to at least 24.472 (C = A).

While **PLN** looks to be fairly range bound with a higher risk to break lower we see increased down-risks for **HUF** and quite significant ones for **CZK**.

Chart 24: EUR/PLN - Weekly Chart – Above triangle support the odds remain in favor of the bulls and an upside breakout



Having defended the key-T-junction at 4.0103 (int. 76.4 %) last year and as long as weekly triangle support between 4.1613 and 4.1210 in **EUR/PLN** is defended we see better chances for an upside breakout of the triangle between 4.3043 and 4.3697 which would then open the way for a test of the key-T-junctions in form of 76.4 % retracement on different scale at 4.4646 and at 4.6691. The latter would however have to be broken decisively to support a re-test of the 2009 high at 4.9302. A break below triangle support at 4.1210 would on the other hand put 4.0103 at risk again which if taken out would call for a minimum decline to the 2010 low at 3.8238. As for **USD/PLN** we see monthly triangle resistance between 3.1731 and 3.4504 as the key-resistance barriers which would have to be cleared in order to free the way for a minimum recovery to the main T-junction on big scale at 4.0940 (76.4 %). Particularly below 3.1731 the market remains vulnerable, but would have to break below 3.0503 (minor 76.4 %) in order to support a broader decline into the 2.8610 (int. 76.4 %) handle.

HUF is also stuck in mid range of broader consolidation triangles in **USD/HUF** between 229.53 and 207.75 (weekly chart) and in **EUR/HUF** between 299.74 and 288.05. We see higher probabilities that the upper boundaries of these consolidation triangles will be broken next which would then open the way for rallies to key-resistance zones between 238.68 and 240.59 (2013 high/int. 76.4 %) in USD/HUF and to 308.65 and 312.49 (pivot/int. 76.4 %) in EUR/HUF. The 76.4 % retracements are the decisive T-junctions on big scale to distinguish between a countertrend rally on big scale and a potential re-test of the 2012 highs at 324.25 in EUR/HUF and a minimum extension to 276.76 (76.4 % on highest scale) in USD/HUF.

CZK is however looking the weakest within the group of CEEMEA currencies. This is probably best illustrated via **EUR/CZK's** dynamic breakout of a 4 year old inverted H &S bottoming formation as shown in the chart below.

Chart 25: EUR/CZK - Weekly Chart – The odds are in favor of a broad C-wave up to at least 30.707 where C equals A

implies that the market has most likely launched a broader C-wave up to 30.707 (C = A) with the option to extend into

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a 3rd wave impulse up which could even reach 34.897 (wave 1 x 1.618) within the next 1 1/2 to 2 years in case we are dealing with an internal 3rd wave impulse. That said we are looking for good risk rewards to re-establish a strategic long position which would be offered against key-support between 26.666 and 26.205 (int. 38.2 % on 2 scales) whereas only breaks below key-pivotal support at 26.130 and below weekly trend line support at 25.636 would question this bullish outlook again. On the upside we suggest taking partial profit at 27.842 (internal wave 3 projection) and at 28.318 (int. 76.4 %) as these are resistance barriers which could trigger temporary setbacks.

USD/CZK is displaying the same corrective structures from the 2009 top down so that we see immense upside potential to at least challenge a 38.2 % retracement on big scale at 24.432 with the strong option to extend to 25.369 where a wave C up would match the length of the 2008-2009 rally (wave A or wave 1). The final confirmation for this bullish outlook would however only be delivered via breaks above 20.593/20.831 (int. 76.4 %/weekly trend) and ultimately above the last major T-junction on big scale at 21.823/875 (76.4 % on higher scale/2010 high). A setback into the 19.713/703/687 (minor 38.2 % on 3 scales) handle would provide a fresh buying opportunity whereas a decisive break below would call for a deeper 2nd wave setback to 19.006 (minor 76.4 %) which would have to be defended in order to prevent a much deeper setback into the 17.673 to 17.373 (c = a/int. 76.4 %) support zone.

Chart 26: USD/CZK - Weekly Chart – Breaks above 20.593 and 21.823 are required to confirm our bullish view

Asia FX: KRW and CNY should maintain the bull trends; SGD and TWD can play catch up, while INR and IDR stay at risk

The medium term trends for Asia FX are expected to continue next year. Moreover, we sense some of the laggards over the past year will attempt to play catch up. However, the short term backdrop into year end and into the first quarter should be dicey given the extent of the recent outperformance, proximity to key levels, short term bearish patterns, as well as the current overbought extremes across most momentum measures. From a medium term perspective, the setup for the ADXY Index maintains a bullish bias dominated by the persistent strength for CNY and KRW. In this regard, the rally from the August low for the index once again confirmed the 114.00/112.90 area as critical long term support. This area represents the range lows from December 2010, the breakout zone from September 2010 and the 38.2% retracement of the rally from the 2009 cycle low. More importantly, the five-wave advance from this area is consistent with the view that further strength can be develop over the medium term timeframe. Still, the short term setup is a concern given the head and shoulders topping pattern below the October peak. We would expect retracements to attempt a basing pattern in the 115.40/114.45 zone (prior 4th wave/61.8-76.4% retracements) before staging another advance to the developing trend. Importantly, this view fits with the long term setup for the index as well. In this regard, we view the decline from the 2011 cycle high as a large corrective pattern within the long term uptrend from the 2009 cycle low. In order to confirm the medium term uptrend is back on track, the key upside hurdles are well-defined into next year. A break above the 117.22 October peak is the first sign that a deeper upside extension is underway, while a push above the 2011-2013 downtrendline (currently at 118.60) and the 119.03 high from 2013 (May) should confirm new cycle highs. Alternately, a violation of the 113.50 would raise the risk that a bearish shift is underway.

Despite the extent of the trend since the June, we expect further KRW outperformance to develop into the next year. Still, the 1050 support area is not likely to give way without a struggle as it has marked well-defined lows in 2011 and early-2013. It is important to note that previous tests of this support zone led to sharp reversals, while this retracement has developed in a corrective manner which is consistent with the overall downside bias. A break above the 1100/1120 resistance area which includes the late-August breakdown area and long term pivot zone would question the KRW outperformance view. While this area holds, the risks point to an eventual test of the 1000/992 zone which includes the mid-2008 reaction low and then the 900 area which is near the early-2008 breakout area.

Also, while the medium term consolidations for USD/SGD and USD/TWD continue to develop above the lows from 2011-13, the corrective bias is consistent with the overall downside view. In turn, an eventual retest, if not break of the range lows since 2011 remains likely. However, like most pairs in this space, the short term bias can allow for some pause/retracement as the recent lows will be a

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difficult hurdle to exceed. This view is a product of where each pair is within the mature range/triangle, as well as the current oversold extremes. Still, both pairs are viewed as candidates to establish short positions beyond any short term corrective phase/final swing within their respective triangle patterns.

Two currencies that remain concerns for 2014 are PHP and INR. While both have likely entered new consolidations following the reversals from August, the overall bearish risks have not been eliminated. In this regard, note the rally for USD/PHP from the early-2013 low has developed in a five-wave sequence. In turn, there is risk of a deeper corrective phase, but the medium term backdrop has deteriorated. Strength through the 42.50 area would provide a better tone for PHP, while a break of the 44.75 zone would raise the risk that another leg to the underperformance trend is underway. Similarly, USD/INR can see additional retracement given the sharp reversal from the August peak. However, until a break of important support in the 57.50/55.00 zone (former range highs), the medium term upside risks will remain intact. Also, note that while the uptrend in USD/IDR is quite mature in line with heavy medium term momentum divergences, the uptrend continues to develop. In turn, a break below the 10700 area is necessary to confirm a topping pattern is underway. Until then, a test of the 12100/12500 zone cannot be ruled out. The trend for USD/CNY is intact as we continue to see downside risks into next year. This should allow for a test of the 6.00 area if not deeper targets in the 5.85/5.83 zone which includes key channel support and swing targets from the 202 high.

Latam FX: MXN should lead the way, BRL is mixed, while CLP is at risk

Much like the price action over the past year, the view for Latam FX in 2104 is decidedly mixed. While MXN failed to live up to its bullish billing from our Outlook 2013, we continue to see potential for MXN to outperform in 2014. However, the ability to see a sustained bull trend is conditional given a number of difficult hurdles. The factors behind the outperformance view start with the effective test and hold of several important levels against the USD and for the crosses. In this regard, the broad ranges for both USD/MXN and EUR/MXN since mid-2013 remain well-defined. With USD/MXN building important resistance in the 13.46/13.54 zone, the current risks point to additional downside as this consolidation phase continues to develop. Note that this area includes the highs going back to August 2012, as well as the 61.8% retracement of the decline from the 2012 cycle high (14.60). The importance of zone is critical for the short and medium term setup as upside breaks would suggest a more difficult path to MXN outperformance in 2014.

Chart 27: ADXY– Weekly Chart: The long term consolidation phase still reflects a corrective bias with bullish implications; note that 113.60/112.90 zone remains critical support for the bullish bias.

Chart 28: USD/KRW– Weekly Chart: Despite the extent of the trend, there is still no sign of a sustained reversal as a test of longer term targets near 1.05/1.03 remains likely.

Chart 29: USD/MXN– Daily Chart: As the ST and MT ranges continue to develop, the downside risks should remain intact against the 13.46 resistance area.

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Moreover, upside breaks would confirm the onset of another leg to the corrective phase from the May '13 low. While intact, another run at the range lows for USD/MXN is likely, but a break of these support levels is necessary to confirm the onset of a more sustained bull trend for MXN. For USD/MXN, a violation of the 12.75/72 support zone will be the key factor and trigger to confirm a deeper pullback. This area represents the October low and 76.4% retracement of the rally from the September low, the trendline support from the July low, as well as the 200-day moving average. Importantly, violations would confirm the recent double top formation against the October/November highs, while shifting the focus to the critical 12.58/12.43 zone and the medium term range lows. Note that while we see potential for a closer test of this zone, downside breaks are necessary to confirm a more sustained MXN outperformance trend while confirming the double top from June/September. Moreover, this setup would shift the focus away from the broad triangle pattern to a retest of the May low near 11.94. Until then, the MXN outperformance bias will likely be more short term and a conditional event.

With regards to other crosses, the setup for MXN/CLP is an important focus for the upcoming year. We sense a broader shift to the decline from the 2008, if not the 2001 highs is underway. In this regard, there is strong evidence that a medium term basing pattern is developing. Note that since the cross bottomed in 2012, the "higher low" over the past year is consistent with a large inverse head and shoulders pattern. In turn, the key test enters with the 40.80/41.10 resistance zone with breaks implying a more sustained bull trend with potential to extend into the 43.62 high from 2010, if not the 46.16/46.65 zone – includes the head and shoulders objective and the 61.8% retracement of the decline from the 2008 high. This view brings to light the potential for CLP to underperform on a broader scale. For USD/CLP, the 525/536 resistance zone is critical. Similar to the cross, a break of this area which includes the 2012/2011 highs, as well as the 38.2% retracement from the 2008 peak would confirm a higher risk of additional upside. Note that the 492/490 support area will be important to maintain the upside bias.

The view for BRL into next year is mixed. While we can make a case for a short term outperformance trade against the USD and EUR, it is not a compelling one. In this regard, the reversal during the September timeframe for USD/BRL highlighted the potential for a consolidation phase as it effectively held critical medium term resistance in the 2.45/2.48 zone. This area includes the 38.2% retracement of the decline from the 2002 cycle high as well as the March '09 reaction peak. Moreover, the medium term setup suggests a five-wave rally from the 2011 cycle low is now complete and a deeper corrective phase can develop. As important, the decline from the September peak developed with an impulsive five-wave signature which suggests another leg down is likely. A violation of the 2.20/21 support zone (October breakout) would imply a closer test of the critical 2.16/2.12 zone which includes the October low, the mid-2013 breakout zone, the 200-day moving average and uptrendline from the 2011 cycle low. In turn, the critical parameters are well-defined for 2014. A break of this zone implies a deeper corrective phase. Alternately, an extension above the 2.45/2.48 area would shift the focus to 2.60/62 area which includes the 2008 high.

Chart 30: MXN/CLP– Weekly Chart: The medium term basing pattern above the 2012 low highlights the potential for MXN to outperform, while CLP should lag.

Chart 31: USD/BRL– Weekly Chart: While the reversal from the key 2.45/2.47 resistance zone suggests a deeper corrective phase, a break of the 2.16/2.12 zone is necessary to confirm a more important top.

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Trade Recommendations

- **Buy USD/CZK at market for a rally to 24.43 and 25.35, add at 19.75, and stop at 19.40**
  - The very dynamic up-swing from 14.392 (July 2008) to 23.566 (Feb.. 2009) in a classical 5-wave impulse (wave A or wave I) already suggested that we'd get to see a evenly classical countertrend decline (zigzag, wave B or wave II) which was most likely completed at 16.180 in April 2011.
  - We conclusively expect a broader wave C or Wave III up to unfold which should at least reach out for 24.432 (int. 38.2 %) and for 25.354 (C=A) by the end of Q1 or in Q2 2014 at the latest.
  - Only a decisive break below 19.683 (minor 38.2 %) would call start questioning this bullish view again and would call at least call for a deeper setback to 19.006 (minor 76.4 %) if not to 17.373 (76.4 % on higher scale).
- **Buy USD/CAD at market, add at 1.0330, risk 1.0175, target 1.12.**
  - There is a growing risk of a breakout to the long term consolidation phase below the 1.0660/1.08 resistance zone in line with the bullish USD bias and corrective pattern below the July peak.
  - Corrective retracement from the range highs should find support at 1.04/1.0330, while a break of the 1.0182 September low would question the bullish bias. An upside breakout would target 1.1235, the 50% retracement of the decline from the 2009 cycle high.
- **Sell AUD/NZD at market, add at 1.15, risk 1.1665, target 1.03.**
  - The medium term trend remains down as the current consolidation develops with a corrective bias. As the trend continues to look incomplete, we see potential for the trend to extend into deeper targets near the 1.0650 low from 2008 and then the 1.04/1.03 zone which includes the 2006 low.
  - Note the 1.1662 September high will continue to act as important resistance and maintain the bias for new lows.
- **Buy MXN/CLP at market, add at 38.65, risk 38.25, target 45.**
  - The medium term basing process above the 2012 seems poised for a breakout. This is in line with the series of higher-lows since the 35.4490 low and the recent impulsive reversal from the key 37.50 support zone.
  - Upside breaks through the 40.79/41.09 resistance zone would confirm the onset of a deeper extension with targets in the 43.62/45.00 area – includes the 2010 high and the 50% retracement from the 2008 high.
- **LONG USD/JPY (established 29th of October - Tech alert)**
  - The medium term uptrend remains incomplete as the recent breakout from the May-November consolidation/triangle pattern suggests new highs. Deeper targets located in the 105/108 zone and where a corrective phase should develop.
  - The 99.00/97.50 levels should act as key support levels and maintain the short term upside bias.
- **LONG USD/ILS (established 23rd of July (Tech alert)**
  - Following the bullish **USD** view and the bearish outlook on **ILS** as described in the **CEEMEA section** we already established a strategic long position in USD/ILS on the 23rd of July, aiming at a minimum rally to 3.86 or 3.95 (int. 61.8/76.4 %).
  - Only a break below weekly.-monthly triangle support at 3.479/476 would negate this bullish outlook so that we'd exit the trade-(stop ata 3.46).
- **Long USD/SEK (est. 4th of November (Tech Alert)**
  - In line with our bullish view on USD and bearish view on SEK we already established a strategic long position at 6.4944 on the 4th of November, looking for a minimum rally to 7.07 if not up to 7.62 (int. 76.4 % on 2 scales/C = A).
  - We are however using a rather tight stop below 6.5542/6.5246 (minor 38.2 %/pivot) at 6.5200 to look for a better re-entry against the next support zone between 6.4382 and 6.4036 (left shoulder/minor 76.4 %).
- **Short GBP/USD (established on 27th of September)**
  - The general setup for this currency pair remains weak and suggests that the long-term downtrend remains intact as long as the key-resistance barrier at 1.6308/79 (monthly triangle/last top) is not taken out.
  - That said, we'd use a test of the latter or a break below key-Fib.-support at 1.5819 (int. 38.2 %) to add to our core short position.
  - Given the significance of 1.6308/79 we'd even consider reversing above as such a break would constitute a game change on bigger scale, calling for a minimum advance to 1.7332 (50 %) if not to 1.7768 (C = A).

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- **Short PLN/HUF(est. on 1st of October (Tech Alert)**
  - — The setup in PLN/HUF is clearly favoring a much broader C-wave down which could ultimately stretch out to 58.54 where it would match the length of the 2008-2009 A-wave decline.
  - — Having already established a strategic short position on the 1st of October we placed a tight stop at 71.45 to avoid being caught in an extension up to 72.68 (int. 76.4 %) where a new and perfect risk reward selling opportunity would be given. On the downside we suggest taking partial profit towards 67.42 (monthly triangle) and 66.5966 (int. 76.4 %) as only breaks below would open the way to the C-wave target.

Trade Watchlist:

Following our generally weak outlook for **SEK** and the increasing probability of running into some kind of **JPY** recovery soon we are keeping a close eye on **SEK/JPY** which could offer an intermediate short trade opportunity.

The same applies for **GBP/JPY** where the accumulation phase of a long-term up-trend looks to be close to completion as we approach the first main T-junction at 164.41, where a good risk-reward for an intermediate short trade is given.

NZD/CAD fits with our profile for continued NZD outperformance while CAD remains at risk of further weakness. With the cross approaching important long term trendline resistance from the 1997 high, some short term corrective action can develop but retracements are viewed as buying opportunities, while a sustained breakout through the trendline resistance would target the 2004/1997 highs.

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Will Fed tapering drive the USD higher?

- **While QE is important as an indicator of Fed policy and market expectations, its direct impact on the economy is limited**
- **The USD has had varying degrees of performance vs. both DM & EM FX during and after QE programs**
- **Tapering may give a clue about future Fed policy, but the cessation of QE is not by itself enough to boost the USD**

Before the influence of tapering on the USD can be assessed, the relevance of quantitative easing for credit creation and for the economy must first be explored. As a start, it is useful to turn to the words of the Chairman of the Federal Reserve to get the official view of things.

On October 1, 2012, which was two weeks after the FOMC announced the start of QE3, Fed Chairman Bernanke presented a speech titled "Five Questions about the Federal Reserve and Monetary Policy" (see: http://tinyurl.com/8m9evxh).

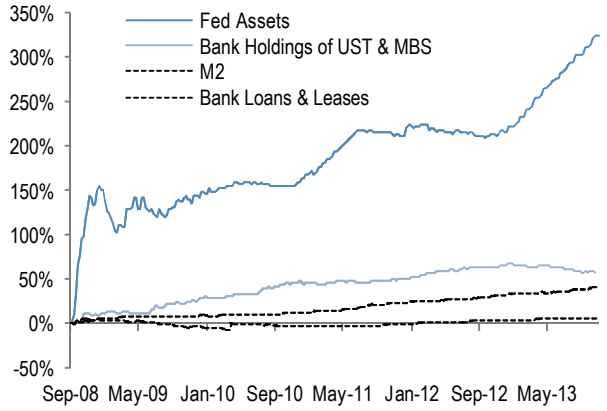
The first question that Mr. Bernanke asked was "What Are the Fed's Objectives, and How Is It Trying to Meet Them?" Responding to that question, he justified QE3 by saying, "we reasoned that, as with traditional monetary policy, bringing down longer-term rates should support economic growth and employment by lowering the cost of borrowing to buy homes and cars or to finance capital investments." That is fairly straight forward: if the Fed lowers interest rates along the yield curve, then borrowers will have an incentive to borrow, which in turn should boost the economy. Of course, left out of that simple formulation is the fact that if the Fed lowers interest rates along the yield curve (and in particular if it flattens the curve), then lenders have a reduced incentive to lend their capital. However, the Fed views the concerns of borrowers as paramount at this point because leveraged households would be even less inclined to spend if rates were to move higher.

Let's move on to the third question that Mr. Bernanke asked and answered in his speech:

"What is the risk that the Fed's accommodative monetary policy will lead to inflation?"

Chairman Bernanke answered that "the way the Fed finances its securities purchases is by creating reserves in the banking system. Increased bank reserves held at the Fed

Chart 1: Fed assets have ballooned since QE1, but M2 & bank loans have lagged



don't necessarily translate into more money or cash in circulation, and, indeed, broad measures of the supply of money have not grown especially quickly, on balance, over the past few years."

That is an interesting answer in light of his response to the first question. If lower interest rates along the yield curve are supposed to encourage borrowing, then broad measures of money supply should move higher because demand deposits are created in the process of credit creation. However, Chairman Bernanke admitted when answering the third question that QE does not necessarily lead to faster growth of the supply of money. He not only admitted it, but that is indeed a fact.

Chart 1 shows the Percent Change in Total Fed Assets vs. M2 Money Supply, Banks' Loans to Consumers & Businesses, and Banks' purchases of UST and MBS since QE1 started in September 2008. Total Assets held on the Fed's balance sheet is directly related to the amount of QE (i.e., debt monetization) that is conducted. Note that total Fed assets increased by 325% in the five years since the first QE program started. Over that time period, M2 Money Supply rose by just 41%. More shocking was a lethargic 6% growth in Banks' Loans & Leases to consumers and businesses. Credit creation was modest despite the large amount of bank reserves that the Fed created in the banking system. It is important to keep in mind that it is only through credit creation in the banking system that QE can directly affect the economy.

The Fed's QEs had little impact on private credit creation in the banking system because private-sector borrowers were in a deleveraging stage. Which category of banking lending increased the most over the past five years? The answer is government: banks' holdings of UST & Agency Debt rose 57% over that period. The private sector delevered while the public sector added leverage. Although the Fed took steps to boost lending in the private sector,the data indicates

that the government has been the main beneficiary of QE through banks' purchases of U.S. Treasury bonds and MBS.

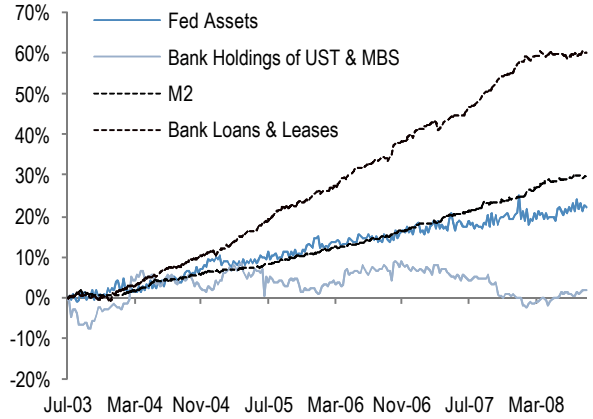
For a point of reference, Chart 2 shows that when Fed Assets increased by just 22% in the five years before QE started in September 2008, M2 money supply rose by 29%, private credit creation in the banking system rose by 60% and banks' holdings of UST & Agencies increased by just 2%, which was a near inverse of the QE period of 2008-13 when bank lending to the private and public sectors rose 6% and 57%, respectively. During that earlier period, rates all along the yield curve were higher than during the era of QE, but that did not prevent healthy credit creation in the private sector. The important point is that underlying economic fundamentals were stronger, which was the cause of the more robust credit creation. The numbers suggest that robust economic growth is the cause of credit creation and not the other way around. The data shows that excess bank reserves in the banking system do not lead to increased credit creation when underlying fundamentals are not positive.

Getting back to the original question that Chairman Bernanke posited, "What is the risk that the Fed's accommodative monetary policy will lead to inflation?" This is a key question for determining the impact on the USD. Holding inflation in other countries constant for the sake of argument, rising inflation in the U.S. is a bearish factor for the USD. However, the risk of inflation is minimal if bank reserves created by QE do not result in credit creation and instead sit in banks' reserve deposits held at the Fed. In fact, that is exactly what has happened since the Fed started QE in Sep 2008. As a result, Core PCE is now near a 50-year low of 1.2%. And that is what Bernanke meant when he said that "increased bank reserves held at the Fed don't necessarily translate into more money or cash in circulation, and, indeed, broad measures of the supply of money have not grown especially quickly, on balance, over the past few years."

In other words, QE has not had a powerful impact on private credit creation in the banking system, which grew at a faster pace in the five years before the Fed aggressively monetized debt, and the supply of money has not risen at an inordinate pace. Moderate growth in the supply of money indicates that markets have not been driven by a wall of liquidity that pushes all prices higher. To the contrary, risk assets such as equities have risen despite the fact that credit creation in the banking system and growth in money supply have been sub-par over the past five years.

The data indicates that the banking system is not reserve-constrained in relation to creating new loans (i.e., credit creation). The process of credit creation is constrained by

Chart 2: Fed assets barely increased in the five years before QE, but M2 & bank loans were strong



the willingness of borrowers to borrow and lenders to lend. The banking system already operates with trillions of dollars of excess bank reserves. Merely slowing the pace of additional reserves (i.e., tapering), or even ending QE altogether, will still leave the banking system with excess bank reserves. In other words, there will be no impact upon the banking system's ability to generate new credit if the Fed decides to slow or eliminate the purchases of U.S. Treasury debt or MBS. The direct impact on credit and the economy from the eventual cessation of QE likely will be minimal. Of course, there could be an indirect impact from tapering if the market takes it as a signal from the Fed that interest rates will be hiked sooner than anticipated. In that case, interest rates along the curve would rise, which was seen between May and September of 2013.

Macro factors overwhelm QE

Since QE was first implemented in September 2008, USD/JPY has fallen by 9% and AUD/USD has risen by 9%. At first appearance, it seems that QE has been negative for the greenback, but during that period, EUR/USD fell by 8%, GBP/USD has declined by 12%, and J.P.Morgan EM Currency Index is down by 10%. Obviously, the Fed's QE operations shine light on just one side of the equation. Other central banks have also expanded their balance sheets, which would mute the impact on the USD from the Fed's QE, but even taking that factor into consideration understates the importance of other factors in determining bilateral exchange rates.

For example, Chart 3 shows that the BoJ's balance sheet as a percentage of GDP has expanded at a pace well above that of the Fed, but, as noted above, USD/JPY has still fallen by 9% since September 2008. If the relative size of QE in respective countries were the main factor driving currencies, then USD/JPY should now be trading closer to ¥115-¥120 than to current levels near ¥100.

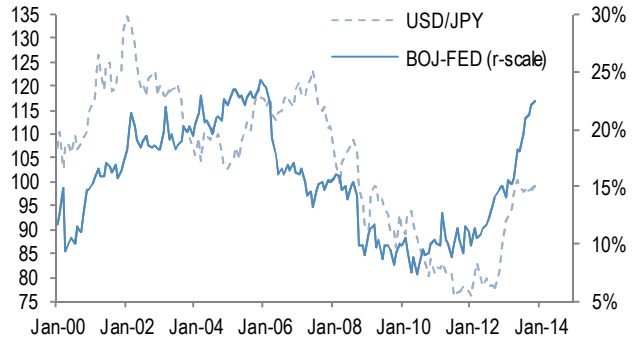
The same analysis applies to EUR/USD, but the conclusion is reserve that of USD/JPY. That is, the Fed's balance sheet as a percentage of GDP has expanded at a quicker pace than that of the ECB, but the USD nevertheless has risen against the EUR since September 2008.Those results – the U.S. vs. Japan vs. Europe -- suggest that relative QE is not the main determining factor of bilateral exchange rates. This finding is supported by the facts shown in the first section of this report that excess bank reserves created by the process of QE do not necessarily find their way into credit markets and, thus do not affect broader macro-economic conditions. The implication is that the tapering or eventual removal of the Fed's QE in itself is not a factor that should cause the USD to appreciate, which runs contrary to the view currently held by many investors.

To get a better grasp of the influence of Fed QE on the dollar, it would be useful to examine the periods delineated by the start and end of QE1, QE2, and the on-going QE3.

Phase I of QE1: Sep 2008 – Mar 2009

In reaction to the bankruptcy of Lehman Brothers in September 2008, the Fed aggressively expanded its balance sheet by injecting newly-created liquidity into the banking system. Up until Lehman, the financial markets had been concerned about the U.S. economy and the prevailing view was that EM and other DM countries would continue to grow. Back then, that theme was known as "de-coupling." Emerging Market economies in particular were seen as robust enough to offset any drag caused by a slowdown in U.S. growth. As a result, the USD generally traded with a weak tone up until about the middle of 2008. However, once the financial crisis hit in September of that year, there was a rush to buy USDs in order to close out dollar-denominated liabilities. A massive short-squeeze ensued and the trade-weighted USD rose 16% between early-September 2008 and early-March 2009. During that time period, EUR/USD fell by 14% and the high-beta AUD/USD plunged 26%. The market shifted to a mode of "coupling," which meant a global economic slowdown sparked by recession and financial turmoil in the U.S. This was reflected in a 20% decline in EM currencies during that period. High-beta FX in G10 and EM FX were hit hardest by the financial crisis. To sum up Phase I of QE1, the large expansion of the Fed's balance sheet – and commensurate provision of USD liquidity -- did not weaken the dollar because there was a large and more than offsetting increase in demand for the currency. Also interesting was the fact that, despite the rush to close out dollar liabilities, USD/JPY fell by 9% during that time. The JPY was considered to be a true safe haven during a time of severe financial dislocation.

Chart 3: BoJ assets as a percentage of GDP are quickly rising relative to Fed assets



Phase II of QE1: Mar 2009 – Mar 2010

By March 2009, financial and economic conditions continued to deteriorate, which caused the Fed to implement Phase II of QE1. On March 18, 2009, the Fed announced a significant increase in the purchases of MBS to a total of $1.25 trln and a new purchase of $300 bln of US Treasury bonds over the following six-months. The market had been anticipating the announcement of new measures and the USD peaked about two weeks before the FOMC released its Statement that the Fed would embark on an aggressive expansion of its balance sheet.

From March 19, 2009 to the end of QE1 on March 31, 2010, the trade-weighted USD fell by a significant 9.7%. EUR/USD rose by 3.8% and AUD surged by 38.6%. Like AUD, EM FX also recovered, but its rebound was a more modest 15.1%. USD/JPY declined a further 5.2% during that 12-month period.

All told, the trade-weighted USD rose 2% during QE1, which lasted from September 2008 to March 2010. EUR/USD and EM FX both fell 8%, but AUD/USD rose 7% (more than offsetting the original plunge). USD/JPY fell by a cumulative 14%. Obviously, as a single factor, Fed QE alone did not drive a uni-directional move in the USD, which had varying performance against different currencies. It is difficult to hypothesize the "counter-factual" of how the USD would have traded against the respective currencies had the Fed failed to implement QE, but there is certainty in looking at how the currency actually performed, which is part of the historical record. The USD held up fairly well against most currencies during the entirety of QE1, which is a reflection of the fact that there was a huge demand for dollars in order to close down substantial liabilities that had been built up in the currency during the weak-dollar period of 2002-2008.

Inter-QE1-QE2: Mar 2010 – Nov 2010

All else equal, the cessation of the Fed's QE should be positive for the dollar. However, all else is rarely equal. After the Fed ended QE1 on March 31, 2010, Greece was rising in prominence as a risk factor for global markets. In April 2010, the credit-ratings agencies downgraded Greek sovereign debt to junk status, which in turn led to severe instability in global financial markets. There were rising concerns that a default by Greece would bring down the Eurozone banking system, which in turn would be the agent of contagion through counter-parties around the world. Between the end of March 2010 when the Fed ended QE1 and May of that year, EUR/USD plunged by 11%. Repeating a familiar pattern, the JPY strengthened during that period of financial stress, with USD/JPY falling 5%. Being sensitive to global financial market risks, EM currencies fell by 5% from the end of March 2010 to the beginning of May.

However, sentiment quickly turned around in May 2010 after Eurozone governments and the IMF announced a EUR110 bln bailout package for Greece. Within three months of that announcement, EUR/USD had risen 11% from the lows. By the start of the Fed's QE2 in November 2010, EUR/USD was up a stunning 17% from the lows hit in May of that year when concerns about Greece were most intense.

All told, the trade-weighted USD fell 4.4% in the period after QE1 ended in March 2010 and QE2 started in November 2010. EUR/USD was up 3.9% over the same period of time despite concerns over Greece, USD/JPY had fallen by 13.7%,and EM FX managed a rebound of 3.6%. Clearly, the single factor of the removal of QE did not push the USD higher. Other factors dominated the currency market.

QE2: Nov 2010 – Jun 2011

The FOMC announced QE2 on November 3, 2010. By then, concerns about Greece had calmed down somewhat. The governments of the Eurozone had just announced an additional EUR 130 bln of bailouts for Greece and a haircut of around 50% was put on the table for Greek debt held by private entities. The USD was weakening even before Fed Chairman Bernanke floated the idea of QE2 in August 2010. China was complaining about the weak dollar and many investors wondered who would buy U.S. Treasury debt if the Chinese refused to do so. The answer was the Fed, which announced new purchases of long-term USTs in the amount of $600 bln. The program was scheduled to end by mid-2011.

Between the start and end of QE2, the trade-weighted dollar fell 3.3% and EM FX rose 2.2%. EUR/USD rose 3.3%,and USD/JPY edged lower by 0.1%. The Fed's second round of QE calmed markets and intensified the risk-on trade. AUD/USD rose by 7.3% during QE2. This movement in the USD against various currencies is consistent with the view that QE is a negative for a currency, all else equal, of course.

Inter-QE2-QE3: Jun 2011 – Sep 2012

However, all else was not equal and certainly not well in paradise. By the time that QE2 ended in June 2011, concerns about Greece re-emerged and, this time, the market began to price in contagion to countries such as Spain and Italy. By July 2011,contagion within the Eurozone periphery became the major concern. The cessation of QE2 combined with concerns about the periphery drove EUR/USD down by 11% by the time that QE3 started in September 2012. Importantly, Mario Draghi became president of the ECB in November 2011. The elevation of Draghi represented a new activist ECB, which proceeded to cut rates and to provide more liquidity to the banking system. The ECB's balance sheet rapidly expanded. The EUR weakened.

Meanwhile, the trade-weighted dollar rose by 3.8% after QE2 ended and QE3 began. Strength in the USD was also reflected in a substantial 9.4% decline in EM FX, which suffered from concerns about how global macro risks would affect internal growth dynamics and policies. Once again, USD/JPY went its own way and declined 3.4%. The JPY proved to be the currency of choice for those seeking protection from the vagaries of financial instability and central bank policy. In a tell-tale sign and like weakness in EM FX, AUD/USD fell 2.4% in the inter-QE2-QE3 period. The USD strengthened in the inter-QE2-QE3 period despite the fact that U.S. Congress experienced a debt-ceiling fight in July-August 2011 that resulted in a U.S. rating downgrade in August by S&P.

QE3: Sep 2012 - Present

By the time the Fed announced QE3 on September 13, 2012, the world had changed. First, and most significant for global financial markets, the ECB announced the OMT in August 2012. In effect, the ECB stated its intention to act as a lender of last resort when the central bank announced its intention to buy unlimited amounts of periphery sovereign debt if necessary. By making such a strong commitment, the ECB was able to eliminate the market's main concern that a default by a periphery Eurozone government would bring down the European banking system and the rest of the financial world with it. Second, there were political changes in Japan that led to the elevation of current Prime Minister Abe. When campaigning for the general elections in December 2012, Abe aggressively pushed the idea that the BoJ should ease policy. After the LDP gained control of Parliament and Abe became Prime Minister, it was just a

matter of time until a new dovish governor of the Bank of Japan would be announced. That happened in early-2013 when Haruhiko Kuroda assumed control of the BoJ in March of that year. After the first policy board meeting when Kuroda became Governor, the BoJ announced an aggressive campaign to monetize debt with the aim of doubling the monetary base within two years.

Although QE3 was expected by many to weaken the currency, the fact is that the trade-weighted dollar hit a medium-term bottom on September 14, 2012, which was the day after the additional bond purchases were announced by the Fed. Since the start of QE3, the trade-weighted USD has risen by 4%, but most of that increase was caused by a 27% surge in USD/JPY. The BoJ's major shift in policy caused a quick depreciation of the yen. Most of the movement occurred between December 2012 and May 2013. Since then, USD/JPY has traded sideways despite the fact that the size of the BoJ's balance sheet has mushroomed. As mentioned earlier, the expansion of the size of the BoJ's balance sheet relative to the Fed's suggests that USD/JPY should be trading close to ¥115, but it currently resides close to ¥100.

At the same time, EUR/USD has risen by 4% despite the OMT that commits the ECB to potentially large purchases of periphery debt. That commitment has not weakened the EUR because it removed credit risk from the Eurozone banking system and because its credibility alone was able to stabilize periphery sovereign debt without the ECB having to buy any bonds. Because of concerns about the Chinese economy over the past year and a slowdown in the Australian economy, AUD/USD has fallen by 11% since the introduction of QE3, but EM FX has bounced by a modest 2%, which may reflect nothing more than a rebound from oversold positions during the inter-QE2-QE3 period. Overall, the USD strengthened during QE3 despite the Fiscal Cliff battle that came to a head in January 2013, the "Sequester" of March 2013, and the government shutdown in October 2013. In other words, aggressive QE by itself was not able to weaken the USD.

The Tapering and Eventual End of QE3

Since May when the Fed started to discuss tapering, the trade-weighted USD has risen by just 1%. Not faring as well, however, has been EM FX, which has fallen by 8%. Perhaps QE tapering is already priced in, especially for EM.

Given the historical record, caution should be used if assuming that the tapering and eventual end of QE3 necessarily means a stronger USD. Other macro factors could easily overwhelm any positive impetus that the USD receives from the end of QE3. More important will be the relative direction of the major economies and consequent impact on market interest rates.

The general consensus at the moment is that the U.S. will accelerate to growth approaching 3% in 2014, which in turn causes many investors to expect an appreciation of the USD. At the same time, the Fed is expected to start tapering QE purchases in early-2014 and the BoJ may announce new measures to ease policy after the consumption tax is hiked in April 2014. At the same time, the ECB is expected to ease policy further in its fight against falling inflation. Given the projections, the USD should trade with a firm tone in 2014. Many factors that will arise in 2014 are not known with certainty or even with a high degree of probability. The end of QE3 is a factor that should support the USD, but more important will be the actual performance of the U.S. economy and forward guidance about interest rates under the new Yellen Fed. Fiscal policy in the U.S. is becoming less contractionary, but would a pick up in growth cause the Fed to bring forward the first rate hike if inflation remains well below target? There are many moving parts. The end of QE3 is not by itself a factor that will push USD higher.

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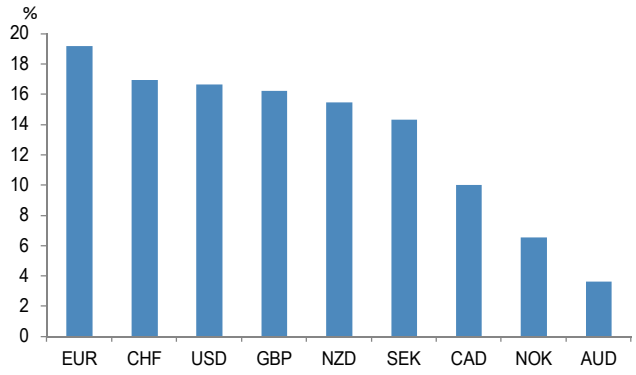
Research Note

Yen: Bearish trend to continue

- **JPY depreciated substantially in the first half of 2013 due to expectations for Abenomics, but lost direction in the second half.**
- **In 2014, the position of JPY being the optimal funding currency should strengthen further as the direction of US and Japan monetary policy diverges.**
- **Our forecasts for US-Japan nominal and real yield differentials suggest USD/JPY will rise to 106-109 in the second half of next year.**
- **In 2013, although Japan's trade deficit grew substantially, the income balance surplus increased. As a result, the current account balance remains in surplus. JPY selling related to FDI seems to have increased, while JPY selling from foreign securities investments has been limited.**
- **Japan's current account balance is expected to remain in surplus in 2014 and JPY selling from FDI is expected to be comparable to that in 2013. Although large JPY selling by Japanese institutional investors looks unpromising again next year, JPY selling by retail investors should increase.**
- **Foreign investors should remain the major seller of JPY in 2014, though they could be less aggressive compared to 2013.**
- **JPY weakness in 2014 is unlikely to be a steady one. Our USD/JPY targets are 104 for 1Q14, 100 for 2Q14, 102 for 3Q14 and 106 for 4Q14.**
- **Risks: On the positive side, 1) a spike in market volatility due to a sharp slowdown in global economy, 2) monetary policy goes in the opposite direction to our expectation, 3) Japanese economy sharply slows down after an expected consumption tax rate hike.**
- **Risks: On the negative side, 4) domestic investors (retails in particular) increase investments in foreign assets significantly, 5) acceleration in Japan's inflation.**

Chart 1: Change in major currencies against the JPY in 2013



Source: Bloomberg, J.P.Morgan

2013 retrospective: USD strength/JPY weakness in the first half and range-trading in the second half

The "Abenomics trades," which began when the then Prime Minister Noda declared on November 14, 2012 his intention to dissolve the House of Representatives, gathered momentum into and through the first half of this year, leading to a general depreciation of JPY against the major currencies while the Nikkei Index staged a major rally. The unprecedented monetary easing by the BoJ on April 4 also helped spur the rally in Japanese equities, which was accompanied by the weak yen. With the USD strengthening in contrast — driven by heightened expectations of an early start of tapering and rate hikes by the Fed on the back of strong US economic data and other factors — the first half of the year saw a strong USD and a weak JPY in trade-weighted terms, which led to a significant rise in USD/JPY. USD/JPY, which started this year at the high-86 handle, rose to 103.74 on May 22, the highest level since October 2008.

On May 23, however, the Nikkei Index plunged — partly due to the sharp rise in long-end JGB yields since around mid-May — and an unwinding of accumulated JPY shorts accelerated, driving the USD/JPY down to the 93 handle in mid-June. Subsequently, both USD and JPY lost direction in the second half of the year, leaving USD/JPY to trade in a range between 96 and 101 for the most part. Looking at the movement in major currencies year-to-date (as of November 21, Chart 1), EUR, CHF and USD have outperformed within the G-10 camp while JPY has been the weakest, affected by its sharp fall until May (however, if we look at the changes since May 23, when the Nikkei Index plunged, JPY's performance was mediocre). Since the beginning of this year, JPY has fallen about 14% on a trade-weighted basis.

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2014 Outlook: more JPY weakness, but modest and uneven

2014 outlook for monetary policy and interest rates suggests continued JPY weakness

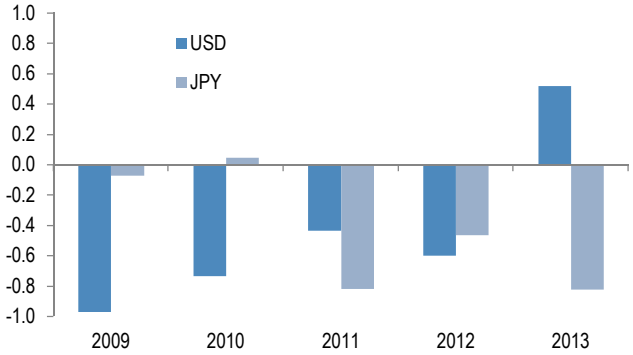
The macro environment which we anticipate for 2014 suggests that JPY will continue to decline on a trade-weighted basis. The global economic recovery should pick up pace heading into and through 2014 and investors' risk appetite should remain strong. Against such backdrop, monetary policy in the US and in Japan is expected to move in opposite directions in 2014 (we expect that the BoJ will conduct additional easing in April while the Fed begins tapering in January), and we expect the yen to become the optimal funding currency while attractiveness of USD as a funding currency should decline. Indeed, such shift has actually already begun, causing the negative correlation between JPY and stock prices to strengthen this year while the correlation between USD and stocks — which had been negative until last year — to become positive (the correlation between a funding currency and stock prices should normally be negative; chart 2). **These developments are likely to become even stronger in 2014, when the direction of US and Japanese monetary policy is expected to diverge.**

With US economic growth expected to accelerate to about 3% in the second half of 2014, we expect UST 10-year yield to follow an uptrend throughout the next year. In contrast, while we do expect JGB yields to rise, the rise should be modest, partly due to the effect of the continued sizable purchases by the BoJ. Hence, the US-Japan long-term yield differential should become wider into next year. Based on our rates view, the US-Japan 10-year yield differential will widen to 280 bp in September 2014 from 215 bp currently (as of November 21). Although the correlation between the US-Japan long-term yield differential and USD/JPY has collapsed since April this year — partly because of the impact of the violent fluctuations in JGB yields following the BoJ's QQE — a loose correlation exists if we look at reasonably long periods (chart 3). Based on their correlation since 2005, the USD/JPY level consistent with a US-Japan 10-year yield differential of 280bp is 109.39.

Partly because of the large swings in Japan's inflation expectations this year — owing partly to the influence of Abenomics — in the first half of this year in particular, USD/JPY has shown a stronger correlation with the real yield differential between US-Japan (calculated using the break-even inflation rate, "BEI") than with its nominal counterpart (chart 4). Based on our forecast for the nominal US and Japan 5-year yields and the current 5-year BEI, the real US-Japan 5-year yield

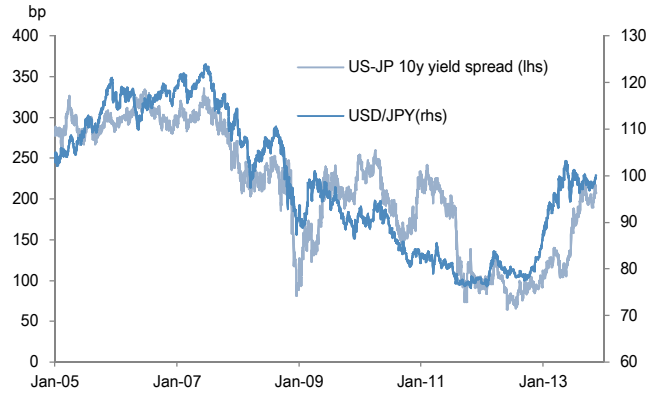
Chart 2: Correlation between the nominal effective rates of USD and JPY and share prices

Correlation between S&P500 and nominal effective exchange rate over the period



Source: Bloomberg, J.P.Morgan

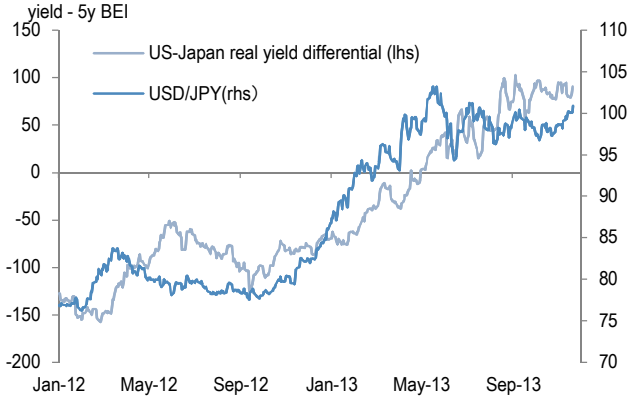
Chart 3: US-Japan 10-yr yield differential and USD/JPY



Source: Bloomberg, J.P.Morgan

Chart 4: US-Japan real yield differential and USD/JPY

bp: real interest rate=nominal 5y govn. bond yield - 5y BEI



Source: Bloomberg, J.P.Morgan

differential as of next September works out to be 150bp, much wider than the current level (87.7bp, as of November 21). Although the correlation between real yield differential and USD/JPY has not been necessarily high in the second half of this year, if we use the correlation since November 14, 2012, which can be seen as the starting date of

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Abenomics, USD/JPY level which is consistent with a 150bp spread is 105.73.

In summary, **based on our interest rate forecasts, USD/JPY could rise to around 106-109 in the second half of next year as a result of widened US-Japan (real and nominal) yield differentials.**

Implications from relative size of central bank balance sheets

Although the relationship between the exchange rate and the relative size of central banks' balance sheets (B/S) is mentioned often, the main channel by which it affects FX markets is a change in interest rates (an expansion in central banks' B/S should push interest rate lower and vice versa). Thus, it should be reasonable to focus on interest rate directly rather than B/S. In theory, in conditions where policy rate declines to around 0%, the impact of any changes in central bank's B/S on interest rates, and then, FX rates, would be limited.

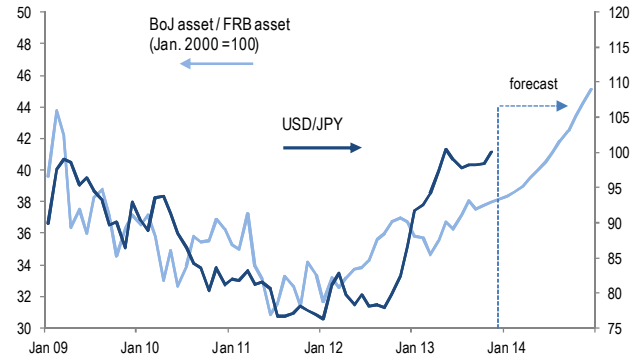
Nonetheless, under the condition with zero interest rates, the difference in the direction of monetary policy would be represented with the relative size of B/S, rather than interest rates. Therefore, the speculation on the direction of monetary policy could affect FX markets through the speculation on the change in relative size of central bank's B/S.

From this perspective, USD/JPY and relative size of B/S of the Fed and the BoJ have modestly correlated with some time lags and given the past correlation, if our views for the size of B/S of these two central banks are correct, USD/JPY could reach around 110 as of the end of next year (Chart 5).

Flow analysis: retail JPY sales to increase in 2014

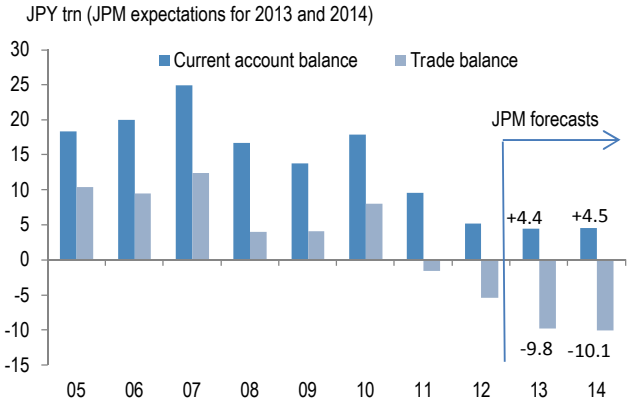
Some particularly interesting trends could be discerned in Japan's balance of payments in 2013. Specifically, we note the following, (1) despite the rapid depreciation of the yen from November last year, this year's trade deficit has greatly increased over the previous year. (2) Since the unprecedented monetary easing by the BoJ in April, speculation that investment in overseas securities by Japanese investors would increase following the lowering of JGB interest rates heightened, but in fact, this year Japanese investors were net sellers of overseas securities. (3) Foreign direct investment (FDI) by Japanese corporates increased despite the weak yen. In this section, we will present prospects for 2014 and the implications for the yen exchange rate after reviewing the trends for 2013 for the various flows, focusing on specific items of Japan's balance of payments. For more details about this topic, see *Japan Flows in 2014*.

Chart 5: Relative size of the balance sheets of BoJ and Fed and USD/JPY



Source: FRB, BoJ, J.P.Morgan

Chart 6: Japan's trade balance and current account balance



Source : MoF、J.P.Morgan

<Current account>

Trade Balance: Despite the sharp depreciation of the yen from November last year, Japan's trade deficit in 2013 increased greatly year-over-year, and is expected to go from ¥5.4 trn in 2012 to ¥9.8 trn in 2013. The "J-Curve effect" may be a reason for the expanding Japanese trade deficit this year, but whereas export volume increased without such a great time lag in the weak yen phase from 2005 to 2007, current export volume have in fact lessened compared to before the accelerated yen depreciation in November last year, with concern that the mechanism whereby a weak yen leads to increased exporting may no longer be operating. Despite the weak yen, however, imports are increasing even on a volume basis, showing that the rise of import prices alone is not the cause of the expanded trade deficit. Also, against the popular view that an increase in Japan's imports is mainly due to an increase in energy imports caused by shut-down in nuclear power plants, the main source of the increase in imports has been goods imported from Asian countries, suggesting structural changes in Japan's

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international trade. Judging from these trends, the trade deficit is unlikely to decrease sharply in the future. We expect that the trade deficit in 2014 will stay at an elevated level (¥10.1 trn, Chart 6).

Income Balance: Income balance, consisting of core items such as interest income on bond investments and dividend income on stock investments and FDI, is less affected compared to the trade balance by economic cycles, tending to move in a stable way. Reflecting the fact that Japan is the world's largest creditor country, Japan's income balance is steadily maintaining a large surplus, which is unlikely to alter greatly in the coming year.

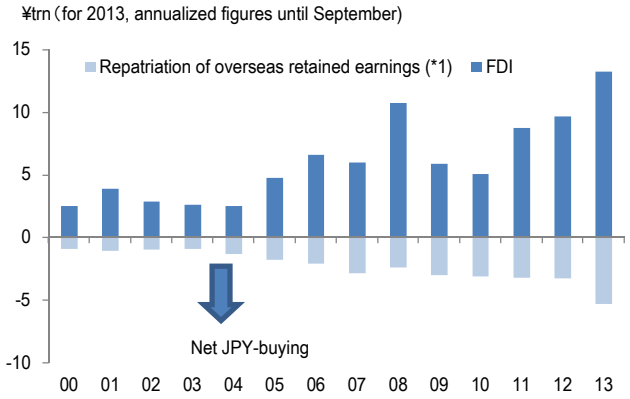
Notably, as a result of aggressive FDI in recent years, repatriation of foreign retained earnings has increased significantly (this is reflected in "Dividend/distributed branch profits (credit)" in income balance). Also, increased imports from Asian countries discussed above can be seen as a result of aggressive FDI in recent years. Therefore, increased FDI deteriorates the trade balance but increases the income balance surplus. We expect the income balance surplus to be larger in 2014 than the trade deficit, keeping a surplus of current account balance over the period.

<Capital & Financial account>

FDI: Foreign Direct Investment (FDI) by Japanese corporates from the start of the present year to September were ¥9.9 trn, already surpassing total FDI amount in 2011 (¥8.7 trn) and in 2012 (¥9.6 trn), and if this pace is maintained, total FDI flow in 2013 is likely to be much more than the previous record of ¥10.7 trn in 2008. Regarding the acceleration of FDI even as the yen depreciated, the main purpose of such investment for Japanese corporates is to pursue long-term growth opportunities overseas, and can be seen as suggesting that this trend is not so heavily impacted by exchange rates. Therefore, we expect FDI to remain at an elevated level in 2014 even though JPY is expected to trend weaker.

However, it is possible that actual JPY selling flow could be much smaller than the headline as a certain part of FDI flows is FX-hedged or without any FX transactions. Also, as discussed above, as increased FDI tends to be accompanied by an increase in foreign retained earnings, when JPY selling related to FDI increases, JPY buying due to repatriation of foreign retained earnings also increase (Chart 7).

Chart 7:FDI and repatriation of foreign retained earnings



*1： "Dividends/distributed branch profits (credit)" of income balance
Source： BoJ

Portfolio Investment: Following the unprecedented monetary easing by the BoJ in April, speculation that JGB yields would fall significantly and Japanese investors would increase overseas securities investments heightened. But in reality, 10-year JGB yield rose after the unprecedented BoJ easing and now, it has declined but it is still at modestly higher level than that just before the BoJ easing. With this being the situation, Japanese investors this year, instead of increasing foreign securities investments, are in fact very much net sellers of such (Chart 8 on the next page).

It is a possibility that Japanese banks and lifers, who have sold foreign bonds this year, will shift to buying foreign bonds in 2014, but because the short-term interest rate is believed to remain at very low levels in the US and Europe, FX-hedged foreign bond investments would remain attractive, and it is highly likely that the majority of foreign bond investments by banks and lifers in the next year will be FX-hedged.

If the impact on FX rates of foreign securities investments by banks and lifers is limited as discussed above, flows likely to most impact FX rates will be investments by pension funds and/or retail investors. It is difficult to predict behavior of retail investors, but a certain amount of foreign asset investments are expected with the introduction of NISA next year. In addition, against the background this year where retail investors have been net sellers of overseas assets, the movement could be seen to have been a profit-taking for their foreign asset investments and a shift toward domestic stocks. However, there are signs that this shift may pause with interest for overseas assets rising once again. If such move accelerates into next year, JPY selling from Japanese retail investors could be one of the main driver of yen weakness over the period.

Regarding pension funds, more active risk taking could be considered as part of the debate on the reform of the

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pension system, but actual changes to portfolio allocations are expected to occur from 2015 onwards. As a result, the scenario where large-scale foreign securities investments by pension funds accompanying the allocation changes drives down the yen will probably become prominent from 2015 on (even if realized). However, as the possibility that allocation change takes place earlier than expected and/or speculation on this leads to JPY selling cannot be ruled out, relevant developments need to be watched closely.

JPY's Outlook in 2014

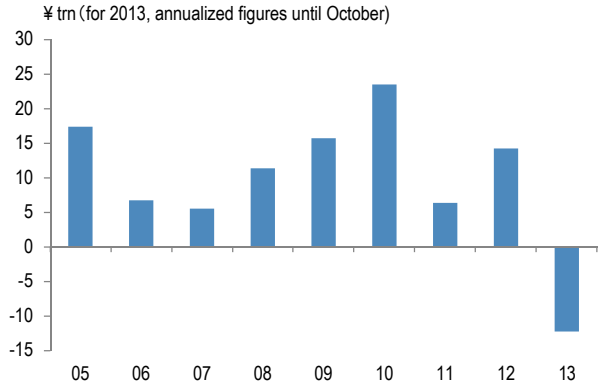
As discussed above, JPY selling by retail investors is expected to increase next year, but JPY selling by institutional investors cannot be expected to increase significantly.

What, then, can we say about the trends for the overseas players who have been at the forefront of heavy yen depreciation in the first half of 2013? The fact that the overseas players start having doubts about the feasibility of the three arrows of Abenomics indicates a high possibility that the relevant JPY selling by overseas players will decrease in 2014 compared to 2013. At the same time, however, the direction of monetary policy in Japan and the US will be diverging, in which the JPY becomes the best funding currency. Although the scale of JPY selling on an expectation for Abenomics is expected to recede next year, macro conditions are expected to warrant the yen's status as the best funding currency. Therefore, foreigners will remain the major seller of the yen in 2014, though less aggressively compared to 2013.

In light of the above, we do not expect the circumstances surrounding the various flows in 2014 to change greatly from 2013, and we expect conditions that support a certain degree of JPY weakness to continue.

Having said that, we do not expect the JPY weakness in 2014 to be an uninterrupted one. We expect a relatively large appreciation in USD/JPY in 1Q14 given that (1) the divergence in the direction of US and Japanese monetary policy will probably be regarded as a market-moving factor, and (2) downward pressure on JPY should increase if last-minute demand in anticipation of the consumption tax hike boosts Japanese economic growth (our forecast for GDP growth over the period is +4.0%) and drives the Nikkei Index higher. In 2Q14, however, we expect the Nikkei to decline and look for an unwinding of short JPY positions to accelerate temporarily given that Japanese economic activity should decline significantly due to the negative impact of the consumption tax hike. Also, an expected BoJ action in April 2014 could trigger an unwinding of long Nikkei/ short JPY position with the "buy on rumor / sell on fact" type of transactions. After then, we expect JPY to return to its downtrend in the second half of the year as the economy

Chart 8: Foreign securities investment by Japanese investors



Source : MoF, J.P.Morgan

both in Japan and overseas will likely follow a recovery trend. It is possible that speculation on foreign asset investments by Japanese pension funds would heighten downward pressure on JPY while resumption of hopes for Fed's hikes would push USD higher. Based on the above, **our USD/JPY call is 104 for 1Q14, 100 for 2Q14, 102 for 3Q14 and 106 for 4Q14.**

Assessment on various risks

As discussed above, various factors including monetary policy and flows from domestic and overseas players suggest that it is likely a weak yen trend will continue in the next year as well. Then, if JPY were to move significantly outside our baseline scenario, what kind of cases could they be? In the following section, we discuss various risk factors to our main scenario.

Risk 1: The global economy deteriorates rapidly and market volatility surges

The key assumptions underlying our forecast of a continued trend of JPY weakness in 2014 — albeit with ups and downs — are that the global economy will grow smoothly, that volatility in financial and capital markets will stay relatively low, and that the risk appetite of global investors will be strong. Needless to say, there is no definition to clearly measure "a strong risk appetite. " However, we can probably say that, as long as the VIX index stays below 25, investors' risk appetite will be strong, the JPY will often be sold as a funding currency, and a bearish tone for the JPY will tend to continue (Chart 9). On the other hand, should a situation arises that drives the index significantly above 25, the JPY that had been sold as a funding currency will be bought back, creating a relatively strong upward pressure on the currency.

We expect the global economy to grow at 2.9% in 2014, up from 2.2% in 2013. For JPY, a major downshift in the pace of global economic growth owing to overseas factors should

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be a greater risk than domestic factors. For example, if problems in China's financial system, the US debt ceiling, and the debt of Euro area peripheral countries, or some other areas, deteriorates and significantly impedes global economic growth, this would accelerate deleveraging which would be accompanied by unwinding of short JPY positions.

Risk 2: The direction of monetary policy moves against our assumption

As noted above, one of the reasons we expect JPY to weaken into next year is that we expect the BoJ to conduct additional easing in April while the Fed begins tapering in January. However, if we look at recent trends in inflation, for instance, Japanese inflation has been on an uptrend while inflation in the US and the Euro area has been decelerating and Japan's October CPI (nation-wide) is expected to be higher than that in the US and Euro area (Chart 10). If this trend continues next year as well — obviously, not our baseline scenario — it is possible that there will be discussion of the need to ease further to boost the inflation rate in the US and Euro area while in Japan the possibility of a tapering to moderate the rise in inflation could begin to become market concern, contrary to our current expectation. We should expect substantial JPY appreciation in that case.

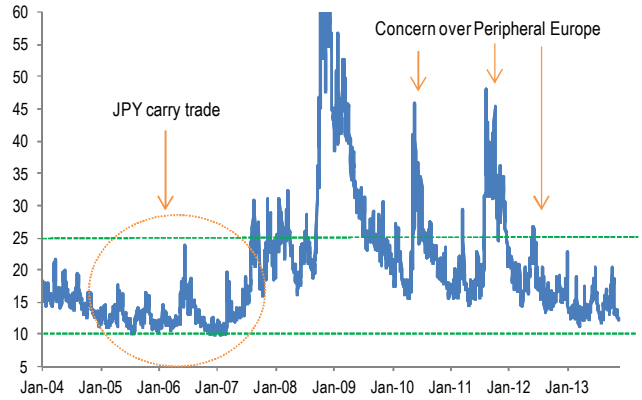
Risk 3: Japanese economy fails to recover from consumption tax hike

For investors around the world to have hope for Japan's economic recovery, continue investing in Japanese equities, and maintain their JPY shorts, it will be necessary to give the impression that Abenomics/the third arrow are making progress, even though this will take time. As such, it will be important for Japanese companies to implement a wage increase of a magnitude that exceeds inflation as urged by the government, for the government to achieve the corporate tax cut (or at least accelerate the abolition of the special corporate tax for post-quake reconstruction), and for the slowdown brought on by the consumption tax hike to be only temporary.

We expect Japan's GDP growth to drop to -4.5% q/q saar. in 2Q14, when the consumption tax will be raised, but expect growth rate to recover to +1.2% in 3Q14 with expecting an overall 2014 growth of +1.5%.

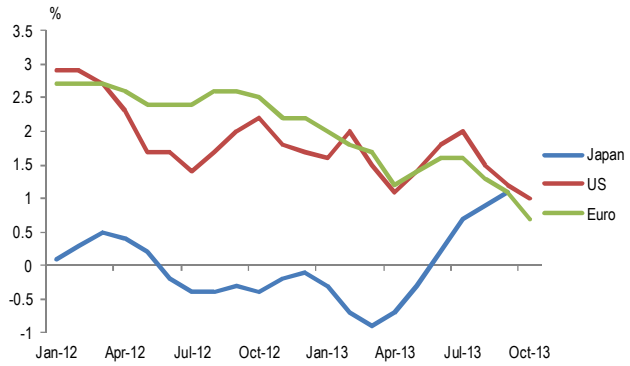
However, the recent rise in the inflation rate has been largely due to increases in energy and electricity charges and is having a negative impact on households. Since the increase in wages has not been growing very much while the inflation rate is rising, the real wage index has been exhibiting negative growth — of mid 1% levels — since July. This is the first time since the Lehman shock or the

Chart 9: VIX Index



Source : Bloomberg

Chart 10: CPI for G3



Source : J.P.Morgan

financial crisis in Japan between 1997 and 1998 that real wages have decreased to this extent.

We do not expect that a loss of momentum in the Japanese economy will by itself lead to a huge unwinding of short JPY positions as long as the recovery of the global economy stays on a solid path. However, if Japan's growth stalls in the second half of the year as well with the introduction of the consumption tax hike in April, with no wage increases — while inflation remains elevated — and no corporate tax cut, it will be a disappointment for overseas investors and will lead to a sell-off in Japanese equities, which would be accompanied by JPY strength.

While the above three risks are upside risks for the JPY, the remaining two are risks that would drive JPY lower than our forecast.

Risk 4: Growth of investments through NISA exceeds expectations

NISA, a system that allows small investments to be made free of tax, starts at the beginning of 2014. When invested through a NISA account, investments of up to one million yen per year per individual in listed stocks and publicly

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offered investments trust will be exempt from taxation on dividends and capital gains for up to five years. The fact that Japanese share prices are expected to rise and that investments in FX-denominated assets are also expected to become active due to increased investments in Japanese equities and investment trust by Japanese retail investors through their NISA accounts is an important factor supporting our call of continued JPY weakness next year.

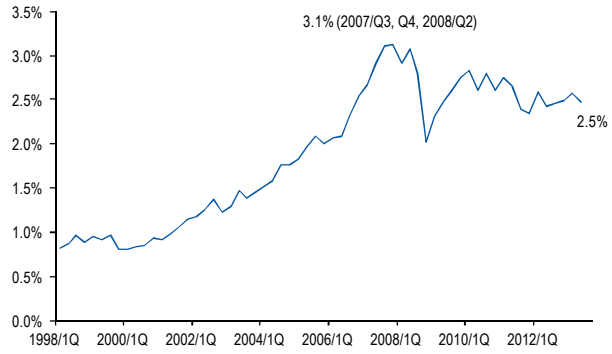
The cash and deposits held by households amount to as much as ¥853 trn as of the end of June 2013, which represents an increase of more than ¥80 trn from their levels in 2005-2007, when short JPY carry trades were quite active. FX-denominated assets (foreign currency deposits, foreign currency securities, FX-denominated investments trusts) are estimated to account for about 2.5% of household financial assets currently (Chart 11); in 2007, when short JPY carry trades were very active, this ratio was at 3.1%. If households made investments in FX-denominated assets now until their share reached 3.1%, the amount of such assets would increase by as much as ¥9 trn, from about ¥40 trn currently to about ¥49 trn. If the upcoming NISA system produces an unprecedented shift from deposits to equities and FX-denominated assets, JPY will probably fall to levels exceeding our forecast.

Risk 5: A rise in Japan's apparent inflation (surface inflation?) expands the room for JPY weakness

As evidenced by the real effective exchange rate, the peak of JPY weakness in the period since 1970 — adjusted for the difference in inflation in the US and Japan — was in June 2007, when USD/JPY rose to 124. If we take June 2007 as the reference point and calculate the USD/JPY rate adjusted for the US-Japan inflation rate differential since then, the equivalent is now 106. In other words, since Japan's inflation rate has remained below that of the US in the ensuing period, based on purchasing power parity ("PPP"), a historical low for the JPY equivalent to the level in June 2007 is now 106 (Chart 12).

Hence, it is somewhat difficult to see the USD/JPY rising significantly above 106 at this time. That being said, if the inflation rate in Japan continues to exceed that of the US going forward, this level will gradually move away from 106 in the direction of JPY weakness. In fact, growth rate of Japan's domestic corporate goods price index ("CGPI") has been exceeding the US PPI for four consecutive months since July this year. Furthermore, given Japan's consumption tax rate hike next April, there is a strong probability that Japan's inflation rate will surpass that of the US. To illustrate, should Japan's CGPI continue to exceed the US PPI by 2% points until next December, the resulting fair value of USD/JPY in the framework will be 110.

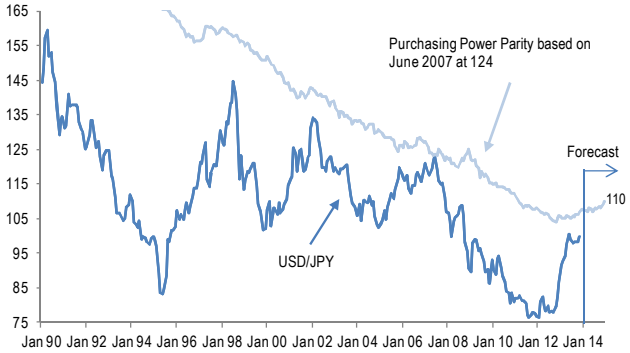
Chart 11: Percentage of household financial assets held in foreign currency-denominated assets (estimate)



Source： BoJ, J.P.Morgan

Chart 12: Changes in USD/JPY and purchasing power parity

Using Corporate Goods Price Index for Japan and Producer Price index for the U.S.



Source： J.P.Morgan

It is generally believed that exchange rate analysis using PPP should be reserved for very long-term analysis (maybe more than 10 years), so this may not be a suitable tool for analyzing the outlook for next year. Nonetheless, we should be aware of the possibility of a gradual shift in the level considered to be the upper limit of the USD/JPY.

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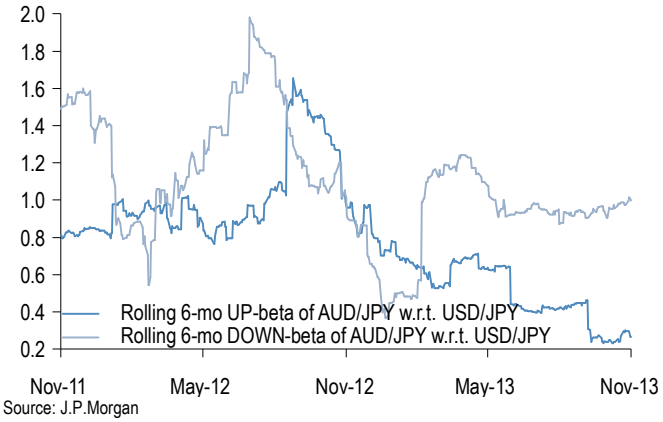
Volatility: Firm base vols, softer USD call skews, cheap cross-yen

USD/JPY vols registered one of the largest increases in 2013 outside of crisis years. The initial thrust in Q1 came from an Abe-inspired frenzy of USD call/JPY put buying that lifted 1Y ATM implied vol by ~2.5 vol pts. by the time BoJ's QQE was announced. USD/JPY skews traded persistently positive (i.e. bid for USD calls) through the first half of the year, a novel experience for option market participants steeped in a rich history of high and negative risk-reversals. The US rate shock then triggered a disruptive unwinding of yen shorts that had built up over the preceding months, pushing 1Y ATMs another 2 pts. higher but re-aligning skews with their traditionally inverse spot-vol correlation (better bid for USD puts). Despite the normalization from the taper peak, 1Y implieds are ending the year at least a vol above where they began the year.

A few lessons from this year's price action should help steer views on yen vols next year. First, demand for USD calls/JPY puts will remain a persistent feature of FX markets for a while yet, hence should preserve a soft floor under yen vols, at least in sub-2Y expiries that are relatively free from structured product dynamics. Enthusiasm around the yen bear trend can ebb and flow through the course of the year, but the macro community is not going to easily discard a trend that plays on a once-in-a-generation shift in Japanese policy. The difference in 2014 vis-à-vis 2013 will lie in the pace and magnitude of spot moves. In our mind, the best part of yen selling – or at any rate, the explosive, high velocity portion of it – is behind us, which consigns any remaining weakness in the pipeline to a low vol, slow grind variety; our relatively modest Q1'14 forecast of 1.04 bears out this thesis. From an option flow standpoint, the likely outcome of this shift is a change in the composition of bearish yen structures away from outright yen puts towards put spreads, RKOs and butterflies that supply OTM USD calls to the market. As a result, the impact on the yen vol surface is likely to be reasonably well-supported base vols but softer risk-reversals i.e. skews mildly shaped in favor of USD puts instead of being explosively bid for USD calls as in Q4'12/Q1'13.

The second lesson of 2013 was that traditional cross-yen vs. USD/JPY sensitivities have shifted lower, with a more pronounced decrease in 'up-betas' compared to 'down-betas' (Chart 13). Put differently, USD/JPY rallies no longer beget the outsized AUD/JPY rallies it once did, since the carry-on/carry-off milieu of the EU crisis years has given way to a more differentiated trading environment where idiosyncratic Australian issues can and do impede participation of the AUD-cross on the upside. But this is less true of periods of yen strength that tend to coincide

Chart 13: Cross-yen have become significantly less sensitive to USD/JPY in spot rallies, but down-betas have held up much better



Source: J.P.Morgan

with deleveraging episodes when high-beta currencies like AUD usually suffer steep losses, hence cross-yen sell-offs still outstrip those in USD/JPY. The asymmetric nature of cross-yen-USD/JPY betas, coupled with the relative cheapness of cross-yen vols suggests that **owning the relative value vol spread as a stress hedge is more rewarding using yen calls.** In our minds, the extent of outstanding short yen positioning presents the potential for disorderly washouts triggered either by an exogenous EM shock, disappointment with third arrow measures, adverse impact of the consumption tax hike or some combination thereof. Prudence dictates owning some form of protection for weak yen portfolios, and with AUD/JPY vols near multi-year lows vs. USD/JPY, we suggest cross-yen vs. USD/JPY yen call switches as a more efficient alternative to owning outright USD puts/JPY calls (see *FX Volatility* section for a more detailed discussion).

An upward drift in US rates should pressure longer-expiry vols firmer and bias long-dated (10Y-5Y) vol curves steeper. Higher US rates push USD/JPY forward points to the left and deliver hybrid books shorter of vega, hence hedging flows involve buying vol; longer the expiry, more pronounced this effect. In theory, it is possible to completely offset the rate effect on points via a matching rally in USD/JPY spot that keeps forward outrights in check, but this looks unlikely next year given the 70bp of further 10 UST weakness by Q3 penciled in by our US fixed income team vs. our own expectations of a modest spot upside from here. 10Y vols should be biased firmer compared to 5Y vols, and the 10Y-5Y slope steeper as a result. Sellers of back-end vega should find value in selling 5Y vols outright or 3Y2Y forward vols that exploit the historically extreme steepness of the 5Y-3Y vol slope (Chart 14).

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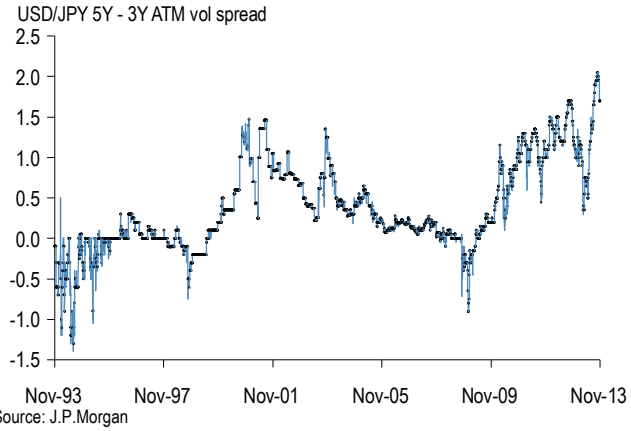
Chart 14: 5Y-3Y vol slope has begun to top out near 20-yr extremes of steepness



Source: J.P.Morgan

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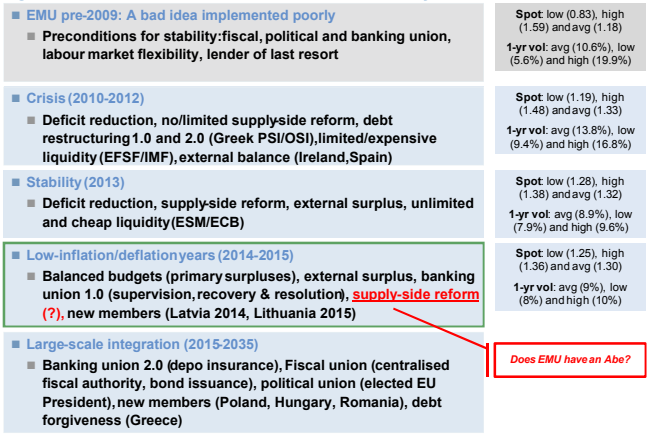
Research Note

Euro: Bounded by Japan's experience and the Fed's exit

- **The euro is ending 2013 up about 2%, an outcome which seems remarkable in a year when Fed taper talk pushed the Treasury-bund spread to its widest level since 2006. Three offsets kept the euro firm: Europe's record current account surplus; stability in US-Euro front-end rates even as 10-yr spreads widened; and investor underweights in the euro plus Euro area stocks and bonds. .**
- **Only some of these offsets extend into 2014. The current account surplus will remain high but both front and long-end rates should rise more in the US than in Europe given deflation in the periphery. Investors have also returned to neutral in the currency and euro assets.**
- **Thus the base case is for another year of erratic movements within a range as currency positives from Europe's Japan-light fate (current account surplus, positive real yields) counterbalance the currency negatives from the Fed's exit from easy money (higher policy rates, eventually). The euro's average should be lower in 2014 (1.30) than in 2013 (1.32) however, given that investors are no longer short European market.**
- **Forecast: EUR/USD Q1 1.33, Q2 and Q3 1.32 and Q4 1.30. Mixed performance on the crosses by end-2014 – stronger vs yen (EUR/JPY 138) but weaker versus sterling (EUR/GBP 0.81), Scandis (EUR/NOK 8.00, EUR/SEK 8.90) and some emerging markets (EUR/MXN 16.12, EUR/PLN 4.15, EUR/HUF 290).**
- **EUR/USD implieds are about 2 vols too depressed relative to the global business cycle, but expect only a modest correction next year (1-yr ATMs 8.5%-9%). Selling EUR-correlations offers better value.**
- **Risks: On the negative side, Fed brings forward its first tightening to late 2014; ECB does whatever it takes to lift inflation (negative deposit rates, large-scale asset purchases); bank deleveraging ahead of the ECB's Asset Quality Review pushes the periphery back into recession, or bail-ins from the AQR revive financial market stress; or the Greek government falls. On the positive side, low US inflation delays/slows tapering and the first Fed hike; US economy buckles as rates rise; or deflation in the periphery proves short-lived/the periphery booms.**

Figure 1: Euro timeline: From crisis to stability to deflation



Source: J.P. Morgan

Although the euro is up only 2% this year, its performance probably seems remarkable in a year when rates climbed far more in the US (+99bp on 10-yr) than in Germany (+41bp). But since currencies are rarely single-factor markets, the offsets to rates are worth repeating both as a post-mortem on 2013 and as a preview to 2014. While 2013 was a year in which the Treasury-bund spread reached its widest level since 2006 (+110bp), it was also a year when the Euro area delivered a record current account surplus (2.5% of GDP); the region ended a six-quarter recession; front-end rates kept pace with US ones; and consequently investors reversed long-standing underweights in the currency, peripheral bonds and European equities.

Only some of these offsets extend into 2014, which is why the forecast is for **another trendless year** (Q1 1.33, Q2 and Q3 1.32, Q4 1.30) **but around a lower mean** (1.30 in 2014 versus 1.32 in 2013). Europe's current account surplus should remain high (near 2%) for another year, but both front and long-end yields should rise more in the US than in Europe due to deflation in the periphery and an eventual Fed exit from easy money. And across a range of indicators, investors seem neutral rather than short the euro and most euro assets. Trade-weighted euro performance should be weaker than in 2013 given gains only versus JPY but small declines (less than 5%) versus GBP, Scandinavia and parts of Central Europe. A rangebound currency means that 1-yr ATM vol should inch higher to only 8.5-9.0, closing only half of its undervaluation versus business cycle correlates.

Trendless but rarely dull

For over a year the J.P. Morgan view has been that the euro would oscillate in the 1.30s due to several important developments late last year. Namely, peripheral Europe's fiscal and current account imbalances were declining; the OMT and ESM had the capacity and flexibility to contain financing stress in high-risk countries like Spain and Italy;

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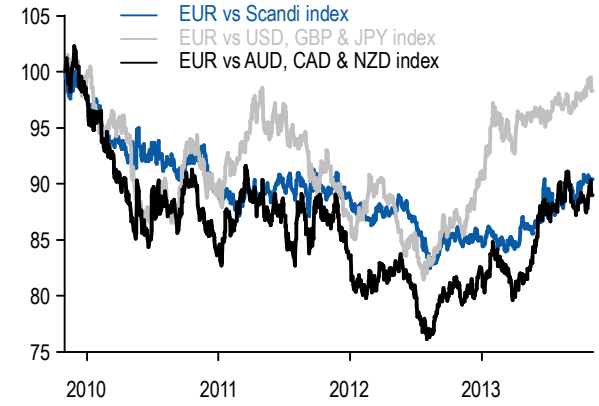
investors were already short the currency and underweight European assets; and the Fed would be easing in 2013 through asset purchases. Europe still had considerable unfinished business around banking, fiscal and political union, and several countries still faced years of structural reform to properly restore competitiveness and lift long-term growth (figure 1). But after three years of crisis, little on Europe's bucket list constituted as meaningful an issue for the currency as the balance of payments, investor positioning and diverging Fed/ECB balance sheet trends (see *Euro: the end of its beginning* in *Global FX Strategy 2013*, November 21, 2012). With reversals roughly once per quarter, EUR/USD has respected a 10-cent range this year (low 1.28, high 1.38) but nonetheless outperformed all other regions (charts 1 and 2). EUR/USD volatility has declined to a steep discount versus G-10 and EM pairs (chart 3) given that the region has neither the external imbalances nor bond market positioning which sank so many other currencies as US rates rose.

Aside from Latvia EMU entry, 2014 looks like a **more-of-the-same year**, since Europe's current account surplus should remain large (euro positive) while Fed/ECB balance sheet trends reverse (euro negative). A different positioning backdrop inclines us to think the range is lower by a few cents, however. There will probably be pushbacks on this baseline view from the bears as well as the bulls. Euro bears tend to argue that the ECB will ease more aggressively to avoid Japan's decade of deflation and that the US bond market will price in much higher rates as the US economy accelerates in 2014. Euro bulls tend to say that the euro shrugged off higher US rates in 2013 and can do so again, in part because global investors are still underweight euro assets. No doubt each of these more extreme scenarios will have its month (or even quarter) at some point next year, but we doubt any will endure long enough to generate a significant trend. Hence the dull forecast but also a goal of continuing to trade the range tactically in *FX Markets Weekly* trade recommendations.

Biggest constant: current account

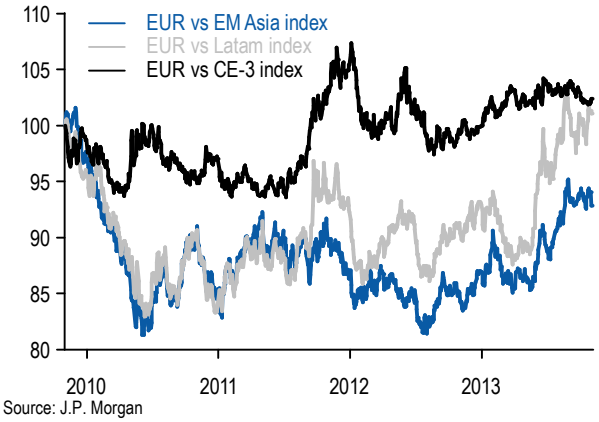
For the currency, the most impressive development in Europe outright and relative to the rest of the G-4 has been the region's balance of payments turnaround. Over the past two years Europe's current account surplus has risen from 1.5% of GDP to 2.2%. That sounds middling in absolute terms but is more interesting within the global context: only four countries' current account surpluses have risen over the past two years (Switzerland, Korea, Hungary, Philippines - chart 4); and Europe's improvement is twice as large as the US's, the country allegedly experiencing a structural

Chart 1: Versus rest of G-4, the euro has recouped all crisis losses
Currency performance vs euro indexed to 100 when EMU crisis began in Nov 2009



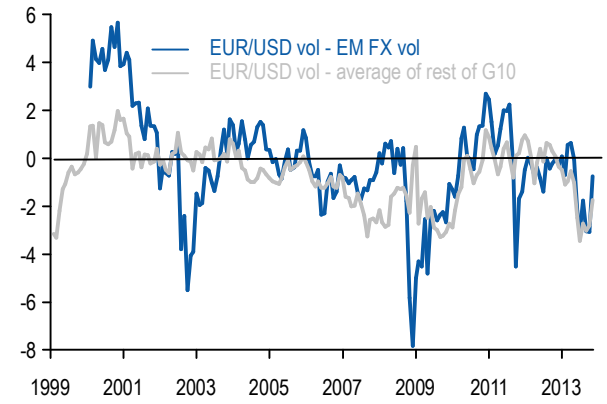
Source: J.P. Morgan

Chart 2: Versus EM, the euro is up on Latam and flat on Central Europe
Currency performance vs euro indexed to 100 when EMU crisis began in Nov 2009



Source: J.P. Morgan

Chart 3: EUR/USD vols trade at a discount to other pairs
Based on 3-mo implied volatility



Source: J.P. Morgan

rerating of its current account due to booming energy production (see *Global FX Outlook 2014* on page 14).

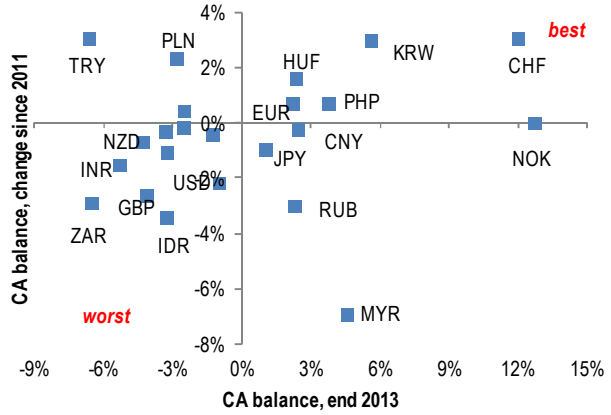
Europe's current account surplus could moderate slightly in 2014 but it would still remain high. Since the euro's inception two variables have explained most of the variation in Europe's external balance: the growth gap between the rest of the world and Europe (chart 5), and the euro's real exchange rate (chart 6). As a rule of thumb, the current account rises (falls) 0.5% for every 1% widening (narrowing) in the growth differential between the rest of the world and Europe. The balance improves (worsens) about 0.5% for every 10% fall (rise) in the real effective exchange rate lagged by two years (see *A few figures to explain and to question the euro's surge*, *FX Markets Weekly*, October 25, 2013).

Until mid-2013, both variables pointed to a rising current account surplus: the growth gap between the rest of the world and Europe had been trending wider, and the euro real effective exchange rate had been falling on a year-on-year basis. As an initial forecast for the surplus in 2014, it could fall by about 0.5% of GDP next year if the growth differential between the rest of the world and Europe compresses by 1% per the JPM forecast. (In 2013 the world ex Europe probably expanded at 2.7% while Europe contracted 0.4%; in 2014 the world ex Europe should expand 3.2% while Europe expands 1.3%). The currency's impact on the surplus is negligible since the lagged movement in the exchange rate will be close to zero over the 2014 forecast horizon. So despite the headline focus on EUR/USD's rise to the high 1.30s twice this year, the currency remains too stable on a long-term basis to trigger a negative feedback loop à la Japan in 2012. Recall that in Japan's case, currency strength worsened the balance of payments, in turn weakening the currency through some combination of a trade deficit and massive monetary easing to reverse deflation.

Biggest variable: Fed/ECB balance sheets

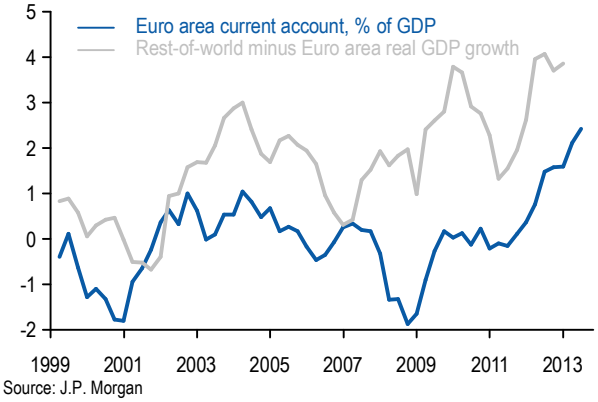
If Europe's surplus falls only slightly, the external balance will remain an underlying support for the currency until and unless US rates move higher next year, per the usual interaction between structural forces (current account) and cyclical ones (rate spreads). Again a simple regression combining the current account and rate spreads as explanatory variables highlights their relative importance. The currency rises (falls) 5% for every 1% of GDP improvement (worsening) in the current account balance, and rises (falls) about 3% for every 50bp shift in ECB versus Fed rate expectations.[8] So if the current account fell

Chart 4: Europe's BoP is one of the five strongest
Current account as percentage of GDP in 2013 (latest figure, x-axis) and change in current account since 2011



Source: J.P. Morgan

Chart 5: Europe's current account benefitted from a growth gap...
Euro area current account balance (% of GDP) versus difference between non-Euro area and Euro area real GDP growth (%)



Source: J.P. Morgan

by 0.5% of GDP and front-end spreads moved 50bp in the US's favour to reflect the FOMC's projections plus a more normal term premium, EUR/USD would fall about 5% (7 cents) to the high 1.20s in a year's time.

The forecast is put at 1.30. however, to reflect low confidence around how durably such repricing of Fed expectations would be in 2014, when the US too faces a low inflation problem and when the FOMC will be chaired by someone who will endeavour to distance the end of asset purchases from the onset of Fed tightening. Recall that for currencies, front-end rate spreads correlate more closely

[8] Based on a long-term regression relating EUR/USD's level to the current account balance (lagged one year) and Euro-US rate expectations (1mo rates 12mos forward). Quarterly data since 1999. Note that using 10-yr rate differentials in the model rather than front-end rates worsens the model's explanatory power. This result reflects the fact that front-end rates rather than long-end ones determine FX carry and motivate hedging decisions. A rise in long-end rates should only motivate investors who buy long-duration bonds unhedged, of which there are few. Even central banks, who hold their foreign reserves in unhedged fixed income, tend to focus on short-duration assets.

than long-end rates since the former determine the benefits from earning carry and the costs of hedging. So a rise in US 10-yr yields without a move up in Fed expectations or actual policy rates, is insufficient reason for bearish euro forecasts.

Alternatively, some prefer to think about EUR/USD as driven by trends in Fed and ECB balance sheets given the reliance on unconventional monetary policy in the post-Lehman era. In practice balance sheet models have worse explanatory power than rate-based ones since 2009, and are subject to more robustness issues given their shorter sample, so comments below are simply to pre-empt questions. EUR/USD moves 2% for every 10% increase in the Fed's balance sheet relative to the ECB's (chart 7). So if the Fed begins tapering in January and ends by September 2014, its balance sheet would probably reach $4.4trn, an increase of 10% year-on-year versus an unchanged ECB balance sheet. (The ECB's third LTRO in early 2014 will probably only see €50bn of demand given how much bank funding conditions have improved over the past two years). This balance sheet expansion implies 2% euro *appreciation*, so counter to message from rate models. We favour the signal from a rates model, however, since bonds will discount trends in the balance sheet over several years (i.e. shrinkage of the Fed's) rather than the near-term balance sheet expansion as the Fed tapers.

Pushbacks from the bears and the bulls

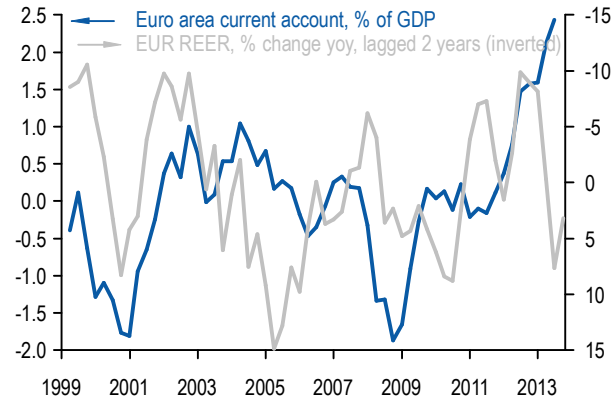
There will be several pushbacks around the baseline view from the bulls and the bears, including:

(1) Europe's deflation risk prompts dramatic easing from the ECB at a time when the Fed is lifting rates. We have been clear in previous research notes that European deflation would be a major liability for the euro, but only over the medium-to-long term (2015 and beyond) as the Fed normalises rates and cash rate spreads re-widened towards historical levels (chart 8). The caveats were that about half of this crossover was already discounted in the forwards (chart 9), and until US front-end rates displayed consistent momentum, Europe's current account surplus would stabilise the currency, like Japan's did when the global business cycle was too mediocre to promote the use of the yen as a funding currency (see *The challenge of very low inflation in the Euro area* and *The euro under a deflation scenario* both published July 9).

Naturally more easing from the ECB or quicker tightening by the Fed would hasten this crossover and the euro's decline, but responsibility for moving the spreads sits

Chart 6: …and a cheap currency

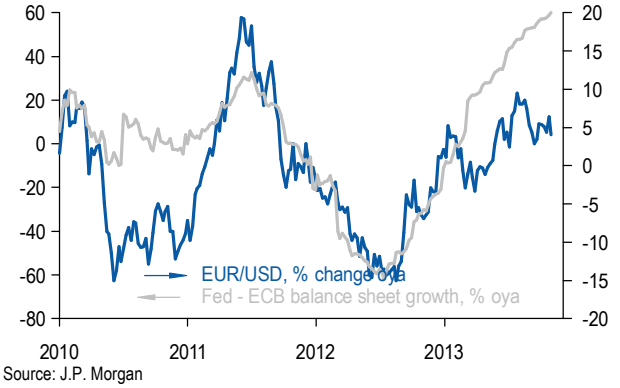
Euro area current account balance (% of GDP) versus change in the euro's real effective exchange rate lagged by two years



Source: J.P. Morgan

Chart 7: EUR/USD moves about 2% for every 10% change in Fed balance sheet relative to the ECBs

Fed versus ECB balance sheet growth vs EUR/USD change; both year-on-year



Source: J.P. Morgan

almost exclusively with the Fed over the next year. This is because the ECB probably has more tolerance for deflation than any other G-10 central bank owing to the political minefield of large-scale asset purchases. It also considers a negative deposit rate to be counterproductive, since banks would pass this tax to borrowers; considers another 3-yr LTRO at odds with its banking supervision mandate; and knows that further rate cuts from the current 0.25% policy levels are trivial. So as morbid curious as European deflation is, it isn't independently meaningful for the currency. The Fed will have a much easier time weakening the euro than the ECB would.

(2) The euro won't fall during 2014 Fed tapering for the same reasons it proved resilient to 2013 taper talk. The euro's resilience through the spring/summer 2013 taper talk was impressive – a range of 1.26 to 1.33 from May to September when 10-yr US rose by 140bp and the Treasury-bund spread widened by 60bp, indeed a period when the beta between EUR/USD and Europe-US rate spreads fell to almost zero. This pattern leads many to think tapering might

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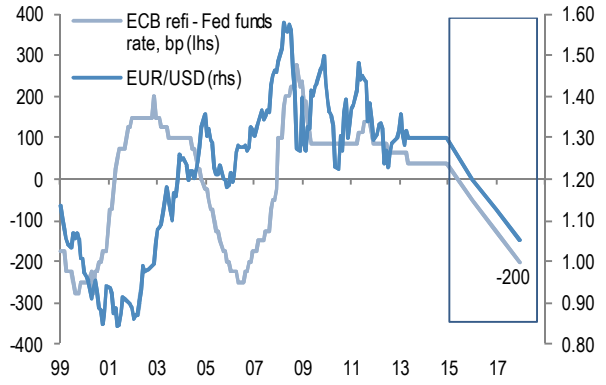
play out similarly, so euro stability rather than weakness. Certainly the persistence of Europe's current account surplus will be helpful, but two things have changed. First, European growth is no longer surprising to the upside as it did this spring, so there is less scope for European rates to keep pace with US ones. (And importantly, 2-yr US rates will finally begin to move in 2014 in expectation of the first 2105 Fed hike, rather than mainly the long-end selling off.) Second, macro accounts are no longer short the euro as they were this spring – accounts are flat the currency according to the latest IMMs – so there is no position skew to support the currency as US rates rise.

(3) International investors are still underweight euro assets, and their return to benchmark will strengthen the euro. This generalisation is quite a powerful if true, since even a modest return to benchmark against a sizable current account surplus would sponsor currency strength. The available evidence around positions and flows is mixed, however. Some fund manager surveys suggest that investors are their most overweight since 2007, whereas a position proxy J.P. Morgan constructs and updates weekly based on fund managers beta with relative equity performance suggests that international investors hold average exposure to the Eurostoxx.[9]

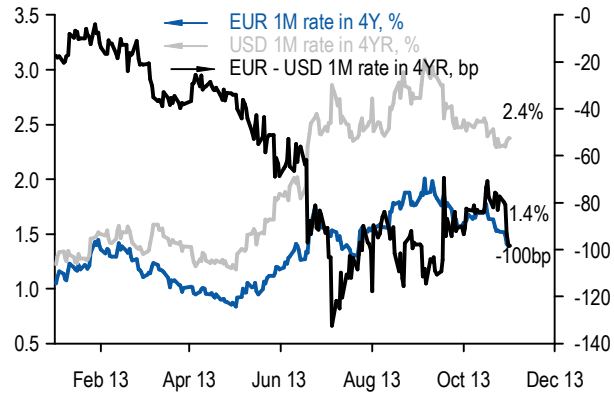
Another proxy for international investors' exposure to Europe is foreign buying of European stocks and bonds reported monthly in the ECB's balance of payments report. Non-resident buying of Euro area bond and equities indeed declined relative to trend during the EMU crisis (chart 9), but equity flows have reverted to their normal path. This figure supports the conclusion from investor surveys and the JPM-derived beta that equity investors are no longer underweight. Bond flows have not recovered, probably more due to reluctance of Japanese investors to return to European markets. Even when they do, the flow would probably have little impact on the currency since Japanese institutional investors would tend to hedge currency exposure when cash rates are so low.

Chart 8: Fed-ECB differential will approach historic wides by 2017
Actual and forecast ECB-Fed policy rate differential versus actual and forecast EUR/USD under a deflation scenario. Forecast horizon shown in box.



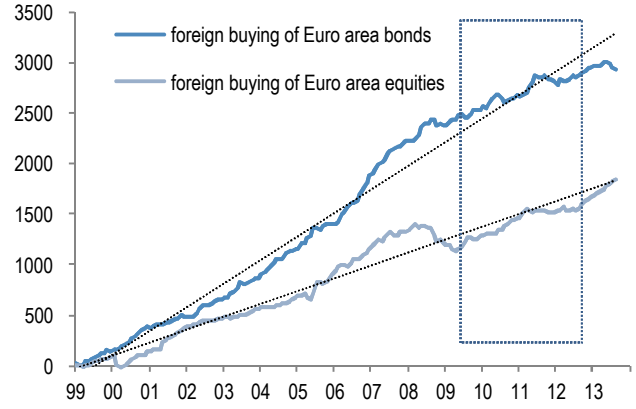
Source: J.P. Morgan

Chart 9: But half of this crossover is already discounted
1-month rates 4-years forward in Euro area and US



Source: J.P. Morgan

Chart 10: The EMU crisis dented foreign buying of European bonds more than stocks
Cumulative cross-border equity and bond buying by non-Euro area residents since EMU inception in € billion. Dashed lines show linear trend, and box shows EMU crisis 2009-12.



Source: J.P. Morgan

[9] In the weekly publication *Flows and Liquidity*, J.P. Morgan proxies fund manager positions as the rolling two-month beta of the average daily returns on the 20 biggest US-domiciled active equity funds against the daily relative returns of European and US equities. A higher (lower) beta indicates that US managers are more (less) exposed to European equities. The beta has ranged from about zero to 0.35 over the past decade, with the high in 2006 and the low during the EMU crisis. It currently stands at 0.2, so slightly higher than the long-term average of 0.15. For weekly updates, see chart A15 in *Flows and Liquidity*.

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Euro crosses: lower on most

The tougher questions around the euro's direction concern the crossrates, following an extraordinary year in which the euro outperformed all currencies globally except ILS. Such a sweep is unprecedented: since the euro's inception in 1999, any year in which the currency has rallied versus the dollar, it has also underperformed numerous high-yielding currencies such as AUD, NZD, Scandinavia and Latin America or CEEMEA. (Underperformance versus EM Asia has been less consistent due to Asian central bank intervention and recycling. Like this year's USD gains versus the rest of the world, the euro's outperformance speaks as much to the unimpressive business cycle in most emerging markets plus Australia, deflation in Sweden and policy unpredictability in Norway.

As highlighted in many of the currency articles elsewhere in this *2014 Outlook* – sterling on page 80, Scandinavia on page 92, emerging market on page 22 – euro gains on the crosses should be limited to currencies of countries still easing, so JPY and AUD. By contrast the growth and rate outlook is firmer in the UK, and should firm in Norway, Mexico and Poland, hence the bias for a lower euro on those crosses too.

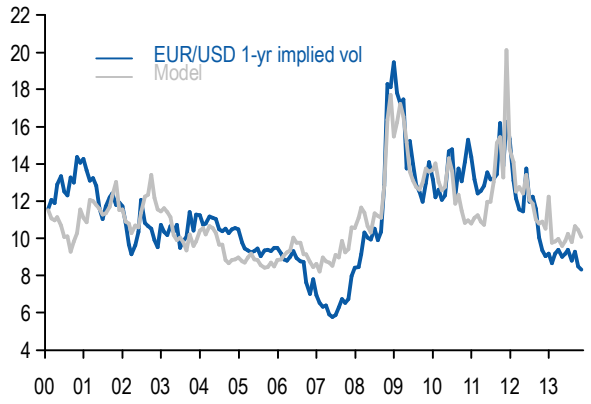
Euro vols: About 2 points too low

EUR/USD vols are historically depressed but a V-shaped reversal looks unlikely next year. As discussed in the *Global FX Outlook* on page 12, FX volatility appears too low in aggregate by about 1.5 points based on a simple model relating them to the global business cycle. Chart 11 presents a similar model for EUR/USD, relating 1-yr implieds to the volatility of the Euro area business cycle (measured by the vol of the composite PMI), sovereign stress (measured by average 5-yr peripheral spreads to Germany) and equity volatility. Current levels sub 8% are about 2 vol points too low – a substantial misalignment, but not as large as the 3.5 point underpricing that prevailed pre-Lehman.

A number of risk factors can trigger a correction (see below), but our baseline expectation for 2014 is for less than half of the valuation gap to close, with 1-yr ATMs trickling higher towards a 8.5-9.0 range over the course of next year. This modest vol strength will derive from some degree of mean-reversion from oversold extremes and the near-absence of risk premium in option prices, but hardly represents high drama. If we are right on our forecast of another range-bound year for spot next year, realized volatility should once again turn out to be disappointing, particularly when there is little natural speculative length in EUR that needs to be disruptively unwound in a shock.

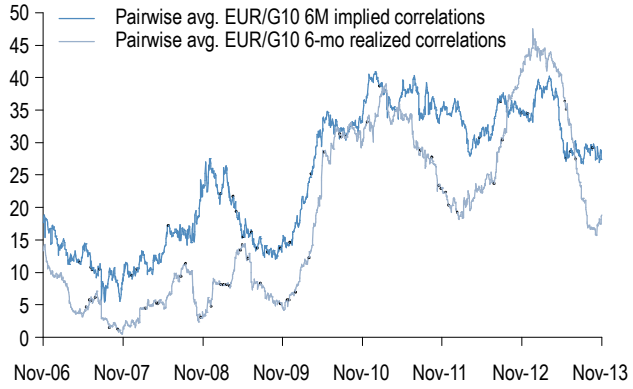
Chart 11: EUR 1Y ATM vols screen about 2 vols too low based on cyclical correlates

Actual versus predicted level of EUR/USD 1-yr at-the-money vol from regressing on volatility of Euro area composite PMI, average 5-yr sovereign spreads to Germany and equity volatility



Source: J.P. Morgan

Chart 12: EUR-based correlations have remained elevated and rich to realizeds even as other option-based measures of Euro-stress have compressed



Source: J.P. Morgan

Although EUR/USD vols have compressed to levels that price in little-to-no risk premium, one corner of the EUR option market that will still continue to offer risk premium earning opportunities next year is **EUR correlations**. While EUR/USD vols and skews have compressed to pre-EU crisis levels, EUR-based implied correlations continue to stay relatively elevated and rich to realized corrs (chart 12). 2013 witnessed the beginnings of normalization, sparked by the taper scare in the summer that boosted USD-spot/vols/corrs across the board and led to EUR/low-beta pairs de-coupling from their higher-beta brethren (e.g. EUR/USD mildly lower/sideways vs. EUR/EM higher etc). Absent European stress, euro-inertness should extend this trend of weaker EUR-based correlations in 2014. Short correlation trades to monetize this dynamic not only benefit from calm in the EU periphery, but are also not necessarily

exposed to – and in fact benefit from – US rate shocks that target USD-vols more than EUR-crosses.

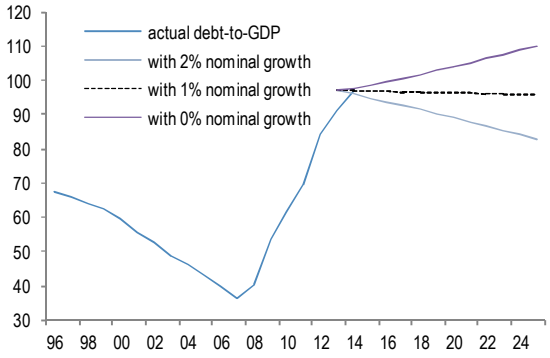
Risks to the view

What might prompt a re-alignment? The most significant bearish factors for the currency and bullish factors for vol are the following: (1) the Fed brings forward its first tightening to late 2014; (2) the ECB does whatever it takes to lift inflation, including negative deposit rates and large-scale asset purchases; (3) bank deleveraging ahead of the ECB's Asset Quality Review pushes the periphery back into recession; (4) bail-ins from the AQR revive financial market stress or (5) the Greek coalition falls and is replaced by a more radical government more opposed to the troika program. (This outcome is the political event most likely to revive EMU exit fears.)

Deflation also presents a slow-burn threat to the euro through sovereign creditworthiness, since falling prices can increase indebtedness by lowering nominal GDP. Chart 13 provides a simulation of how Spain's debt-to-GDP ratio could fail to decline if nominal growth were only 1% (assuming that borrowing costs and the targeted primary surplus were unchanged). Perhaps this risk to debt sustainability causes some investors to question whether 10-yr spreads in Italy and Spain should compress below 200bp in a deflationary environment. But this issue is unlikely to prove acute enough in 2014 to lead to a trend decline in the currency or a surge in volatility.

Chart 13: Debt-to-GDP projections are highly sensitive to nominal GDP assumptions

Hypothetical Spanish debt-to-GDP ratio under various assumptions about nominal GDP, but assuming a primary surplus of 3% and average borrowing rates of 4%



Source: J.P. Morgan

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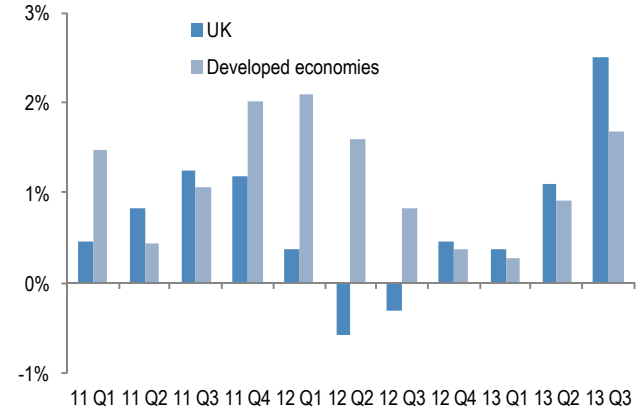
Research Note

Sterling: Up and running

- **The economy regained its mojo this year, so too GBP. Fears of a triple-dip, even more QE and safe-haven unwinds caused GBP to slump 7% in Q1 before a burst of economic growth in Q2-Q3 turned the policy debate on its head. GBP ends 2013 where is started.**
- **Forecasts for next year assume 2-3% appreciation in GBP (EUR/GBP 0.81) as robust economic growth remains a challenge to the BoE's dovish forward guidance and a support to GBP's forward interest-rate differentials.**
- **The monetary debate will crescendo in H2 as unemployment is on course to breach the BoE's 7% threshold in 3Q14. Policy uncertainty (will the Bank respect or fudge its guidance?) supports a case for owning GBP volatility through FVAs (the curve is relatively flat and with no risk premium).**
- **The UK rate curve already prices two hikes by end 2015, so the scope for a further uplift in rates and GBP from here is limited unless the BoE softens its guidance, or one or more policy knock-outs (inflation, inflation expectations, financial stability) is triggered.**
- **EUR/GBP is expected to test but not necessarily sustain a break of 0.80 on interest rate differentials. Upside for GBP vs USD is more modest as the Fed starts to taper, plus cable is now slightly overvalued from a long-run perspective (fair-value is 1.54).**
- **GBP typically appreciates by 2-4% in the year preceding the first BoE hike. Our 2014 forecasts are broadly consistent with this pattern (assuming a hike in 2015).**
- **Risks to our GBP forecasts are higher in H1 (even faster growth plus one-time M&A inflows) and lower in H2 (the BoE shifts the policy goalposts in a way that damages credibility; strong growth begets a marked deterioration in the current account).**
- **The referendum on Scottish independence on September 18 should pass without event as opinion polls show support for independence flat-lining at only 25% (albeit with 30-40% yet to decide).**

Chart 1: The UK economy stretches its legs
Real GDP growth, Q/Q, saar, %



Source: J. P Morgan

From sick-bed to running track

The performance and perception of the UK economy swung wildly this year, from one of the sick men of G10 to its star athlete. Having managed cumulative growth of only 0.8% through the whole of 2011 and 2012, the economy sprung into life with growth of 1.5% in the first three quarters alone, partly as a consequence of easier financial conditions (FLS reducing mortgage rates), confidence boosting policy measures (Help-to-Buy), and the release of pent-up consumer/business demand that had been held back by Euro area uncertainty. The good news continues with growth expected to accelerate to 3.5% in Q4 (Chart 1). Not only did growth accelerate outright, the UK outperformed other developed economies by the widest margin since before the financial crisis in 2008 (Chart 2). In fact the UK is now the only DM economy to be sustaining above-trend growth.

This abrupt reversal of economic fortunes was mirrored in a wild ride for GBP (Chart 3). First came a collapse, _-7% in Q1 on fears of a triple dip and a radical shift in BoE policy as a new governor prepared to take-over and the government was steering the BoE towards forward guidance (where the thresholds would emphasise growth and de-emphasise the UK's high level of inflation). Aggravating the decline was anxiety about a reversal of flight-to-quality investments in the UK. So intense was the pressure on GBP that the correlation between GBP/USD and EUR/USD broke down in a way rarely seen over the past 25 years (Chart 4). Then came the recovery, firstly as a consequence of Cyprus and then more substantively as a result of the revival in the economy. Crucially for the pound, this resurgence in growth coincided almost exactly with the BoE's adoption of unemployment rate-based forward guidance. A policy framework that was designed to lower and flatten the UK curve could only moderate, not prevent, a cyclical upgrading of UK rate expectations. Improved rate support means that GBP is ending the year unchanged.

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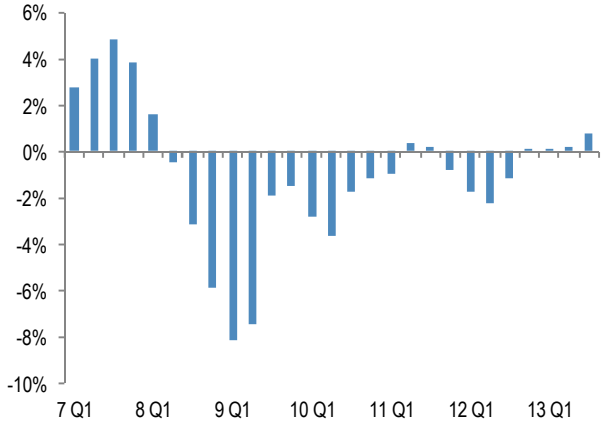
Chart 2: The UK economy is outperforming other developed economies by the widest margin since the financial crisis

UK – developed world GDP growth. 2Q/2Q, saar, %



Source: J. P Morgan

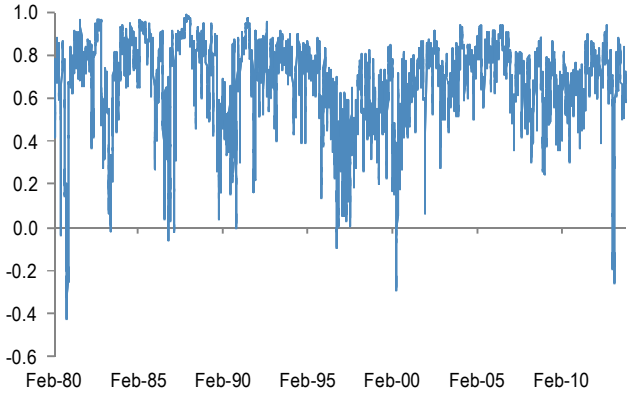
Chart 3: The rise and fall and rise again of GBP

GBP NEER

Source: J. P Morgan

Chart 4: The dominance of GBP-specific factors caused an almost unprecedented breakdown in the GBP/USD-EUR/USD correlation in Q1

Rolling 1-month correlation between GBP/USD and EUR/USD, daily % changes



Source: J. P Morgan

Will growth stick and will the BoE care?

Interest-rate based models continue to do a relatively good job of explaining the performance of the pound - the 1Y R-squared from these model is 70% for EUR/GBP and 60% for cable (Chart 5). We expect that this will remain the case next year as well, so the dominant questions for the GBP outlook are: 1) does the economy have the staying power of a Mo Farah, or Usain Bolt?; and 2) if the recovery does indeed have stamina, how will this effect monetary policy and the expectations for policy under a forward guidance framework? Our economists are upbeat on next year, in part due to a pick-up in business investment, and believe that growth will track close to a 3% rate throughout the year.

The UK is very much at the leading edge of the policy experiment that is forward guidance because the strength of the economy is posing the stiffest challenge yet to the credibility of an implicit multi-year commitment not to hike interest rates. Forward guidance works well enough when growth is weak, and even perhaps when growth is weak and inflation is high (as was the case in the UK for a number of years). But whether a central bank can convince the markets that it will, or indeed should, keep policy unchanged in the face of a sharp acceleration in growth and a rapid tightening in the labour market is another matter.

The debate about UK monetary policy will crescendo in H2 next year when we believe that unemployment will breach the BoE's 7% threshold sometime in Q3. The most bullish scenario for GBP would be for the BoE to welcome the fact that the economy was healing quicker than it had anticipated and to acknowledge that rates would also need to rise over a shorter time-frame (in other words, to honor the state-contingent nature of its guidance framework). The worst-case scenario would be for the BoE to move the goal-posts -- to lower the unemployment threshold or even to switch to a different gauge of slack - to enable it to maintain the implicit-calendar guidance of no rate increases until 2016.

We suspect the BoE will try to muddle through – it should be clear enough that the MPC simply does not want to hike rates for quite some time (the BoE is already casting doubt on the unemployment rate as the best measure of slack, barely three months after choosing to run with it), yet at the same time the Bank will be wary of undermining the credibility (and therefore effectiveness) of forward guidance by arbitrarily altering the thresholds just because it seems that these will be challenged.

Our central scenario is thus one in which UK interest rates will become a little more supportive for GBP next year, as the economy continues to deliver 3% growth, but forward rate differentials are unlikely to improve substantially as the Bank signals its unwillingness to be rushed into rate hikes.

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The upside for market rates is further constrained by the current steepness in the curve, whereby Sonia forwards already price two rate hikes by the end of 2015. A much steeper curve would probably require a greater risk of one or more of the knock-out clauses for forward guidance being trigged. Of these (inflation, inflation expectations and financial stability) the most relevant is likely to be financial stability should the housing market step up another gear or two and lift house price inflation into double-digits. But even then we doubt whether this would be sufficient to trigger materially earlier rate increases; instead, policymakers are likely to look towards macro-prudential controls to deal with the real estate consequences of cheap money (the government, for instance, has charged the BoE's Financial Policy Committee with annual oversight of its Help-to-Buy scheme).

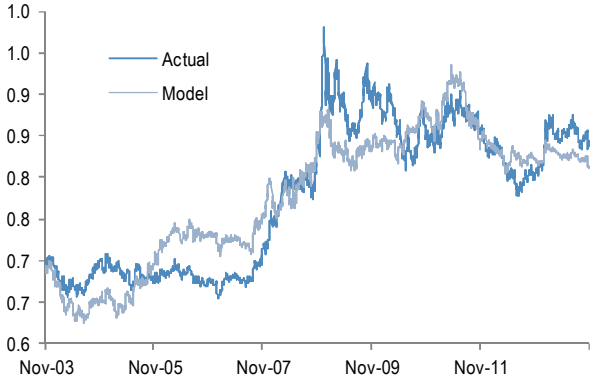
History shows that sterling tends to perform moderately well in the year leading up to the first rate hike in the cycle. The average gain over the last six cycles was 2% versus the euro (or Deutsche Mark) and 4% versus the dollar (Charts 7 and 8). Thus even if the BoE is forced to yield to the recovery and prepare to tighten in 2015, our forecast for modest sterling appreciation next year is not so far out of line with the typical performance in the lead-up to such a tightening. Of course, each cycle is different and the range of GBP's performance in the year before the first hike ranges from -3.7% in 2004 to +7.5% in 1996 (measured against the EUR or DEM).

Policy experiment supports volatility

The potential for conflict between the Bank's dovish forward guidance and a rapid improvement in the labour market that eventually starts to lift underlying price pressures is an argument in favor of greater interest rate and FX volatility through the second half of next year,

Chart 5: EUR/GBP is well explained by rate differentials. A move to 0.80-0.81 seems reasonable next year, but a break below will be difficult without FG being softened or knocked out

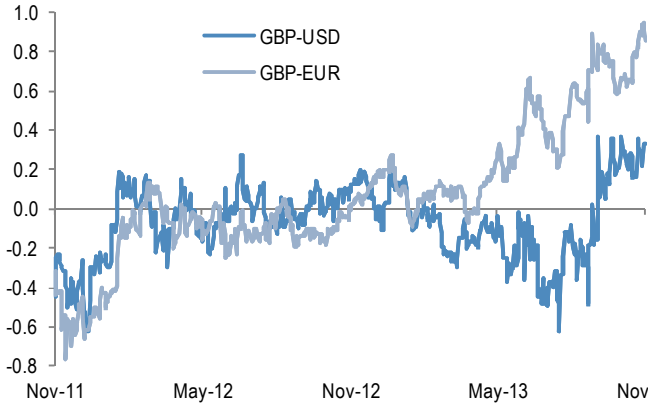
EUR/GBP = 0.8540 + 0.086 (2Y EUR-GBP swap) – 0.002 (avg 10Y Spain and Italy spread vs Bunds). R2 = 83% over 10Y. SE = 0.036



Source: J. P Morgan

Chart 6: BoE forward guidance has tempered rather than prevented a cyclical upgrade in GBP's forward rate differentials

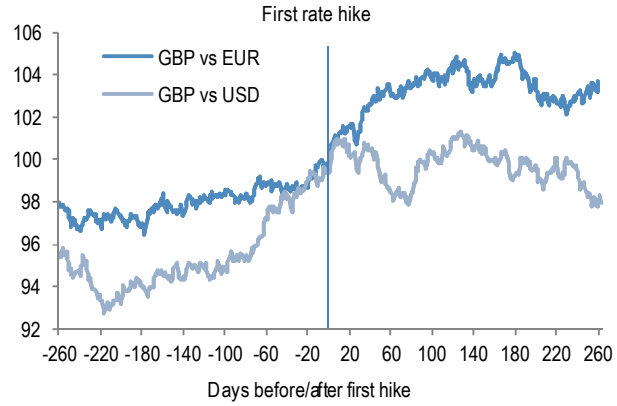
1-month forward OIS, end-2016, %



Source: J. P Morgan

Chart 7: GBP typically appreciates by 2% vs EUR and 4% vs USD in the year before the onset of a BoE rate hiking cycle

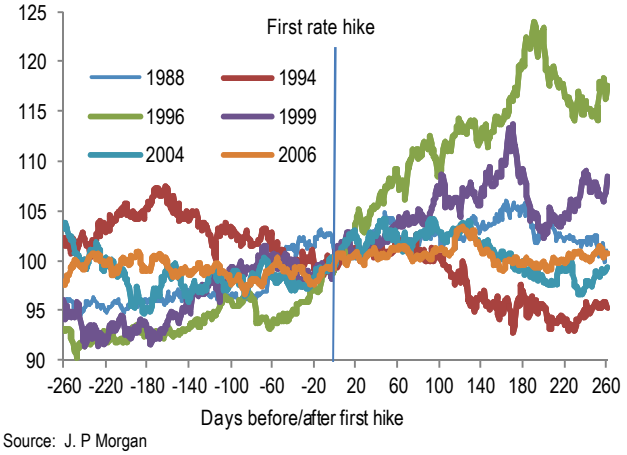
Performance of GBP in the year before and after the first rate hike. Average of the last six rate hiking cycles (1988, 1994, 1996, 2004 and 2006).



Source: J. P Morgan

Chart 8: But each cycle is different – the best/worst performance varied by 11% in the year before and 21% in the following year

Performance of GBP versus EUR in the year before and after the first rate hike. Average of the last six rate hiking cycles (1988, 1994, 1996, 2004 and 2006).



Source: J. P Morgan

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especially as the unemployment rate nears 7%. The Bank would doubtless continue to stress that 7% is a threshold to consider tightening, not a trigger, and it could probably get away with this without a market backlash so long as there were no evidence of a rise in underlying price pressures through wages. But if the rapid fall in unemployment were to eventually lift wage growth, the Bank would have a harder task controlling the yield curve as investors would start to fret about a possible policy mistake and the potential for the Bank to have to correct this by raising rates relatively sharply (low-for-long being followed by higher-in-shorter).

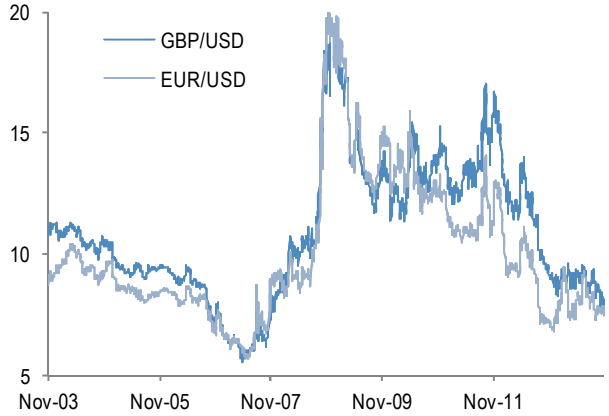
The fact that the BoE seems intent on pushing the short-term growth-inflation trade-off is, in our opinion, a supportive factor for longer-term interest rate and FX volatility, especially given the UK's uniquely poor track record on inflation. The inflation and interest rate risks inherent in such a policy experiment are not adequately reflected in the current, historically very low level of longer-dated GBP volatility (Chart 9). Our preferred way to own GBP vega is through an FVA, for instance a 1Yx6M, which because of the relatively flat volatility curve involves very little cost of carry (currently 0.13 points over 6-months). The flattish curve is at odds with the policy uncertainty surrounding cable, not only from the lack of clarity about how the BoE would respond to its threshold being breached, but also from US developments (tapering and a continued fall in the US unemployment rate).

The main risk to lower volatility comes from a modest slowdown in growth that keeps unemployment above 7% (hence no risk to BoE credibility) but without resurrecting the possibility of further QE. Owning GBP volatility is akin to a barbell trade on the UK economy, one which should benefit from either too much or substantially too little growth. GBP volatility can also be seen as a proxy measure of the market's confidence in the existence of a more benign growth-inflation trade-off, and the BoE's ability to steer the economy on the right-side of this trade-off.

Current account deterioration offset by stronger long-term capital inflows

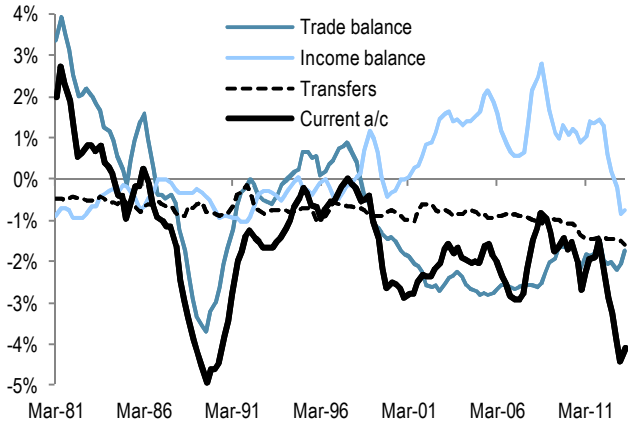
Inflation is not the only potential speed-bump for the economy and GBP. The UK's external position is a source of perennial concern, especially given the failure of a number of potentially supportive developments to make material inroads into the deficit, namely GBP's extremely large depreciation in 2008/09 and the relative weakness in UK domestic demand since then. Indeed, the current account has worsened in recent quarters to nearly the highest on record (4.1% of GDP in the past four quarters - Chart 10). While all of the deterioration over the

Chart 9: The potential challenge to the credibility of forward guidance from sustained fast growth is not adequately reflected in longer-dated GBP/USD volatility.
1Y ATMS implied volatility, %



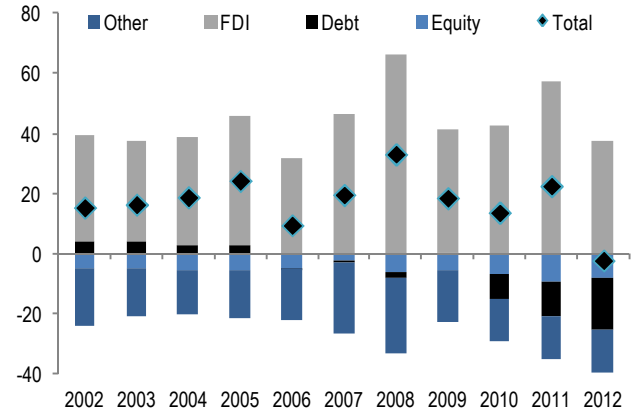
Source: J. P Morgan

Chart 10: A near record current account deficit, in large part because of rapidly falling net investment income
% of GDP, 4Q sum



Source: ONS

Chart 11: The UK now runs a deficit on investment income
GBP bn, 4Q sum



Source: Pink Book

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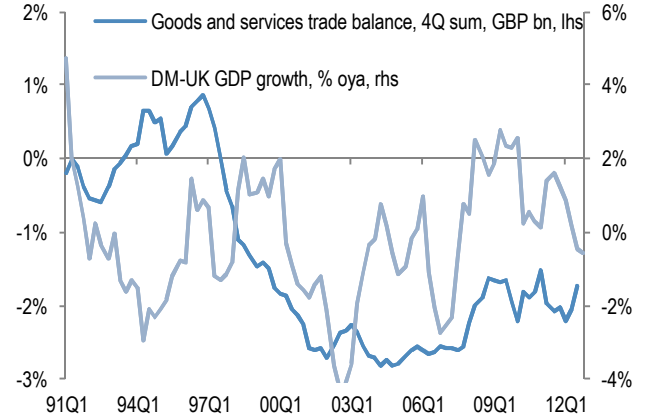
past year (1.3% of GDP) is due to a slump in investment income rather than a worsening in trade (Chart 11), this nevertheless means that the external balance is not well placed to withstand a period of strong domestic demand that could drive accelerated import growth (Chart 12). It would also be optimistic to assume that the deterioration in investment income will be rapidly reversed: 1) The growth in global corporate profitability is relatively weak, which is likely to cap any rebound in income from overseas FDI (this is the single biggest component of the income balance); and 2) there is a fairly clear trend towards larger deficits in income from portfolio and other investments (the downside to foreign appetite for UK assets). The UK, it seems, may no longer be able to rely on overseas investments to deliver the sort of income boost it has enjoyed in past years (1-2% of GDP). If not, then either other parts of the current account will need to shrink or foreign investors will be required to fund a larger overall deficit, either of which may necessitate a modestly weaker long-term exchange rate.

Over the coming year, however, we are not overly concerned about the adverse impact of the large current account deficit on GBP. The reason: long-term investment inflows, more specifically FDI, have risen in line with the deterioration in the current account, preventing the overall basic balance from worsening (Chart 13) At a 1.7% of GDP the basic deficit is somewhat smaller than the average over the past decade (2.9% of GDP) and should be well within the capacity of the UK to fund with short-term capital inflows given the outperformance of the UK economy and the increase in GBP interest rate differentials.

Another reason not to fret about the UK's overall balance of payments position is the large, one-time capital inflows that are likely to result should the Vodafone-Verizon deal be approved by shareholders in Q1 (the third-largest UK cross-border M&A transaction in history).This is a $130bn deal, of which $84bn is due to be returned to Vodafone shareholders in the form of cash ($24bn) and USD-denominated Verizon shares ($60bn). It is impossible to say how much net GBP-demand may result from Vodafone shareholders selling or hedging their USD-exposure, but even if it is only one-half of the total consideration, this could provide one-time funding for roughly 40% of the UK's current account deficit. The likely concentration of any such GBP demand in Q1 is reflected in our forecast profile which front-loads the appreciation we expect for the year. Analysis of sterling's behavior around the time of the largest ever UK cross-border M&A transaction, Vodafone's 2000 takeover of Mannesmann for €175bn, indicates that GBP only weakened once the deal completed rather than when it was announced. If anything, GBP strengthened versus fundamentals following the announcement, only for the overvaluation to disappear rapidly shortly after the deal completed (Chart 14).

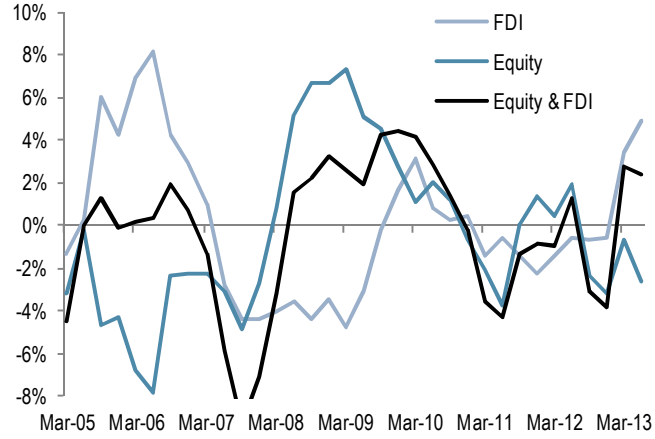
Chart 12: Fast UK growth may weaken the trade position somewhat



Source: J. P Morgan

Chart 13: Long-term investment inflows are at a three year high

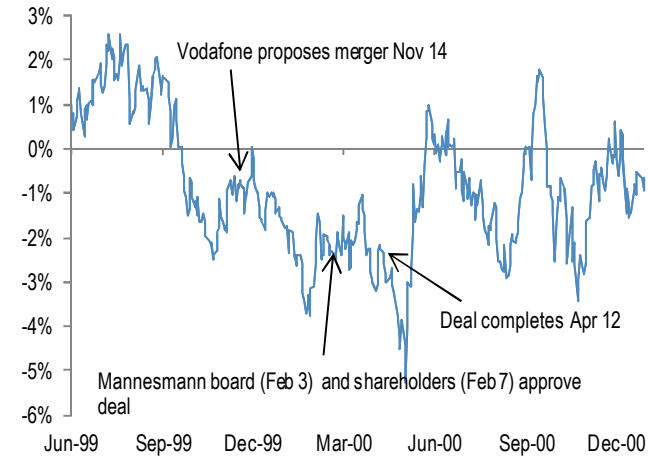
% of GDP, 4Q sum



Source: J. P Morgan

Chart 14: Gauging EUR/GBP impact from Vodafone's €175bn takeover of Mannesmann in 2000. GBP actually strengthened vs fair-value when the deal was announced, only to fall back sharply once the deal completed and equity flow-back began in earnest.

Deviation of EUR/GBP from its high-frequency fair-value model, %



Source: J. P Morgan

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Research Note

CHF: Stalemate

- **Inflation is too low to force the SNB to abandon the FX floor, yet growth is too high to justify raising it. The policy status quo is expected to prevail in 2014.**
- **Inflation pressures will edge up from very quiescent levels but nevertheless remain comfortably below the SNB's 2% limit for price stability, probably into 2015.**
- **The economy will continue to do well as stronger exports augment robust domestic demand (circa 2% GDP in 2014). The SNB would struggle to motivate a further easing in policy through raising the floor in EUR/CHF when growth is at or above trend.**
- **Housing market and credit trends remain too strong for the SNB's comfort, even with the slight moderation seen in recent quarters, which also argues against further easing. But additional capital requirements, not higher rates, would be deployed should real-estate become more exuberant.**
- **Without a shift in policy EUR/CHF is expected to remain range-bound. Topside continues to be capped by a positive balance of payments position, as the franc's strong performance this year attests to despite the hype surrounding safe-haven outflows.**
- **Evidence of safe-haven repatriation is mixed – there are fewer foreign deposits at Swiss banks yet increased foreign custody holdings of CHF securities.**
- **The current account position remains strong at 12% of GDP. The trade surplus posted yet another record high in 2013 while investment income is rising sharply, now two-thirds of the entire current account surplus.**
- **A stronger global economy has lifted FDI outflows. These are the main capital flow counterweight to the current account surplus.**
- **The SNB has a long wait before either ECB or Fed policy generates the kind of rate differential needed to lift EUR/CHF materially away from the floor.**
- **Trades opportunities in CHF next year are centered on: 1) trading the range extremes in EUR/CHF; 2) fading intermittent richness in the EUR/CHF skews; and 3) fading spikes in the USD/CHF-EUR/USD vol spread.**

Inflation too low to force a removal of the floor, growth too strong to justify lifting it

Depending upon one's point of view the Swiss franc glass was either half full or half empty this year. From the SNB's perspective this was a much better year, in that EUR/CHF edged away from the floor and no further FX intervention was needed to defend the 1.20 level (intervention totaled 31% of GDP in 2012). But on the other hand the franc failed to weaken as substantially as many assumed it would when faced with a possible exodus of safe-haven investments from Switzerland and Fed tapering. Indeed, the franc is the third best-performing G10 currency this year, outperforming all other safe-haven currencies into the bargain.

The outlook for next year is not too dissimilar from this. Our forecast assumes a relatively tight range in EUR/CHF as the SNB maintains the 1.20 floor and the balance of payments position remains in relative equilibrium -- a strong current account surplus, balanced portfolio flows, heavier outward FDI by Swiss companies seeking global growth but still only very uncertain short-term flows (some removal of the safe-haven money parked in Switzerland haven but no suggestion of a move out of CHF securities by either resident or non-resident investors).

The dominant issue for the franc of course remains the SNB's FX policy and here we see no compelling catalyst for the central bank to change the 1.20 floor through the course of 2014. Inflation, even though it may rise towards 1.0% by year-end and into 2015 as the output gap closes and the one-time disinflationary effects of currency depreciation fade, will be too low still to motivate tighter policy. This would require CPI to move much closer to the 2% threshold for price stability, probably nearer to 1.5%. In a recent note we examined the prospects for inflation and monetary policy from an output gap and Taylor Rule perspective.[10] This concluded that while the Taylor Rule policy rate was already rising, the bar for an actual hike in policy rates was much greater for Switzerland than for other countries because of the explicit link the central bank has drawn between interest rates and FX policy. If the franc cap is withdrawn once the SNB starts to hike rates, as the SNB has indicated it will, chances are that the first hike will occur later than would otherwise be the case.

But while inflation is too low to justify a tightening in policy, economic growth is too strong to justify the SNB raising the floor from 1.20 (Charts 2 and 3). The economy has already done considerably better than the SNB expected it would this year (growth near 2.0% compared to the

[10] *Gauging price pressures in Scandinavia and Switzerland*, Brun-Aguerre, Meggyesi and Bassi, September 9, 2013

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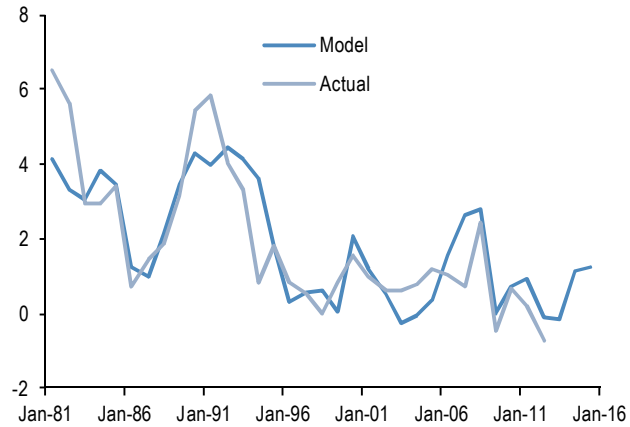
SNB's initial projection of 1.0-1.5%) and the outlook is for a similar, if not slightly better, outturn next year as export demand augments robust domestic demand (the latter is the corollary to the SNB's zero rate policy and a booming housing market). We will never know how the Swiss economy would have performed had the SNB not imposed its cap on the franc. But the fact that the economy can cope this well with an exchange rate in the low 1.20s does tend to undermine the widespread notion that the franc is still substantially overvalued and needs to weaken further.

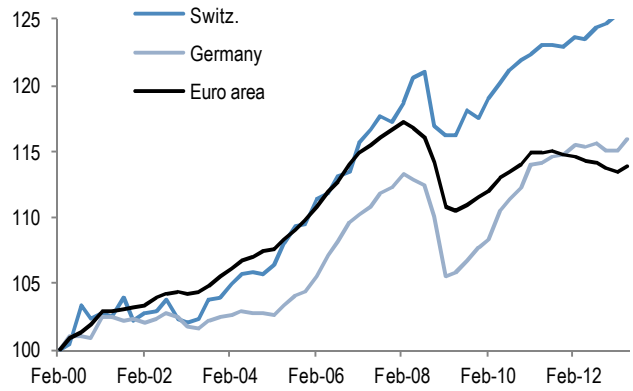
Another constraint on any further policy easing is the strength of the housing market and mortgage lending. There are signs that both are moderating slightly, potentially in response to the quarter-point increase in long-term mortgage rates and the introduction of the 1% counter-cyclical capital effective September 1, but these are insufficient for the SNB to signal the all-clear. The growth in mortgage lending has eased from 5.4% at the start of the year to 5.0%, while house price dynamics are somewhat more mixed (SNB data shows that the change in the price of owner-occupied apartments has fallen to 3.2% from a peak of 6.3% in 2012 while single family houses have accelerated to 5.0% from a low of 3.1%). In all it is hard to argue that housing will justify or force a change in FX or liquidity policy in either direction. The current super-abundant liquidity and still very low interest rate environment militates against a hard-landing that might open the way for, or indeed require, outright easing. Yet at the same time the moderation in house price inflation and credit growth takes some of the sting out of the fears of a housing bubble. And in any case it is clear that the SNB would respond to renewed momentum in housing not with a tightening in liquidity or interest-rate policy but rather a further turn of the macro-prudential screw (i.e. an increase in the counter-cyclical capital buffer from 1%).

Chart 1: CPI to remain too low in 2014 to require a change in policy
Swiss CPI, % oya, actual and predicted using an output-gap based Phillips curve model



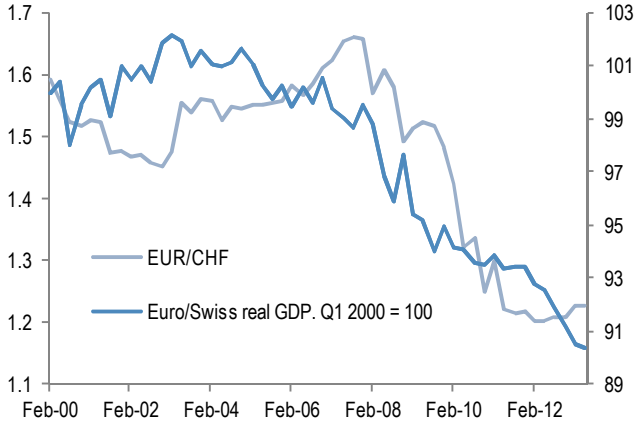
Source: J. P Morgan

Chart 2: But the economy is too strong to motivate an easing in policy through an increase in the 1.20 floor
Real GDP. Q1 2000 = 100



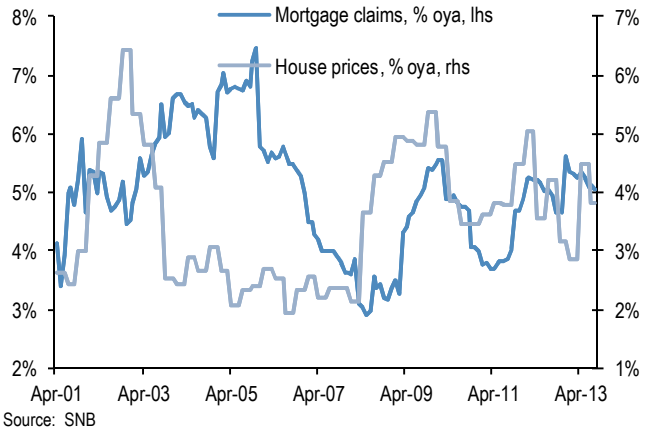
Source: J. P Morgan

Chart 3: The persistent economic divergence between Switzerland and the Euro area economy continues to cast doubt on the long-term suitability/sustainability of a CHF link to EUR



Source: J. P Morgan

Chart 4: Housing and credit trends are too strong still for the SNB's liking, even if there are some signs of gradual moderation



Source: SNB

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Balance of payments trends – strong current account, heavier FDI outflows, uncertain short-term flows

In the absence of a change to SNB policy the franc's performance will continue to be driven by the fundamental influences on external flows, both commercial through the current account and financial through the full spectrum of capital flows. As with this year, we expect these flows to be more or less in balance near the current exchange rate. The current account remains the core source of support for the franc (12% of GDP), which provides a fairly sizeable cushion against capital outflows, be they FDI, a reversal of safe-haven activity or a possible resumption of the CHF carry trade. Table 1 sets out the main components of the current account and how these are evolving – material developments over the past year include yet another record surplus on merchandise trade despite the perennial concerns over currency valuation (Chart 5), as well as a strong rise in net investment income courtesy of Switzerland's unrivaled external balance sheet (net foreign assets are 130-140% of GDP). Indeed, investment income now accounts for two-thirds of the current account surplus.

Turning to the capital account and the main point of differentiation between our view and the more bearish consensus (consensus forecast for EUR/CHF end-2014 is 1.26) concerns the extent of possible short-term outflows from Switzerland through a reversal of flight-to-quality activity. We do not doubt that safe-haven inflows were a major contributor to the franc's gains in 2010-2011 and necessitated part of the SNB's massive FX intervention in 2012. But as we have set out before we believe these safe-haven inflows were a secondary source of demand for the franc. The more significant element, rather, stemmed from the unwind of the Swiss carry trade, i.e. overseas participants repaying or hedging their CHF liabilities. If the latter did indeed dominate it would mean there is less of an overhang of long CHF positions that could be reversed, and less scope, therefore, for the franc to weaken as the healing process in the Euro area continues. This narrative, of course, is broadly consistent with the post-August 2012 performance in which the franc has appreciated against the other safe-haven currencies (10% vs NOK, for instance).

What is the empirical evidence on safe-haven flows - are they reversing and if so to what extent?

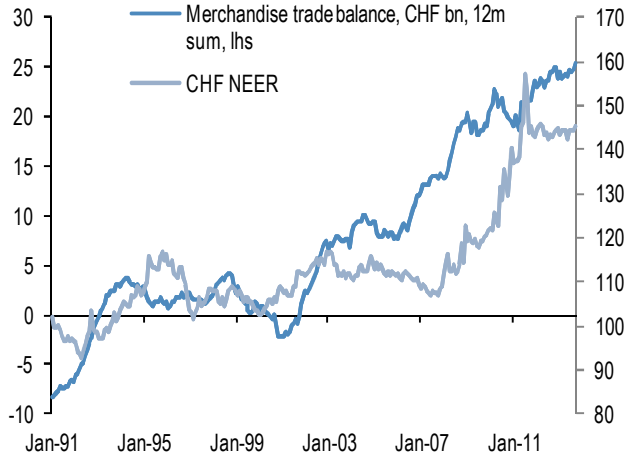
1) CHF-denominated foreign liabilities of Swiss banks have fallen by just under 20% or CHF 35bn from their peak. These liabilities are closely correlated with Target-2 imbalances in the Euro area and serve as a reasonable proxy for the direction and scale of short-term foreign capital flows (Chart 6). Franc bears will point to the possibility that a further CHF 60-70bn

Table 1: The structure of the Swiss current account. Two-thirds of this represents investment income, the flow consequence of Switzerland being the world's largest net foreign creditor. The shrinkage in the financial services industry is being absorbed

CHF bn	2007	2011	2012	4Q to 2013:Q2	Change in last 4Q	Share of current a/c
Current account	46.6	75.7	66.3	72.1	10.6	
Trade in goods	9.4	11.9	15.5	17.7	3.6	25%
Trade in services	45.5	52	41.2	40.6	-1.4	56%
Of which: Financial services	21	14.5	13.5	13.6	0.2	19%
Income	3.1	25	21.6	28	11.9	39%
Of which: Investment income	15.6	40.4	29.6	46.4	13	64%
Transfers	-11.4	-13.3	11.9	-14.3	-3.5	-20%

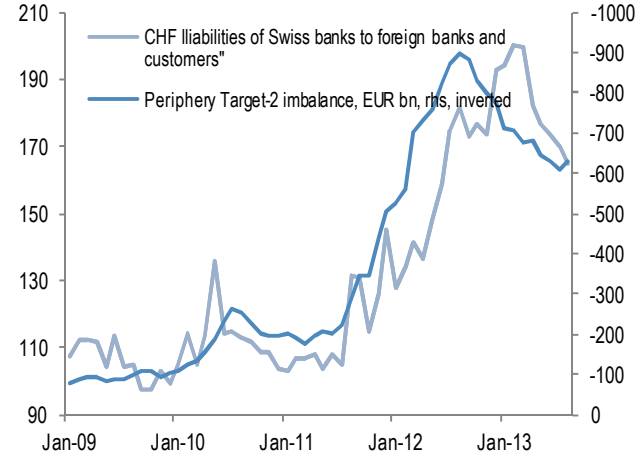
Source: SNB

Chart 5: Another year, another record merchandise trade surplus



Source: SNB; J.P. Morgan

Chart 6: A relaxation of Euro stress has resulted in some repatriation out of Switzerland - the CHF-denominated liabilities of Swiss banks to foreign banks and clients have dropped by CHF 35bn or 17% from their peak, tracking the fall in Target-2 imbalances



Source: SNB; Bloomberg; J.P. Morgan

could yet flow out (10% of GDP) before foreign liabilities are back at pre-crisis levels. Perhaps, but the pace at which Target-2 imbalances are normalizing is now slowing (€70bn in the past six months versus €191bn in the preceding six-month period). At the current pace it would take over three years to complete the process, a time-scale that is unlikely to present a major threat to the franc (10% of GDP spread over three years would absorb only one-quarter of the annual current account surplus).

2) By contrast to these short-term outflows, the custody data of Swiss banks shows that the foreign demand for CHF securities has actually been increasing, not decreasing, over the past year (SNB data on custody assets held in custody at Swiss banks - Table 2). Indeed, not only have foreign clients of Swiss banks increased their absolute custody holdings of CHF-securities by CHF 140bn since the August 2012 OMT announcement, they have upped the proportion of total assets held in CHF by 2 ppt of total assets to 35.4%. There is no evidence from this database either that Swiss investors are switching from CHF to FX assets – their proportion of custody assets denominated in CHF has been steady since 2011.

That there is an absence of overall capital flight through portfolio flows is corroborated by balance of payments data -- net bond and equity flows were in balance over the past four quarters (Chart 7). Where Switzerland is suffering a drain of capital, however, is through FDI as Swiss companies respond to a global economic recovery by ratcheting up the scale of outward investments. The net FDI outflow reached CHF 46bn in the last four quarters, or nearly 8% of GDP, which was sufficient to offset two-thirds of Switzerland's current account.

It is not unreasonable to expect FDI outflows to accelerate next year in line with an anticipated improvement in global growth. However, it is uncertain by how much FDI will increase from here given that the current level of outward investment is already quite elevated relative to the still mediocre rate of global growth (Chart 8). Moreover, the improvement in growth next year will be less than earth-shattering. In all, while FDI has been stronger this year than we anticipated, we are cautious about extrapolating from this to a materially bigger outflow next year that has the capacity to exceed the current account and depress the franc outright (Chart 9). Our central scenario, rather, is that Switzerland will continue to run a modest basic balance surplus worth a few percent of GDP, which all else equal should help to anchor EUR/CHF in the low 1.20s.

The other relevant capital flow issue for the franc concerns the possible resumption of short-term capital outflows

Table 2: But the evidence regarding widespread repatriation is not compelling. The custody clients of Swiss banks have increased their holdings of CHF denominated assets over the past year. The increase is most pronounced with foreign clients.

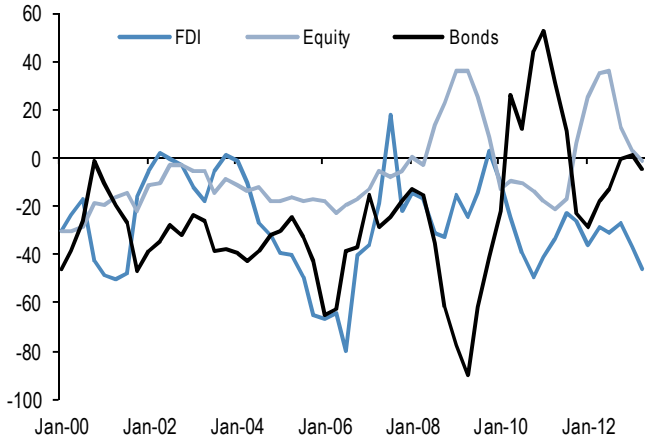
Securities held in custody at Swiss Banks.

	Custody assets denominated in CHF		
	All clients	Foreign clients	Swiss clients
% level, end of period			
2009	46.4	32.3	64.0
2010	48.5	33.5	66.0
2011	48.1	32.5	65.4
2012	48.3	33.3	65.1
Aug-13	49.7	35.4	65.4
Change, CHF bn:			
1Y	239	141	98
2Y	382	206	177
3Y	294	133	161

Source: J.P. Morgan

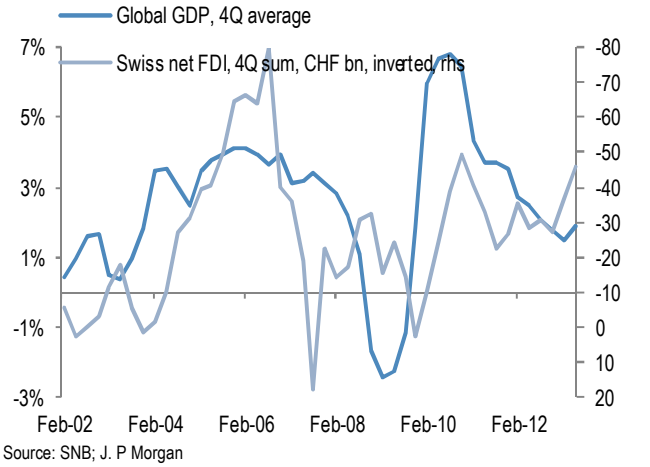
Chart 7: Equity and bond flows are in balance. The main source of long-term capital outflow is through the FDI account

Swiss net capital flows, 4W sum, CHF bn



Source: SNB; J.P. Morgan

Chart 8: FDI outflows fluctuate with the global business cycle, but are somewhat too high relative to still relatively mediocre growth



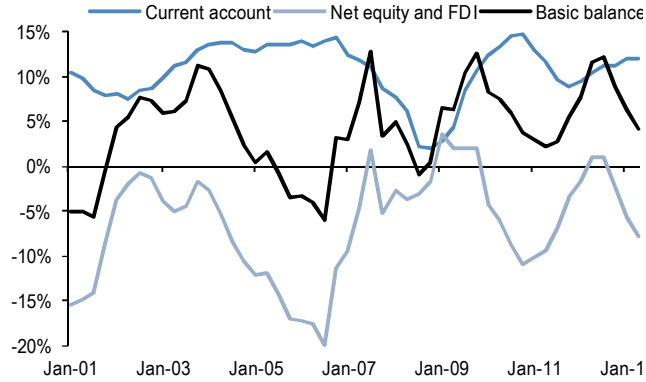
Source: SNB; J. P Morgan

through a revival of the Swiss carry trade. The market has been intermittently focused on this possibility throughout the year, notably as a consequence of the hopes/fears about Fed tapering, which in May resulted in sizeable speculative selling of CHF versus USD (USD/CHF carries slightly better than EUR/USD) and a marked outperformance of USD/CHF versus EUR/USD in both spot and volatility terms (charts 10 and 11). Indeed, the 1-month beta between daily changes in USD/CHF and EUR/USD fell to its lowest ever level of -1.7% at the height tapering anxiety in May, before moderating to a unit elasticity following the September non-taper. The corollary to this mini-revival of the CHF funding trade was of course that EUR/CHF volatility rose (3-mo implied was 3% in January and 6.75% in May) while the 3-risk-reversal richened for EUR/CHF calls (3-mo 25 delta from 1% in January to 1.9% in May) even though the market appeared to abandon hope at that time of the SNB raising the 1.20 floor (an expectation that the floor could be raised had supported both volatility and the skew ever since the floor was first implemented in September 2011).

Despite the drama in May, the subsequent failure of USD/CHF to sustain its gains should serve to demonstrate that tapering alone will not suffice to resurrect and sustain the franc carry trade – this will require actual policy tightening from either the Fed or the ECB and wider short-term rate differentials that once again encourage participants to fund themselves in CHF (Chart 12 plots the risk-adjusted carry on EUR/CHF and USD/CHF – current levels barely register in a historical perspective). USD-CHF rate differentials could come into focus in late 2014, as the market anticipates the Fed hiking in 2015 but that presupposes Yellen does not substitute an easing through tapering with an easing through more assertive forward guidance that pushes the first rate hike into 2016 and maybe beyond.

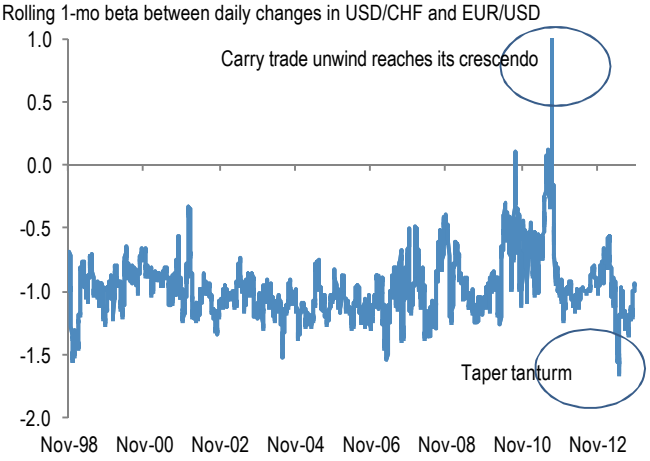
As for EUR/CHF there now seems no realistic prospect of EUR-CHF rate differentials widening for at least two years as the ECB is taking its responsibilities to lift inflation more seriously (Chart 13 shows how the EUR-CHF forward rate differential has fallen in recent months in response to the ECB's forward guidance and refi cut). Indeed, the ECB rate cut begs the longer-term question for the SNB of whether Swiss fundamentals, which are superior to the Euro area in pretty much every regard, will permit the SNB to be as patient as the ECB before starting to normalise monetary policy? A smooth exit from the 1.20 FX floor absolutely requires the ECB to hike interest rates in advance of the SNB. The spectre of Euro area deflation and a more responsive ECB has surely lengthened the odds on such a benign exit scenario.

Chart 9: Long-term investment outflows may have increased But this has only shrunk, not eliminated, Switzerland's basic balance surplus
Swiss balance of payments. 4Q sum, % of GDP



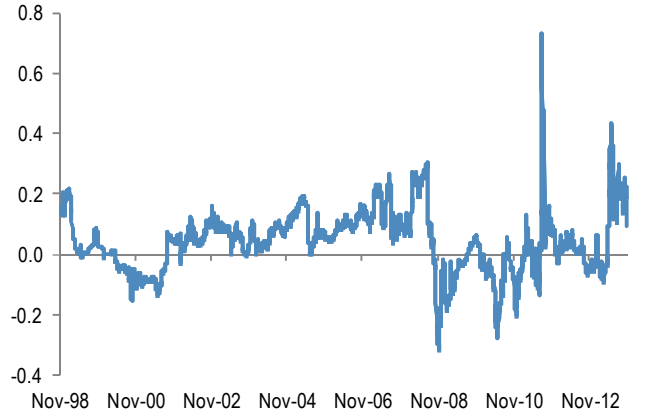
Source: J. P Morgan

Chart 10: The beta between USD/CHF and EUR/USD is once gauge of interest in the Swiss carry trade. The taper tantrum saw the beta plummet to its lowest ever level as USD/CHF became an extremely popular vehicle for US rate bears/USD bulls
Rolling 1-mo beta between daily changes in USD/CHF and EUR/USD



Source: J.P. Morgan

Chart 11: USD/CHF volatility also outperformed during the May tantrum as the premium over EUR/USD rose to its 2nd highest level
(USD/CHF 1-mo implied volatility/EUR/USD 1-mo implied volatility)-1



Source: J.P. Morgan

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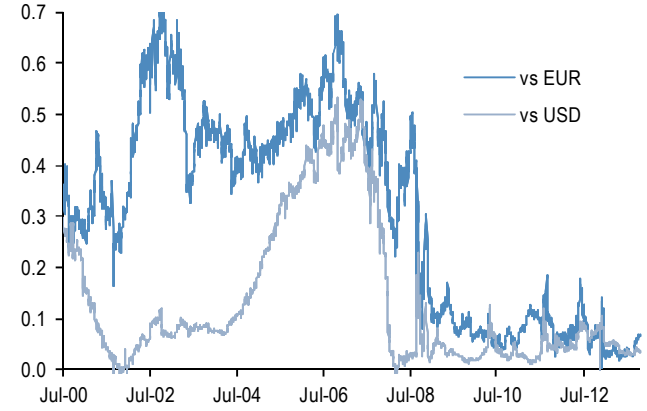
The bottom line from all of this is that the global interest rate environment is not improving at a sufficient rate to generate the quantity of short-term capital outflows needed to resolve Switzerland's fundamental balance of payments disequilibrium – namely a current account that is too large for capital outflows to permanently offset. Our bias, therefore, remains to trade the range in EUR/CHF this year - selling rallies towards 1.25, buying sub-1.22, and fading the intermittent richness in:1) EUR/CHF volatility; 2) EUR/CHF risk-reversals; and 3) the USD/CHF-EUR/USD volatility spread as and when the market is most pre-occupied on the prospects for outright Fed tightening and hype around the Swiss franc carry trade is at its most intense.

Chart 12: Still not much carry in the Swiss carry trade

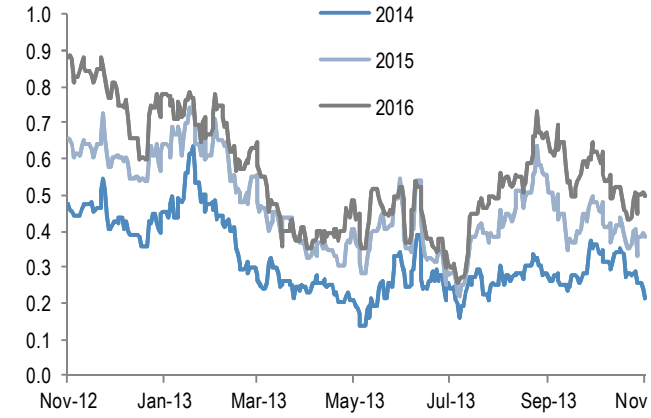
Risk-adjusted 3-mo carry on short CHF vs EUR and USD (3mo annualised carry/3m implied FX volatility).



Source: Bloomberg; J.P. Morgan

Chart 13: ECB forward guidance has materially depressed forward EUR-CHF rate differentials complicated the SNB's strategy

1m EUR – CHF forward OIS swap rate differential. End of year



Source: SNB; J.P. Morgan

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Research Note

NOK and SEK: Loose moorings in safe harbours

- **The stand-out Scandinavian story this year was NOK's metamorphosis from safe-haven poster child to undershooting problem child (EUR/NOK +11%).**
- **Multiple factors afflicted NOK - a dovish Norges Bank still seeking a lower currency, an unexpected surge in inflation, early signs of a housing downturn, all wrapped up in excessive foreign positioning.**
- **Positioning and housing will keep NOK depressed vs fair-value for some months, but we nevertheless expect NOK to slowly regain its footing as fears about housing prove overblown and the Norges Bank edges towards that elusive tightening in policy (Q4 2014).**
- **End 2014 forecast for EUR/NOK is now 8.00 – this assumes a conservative 1.5% improvement in NOK's cyclical fair-value (split between slightly wider rate differentials and a $9 rise in oil) and a halving of NOK's risk premium versus cyclical models.**
- **The chief risks for NOK are yet another year of central bank inaction or even a rate cut if housing swings from boom to bust - EUR/NOK to 8.60/8.70.**
- **NOK is already so weak (2009-2010 levels) and CPI at higher levels that the Norges Bank would find it difficult to ignore the inflation pass-through from such pronounced NOK depreciation. Inflation is now more of a limiting factor to the Norges Bank's anti-NOK policy, and hence a backstop for NOK.**
- **SEK, becalmed for much of 2013, is now struggling with a combination of weak growth and low inflation that is forcing the Riksbank to abandon plans for early rate hikes in favour of potential renewed cuts.**
- **SEK is vulnerable to renewed policy easing because of the marked deterioration in Sweden's basic balance caused by record outflows of equity and FDI which leave SEK at the mercy of short-term capital flows.**
- **Expect additional downside for SEK in H1 (EUR/SEK 9.10-9.20) before a recovery to 8.90 end-year as the economy gathers speeds and rates stabilise.**
- **Housing is widely expected to be a positive differentiating factor for SEK vs NOK. But Swedish housing is also expensive and debt levels high, so should prevent housing diverging materially and causing a greater undershoot in NOK/SEK.**

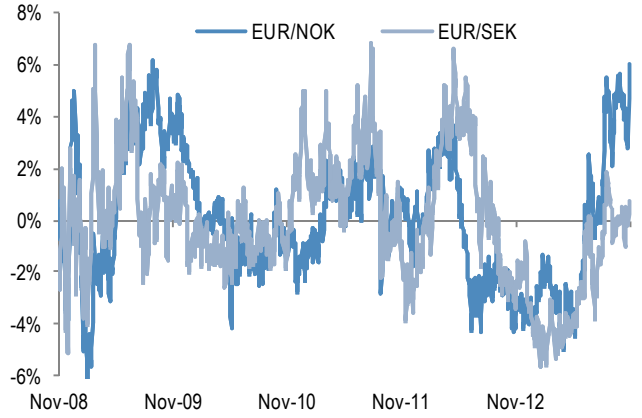
NOK slipped its anchor

NOK was by far and away the more interesting Scandinavian currency this year, if not plain baffling at times. Contrary to expectations that it would modestly gain, NOK slumped by 11% versus EUR, its worst performance since 2008 and the third worst in G10 (only AUD and JPY have depreciated by more).

The difficulty when considering the outlook for next year is that fundamental factors (i.e. those which are captured in our cyclical model such as interest rate differentials, oil prices and the overall risk climate) can explain only one-quarter of the depreciation in NOK this year, and no more than 55% of its volatility (Chart 1 and Table 1). The starting point, moreover, is now one in which EUR/NOK is historically misaligned versus short-term models (5-6% rich). By contrast, SEK continues to track its traditional drivers (Chart 3) and is currently at fair-value, all of which would suggest that the forecasting error around SEK is likely to be less than with NOK (famous last words).

What then ails NOK? With the benefit of hindsight we

Chart 1: EUR/NOK is as overvalued now (4%) as it was undervalued in 2012. EUR/SEK has decoupled, and trades at its cyclical fair-value
% deviation of EUR/NOK and EUR/SEK from 5Y cyclical fair-value models.
EUR/NOK = 10.32 + 0.57 (EUR-NOK 2Y spread) – 0.015 (Brent oil). R2 = 85%
EUR/SEK = 10.31 + 1.44 (EUR-SEK 2Y spread). R2 = 92%



Source: J.P. Morgan

Table 1: The problem when forecasting EUR/NOK is that traditional cyclical factors are capable of explaining only one-quarter of its net change in 2013 and no more than 60% of its volatility
Table compares the ytd change and volatility in spot FX with the change and volatility of the estimated high-frequency fair-value for these pairs. The residual is the change in spot and its volatility that cannot be explained by fundamental.

	Ytd change in exchange rate			1Y realised volatility			
	Actual	Fair-value	Residual	Actual	Fair-value	Residual	Residual/actual
EUR/NOK	12.7%	3.2%	9.4%	8.1%	4.6%	3.5%	43%
EUR/SEK	4.0%	0%	4.4%	7.1%	5.3%	1.8%	25%
NOK/SEK	-8.0%	-1.8%	-6.3%	7.3%	2.4%	4.9%	67%

Source: J.P. Morgan

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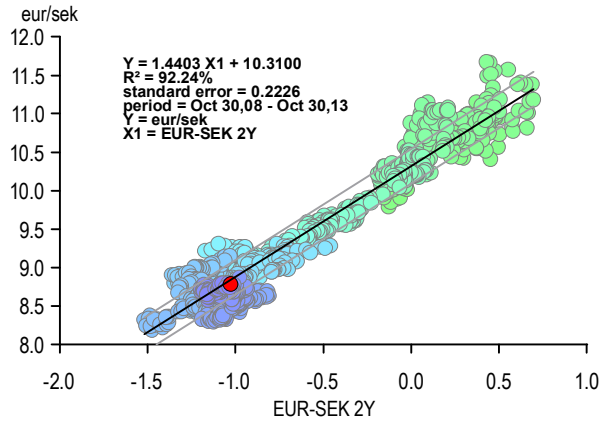
under-estimated the potential for foreign deleveraging from NOK in response to a far less stressful backdrop in the Euro area and the Norges Bank's reluctance either to hike interest rates or even to contemplate such a shift. The Norges Bank's weekly flow data indicates that foreign banks and clients have liquidated roughly 20% of their cumulative NOK purchases from the preceding three year period over the past year. This still leaves an overhang of around NOK 260bn, or 9% of GDP (Chart 3). An inspection of quarterly inflows to the bond market reveals a somewhat larger overhang of foreign positions (cumulative foreign purchases of Norwegian bonds since 2010 = 16% of GDP).

The impact of this foreign leverage is to magnify the impact of negative fundamental factors on NOK. Empirically this is apparent in an almost unprecedented sensitivity of EUR/NOK to changes in interest rate differentials – whereas over the previous 10 year period a 10bp change in the 2Y EUR-NOK spread would cause the cross to move by 0.7%, this sensitivity has trebled over the past year to over 2% (Chart 4). Positioning has made it easier for the Norges Bank to achieve its objective of weakening the currency by defying expectations for a normalisation in interest rates.

Our forecast of only modest NOK appreciation in 2014 acknowledges that positioning is likely to prevent a rapid or complete removal of the current risk premium in NOK. Anxiety about a housing downturn will also command its own risk premium. Nevertheless, given how elevated this risk premium currently is we doubt whether NOK will fall much further in the absence of a serious economic shock which radically alters monetary policy (i.e. a hard-landing in the property market). Baring this, the assumption that the Norges Bank stays the course to deliver the late-2014/early-2015 rate hike that it has in its forecasts should eventually settle the nerves of foreign investors and allow partial mean-reversion to fair-value (our forecast assumes the risk premium is halved and EUR/NOK ends the year at 8.00).

The belated increase in inflation also supports the notion of a mean-reversion appreciation in NOK. In the previous few years it was the extremely low level of inflation, partly the consequence of NOK appreciation, which enabled the Norges Bank firstly to cut rates and then to hold them steady even while the property market boomed. The implicit goal of such policy was to weaken NOK. But having achieved this objective (NOK TWI is back at 2009-2010 levels), the Norges Bank now faces the opposite set of conditions - higher inflation (2.4% versus the low in 2012 of 0.2%) and the risk of greater inflation pass-through from an even weaker currency. The inflationary backdrop now serves as a greater constraint on the Norges Bank's low interest rate/ weak currency policy, and should hence help to backstop NOK. Central banks can easily get too much of a good thing when it comes to currency weakness.

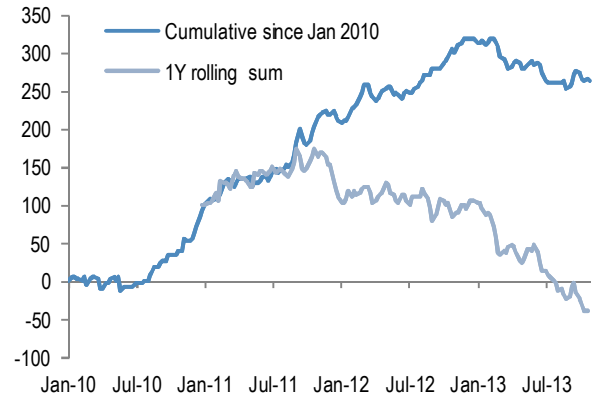
Chart 2: EUR/SEK, unlike EUR/NOK, is in line with interest-rate based fair-value models estimated over the last five years



Source: J.P. Morgan

Chart 3: A key judgment call for NOK is the extent of future foreign liquidation. Much hinges on whether the Norges Bank belatedly delivers a rate hike in the latter part of 2014. JPM believes it will.

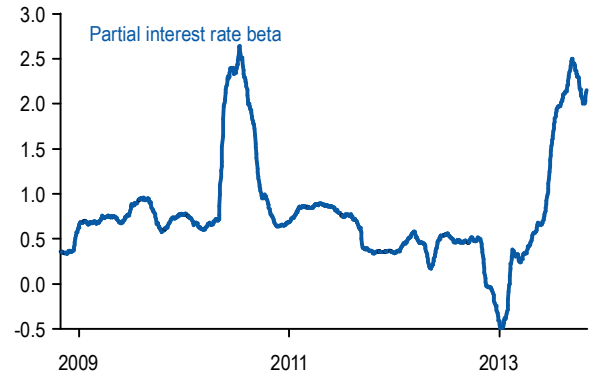
Net purchases of NOK by foreign banks and foreign clients, NOK bn



Source: Norges Bank

Chart 4: The build-up of foreign leverage in NOK has substantially increased the sensitivity of NOK to shifts in interest rates.

Percent change in EUR/NOK from a 10bp change in EUR-NOK 2Y swap spread (partial beta from a rolling 1Y regression of EUR/NOK on rate spreads and oil)



Source: J.P. Morgan

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SEK challenged by growth and inflation

For much of this year SEK managed to stay out of the market's cross-hairs. The presumption was that Sweden would enjoy decent economic growth that would feed into higher rates and in turn lift SEK. These assumptions have been challenged by a very sluggish economy (H1 growth of only 0.1%, and likely full year growth of 0.7%), by stubborn unemployment and most recently by a renewed sharp fall in CPI[11]. The market now prices a two-thirds probability of another 25bp cut from the Riksbank, an expectation that is weighing heavily on SEK.

Arguments in favor of a cut in the repo rate include: 1) a long-history of inflation undershooting the Rikbank's elevated forecasts (Chart 5); 2) inflation that is low by international standards (Chart 6); and 3) still high unemployment, which historically is closely related to the policy rate (Chart 7). J.P. Morgan's forecast for 2014 are notably lower than the Riksbank's (GDP 1.9% vs 2.6% and CPI 1.4% at year-end versus 2.1%).

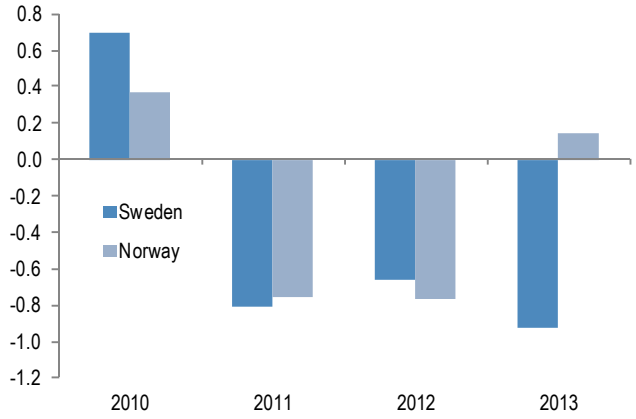
The Riksbank's long-standing objection to a further easing in stems from the elevated level of household debt and the risk to financial stability should lower rates fuel a renewed mortgage boom (such concerns are not unreasonable seeing as though 75% of Swedish mortgages are interest-only). But this argument is less convincing now that the Financial Supervisory Authority has indicated its support for an increase in the risk-weight floor for mortgages from 15% to 25%. The Riksbank has lobbied for such a tightening of macro-prudential controls and made clear that this would influence monetary policy. An increase in the floor would lead to a re-pricing higher in mortgage rates of 20-30bp and as such could well pave the way for the Riksbank to lower the repo rate without undue effect on lending.

SEK is historically very sensitive to short-term interest rates (10bp on 2Y rates equates to 1.6% on EUR/SEK), a beta that could well increase given the overhang of flight-to-quality positioning in Swedish government bonds (cumulative foreign purchases of 10% of GDP since 2010, large albeit not as large as Norway's 16%) and a growing basic balance deficit that leaves SEK reliant on short-term inflows. Could SEK become as distressed next year as NOK this year, with the risk-premium rising to similar levels (a 6% premium to fair-value would leave EUR/SEK at 9.35-9.40)? That cannot be ruled out but is not our central scenario, not least as the Swedish economy should pick-up speed through the year. We see EUR/SEK peaking at 9.15-9.20 in Q1 before drifting back to 8.90 by year-end.

[11] For a discussion of the very benign prospects for Swedish inflation see: *Gauging price pressures in Scandinavia and Switzerland*, Brun-Aguerre, Meggyesi and Bassi, September 9, 2013.

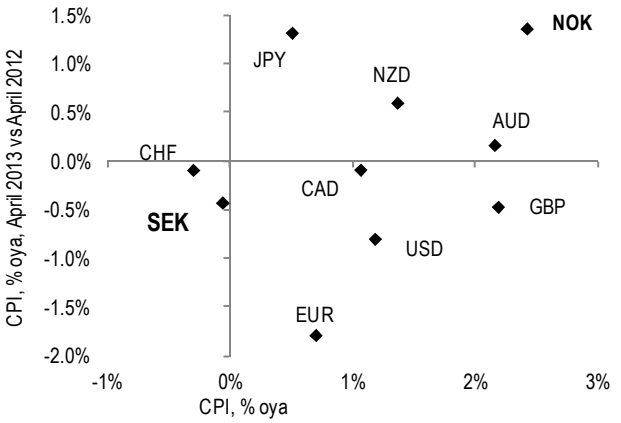
Chart 5: The Riksbank has persistently over-estimated inflation in recent years. 2013 is no different – CPI is nearly 1% lower than the Riksbank projected at the start of the year. Norwegian CPI, by contrast, is slightly higher than the Norges Bank forecast

CPI – end of year versus the central bank projection made at the start of the year
CPIF for Sweden, CPI for Norway



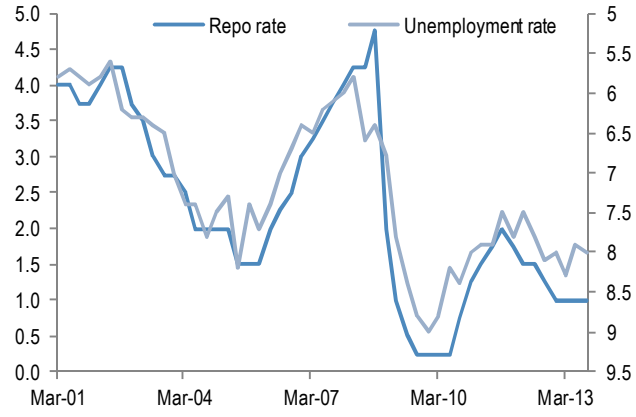
Source: Riksbank, Norges Bank, J.P. Morgan

Chart 6: There is a marked contrast in both the level and trajectory of inflation in Norway (high) and Sweden (low and falling)



Source: J.P. Morgan

Chart 7: Stubbornly high unemployment (8%) also matters for Riksbank policy, since policy rates and the UR are 95% correlated



Source: J.P. Morgan

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Boom is not expected to lead to imminent bust in Norway's housing and debt cycles

There is no doubt that Scandinavian housing markets are overvalued. The IMF puts the overvaluation at between 30-40% in Norway and 20% in Sweden (Chart 8). Scandinavia is also characterized by high levels of household indebtedness - the ratio of household debt to disposable income is 200% in Norway and 180% Sweden - Chart 9

From this it is easy to see why there is so much interest in the recent cooling in the Norwegian housing market – having surged by one-third from the end of 2007through to the middle of 2013, house prices dropped an unexpectedly sharp 1.7% in Q3. In Sweden, by contrast, the short-term dynamics are improving (oya price gains in Q3 of 2.8% versus -1.3% in Q3 2012). The anxiety is that Norwegian boom could very quickly turn to bust due to extent to which prices are overvalued and households are over-levered, and that in this situation the Norges Bank could be forced to react to support growth. There are elements of Canada to this narrative and we suspect that the lessons learnt there will also apply to Norway - namely that even heavily overvalued and levered housing markets require some form of discrete shock to income or employment levels to trigger a major correction. Housing imbalances tend to exacerbate swings in the economic cycle; they rarely initiate them.

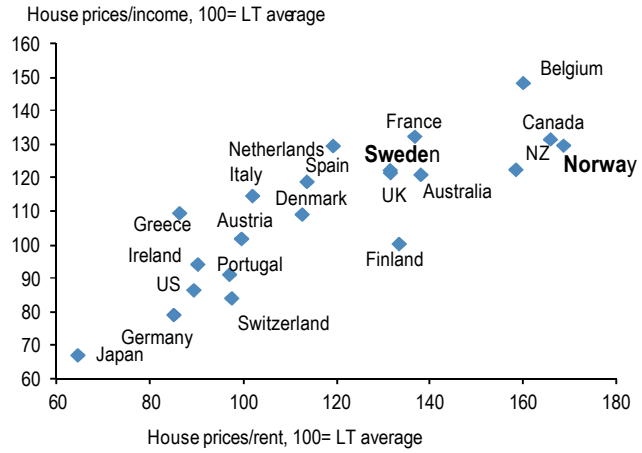
Other factors which lend support to the Norwegian property market include:

1) Debt servicing levels are far from stretched – the ratio of debt servicing to disposable income is in line with its long-term average even though debt levels have doubled in little more than a decade (Chart 10);

2) Banks have already adjusted to the planned multi-year increase in capital requirements by increasing mortgage lending rates over the past two years - the average mortgage rate premium over money market rates is now 2.7ppt compared to 1.3ppt in 2011. Further increases in effective mortgage rates from this angle seem unlikely unless the Norges Bank sets the counter-cyclical capital buffer (CCB), effective from January 21015, at the upper end of the 0-2.5% range (a decision on this is likely at its December meeting). The risk-weighted floor for mortgages, meanwhile, was set at a lower-than-feared 20%, limiting one additional source of upward pressure on mortgage rates.

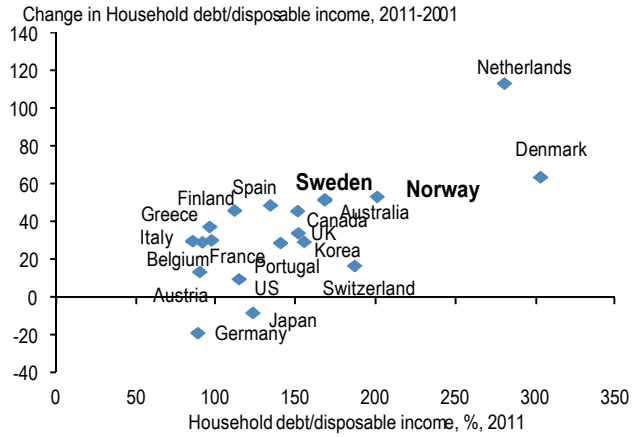
3) Norwegian banks are well capitalised and profitable and are unlikely to have to delever in order to comply with planned future increases in capital requirements. CET1 capital requirements will rise to a maximum of 14.5% by mid-2016 (assuming a 2.5% CCB) against which average ratios are currently around 11% and will probably improve by 1% per annum due to retained earnings.

Chart 8: Concern about a housing bubble in Norway is not without foundation. But Sweden is also heavily overvalued
The chart plots house price/income and house price/rent ratios, normalized where 100 represents the long-term average ratio for each country



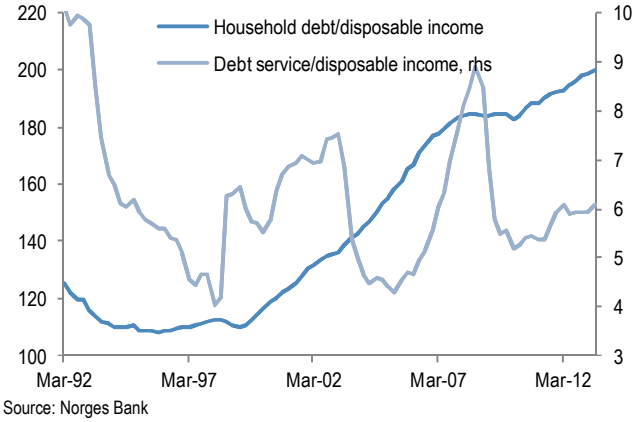
Source: OECD

Chart 9: There is also a legitimate focus on high household leverage in Norway (Sweden too).



Source: OECD

Chart 10: Norway debt levels may be high but debt servicing ratios are not stressed, broadly in line with their long-term average
Norway household debt debts and debt servicing, % disposable income



Source: Norges Bank

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4) Population growth will likely remain robust and sustain underlying excess demand for housing. Population growth has averaged 0.9% per annum in the past five years, largely due to immigration (roughly 60% of the total) and in the process outstripped the supply of new dwellings by some 300K between 1997-2012.

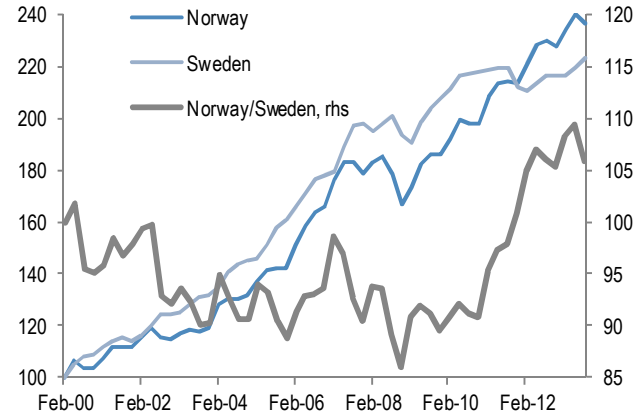
Relative house prices and NOK/SEK

The juxtaposition between the rebound in Swedish house prices and the slowdown in Norway is eye-catching but doesn't, we believe, warrant a continued re-rating of SEK versus NOK: 1) Sweden is not so far removed from Norway in terms of the overvaluation of house prices and debt levels to suggest that national house price trends will decouple on a sustained basis. As Chart 11 illustrates, these two markets tend to move closely together, at least in the direction of travel, if not the magnitude. 2) Sweden is also tightening macro-prudential controls - the FSA now favours raising the risk-weight floor to a higher level than in Norway (25% versus 20%), a decision on a counter-cyclical buffer is pending some time in 2014, while tougher amortisation guidelines/rules are also up for discussion (amortisation standards are much laxer in Sweden where 75% of mortgages are interest-only compared to Norway where the proportion is 20%). 3) Some relative catch-up in Swedish house prices is to be expected given that they lagged Norwegian prices by some 20-25% from the onset of the 2008 crisis. But a relative catch-up that does not involve major declines in Norwegian house prices is unlikely to justify a further marked decline in NOK/SEK. If anything this cross is too low relative to Norway's aggressive house price inflation of recent years (Chart 12). House price trends are not a reason to sell NOK/SEK, we believe.

Balance of payments issues – energy and competitiveness for NOK; outward investment for SEK

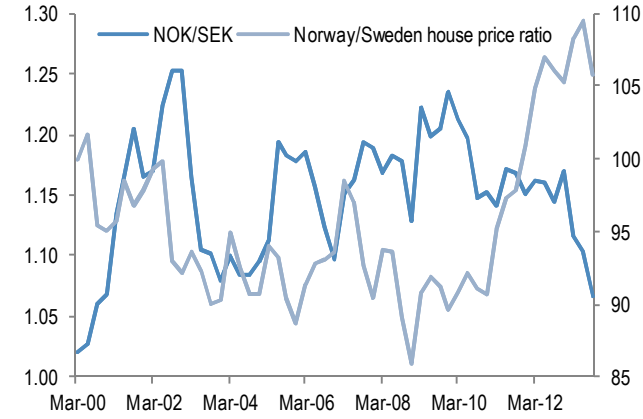
The prospects for energy prices are a perennial source of uncertainty in the Norwegian economic and market outlook. J.P. Morgan's central forecast is relatively benign – an average 2% increase in the price of Brent oil over the course of the year, rising to 7% by year-end, which would lift NOK by 1% assuming an unchanged short-term beta. NOK is not particularly sensitive to short-term changes in energy prices precisely because the Government Pension Fund does what it was designed to do – insulating the exchange rate from developments in the energy sector by investing the government's oil revenues into overseas financial assets (this activity recycles 70-80% of the current account surplus). But the longer-term impact of energy prices on the economy and by extension the exchange rate are likely to be greater than is suggested by this short-term regression relationship:

Chart 11: Housing – the difference between Norway (down) and Sweden (up) is over-played
House price indices, January 2000 = 100



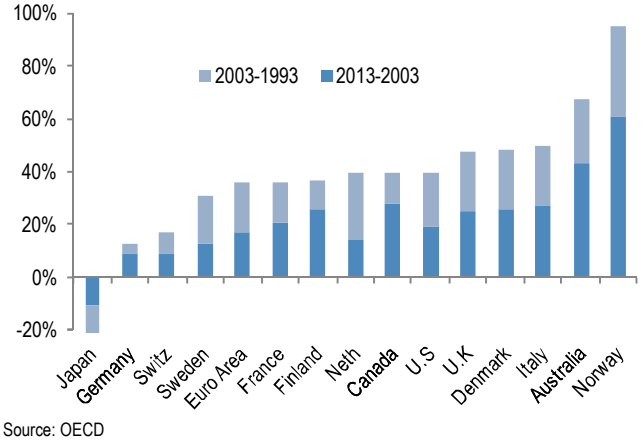
Source: Norges Bank, Statistics Sweden, J. P. Morgan

Chart 12: The relationship between relative house prices and NOK/SEK is inconsistent. But if anything, NOK/SEK should be higher to reflect previous gains in Norwegian HP vs Sweden



Source: Norges Bank, Statistics Sweden, J. P. Morgan

Chart 13: Norwegian competiveness has slumped
Change in unit wage costs, %



Source: OECD

1) Energy exports now constitute a much greater share of total exports, some 60% compared to 50% in 2000 and 42% in 1995, as a result of which the overall current account surplus is now more sensitive to swings in energy prices.

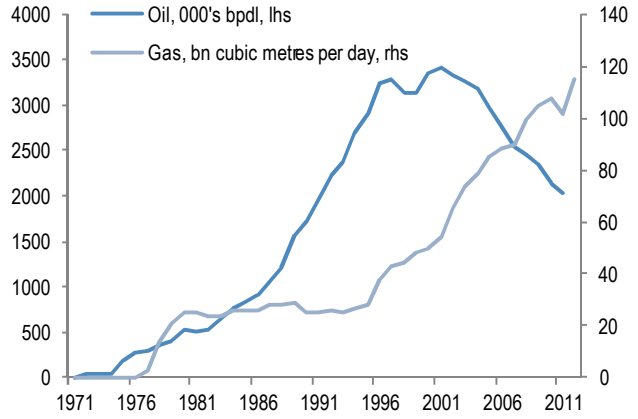
2) The volume of Norwegian energy production and exports is in structural decline (-45% from the peak a decade ago – chart 14), yet the impact on export values has been masked by the sharp rise in prices (the value of energy exports is only 10% below its peak). Norway is consequently more exposed to an adverse commodity terms of trade shock than some other commodity producers, notably Australia, where production volumes are now ramping up as heavy investment in mining capacity comes on stream.

3) Cost and wage inflation in the energy sector has spilled over to the non-energy sector and significantly eroded Norway's underlying competitiveness position, which leaves Norway ill-equipped to re-balance its economy should energy prices fall significantly and the size of the energy sector contract. Indeed, Norway has suffered a greater loss of competitiveness as measured by unit wage costs than any other resource-rich economy (unit wage costs are up 60% in the past 10 years, significantly more than in Australia, 43%, or Canada, 28% – Chart 13).

One final point concerns the possibility of a longer-term convergence of US and European gas prices should cheap, fracked US gas eventually find its way into global markets (European gas is currently 2.8 times as expensive as US gas – Chart 15). This is unlikely to be a material issue as early as 2014 since US LNG facilities and hence exports are only due to come on steam between 2016-2020. There could nevertheless be some interim secondary effects primarily through the displacement of US coal from domestic to European power-generation. Gas now constitutes 48% of Norway's energy exports, which means that Norway's economy, its balance of payments and the currency are materially exposed to the longer-term consequences for international gas supply and prices of fracking, not only in the US but potentially in Europe as well. The UK's stance on fracking is especially relevant since the country currently consumes 30% of Norway's gas production.

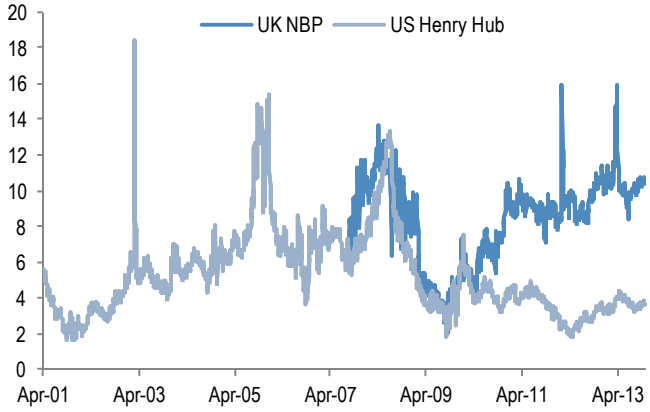
Turning to Sweden and the balance of payments data reveals an under-appreciated source of pressure on the currency, namely a rapid deterioration in the basic balance as a consequence of accelerated outflows of equity and FDI capital (Chart 16). SEK is often regarded as a currency that benefits from strong external flow support as a result of the country's structural current account surplus (the surplus has declined by one-third from pre-crisis levels but is nevertheless around 6% of GDP). In the year to Q2

Chart 14: Norwegian oil production is in structural decline. Gas is taking up the slack and now accounts for 45% of energy exports
Norway energy production



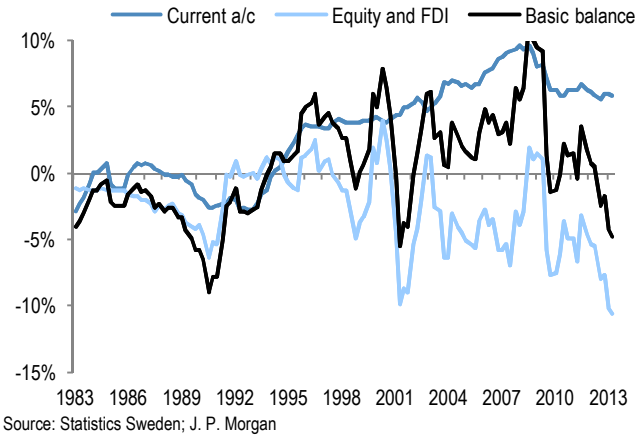
Source: BP

Chart 15: Mind the fracking gap
Natural gas prices, US$/MMBtu



Source: Bloomberg

Chart 16: Sweden maintains a large c/a surplus but because of record equity and FDI outflows it now runs a basic balance deficit of 5% of GDP – underlying flows are a headwind for SEK
Rolling 4Q sum, % of GDP



Source: Statistics Sweden; J. P. Morgan

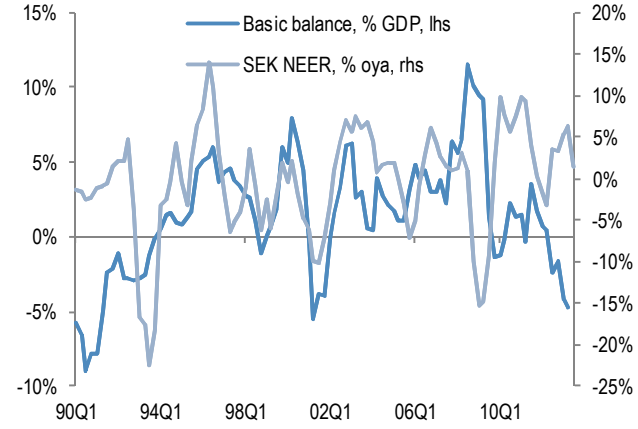
2013, however, the net outflow of equity and FDI capital doubled to 10.7% of GDP, a new record, as a result of which the basic balance swung from small surplus in the prior year to a deficit of 4.8%. This is the worst basic balance deficit since 2001 and marks a dramatic turnaround from the previous few years when the basic balance was in surplus to the tune of 6-11% of GDP. Far from constituting a tailwind for the currency, therefore, the underlying balance of payments position is now a pretty sharp headwind for SEK, which is another reason not to expect the currency to make any significant progress next year independent of the Riksbank surprising us and hiking interest rates (Chart 17).

The deterioration in long-term investment flows is split between equity and FDI, but in both cases is the result of declining foreign interest in Swedish assets combined with high (FDI) or sharply higher (equity) overseas investments by Swedish investors (Charts 18 and 19). There was a lot of discussion in the immediate aftermath of the Euro area debt crisis that SEK was at risk from a reversal of safe-haven inflows. The currency has indeed weakened over the past year but the capital flow culprit is not the anticipated outflow of hot money but rather an acceleration in longer-term investment outflows, which is potentially more worrying for SEK as it has the capacity to be a recurring instead of just a one-off flow. One suggestion as to its cause is the weak performance of the Swedish economy which may be driving Swedish investors into faster growth economies overseas where the investment opportunities are better (the gap between global and Swedish growth is the widest in 1-1/2 years). Domestic GDP will accelerate in 2014 (1.9% versus 0.7% for this year) but whether this will be sufficient against a backdrop of accelerating global growth to staunch this outflow of long-term investment is one of the more important questions for SEK next year.

Scandi FX volatility remains attractive

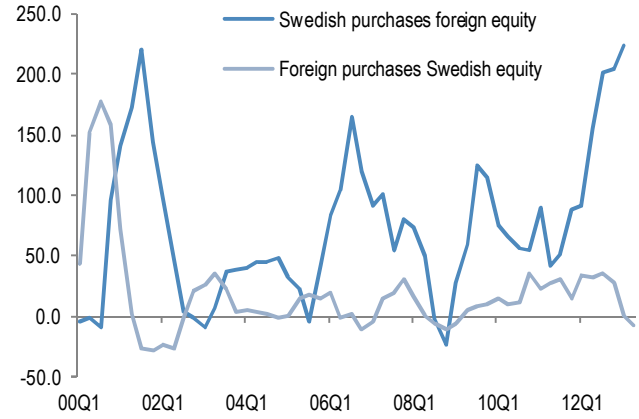
Scandinavian currencies more than performed from a volatility perspective this year. Indeed, systematic long volatility strategies were more profitable in USD/NOK than any other G10 pair (rolling straddles) and were only matched globally by USD/TRY (see the FX volatility section on page 28 for a more thorough discussion). We see continued upside from owning volatility in USD/NOK and USD/SEK given the uncertainties hanging over both NOK and SEK going into 2014 (macro-economic, policy, capital flows). Both should perform on a spread basis versus EUR/USD (the outperformance this year was the largest since 2008), but in view of the depressed levels of EUR/USD volatility we advocate outright longs instead, potentially through FVAs that suffer little decay due to the relatively flat volatility curve.

Chart 17: The marked deterioration in the basic balance is an increasing headwind for SEK
Rolling 4Q sum, % of GDP



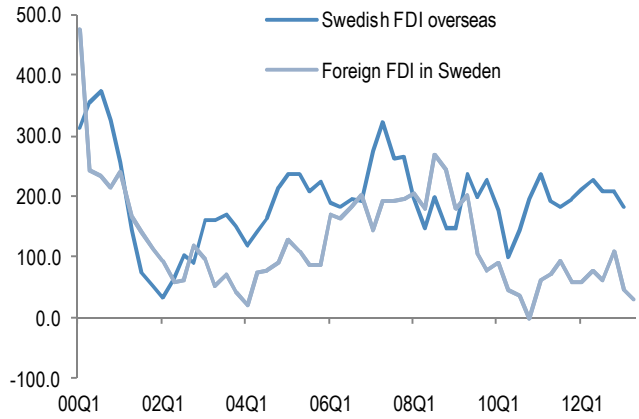
Source: Statistics Sweden; J. P. Morgan

Chart 18: Swedish appetite for foreign equity is not matched by foreign appetite for Swedish equity
Rolling 4Q sum, SEK bn



Source: Statistics Sweden; J. P. Morgan

Chart 19: Inward FDI to Sweden has dried up, while outward FDI remains at relatively high levels
Rolling 4Q sum, SEK bn



Source: Statistics Sweden; J. P. Morgan

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Research Note

AUD and NZD: NZD is our favoured Antipodean currency in 2014

- **Macro factors suggest that the AUD should be biased lower in 2014. Rate differentials will narrow a bit further, Chinese growth should slow and commodity prices will be less of a support in the year ahead. However, we expect Australian export volumes to remain strong and domestic economic growth to pick up in 2H14. These mitigating factors suggest that the decline in the AUD could be quite gentle. We see AUD/USD at 0.92 by Jun-14 and 0.90 by Dec-14.**
- **To provide some guidance on the expected path of AUD in 2014 and beyond, we introduce a new medium term model of the Australian real exchange rate. Our model suggests that the extent of the decline should be moderate, and leave the REER still 25% above its long run average by the time the forecast adjustment is complete. Furthermore, the nature of the adjustment is not likely to be one-directional, linear nor evenly dispersed over the adjustment horizon.**
- **New Zealand now is in a cyclically similar position to Australia in 2010, facing a very large positive impulse to demand that will "lock in" a solid base for GDP growth. We expect the RBNZ to be the first developed market central bank to lift rates next year, and hence are relatively constructive on the Kiwi dollar. We forecast NZD/USD at 0.83 in Jun-14 and Dec-14.**
- **Output gap differentials will favor NZD over AUD for the next two years, as will rate differentials. This divergence in outcomes is unusual given the NZ economy's usual reliance on Australia as an export partner. However, we think there are fundamental reasons behind the divergence and furthermore, believe that the broader themes underpinning the AUS and NZ balance of payments will underpin the move lower in AUD/NZD. We think AUD/NZD will test long term ranges at some point next year, and target AUD/NZD to 1.08 by Dec-14.**
- **Despite their recent inertness, low base vols and flat vol curves will continue to encourage back-end vol uptake as taper hedges in 1Q14. With many EM vols already having re-priced higher, we think global macro investors will likely settle upon AUD as their preferred vehicle for positioning long vol going into Q1.**

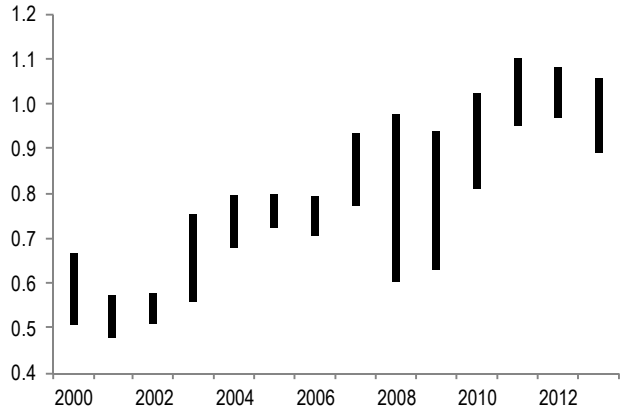
Australian Dollar – lower in 2014, but how low?

The analysis which follows is comprised of three main sections. First, we provide a brief rundown on the key drivers of the AUD and how we expect these to play out in 2014. In general, we see most of these factors consistent with a lower AUD in 2014. Second, we use empirical modeling to attempt to quantify the extent of the decline in the AUD REER, given what we know about the likely path of the terms of trade. Our model results are consistent with a slow grind lower in both the real and nominal exchange rate in 2014. Finally, we consider some of the risks around the AUD outlook in the year ahead, and conclude that the balance of risks looks to be relatively symmetric.

1. The macro-economic environment for the Australian dollar in 2014

2013 was an interesting year for the Australian dollar. For a start, the AUD/USD made a 36-month low over the course of the year, before staging a decent rebound into year end. As **Chart 1** illustrates, the range for the AUD in 2013 was one of the larger in recent years, and continues the pattern of lower highs. If our year end targets are realised, the AUD/USD will have fallen 11c over 2013, a 10.4% correction.

Chart 1: The year-to-date range for the AUD was one of the larger ranges in recent years
Yearly highs and lows; AUD/USD



Source: J.P. Morgan.

Generally, our view for 2014 could be described as more of the same for the AUD, albeit with a more gradual tone to the adjustment and a smaller move lower (both in absolute and percentage terms). We target a move to 0.92 by Jun-14, and to 0.90 by Dec-14. In thinking about the influence of broader macro-drivers of the AUD, we consider four factors; (i) the global backdrop; (ii) the outlook for Chinese growth; (iii) commodity prices and (iv) the outlook for the

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Australian economy and interest rates. We address each of these in turn in the discussion that follows.

(i) The global economy – broadly neutral for the AUD in 2014

For the global economy, 2013 was characterised by a move back to trend growth. Most of this occurred in the first half of the year, when the US, Europe and Japan surprised to the upside. Our outlook for global growth in 2014 effectively encapsulates a stabilisation period for the global economy, with growth rates expected to remain around trend for the year ahead. We forecast calendar year growth of 2.9% for the global economy in 2014.

Thinking about the influence of the global growth dynamic on the AUD is more complex than it once was. Pre-2010, the domestic policy cycle (and by extension, the currency) was viewed as high-beta to global growth dynamics. **Chart 2** illustrates the strong correlation between movements in the RBA cash rate and the global growth. However, the breakdown in the relationship between domestic interest rates and the currency (**Chart 3**) has meant that calibrating Australia's beta to the global growth cycle is more difficult. As long as the currency remains high, it will be hard to be too bullish on the domestic growth story even if the global growth outlook surprises on the upside.

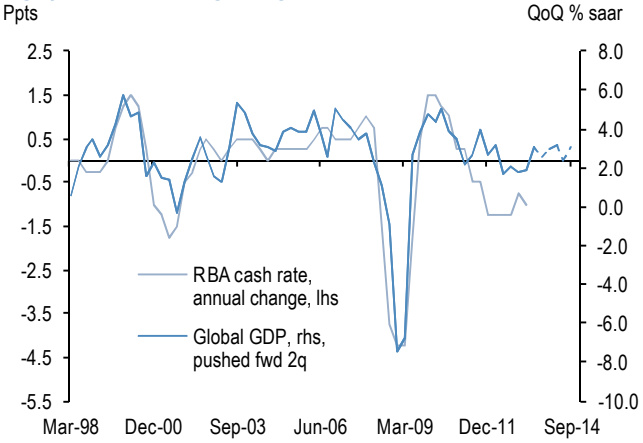
However, one of the main channels through which global growth impacts the AUD is commodity prices. **Chart 4** illustrates that our global growth outlook is suggestive of modest positive momentum in commodity prices in 2014. On this relationship alone, one could argue that the global backdrop is somewhat positive for the AUD outlook next year. But when we think about the global growth outlook it is important to remember that regional rotations can be more important than the aggregate view. This provides a natural segue into the outlook for China, and probably argues for a more neutral influence on the AUD next year.

(ii) The outlook for China – modestly bearish for the AUD in 2014 as Chinese growth slows

China remains Australia's most important trading partner. In this regard, it is clear that the Chinese growth outlook matters a lot for our view on the domestic economic outlook and currency (**Chart 5** illustrates that the data indeed validate this conclusion).

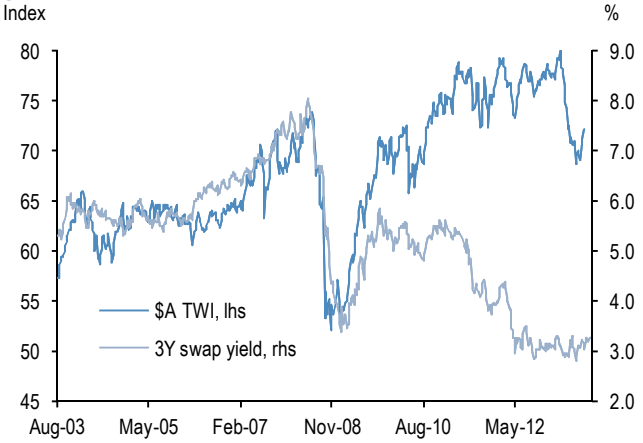
Our broad view on China into 2014 is that growth will remain well above 7%, but slow somewhat from the forecasted 7.6% rate for 2013. Our Chinese economics team is forecasting calendar year growth of 7.4% for China next year. Our slightly slower growth forecast for 2014 reflects the idea that Chinese policy makers are now content to shift the focus of policy from growth stabilisation towards reform initiatives.

Chart 2: Generally speaking, the Australian rate cycle has been highly correlated with global growth (dashed lines are forecast)…



Source: J.P. Morgan.

Chart 3: …but the de-correlation between rates and FX in Australia has meant that it is now harder to calibrate Australia's beta to global growth momentum



Source: J.P. Morgan.

Chart 4: The outlook for global growth* should be modestly supportive for commodity price momentum in the year ahead

Source: J.P. Morgan; * dashed lines are forecast.

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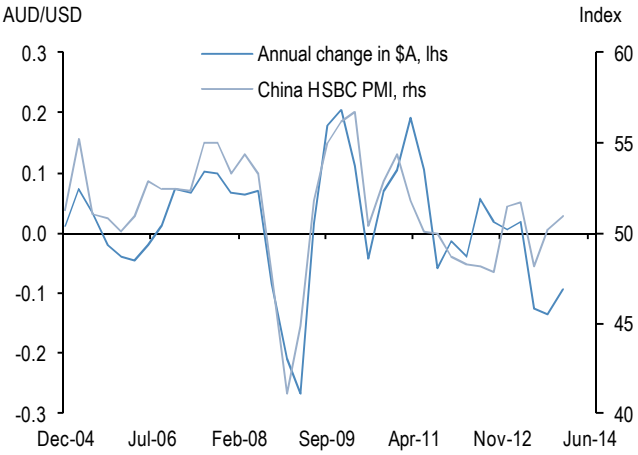
The main drivers of our expectation for slower growth in China in 2014 derive from a couple of sources. First, an expectation that some of the structural reform initiatives expected later this year will, although positive for the medium term growth outlook, come at a short term cost to growth. Second, the impact of currency appreciation in 4Q13 should also provide something of a headwind to growth in 2014. Finally, our expectation that credit growth (as measured by total social financing) will slow should also be reflected in slower growth momentum in 2014. As such, we suspect slower Chinese growth in the year ahead will weigh upon the AUD.

Beyond the 2014 outlook, it is important to remember that we expect China's medium-term growth pace to trend down gradually toward 6.5% by 2016-20, with the investment to GDP ratio to move down from 48% in 2011 to 35% in 2018-20 (**Chart 6**). This is significant for Australia, and implies that the general slowing in commodity demand growth seen in the past two years will likely continue in the medium term, though the pace will likely be gradual.[12] Furthermore, a structural softening in demand will likely coincide with a shift right in the supply curve, implying a decline in commodity prices in coming years.

Of course, any commentary on China wouldn't be complete without reference to the risks that always seem tilted to the downside. A number of key risks were reflected in the 3Q GDP data – too much growth sourced from investment, not enough from consumption and credit growth too high. In addition, house price growth has exceeded our forecasts this year, and unsustainably high levels of both corporate and local government debt are yet to be resolved. Question marks remain about the sustainability of the shadow banking system.

Are there upside risks to our China outlook? If we are wrong on our policy narrative, and recent policy initiatives have been a knee-jerk response to the threat of lower growth rates (rather than measures aimed at stabilising growth so reform measures can be implemented), then there may be some short term upside risk to our 2014 growth forecast. However, we would caution that any such bounce in growth should be viewed as a failure to secure a less volatile medium term growth outcome, given the importance of structural reform for the Chinese economy.

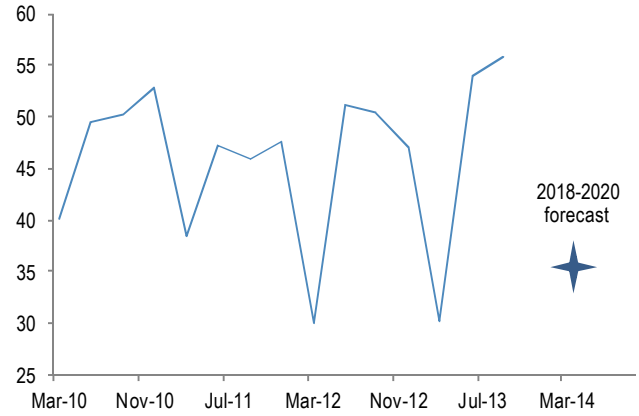
Chart 5: The AUD and the Chinese PMI



Source: J.P. Morgan.

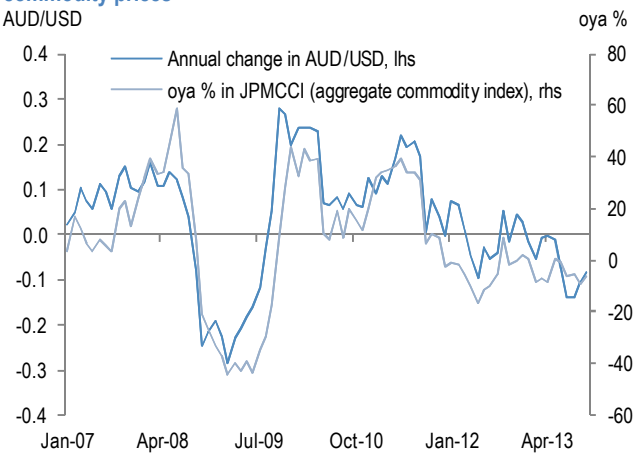
Chart 6: There has been little progress in adjusting the composition of growth in China

Percentage of GDP growth derived from investment; %



Source: J.P. Morgan.

Chart 7: There is a strong relationship between the AUD/USD and commodity prices



Source: J.P. Morgan.

[12] See H. Zhu et. al., *China's commodity demand tracks the economic cycle*, 6 September 2013.

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(iii) Commodity prices – only modestly bearish for the AUD in 2014, given that lower prices will be offset by higher volumes

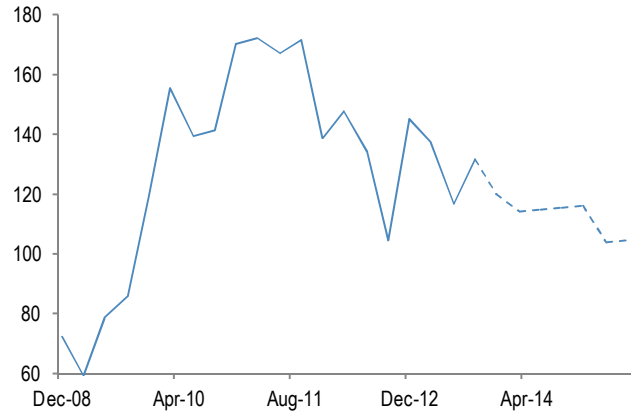
The correlation between the AUD/USD and commodity prices has held through the financial crisis and beyond (**Chart 7**), and clearly remains an important influence on the direction of the AUD. Assuming this relationship remains valid in 2014, our sense is that the outlook for commodity prices – particularly those that matter for Australia in terms of the export complex – is probably modestly bearish for the AUD in the year ahead. However, it is important to acknowledge that the favourable volumes outlook, especially in iron ore, will offset some of the impact of lower prices.

J.P. Morgan is forecasting the iron ore (fines) price to average USD115/tonne in 2014, which is around a 14% decline from the year-to-date average in 2013 (**Chart 8**). While we do not expect that iron ore prices will return to the lows seen in 3Q 2012 unti1 1H15, the broad supply and demand dynamic suggests that prices should be biased gently lower over our forecast horizon. For Australia, we believe the risk around iron ore – given that China steel production and inventories have been more favourable than expected in 2013 (**see Chart 9**) – is on the price rather than volume side, due to the supply expansion.

Turning to the supply outlook, our sense is that Australia is at the leading edge of the supply expansion relative to other iron ore exporters (Brazil), meaning that export receipts should benefit with more of a volume uplift and with less of a price decline than those suppliers whose supply does not come on line until 2015/16. Australia's proximity to China relative to other suppliers is also supportive of Australian suppliers increasing market share as supply expands (similar to the dynamic seen in 2013).

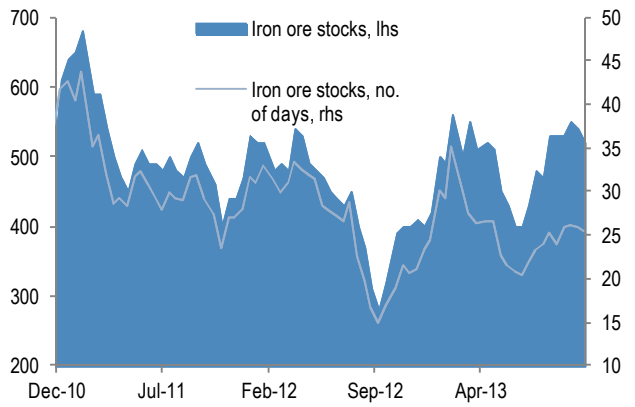
Thinking about the outlook for coal, the forecast is somewhat less pessimistic on the price front, largely because the coal price has already suffered large declines in 2013. We see coking coal averaging USD160/tonne in 2014, compared to an average of USD155/tonne year-to-date. Importantly for Australia, the demand side for coking coal is more constructive than that for thermal coal.[13] Market share dynamics remain supportive for Australian producers, with inventories of steel still light at Chinese steel producers. Also, US coking coal producers had been filling some of the gap in the market when Australian

Chart 8: We are forecasting a gentle decline in iron ore prices in 2014 (dashed line is forecast)
Iron ore price; USD/tonne



Source: J.P. Morgan.

Chart 9: Chinese steel mills restocked in 2H13
Kt Days



Source: J.P. Morgan.

supply was constrained by the Queensland floods, but this is not expected to come at a permanent cost to Australian market share given that US sourced coking coal is more expensive.

In conclusion, the story for Australia's key commodities is one of an outward supply curve shift, and incorporating the mixed story for demand, overall market conditions are relatively more positive for volumes relative to prices. As such, we see the commodity price outlook as only modestly bearish for the AUD in the year ahead.

(iv) Australian macro/rates – modestly bearish for the AUD as the investment/GDP ratio continues to decline

J.P. Morgan economists are forecasting another year of sub-trend growth for Australia in 2014, with calendar year growth expected at 2.75%. The composition of growth will be quite unusual relative to the mix that has prevailed over the last couple of decades in Australia – **Chart 10** illustrates

[13] Environmental concerns and improvements in the domestic supply chain in China have materially altered the demand outlook for thermal coal; we forecast Chinese imports of thermal coal to fall from 180mtonnes in 2013 and 2012 to 140m tonnes in 2014 (and 110m tonnes in 2015).

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that much of the growth will be derived from net exports, while consumption and investment are forecast to contribute much less than their 15-year average contribution to GDP. As much as the composition of GDP growth can matter for the currency, we note that export driven growth is a good starting point.

Against this backdrop, J.P. Morgan economists are forecasting just one further 25bp easing from the RBA in 1Q 2014. This would take the cash rate to 2.25%, further narrowing front end yield spreads. **Chart 11** illustrates the relationship between changes in the $A TWI and front end yield differentials. But given that the RBA easing cycle is forecast to come to a conclusion in 1Q14 and we expect no policy rate changes from developed market central banks in 2014 (except in the small economies of New Zealand and Norway), it is difficult to argue that short-end rate differentials will have much impact on the Australian dollar next year.

Short term cyclical fluctuations aside, we suspect the biggest driver for the currency over the medium term will continue to be the decline in mining investment. **Chart 12** illustrates that lower investment/GDP ratios are usually associated with a lower currency. Indeed, a recent speech by the RBA Deputy Governor espouses the dynamic between investment and the currency succinctly:

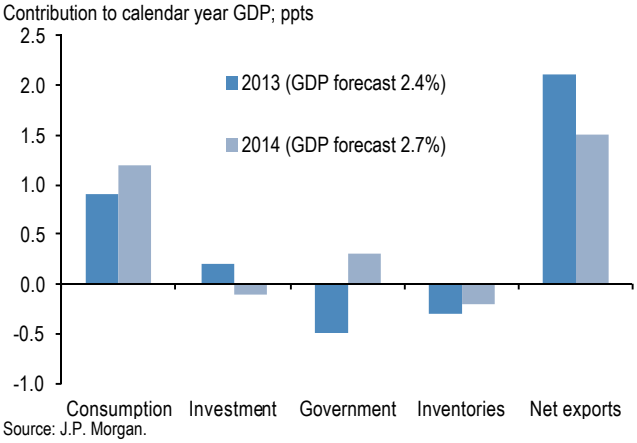
"*When investment in Australia was very high and rising, and investment elsewhere in the world was very weak and falling, it was not surprising that the Australian dollar was at quite a high level. This was a textbook response to an investment boom. But the textbook would also predict that as the mining investment boom in Australia unwinds and, hopefully, investment in the developed economies picks up, some realignment of the relative value of the Australian dollar would occur.*"[14]

Clearly, one aspect of this dynamic is already in train (lower levels of mining investment in Australia). But recent capex data from the US throw some uncertainty around a lift in investment in the G3 economies over the next year, highlighting why the decline in the AUD may not be of the magnitude and speed that the RBA might otherwise desire.

While rate differentials and investment dynamics might not provide much support to the economy, we note that relative growth dynamics in 2H14 might be mildly supportive of AUD. In particular, we note that while calendar year growth for 2014 in Australia is expected to be sub-trend at 2.75%, the sequential growth profile for the economy actually improves markedly over the course of the year (**Chart 13**). This is consistent with the idea that the economy should return to trend growth or thereabouts in 2015. And when we look at relative sequential growth momentum across a number of the developed economies, it is clear that the

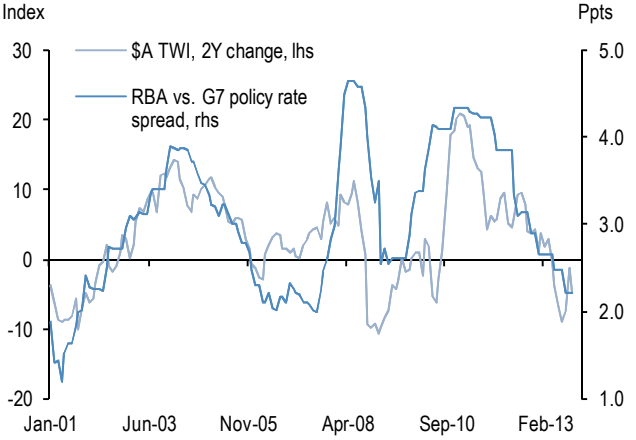
Chart 10: Australia's growth in 2014 will be heavily dependent upon net exports

Contribution to calendar year GDP; ppts



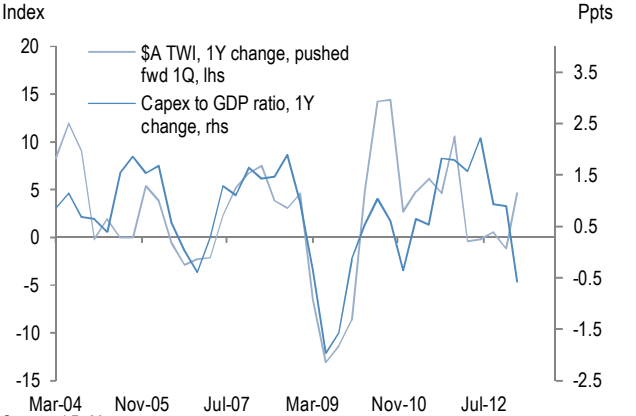
Source: J.P. Morgan.

Chart 11: Recent momentum in the $A TWI looks about right, given interest rate differentials



Source: J.P. Morgan.

Chart 12: A declining investment/GDP ratio is usually associated with a lower $A TWI



Source: J.P. Morgan.

[14] See http://www.rba.gov.au/speeches/2013/sp-dg-241013.html

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Australian growth forecasts have the potential to provide some support to the currency in the second half of the year.

In summary, we do not believe that the domestic macroeconomic and policy outlook in 2014 offers much in the way of strong signals for the currency. Rate differentials to the rest of the world should narrow a touch, and the ongoing unwind of the investment pipeline should also work to bias the currency lower. The two supports for the currency will continue to be strong export volumes and superior growth momentum relative to other developed economies in the second half of the year.

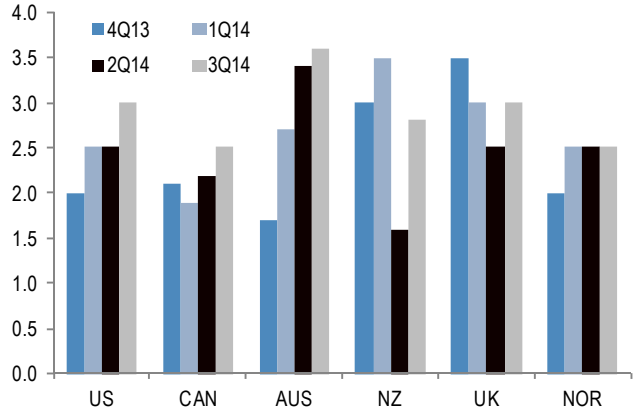
2. Quantifying the extent of the expected decline in the AUD – an empirical approach

While the direction for the $A over the year ahead might be clear, the extent of the decline is not. For example, is it reasonable to assume that the currency mean reverts? Or is there a compelling structural argument which suggests that the decline in the currency will be one which implies no mean reversion? As **Chart 14** illustrates, the corrective price action in 2013 doesn't really amount to much when we look at the REER in a multi-decade context. In the analysis below, we present a model which attempts to quantify the magnitude of decline we should expect in the real exchange rate in the years ahead.

Equilibrium models of the real exchange rate for small open economies like Australia usually focus on pinning down the influence of the terms of trade and real rate differentials. Here, we come to our first important observation: what makes small open economies unique is that there is significant evidence that their real exchange rates can be non-stationary, that is, they do not revert to any sort of stable mean. Shocks to commodity prices in particular tend to be fairly persistent, and can knock the real exchange rate into new ranges, since it is the real exchange rate that allows domestic resources to be redirected, such that the composition of the economy can rebalance consistent with trend growth and contained inflation.[15]

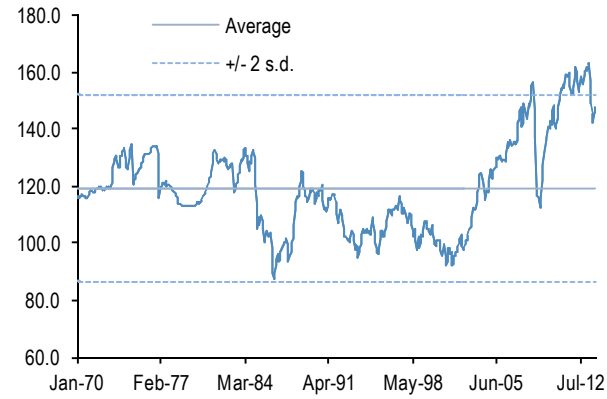
In trying to forecast the extent of the decline in the AUD REER, this context presents somewhat as a difficulty, as the non-stationary behaviour of the real exchange rate makes an assessment of the long-run equilibrium path of the real exchange rate difficult – there is no natural gravitational attraction to any particular level. Effectively, the trick is in figuring out the component of the change that is structural, and that which is temporary.

Chart 13: On J.P. Morgan forecasts, growth momentum should provide some support to the AUD later in 2014
QoQ saar %



Source: J.P. Morgan.

Chart 14: The correction in Australia's REER has not been especially significant thus far
QoQ saar %



Source: J.P. Morgan.

Our approach is to model these structural factors jointly, demonstrating that they are tethered together, albeit loosely, such that macro-economic balance is achieved over time. We then simulate the path back to balance as the terms of trade descend to lower but still elevated levels over the next few years.

(i) The Model

Our focus is the Australian real exchange rate, defined as the AUD/USD nominal exchange rate multiplied by the ratio of AUD CPI to US CPI, indexed to a common base year. The other structural variables of interest are: the AUD-USD real rate differential, where both terms are defined as the 90-day interbank rate less realized inflation; Australia's terms of trade; and imports' share of GDP in Australia. The data are quarterly, sampled from 1Q85 to 3Q13, and all variables, save the real rate differential, are in

[15] See for example Chen and Rogoff, "Commodity Currencies", *Journal of International Economics*, 60: 133-160, 2003

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log terms to smooth out volatility.[16] Note that the model presented here differs from the J.P. Morgan long run fair value framework, in that we use an Australian-centric approach (and not the cross-country panel approach of our fair value framework). This allows us to capture in greater detail the high sensitivity of the AUD REER to the terms of trade, and allows greater flexibility with respect to the type of non-stationarity and cointegrating relationship between the variables. For the AUD, this permits us to illustrate both the magnitude of departures from fair value, and to comment in more detail about the likely adjustment path back to fair value.

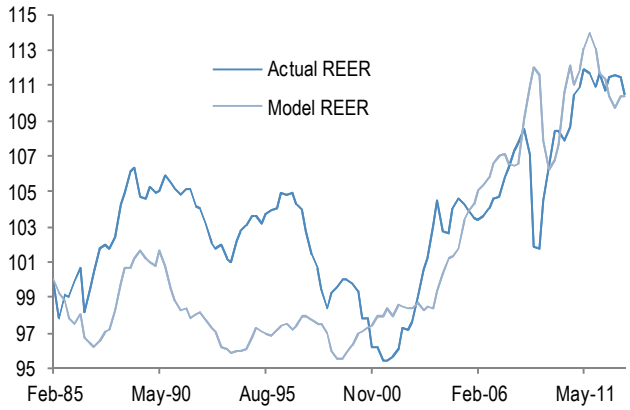
All of the above variables are non-stationary, meaning they can depart from any realized mean for an arbitrary amount of time. They each appear to have a stable mean, but share the common trait that shocks to their levels are correlated, and tend to persist, such that their variance grows unbounded over time. What this means for our modeling is that the structural variables are linked, and obey a long run equilibrium relationship, but one which tethers them together only loosely, such that deviations from equilibrium can take quite a long time to correct. The model we outline below allows us to specify this long run relationship, and simulate potential paths that could come with the structural unwind of the terms of trade.

The model[17] is represented by a system of equations, one for each variable, with the quarterly change in each variable regressed on its own lags and the lags of the one quarter change in the other variables, as well as an error correction term. The error correction term represents an adjustment factor that is required to push the variables back toward the long-run equilibrium relationship that holds between their levels.

This long-run cointegrating relationship is the equation of interest. As **Chart 15** shows, the long-run relationship does a good job of explaining the real exchange rate as a function of the other structural variables. However, while the levels of variables do move together over the long run, they can move in different directions on a short-term basis. **Chart 15** also shows that gaps between the level and modeled series can be sustained for quite some time. For this reason, the cointegrating relationship only represents the 'spine' of the model, with other terms in the error correction model allowing for departures from the equilibrium path.

Chart 15: The model – the $A REER as predicted by a cointegrating relationship with real rate differential, terms of trade, and imports' share of GDP

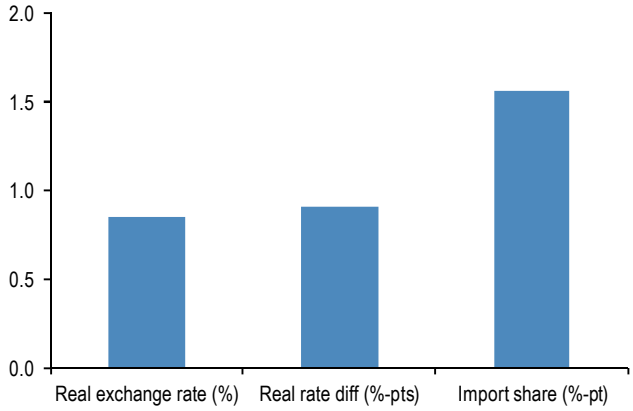
Log Index, 1Q85 = 100



Source: J.P. Morgan.

Chart 16: The long run sensitivity to +1% terms of trade shock

Percent



Source: J.P. Morgan.

One further attribute of our model is that it allows us to get a sense of the trade-offs between the explanatory variables in the model. In **Chart 16** we have re-expressed the parameters of the long-run relationship in terms of their relationship with the terms of trade. In the long-run, the modeled relationship between the terms of trade and real exchange rate is tight, with a 1% increase in the terms of trade eventually translating to a 0.85% increase in the real exchange rate. The estimates on the other structural drivers look similar, but given their different scales, are actually much larger in a proportional sense: a 1% increase in the terms of trade will eventually push up the real rate differential by 0.9%-pts, and push up imports' share of GDP by 1.6%-pts.

While the latter numbers might seem implausibly large in magnitude, it is important to note that these parameters are partially drawn from a long-run relationship that holds between all of the variables, and the trade-offs assume in

[16] We use a narrow REER to be consistent with our choice of AUD-USD real rate differentials as an explanatory variable in the model.

[17] A Johansen cointegration test suggests that there is a stable long run relationship between the levels of all four variables. This allows us to specify a Vector Error Correction Model (VECM) on the four variables with lags up to 12 quarters.

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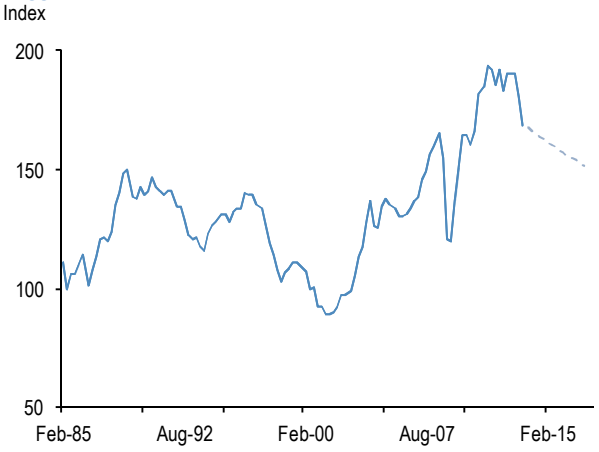
each case that all of the required adjustment occurs only through the channel in question in each case. In reality we would never get all of these effects in their entirety occurring at once. A change in the terms of trade will be offset by some combination of more modest moves in the other variables. Over the long run, much of the move in the terms of trade ends up being matched by the real exchange rate, so the fact that there is comparatively less variation left to be explained by real rates and the imports' share accounts for their high sensitivity.

(ii) Conclusions

Federal Treasury has forecast the terms of trade to decline 12% in total over the next four fiscal years. The view of a structurally lower (but still elevated) terms of trade over time is a widely shared one, as Asia grows at a slower average pace, and the supply expansion in the domestic resources sector after years of investment projects roll off starts to put downward pressure on commodity prices. Nonetheless, these forces will still see the terms of trade settle at a still elevated level, given that Asia will represent an increasing share of global growth. Using this assumption, our model has four key conclusions:

- **First, while the REER is expected to decline, our forecast adjustment path (from 3Q levels) still leaves the AUD REER 25% above its long term average**. Passing these numbers through our model suggests a necessary decline in the real exchange rate of a little over 10% given a 12% forecast decline in the terms of trade (**Chart 17**). It suggests that reversion back towards the average levels of the REER through the 1980-2000 period seems unlikely over our forecast horizon.
- **Second, the adjustment can be a long time coming**. On the basis of our model, the forecast adjustment in the REER could take nearly 4 years, even if the terms of trade adjustment were marked through in a front-loaded fashion. Indeed, long departures from fair value are similarly common in many PPP based foreign exchange models.
- **Third, the adjustment path can be bumpy**. One of the key conclusions of our model is that the path of the adjustment is not one-directional, nor linear. The REER exchange rate can overshoot the adjustment path in both directions. This is an important conclusion, especially for those who care about the short-term fluctuations in the currency, and not just the end point of the adjustment.
- **Fourth, the move lower will not be spread evenly over the adjustment time horizon** (nearly four years on our model). It could be front- or back-loaded. If it were the latter, it begs the question as to whether there is enough stimulus in place, and existing momentum in the rebalancing effort today, to offset these continued drags until the currency relief arrives.

Chart 17: Using Federal Treasury's forecast for a 12% decline in Australia's Terms of Trade over the next 4 fiscal years, our model suggests a 10% decline in the $A REER



Source: J.P. Morgan.

We would make a couple of further points with respect to our model. First, the model takes no account of portfolio shocks. A messy unwind of the terms of trade boom that results in capital flight would generate a sharper currency adjustment, while a return of 'flight to quality' fixed income flows would put further upward pressure on AUD, and downward pressure on the cash rate.

Second, from a macroeconomic perspective, it is clear from examining the relative sensitivities in **Chart 16** that every % of adjustment that is not made by the real exchange rate puts significant pressure on the real rate differential and import share of GDP to bear the burden. Looking at real rate differentials, our results suggest it would take a very significant easing of policy to offset any shortfall in the real exchange rate adjustment – essentially the trade-off is 1.0ppt on rates for a 1% overshoot in the real exchange rate. While this seems very high, it reflects the fact that historically the exchange rate has indeed played the dominant role in readjusting the economy following terms of trade shocks. It also highlights the difficult trade-off facing the RBA at present.

Interestingly, RBA Governor Stevens remarked on several of these themes in a speech last week (see http://www.rba.gov.au/speeches/2013/sp-gov-211113.html). This address represented the Bank's most genuine acknowledgment of the case for currency intervention in memory. The fact that these unconventional approaches are now being considered is testament to the RBA's anxiety with the currency settings. In particular, officials have suggested that from here, a lower currency would be preferable to lower rates a source of marginal stimulus, and

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the results of our modeling confirms the sense of a perceived steep trade-off between the currency and rates.

The Governor mentions one of the RBA's internal workhorse models of the currency, which seems to share several features of our work. First, noted that *"…it is not surprising that the exchange rate responds to changes in the terms of trade. It is nonetheless striking how close the empirical relationship has turned out to be."* However, while there is broad agreement on the importance of the terms of trade variable, Stevens notes there are significant uncertainties around the persistence of shocks, and the adjustment path to a new equilibrium:

"A further difficulty in assessing the exchange rate's level lies in that very persistence. The relationship between the exchange rate and the terms of trade has, broadly speaking, continued to hold (Graph 5). Nothing looks very unusual right at the moment. But this relationship is estimated over a period in which the changes were generally cyclical. It is at least conceivable that a large and persistent rise in the exchange rate may have effects on the economy beyond those discernible from the experience of the past thirty years, if previous rises in the exchange rate were not long-lived enough to cause significant structural change. This is a possibility the Reserve Bank has noted in the past couple of years."

In musing on the costs and benefits of currency intervention, Governor Stevens also noted that:

"The Bank's intervention strategy has tended to be profitable over the long run. The success of this strategy was helped considerably by the fact that, for much of the floating era, the exchange rate's behaviour could be characterised as fluctuating around a stable mean. If a situation came along that shifted the mean, the strategy might need to be altered."

Our model fleshes out this non-stationary behavior a little further, and also gives a sense of the new equilibrium the exchange rate may be converging to: a level lower than prevails today, but significantly above the long run average. If RBA officials are coming around to a similar view, it would make sense to keep intervention on the table, but this will force a rethink of the old structural trading ranges.

3. Risks to the AUD outlook

We think risks to the AUD are largely balanced. Our summary follows. Starting with positive surprises, we identify three key upside risks for the AUD in 2014. **First, a genuine upside surprise to the domestic economic outlook**. We think this would likely arrive from two sources; the first would be a genuine uplift in government funded infrastructure projects. Materially higher public investment growth would go some way to offsetting the drag from slower mining sector investment in 2014/15. The second source would be an upside surprise in non-mining sector investment expenditure. This outcome would likely require the economy to show more resilience to an elevated currency than most observers currently expect.

- **The second (and related) risk would be a meaningful shift in the domestic interest rate cycle**. This is clearly conditional on a better macroeconomic outcome, but would be very powerful as a driver of a higher currency. Under this scenario, the RBA would potentially become one of the first developed market central banks to commence a tightening cycle. The other mechanism through which a shift in domestic rate expectations might eventuate would be a compression of mortgage vs. cash rate spreads. This would arise via independent mortgage rate reductions from domestic lenders, which, if viewed as out of line with domestic growth and inflation fundamentals, could spur rate hikes from the central bank.
- **The third risk comes in the form of a stronger Chinese growth outcome, and higher commodity prices and volumes** than we currently forecast. This would force upward revisions to Australia's terms of trade and growth, both supportive of a higher AUD.

Turning to negative surprises, we think there are four key downside risks for the AUD in 2014.

- **First, a downside surprise or shock to Chinese growth**. Given the dependence of the domestic economic outlook on continued growth in export volumes, a shock of this nature would likely result in a recession. While policy makers would have scope to deliver both fiscal and monetary easing, we suspect this outcome would be quite bearish for the currency as growth expectations shift lower, rate differentials narrow and Australia's AAA credit rating is questioned.
- **Second, a sharper unwind of mining investment than currently forecast**. Once again, this would likely see Australia experience a recession; **Chart 18** illustrates that sharp declines in the investment to GDP ratio have (at best) been associated with one negative quarter of GDP growth. This would presumably be less bearish for the economy (and hence AUD) than a severe shock to Chinese growth, as net exports would still hold up as a driver of growth and policy makers would have scope to ease both fiscal and monetary policy.
- **Third, the RBA enacts a formal FX intervention policy**. This is clearly a risk worth contemplating, given recent comments by the RBA Governor. Indeed, we think markets should probably give further consideration to the set of conditions that might push the

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RBA to reach deeper into its toolbox, should the exchange rate be considered overvalued.

- **Fourth, significantly narrower interest rate differentials**. If short end interest rate differentials were to narrow materially, then we think this could be reasonably bearish for the currency. This scenario would likely involve the combination of steep rate cuts from the RBA (cash rate sub 1.0%) and macro-prudential regulations which are designed at limiting the impact of low rates on the credit accelerator.

New Zealand Dollar – our favoured Antipodean

The New Zealand dollar has likely surprised most forecasters with its resilience in 2013. Indeed, the NZD has continued its post-Lehman pattern of making higher lows each successive year, and even made a new high in 2013 relative to 2012 (**Chart 19**). While this resilience has not been welcomed by policy makers, the New Zealand economy appears – at least at an aggregate level – to have performed very well. Indeed, the RBNZ is forecasting annual GDP growth in excess of 3% for the September quarter data. Looking ahead, we maintain a broadly neutral outlook for the NZD over the next year, which, relative to our AUD forecasts, anoints the NZ dollar as our favoured Antipodean currency. We are forecasting the NZD at 0.83 by Jun-14 and 0.83 by Dec-14. There are two key reasons for our (relatively) more positive view on NZD; outlined in the discussion below.

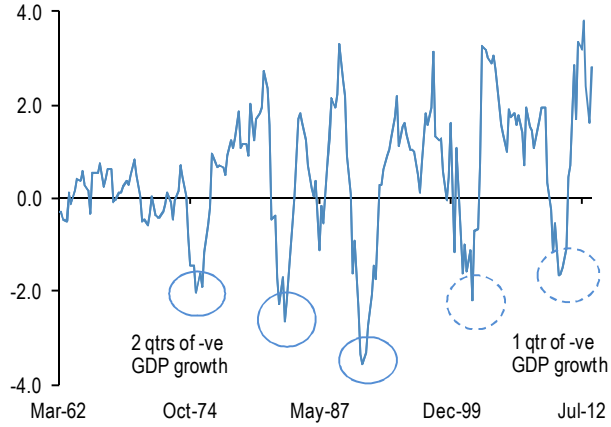
1. The macro-economic environment for the New Zealand dollar in 2014

(i) The growth outlook for New Zealand – above trend in 2014

New Zealand appears to have shrugged off every headwind thrown at it so far this year – a significant slowdown in the Australian and Chinese economies, fiscal consolidation, drought, contamination scares and a persistently strong currency. Against this backdrop, we expect New Zealand to record the strongest calendar year growth of any developed market economy in 2013. We expect another strong growth performance in 2014, with the positive output gap expected to widen further as the year progresses.

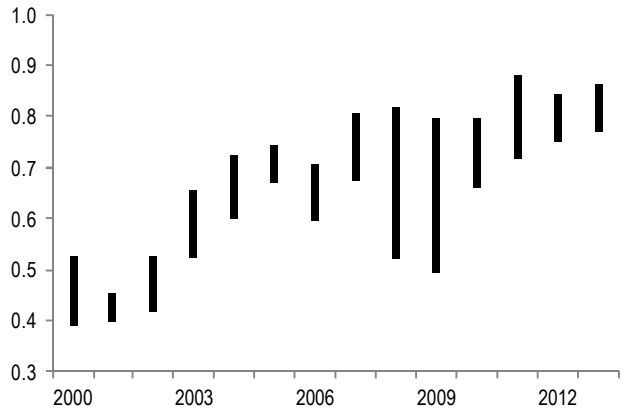
Indeed, the main positive driver for the NZD is our projection of above trend GDP growth of 2.6% in 2013 and 2.8% in 2014. The key message from recent data is that the recovery is broadening, and no longer confined to the housing or construction sectors (**Chart 20**).

Chart 18: Sharp declines in the capex/GDP ratio have often been associated with at least one negative quarter of GDP growth
2Y change in the capex/GDP ratio; ppts



Source: J.P. Morgan.

Chart 19: The NZD/USD has made higher lows for the last four years…
Annual ranges; NZD/USD



Source: J.P. Morgan.

This is an important acknowledgement, given the extent to which the Canterbury rebuild will continue to contribute to aggregate growth outcomes (**Chart 21**). While the 2Q GDP outcome was dragged lower by supply difficulties in agriculture, ideal growing conditions through winter have removed the drought as a major issue, and pose substantial upside risks to the 3Q result.

The deleveraging drag is also becoming less significant in New Zealand, with the household saving rate having increased but now stalling, and diminishing fiscal drag from the government sector as government revenues improve at a faster than expected rate. In addition, export volumes have proved resilient to global growth weakness on the volumes side, thanks largely to New Zealand's 'low-beta' agricultural export mix and a favourable real AUD/NZD cross rate. And while contamination in dairy product clearly brings reputational risk for exporters, it is worth

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remembering that New Zealand is often the dominant supplier in many of these markets (for example, China imports 90% of its milk powder from New Zealand).

On J.P. Morgan forecasts among the G10, only the UK will post stronger growth in 2014. This impulse will likely offset the drag on NZD from the Fed's expected QE withdrawal over 2014 and anchors our relatively constructive view on the Kiwi dollar next year.

(ii) The monetary policy cycle – the RBNZ will be the first G10 central bank to raise rates in 2014

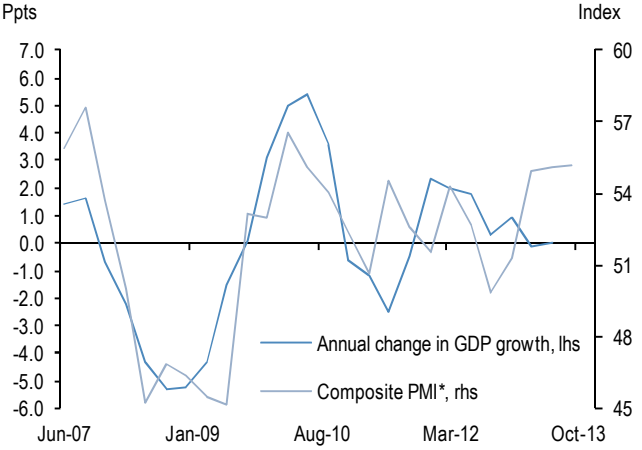
J.P. Morgan is forecasting the RBNZ to raise rates in June next year. By year end, we expect a total of 75bps of tightening to be delivered. This will make New Zealand the first developed market central bank to hike rates in 2014, with the magnitude of expected tightening also notable. However, there is greater-than-is-usual uncertainty around the monetary policy outlook at present, as a result of the introduction of LVR restrictions on 1 October. Specifically, we have less conviction around the relationship between the real economy and the monetary policy response now that macro-prudential regulations are in play.

LVR restrictions on mortgage lending are now officially in play, and will temper the extent of tightening in 2014, but the upward bias on rates remains clear. The RBNZ's September MPS declared that LVR restrictions on new mortgages will "buy some time", and remove 30bps of interest rate pressure. Recent speeches by senior RBNZ officials suggest this calibration is only a best-guess, and that policymakers will be continually gauging the extent of monetary-policy like effects. Indeed, recent mortgage approvals data suggest that the LVR restrictions are having some impact - see **Chart 22**. The RBNZ's projections for the OCR in 2014 are steeper than J.P. Morgan economists' expectation (+75bps), so a faster than expected moderation in house prices, or credit growth, would see some downward pressure on the Bank's rate projections. However, by the same token, the RBNZ's TWI forecasts look likely to be revised up (currently sitting 4% below spot), so a tempering of rate expectations for 2014 need not be too bearish for NZD.

3. The electoral cycle – NZ faces an election in late 2014 and a change of government would likely be positive for aggregate demand and ultimately, NZD

Toward the back half of 2014, uncertainty relating to fiscal policy in New Zealand is likely to rise, with John Key's National government, currently in its second term, to face an election before the end of the year. In New Zealand, elections are held around every three years (the last was in November 2011), with the latest possible date for the next

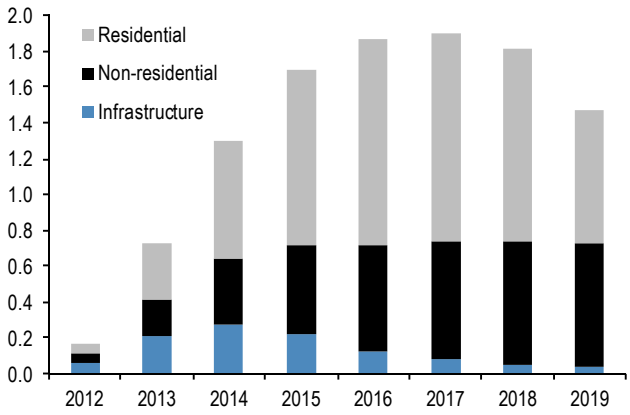
Chart 20: NZ PMIs have lifted in 2013, consistent with the idea that growth is broad-based and GDP growth will continue to accelerate



Source: J.P. Morgan; * 30% manufacturing and 70% services.

Chart 21: The Canterbury rebuild will make a solid contribution to NZ growth for sometime yet

Proportion of potential GDP; %



Source: J.P. Morgan and RBNZ.

poll being December 6. Admittedly a year is a long time in politics, but nevertheless, at this early stage, current polling suggests a close race. As currently stated, the policy mix that Labour would bring to government involves several meaningful changes for the fiscal stance. The significance of these differences will likely become more pertinent for the currency as we move through 2014, with the implication of a generally more expansionary demand backdrop adding further support to NZD.

The incumbent government has targeted a return to surplus in 2014/15, and though the consolidation process initially proved difficult through a long, lackluster recovery, the revenue numbers have repeatedly surprised to the upside through 2013, aided by the resurgence of domestic demand. The final Budget outcome for 2012/13 came in close to 1% of GDP better than forecast at the beginning of the fiscal year, and over 1.5% better than what was forecast in Budget 2012. In the first three months of the current fiscal year, the

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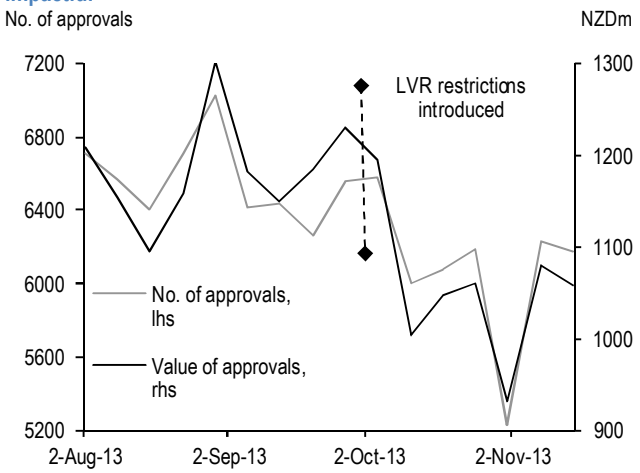
outperformance has continued and even if the numbers slip back to the revised path forecast at June this year, the Budget position will finish the year at a deficit of less than 1% of GDP.

We discuss the changes that a Labor government could bring below, but the recent tracking of the fiscal accounts mean that even if Labor fails to take power, with the Treasury having banked a better than expected revenue take over the last year, the political pressure on the Nationals to loosen the purse strings in an election year could prove hard to resist. A loosening of the fiscal stance by either party would also have implications for the RBNZ, since NZ Treasury's estimates of fiscal drag suggest that most of the heavy lifting in the final push back to surplus was to be reserved for the 2014/15 year, when the contribution to growth from earthquake reconstruction was to be largest. If this drag is limited, monetary policy might have to do more work.

Labour have floated a number of quite significant changes to economic policy in the year before the election (note that Labour's recent leadership change promoted David Cuncliffe to Opposition leader, while some of these pledges were made by former leader David Shearer – it remains to see whether the latter's pledges would be honoured). The most significant changes are on housing policy. Labour has very ambitious plans on housing supply, with their "Kiwibuild" scheme aiming to build 100,000 affordable dwellings, financed by "housing affordability bonds", with the dwellings on-sold to first home buyers at par cost. This scheme would be over three times as large as the targets set by the National government under the Auckland housing accord, and to do so during the Canterbury reconstruction boom would obviously put significantly more pressure on capacity in the building sector, increasing the likelihood of an inflation impulse.

Another significant pledge is that Labour would move to have first home buyers exempted from the RBNZ's LVR restrictions. There are two issues here, the first being that the looser LVR restrictions are, the tighter broader monetary conditions need to be, and the second that such regulation, technically the Reserve Bank's domain, intervening in this space would represent at least a notional challenge to central bank independence. Further, Labour has broader expansionary fiscal plans, having mooted minimum "Living Wage" increases for government workers, which, depending on scope, could cost over 1% of GDP a year, would move to extend paid parental leave schemes to six months, and plans to set up a state-owned insurance provider.

Chart 22: Early indications are that the LVR restrictions have been impactful



Source: J.P. Morgan.

4. Risks to the NZD outlook

Once again, we think the risk profile for the New Zealand dollar is well balanced in the year ahead. Beginning with the positives, we see three upside risks to our NZD outlook.

- **First, the OCR cycle**. The RBNZ have assumed that LVR restrictions can substitute for 30bp of rate hikes. By using this assumption to not only reduce the magnitude of tightening required, but also delay the start of the hiking cycle, officials have effectively doubled down on their bet. If however LVR restrictions prove to act only through narrow channels, or credit is redirected to investors (at lower LVRs) such that house price inflation does not moderate and consumers return to pre-2008 behavior, the RBNZ will have more work to do, and less time to do it in than they originally planned. This would place NZ at the vanguard of policy normalization worldwide, putting significant upward pressure on NZD.
- **Second, dairy prices do not come back down to earth, despite the fact that supply is normalizing after the drought and contamination scares of 2013**. Farm income continues to surge, offsetting the drag from the currently high level of the currency. With national purchasing power having risen, the pressure to repair household balance sheets wanes, and consumption and inflation break free of their post-crisis shackles. The RBNZ is forced to push rates higher than would be expected at prevailing levels of the TWI. This would exacerbate the economy's structural issues, as a stronger NZD leads to yet more import substitution and lower domestic productivity. Still, Governor Wheeler would have little choice, and having often emphasized the limits of monetary policy in addressing structural

issues, would be forced to simply focus on his inflation target.

- **Third, resource utilisation**. Planning bottlenecks in the Canterbury and Auckland property markets are resolved, causing a further vault higher in building approvals. With approvals passed and resources now over-committed, the only device the economy would have for rationing this activity over time is for prices – likely building materials costs and construction wages – to spike. The growth/inflation trade-off now would be much less favourable for the RBNZ, forcing a more aggressive hiking cycle through 2014 and putting upward pressure on the currency.

The downside risks to the NZD can be characterised as follows:

- **The risks around the RBNZ's LVR restrictions run both ways**. Early evidence suggests banks have been cancelling their pipeline of pre-approved loans, which indicates a difficulty in managing compliance with the new rules. This could see banks err on the side of caution in their loan-writing activity from here, forcing a faster than anticipated decline in credit and house price growth. In taking the heat out of housing, the focus for monetary policy comes back on CPI inflation, which has proven very benign so far. The economy could continue to generate above trend growth without much inflation (as LVR restrictions act to direct capital in an efficient manner, boosting potential growth). A less aggressive normalization profile would take some of the heat out of NZD.
- **Another supply-side shock to real exports**. New Zealand's export sector appears to have used up several of its nine lives of late, in having dealt with a drought, side-stepped a demand slowdown in its largest trading partner, China, and avoided longer-term reputation damage following a contamination scare in its largest export category, dairy. The most damaging sort of shock would be one that results in longer term substitution of real demand away from NZ in favor of some other destination – as we have seen this year with the drought, shocks to supply which preserve effective demand for NZ product tend to be offset by much higher export prices, leaving farm incomes relatively steady. Such a demand substitution shock would fall into the realm of "Unknown unknowns", but one high impact risk we could imagine is that China moves to set up independent sources of dairy production closer to home.
- **The Australian economy falls in a more severe hole than is forecast**, as a result of a messy unwind of the mining capex boom. While China is now NZ's most high-profile trading partner, Australia still is number two, and its links to the NZ economy are far broader. A much wider range of industries would be affected by a sharp downturn in Australia, not least of which is the nation's major banks, which all rely on funding from their Australian parents. The pressure on Australian bank balance sheets as a result of a recession would force a home bias in capital allocation and sharp credit tightening in NZ.

Ongoing Antipodean divergence favours a lower AUD/NZD in 2014

A prolonged period of NZ economic out-performance through 2012/13 has been perplexing for some investors, who have queried how New Zealand can continue to do so well while its top two trading partners (Australia and China) have both exhibited a noticeable slowing in economic momentum at various points in the last couple of years. Indeed, when we look at the broad similarities between AUS and NZ monetary policy cycles over the past 14 years, there may be some underlying truth to the going assumption that the two Antipodean economies must be joined at the hip. They share many similarities – small open economies with current account deficits, inflation targeting central banks and relatively high term interest rates compared to the rest of the developed world.

Nonetheless, **Chart 23** suggests that cyclical divergence between the two economies is not unusual. Indeed, the chart suggests that there is a reasonable mean reverting dynamic to relative economic performance between the Antipodean economies, with periods of out-performance relatively short-lived. The average spread between the annual rates of Australian and New Zealand GDP growth over the last two decades is just 0.5ppts (in favour of Australia). Our currency forecasts for 2014 embed the assumption of economic out-performance of NZ relative to Australia. In the analysis which follows, we provide a discussion of the factors behind our constructive view on the AUD/NZD cross rate.

1. Idiosyncratic growth shocks will bias the growth story in favour of NZ

One of the sources of Antipodean growth divergence is easy to spot. Both New Zealand and Australia have very country-specific and idiosyncratic growth shocks impacting economic momentum at present, but working in different directions. In New Zealand, the growth shock derives from the rebuild in Canterbury after the 2011 earthquake (**Chart 21**). In Australia's case, the idiosyncratic growth event has been the cooling of so-called "phase 2" of the commodity

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boom; the fading of the mining investment cycle. This is expected to be a strong headwind to Australian GDP growth over the next 1-2 years; J. P Morgan economists estimate that the fading of the mining investment boom should detract around 2ppts or thereabouts from growth. **Chart 24** illustrates their estimates of the investment pipeline in coming years.

Although aggregate growth outcomes will clearly depend on other factors than just mining investment or earthquake reconstruction, a quick look at **Charts 24 and 25** suggests that, if anything, the impact of these country-specific shocks on growth outcomes may get more extreme through 2014 and 2015. Against this backdrop, the wedge between Australian and New Zealand growth could persist for sometime yet (and is incorporated into our estimate of relative output gaps for each country – see the discussion on page 16).

2. Commodity exports and incomes also favour NZ

One of the other sources of recent out-performance comes from commodity prices. Both the Antipodean economies are heavily reliant on export incomes, albeit from very different commodity exports. **Table 1** outlines the top three exports for each economy:

Table 1: Top 3 exports
Share of exports, 2012; %

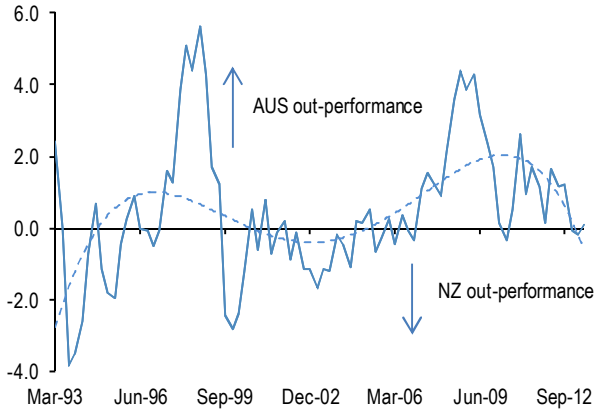
New Zealand		Australia	
1) Dairy	25.9	1) Iron Ore	22.1
2) Meat	10.8	2) Coal	16.6
3) Lumber	6.6	3) Gold	6.3
	43.2		**45.0**

Source: J.P. Morgan.

The relative performance of Antipodean commodity prices is shown in **Chart 25**. The chart shows that generally, the commodity cycles for soft and hard commodities tend to move in tandem. The current divergence between growth rates in Australia's key commodity prices and New Zealand's key commodity prices has been as marked as at anytime in the past two decades. When we look at the outlook for commodity prices in each country by examining our economists' forecasts for the terms of trade, **Chart 26** illustrates that this divergence could continue to persist.

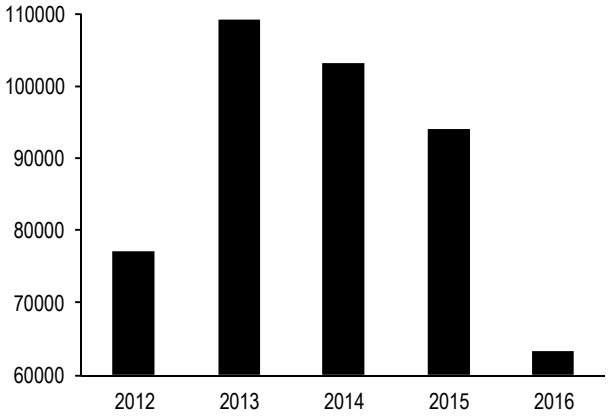
The key point in coming years is that the NZ export complex looks better placed than Australia's, given the type of growth transition we expect in China in coming years. From New Zealand's perspective, the demand for protein is a medium-term story that is largely entrenched in a rising middle class in China and India. However, as we noted above, we believe that the the risks to this story emanate from a supply-side shock – either Chinese supply or a technology-driven substitute for protein.

Chart 23: Relative growth momentum has favoured New Zealand over Australia of late
oya % GDP growth spread between AUS and NZ; ppts



Source: J.P. Morgan.

Chart 24: The drop-off in Australian mining investment will be a drag on AUS growth in 2014 and beyond
Estimated capex pipeline, $Am



Source: J.P. Morgan.

3. Financial conditions appear to be less of a headwind in NZ

Making an assessment of financial conditions in either of the Antipodean economies is difficult. Both have interest rate and exchange rate settings that are very unusual, relative to the experience of the last decade or so (high real exchange rates, low nominal interest rates). But we would make two points.

First, household credit growth in New Zealand has picked up noticeably in recent months, relative to credit growth in Australia. Indeed, if we look at correspondent moves in annual growth rates since credit growth to the household sector reached its cyclical trough, the divergence is quite stark (**Chart 27**). Although the credit cycle in New Zealand

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troughed earlier (September 2011) than it did in Australia (May 2012), the inherent momentum in household credit growth looks a lot stronger in New Zealand than it does in Australia. And this is despite the fact that the RBNZ has not cut rates since September 2011, while the RBA has cut rates 125bp since May 2012. Of course, other factors can impact credit growth, such as household leverage ratios and the supply of credit. In terms of the former, a genuine recession in New Zealand actually generated decent deleveraging from the household sector (**Chart 28**). In contrast, the household sector in Australia has made less progress, at least when we consider aggregate household leverage ratios.

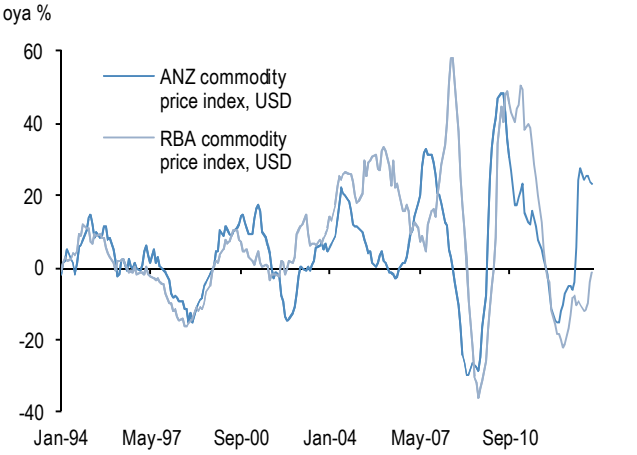
The second point around financial conditions we would make concerns exchange rates. Much has been made of the strength of the NZD, with the RBNZ Governor repeatedly describing the currency as "overvalued". And many have pointed to the strength in NZD vs. AUD as a headwind for exporters, especially given that Australia is one of New Zealand's most significant export destinations (and the fact that Australia and New Zealand are direct competitors in a number of export markets). But when we look at this cross rate in real and not nominal terms, a different picture emerges (**Chart 29**). Indeed, the real AUD/NZD exchange rate seems far from what would be regarded as prohibitive.

Forecast output gaps suggest the divergence has further to run, suggesting AUD/NZD can fall and rate differentials can compress further

One of the main drivers of monetary policy – and hence interest rate differentials and currencies – is the output gap. Accordingly, we look at forecasts for the respective output gaps in both Australia and New Zealand, and use this as an indicator of whether front-end yield spreads and the AUD/NZD are first, appropriately priced given our estimate of the current output gap, and second, whether they suggest much in terms of likely direction into 2014.

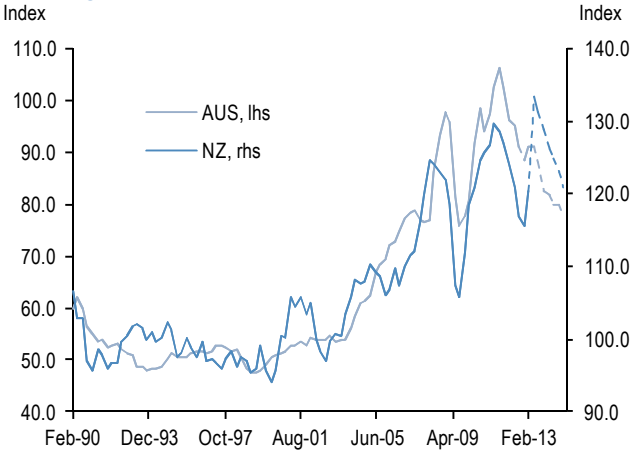
Based on J.P. Morgan forecasts of output gaps in both Australia and New Zealand, Antipodean divergence looks set to continue through to the end of 2014. In New Zealand, we expect the output gap to become positive by the end of 2013 (above trend growth), and to rise rapidly in 2014. In Australia, we expect the output gap to remain negative – although increasingly less so – through to the end of 2014. **Chart 30** illustrates historical output gaps and J.P. Morgan forecasts through to year end 2014.

Chart 25: Relative commodity price movements have also favoured New Zealand in 2013



Source: J.P. Morgan.

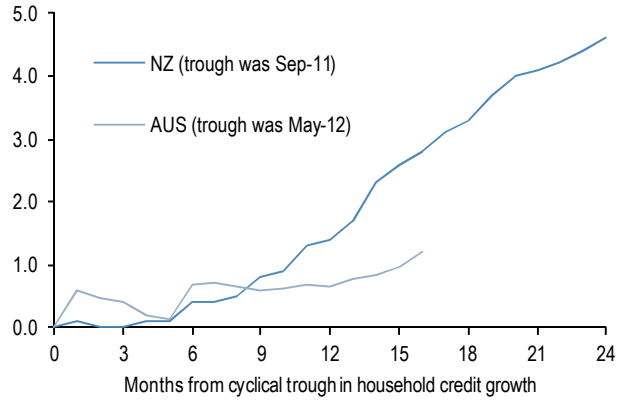
Chart 26: J.P. Morgan's terms of trade forecasts suggest further upside for NZ commodity prices, relative to AUS commodity prices in coming quarters



Source: J.P. Morgan.

Chart 27: Household credit growth exhibits significantly stronger momentum in New Zealand than it does in Australia

Change in annual growth rate; ppts



Source: J.P. Morgan.

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Chart 31 illustrates the relationship between the output gap spread and the policy rate differential (including forecasts). The chart suggests that the policy rate spread is likely to narrow further (RBA cash rate below the RBNZ cash rate); on J.P. Morgan forecasts this spread is expected to reach -50bps by the middle of 2014 and -100bps by the end of 2014. J.P. Morgan economists expect the RBA to cut by 25bp and the RBNZ to hike by a total of 75bp by December 2014.

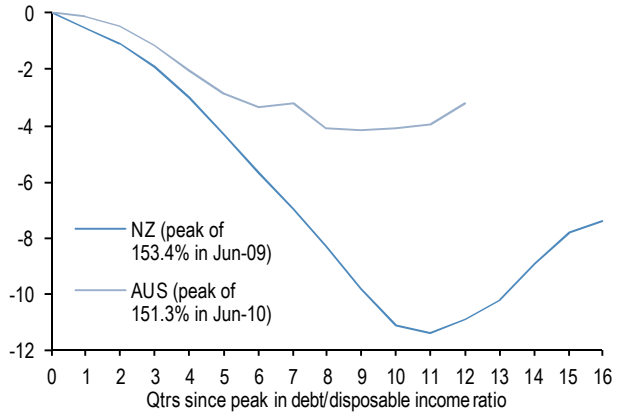
Is this fully priced in FX markets? **Chart 32** shows that that the AUD/NZD cross rate has shown a reasonable directional relationship with the output gap spread between Australia and New Zealand over the course of the last 25 years. As we noted above,. J.P. Morgan forecasts suggest that the output gap will widen further (in favour of New Zealand) through 2014, implying further downside for the AUD/NZD cross rate. Our target for the AUD/NZD cross is 1.11 by mid-2014 and 1.08 by year end. This target is broadly consistent with recent cyclical lows in the cross.

Interestingly, **Chart 32** suggests that the current level of AUD/NZD looks to have run ahead of the expected narrowing in the output gap spread. This could either be taken one of two ways; either the market has become more efficient at pricing relative economic outcomes, or alternatively, it suggests there is scope for a correction in AUD/NZD which would provide better levels to implement shorts in AUD vs. NZD. We have some sympathy for the latter explanation, especially if there is a near term acceleration in global data (particularly Asia) which helps AUD out-perform short term.

A valuation perspective on AUD/NZD is a useful benchmark for our output gap analysis. Our medium-term estimate of AUD/NZD fair value – based on 2Y swap spreads and commodity prices – suggests that AUD/NZD is also a touch rich at present relative to our fair value analysis (see **Chart 33**). This is a similar conclusion to that derived by our output gap analysis.

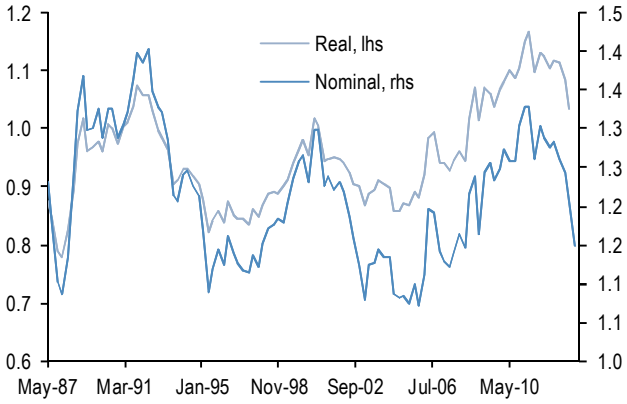
In conclusion, we believe that the theme of Antipodean divergence has further to run in 2014. We therefore like strategic short positions in AUD/NZD, although we would prefer to enter the trade at levels more in line with our valuation models (around 1.1550 or better).

Chart 28: New Zealand households deleveraged more than Australian households, at least initially
Change in debt/disposable income ratio; Ppts



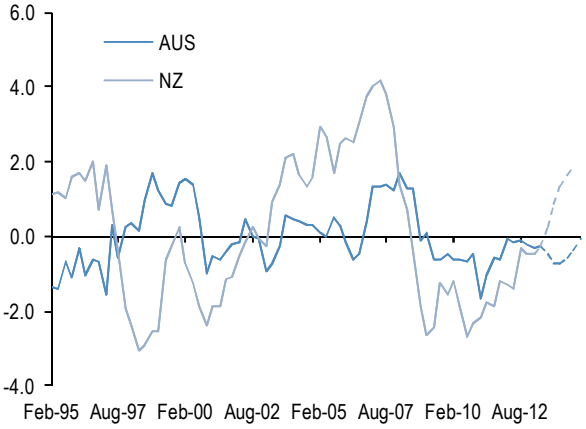
Source: J.P. Morgan.

Chart 29: AUD/NZD exchange rate, nominal vs. real – the nominal exchange rate might look rich, but the real exchange rate has not moved much
Index Index



Source: J.P. Morgan.

Chart 30: Australian and New Zealand output gaps – quite different trajectories in 2014
Percent of potential GDP; Ppts



Source: J.P. Morgan.

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Antipodean FX flows – also supportive of NZD relative to AUD

Australia

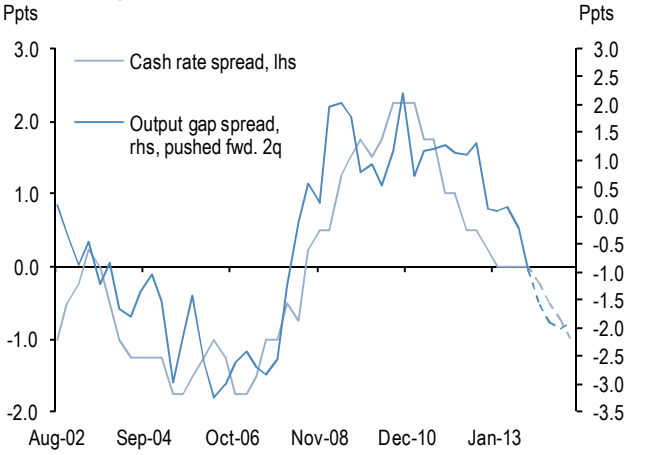
Consideration of the financial flows data suggest there will be plenty of cross-currents in play over the forecast horizon for AUD, but with the overall balance of factors being negative. Reduced appetite by the offshore sector for bank and government debt relative to recent experience, plus a less stimulatory relationship between nominal trade outcomes and GDP growth, will at the margin put pressure on the investment/savings gap, forcing depreciation pressure. However, the still-elevated level of investment activity in the mining sector, and the automatic stabilizer of the government possibly clawing back more revenue (reducing their funding requirement) through reduced depreciation and extraction allowances as mining capex falls, mean the overall pressure will be moderate. In the analysis that follows, we consider the impact of portfolio and FDI flows in Australia.

(i) Portfolio flows

Since the middle of 2012, the major themes on the portfolio side have been a waning of interest by global investors for holdings of government debt, but a stabilization in holdings of bank debt.[18] From here, if the offshore sector's representation in holdings of government bonds remains relatively steady (at around 70% - see **Chart 34**), then each dollar of domestic issuance will matched by at most 70c of foreign demand through direct or portfolio capital inflows into the local bond market. This is a more balanced case than when foreign buyers were attempting to claw an ever higher share of net issuance over 2009-2011, where they had to absorb over 90% of marginal issuance.

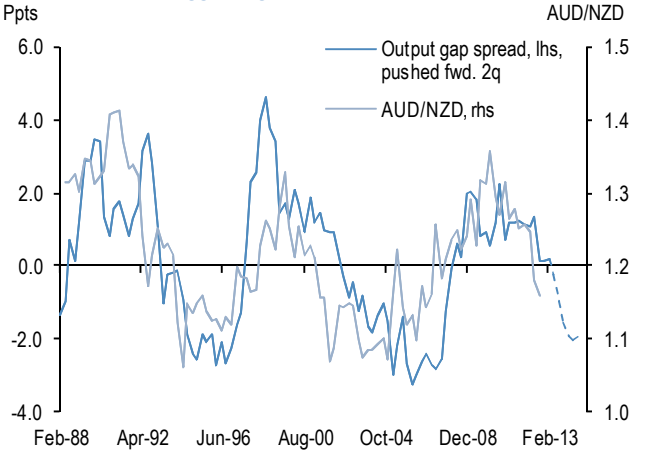
The implication is that more of the government's marginal funding requirement will have to be met locally, which crowds out demand for capital of other sectors. This mix of conditions for government finances therefore looks like it will bias Australia's savings/investment gap wider, which is bearish for AUD. The announcement by Treasurer Hockey of a large (A$10 billion) capital injection for the RBA, an upgraded and front-loaded issuance program from the AOFM and hints of more aggressive government funded infrastructure programs add to this bias.

Chart 31: The spread between Antipodean output gaps has generally led the policy rate spread between Australia and New Zealand



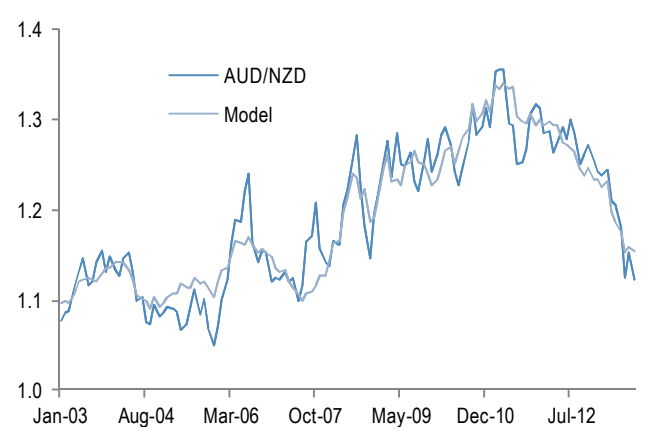
Source: J.P. Morgan.

Chart 32: The spread between AUS and NZ output gaps is forecast to widen further, suggesting more downside for AUD/NZD



Source: J.P. Morgan.

Chart 33: From a medium-term valuation perspective, AUD/NZD looks a touch rich at present



Source: J.P. Morgan; AUD/NZD regression based on the AU and NZ 2-year spread and spread between RBA and ANZ commodity indices, R-squared = 0.89. Model uses monthly data.

[18] We focus on debt flows, since they have comprised 80% of total portfolio flows from 2007 onwards.

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The other important aspect to portfolio flows in Australia comes from Japan, especially when we think about debt flows. Indeed, it is now well recognized that a large part of the decline in the AUD in 2013 was driven by large scale liquidation of Japanese holdings of AUD fixed income. **Chart 35** illustrates that momentum in Japanese flows appears to have turned. This is consistent with the idea that there is increased scope for global spillover from Japan into foreign bond markets, as foreign asset yield pick-up is increasingly attractive in an environment of low JGB yield and volatility.

(ii) FDI flows

The most significant moving part to the financial accounts in terms of equity investment in recent years has been FDI through equity reinvestment of foreign corporates operating in Australia. It is well appreciated that the current account has benefited from mining-related export income. But it is less well known that with the mining sector approximately 75% foreign-owned,[19] a large share of the transmission from trade revenues to the real economy has been through redeployment of mining companies' retained earnings, a significant share of which ordinarily would flow to offshore owners. In recent years, this leakage has been, with earnings, redeployed into domestic capex. This capital flow technically is recorded as an income deficit item in the current account, so in a book-keeping sense, as capex wanes, the current account will actually improve (beyond the fact that capex has been import-intensive).

However, at the same time, the impact on the real economy of lower capex spending could still see the current account deficit increase relative to GDP, which is what should matter for external balance, and therefore, for the currency. Acting to temper this drag is the fact that the government's tax take from the mining sector should improve as capex winds off. Data on tax expenditures is not publically available at a granular enough level to allow us to judge the magnitude of this effect, but the Treasury has noted that part of the persistent revenue shortfall during the latter mining boom years has been due to mining companies' ability to achieve substantial tax write-downs as a result of up-front depreciation on major capex and exploration spending.

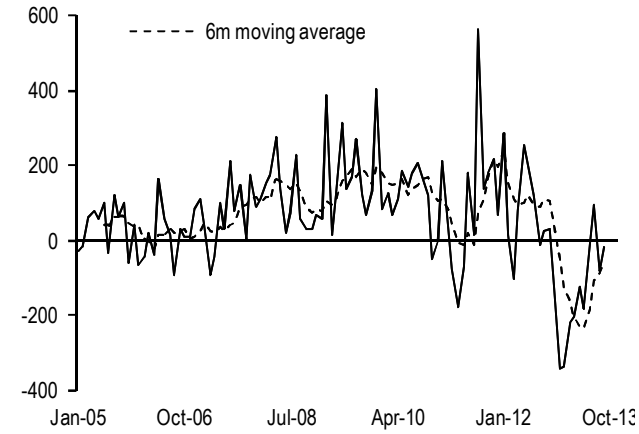
New Zealand

Post-crisis New Zealand has reduced its call on foreign capital (**Chart 36**), with the current account narrowing and the currency pushing to structurally higher levels. New Zealand's external position still is a vulnerability, with the current account deficit sitting at 4.3% of GDP, and net international investment position -71.1% of GDP. However, with a significant adjustment having been achieved (the

Chart 34: Offshore holdings of ACGBs
Proportion of total

Source: J.P. Morgan.

Chart 35: Japanese flows into AUD fixed income have started to become supportive for the currency once again
JPYbn



Source: J.P. Morgan.

CAD was close to 9% of GDP in 2008, and NIIP hit -86%), the real economy currently in a low inflation upswing and with the fiscal accounts running substantially ahead of forecasts this year, this does not seem like the time in the cycle to be concerned about the external debt position.

Over the next couple of years, J.P Morgan economists expect the current account to widen again by another 2% of GDP, though this should not have significant implications for the currency. The main catalyst for the expected widening in the current account in our forecasts is the lift to investment due to the earthquake reconstruction boom in Canterbury. This investment is essentially pre-funded, thanks to claims on offshore reinsurers (discussed in further detail below), so does not represent an extra 'call' on global capital, and requires no compensating weakness in NZD, though it will have a statistical effect on the CAD.

For New Zealand, we identify 3 relevant flows.

[19] See http://www.rba.gov.au/speeches/2013/sp-ag-160413.html

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(i) Portfolio flows

For portfolio flows the story is similar to Australia, where due to relatively high yields on offer, a central bank that avoided ZIRP and a highly rated Federal government, debt financing flows have driven most of the activity. Equity flows remain fairly minimal due to the underdeveloped nature of NZ's local equity market. Flows into the NZGB market are relatively easy to track, since the RBNZ provides monthly data on this series. **Chart 37** illustrates that offshore demand for NZGBs has risen over the course of 2013. The main investors in NZGBs by geography are Australia, Japan, US and Benelux.

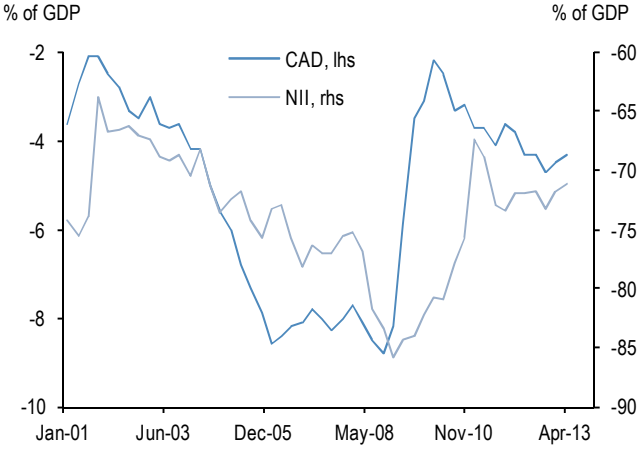
(ii) Earthquake reinsurance flows

The largest moving part to the current and financial account flows at present is the reinsurance flows relating to Canterbury earthquake claims. When the earthquakes struck in late 2010/early 2011, local insurers gained a large capital account asset, to be drawn down against domestic retail-level claims as the latter are settled. This does not fall under either portfolio or FDI, but is measured in the financial accounts as an "other investment trade credit". **Chart 38** shows the accumulated balance in this account since the earthquake, which matches closely the Stats bureau's estimates of the path of settled claims. Stats NZ estimates the total value of reinsurance claims at NZ$18.65bn, and as at 2Q13 a little over half of these claims have been settled. As the claims are wound down, the current account deficit will widen and net investment position will deteriorate. However, with this financing flow locked in, this deterioration is not fundamental, and should not put any pressure on the currency: the claims only dry up when the investment requirements that drove them do, so there should be no residual pressure on the currency to close the nation's savings – investment balance.

(iii) FDI flows

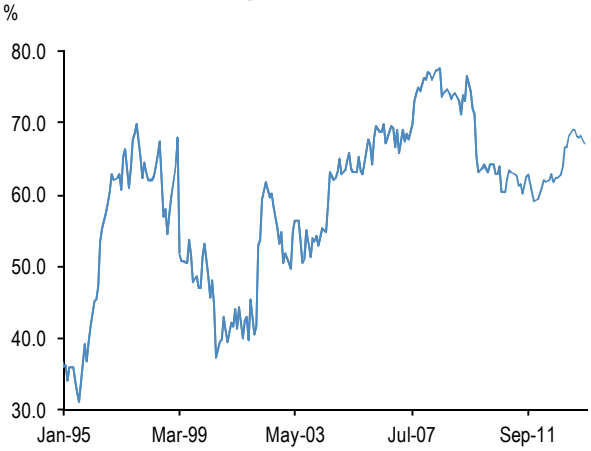
On balance the offshore sector has been withdrawing FDI capital over the last few years. FDI debt financing inflows have been in a declining trend over the last decade. Equity flows have moved in the opposite direction, with a particularly close mirror-image relationship in the first half of the last decade, due to the restructuring of the local balance sheets of the Australian-owned banks. Within equity capital inflows, the reinvestment of retained earnings of local banks from their Australian owned parents has been a steady positive. As with portfolio flows, the major sources are from the anglosphere (Aus, US, UK), though investment from Singapore has also picked up. Close to 40% of inbound FDI lands in the banking and insurance industry (**Chart 39**).

Chart 36: NZ's CAD and Net International Investment position have improved post-Lehman



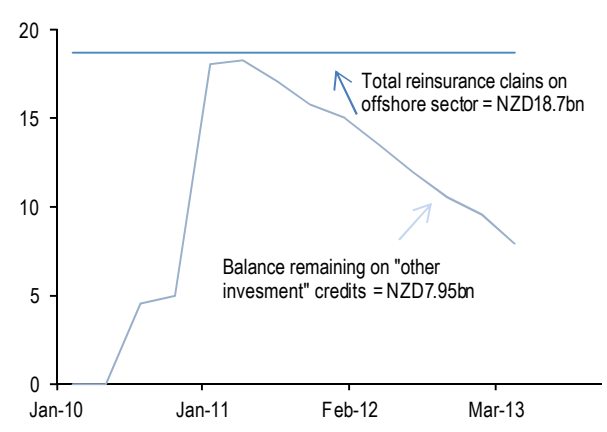
Source: J.P. Morgan.

Chart 37: Offshore holdings of NZGBs have recovered, after a post-Lehman outflow from the government bond market



Source: J.P. Morgan.

Chart 38: Earthquake reinsurance claims – total and still outstanding



Source: J.P. Morgan

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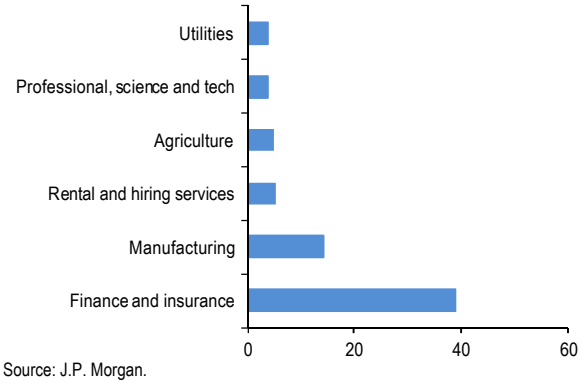
Antipodean vols: Mojo lost

The diminishing beta of antipodean vols to systemic risk shakeouts continued in 2013. Loosening linkages between antipodean vols and the global risk backdrop has been in train for a couple of years now. NZD raises fewer concerns in this regard, since New Zealand's genuine growth upturn and the relative illiquidity of the option market have deterred vol investors from using NZD options as portfolio hedges in any event. AUD's gradual fall from grace as a liquid, high-beta vol is more troubling, since FX and crossover (EM, equity) investors have often used it as a proxy hedge for core investments. In part, official sector buying of AUD for reserve diversification in recent years has cushioned it somewhat from volatile unwinds in market stress; the 13% spot decline in Q2 this year elicited only a 4.0 vol rally in 1Y ATMs, barely 60% of the reaction that the 2008-'11 experience would have suggested (**Table 2**).

The trend looks set to continue next year, since AUD enters 2014 with a unique technical set-up that will continue to mitigate the ferocity of sell-offs. The base case expectation next year is for stable-to-marginally-higher AUD vols, consistent with a gently declining spot forecast profile and anticipation of a moderate uptick in the VXY index from oversold levels. AUD vols cannot be expected to entirely escape some degree of lift from persistent pressure on spot and a firming global vol picture, but those will be offset to a large extent by a drag on realized vols from pre-existing cash positions. 2014 is the first time in the history of CFTC data when spec investors enter the year short an appreciable amount of AUD (basis IMMs), which means that there is simply is no length in the currency to deliver a realized vol shock through a disorderly unwind. The most obvious comparable instance of a major currency facing a similar technical set-up is EUR in early 2012: having emerged from EMU disintegration fears in the fall of 2011, a nervous currency market entered 2012 short a large stock of Euros that had to be liquidated after Draghis' LTRO masterstroke caught investors wrong-footed. A similar short squeeze in AUD is difficult to foresee and is certainly not our baseline forecast; even if one materializes, vols will likely have limited downside since the starting point for AUD vols in 2014 (1Y ATM ~ 9.5) will be much different compared to EUR vols circa 2012 (1Y ATMs ~15.0). In summary, historically cheap valuations place a floor under AUD vol while declining risk sensitivity of the AUD and short cash positions cap upside – a tight range therefore appears to be the most likely outcome.

Despite their recent inertness, low base vols and flat vol curves will continue to encourage back-end vol uptake as taper hedges in 1Q14. With many EM vols already having re-priced higher, global macro investors will likely

Chart 39: The bulk of FDI flows are directed to the finance industry in NZ
% of Total



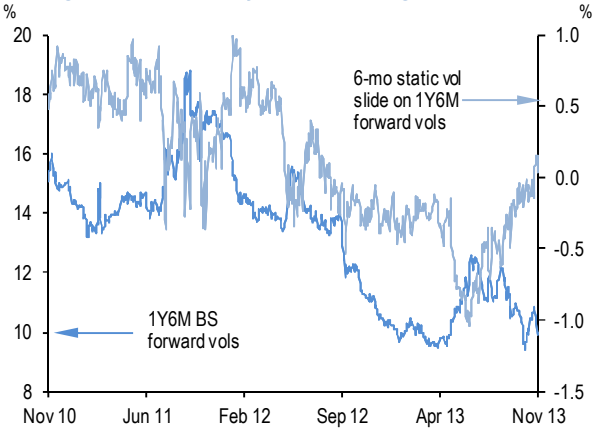
Source: J.P. Morgan.

Table 2: The sensitivity of AUD vols to deleveraging has been in steady decline

Episode start	Episode end	Spot peak	Spot trough	Δ Spot (%)	1Y ATM trough	1Y ATM peak	Δ 1Y ATM	Δ 1Y ATM / Δ Spot
04-Aug-08	27-Oct-08	0.9825	0.6072	38.2	10.6	26.0	15.5	0.40
14-Apr-10	21-May-10	0.9347	0.8194	12.3	12.8	19.0	6.2	0.50
07-Jul-11	23-Sep-11	1.0769	0.9789	9.1	13.8	18.8	5.0	0.54
27-Apr-12	01-Jun-12	1.0608	0.9652	9.0	12.6	15.0	2.5	0.27
08-May-13	24-Jun-13	1.0562	0.9184	13.0	8.6	12.4	3.9	0.30

settle upon AUD as their preferred vehicle for positioning long vol going into Q1, notwithstanding recent changes in currency behavior. As is usual, vol buying arguments will rest on valuation and carry grounds; there is little to complain about 1Y6M forward vols (FVAs) in this regard that are trading near 4-year lows and cost a pittance in vol slide along a pancake flat vol curve **(Chart 40)**. 1Y6M FVAs are synthetic short 12M/long 18M gamma-neutral/long vega calendar spreads; given our none-too-impressive view of AUD vol performance next year, we favor such theta-efficient constructs for assuming bullish vol exposure over incurring the decay bill of paying up 12 or 18M vols outright.

Chart 40: AUD/USD 1Y6M forward vols are historically cheap, and holding them involves very little slide along the vol curve



Source: J.P. Morgan.

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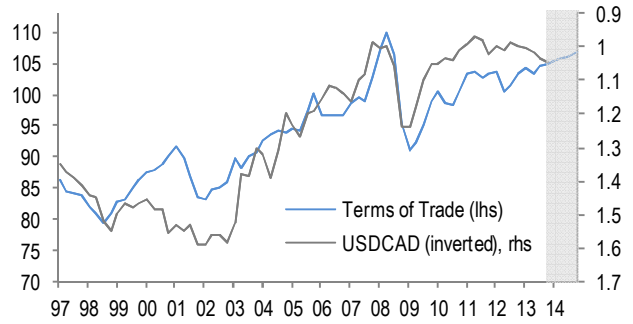
Research Note

CAD: Weighed down by housing froth and pipeline bottlenecks

- **USD/CAD rose 5% during H1 of 2013 driven by disappointing U.S. growth (only 1.1% in Q1) and the EM sell-off in Q2 (triggered by Bernanke's tapering comments in May). USD/CAD is now at the same level it began the second half and has mainly traded in a tight 1.03 to 1.05 range through 2H13.**
- **During 1Q14 we expect USD/CAD to appreciate towards 1.07 driven by the possibility that Canada will announce new macro-prudential measures, as well as Fed tapering, which could result in heightened volatility in a number of EM economies.**
- **During the remainder of 2014 we expect these issues to fade, allowing USD/CAD to end the year at 1.04 driven by three factors. First, an improving terms of trade, largely due to higher crude oil prices. A 1% improvement in Canada's ToT is typically associated with a 2.5% increase in the CAD.**
- **Second, a moderate lift in the global and U.S. cycles, a dynamic that is typically constructive for the CAD. Third, we expect FX reserve managers to continue increasing their allocation to the CAD.**
- **The impact of the positive drivers is likely to be moderate though due to two conspicuous obstacles: (i) domestic consumption growth is set to remain tepid over the medium-term as over-leveraged households face an extended period of retrenchment; and (ii) the growth of energy exports is being severely hampered by transportation bottlenecks.**
- **Additionally, two downside risks are likely to remain in the headlines through 2014. First, domestic housing appears vulnerable, although we believe a hard landing is only 20-25% likely over the next 2-3 years. Second, the elevated level of stress weighing on a small number of EM economies (those with large and unsustainable current account and budget deficits).**

Chart 1: Canada's terms of trade is expected to improve through 2014, consistent with a USD/CAD of 1.01
Correlation: -0.91



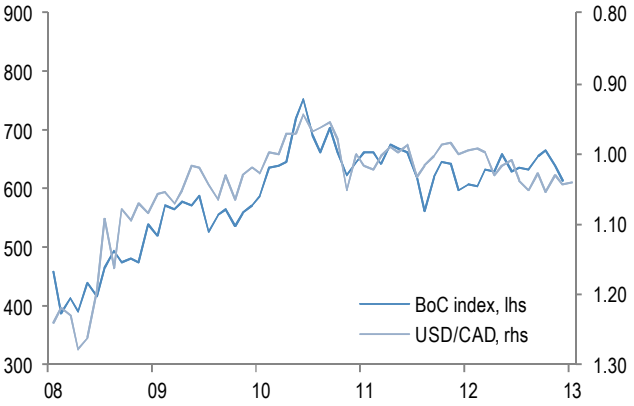
Source: J.P. Morgan, Statistics Canada, Bloomberg

Table 1: JP Morgan's commodity price forecasts (period averages)

	4Q13	1Q14	2Q14	3Q14	4Q14	2013	2014
Brent	113	113	105	113	117	110	112
WTI	109	106	98	106	106	101	104
Natural gas	4.25	4.25	4	4.25	4.5	4.02	4.25

Source: J.P. Morgan

Chart 2: The level of the BoC's commodity price index suggests the CAD is fairly valued
Correlation: -0.87



Source: J.P. Morgan, Bloomberg

The CAD deserves its "commodity currency" moniker

The correlation in chart 1 explains why it makes sense to begin with a discussion of Canada's terms of trade. The ToT is largely driven by movements in commodity prices, with the BoC's commodity price index (BCPI) placing a 50% weight on crude products (up from 15% in '98). Canada does export quite a bit of other products (e.g., autos, auto parts, aircraft), but it is commodity prices that really moves the ToT needle. Further, the relationship illustrated by chart 1 suggests a 1% improvement in the terms of trade typically increases the CAD by 2.5%.

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The ToT improvement expected in 2014 is largely driven by JP Morgan's view of a moderate lift in global growth and somewhat higher commodity prices (Table 1). Our 2014 forecast for WTI is 4% above consensus, while our Brent forecast is 7% higher and our natural gas projection is 6% above.

Recent commodity price signals place USD/CAD in a 1.05 to 1.07 range

There is a strong relationship between the CAD and the relevant commodity indices. Charts 2 and 3 illustrate the relationship between the BoC's commodity price index (BCPI) and USD/CAD, with the level chart implying that the CAD is fairly valued, while the 3-mo change chart suggests USD/CAD is 2% undervalued.

Why has the WCS discount returned with such a vengeance?

Chart 4 shows that transportation bottlenecks have been hitting Western Canada Select (WCS), driving prices downward and generating bouts of intense uncertainty for producers. The WCS – WTI discount plummeted to -$42 in early November, constituting the 2nd worst daily close in over five years. The discount's mean value over recent years has been around -$17, with futures markets suggesting it will gradually normalize to -$19 by mid-2015.

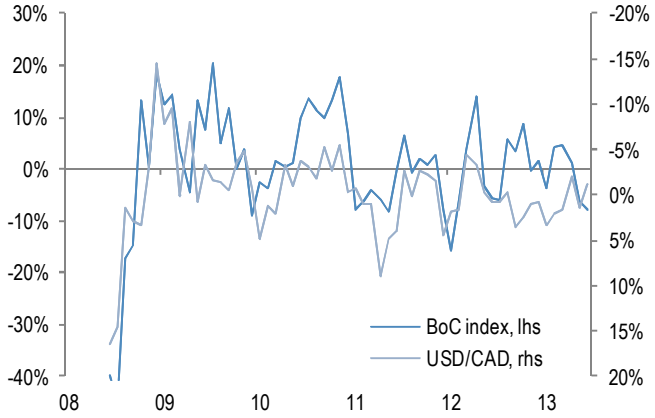
As Alberta ramps up oil sands production, evidence of the booming energy sector is widespread (e.g., energy product exports up an impressive 18.2% yoy). With crude production up 12% during each of the last two years, it is difficult to see anything on the horizon capable of forestalling this supply onslaught.

In fact, according to the IEA's 2013 World Energy Outlook, Canada is expected to be the #3 driver of global oil supply growth over the medium-term (following Iraq and Brazil). The IEA places one important caveat on their projections for Canadian production: "While the resources are unquestionably large enough to support such an expansion, achieving it is contingent on the construction of major new pipelines to enable the crude to be exported to Asia and the U.S."

We estimate that a WCS discount of -$40 (rather than a "normal" discount of around -$20) is typically associated with USD/CAD being 2.7 to 3.5% higher.

Chart 3: The 3-mo. change in the BoC's commodity price index suggests USD/CAD is 2% undervalued

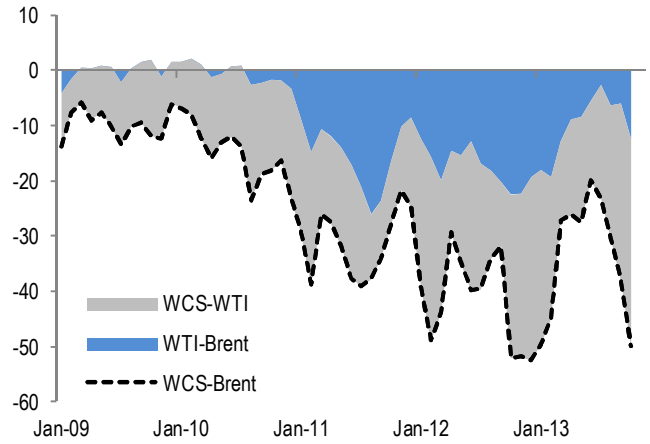
3-mo. change in BoC's commodity index vs. 3-mo. change in USD/CAD. Correlation: -0.77



Source: J.P. Morgan, Bloomberg

Chart 4: Spreads between Western Canada Select (WCS) and global crude prices widened to near record levels in early November

Monthly data (US$/barrel)



Sources: JP Morgan, Bank of Canada, Bloomberg

The Canadian economy suffers from both the extreme WCS discount as well as the elevated volatility of WCS prices

The BoC estimated that Canadian GDP was significantly restrained by the intense WCS discount last year. The BoC believes the discount dampened macro activity through a deterioration in Canada's terms of trade, as well as lower investment, exports and production. Together, these impacts are estimated by the Bank to have reduced annualized real GDP growth by 0.4 ppt in H2 of 2012.

In addition to concerns regarding the size of the WCS discount, the BoC has also emphasized the negative consequences of its elevated volatility. Chart 5 shows that the WCS has been much more volatile than either WTI or Brent over recent years. Additionally, the BoC states that the significant discount as well as its heightened volatility "have put pressure on Canada's terms of trade and real gross domestic income, and have contributed to the recent slowdown in engineering investment in Canada." The Bank expects the resultant uncertainty facing Canada's energy sector, "to remain a factor restraining Canadian business investment."

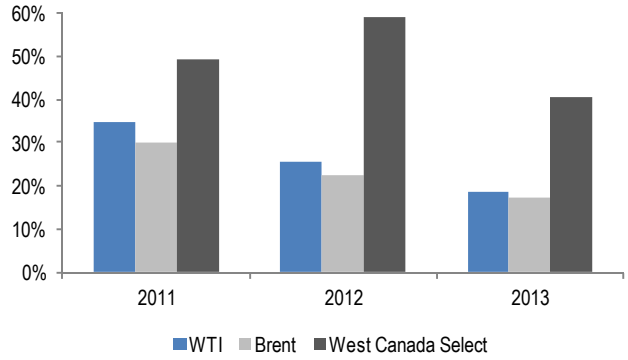
The BoC is expected to move 3 to 6 months ahead of the Fed

Moving on to monetary policy, the BoC adopted a dovish tilt in its October 23 statement and MPR for three reasons. First, U.S. growth had been "softer than expected," leading the BoC to lower its 2014 U.S. GDP growth forecast from 3.1% to 2.5% (this is very close to JP Morgan's 2.4% projection). Weakness south of the border is especially worrisome given the challenging outlook facing Canada's two usual growth drivers: (i) domestic consumption growth is set to remain tepid over the medium-term as over-leveraged households face an extended period of retrenchment; and (ii) the growth of energy exports is being severely hampered by transportation bottlenecks.

Second, disappointing U.S. growth, as well as greater overall economic uncertainty, has delayed the anticipated pick-up in exports and capex, leaving domestic growth lower than the Bank had been expecting. As a consequence, the BoC downgraded its domestic GDP projections for 2013 to 1.6% (was 1.8% in the July MPR), for 2014 to 2.3% (from 2.7%) and for 2015 to 2.6% (2.7%). The key implication of these changes is that the Bank doesn't expect the output gap to disappear until end-2015 (their previous projection was mid-2015).

Third, inflation in Canada has remained low, with core inflation averaging only 1.2% over the last 12-months. To a large extent this reflects the significant slack in the economy, with the BoC currently estimating the output gap at 1.5% of GDP. The BoC expects both total and core CPI to gradually increase towards target, hitting 2.0% around the end of 2015 (in the July MPR the BoC projected this to occur mid-2015). As a result the BoC has emphasized that, "the fact that inflation has been persistently below target means that downside risks to inflation assume increasing importance." That is, even though risks to the inflation outlook are roughly balanced, the Bank is more worried about downside risks and the possibility of deflation. On that note, October CPI was just released and printed a far from target 0.7% oya (core measures were somewhat higher, at 0.9% and 1.2%).

Chart 5: During the last two years WCS prices have been twice as volatile as WTI or Brent



Source: JP Morgan, Bank of Canada

Given this backdrop of weaker growth and persistently low inflation, what would it take for the BoC to explicitly adopt an easing bias? The October 23 statement highlighted the key argument against embracing such a stance. That is, that the BoC "must also take into consideration the risk of exacerbating already-elevated household imbalances" (and by extension, frothy home prices). This suggests the additional catalyst for the BoC to turn even more dovish is either clear evidence that the housing market has rolled over decidedly or the announcement of additional macro-prudential measures (as has already occurred four times in the last four years and has recently been threatened by the Finance Minister).

What is the market pricing in regarding BoC hikes? JP Morgan expects the BoC to be on hold through 2014 and projects the next move, likely to occur in 1H15, to be a cautious 25bp hike. BA futures are sending a similar message, with follow-up hikes priced in for 2H15 and 1H16 (table 2). While volume and open interest are quite thin for contracts expiring in 2016, BA futures suggest cumulative hiking of 100bp by 3Q16. This implies the BoC will be moving 3 to 6 months ahead of the FOMC. To illustrate, Fed Fund futures currently suggest a first 25bp hike in 3Q15 (vs. the BoC in 1H15), the 2nd in 1Q16 (vs. the BoC in 2H15), a 3rd in 2Q16 (vs. 1H16 for the BoC) and a 4th in 3Q16 (same as the BoC). If market pricing proves correct, this would imply a slight headwind for USD/CAD, but is unlikely to be an important factor driving the currency until 2H14 when we have a bit more clarity on relative tightening trajectories. Imminent Fed tapering muddies the waters even further.

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Table 2: BA futures suggest the 1st BoC hike will occur in 2Q15

Maturity	Priced in (bps)
3/2014	0
6/2014	0
9/2014	3
12/2014	8
3/2015	15
6/2015	25
9/2015	37
12/2015	51
3/2016	69

Source: JP Morgan, Bloomberg

Canada set for fiscal surplus in FY15-16

Canada's fiscal situation is in much better shape than most other G10 countries. Although the country's general government debt to GDP ratio is undoubtedly too high, it is well below that of the G4 economies, as well as the mean for OECD countries. Further, the ratio has already stabilized and is set to decline moderately in coming years.

Canada is set to become one of the first DM countries to achieve a balanced budget (behind Germany, with Norway and Switzerland being in a totally different category). The Canadian Finance Minister projects a fiscal surplus of $3.7bn in FY15-16, a projection that appears quite realistic (chart 6 and table 3).

Why is this important for the CAD? As our long-term fair value model has demonstrated, a 1.0 ppt decrease in the government debt/GDP ratio is typically associated with a 0.2% increase in the REER. This suggests a moderate tailwind for the CAD over coming years, especially against the G4 which are projected to be much slower in balancing their books and consigning their debt/GDP ratio to a downward sloping trajectory.

Canadian household debt is at a record high, but remains well shy of levels the US experienced in 2007

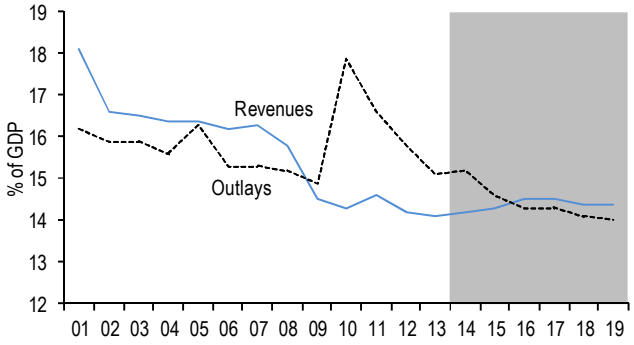
Now we move on to a discussion of the CAD's key downside risk. There has been a dramatic and worrisome rise in leverage by Canadian households over the last decade. Chart 7 provides the ratio of debt-to-disposable income for Canada and the U.S. The Canadian ratio is at a record high and, most worrisome, still increasing. Further, it now lies about 10ppt above the current U.S. ratio, albeit about 15ppt below the peak value south of the border in 2007.

Table 3: Government budget balance to GDP (%): Canada looks much better than most

	Historical						Forecast	
	1995	2000	2005	2010	2011	2012	2013	2014
Australia	-2.9	2.0	1.5	-4.2	-3.6	-3.0	-1.6	-1.2
Canada	-5.3	2.9	1.5	-5.5	-1.9	-1.4	-1.4	-0.9
Euro area	-7.5	-0.1	-2.5	-6.2	-4.2	-3.7	-2.8	-2.1
Japan	-4.7	-7.6	-6.7	-8.1	-9.7	-10.0	-9.9	-8.4
New Zealand	2.8	1.9	4.7	-4.6	-9.1	-4.5	-1.7	-0.9
UK	-5.9	3.5	-3.4	-10.1	-7.9	-7.0	-6.1	-5.2
US	-2.2	2.4	-2.6	-9.0	-8.3	-6.7	-3.9	-3.3

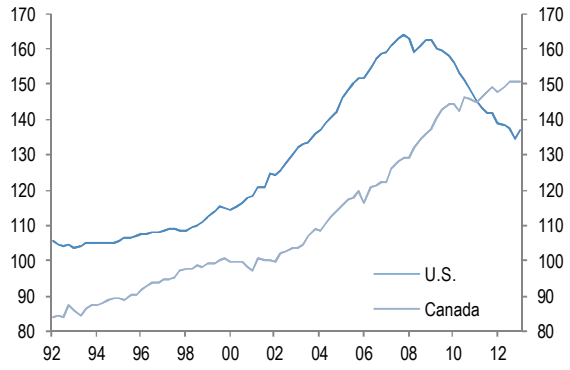
Source: J.P. Morgan, Bloomberg

Chart 6: Canadian Federal budget is set for a surplus in FY15-16
% of GDP. Shaded area: Department of Finance projections



Source: JP Morgan, Ministry of Finance Canada, Bloomberg

Chart 7: Canadian households now have a higher ratio of debt to disposable income than do their southern neighbours.
Ratio of household debt to disposable income (including the non-corporate business sector), for Canada and the US, %



Source: J.P. Morgan, Bloomberg

Chart 8 shows the household debt to income ratio for twenty-one countries and finds Canada to be rather middle-of-the-pack. Rather than implying that Canadian indebtedness is not a grave concern, this chart illustrates how widespread excessive household leverage has become. This point was emphasized on Oct. 14, 2013 by Robert Shiller (joint winner of the 2013 Economics Nobel Prize) who said "There are so many countries that are looking

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bubbly." The reason posited by Shiller for this worrisome global trend is a shift towards "a more speculative attitude," combined with extraordinarily loose central bank policy.

Historically low mortgage rates have fueled a residential investment boom

Chart 9 shows that the supply of single-unit dwellings has increased only modestly since 1982, while the supply of multi-unit dwellings has soared by about 75%. During this time the number of households in Canada has increased by about 45%. This suggests that the construction of multiple-units has soared past underlying demand.

The BoC discussed this issue at some length in its June 2013 Financial System Review, where it noted that construction activity remains significantly above its historical average, taking into account population growth, with the imbalance concentrated in multiple-unit dwellings (i.e., condos in Toronto and Vancouver). The BoC worries that, "if the upcoming supply of units is not absorbed by demand as they are completed over the next 12 to 30 months, the supply-demand discrepancy would become more apparent, increasing the risk of an abrupt correction in prices and residential construction activity."

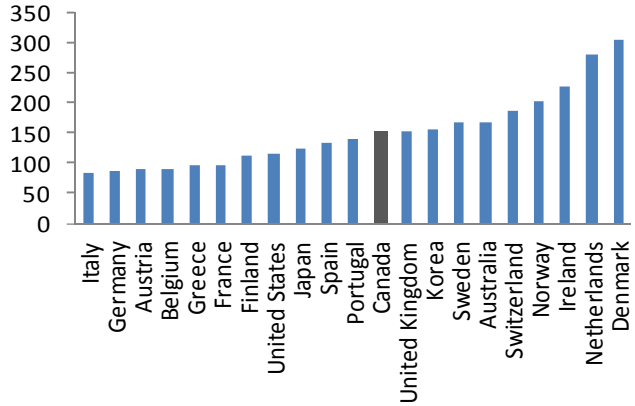
Canadian home prices appear frothy on traditional valuation measures

Canadian home prices appear frothy, with valuations stretched on a host of measures. For example, the Teranet home price index has more than doubled since 1999. Further, during this period the ratio of prices to rents has risen by over 80% to an all-time high.

However, these metrics may be misleading for two reasons. First, the starting point follows a decade of negative house price changes which left the market undeniably cheap by the late-'90s. Second, the ratios ignore the dramatic decline in mortgage rates (for example, in Canada from an average of 7.2% in 1999 to 3.9% today). Of course, this latter argument is only relevant if mortgage rates are likely to stay at today's extraordinarily low levels for an extended period. In fact, we believe this line of reasoning will lead the BoC to keep rates low for much longer than many are currently anticipating. For example, if real mortgage rates rose to 4% (the mean since 1995), the affordability measure shown in chart 10 would deteriorate dramatically, certainly to its worse level since 1990.

Chart 8: Relative to other OECD countries, Canada's level of household indebtedness looks rather mid-pack, but still worrisome

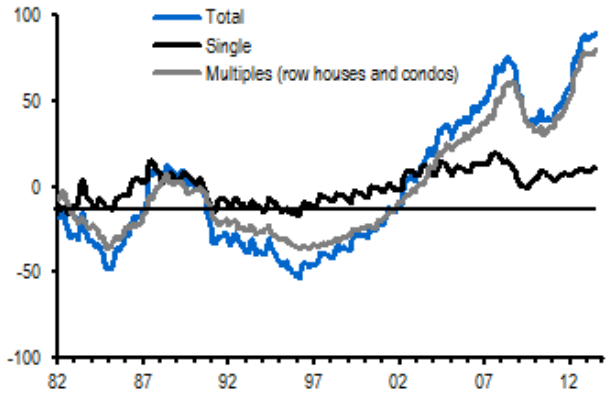
Ratio of household debt to disposable income by country



Source: J.P. Morgan, OECD

Chart 9: The supply of multi-unit dwellings under construction is significantly above average

Units under construction; NSA 000s



Source: J.P. Morgan, Haver

Chart 10: Canadian housing affordability is about 4ppt above its long-term mean, in spite of historically low mortgage rates

Measures the % of median pre-tax income required to service the cost of mortgage payments, property taxes and utilities on a detached bungalow. For example, an affordability measure of 50% means that home ownership costs take up 50% of a typical household's pre-tax income. %

Source: J.P. Morgan, Bloomberg

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The government is likely to announce a fifth package to tighten rules for lenders

For reasons discussed above, the BoC is unlikely to hike rates until well into 2015 (and even once the rate hiking cycle begins, to proceed much more cautiously than they would in a typical cycle). This reticence is likely to force the hand of Canada's Minister of Finance, Jim Flaherty, to yet again tighten requirements for government-guaranteed mortgage insurance. The last such move occurred on June 21, 2012 and included measures such as reducing the maximum amortization period to 25 years from 30 years, fixing the maximum gross debt service ratio at 39%, and limiting the availability of government insurance to homes priced below $C1.0mn. It was the fourth package of mortgage tightenings in four years, and was intended to rein in the frothy market and ensure households do not become even more overextended. However, these measures have not proved to be sufficiently impactful and consequently, the OFSI, which regulates Canadian banks, has undertaken a detailed review and may soon announce a fifth package to tighten the rules for lenders.

The downside risk to the CAD from an extended period of falling real home prices is likely in the 6.6 to 10.5% range

Table 4 contrasts mean GDP growth and currency appreciation during periods in which real home price changes are positive vs. when they are negative. For example, the 2nd last column show that annual GDP growth is 0.9 to 1.0 ppts higher when real home price changes are positive rather than negative. Further, the final column demonstrates that USD/CAD is typically 5.2 to 6.9% lower per year when real home prices are rising rather than falling. Finally, the 3rd last column suggests that a sustained 3-yr period during which real home prices declined would typically result in the CAD falling by 6.6 to 10.5%.

What are the possible implications of housing froth for the CAD?

First, stretched household indebtedness and the prevalence of floating rate mortgages will ensure that the BoC proceeds extremely slowly and cautiously with rate normalization. This should weigh on the CAD against many crosses (those set to begin a "normal" hiking cycle), although not as much against G4 currencies given their own deleveraging challenges. Second, the BoC recently dropped its tightening bias, but may be hesitant to openly discuss a rate cut given housing froth ("over enthusiasm" is their preferred euphemism). The BoC would have a green light to adopt an easing bias iff two conditions were met: first, that the economic outlook deteriorated; and second, the government announced additional macro-prudential measures to cool housing (thus promising a "more constructive evolution," another favoured euphemism).

Finally, even though Canadian housing appears vulnerable on valuation, credit and supply metrics, a full-blown financial crisis is only 20-25% likely over the next 2-3 years. Consequently, our base-case scenario involves flat nominal home prices for a period of several years, as typically housing froth is eliminated by flat nominal home prices (with inflation doing the heavy lifting to equilibrate real prices).

Table 4: USD/CAD is typically 5.2 to 6.9% lower yoy during periods in which real home prices are rising rather than falling

GDP growth and the yoy change in the USD/CAD for periods during which real home prices (deflated by either headline or core CPI) are positive vs. negative

	Periods when yoy home prices are positive		Periods when yoy home prices are negative		Difference between positive and negative	
	GDP growth (yoy)	USD/CAD chg	GDP growth (yoy)	USD/CAD chg	GDP growth (yoy)	USD/CAD chg
Home prices (headline CPI)	2.8%	-3.1%	1.9%	2.2%	0.9%	-5.2%
Home prices (core CPI)	2.9%	-3.5%	1.8%	3.5%	1.0%	-6.9%

Source: J.P. Morgan, Bloomberg

Table 5: The CAD typically falls by 3.1% when the EM sovereign bond spread increase by 80bp

Mean FX performance over the last ten years when the EM sovereign bond spread increases by 80bp. Estimates based on scaled regression coefficients

	JPMQUSD	JPY	CNY	TWD	MYR	SGD	CHF	INR	EUR
Low beta	2.0%	1.7%	0.1%	-1.1%	-1.2%	-1.3%	-1.6%	-2.2%	-2.4%

	RUB	CAD	GBP	IDR	CZK	SEK	MXN	NOK	COP
Mid beta	-2.5%	-3.1%	-3.1%	-3.2%	-3.3%	-3.7%	-3.7%	-3.7%	-3.8%

	TRY	KRW	CLP	HUF	NZD	PLN	ZAR	AUD	BRL
High beta	-4.0%	-4.1%	-4.1%	-4.4%	-4.5%	-4.6%	-5.2%	-5.3%	-5.5%

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Renewed EM stress could weigh on the CAD

The second downside risk facing the CAD concerns the possibility of renewed EM stress. We have examined what usually happens to the CAD and other major currencies when EM market stress increases dramatically. The proxies we used for rising EM stress included: large declines in EM equities or broad EM FX indices; dramatic moves higher in EM FX volatility; and significant increases in both corporate and sovereign bond spreads.

When EM stress increases significantly, the CAD typically declines by 3.1 to 5.2%. Table 5 illustrates the average performance for a set of currencies when the EM sovereign bond spread increases by 80bp (as it roughly did in May-June), showing that the CAD typically declines by 3.1%.

FX reserve managers likely to continue increasing their CAD allocation

We now move to a discussion of two positive drivers of the CAD. Since 2000, official FX reserves have risen from just under $2tr to well above $11tr, with just over 60% of the allocated total being invested in the USD. Last year, in response to a survey of its members, the IMF added the CAD and AUD to the five currencies reported in its quarterly COFER (Currency Composition of Official Foreign Exchange Reserves) report.

As shown in Table 6, allocations to the CAD and AUD have only been reported for three quarters so far and still represent a relatively small proportion of total allocated reserves (1.8% and 1.7%, respectively). Regardless, allocated FX reserves invested in the two new currencies increased significantly during 1H13. It is particularly noteworthy that investments in the CAD and AUD increased in Q2 in spite of adverse currency movements. For example, in Q2 the USD/CAD rose by 3.4%, making the 14.7% increase even more impressive.

The results discussed above are consistent with a May 2013 report published by the IMF, "Survey of Reserve Managers: Lessons from the Crisis." The report presented details from a survey of FX reserve managers undertaken in 2012 (67 countries responded to the survey). Their results emphasized that 56% of respondents were considering adjusting the currency composition of their reserves, with 74% of those contemplating a shift to G10 currencies other than the G4 (with highest interest expressed in the CAD and AUD).

Table 6: Official FX reserves and allocations for seven currencies

	4Q2012	1Q2013	2Q2013
Total FX reserves ($US bn)	10951	11089	11138
Allocated total ($US bn)	6084	6082	6071
USD (%)	61.2	61.9	61.9
EUR (%)	24.2	23.5	23.8
JPY (%)	4	3.9	3.9
GBP (%)	4	3.9	3.8
CHF (%)	0.3	0.3	0.3
CAD (%)	1.5	1.6	1.8
AUD (%)	1.5	1.6	1.7
Others (%)	3.3	3.3	2.8

Source: IMF, J.P. Morgan.

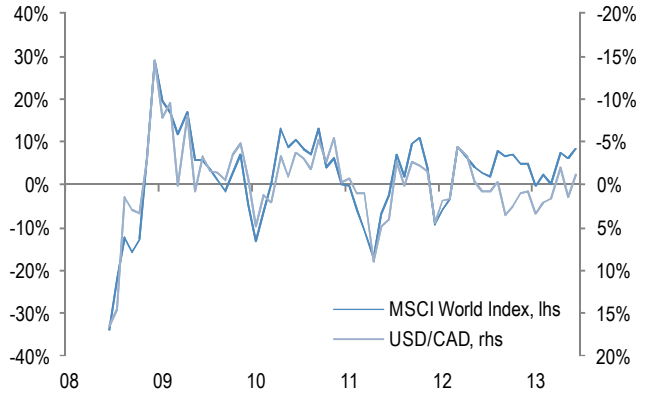
Finally, non-residents own a relatively small share of the Canadian government bond market (around 24% according to the IMF, a much lower figure than Australia's 75%, France's 58% or Germany's 60%). This suggests that net buying by foreign central banks could continue for some time, with flows attracted by Canada's sound banking system, open and liquid financial markets, and well respected regulatory system. Such a trend would provide a nice tailwind for the CAD over the medium-term.

Global cyclical indicators suggest moderate downside for USD/CAD

The CAD is a mid-Beta currency and JP Morgan expects moderate global cyclical lift into 2014, driven largely by improvements in the Eurozone, U.S. and U.K., with Japan and China slowing slightly, and EM growth overall roughly flat. Empirically the best proxies for the global cycle are the global manufacturing PMI and the MSCI world equity index. Chart 11 illustrates the strong relationship between the 3-mo change in the MSCI equity index and USD/CAD, and suggests the CAD is 4% cheap.

Chart 11: The 3-mo. change in the MSCI equity index suggests USD/CAD of 1.01

3-mo. change in the MSCI world equity index vs. 3-mo. change in USD/CAD. Correlation: -0.89



Source: J.P. Morgan, Bloomberg

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The CAD typically appreciates when the US outlook improves

The three best U.S. indicators for assessing the impact of cyclical developments south of the border on the CAD are the ISM manufacturing PMI, non-farm payrolls (NFPs) and retail sales. Chart 12 illustrates the strong relationship between U.S. retail sales and USD/CAD, and finds that the CAD is about 2% cheap.

Regardless, it is crucially important to monitor U.S. data prints such as retail sales, the ISMs and NFPs, as well as trade data (to see if exports from Canada to the US are in fact picking up). A credible upward trend in this data typically provides a strong tailwind for the CAD.

Our models suggest the CAD is moderately undervalued

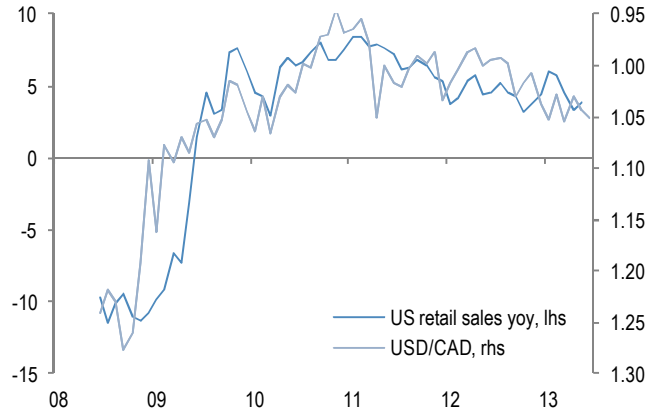
Chart 13 provides our short-term model, which employs daily data on yield spreads and commodity prices, and estimates a value for USD/CAD of 1.02, which is 3% below the current spot. Next, our medium-term model (chart 14) uses monthly data and suggests a value for USD/CAD of 1.00.

Our long-term fair value model employs four explanatory variables: terms of trade (+ impact on ccy), productivity growth (+), international investment income balance (+), and government debt (-). The LTFV model currently estimates USD/CAD at 0.98 vs. 3-yr forwards of 1.08, suggesting the CAD is about 10% undervalued.

CAD Vols: Sell No More

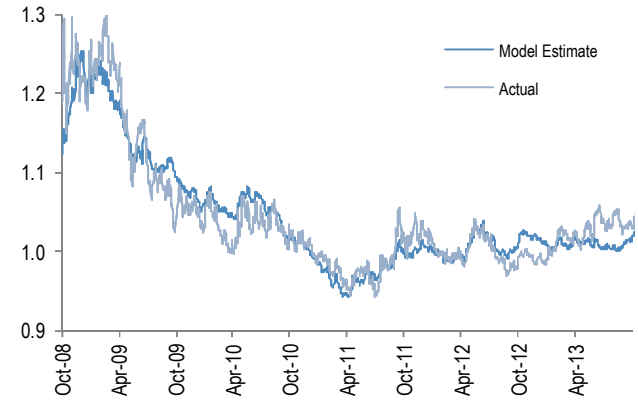
2013 was the year when CAD vols ceased to be an automatic sale. Of all G10 currencies, CAD has perhaps been the most obvious vol sale of the past few years, since offsetting corporate hedging flows on either side of the Canadian/US border serve as natural USD/CAD vol dampeners, and also partly explain the CAD's declining beta to the broad dollar cycles over the past decade (rolling 1-yr beta of CAD to JPMorgan's USD TWI stands ~-0.9, vis-à-vis -1.4 for AUD, -1.5 for NZD and -1.8 for NOK, the other G10 commodity-bloc currencies). The narrow range of spot in recent years explains the popularity of double no-touch (DNT)-like short volatility structures in CAD that expose investors to highly geared digital payouts contingent on the currency remaining contained within pre-defined barriers. Barrier widths, and hence payout ratios of these structures are highly dependent on the level of implied vol; higher the vol, wider the barriers and more likely the maximum payout. Elevated levels of implied vols coupled with anemic spot ranges led to attractive returns on CAD DNTs over the last 4-5 years, but that run came to an end this year. Chart 15 illustrates CAD's fall from grace as a short vol trade by plotting the historically realized

Chart 12: US retail sales yoy suggests USD/CAD of 1.03
Correlation -0.87



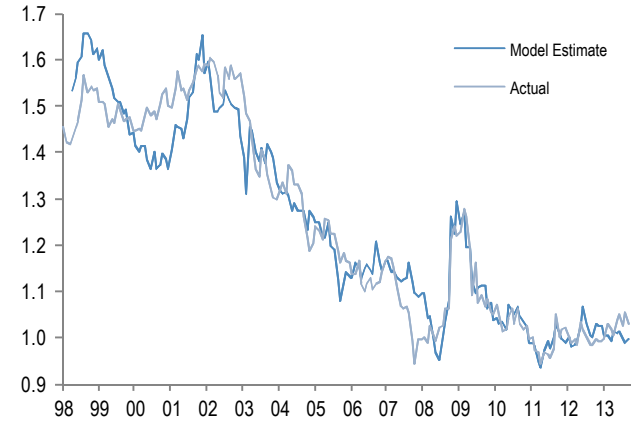
Source: JP Morgan, Bloomberg

Chart 13: Our short-term model's estimate for USD/CAD is 1.02
Model variables: 2Y yield spread (vol adjusted), Canadian crude prices and CRB commodity index



Source: J.P. Morgan, Bloomberg

Chart 14: Our medium-term model's estimate for USD/CAD is 1.00 (5% below spot)
Model variables: BoC commodity price index, TSX equity index and global manufacturing PMI



Source: J.P. Morgan, Bloomberg

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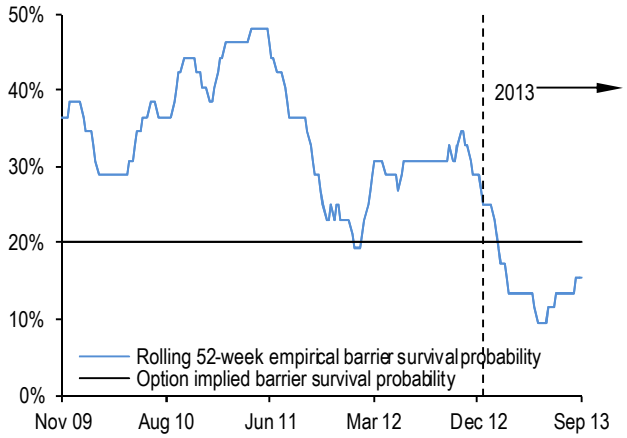
likelihood of USD/CAD spot surviving 2M 20% price (i.e. 5:1 gearing) DNT barriers, proxied by the number of structures over rolling 52-week windows that survived barrier breaches when held to maturity. In theory, 5:1 option gearing (or 20% price) suggests that only 1-in-5 (or 20%) of the DNTs ought to have survived on an average; the reality for USD/CAD was been much different however, with empirical barrier survival rates significantly exceeding option market expectations for the most part and as high as 50% at one point, before falling below option-implied thresholds this year. Simply put, implied vols in USD/CAD have ground lower to levels that no longer compensate for even the measly 6-cent high/low gyrations in spot – the systematic short vol trade in CAD has reached value exhaustion.

Despite obvious historical cheapness, CAD vols are not necessarily a buy. Even setting aside valuation and flow arguments in the preceding sections of this note that point to CAD strength – and by implication vol softness – in the latter half of the year, the principal obstacle in the way of a reversal in CAD vols is simply a lack of speculative length that can undergo a disorderly washout in the event of stress. IMMs in fact peg specs as small net short on CAD at the time of going to print; even if this is not representative of the broader investor community, it is hard to imagine that currency managers would be overweight a currency that has traded sideways within a 3% range over the past 6-months. True, USD/CAD spot will likely drift higher towards 1.07 if the taper 1.0 shock repeats in Q1'14, but that represents only modest dollar strength from current levels that should be comfortably outstripped by moves in other higher-beta commodity FX; vols in the latter remain preferential buys over those in CAD in our view. That said, depressed base vols and low risk-reversals in CAD should make it straightforward for natural hedgers (corporates) to institute cash flow/revenue hedges using options.

Chart 15. End of the road for short vol in USD/CAD? Range trades no longer offer the stellar returns of the post-GFC years

Performance of 2M 20% price double no-touches (DNTs) in USD/CAD over the past 5-yrs. DNTs are priced to a smile mid price of 18% (so that realistic offers are ~20%), with barriers equidistant from spot in either direction, and assumed to be held to maturity or barrier breach, whichever is earlier. The price of the DNT – 20% – is the option implied probability of touching either barrier at any point over the 2-month life of a structure (black line). The blue line plots the number of DNTs that survived both barriers to maturity (and hence triggered the maximum payout) over rolling 52-week windows, and is a realized or empirical measure of survival probability.



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Long-term valuation: The haves (USD, EUR) and the have-nots (EM)

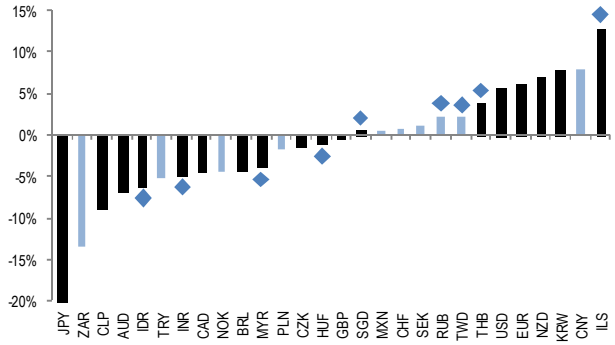
- **While 2012 proved to be a year in which many currencies reverted to their long-term fair value, 2013 has proven to be much more subtle in some ways.**
- **While many currencies that have cheapened were previously flagged as rich, many rich currencies have yet to cheapen.**
- **Although USD and JPY have divergent trajectories and differing risk factors in 2013, their price movements were more dramatic than fundamental drivers would have suggested.**
- **Recently, the misalignment in the dollar is closely associated with the steepness in the Treasury curve and hence Fed communication policy.**
- **The euro's misalignment in real trade-weighted terms is even more pronounced. At 19.5%, the misalignment is twice that of the dollar making EUR one of the richest currencies in REER terms.**
- **In contrast to persistent misalignments in USD and EUR over 2013, JPY is close to fair value. The currency had a spectacular fall in 1H2013 from over 20% over-valued to the more modest value of 5.7% in 2Q2013 and 3.4% today.**
- **EM currencies have priced in more risk premium relative to long-term fair value than a year ago. While the run on EM was broad it wasn't indiscriminate: markets fled bonds and currencies of countries with the largest external financing demands.**
- **Using a basic trading rule for long term fair value, we find the optimal investment strategy on a back-tested basis to be one with high decision thresholds and longer holding periods.**

Introduction

While 2012 proved to be a year in which many currencies reverted to their long-term fair value (most notably JPY, EUR and CHF among the G10 and TRY among EM), 2013 has proven to be much more subtle in some ways. While many currencies that have cheapened

Chart 1: Year-to-year change in REER

Positive values indicate that the REER appreciated, while negative values indicate that the REER depreciated. Black bars signify currencies that were rich in 3Q2012 relative to long-term fair value while blue bars signify those that were cheap. Diamonds represent currencies that were added to the model in July 2013.



Source: JP Morgan

Table 1: REER misalignments

Dark (light) shaded blocks represent overvalued (undervalued) FX.

	(1) Real broad effective exchange rate (REER)							
				Variable contribution past 2 yrs				
	Misalignment	S.E.	REER	FV	ToT	Prod	Debt	NII
G10								
USD	9.7%	6.5%	6.8%	-1.3%	-0.3%	-0.7%	-0.4%	-0.1%
JPY	3.4%	13.2%	-23.6%	-1.3%	-1.5%	0.7%	-0.7%	0.2%
EUR	19.5%	12.0%	5.9%	0.2%	1.7%	-1.5%	-0.4%	0.5%
GBP	8.5%	6.7%	0.0%	-1.0%	0.1%	0.0%	-0.4%	-0.7%
CHF	-2.3%	4.6%	0.5%	2.3%	-0.6%	0.6%	0.1%	2.1%
NOK	-14.1%	5.2%	-7.2%	5.9%	0.8%	-0.1%	0.0%	5.2%
SEK	-4.7%	3.3%	-2.3%	-1.6%	-0.7%	-0.7%	-0.3%	0.1%
CAD	-0.3%	8.1%	-6.6%	1.9%	2.1%	-0.2%	-0.2%	0.2%
AUD	4.0%	9.9%	-6.7%	-0.5%	0.2%	-0.6%	-0.2%	0.2%
NZD	22.3%	11.8%	6.3%	4.1%	3.5%	0.2%	0.0%	0.5%
CEEMEA								
CZK	8.2%	9.8%	-6.0%	-0.9%	0.6%	-1.1%	-0.3%	-0.2%
HUF	0.8%	4.0%	-1.6%	0.7%	0.4%	0.1%	0.0%	0.1%
PLN	-14.5%	7.9%	-1.2%	4.2%	3.7%	0.5%	-0.1%	0.2%
RUB	-4.5%	6.7%	2.5%	-1.1%	-0.9%	0.1%	-0.2%	-0.1%
TRY	-23.3%	9.2%	-5.1%	3.9%	1.2%	2.6%	0.1%	0.1%
ILS	13.8%	5.6%	12.9%	0.9%	0.8%	0.4%	-0.1%	-0.1%
ZAR	-21.8%	10.9%	-15.7%	-1.4%	-0.7%	-0.5%	-0.1%	0.0%
Americas								
BRL	-1.4%	16.8%	-6.8%	0.0%	-1.0%	1.3%	-0.1%	-0.2%
CLP	0.2%	8.8%	-10.8%	1.5%	-0.5%	1.3%	-0.1%	0.7%
MXN	-2.4%	4.9%	1.2%	-2.0%	-0.5%	-1.2%	0.0%	-0.2%
Asia								
CNY	-4.8%	6.0%	7.6%	2.7%	-0.8%	3.3%	0.3%	-0.1%
INR	1.4%	7.1%	-5.6%	-6.4%	-8%	1.3%	-0.1%	-0.1%
IDR	-1.9%	14.1%	-6.3%	2.5%	0.7%	1.8%	-0.1%	0.0%
KRW	8.9%	10.8%	7.9%	1.8%	1.6%	0.3%	-0.1%	-0.1%
MYR	18.2%	7.2%	-2.7%	-0.3%	0.0%	-0.6%	-0.2%	0.4%
SGD	9.1%	9.8%	0.9%	1.7%	0.5%	1.2%	0.1%	0.0%
TWD	-6.4%	5.3%	1.6%	0.9%	1.5%	-0.1%	0.0%	-0.6%
THB	9.1%	7.1%	3.3%	-2.9%	-0.8%	-1.0%	-0.2%	-0.9%

Source: JP Morgan

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were previously flagged as rich, many rich currencies have yet to cheapen (see chart 1). Specifically, out of fifteen currencies that depreciated year-on-year in real trade-weighted terms, eleven were screened as cheap in 3Q2012. Of the thirteen currencies which have appreciated seven were considered rich relative to long-term fair value in 3Q2012. All seven currencies remain rich today[20].

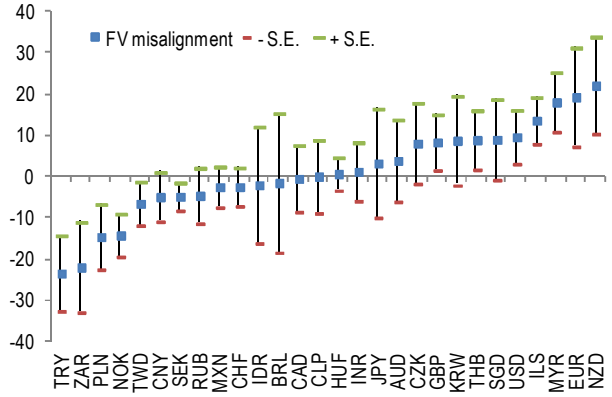
The haves: the dollar and euro

Most notably, USD and EUR real effective exchange rates (REER) remain elevated (see chart 2). More generally, most funding currencies are rich relative to fair value: EUR, USD, GBP are all between 8 to 20% rich, while JPY is 3% rich (from 33% too rich just two years ago). CHF is the sole exception, which is slightly cheap (see chart 3).

The USD's spot price has appreciated relative to our estimate of its long-term fair value since August, 2012. The USD's REER has appreciated by 6.8% since last year and is currently 9.7% overvalued (see charts 2 and 4). What is surprising is that the USD's REER appreciated in spite of a deterioration in its fundamental drivers. In fact, all four of the LTFV model's explanatory variables—terms-of-trade, productivity, public debt and net investment income—deteriorated year-on-year (see table 1). Of these four variables, productivity turned out to be by far the most significant drag on the USD's long- term fair value. While a deteriorating terms-of-trade and a rising stock of government debt also had significantly negative effects, the impact of the net investment income variable was relatively small[21].

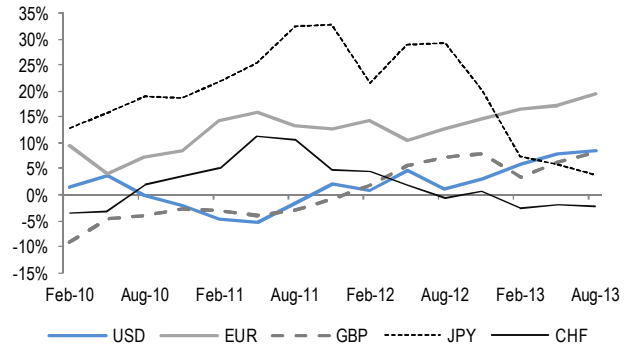
While we lowered our model estimate by -1.3%y/y, REER appreciated by 6.8%y/y (see table 1 and chart 4). What explains this discrepancy? The dollar's rise can be traced to the focal point of markets this year: Fed monetary and communication policy. With 10-year yields up over 100 basis points since their lows in May, the dollar is well supported in trade-weighted and nominal pair-wise terms

Chart 2: Misalignments from long-term real trade-weighted fair value
%; a positive value indicates richness to fair value, a negative value indicates cheapness to fair value.



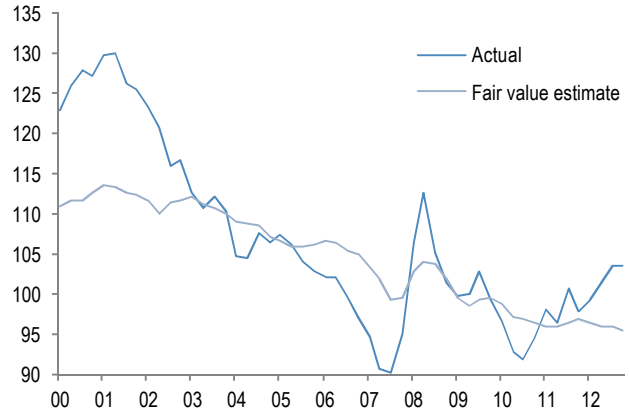
Source: JP Morgan

Chart 3: While REER misalignments are increasing for most funding currencies, JPY misalignment has quickly decreased since Q1



Source: JP Morgan

Chart 4: USD REER versus long-term fair value estimates



Source: JP Morgan

[20] Since July 2013, we have added nine additional emerging market currencies to the model, bringing our coverage to 28 currencies. For more information, see *JP Morgan long-term fair model update, 23 July 2013*.

[21] All variables were measured relative to that of trading partners and hence imply *relative* deterioration, not absolute deterioration.

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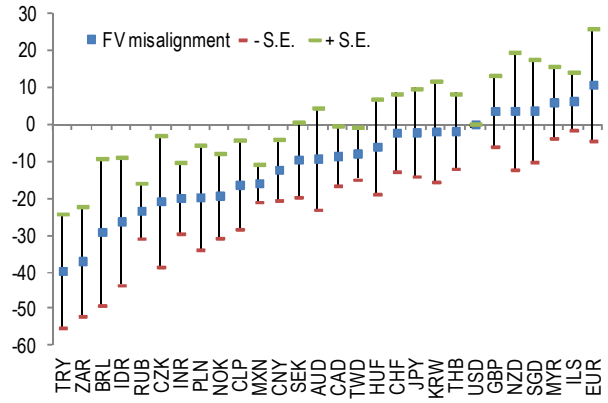
Chart 5: Time to buy currencies against the dollar? A lot is cheap, not much is rich

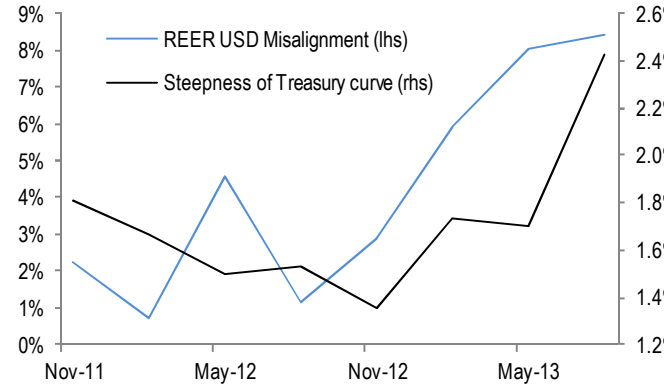
Nominal deviations from long-term fair value versus USD. A positive values indicate richness; negative values indicate cheapness.



Source: JP Morgan

Chart 6: The misalignment of USD to long-term REER fair value corresponds closely with the steepness of the yield curve

The steepness of the yield curve is measured by the difference between 10-year and 2-year US Treasury yields.



Source: JP Morgan, Bloomberg

(see charts 2 and 5). Recently, the misalignment in the dollar is closely associated with the steepness in the Treasury curve and hence Fed communication policy (see chart 6). Given that our US rates team forecasts over 40 basis points of additional steepening in the 2s/10s curve by year-end 2014, the dollar's misalignment with long-term fair value model estimates may persists or grow into 2015 (our full macro view on the dollar is presented elsewhere in this publication) .

The euro's misalignment in real trade-weighted terms is even more pronounced. At 19.5%, the misalignment is twice that of the dollar making EUR one of the richest currencies in REER terms second only to NZD, a

Table 2: LTFV nominal exchange rates

USD pairs		EUR crosses		JPY crosses	
G10					
EUR/USD	1.23				
USD/JPY	95	EUR/JPY	117		
GBP/USD	1.54	EUR/GBP	0.80	GBP/JPY	146.4
AUD/USD	0.95	EUR/AUD	1.29	AUD/JPY	90.6
NZD/USD	0.72	EUR/NZD	1.70	NZD/JPY	68.8
USD/CAD	0.98	EUR/CAD	1.21	CAD/JPY	96.8
USD/CHF	0.87	EUR/CHF	1.07	CHF/JPY	109.1
USD/NOK	5.13	EUR/NOK	6.31	NOK/JPY	18.6
USD/SEK	6.14	EUR/SEK	7.56	SEK/JPY	15.5
CEEMEA					
USD/CZK	21.28	EUR/CZK	26.20	CZK/JPY	4.5
USD/HUF	221	EUR/HUF	272	JPY/HUF	2.3
USD/PLN	2.64	EUR/PLN	3.25	PLN/JPY	36.0
USD/RUB	29.51	EUR/RUB	36.32	RUB/JPY	3.2
USD/TRY	1.52	EUR/TRY	1.87	TRY/JPY	62.6
USD/ILS	3.81	EUR/ILS	4.69	ILS/JPY	25.0
USD/ZAR	7.66	EUR/ZAR	9.43	ZAR/JPY	12.4
Americas					
USD/BRL	2.13	EUR/BRL	2.63	BRL/JPY	44.6
USD/CLP	483	EUR/CLP	594	JPY/CLP	5.1
USD/MXN	11.95	EUR/MXN	14.70	MXN/JPY	8.0
Asia					
USD/CNY	5.46	EUR/CNY	6.72	CNY/JPY	17.4
USD/INR	60.9	EUR/INR	75.0	INR/JPY	1.6
USD/IDR	10522	EUR/IDR	12952	JPY/IDR	110.6
USD/KRW	1078	EUR/KRW	1328	JPY/KRW	11.3
USD/MYR	3.56	EUR/MYR	4.38	MYR/JPY	26.7
USD/SGD	1.29	EUR/SGD	1.58	SGD/JPY	74.0
USD/TWD	25.99	EUR/TWD	32.00	TWD/JPY	3.7
USD/THB	31.97	EUR/THB	39.35	THB/JPY	3.0

currency that we flagged as rich a year ago (see charts 2 and 3). While fundamental drivers didn't lower EUR long-term fair value (as was the case for USD), they also didn't help much. In fact, the net contribution to fair value estimates from all four explanatory variables was a measly 0.2%y/y (see table 1). While year-on-year changes in productivity and government debt weighed on our model estimates[22], an improved terms-of-trade and positive net income investment counteracted and canceled such effects. Therefore, the widening misalignment is almost exclusively attributable to the rise in EUR REER of 6%y/y (during November 2012, the single currency was already 14.6% overvalued).

[22] Ibid.

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A few caveats are in order about the misalignment of EUR. First, while the EUR deviation from LTFV is extreme, so is the standard error in the estimate (the standard error is the fourth largest in the model for our sample of 28 currencies). Second, the EUR REER reached a nine year low in 4Q2012, which lowers its equilibrium value. Third, EURUSD traded at parity for the initial years of the common currency. This also had the effect of lowering the equilibrium value.

In contrast to persistent misalignments in USD and EUR over 2013, JPY is close to fair value in both real trade-weighted and nominal pair-wise terms (against USD). In fact, JPY is just 3.4% rich in REER and 2.6% cheap versus USD three years forward (see charts 2 and 5). That the JPY is close to long-term fair value shouldn't elicit special interest if not for the fact that the currency had a spectacular fall in 1H2013 from over 20% over-valued to the more modest value of 5.7% in 2Q2013 (see chart 3 and chart 8). Moreover, the pace of mean reversion is even more astonishing when one considers that it occurred when the fair value model estimate was actually lowered due to a terms-of-trade and public debt drag (see table 1). What accounts for the rapid decline and mean reversion of the JPY? While increasing productivity slightly narrowed the misalignment by a measly 0.7%y/y, the overwhelming factor is a rapid deterioration of REER (-23.6%y/y).

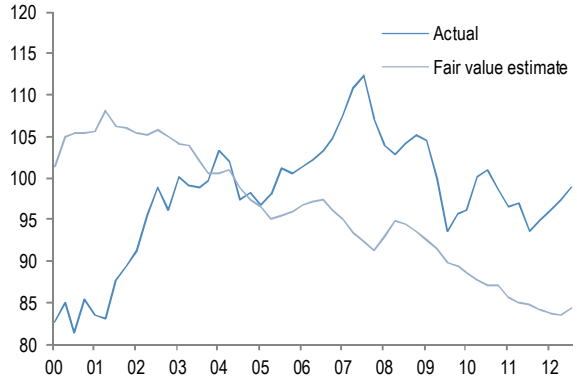
While JPY has mean reverted dramatically, USD and EUR, with their divergent trajectories and differing risk factors in 2013, share one common theme: their price movements were more dramatic than fundamental drivers would have suggested.

The have-nots: emerging market FX

The deceleration in EM growth exacerbated by the taper-inspired 100 basis point back up of Treasury yields since May has taken its toll on EM fixed income and FX. In particular, EM currencies have priced in more risk premium relative to long-term fair value than a year ago. Last year, about half of the currencies that screened cheap in REER terms on our long-term fair value model were EM currencies—this year, that number is eight out of thirteen[23]. When one considers bilateral nominal exchange rates against the dollar, the point becomes starker: virtually every EM currency screens cheap against the dollar with the sole exception of MYR (which enjoys a low correlation of changes in net and gross capital flows, a positive net foreign asset position by domestic banks and countercyclical fiscal policy—all reflected in low CDS spreads relative to peers).

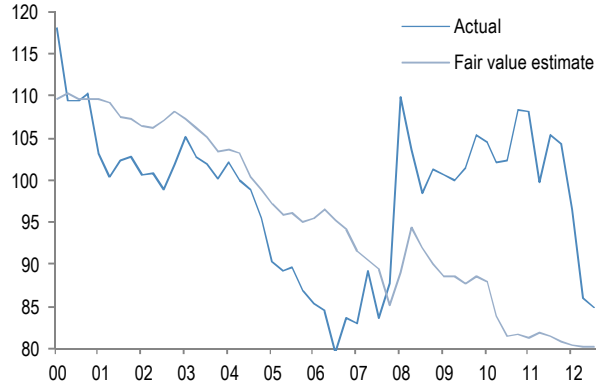
While the run on EM was broad it wasn't indiscriminate: markets fled bonds and currencies of countries with the largest external financing demands, i.e. those running the largest current account deficits as a share of national income (see chart 9). In particular, TRY, ZAR, BRL and IDR, with current account deficits ranging from 3.7 to 6.7% of GDP, were under severe duress and are now the cheapest against the dollar three years forward. Of these four pairs, TRY and ZAR also screen as cheapest in real trade-weighted terms being offered at a 23% and 22% discount, respectively.

Chart 7: EUR REER versus model estimates



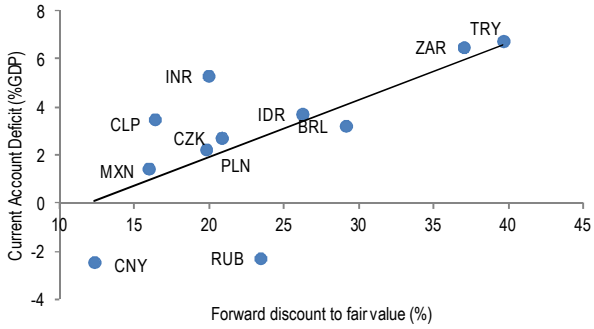
Source: JP Morgan, Bloomberg

Chart 8: JPY REER versus model estimates



Source: JP Morgan, Bloomberg

Chart 9: The cheapest to fair value EM currencies also had the largest external financing needs



Source: JP Morgan, Bloomberg

[23] See *supra* note 1.

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BRL and IDR are slightly cheap in REER terms. If one were to bucket vulnerable EM currencies based solely on the current account, not to mention sensational price action mid-year, one would expect INR to be among the usual suspects. While India also runs a current account deficit of 5.3% of GDP, and INR is still cheap in nominal terms, the currency has received some respite from both a delay of tapering and local measures to stabilize the currency. Nevertheless, INR is still 20% cheap against USD 3-year forwards (it is about fair in REER terms however).

Delving deeper into the mechanics of the model, we can more clearly understand the country-specific factors that have driven the long-term fair value estimates. In the case of TRY, a year-on-year improvement in all the fundamental drivers of the model, especially productivity, have raised the fair value estimate 4%y/y (see table 1). Combined with a further 5%y/y decrease in the REER, TRY now trades at the steepest discount in real trade-weighted terms and against USD forwards (see charts 2 and 5). In South Africa, on the other hand, the terms-of-trade, productivity and stock of government debt have all worsened over a year ago (with no change in net investment income), lowering our fair value target for the ZAR REER by 1.4%y/y. Since the currency declined by 16%y/y, ZAR continues to be offered at a discount. Indonesia's overall fundamentals have improved from a year ago while IDR continues to sink, widening the misalignment from our model. Finally for Brazil, the net contribution of the year-on-year change in fundamentals was nil— BRL is almost fair in REER terms. In contrast, BRL is 28% cheap against USD 3-year forwards.

Trading with the model

In this section, we briefly describe a mean reversion trading rule, in which the investor longs cheap currencies and shorts rich currencies. We present the results from trading USD pairs (for more information of the trading rule and back-testing methodology, please see Appendix 1).

For a signal to go long or short FX against a base currency, we compare its misalignment with its forward premium or discount: (1) go short foreign currency, buying 1 unit of the base currency forward if the percentage overvaluation of the foreign currency exceeds its forward discount (and hence the cost of carry) by more than a critical threshold. Reverse the position at the spot rate when the forward contract matures. Inversely, (2) go long FX, selling $1 forward if the percentage undervaluation of foreign currency exceeds its forward premium by more than the predetermined threshold and reverse the position at the spot rate when the forward contract matures. We test the trading strategy using three thresholds: 0%, 5% and 10%. We also test three portfolio re-balancing frequencies: 6 months, 1 year and 2 years.

In conclusion, this particular value trading rule generates better absolute and risk-adjusted returns for higher thresholds (see table 3). In other words, using a 5% misalignment threshold outperforms a 0% threshold, at every re-balancing frequency. Better still, the 10% threshold outperforms both 0% and 5% thresholds at every portfolio rebalancing frequency. In addition, longer holding periods and less frequent portfolio rebalancing generates better results. Thus rebalancing every 2 years is preferable to rebalancing every 12 months, and this is preferable to rebalancing every 6 months. This relationship seems to be robust across all thresholds. Finally, the trading rule seems to work better for G10 currencies than EM currencies. In particular, while 20 currencies are profitable under different specifications of the trading rule, TRY, BRL, CLP, IDR, MYR, SGD and THB are either unprofitable or only inconsistently profitable. Finally, using a 10% threshold and discarding pairs that have a poor performance record, we recommend shorting EUR (with the usual caveat of a large standard error; see the comments in the previous section for more information) and holding NOK, AUD, PLN, RUB, ZAR, MXN, CNY, and INR. This basket should have a 2-year investment horizon.

Table 3: Annualized returns from trading FX against USD with LTFV model
Portfolios are rebalanced either every 6-mos, 12-mos, or 2-yrs. The strategy is tested across three thresholds.

	JPY	EUR	GBP	CHF	NOK	SEK	CAD	AUD	NZD	CZK	HUF	PLN	RUB	TRY	ILS	ZAR	BRL	CLP	MXN	CNY	INR	IDR	KRW	MYR	SGD	TWD	THB	Avg
Threshold 0%																												
6m	0.2%	0.2%	3.2%	0.6%	2.1%	1.9%	2.8%	2.6%	1.4%	1.0%	4.3%	0.8%	3.6%	-0.3%	2.1%	2.8%	-1.1%	0.8%	2.5%	0.3%	1.3%	0.2%	3.2%	-0.5%	-1.3%	1.3%	-0.7%	1.3%
12m	-0.7%	1.0%	3.9%	4.1%	1.7%	4.9%	2.7%	1.4%	3.0%	1.0%	4.3%	1.1%	8.0%	-0.3%	4.2%	8.3%	-4.9%	-0.3%	3.8%	0.7%	4.7%	-0.9%	7.1%	-0.5%	-2.7%	2.1%	-0.7%	2.1%
2y	-4.7%	1.9%	9.0%	6.2%	3.9%	8.3%	4.1%	2.4%	4.3%	1.2%	8.1%	2.6%	10.7%	-1.2%	4.2%	8.5%	-9.3%	-2.7%	5.9%	0.9%	1.2%	-4.8%	14.1%	-0.1%	-5.1%	3.9%	-0.6%	2.7%
Threshold 5%																												
6m	-0.3%	1.3%	3.5%	2.3%	3.1%	4.1%	3.1%	2.8%	1.9%	0.6%	3.6%	2.4%	3.6%	0.0%	4.7%	3.7%	-2.0%	0.3%	3.9%	0.3%	1.8%	-0.7%	5.9%	-0.5%	-1.1%	1.3%	-0.6%	1.8%
12m	-1.5%	1.1%	5.6%	6.7%	1.8%	6.4%	7.2%	2.8%	2.4%	-0.4%	4.4%	3.3%	8.8%	-0.3%	7.5%	8.5%	-5.9%	0.7%	6.8%	0.7%	6.0%	-2.4%	10.6%	-0.6%	-2.3%	2.7%	-0.6%	3.0%
2y	-4.4%	2.5%	11.8%	6.9%	3.6%	11.9%	4.9%	3.4%	3.5%	0.3%	6.6%	7.1%	9.8%	-1.2%	3.4%	10.6%	-11.0%	-1.3%	11.0%	0.5%	2.4%	-7.5%	16.6%	-1.3%	-4.9%	4.8%	0.4%	3.3%
Threshold 10%																												
6m	-0.3%	0.7%	4.3%	10.0%	2.2%	6.0%	4.6%	5.9%	4.4%	1.5%	4.8%	3.8%	6.0%	0.2%	0.2%	6.2%	-1.7%	-0.7%	6.2%	0.9%	1.1%	-1.1%	4.9%	0.0%	-0.1%	2.6%	1.1%	2.7%
12m	-0.5%	-0.5%	7.8%	10.5%	2.3%	11.7%	12.7%	6.5%	8.1%	0.4%	7.1%	4.3%	10.7%	-0.4%	3.8%	10.0%	-5.0%	1.8%	10.5%	1.7%	5.2%	-2.6%	11.1%	1.2%	-0.6%	3.9%	2.2%	4.6%
2y	-3.7%	2.2%	15.2%	11.3%	4.9%	14.7%	13.7%	4.1%	9.6%	4.5%	8.6%	9.1%	20.8%	-0.9%	1.1%	14.8%	-10.1%	-0.4%	14.6%	1.2%	6.8%	-6.2%	18.3%	1.9%	-2.2%	5.6%	2.2%	6.0%

Source: JP Morgan

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Appendix 1: Backtest results 2006 – 2013 (vs USD)

The backtest is an out-of-sample test using data from 2006-2012. We reestimate the model each year in the sample period to ensure there is no look-ahead bias in determining fair values and then use a simple buy-and-hold trading rule. Also, we use fair value estimates lagged one quarter to reflect the delay in data availability for some variables. For a signal to go long or short FX against a base currency, we compare its misalignment with its forward premium or discount as follows: (1) go short foreign currency, buying 1 unit of the base currency forward if the percentage overvaluation of the foreign currency exceeds its forward discount (and hence the cost of carry) by more than a predetermined critical threshold value. Reverse the position at the spot rate when the forward contract matures. Inversely, (2) go long FX, selling $1 forward if the percentage undervaluation of foreign currency exceeds its forward premium by more than the predetermined threshold and reverse the position at the spot rate when the forward contract matures. We test the trading strategy using three thresholds: 0%, 5% and 10%. We also test three portfolio re-balancing frequencies: 6 months, 1 year and 2 years. The objective of the backtest is to determine whether there are values of the threshold for which this trading strategy would have yielded profits in excess of carry.

One should note that the backtest results are sensitive to the sample period used. The results are an illustration of how the model would have performed over the past 6-years and which currency signals were the most reliable. Results may be significantly different going forward. As a result, the fair value model is an input rather than a sole decision-making tool in investment/hedging decisions.

Appendix 2: J.P. Morgan FX fair value model

The JP Morgan fair value model looks at multilateral interactions and assumes that macroeconomic fundamentals other than relative prices drive exchange rates. The fair value model uses a panel regression approach to estimate the equilibrium real trade-weighted exchange rate of 28 currencies and employs four explanatory variables that economic theory suggests should affect a wide range of currencies over different time periods: terms-of-trade, productivity growth, net investment income and government debt.

- A 1% increase in terms-of-trade increases the real-trade-weighted exchange rate by 0.45%.
- A 1% increase in productivity increases the real trade-weighted exchange rate by 0.77%.
- A 1% point increase to gross government debt/GDP decreases the real trade-weighted exchange rate by 0.10%.
- A 1% point increase to net investment income/trade increases the real trade-weighted exchange rate by 0.70%.

A detailed research note *JP Morgan long-term fair model update* (July 23 2013) is available at www.morganmarkets.com/GlobalFXStrategy.

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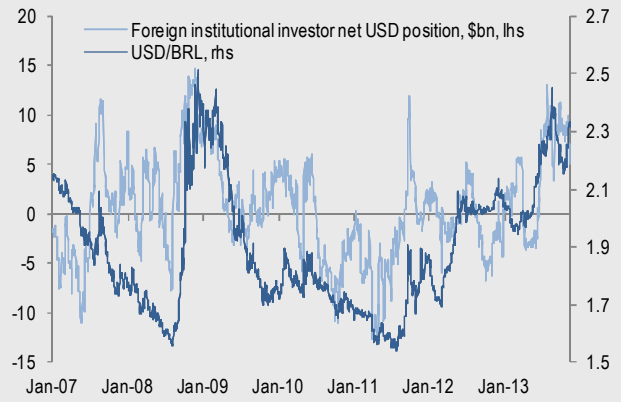
Global FX carry trade monitor

Chart 1: Foreign institutional investors—net positioning on BM&F USD futures

$bn; net positioning in USD futures on BM&F for foreign institutional investors.



Source: J.P. Morgan, Bloomberg

- Foreign institutional investors' net longs in USD reached a year-to-date low of -$3.6bn in April, before bouncing sharply in May and June. Net longs then peaked in late July at $13bn before moderating at the $8bn level. USDBRL has gained 26% peak-to-trough before coming down 6% since late August.

Chart 2: Market capitalization of US-listed currency ETFs

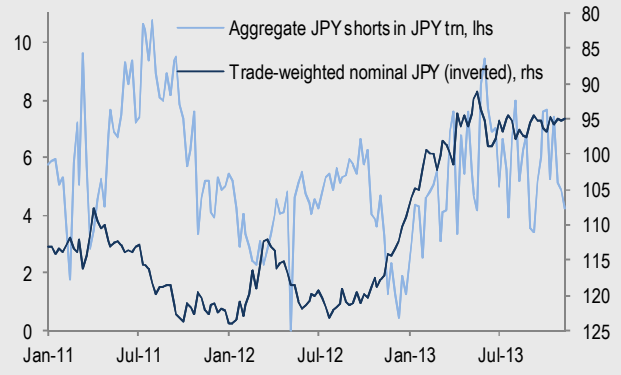
$bn; positive values indicates longs in foreign currencies and shorts in USD. $; change in daily close of the S&P 500 index.

Source: J.P. Morgan, TFE;

- The market cap of US-listed FX ETFs have stayed suppressed since the sharp decline in September 2011. However, market cap has partially recovered from its low of early September 2013 of $0.35bn to its current level of $1.25bn. In spite of this, exposure to foreign currency through ETFs remains low by historical standards.

Chart 3: Japanese retail—aggregate retail margin shorts in JPY

¥trn as the sum of estimated Japanese retail positions in USD, NZD, EUR, GBP and AUD; positive indicates shorts in JPY.

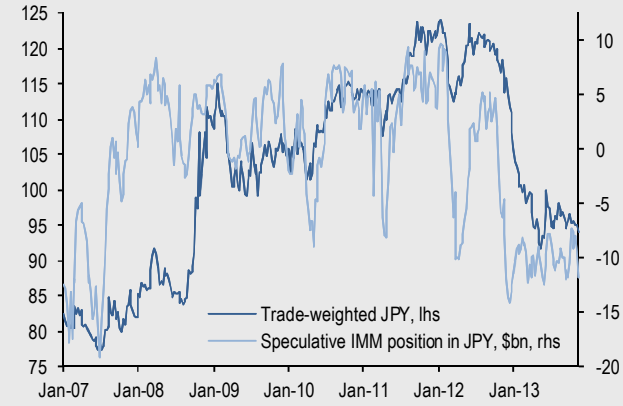


Source: J.P. Morgan, Nikkei Veritas

- JPY retail shorts reached a local minimum of JPY0.46tr. Since then, retail shorts have trended up sharply, albeit with sharp fluctuations, to a high of JPY9.46tr achieved in June 2013. Retail shorts have since moderated and now stand at JPY4.21tr, while speculative IMM net shorts are at multi-year highs (see chart 4).

Chart 4: CTAs—aggregate IMM position in JPY

$bn; speculative positions on the IMM in JPY.



Source: J.P. Morgan, CME

- IMM net longs and the trade-weighted JPY hover at multi-year lows. Neither has recovered from a swift and precipitous decline in October 2012 from the prospect of Abenomics: net speculative IMM positions are currently at -$11.87bn, while the trade-weighted JPY is 93.9.

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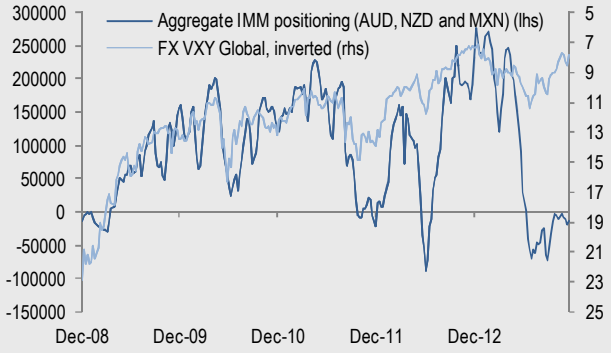
Chart 5: Aggregate net longs on AUD, NZD and MXN versus VXY Global

Speculative net long positions on the IMM in AUD, NZD and MXN.

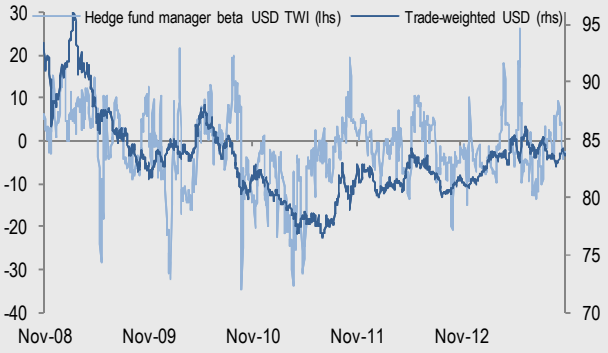


Source: J.P. Morgan, CME

- Aggregate IMM positioning in high beta currencies (AUD, NZD and MXN) has declined sharply since May 2013, during the taper tantrum. In September 2013, aggregate net longs reached a YTD low of -71,615 contracts. Currently, net longs have somewhat moderated to -13,747 contracts but remain depressed relative to intra-year highs.

Chart 6: Currency managers and global macro hedge funds—beta with trade-weighted USD

Positive beta implies a long in carry, a short in dollars. HFR used for global macro hedge funds.

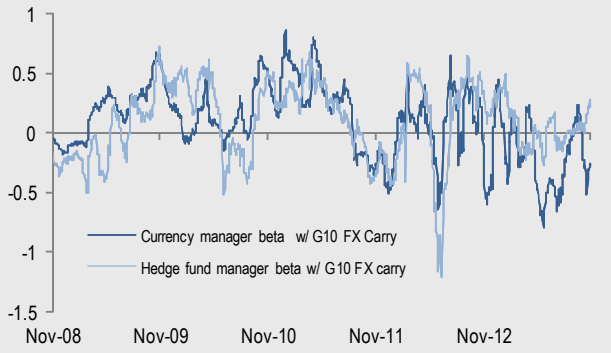


Source: J.P. Morgan, Bloomberg

- For most of this year hedge fund manager beta was negative averaging -1.5 ytd. While the current beta to the trade-weighted dollar exhibited a negative beta of -2.5, this was much higher than the minimum year-to-date beta of -13. Meanwhile, the trade-weighted dollar has trended higher since July 2011.

Chart 7: Currency managers and global macro hedge funds—beta with G-10 carry strategies

Positive beta implies a long in carry, a short in dollars. HFR used for global macro hedge funds. Barclay BTOP Index used for currency managers.

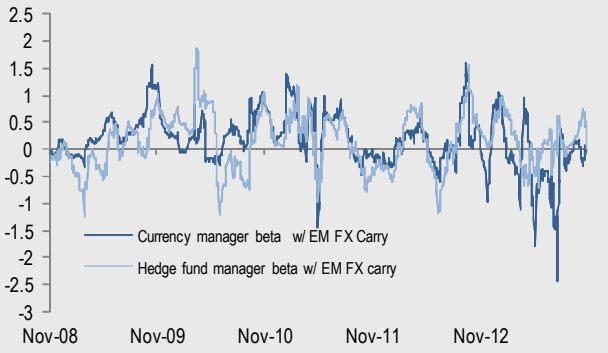


Source: J.P. Morgan, Bloomberg

- Currency managers' beta to carry is -0.26. Currency managers' returns are thus more exposed to G-10 carry returns than during June 2013, when the beta registered -0.79. Hedge fund managers' beta with G-10 on the other hand currently stands at 0.23.

Chart 8: Currency managers and global macro hedge funds —beta with emerging markets carry strategies

Positive beta implies a long in carry, a short in dollars. HFR used for global macro hedge funds. Barclay BTOP Index used for currency managers.



Source: J.P. Morgan, Bloomberg

- Both the betas of currency managers and macro hedge funds stands close to zero today. For currency managers, this represents a sharp upturn from the low beta of -2.5 in August 2013, when the taper tantrum took its toll on EM bond and currency markets. Hedge fund manager beta, in contrast, was range-bound with year-to-date lows and highs of -0.7 and 1.0, respectively.

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J.P.Morgan

J.P. Morgan FX forecasts vs. forwards & consensus

Exchange rates vs. U.S dollar

		Current								JPM forecast gain/loss vs Dec 14*			Actual change in local FX vs USD			
Majors		**Nov 26**	**Mar 14**		**Jun 14**		**Sep 14**		**Dec 14**	**Spot**	**Forwards**	**Consensus****	**Past 1mo**	**Past 3mo**	**YTD**	**Past 12mos**
	EUR	1.35	1.33		1.32		1.32		1.30	-4.1%	-4.2%	1.6%	-1.8%	1.6%	2.7%	4.4%
	JPY	101.4	104	↑	100	↓	102	↓	106	-4.4%	-4.7%	3.3%	-3.9%	-3.7%	-14.4%	-19.0%
	GBP	1.62	1.63		1.61		1.61		1.60	-0.6%	-0.3%	2.9%	-0.1%	4.0%	-0.6%	0.8%
	AUD	0.91	0.93		0.92		0.91		0.90	-1.3%	1.4%	1.1%	-4.9%	2.0%	-12.3%	-12.9%
	CAD	1.05	1.07	↑	1.06	↑	1.05	↑	1.04	1.2%	2.2%	2.9%	-0.7%	-0.4%	-5.7%	-5.6%
	NZD	0.82	0.82		0.83		0.83		0.83	1.2%	4.7%	6.4%	-1.0%	5.1%	-1.1%	-0.2%
JPM USD index		84.2	85.2	↑	84.3	↑	84.1	↑	84.5	0.4%	-0.5%	-1.8%	1.6%	-0.4%	3.2%	3.7%
DXY		80.7	82.1	↑	82.1	↑	82.2	↑	83.4	3.3%	3.1%	-2.0%	2.0%	-0.8%	1.2%	0.6%
Europe, Middle East & Africa																
	CHF	0.91	0.92	↑	0.93	↑	0.92	↑	0.94	-3.1%	-3.6%	5.7%	-1.8%	1.5%	0.7%	2.0%
	ILS	3.54	3.60	↑	3.60	↑	3.55	↑	3.55	-0.2%	0.3%	-0.3%	-0.4%	3.1%	5.4%	8.7%
	SEK	6.57	6.88	↑	6.86	↑	6.82	↑	6.85	-4.1%	-3.3%	-3.1%	-3.8%	-0.9%	-1.0%	0.7%
	NOK	6.10	6.24	↑	6.21	↑	6.14	↑	6.15	-0.8%	0.6%	-2.5%	-3.4%	-0.9%	-8.8%	-7.4%
	CZK	20.17	20.30	↑	20.45	↑	20.45	↑	20.77	-2.9%	-3.4%	-0.7%	-7.6%	-4.5%	-5.7%	-3.3%
	PLN	3.10	3.23	↑	3.22	↑	3.18	↑	3.19	-2.9%	-0.6%	-1.6%	-2.3%	3.7%	-0.2%	2.0%
	HUF	221	228	↑	227	↑	223	↑	223	-1.1%	1.1%	1.6%	-4.0%	2.3%	0.2%	-1.5%
	RUB	32.97	33.09	↑	33.65	↑	34.31	↑	34.36	-4.1%	2.4%	-4.5%	-3.5%	0.6%	-7.4%	-5.9%
	TRY	2.01	2.20	↑	2.15	↑	2.15		2.15	-6.4%	1.5%	-7.0%	-1.5%	1.3%	-11.4%	-10.8%
	ZAR	10.11	10.60	↑	10.80	↑	10.75	↑	10.70	-5.5%	0.4%	-5.4%	-2.8%	2.0%	-16.2%	-12.4%
Americas	**ARS**	6.08	7.30		7.80		8.50		9.20	-33.9%	2.2%	-16.6%	-3.3%	-7.1%	-19.2%	-20.8%
	BRL	2.30	2.40	↑	2.45	↑	2.45	↑	2.40	-4.3%	5.4%	-2.9%	-4.8%	2.1%	-10.7%	-9.4%
	CLP	523	530	↑	530	↑	540	↑	540	-3.2%	0.8%	-3.5%	-3.2%	0.7%	-8.3%	-7.8%
	COP	1926	1950		1950		1950		1950	-1.2%	2.3%	-1.5%	-2.3%	0.7%	-8.3%	-5.3%
	MXN	13.08	13.15		12.90		12.60		12.40	5.5%	8.9%	0.0%	-1.5%	1.8%	-1.7%	-0.5%
	PEN	2.81	2.80		2.82		2.83		2.85	-1.6%	2.3%	-5.3%	-1.6%	-0.1%	-9.0%	-7.7%
	VEF	6.29	11.50	↑	11.50	↑	11.50	↑	11.50	-45.3%	-45.3%	-32.2%	0.0%	0.0%	-31.7%	-31.7%
LACI		96.0	92.5	↑	91.8	↓	91.5	↓	91.9	-4.3%	5.3%	-3.4%	-3.1%	0.1%	-8.3%	-7.2%
Asia	**CNY**	6.09	6.08		6.05		6.03		6.00	1.5%	2.6%	0.0%	-0.1%	0.5%	2.3%	2.2%
	HKD	7.75	7.75	↓	7.75	↓	7.75	↓	7.75	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
	IDR	11765	12300	↑	12300	↑	12400	↑	12500	-5.9%	3.1%	-7.6%	-6.4%	-4.2%	-16.8%	-18.4%
	INR	62.5	65.0	↑	63.0	↑	62.0	↑	62.0	0.8%	10.3%	-0.2%	-1.7%	10.1%	-12.0%	-10.9%
	KRW	1060	1070	↑	1040	↓	1030	↓	1020	3.9%	5.9%	3.9%	0.2%	5.2%	0.4%	2.4%
	MYR	3.22	3.30	↑	3.32	↑	3.35		3.35	-3.9%	-1.9%	-4.8%	-1.9%	3.6%	-5.0%	-5.1%
	PHP	43.74	43.70	↑	43.50	↑	43.40	↑	43.20	1.2%	0.5%	-1.0%	-1.6%	2.3%	-6.2%	-6.2%
	SGD	1.25	1.25	↑	1.25	↑	1.25	↑	1.24	1.0%	0.9%	0.0%	-1.3%	1.9%	-2.4%	-2.5%
	TWD	29.62	29.30		29.20		29.20		29.20	1.4%	0.0%	0.0%	-0.8%	1.3%	-2.0%	-1.8%
	THB	32.08	32.00		32.20	↓	32.50		32.50	-1.3%	1.4%	-3.4%	-3.3%	0.3%	-4.7%	-4.4%
ADXY		116.0	115.5	↓	116.3	↓	116.6	↓	117.1	0.9%	2.5%	-0.1%	-0.9%	0.1%	-1.9%	-1.6%
EMCI		89.5	87.1	↓	87.4	↓	87.6	↓	88.2	-1.5%	3.7%	-2.0%	-2.1%	2.5%	-6.5%	-5.7%
Exchange rates vs Euro													**Actual change in local FX vs EUR**			
	JPY	137	138	↑	132	↓	135	↓	138	-0.3%	-0.5%	1.7%	-2.1%	-5.2%	-16.7%	-22.5%
	GBP	0.839	0.815		0.820		0.820		0.810	3.6%	4.0%	1.3%	1.8%	2.4%	-3.2%	-3.5%
	CHF	1.23	1.230	↑	1.225	↑	1.220	↑	1.220	1.0%	0.6%	4.1%	0.0%	-0.1%	-1.9%	-2.3%
	SEK	8.90	9.15	↑	9.05	↑	9.00	↑	8.90	0.0%	0.9%	-4.6%	-2.0%	-2.4%	-3.5%	-3.6%
	NOK	8.27	8.30	↑	8.20	↑	8.10	↑	8.00	3.4%	4.9%	-4.0%	-1.6%	-2.4%	-11.2%	-11.4%
	CZK	27.33	27.00	↑	27.00	↑	27.00	↑	27.00	1.2%	0.8%	-2.2%	-5.9%	-6.0%	-8.2%	-7.5%
	PLN	4.20	4.30	↑	4.25	↑	4.20	↑	4.15	1.2%	3.7%	-3.1%	-0.4%	2.1%	-2.9%	-2.3%
	HUF	299	303	↑	300	↑	295	↑	290	3.0%	5.4%	0.0%	-2.2%	0.7%	-2.5%	-5.7%
	RON	4.45	4.50	↑	4.50	↑	4.50	↑	4.55	-2.3%	0.1%	-4.4%	0.0%	0.1%	0.0%	1.7%
	TRY	2.73	2.93	↑	2.84	↑	2.84		2.80	-2.4%	5.9%	-8.4%	0.4%	-0.3%	-13.8%	-14.6%
	RUB	44.67	44.01	↑	44.42	↑	45.29	↑	44.67	0.0%	6.8%	-6.0%	-1.8%	-1.0%	-9.9%	-9.9%
	BRL	3.11	3.19	↑	3.23	↑	3.23	↑	3.12	-0.2%	10.0%	-4.4%	-3.0%	0.5%	-13.0%	-13.3%
	MXN	17.73	17.49		17.03		16.63		16.12	10.0%	13.7%	-1.5%	0.3%	0.2%	-4.3%	-4.7%

↑ indicates revision resulting in stronger FX rate , ↓ indicates revision resulting in weaker FX rate. Source: J.P.Morgan

* Positive indicates JPM more bullish on local currency than spot, consensus or forward rates. ** Bloomberg *FX Consensus Forecasts.*

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Risk scenarios to accompany 2014 FX forecasts

USD

Risk bias	Scenarios	Potential trigger events
Balanced	• **Bearish**: (1) the December 2013/January 2014 budget debates result in another government shutdown; (2) US growth weakens dramatically (below 1%) due to the Washington debates; (3) peripheral Europe booms, or (4) growth accelerates in several key countries (China, Brazil, Mexico, Australia), thus driving demand for non-USD currencies. • **Bullish:** (1) US economy accelerates into year-end despite Washington debates, and Fed tapering begins in December; (2) China requires sub-7% growth to achieve rebalancing, pushing commodity prices and commodity FX lower, (3) ECB does whatever it takes to generate inflation, (4) elections in five big emerging markets deliver market-unfriendly governments.	• FOMC meetings: 18 Dec, 29 Jan, 19 Mar, 30 Apr • US payrolls each month • Debate on government funding (Jan 15) and debt ceiling (March) in Washington

JPY

Risk bias	Scenarios	Potential trigger events
Bearish bias in 1Q Bullish bias in 2Q and after	• **Bearish**: USD/JPY to 110-115 if 1) domestic investors (retails, in particular) significantly increase foreign asset investments, partly due to an introduction of NISA, 2) Japanese inflation rises to much higher than expected (even higher than the BoJ 2% target) and consistently surpasses that in the US and Euro area. • **Bullish :** USD/JPY to 90 if 1) a spike in market volatility trigger a large deleveraging moves; potential triggers of higher vols include sharp slowdown in global growth, mess in China's financial system, US debt ceiling and European peripherals, 2) recent inflation trends result in more hawkish BoJ while more dovish Fed against our main view, 3) disappointments from Japan (a sharp showdown in domestic economy after consumption tax hike, no corporate tax cut, no wage hikes, etc.) trigger a large unwinding of "Abenomics trades."	• NISA introduction in Jan • Consumption tax rate hike in April which would be accompanied by economic package. • BoJ meetings (Apr 30 mtg. with Outlook Report is particularly important) • Change in portfolio allocation of GPIF • External risk factors (China's financials, US debt ceiling, Euro peripherals etc.)

EUR

Risk bias	Scenarios	Potential trigger events
Balanced	• **Bearish**: Below 1.30 if (1) the Fed brings forward its first tightening to late 2014; (2) the ECB does whatever it takes to lift inflation, including negative deposit rates and large-scale asset purchases; (3) bank deleveraging ahead of the ECB's Asset Quality Review pushes the periphery back into recession; (4) bail-ins from the AQR revive financial market stress or (5) the Greek coalition falls and is replaced by a more radical government more opposed to the troika program. • **Bullish**: To 1.40 in Q4 if (1) US growth weakens dramatically (below 1%) due to the Washington debates, (2) low US inflation delays/slows tapering and the first Fed hike; (3) US economy buckles as rates rise; or (4) deflation in the periphery proves short-lived.	• ECB meetings: 5 Dec, 9 Jan, 6 Feb, 6 Mar • FOMC meetings: 18 Dec, 29 Jan, 19 Mar, 30 Apr • CPI reports and PMI releases each month • ECB's AQR and stress tests (to be completed Oct 2014) • Debate on government funding (Jan 15) and debt ceiling (March) in Washington

GBP

Risk bias	Scenarios	Potential trigger events
H1 higher, H2 lower	• **Bearish**: EUR/GBP to 0.86/0.87 if growth slows to 2% or below and rate expectations soften from two to no rate hikes through 2015. Alternatively, growth remains strong (3% plus) and inflation stops falling yet the BoE responds by lowering the unemployment threshold in a way that questions its commitment to price stability - yields and volatility higher, GBP lower. High growth causes a further deterioration in the current a/c, beyond 5% of GDP. An unexpected Yes vote in the Scottish Independence referendum. • **Bullish**: The BoE validates the economic recovery by signaling rate increases in late 2014/early 2015 in response to some combination of 1) wage pressures, 2) a decisive move higher in inflation expectations, and 3) 10%+ growth in house prices. EUR/GBP to 0.76/0.77. M&A-related demand for GBP in Q1/Q2 is more comprehensive than anticipated (3% vs 1.5% of GDP).	• Growth, inflation and asset price metrics • BoE meetings, Inflation Reports and Financial Stability Reports (next FSR on 28 Nov) • Scottish independence referendum (18 Sep) • M&A-related GBP demand in Q1

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CHF

Risk bias	Scenarios	Potential trigger events
Balanced	• **Bearish**: EUR/CHF to 1.26/1.27 if the Fed tapers without signaling a delay to 2015 rate hikes and USD/CHF is once more in focus as a high-yielding USD long (essentially a repeat of the May taper tantrum). CPI continues to fall, which in conjunction with marked slowdown in the property market rekindlkes discussion of further SNB easing (negative rates, raising the 1.20 floor). • **Bullish**: CPI above 1% in the face of even stronger GDP growth which erodes the remaining output gap. House price inflation and credit growth accelerate – CHF could weaken initially if the SNB responded by imposing higher capital requirements, but ultimately this would be bullish CHF as it would confirm that the monetary stance imposed by the SNB's FX policy rate was too loose.	• CPI • Housing market • Capital requirements • Overall carry trade environment

SEK

Risk bias	Scenarios	Potential trigger events
Balanced	• Bearish: Lower inflation and sluggish growth prompts the Riksbank to ease to 0.75% and to flatten its profile for future hikes (it currently has rates at 2.25% by end-2016 and 2.9% by end-2017). Macro-prudential controls are tightened (a high counter-cyclical capital buffer for banks, a tighter amortization regime for mortgages, changes to the tax-deductibiolity of mortgages). Outflows of equity and FDI capital intensify; fixed income investors liquidate their SEK safe-haven investments in (10% of GDP). EUR/SEK to 9.40 • Bullish: A substantial cyclical upswing supports the Riksbank's current upbeat growth and interest rate scenario (rate hike towards the end of 2014/2015). Stronger growth slows the rate of long-term capital outflows as well as encouraging yield-sensitive short-term inflows. EUR/SEK to 8.50/60.	• Riksbank (Dec 17, 13 Feb, Apr 9, Jul 3). • FSA decision on counter-cyclical capital buffer and any other macro-prudential measures. • General election (Sep 14) – the opposition red-green parties lead the government coalition parties by 10-12% in opinion polls. • CPI, house prices, GDP.

NOK

Risk bias	Scenarios	Potential trigger events
Negative	• **Bearish**: House prices declines intensify and credit growth weakens sharply (possibly as a result of the Norges Bank introducing a counter-cyclical buffer on the banks at the top-end of the 0-2.5% range).The Norges Bank first drops its bias to tighten towards the end of 2014 before adopting a bias to ease as housing market weakness depresses mainland growth. EUR/NOK to 8.60/70. • **Bullish**: The housing downturn proves to be be no more than a temporary lull. Renewed house price inflation combined with a rise in CPI above the 2.5% target forces the Norges Bank to act sooner on rates. EUR/NOK to 7.70/80.	• Housing market. • Inflation. • Norges Bank decision on a counter-cyclical buffer (Dec 5). • Oil and gas prices.

CAD

Risk bias	Scenarios	Potential trigger events
Negative in H1, balanced in H2	• **Bearish:** USD/CAD above 1.10 by year-end 2014 as: (1) Western Canada Select declines towards $55, trading at a large discount to WTI due to an intensification of transportation bottlenecks (possibly including Keystone XL's approval appearing increasingly unlikely); (2) Canadian housing data (prices, starts, sales, inventories) deteriorates dramatically, signaling a US-style housing bust may be imminent; and (3) Fed tapering results in heightened volatility in a number of EM economies, driving USD/CAD 3-5% higher, at least temporarily. • **Bullish:** USD/CAD below 1.00 by 4Q14 as: (1) WTI climbs above $110 and WCS rebounds towards $90, with transportation bottlenecks appearing less fearsome (possibly on Keystone's approval seeming imminent); (2) US growth accelerates above expectations (>3.0% saar), with Canadian non-commodity exports benefitting significantly; and (3) Canadian CPI increases towards 2.0% much faster than expected, leading the BoC to turn somewhat hawkish and the market to begin pricing in a BoC hike in 2H14, well ahead of the FOMC.	• BoC meetings: Dec 4, Jan 22, March 5, April 16. • Financial System Review: Dec 10 • Canada employment: Dec 6, Jan 10, Feb 7, March 7 • Teranet home price index: Dec 12, Jan 14 • Canadian exports: Dec 4, Jan 7, Feb 6 • US Payrolls: Dec 6, Jan 10, Feb 7 • US retail sales: Dec 12, Jan 14, Feb 13 • Keystone pipeline approval, tbd

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AUD

Risk bias	Scenarios	Potential trigger events
Bearish	• **Bearish**: AUD/USD sub 0.85 with (1) a negative shock to Chinese growth which severely comprises the aggregate growth outcome for Australia in 2014; (2) a sharper fall in Australian mining capex expenditure which results in a domestically generated recession; or (3) regime shift by the RBA, either towards a formal FX intervention policy, or macro-prudential regulations combined with a substantially lower policy rate. • **Bullish**: AUD/USD above 0.97 as (1) the domestic economy surprises on the upside, driving a shift in expectations around the domestic interest rate cycle such that the RBA becomes one of the first DM central banks to lift rates; (2) Chinese policy makers abandon meaningful structural reforms and pursue stronger short-term growth outcomes, resulting in higher commodity prices and volumes than currently forecast; or (3) flight-to-quality flows return to the ACGB market	• Capex data (Feb 27) • CPI data (Jan 22, Apr 23) • RBA meetings (Dec 3, Feb 4, Mar 4, 1 Apr) • RBA quarterly *Statement on Monetary Policy* (Feb 7, May 9) • Chinese GDP data (Jan 14)

NZD

Risk bias	Scenarios	Potential trigger events
Neutral	• **Bearish**: NZD/USD sub 0.80 as (1) the RBNZ gets high impact outcomes from the LVR restrictions, meaning a less aggressive OCR normalization; (2) a supply side shock to exports, resulting in long term substitution of real demand away from New Zealand; or (3) the Australian economy falls into recession, causing lower export growth and sharp credit tightening in New Zealand. • **Bullish**: NZD/USD above 0.87 if (1) a tight election contest tempts the Government to run looser fiscal policy, adding to aggregate demand and requiring tighter monetary policy; (2) LVR restrictions do not work effectively, requiring the RBNZ to normalize policy more aggressively; (3) dairy prices remain elevated pushing national purchasing power higher; or (4) resource constraints start to bind in the construction industry, causing a less favourable growth/inflation trade-off.	• Election (likely 4Q14) • RBNZ meetings in 1H14 (Jan 30, Mar 13, Apr 24, Jun 12) • RBNZ Financial Stability Review (May 14) • CPI data (Jan 21, Apr 16)

BRL

Risk bias	Scenarios	Potential trigger events
Bearish	• **Bearish**: USD/BRL above 2.40 by year-end 2014 as: (1) Lack of fiscal transparency prompts a sovereign downgrade; (2) Brazil's BCB abandons its hawkish bias sooner than expected on the back of decelerating economic activity; and (3) Fed tapering results in heightened volatility, which together with a sovereign downgrade reinforces local hedge demand, forcing Brazil's BCB to intervene spot. • **Bullish**: USD/BRL below 2.35 by 4Q14 as: (1) Portfolio and FDI inflows prove stronger than expected; (2) Economic activity accelerates, appeasing fiscal concerns; and (3) political cycle proves to be smooth, with the government avoiding adverse policy decisions.	• COPOM meetings (Jan 15,Feb 26,Apr 2, May 28, Jul 16, Sep 9) • CPI data (bi-monthly) • Economic activity (Jan 17, Feb 14) • 4Q13 GDP (Feb 27)

MXN

Risk bias	Scenarios	Potential trigger events
Bearish bias in Q1 **Bullish bias in H2**	• **Bearish**: USD/MXN above 13.0 by year-end 2014 as: (1) Fed tapering results in protracted heightened volatility, as MXN stands a good hedge vehicle for EM assets; (2)The energy reform is either nor passed or passed but disappointing market expectations; and (3) economic activity stalls, as was the case in 1H13. • **Bullish**: USD/MXN below 12.40 by 4Q14 as: (1) Above expectations energy reform is passed, driving the market to re-price higher potential GDP growth and FDI flows; (2) US growth accelerates above expectations (>3.0% saar), with Mexican manufacturing exports benefitting significantly; and (3) Short-term inflation expectations rise, leading Mexico's Banxico to embrace a hawkish bias.	• Banxico meetings (Dec 6, Jan 31, Mar 21, Apr 25, Jun 6, Jul 11, Sep 5, Oct 31) • CPI data (bi-monthly) • 4Q13 GDP (Feb 21) • Banxico quarterly *Inflation Report* (Feb 2, May 14, Aug 13)

TRY

Risk bias	Scenarios	Potential trigger events
Negative in H1, balanced in H2	• **Bearish:** USD/TRY moves towards 2.15 by end Q1 as tapering begins and the CBRT delay a hike of the upper band of the corridor. • **Bullish:** USD/TRY stabilizes under 2.10 as the CBRT react credibly to tapering early on by hiking the upper band of the corridor convincingly. Credit growth slows more quickly than expected as new macro prudential credit measures take hold.	• Local elections: Mar 30th • Presidential elections: August • C/A prints • Credit growth

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ZAR

Risk bias	Scenarios	Potential trigger events
Negative in H1, balanced in H2	• **Bearish:** USD/ZAR moves quickly towards 10.80 as tapering begins and the SARB do not react with rate hikes, while the pass-through into the trade balance from the significant depreciation of the ZAR since the start of 2013 is slow to materialize. • **Bullish:** USD/ZAR weakness as tapering begins is met with rate hikes early on. The significant depreciation of the ZAR and the pick up in trading partner growth begins to have a more material affect on the trade balance.	• National elections: April-July • C/A prints • Labour relations • Portfolio flow momentum

RUB

Risk bias	Scenarios	Potential trigger events
Balanced in Q1, Négative post Q1	• **Bearish:** Already expensive valuations, a declining C/A surplus combined with sticky capital flight underpin medium term bearish factors. The CBR will move closer towards a floating corridor mechanism next year while rate cuts are also likely delivered adding to pressures. MinFin on-market FX purchases for the reserve fund may also contribute to RUB weakness. • **Bullish:** Strong trade balance seasonality into Q1-14 combined with a still hawkish CBR may help delay RUB depreciation to after Q1. Weakening domestic demand may also delay the decline in the C/A surplus.	• The start of the rate cutting cycle • Widening of the FX corridor • MinFin FX on market purchases • C/A and capital flight dynamics

Central Europe

Risk bias	Scenarios	Potential trigger events
Negative in Q1, positive in H2	• **Bearish:** General risks involve a slower than expected pick up in European growth and, in the context of European bank stress tests, further bank deleveraging in the region. More specifically, election risks in Hungary, pension fund reform in Poland and poor macro data in CZK could all contribute to CEE weakness next year. • **Bullish:** Should European growth hold firm with only modest bank deleveraging next year the strong basic balances of the region should help CEE FX outperform.	• Hungary: FX mortgage plan proposals • Hungary: April parliamentary elections • Poland: Pension fund reform, Q1-14 • Czech: CPI and growth data • Regional: bank deleveraging flows

CNY

Risk bias	Scenarios	Potential trigger events
Balanced	• Bullish: (1) Exchange rate regime and capital account liberalization translates into stronger inflows and more flexibility allowing more and faster trend appreciation. (2) A stronger global manufacturing cycle lifts Chinese exports, growth, and inflation and leads to faster policy trend appreciation. • Bearish: (1) Exchange rate regime liberalization emphasizes two-way volatility amid a widened band which allows temporary CNY weakness enabled or encouraged by policy (e.g. via signaling in the daily fixings). (2) Sharp slowdown in growth, whether due to external conditions or sudden unexpected domestic tightening of liquidity, reignites onshore hard landing concerns and precautionary outflows.	• Growth indicators: exports, inflation & PMIs • Policy/regulatory announcements (typically unscheduled) • Trend-change in daily USD-CNY fixings

INR

Risk bias	Scenarios	Potential trigger events
Risks of strength in INR going into elections next year	• Bearish INR: 1) Forward leg of oil swaps gets unwound at an unfavorable time. 2) High inflation persists. 3) Corporates remain conservative and continue to increase hedge ratio for FX liabilities. • Bullish INR: 1) India gets included in major global bond indices 2) Strong mandate for reform minded party in the central elections in May 3) Structural improvement in current account next year	• RBI's quarterly policy • Monthly data on trade and inflation • Central government elections

KRW

Risk bias	Scenarios	Potential trigger events
Balanced	• Bullish: (1) FX policy continues to step back from systematic reserves accumulation allowing large surpluses to more fully translate to currency strength; (2) Fed tapering is even more modest than expected while Asian growth, exports and inflation pick up. • Bearish: (1) Fed tapering turns out to be more severe and disorderly for EM and ASEAN FX weakness triggers broader regional contagion; (2) Disinflation in Korea triggers a fundamental shift in FX policy with much more aggressive intervention.	• Growth and inflation indicators • Fed policy and signaling

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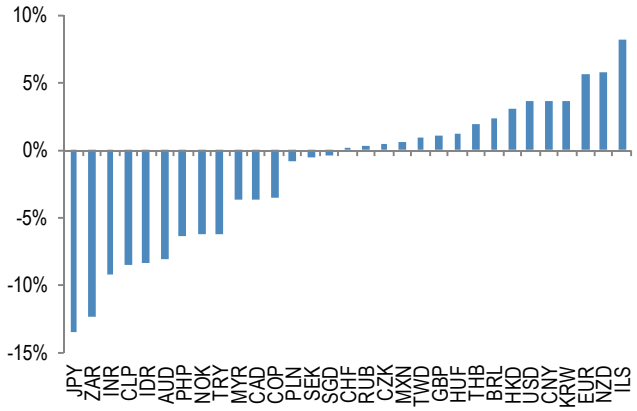
Recent real effective exchange rate trends

- **Real effective exchange rate indices and their deviations from long-term averages are widely utilized as short-hand measures for currency misalignment. This approach is convenient but somewhat simplistic, as it assumes that the equilibrium level of the REER is constant over time. In reality the equilibrium value for the REER does vary over time in response to structural factors such as terms of trade, productivity growth, debt levels and net investment position which are captured in J.P. Morgan's fundamental fair value model (page 121). Nonetheless, the REERs are useful for gauging broad-based trends in currencies and do provide at a high-frequency starting point for identifying misalignments.**
- **Over 2013, the strongest global currencies were ILS (+8.1%), NZD (+5.7%), EUR (+5.6%) and KRW (+3.6%). Weakest currencies were JPY (-13.5%), ZAR (-12.4%), INR (-9.2%) and CLP (-8.6%).**
- **Relative to long-term averages, several commodities currencies are the strongest (BRL +69.5%, NZD +48.3%, NOK +28.1%, AUD +23.6%, CLP +22.5%). CAD (-17.2%) and RUB (-14.4%) are the exceptions. Several EM FX are the weakest relative to their 40-year average: INR (-31.5%), TWD (-24.6%), KRW (-19.4%). JPY stands out as well given the dramatic weakening this year (-21.2%).**

Chart 1: YTD changes in real broad effective exchange rates
Positive values represent YTD appreciation



Source: J.P. Morgan

Table 1: J.P. Morgan real effective exchange rates
Recent changes and deviations from long-term average

	Change in REER over past				Deviation from	
	1mo	3mos	12mos	YTD	10-yr avg	40-yr avg.*
Majors						
USD	-0.8%	-1.8%	4.9%	3.6%	0.8%	-5.4%
EUR	0.7%	2.8%	6.3%	5.6%	0.7%	6.1%
JPY	0.8%	0.6%	-18.6%	-13.5%	-13.3%	-21.2%
GBP	0.7%	3.5%	1.0%	1.0%	-2.1%	-2.4%
AUD	1.2%	1.4%	-5.2%	-8.1%	5.8%	23.6%
CAD	-1.0%	0.3%	-5.6%	-3.6%	-9.4%	-17.2%
NZD	1.0%	4.0%	7.8%	5.7%	16.5%	48.3%
Europe, Middle East & Africa						
CHF	1.0%	1.1%	1.2%	0.2%	6.9%	19.4%
ILS	-0.1%	-0.7%	10.3%	8.1%	14.6%	12.0%
SEK	-1.1%	-1.1%	0.4%	-0.5%	-3.3%	-15.9%
NOK	-1.7%	-2.6%	-5.8%	-6.2%	4.9%	28.1%
CZK	1.2%	1.2%	0.2%	0.4%	6.2%	23.6%
PLN	1.2%	1.4%	-0.5%	-0.9%	0.3%	7.3%
HUF	1.9%	0.7%	0.4%	1.2%	-1.3%	5.5%
RUB	0.8%	-0.1%	2.7%	0.3%	18.1%	-14.4%
TRY	0.9%	-3.7%	-4.6%	-6.2%	-12.2%	-12.8%
ZAR	-0.3%	-1.7%	-9.8%	-12.4%	-16.3%	-14.6%
Americas						
BRL	3.8%	4.6%	1.1%	2.3%	15.7%	69.5%
CLP	-0.5%	0.9%	-9.0%	-8.6%	2.8%	22.5%
COP	1.5%	-1.2%	-4.5%	-3.5%	5.6%	-5.2%
MXN	0.2%	-2.0%	0.9%	0.6%	4.3%	10.2%
Asia						
CNY	-1.9%	-2.7%	5.6%	3.6%	13.3%	19.8%
HKD	-0.2%	0.4%	3.3%	3.0%	-0.8%	-11.8%
IDR	-1.8%	-12.0%	-7.5%	-8.3%	5.2%	10.7%
INR	2.3%	-5.0%	-11.6%	-9.2%	-16.7%	-31.5%
KRW	0.5%	3.8%	6.8%	3.6%	1.3%	-19.4%
MYR	0.6%	-3.9%	-3.3%	-3.7%	7.9%	5.8%
PHP	0.1%	-0.9%	-5.9%	-6.4%	-11.8%	-11.0%
SGD	0.2%	0.0%	0.4%	-0.3%	2.1%	5.0%
TWD	-0.8%	-0.8%	1.3%	0.8%	-5.7%	-24.6%
THB	0.4%	-1.4%	3.0%	1.9%	12.4%	10.3%

Source: J.P. Morgan
*Due to data limitations, long-term averages for PLN, ILS, CZK, HUF, RUB are based on samples of 19 years while CNY is based on a sample size of 22 years.

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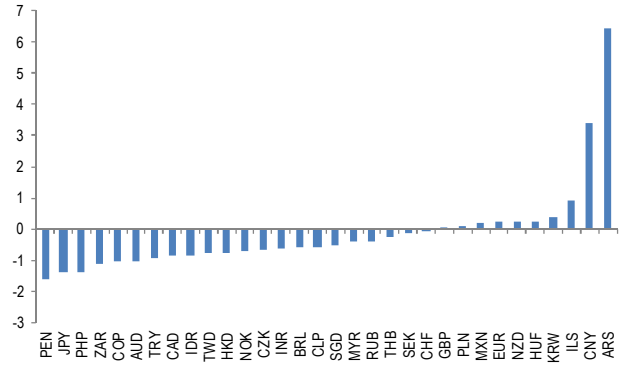
FX performance in 2013: spot vs. risk-adjusted returns

- **Currency performance should be measured in carry-adjusted terms rather than simply as spot returns, to account for interest rates paid or earned on currency positions. This distinction is also material for corporate hedgers to determine whether the interest rate carry outweighs the spot risk they intend to cover.**
- **Table 1 lists currency performance over various horizons in carry-adjusted and spot terms. Carry-adjusted returns are based on implied yields computed off of 1-month USD swap rates. Also, carry-adjusted returns incorporate both spot movements and interest rate differentials.**
- **In carry-adjusted terms, the best performers YTD were ILS (+5.7%), CNY (+3.1%) and HUF (+2.9%). The worse performers were JPY (-16.4%), ZAR (-12.8%) and AUD (-10.3%). KRW and MXN were also notable EM currencies that outperformed this year.**
- **On a risk-adjusted basis (using delivered volatility), CNY was the best performer with an IR of 3.4, followed by ILS (0.9). PEN, JPY, PHP and CZK rank among four of the worst performers when adjusting for delivered volatility.**
- **For USD-based hedgers, negative returns on a carry-adjusted basis indicate that a short foreign currency/long USD hedge was worth holding because spot underperformed the forward over the hedging horizon.**

Chart 1: YTD information ratios against USD



Source: JP Morgan

Table 1: FX performance attribution: spot versus carry-adjusted returns

Performance against USD	Carry-adjusted return				Spot return				Information
	1mo	3mos	12mos	ytd	1mo	3mos	12mos	ytd	ratio
Majors									
EUR	-1.9%	1.3%	4.1%	2.1%	-1.9%	1.3%	4.3%	2.2%	0.3
JPY	-4.0%	-2.7%	-21.0%	-16.4%	-4.0%	-2.6%	-20.8%	-16.2%	-1.4
GBP	0.2%	4.0%	1.3%	0.4%	0.1%	3.9%	1.1%	0.2%	0.1
AUD	-4.8%	2.1%	-10.7%	-10.3%	-5.0%	1.5%	-13.2%	-12.5%	-1.1
CAD	-1.3%	0.1%	-5.1%	-4.8%	-1.3%	-0.2%	-5.9%	-5.6%	-0.9
NZD	-2.6%	4.6%	1.5%	1.8%	-2.8%	4.0%	-0.8%	-0.3%	0.2
EMEA									
CHF	-2.0%	1.6%	1.8%	0.1%	-2.0%	1.6%	2.2%	0.4%	0.0
ILS	-1.2%	1.0%	9.1%	5.7%	-1.3%	0.8%	8.1%	4.8%	0.9
SEK	-3.1%	-0.9%	1.4%	-0.5%	-3.2%	-1.1%	0.6%	-1.2%	0.0
NOK	-2.5%	0.7%	-5.9%	-7.3%	-2.6%	0.4%	-7.2%	-8.4%	-0.7
CZK	-7.5%	-4.8%	-3.5%	-6.3%	-7.5%	-4.7%	-3.3%	-6.1%	-0.6
PLN	-2.1%	3.0%	4.8%	1.7%	-2.3%	2.5%	2.1%	-0.6%	0.2
HUF	-3.9%	2.3%	1.4%	2.9%	-4.1%	1.7%	-2.2%	-0.3%	0.3
RUB	-2.8%	2.2%	0.4%	-2.2%	-3.3%	0.7%	-5.6%	-7.5%	-0.3
TRY	-1.2%	0.8%	-6.1%	-6.9%	-1.7%	-0.8%	-11.4%	-11.6%	-0.8
ZAR	-2.7%	3.3%	-8.0%	-12.8%	-3.1%	2.1%	-12.8%	-17.1%	-1.0
Americas									
BRL	-3.9%	8.6%	-3.4%	-5.8%	-4.6%	6.5%	-9.4%	-11.3%	-0.5
CLP	-2.5%	-0.3%	-3.1%	-3.4%	-2.9%	-1.5%	-8.3%	-8.0%	-0.5
MXN	-1.3%	1.7%	2.8%	2.0%	-1.6%	0.9%	-0.1%	-0.5%	0.2
COP	-2.2%	0.1%	-2.5%	-5.6%	-2.4%	-0.7%	-5.6%	-8.4%	-1.0
PEN	-1.0%	1.4%	-5.6%	-7.3%	-1.4%	0.3%	-8.0%	-9.5%	-1.6
Asia									
CNY	-0.1%	0.5%	3.0%	3.1%	-0.1%	0.5%	2.5%	2.4%	3.4
HKD	0.0%	0.0%	-0.2%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.8
IDR	-5.3%	-1.6%	-8.6%	-7.3%	-6.0%	-4.7%	-18.1%	-16.4%	-0.9
INR	-1.2%	6.0%	-4.9%	-6.6%	-2.1%	3.2%	-12.8%	-13.8%	-0.6
KRW	-0.2%	6.3%	4.4%	2.8%	-0.4%	5.8%	2.4%	1.0%	0.4
MYR	-1.4%	3.3%	-3.0%	-3.1%	-1.5%	2.9%	-5.0%	-4.9%	-0.5
PHP	-1.9%	0.2%	-7.1%	-7.0%	-1.7%	0.7%	-6.7%	-6.6%	-1.4
SGD	-0.8%	2.5%	-2.1%	-2.2%	-0.8%	2.5%	-2.1%	-2.2%	-0.5
TWD	-0.7%	1.2%	-2.0%	-2.3%	-0.6%	1.7%	-1.5%	-1.8%	-0.8
THB	-2.1%	1.3%	-1.3%	-1.8%	-2.3%	0.6%	-3.6%	-3.9%	-0.3
Performance against EUR									
JPY	-2.1%	-4.0%	-25.1%	-18.5%	-2.1%	-3.9%	-25.1%	-18.4%	-1.5
GBP	2.1%	2.7%	-2.8%	-1.7%	2.1%	2.6%	-3.2%	-2.0%	-0.2
CHF	-0.1%	0.3%	-2.3%	-2.0%	-0.1%	0.3%	-2.1%	-1.9%	-0.5
SEK	-1.2%	-2.2%	-2.7%	-2.5%	-1.3%	-2.4%	-3.6%	-3.4%	-0.4
NOK	-0.6%	-0.6%	-10.0%	-9.4%	-0.7%	-0.9%	-11.5%	-10.7%	-1.2
CZK	-5.6%	-6.0%	-7.6%	-8.4%	-5.6%	-6.0%	-7.6%	-8.4%	-1.4
PLN	-0.2%	1.7%	0.7%	-0.4%	-0.4%	1.2%	-2.2%	-2.9%	-0.1
HUF	-2.0%	1.0%	-2.7%	0.8%	-2.2%	0.4%	-6.5%	-2.5%	0.1
TRY	0.8%	-0.5%	-10.2%	-9.0%	0.2%	-2.1%	-15.7%	-13.9%	-1.1
RUB	-0.9%	0.9%	-3.7%	-4.3%	-1.4%	-0.6%	-9.9%	-9.8%	-0.6

NB: Carry-adjusted returns based on implied yields from 1-mo. USD swaps. All figures are calculated over the indicated horizon except for the information ratio (based on YTD annualized figures). Information ratios computed from carry-adjusted returns YTD.

Source: JP Morgan

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Sovereign credit ratings and actions

	S&P		Moody's		Fitch		Recent S&P Action		Recent Moody's Action		Recent Fitch Action	
	Rating	View	Rating	View	Rating	View	Rating	Outlook	Rating	Outlook	Rating	Outlook
Argentina	CCC+	(-)	B3	(-)	CC	(-)	10-Sep-13	10-Sep-13	29-Jun-05	17-Sep-12	27-Nov-12	27-Nov-12
Australia	AAA		Aaa		AAA		25-Feb-11	17-Sep-07	21-Oct-02	13-Nov-03	28-Nov-11	28-Nov-11
Austria	AA+		Aaa	(-)	AAA		13-Jan-12	29-Jan-13	26-Jun-77	13-Feb-12	10-Aug-94	15-Feb-08
Belgium	AA	(-)	Aa3	(-)	AA		13-Jan-12	13-Jan-12	16-Dec-11	16-Dec-11	27-Jan-12	23-Jan-13
Brazil	BBB	(-)	Baa2		BBB		17-Nov-11	6-Jun-13	20-Jun-11	2-Oct-13	4-Apr-11	4-Apr-11
Canada	AAA		Aaa		AAA		29-Jul-02	18-May-07	3-May-02	24-May-06	12-Aug-04	22-May-07
Chile	AA-		Aa3		A+		26-Dec-12	26-Dec-12	16-Jun-10	16-Jun-10	1-Feb-11	1-Feb-11
China	AA-		Aa3		A+	(-)	16-Dec-10	16-Dec-10	11-Nov-10	16-Apr-13	6-Nov-07	11-Apr-12
Colombia	BBB		Baa3	(+)	BBB-	(+)	24-Apr-13	24-Apr-13	31-May-11	8-Jul-13	22-Jun-11	6-Mar-13
Cyprus	CCC+	(-)	Caa3	(-)	B-	(-)	3-Jul-13	3-Jul-13	10-Jan-13	10-Jan-13	3-Jun-13	3-Jun-13
Czech Republic	AA-		A1		A+		24-Aug-11	24-Aug-11	12-Nov-02	8-Dec-08	4-Mar-08	13-Dec-11
Denmark	AAA		Aaa		AAA		27-Feb-01	26-Sep-07	23-Aug-99	24-May-06	10-Nov-03	18-Dec-07
Finland	AAA		Aaa		AAA		13-Jan-12	14-Jan-13	4-May-98	24-May-06	5-Aug-98	11-Dec-07
France	AA		Aa1	(-)	AA+		8-Nov-13	8-Nov-13	19-Nov-12	19-Nov-12	12-Jul-13	12-Jul-13
Germany	AAA		Aaa	(-)	AAA		13-Jan-12	13-Jan-12	29-Apr-93	23-Jul-12	10-Aug-94	6-Nov-07
Greece	B-		C	WR	B-		18-Dec-12	18-Dec-12	2-Mar-12	2-Mar-12	14-May-13	14-May-13
Hong Kong	AAA		Aa1		AA+		16-Dec-10	16-Dec-10	10-Nov-10	16-Apr-13	25-Nov-10	25-Nov-10
Hungary	BB	(-)	Ba1	(-)	BB+		23-Nov-12	21-Mar-13	24-Nov-11	6-Dec-10	6-Jan-12	20-Dec-12
India	BBB-	(-)	Baa3		BBB-		25-Feb-11	25-Apr-12	22-Jan-04	20-Dec-11	1-Aug-06	12-Jun-13
Indonesia	BB+		Baa3		BBB-		8-Apr-11	2-May-13	18-Jan-12	18-Jan-12	15-Dec-11	15-Dec-11
Ireland	BBB+	(+)	Ba1		BBB+		13-Jan-12	12-Jul-13	12-Jul-11	20-Sep-13	27-Jan-12	14-Nov-12
Israel	A+		A1		A		9-Sep-11	2-May-13	17-Apr-08	17-Apr-08	11-Feb-08	11-Feb-08
Italy	BBB	(-)	Baa2	(-)	BBB+	(-)	9-Jul-13	9-Jul-13	13-Jul-12	12-Jul-12	8-Mar-13	8-Mar-13
Japan	AA-	(-)	Aa3		A+	(-)	25-Feb-11	26-Apr-11	24-Aug-11	24-Aug-11	22-May-12	22-May-12
Malaysia	A-		A3	(+)	A-	(-)	8-Oct-03	27-Jul-11	16-Dec-04	20-Nov-13	8-Nov-04	30-Jul-13
Mexico	BBB	(+)	Baa1		BBB+		14-Dec-09	12-Mar-13	6-Jan-05	24-May-06	8-May-13	8-May-13
Netherlands	AAA	(-)	Aaa	(-)	AAA	(-)	13-Jan-12	13-Jan-12	5-May-98	23-Jul-12	10-Aug-94	5-Feb-13
New Zealand	AA		Aaa		AA		29-Sep-11	29-Sep-11	21-Oct-02	13-May-99	29-Sep-11	29-Sep-11
Norway	AAA		Aaa		AAA		9-Jul-75	28-May-09	30-Sep-97	13-May-99	13-Mar-95	18-Dec-07
Peru	BBB+		Baa2	(+)	BBB+		19-Aug-13	19-Aug-13	16-Aug-12	16-Aug-12	23-Oct-13	23-Oct-13
Poland	A-		A2		A-		29-Mar-07	27-Oct-08	12-Nov-02	24-May-06	18-Jan-07	23-Aug-13
Portugal	BB		Ba3		WD	(-)	18-Sep-13	0-Jan-00	13-Feb-12	8-Nov-13	11-May-12	24-Nov-11
Romania	BB+	(+)	Baa3	(-)	BBB-		27-Oct-08	22-Nov-13	6-Oct-06	29-Jun-12	4-Jul-11	4-Jul-11
Russia	BBB		Baa1		BBB		8-Dec-08	27-Jun-12	16-Jul-08	12-Dec-08	4-Feb-09	16-Jan-12
Singapore	AAA		Aaa		AAA		25-Feb-11	2-May-08	14-Jun-02	14-May-03	14-May-03	7-Mar-08
Slovakia	A		A2		A+		13-Jan-12	13-Jan-12	13-Feb-12	4-Oct-13	8-Jul-08	8-Jul-08
Slovenia	A-		Ba1	(-)	BBB+	(-)	12-Feb-13	12-Feb-13	30-Apr-13	30-Apr-13	17-May-13	17-May-13
South Africa	BBB	(-)	Baa1	(-)	BBB		12-Oct-12	12-Oct-12	27-Sep-12	9-Nov-11	10-Jan-13	10-Jan-13
South Korea	A+		Aa3		AA-		14-Sep-12	14-Sep-12	27-Aug-12	27-Aug-12	6-Sep-12	6-Sep-12
Spain	BBB-	(-)	Baa3	(-)	BBB		10-Oct-12	10-Oct-12	16-Oct-12	16-Oct-12	7-Jun-12	1-Nov-13
Sweden	AAA		Aaa		AAA		16-Feb-04	22-Jan-07	4-Apr-02	15-Nov-03	8-Mar-04	18-Dec-07
Switzerland	AAA		Aaa		AAA		17-Feb-11	1-Dec-03	29-Jan-82	15-Nov-03	10-Aug-94	11-Jun-07
Taiwan	AA-		Aa3		A+		25-Feb-11	11-Jun-10	20-Jul-99	24-May-06	20-Nov-01	26-Jan-11
Thailand	BBB+		Baa1		BBB+		31-Oct-06	9-Dec-10	26-Nov-03	28-Oct-10	8-Mar-13	8-Mar-13
Turkey	BB+		Baa3		BBB-		27-Mar-13	27-Mar-13	16-May-13	16-May-13	5-Nov-12	5-Nov-12
United Kingdom	AAA	(-)	Aa1		AA+		17-Feb-11	13-Dec-12	22-Feb-13	22-Feb-13	19-Apr-13	19-Apr-13
United States	AA+		Aaa		AAA		5-Aug-11	10-Jun-13	2-Aug-11	18-Jul-13	15-Oct-13	0-Jan-00
Venezuela	B	(-)	B2	(-)	B+	(-)	17-Jun-13	17-Jun-13	7-Sep-04	15-Jan-09	15-Dec-08	4-Apr-12

Source: Ratings agencies via Bloomberg

RATING SCALE	S&P	MOODY's	Fitch
Upper Investment Grade	AAA	Aaa	AAA
	AA+	Aa1	AA+
	AA	Aa2	AA
	AA-	Aa3	AA-
	A+	A1	A+
	A	A2	A
	A-	A3	A-
Lower Investment Grade	BBB+	Baa1	BBB+
	BBB	Baa2	BBB
	BBB-	Baa3	BBB-
Non-Investment Grade	BB+	Ba1	BB+
	BB	Ba2	BB
	BB-	Ba3	BB-

RATING SCALE	S&P	MOODY's	Fitch
Lower Non-Investment Grade	B+	B1	B+
	B	B2	B
	B-	B3	B-
	CCC+	Caa1	CCC+
	CCC	Caa2	CCC
	CCC-	Caa3	CCC-
	CC	Ca	CC
	C	C	C
Default	SD		RD
	D		D

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Central bank announcement dates in 2013/2014

	2013 →		2014 →											
	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Australia	5	3		4	4	1	6	3	1	5	2	7	4	2
Brazil	27		15	26		2	28		16		3	29		3
Canada		4	22		5	16		4	16		3	22		3
Chile														
Colombia	29	20												
Czech Republic	7	17												
Euro area	7	5	9	6	6	3	8	5	3	7	4	2	6	4
Hungary	26	17												
India			28											
Indonesia	12	12												
Israel	25		27	24	24	28	26	23	28	25	22	27	24	29
Japan	21	20	22	18	11	8, 30	20	13						
Korea	14	12												
Malaysia	7		29											
Mexico		6	31		21	25		6	11		5	31		5
New Zealand		12	29		12	23		11	23		10	29		10
Norway		5			27		8	19			18	23		11
Philippines		12	23											
Poland	6	4	8	5	5	9	7	4	2		3	8	5	3
South Africa	21													
Sweden		17		13		9			3					
Switzerland		12			20			19			18			11
Thailand	27		22		12	23		18		6	17		5	17
Turkey	19	17												
United Kingdom	7	5	9	6	6	10	8	5	10	7	4	9	6	4
United States		18	29		19	30		18	30		17	29		17

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Event risk calendar

Month	Date	Country	Event
Nov 2013	19	Turkey	CBT rate announcement
	20-21	Japan	BoJ rate announcement
	21	South Africa	SARB rate announcement
	23	Canada	BoC Monetary Policy Report
	25	Mexico	Current Account
	25	Israel	BoI rate announcement
	27	Brazil	BCB rate annoucement
	27	Thailand	BoT rate announcement
Dec 2013	2-10	Russia	CBR rate announcement
	2	Australia	RBA rate announcement
	5	Norway	Norges bank rate announcement
	5	UK	BoE rate announcement
	5	Euro area	ECB rate announcement
	6	Mexico	Banxico rate announcement
	10	Turkey	3Q GDP
	11	New Zealand	RBNZ rate announcement
	11	New Zealand	RBNZ Monetary Policy Statement
	12	Switzerland	SNB rate announcement
	12	South Korea	BoK rate announcement
	13	US	House-Senate negotiations on FY 2014 budget
	17	Sweden	Riksbank rate announcement
	17	Turkey	CBT rate announcement
	18	US	FOMC rate announcement (incl. press conference)
	19-20	Euro area	EU leaders summit
	19-20	Japan	BoJ rate announcement
Jan 2014	1	Euro area	Latvia to adopt euro
	1	Euro area	European Commission president election
	1	South Africa	Presidential election
	9	Euro area	ECB rate announcement
	9	UK	BoE rate announcement
	15	US	Continuing Resolution expires
	15	Brazil	BCB rate announcement
	20-21	Japan	BoJ rate announcement
	22	Canada	BoC rate announcement
	22	Thailand	BoT rate announcement
	27	Israel	BoI rate announcement
	29	US	FOMC rate announcement
	29	New Zealand	RBNZ rate announcement
	29	Malaysia	BNM rate announcement
	31	US	Bernanke's term ends
Feb 2014	3	US	President to submit FY 2015 budget
	6	Euro area	ECB rate announcement
	6	UK	BoE rate announcement
	7	US	Debt ceiling extension deadline
	12	UK	Quarterly Inflation Report
	13	Sweden	Riksbank rate announcement
	17-18	Japan	BoJ rate announcement
	20-22		G20 Finance Ministers Meeting
	24	Israel	BoI rate announcement
	26	Brazil	BCB rate annoucement
Mar 2014	na	Turkey	Istanbul municipal elections
	5	Canada	BoC rate announcement
	6	Euro area	ECB rate announcement
	6	UK	BoE rate announcement
	10-11	Japan	BoJ rate announcement
	12	New Zealand	RBNZ rate announcement
	12	Thailand	BoT rate announcement
	19	US	FOMC rate annoucement
	20	Switzerland	SNB rate announcement
	24	Israel	BoI rate announcement

Month	Date	Country	Event
Apr 2014	na	Hungary	Parliamentary elections
	na	South Africa	Parliamentary elections
	2	Brazil	BCB rate annoucement
	3	Euro area	ECB rate announcement
	7-8	Japan	BoJ rate announcement
	9	Sweden	Riksbank rate announcement
	10	UK	BoE rate announcement
	15	US	Deadline for Congress to pass budget resolution for FY 2015
	16	Canada	BoC rate announcement
	23	New Zealand	RBNZ rate announcement
	23	Thailand	BoT rate announcement
	28	Israel	BoI rate announcement
	29-30	Japan	BoJ rate announcement
	30	US	FOMC rate announcement
May 2014	na	India	Parliamentary elections
	8	Euro area	ECB rate announcement
	8	UK	BoE rate announcement
	9	Slovakia	Presidential election
	15	UK	Quarterly Inflation Report
	19-20	Japan	BoJ rate announcement
	21	Israel	BoI rate announcement
	22	UK	Local elections
	25	Belgium	Federal, regional elections
	25	Euro area	Euro parliament elections
	28	Brazil	BCB rate annoucement
Jun 2014	na	Euro area	Portugal parliament elections
	4	Canada	BoC rate announcement
	5	Euro area	ECB rate announcement
	5	UK	BoE rate announcement
	18	Thailand	BoT rate announcement
	18	US	FOMC rate annoucement
	19	Switzerland	SNB rate announcement
Jul 2014	na	Indonesia	Presidential elections
	3	Sweden	Riksbank rate announcement
	30	US	FOMC rate announcement
	10	UK	BoE rate announcement
	11	New Zealand	RBNZ rate announcement
	11-12	Japan	BoJ rate announcement
	16	Canada	BoC rate announcement
Aug 2014	na	Turkey	Presidential elections
	7	UK	BoE rate announcement
	13	UK	Quarterly Inflation Report
	16	Brazil	BCB rate annoucement
Sep 2014	na	Sweden	Parliamentary elections
	3	Brazil	BCB rate annoucement
	14	Sweden	General, local elections
	18	UK	Referendum on Scottish independence
	18	Switzerland	SNB rate announcement
Oct 2014	5	Brazil	Presidential and parliamentary election
Nov 2014		US	Congressional elections
		Euro area	AQR/stress test published
		Euro area	ECB becomes regulator within Single Supervisory Mechanism
	12	UK	Quarterly Inflation Report
Dec 2014	11	Switzerland	SNB rate announcement

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Global interest rate forecasts

		22-Nov	Mar-14	Jun-14	Sep-14	Dec-14	YTD chg. (bp)
US	Fed funds	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	-
	3M Libor	0.24	0.24	0.24	0.30	0.30	-7
	2Y bmk yield	0.28	0.40	0.45	0.55	0.70	3
	5Y bmk yield	1.35	1.65	1.80	2.00	2.25	64
	10Y bmk yield	2.75	3.10	3.25	3.50	3.65	104
	30Y bmk yield	3.84	4.10	4.20	4.40	4.50	96
	2s/10s bmk curve	247	270	280	295	295	102
	10s/30s bmk curve	109	100	95	90	85	-8
	2s/30s bmk curve	356	370	375	385	380	93
	2Y swap spread	8	12	15	16	17	-6
	5Y swap spread	7	15	15	16	17	-5
	10Y swap spread	6	14	15	17	19	2
	30Y swap spread	-8	2	2	3	4	8

		22-Nov	Mar-14	Jun-14	Sep-14	Dec-14	YTD chg. (bp)
UK	Base rate	0.50	0.50	0.50	0.50	0.50	0
	3M Libor	0.52	0.50	0.60	0.60	0.60	1
	2Y bmk yield	0.45	0.55	0.60	0.80	1.00	13
	5Y bmk yield	1.55	1.70	1.95	2.20	2.45	70
	10Y bmk yield	2.80	3.00	3.20	3.45	3.65	98
	30Y bmk yield	3.59	3.70	3.80	3.95	4.10	49
	2s/10s bmk curve	235	245	260	265	265	85
	10s/30s bmk curve	80	70	60	50	45	-49
	2s/30s bmk curve	314	315	320	315	310	36
	2Y swap spread	32	32	34	36	36	-4
	5Y swap spread	10	14	16	19	22	-2
	10Y swap spread	-8	-2	7	12	16	-8
	30Y swap spread	-27	-23	-19	-16	-12	-15

Euro area	Refi rate	0.25	0.25	0.25	0.25	0.25	-50
	3M Euribor	0.22	0.22	0.22	0.22	0.22	4
	2Y bmk yield	0.14	0.05	0.10	0.15	0.20	18
	5Y bmk yield	0.69	0.65	0.80	0.95	1.05	41
	10Y bmk yield	1.75	1.85	2.00	2.15	2.25	45
	30Y bmk yield	2.67	2.80	2.90	3.00	3.05	50
	2s/10s bmk curve	162	180	190	200	205	27
	10s/30s bmk curve	92	95	90	85	80	5
	2s/30s bmk curve	254	275	280	285	285	33
	2Y swap spread	32	30	28	26	24	-8
	5Y swap spread	36	38	36	33	30	-7
	10Y swap spread	22	20	18	16	16	1
	30Y swap spread	-1	2	1	0	0	-7

Japan	O/N call rate	0.08	0.08	0.08	0.08	0.08	0
	2Y bmk yield	0.09	0.10	0.10	0.10	0.10	-1
	5Y bmk yield	0.20	0.20	0.20	0.22	0.25	1
	10Y bmk yield	0.62	0.60	0.60	0.70	0.80	-18
	20Y bmk yield	1.52	1.40	1.40	1.55	1.65	-24
	30Y bmk yield	1.68	1.50	1.50	1.70	1.80	-30
	2s/10s bmk curve	53	50	50	60	70	-17
	10s/30s bmk curve	106	90	90	100	100	-12
	2s/30s bmk curve	159	140	140	160	170	-29

10Y spread to Germany (curve adj.)	Austria	31	30	30	25	25	-11
	Belgium	65	70	65	60	60	-8
	Finland	23	25	25	25	25	3
	France	55	55	55	55	55	-12
	Ireland	184	180	170	160	150	-163
	Italy	226	200	190	175	165	-91
	Netherlands	32	30	30	30	30	12
	Portugal	425	400	360	320	300	-130
	Spain	232	200	190	175	165	-169
	Wtd. peri. spread	237	209	197	181	171	-117

Australia	Cash rate	2.50	2.25	2.25	2.25	2.25	-75
	3Y bmk yield	3.13	3.20	3.30	3.45	3.65	35
	10Y bmk yield	4.32	4.45	4.55	4.70	4.85	99

New Zealand	Cash rate	2.50	2.50	2.75	3.00	3.25	0
	2Y bmk yield	3.53	3.75	4.00	4.05	3.95	100
	10Y bmk yield	4.78	5.20	5.35	5.30	5.20	125

Sweden	Repo rate	1.00	1.00	1.00	1.00	1.00	0
	2-year govt	0.90	0.80	0.85	0.90	1.00	7
	10-year govt	2.30	2.40	2.50	2.60	2.80	77

Norway	Depo rate	1.50	1.50	1.50	1.50	1.50	0
	2-year govt	1.48	1.50	1.55	1.60	1.70	4
	10-year govt	2.81	3.00	3.10	3.15	3.25	71

* Levels as of 1:00PM London time.

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J.P. Morgan forecasts: rates, credit, equities & commodities

Interest rates		Current	Mar-14	Jun-14	Sep-14	Dec-14
United States	Fed funds rate	0.125	0.125	0.125	0.125	0.125
	10-year yields	2.71	3.10	3.25	3.50	3.65
Euro area	Refi rate	0.25	0.25	0.25	0.25	0.25
	10-year yields	1.71	1.85	2.00	2.15	2.25
United Kingdom	Repo rate	0.50	0.50	0.50	0.50	0.50
	10-year yields	2.74	3.00	3.20	3.45	3.65
Japan	Overnight call rate	0.05	0.05	0.05	0.05	0.05
	10-year yields	0.62	0.60	0.60	0.70	0.80
Emerging markets	GBI-EM - Yield	6.78				7.50
Credit Markets						
US high grade (bp over UST)		151				130
Euro high grade (bp over Euro gov)		138				100
USD high yield (bp vs. UST)		467				425
Euro high yield (bp over Euro gov)		429				400
EMBIG (bp vs. UST)		349				300
EM Corporates (bp vs. UST)		353				325
Foreign Exchange						
EUR/USD		1.35	1.33	1.32	1.32	1.30
USD/JPY		102	104	100	102	106
GBP/USD		1.62	1.63	1.61	1.61	1.60
AUD/USD		0.91	0.93	0.92	0.91	0.9
USD/BRL		2.30	2.40	2.45	2.45	2.40
USD/CNY		6.09	6.08	6.05	6.03	6
USD/KRW		1061	1070	1040	1030	1020
USD/TRY		2.02	2.20	2.15	2.15	2.15

Commodities	Current	13Q4	14Q2	14Q3	14Q4
Brent ($/bbl)	111	113	105	113	117
Gold ($/oz)	1244	1375	1400	1430	1450
Copper ($/metric ton)	7102	7050	7325	7150	7550

YTD Equity Sector Performance*	US		Europe		Japan		EM$	
Energy	22.8%	OW	10.2%	N	11.2%	UW	-5.4%	N
Materials	20.1%	OW	0.8%	UW	37.6%	UW	-18.6%	UW
Industrials	34.4%	OW	23.7%	N	40.5%	OW	-0.7%	OW
Discretionary	38.3%	OW	29.6%	OW	54.5%	OW	6.4%	N
Staples	25.7%	UW	15.9%	N	48.7%	OW	-3.2%	UW
Healthcare	40.9%	OW	26.5%	OW	40.8%	UW	7.8%	N
Financials	32.9%	OW	24.4%	OW	56.0%	OW	-1.6%	N
Information Tech.	21.0%	OW	25.9%	OW	41.5%	UW	10.5%	OW
Telecommunications	12.3%	N	36.3%	UW	95.5%	OW	-2.1%	UW
Utilities	13.6%	UW	14.6%	N	42.5%	UW	-4.5%	N
Overall	**28.9%**		**21.0%**		**48.4%**		**-1.6%**	

*Levels/returns as of Nov 25, 2013

Source: J.P. Morgan

Investment themes and impacts

Return of the Bernanke put
Fed underwrites broad economy. Boost for economic risk premia: equities and credit. Neutral for bonds.

Low macro and policy volatility
Low macro vol implies earning higher risk premia: equities, credit, EM FX.

Policy rotation
Buy bonds and sell FX of easing central banks, against those tightening.

Cycle at mid-age
Bonds in bear market; credit spread tightening over. Equities outperform bonds. Growth and confidence should rise.

Value
ERP over cash and bonds still well above historic mean. HY spread is high vs. defaults.

Momentum
Long equities versus bonds and commodities; neutral credit.

Source: J.P. Morgan, *GMOS*, Nov 6, 2013

Tactical overview

	Direction	Country	Sector
Asset allocation	Earn risk and vol premia.	EU	OW Equities, HY credit vs. bonds, cash and Comm's
Equities	Bullish	EU vs. JA	Discret vs. FIN; Value
Bonds	LT bearish; 1-mth long now for carry	OW EU, vs. US	OW periphery; Russia;.
Credit	Long vs USTs	EM	HY, FINs; BBB's vs. A's
FX			Long CNY, MXN, INR; short EUR, SEK
Comd's	Small UW given no yield		Long Brent & copper, sugar, gold.

Source: J.P. Morgan

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Global growth and inflation forecasts

	Real GDP			Real GDP							Consumer prices				
	% over a year ago			% over previous period, saar							% over a year ago				
	2012	2013	2014	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	2Q13	3Q13	4Q13	2Q14	4Q14
The Americas															
United States	2.8	1.6	2.4	2.5	2.8	1.5	2.5	2.5	3.0	3.0	1.4	1.6	**1.2 ↓**	1.6	1.6
Canada	1.7	**1.7 ↑**	**2.2 ↑**	1.7	**2.5 ↑**	2.1	1.9	2.2	2.5	2.7	0.8	1.1	1.3	1.4	1.8
Latin America	2.6	**2.7 ↓**	2.6	**4.6 ↑**	**0.8 ↑**	**2.7 ↓**	2.5	2.9	2.8	2.9	5.2	4.7	4.6	**4.5 ↓**	4.8
Argentina	1.9	5.6	1.5	10.8	-1.8	3.0	1.0	3.0	-2.0	0.5	10.4	10.2	11.0	11.0	**18.0**
Brazil	0.9	2.5	2.3	6.0	-1.0	1.9	2.4	2.9	2.9	2.6	6.6	6.1	**5.8 ↓**	**5.6 ↓**	**5.9**
Chile	5.6	**4.3 ↑**	3.7	**1.3 ↓**	**5.4 ↑**	**3.4 ↑**	**3.2 ↓**	**3.2 ↑**	4.0	4.5	1.3	2.1	1.8	2.9	2.9
Colombia	4.2	3.8	4.5	8.9	2.0	4.5	4.5	4.7	5.0	4.5	2.1	2.2	2.5	3.0	2.9
Ecuador	5.1	3.0	4.0	5.0	2.0	3.0	4.0	4.0	4.5	4.5	2.9	2.1	2.3	2.0	3.3
Mexico	**3.9 ↑**	1.4	3.4	**-2.2 ↑**	**3.4 ↑**	**4.2 ↓**	4.0	3.2	3.5	3.6	4.5	3.4	3.4	3.1	3.7
Peru	6.3	5.0	6.0	7.5	3.5	5.0	7.0	6.5	6.5	6.5	2.5	3.1	3.0	3.0	2.5
Uruguay	3.9	3.5	4.0	9.5	7.0	6.0	4.0	3.0	3.0	0.0	8.1	8.1	8.7	8.1	7.8
Venezuela	5.6	1.5	-1.0	6.4	2.5	0.0	-5.0	-2.5	1.0	2.0	33.0	43.4	52.7	59.5	40.2
Asia/Pacific	4.8	4.5	4.5	4.9	5.0	5.2	5.1	**2.8 ↑**	**2.8 ↑**	2.8	2.3	2.7	3.0	3.8	3.5
Japan	1.9	1.8	1.5	3.8	1.9	3.8	4.0	-4.5	1.2	1.7	-0.3	0.9	1.0	3.2	2.9
Australia	3.7	2.4	2.7	2.4	1.9	1.7	2.7	3.4	3.6	3.9	2.4	1.7	2.3	2.5	2.0
New Zealand	2.7	2.6	2.8	0.7	3.6	3.0	3.5	1.6	2.8	3.6	0.7	1.2	1.7	2.3	2.2
Asia ex Japan	6.2	6.0	6.1	5.8	**6.9 ↑**	6.2	5.9	**6.1 ↑**	**6.0 ↓**	6.1	3.6	3.7	4.0	4.3	3.9
China	7.7	7.6	7.4	6.9	9.1	7.8	7.0	7.0	7.2	7.2	2.4	2.8	3.1	3.8	3.2
Hong Kong	1.5	2.8	3.3	2.8	2.0	4.0	2.5	3.5	3.5	4.0	4.0	5.3	4.6	4.1	3.2
India	5.0	4.1	5.0	3.1	3.8	4.1	4.8	5.4	5.2	6.0	10.7	8.8	9.5	8.5	8.5
Indonesia	6.2	5.5	4.9	5.5	5.0	4.5	5.0	5.0	5.0	4.5	5.6	8.6	7.9	6.2	4.6
Korea	2.0	2.8	3.7	4.5	4.3	3.8	4.0	3.5	3.5	3.0	1.1	1.2	0.8	2.1	2.9
Malaysia	5.6	4.5	5.7	5.8	6.8	5.5	5.5	5.8	6.0	6.0	1.8	2.2	2.7	2.3	1.5
Philippines	6.8	**6.9 ↓**	**6.0 ↑**	5.7	**5.3 ↑**	**2.0 ↓**	**8.5 ↑**	**7.6 ↑**	**5.7 ↑**	5.7	2.7	2.4	**3.7 ↑**	**4.6 ↑**	**3.8**
Singapore	1.3	**4.3 ↑**	**3.5 ↓**	15.5	**1.3 ↑**	**6.1 ↑**	**1.6 ↓**	**7.4 ↑**	**1.2 ↓**	3.4	1.6	1.8	**2.0 ↓**	**3.2 ↓**	**2.5**
Taiwan	1.3	1.8	3.1	2.3	0.4	3.5	3.4	3.7	4.0	4.2	0.8	0.0	1.3	2.2	2.2
Thailand	6.5	2.6	3.0	**0.0 ↑**	**5.2 ↑**	3.5	3.8	4.0	4.2	4.0	2.3	1.7	1.9	2.2	2.8
Africa/Middle East															
Israel	3.3	3.6	3.5	**4.6 ↓**	**2.2 ↓**	3.6	3.2	3.6	3.2	4.1	1.2	1.6	2.2	1.9	2.2
South Africa	2.5	1.9	**3.0 ↓**	3.0	0.8	3.9	3.6	3.3	3.7	3.7	5.7	6.2	**5.5 ↓**	**6.1 ↓**	**6.0**
Europe	0.0	0.2	**1.6 ↓**	1.3	1.0	**1.4 ↓**	**1.4 ↓**	1.7	1.9	1.9	2.4	2.3	1.8	1.8	1.8
Euro area	-0.6	**-0.5 ↓**	**1.1 ↓**	1.1	0.4	**0.8 ↓**	**1.0 ↓**	1.5	1.5	1.5	1.4	1.3	0.8	0.9	1.1
Germany	0.9	0.6	2.0	2.9	1.3	2.0	2.0	2.0	2.0	2.0	1.5	1.7	1.3	1.4	1.6
France	0.0	**0.1 ↓**	**0.7 ↓**	2.2	-0.6	**0.0 ↓**	**0.5 ↓**	1.5	1.5	1.5	0.9	1.1	0.7	1.0	1.0
Italy	-2.6	**-1.9 ↓**	**0.8 ↓**	-1.1	-0.5	**0.5 ↓**	**1.0 ↓**	1.5	**1.5 ↑**	1.5	1.3	1.1	0.9	1.0	1.1
Spain	-1.6	-1.3	0.7	-0.4	0.4	0.0	1.0	1.0	1.5	1.5	1.8	1.3	0.2	0.2	0.1
Norway	**3.3 ↑**	1.8	**2.2 ↓**	0.7	**1.9 ↓**	2.0	2.5	2.5	2.5	2.5	2.0	3.0	**2.6 ↑**	2.5	2.2
Sweden	1.0	0.7	1.9	-0.9	1.9	1.3	2.1	2.3	**2.7 ↑**	2.9	-0.3	0.1	**0.2 ↓**	**0.9 ↓**	1.4
United Kingdom	0.1	1.5	3.0	2.7	3.2	3.5	3.0	2.5	3.0	3.0	2.7	2.7	2.2	2.3	2.3
Emerging Europe	2.3	1.7	2.4	1.4	1.9	2.8	2.1	2.1	2.5	2.7	5.6	5.4	5.0	4.5	4.2
Bulgaria	0.8	0.6	1.2	…	…	…	…	…	…	…	…	…	…	…	…
Czech Republic	-1.2	-1.4	1.9	2.5	-2.0	2.6	2.4	2.5	2.2	1.7	1.5	1.2	1.2	0.5	1.7
Hungary	-1.7	1.1	2.3	1.6	3.2	2.5	2.0	2.0	1.8	2.5	1.8	1.5	1.1	1.8	2.7
Poland	1.9	1.4	2.8	2.0	2.4	2.5	2.5	2.5	3.0	3.5	0.5	1.1	1.1	1.9	2.0
Romania	0.7	2.6	2.3	2.2	6.6	1.6	1.6	1.2	2.3	1.6	5.3	3.3	2.0	1.4	3.5
Russia	3.4	1.5	2.2	1.1	1.6	3.0	2.0	2.0	2.5	2.7	7.2	6.3	6.0	5.1	4.4
Turkey	2.2	3.5	3.0	…	…	…	…	…	…	…	7.0	8.2	7.8	7.0	6.2
Global	2.5	2.2	2.9	3.1	2.8	**2.8 ↓**	**3.0 ↓**	2.4	3.1	3.2	2.3	2.4	2.3	**2.6 ↓**	2.6
Developed markets	1.4	1.0	1.9	2.2	**1.9 ↑**	1.8	**2.2 ↓**	1.2	2.2	2.3	1.2	1.4	1.2	1.7	1.7
Emerging markets	4.6	4.4	4.6	**4.9 ↑**	**4.6 ↑**	**4.8 ↓**	4.5	**4.7 ↑**	4.7	4.8	4.2	4.2	4.3	4.4	4.1
Global — PPP weighted	3.1	2.7	3.3	3.4	3.3	3.3	**3.4 ↓**	3.0	3.5	3.7	2.8	2.8	2.8	3.0	2.9

Source: J.P. Morgan estimates.

Note: For some emerging economies, 2013-2014 quarterly forecasts are not available and/or seasonally adjusted GDP data are estimated by J.P. Morgan.

Bold denotes changes from last edition of Global Data Watch, with arrows showing the direction of changes. Underline indicates beginning of J.P. Morgan forecasts.

Unless noted, concurrent nominal GDP weights calculated with current FX rates are used in computing our global and regional aggregates. The Latin America CPI aggregate excludes Argentina, Ecuador and Venezuela.

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Global central bank forecasts

	Official rate	Current rate (%pa)	Change since (bp) 05-07 avg	Trough[1]	Jul 11	Last change	Next mtg	Forecast next change	Forecast (%pa) Dec 13	Mar 14	Jun 14	Sep 14	Dec 14
Global		2.18	-216	36	-53				2.19	2.21	2.20	2.20	2.21
excluding US		2.85	-143	41	-63				2.85	2.88	2.86	2.86	2.88
Developed		0.32	-316	0	-50				0.34	0.33	0.33	0.33	0.33
Emerging		5.68	-135	81	-59				5.76	5.84	5.79	5.79	5.82
Latin America		6.96	-381	104	-208				7.23	7.49	7.49	7.55	7.59
EMEA EM		4.76	-169	82	42				4.83	4.83	4.53	4.49	4.52
EM Asia		5.56	-23	108	-41				5.56	5.61	5.63	5.63	5.65
The Americas		1.61	-349	50	-43				1.59	1.64	1.64	1.65	1.66
United States	Fed funds	0.125	-438	0	0	16 Dec 08 (-87.5bp)	18 Dec 13	On hold	0.125	0.125	0.125	0.125	0.125
Canada	O/N rate	1.00	-273	75	0	8 Sep 10 (+25bp)	4 Dec 13	On hold	1.00	1.00	1.00	1.00	1.00
Brazil	SELIC O/N	9.50	-575	225	-300	10 Oct 13 (+50bp)	27 Nov 13	27 Nov 13 (+50bp)	10.00	10.50	10.50	10.50	10.50
Mexico	Repo rate	3.50	-437	0	-100	25 Oct 13 (-25bp)	6 Dec 13	On hold	3.50	3.50	3.50	3.50	3.50
Chile	Disc rate	4.75	6	425	-50	17 Oct 13 (-25bp)	12 Dec 13	Dec 14 (-25bp)	4.50	4.25	4.25	4.25	4.25
Colombia	Repo rate	3.25	-406	25	-125	22 Mar 13 (-50bp)	29 Nov 13	Jul 14 (+25bp)	3.25	3.25	3.25	4.00	4.50
Peru	Reference	4.00	-6	275	-25	7 Nov 13 (-25bp)	12 Dec 13	On hold	4.00	4.00	4.00	4.00	4.00
Europe/Africa		1.26	-255	0	-69				1.28	1.28	1.21	1.21	1.22
Euro area	Refi rate	0.25	-273	0	-125	7 Nov 13 (-25bp)	5 Dec 13	On hold	0.25	0.25	0.25	0.25	0.25
United Kingdom	Bank rate	0.50	-444	0	0	5 Mar 09 (-50bp)	5 Dec 13	On hold	0.50	0.50	0.50	0.50	0.50
Norway	Dep rate	1.50	-169	25	-75	14 Mar 12 (-25bp)	5 Dec 13	4Q 14 (+25bp)	1.50	1.50	1.50	1.50	1.75
Sweden	Repo rate	1.00	-156	75	-100	18 Dec 12 (-25bp)	17 Dec 13	On hold	1.00	1.00	1.00	1.00	1.00
Czech Republic	2-wk repo	0.05	-235	0	-70	1 Nov 12 (-20bp)	17 Dec 13	On hold	0.05	0.05	0.05	0.05	0.05
Hungary	2-wk dep	3.40	-373	0	-260	29 Oct 13 (-20bp)	26 Nov 13	26 Nov 13 (-20bp)	3.20	3.00	3.00	3.00	3.25
Israel	Base rate	1.00	-325	50	-225	23 Sep 13 (-25bp)	25 Nov 13	On hold	1.00	1.00	1.00	1.00	1.00
Poland	7-day interv	2.50	-202	0	-200	3 Jul 13 (-25bp)	4 Dec 13	4Q 14 (+25bp)	2.50	2.50	2.50	2.50	2.75
Romania	Base rate	4.00	-419	0	-225	5 Nov 13 (-25bp)	8 Jan 14	8 Jan 14 (-25bp)	4.00	3.50	3.50	3.50	3.50
Russia	Key pol rate	5.50	N/A	N/A	N/A	13 Sep 12 (+25bp)	Dec 13	1Q 14 (-25bp)	5.50	5.25	4.75	4.75	4.75
South Africa	Repo rate	5.00	-329	0	-50	19 Jul 12 (-50bp)	29 Jan 14	Sep 14 (+50bp)	5.00	5.00	5.00	5.50	5.50
Turkey	**Intbnk O/N**	7.30	-864	206	105	N/A[2]	17 Dec 13	N/A[2]	**7.75**	**8.50**	**8.00**	**7.50**	**7.50**
Asia/Pacific		3.69	2	79	-43				3.69	3.71	3.72	3.72	3.74
Australia	Cash rate	2.50	-344	0	-225	6 Aug 13 (-25bp)	3 Dec 13	Mar 14 (-25bp)	2.50	2.25	2.25	2.25	2.25
New Zealand	Cash rate	2.50	-488	0	0	10 Mar 11 (-50bp)	12 Dec 13	2Q 14 (+25bp)	2.50	2.50	2.75	3.00	3.25
Japan	O/N call rate[3]	0.05	-17	0	0	5 Oct 10 (-5bp)	20 Dec 13	On hold	0.05	0.05	0.05	0.05	0.05
Hong Kong	Disc. wndw	0.50	-548	0	0	17 Dec 08 (-100bp)	19 Dec 13	On hold	0.50	0.50	0.50	0.50	0.50
China	1-yr working	6.00	-14	69	-56	7 Jul 12 (-31bp)	-	On hold	6.00	6.00	6.00	6.00	6.00
Korea	Base rate	2.50	-165	50	-75	9 May 13 (-25bp)	12 Dec 13	4Q 14 (+25bp)	2.50	2.50	2.50	2.50	2.75
Indonesia	BI rate	7.50	-237	175	75	12 Nov 13 (+25bp)	12 Dec 13	1Q 14 (+25bp)	7.50	7.75	8.00	8.00	8.00
India	Repo rate	7.75	88	300	-25	29 Oct 13 (+25bp)	18 Dec 13	1Q 14 (+25bp)	7.75	8.00	8.00	8.00	8.00
Malaysia	O/N rate	3.00	-24	100	0	5 May 11 (+25bp)	29 Jan 14	On hold	3.00	3.00	3.00	3.00	3.00
Philippines	Rev repo	3.50	-356	0	-100	25 Oct 12 (-25bp)	12 Dec 13	On hold	3.50	3.50	3.50	3.50	3.50
Thailand	1-day repo	2.50	-133	125	-75	29 May 13 (-25bp)	27 Nov 13	On hold	2.50	2.50	2.50	2.50	2.50
Taiwan	Official disc.	1.875	-71	62.5	0	30 Jun 11 (+12.5bp)	4Q 13	4Q 14 (+12.5bp)	1.875	1.875	1.875	1.875	2.00

1 Refers to trough end-quarter rate from 2009-present ² Effective rate adjusted on daily basis 3 BoJ targets ¥50-60tn/year expansion in monetary base
Bold denotes move since last GDW and forecast changes. Underline denotes policy meeting during upcoming week. Aggregates are GDP-weighted averages.
Source: J.P. Morgan

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Real GDP growth

%q/q, saar, underlining denotes forecasts

	2011				2012				2013				2014			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
United States	-1.3	3.2	1.4	4.9	3.7	1.2	2.8	0.1	1.1	2.5	2.8	1.5	2.5	2.5	3.0	3.0
Japan	-7.7	-3.0	10.7	1.0	5.1	-0.8	-3.7	0.6	4.3	3.8	1.9	3.8	4.0	-4.5	1.2	1.7
Canada	2.2	-0.6	6.2	1.9	0.8	1.6	0.8	0.9	2.2	1.7	2.5	2.1	1.9	2.2	2.5	2.7
Australia	-1.9	5.0	4.9	2.6	5.4	1.9	3.2	2.7	2.2	2.4	1.9	1.7	2.7	3.4	3.6	3.9
Euro area	3.1	0.3	0.3	-0.8	-0.4	-1.2	-0.5	-2.0	-0.9	1.1	0.4	0.8	1.0	1.5	1.5	1.5
Germany	6.3	0.4	1.7	0.4	2.7	-0.3	0.8	-1.8	0.0	2.9	1.3	2.0	2.0	2.0	2.0	2.0
France	4.5	-0.2	1.0	0.7	0.1	-1.4	0.7	-0.7	-0.2	2.2	-0.6	0.0	0.5	1.5	1.5	1.5
Italy	0.3	1.0	-0.6	-2.9	-4.4	-2.4	-1.7	-3.7	-2.3	-1.1	-0.5	0.5	1.0	1.5	1.5	1.5
Spain	0.7	-0.5	-1.3	-1.5	-1.7	-2.0	-1.5	-3.0	-1.5	-0.4	0.4	0.0	1.0	1.0	1.5	1.5
Norway	2.5	6.6	3.5	2.7	4.2	2.5	3.3	0.6	2.4	0.7	1.9	2.0	2.5	2.5	2.5	2.5
New Zealand	2.9	2.6	3.1	1.3	4.2	1.5	1.2	6.6	1.6	0.7	3.6	3.0	3.5	1.6	2.8	3.6
Sweden	-0.8	2.2	4.8	-5.1	3.1	3.8	1.0	-0.8	1.2	-0.9	1.9	1.3	2.1	2.3	2.7	2.9
United Kingdom	1.9	0.4	2.4	-0.4	0.0	-1.8	2.5	-1.2	1.5	2.7	3.2	3.5	3.0	2.5	3.0	3.0
Argentina	11.7	12.7	3.4	0.2	1.5	-2.7	2.9	6.0	9.1	10.8	-1.8	3.0	1.0	3.0	-2.0	0.5
Brazil	3.2	2.6	-0.3	0.2	0.7	0.4	1.5	3.1	2.6	6.0	-1.0	1.9	2.4	2.9	2.9	2.6
Chile	6.1	1.9	2.3	9.7	4.7	6.3	2.3	9.1	3.3	1.3	5.4	3.4	3.2	3.2	4.0	4.5
Colombia	6.7	7.9	5.8	6.0	3.7	2.8	-0.1	6.9	1.2	8.9	2.0	4.5	4.5	4.7	5.0	4.5
Ecuador	11.0	9.4	6.1	3.7	6.4	5.2	2.4	2.7	3.9	5.0	2.0	3.0	4.0	4.0	4.5	4.5
Mexico	1.5	5.3	6.1	3.1	2.7	6.8	0.4	3.1	0.8	-2.2	3.4	4.2	4.0	3.2	3.5	3.6
Peru	2.9	8.7	5.1	5.1	7.9	7.0	6.2	2.4	5.5	7.5	3.5	5.0	7.0	6.5	6.5	6.5
Venezuela	8.4	0.9	6.4	5.2	14.8	-1.6	5.7	3.5	-5.1	6.4	2.5	0.0	-5.0	-2.5	1.0	2.0
China	9.9	8.9	8.6	7.8	6.8	7.8	7.7	9.0	6.4	6.9	9.1	7.8	7.0	7.0	7.2	7.2
Hong Kong	11.2	-1.6	0.8	2.0	1.2	-0.4	4.5	5.7	0.8	2.8	2.0	4.0	2.5	3.5	3.5	4.0
Indonesia	6.0	6.2	6.0	7.4	5.2	6.3	5.9	6.4	5.5	5.5	5.0	4.5	5.0	5.0	5.0	4.5
India	10.6	2.3	5.1	6.7	5.5	4.6	3.8	5.5	5.2	3.1	3.8	4.1	4.8	5.4	5.2	6.0
Korea	5.3	3.3	3.3	1.5	3.3	1.2	0.2	1.1	3.4	4.5	4.3	3.8	4.0	3.5	3.5	3.0
Malaysia	6.1	3.1	6.8	4.1	7.3	5.1	4.0	9.2	-1.1	5.8	6.8	5.5	5.5	5.8	6.0	6.0
Philippines	4.3	4.4	2.2	7.0	9.7	5.4	7.0	7.8	9.6	5.7	5.3	2.0	8.5	7.6	5.7	5.7
Singapore	17.5	-2.9	3.4	-2.3	7.8	0.1	-4.6	3.3	1.7	15.5	1.3	6.1	1.6	7.4	1.2	3.4
Taiwan	10.3	1.2	-0.5	-4.6	5.7	0.0	3.0	7.1	-2.5	2.3	0.4	3.5	3.4	3.7	4.0	4.2
Thailand	2.1	-4.0	10.1	-35.9	53.9	10.6	6.4	12.4	-6.3	0.0	5.2	3.5	3.8	4.0	4.2	4.0
Czech Republic	3.0	0.7	-0.2	0.1	-2.0	-1.9	-1.2	-1.4	-5.1	2.5	-2.0	2.6	2.4	2.5	2.2	1.7
Hungary	5.7	-1.2	-0.1	0.8	-5.5	1.6	-0.8	-2.0	3.6	1.6	3.2	2.5	2.0	2.0	1.8	2.5
Poland	4.5	5.3	3.2	3.6	1.6	0.0	0.8	0.8	1.2	2.0	2.4	2.5	2.5	2.5	3.0	3.5
Romania	1.5	1.2	4.1	1.6	-4.1	5.6	-2.0	4.1	1.5	2.2	6.6	1.6	1.6	1.2	2.3	1.6
Russia	2.5	3.7	7.4	5.8	2.3	2.5	1.9	1.3	0.8	1.1	1.6	3.0	2.0	2.0	2.5	2.7
South Africa	4.8	1.9	1.9	3.3	2.5	3.4	1.2	2.1	0.9	3.0	0.8	3.9	3.6	3.3	3.7	3.7
Israel	4.6	3.5	3.2	3.1	2.9	3.1	4.3	3.6	2.6	4.6	2.2	3.6	3.2	3.6	3.2	4.1
Turkey	14.2	0.1	3.4	3.2	-1.6	5.9	0.9	0.8	6.0	8.5	0.0	0.4	2.0	2.8	4.5	5.0
Global	2.2	2.5	3.7	2.7	3.3	1.6	1.9	1.7	2.0	3.1	2.8	2.8	3.0	2.4	3.1	3.2
Developed market economies	-0.5	1.0	2.8	1.9	2.3	0.0	0.7	-0.4	1.1	2.2	1.9	1.8	2.2	1.2	2.2	2.3
Emerging economies	7.1	5.2	5.5	4.2	5.3	4.5	4.1	5.6	3.6	4.9	4.6	4.8	4.5	4.7	4.7	4.8
G-7	-0.6	1.0	3.2	2.3	2.6	0.0	0.9	-0.4	1.3	2.5	2.0	1.9	2.5	1.1	2.3	2.4
Latin America	4.3	4.5	2.6	2.2	2.7	2.1	1.7	3.8	2.3	4.6	0.8	2.7	2.5	2.9	2.8	2.9
Emerging Asia	9.1	6.1	6.8	5.1	7.4	6.1	5.8	7.5	5.0	5.8	6.9	6.2	5.9	6.1	6.0	6.1
Emerging Europe[1]	3.0	3.4	5.5	4.5	1.1	1.9	1.1	1.0	0.6	1.4	1.9	2.8	2.1	2.1	2.5	2.7
All Asia	3.4	3.3	7.8	3.7	6.5	3.8	2.9	5.1	4.6	4.9	5.0	5.2	5.1	2.8	4.4	4.7
All Europe	2.9	0.8	1.4	0.1	-0.1	-0.8	0.1	-1.4	-0.3	1.3	1.0	1.4	1.4	1.7	1.9	1.9
The Americas	0.3	3.2	2.0	4.0	3.2	1.5	2.4	1.1	1.5	2.9	2.3	1.8	2.5	2.6	2.9	3.0
Using PPP weights:																
Global	3.4	3.1	4.1	3.2	3.9	2.3	2.5	2.6	2.4	3.4	3.3	3.3	3.4	3.0	3.5	3.7
Developed market economies	-0.4	1.2	2.5	2.1	2.3	0.0	0.8	-0.4	1.0	2.2	1.9	1.7	2.2	1.3	2.3	2.4
Emerging economies	7.5	5.2	5.7	4.4	5.7	4.8	4.3	5.8	3.9	4.8	4.9	5.0	4.7	4.9	4.9	5.1
G-7	-0.5	1.2	2.9	2.5	2.6	0.1	1.1	-0.4	1.3	2.5	2.1	1.9	2.4	1.3	2.4	2.5
Latin America	4.5	5.1	3.2	2.5	3.1	2.5	1.8	4.0	2.5	4.5	1.2	3.0	2.7	3.0	2.8	3.1
Emerging Asia	9.3	5.7	6.6	5.0	7.4	6.0	5.7	7.4	4.9	5.5	6.6	6.0	5.8	6.0	6.0	6.1
Emerging Europe[1]	3.0	3.4	5.4	4.4	1.0	1.8	1.0	1.0	0.7	1.5	1.9	2.8	2.1	2.1	2.5	2.7

[1]. Emerging Europe aggregate excludes Turkey.

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Real GDP growth

%oya, underlining denotes forecasts

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
The Americas	3.6	3.3	2.8	1.0	-2.4	4.0	2.5	2.7	1.9	2.5
United States	3.4	2.7	1.8	-0.3	-2.8	3.4	1.8	2.8	1.6	2.4
Canada	3.2	2.6	2.0	1.2	-2.7	3.2	2.5	1.7	1.7	2.2
Argentina	9.2	8.5	8.7	6.8	0.9	9.2	8.9	1.9	5.6	1.5
Brazil	3.2	4.0	6.1	5.2	-0.3	7.5	2.7	0.9	2.5	2.3
Chile	5.6	4.6	4.6	3.7	-1.0	5.8	5.9	5.6	4.3	3.7
Colombia	4.7	6.7	6.9	3.5	1.7	4.0	6.6	4.2	3.8	4.5
Ecuador	5.3	4.4	2.2	6.4	0.6	3.5	7.8	5.1	3.0	4.0
Mexico	3.0	5.0	3.1	1.4	-4.7	5.1	4.0	3.9	1.4	3.4
Peru	6.8	7.7	8.9	9.8	0.9	8.8	6.9	6.3	5.0	6.0
Venezuela	10.3	9.9	8.8	5.3	-3.2	-1.5	4.2	5.6	1.5	-1.0
Uruguay	6.6	4.1	6.5	7.2	2.2	8.9	6.5	3.9	3.5	4.0
Asia/Pacific	6.4	7.2	8.0	4.5	2.6	7.5	4.7	4.8	4.5	4.5
Japan	1.3	1.7	2.2	-1.1	-5.5	4.7	-0.6	1.9	1.8	1.5
Australia	3.1	2.7	4.6	2.7	1.4	2.6	2.4	3.7	2.4	2.7
New Zealand	2.8	2.7	3.0	-1.1	1.3	2.3	1.4	2.7	2.6	2.8
China	11.3	12.7	14.2	9.6	9.1	10.4	9.3	7.7	7.6	7.4
Hong Kong	7.4	7.0	6.5	2.1	-2.5	6.8	4.9	1.5	2.8	3.3
India	9.5	9.7	9.2	6.8	8.6	9.3	6.2	5.0	4.1	5.0
Indonesia	5.7	5.5	6.3	6.0	4.6	6.2	6.5	6.2	5.5	4.9
Korea	4.0	5.2	5.1	2.3	0.3	6.3	3.7	2.0	2.8	3.7
Malaysia	5.3	5.6	6.3	4.8	-1.5	7.4	5.1	5.6	4.5	5.7
Philippines	5.0	5.3	7.1	3.7	1.1	7.6	3.6	6.8	6.9	6.0
Singapore	7.4	8.6	9.0	1.7	-0.8	14.8	5.2	1.3	4.3	3.5
Taiwan	4.7	5.4	6.0	0.7	-1.8	10.8	4.1	1.3	1.8	3.1
Thailand	4.6	5.1	5.0	2.5	-2.3	7.8	0.1	6.5	2.6	3.0
Africa/Middle East	5.1	5.1	6.1	4.1	-0.6	4.0	3.9	2.8	2.5	3.1
South Africa	5.3	5.6	5.5	3.6	-1.5	3.1	3.5	2.5	1.9	3.0
Euro area	1.8	3.4	3.0	0.3	-4.4	1.9	1.6	-0.6	-0.5	1.1
Germany	0.8	3.9	3.4	0.8	-5.1	3.9	3.4	0.9	0.6	2.0
France	1.9	2.7	2.2	-0.2	-3.1	1.6	2.0	0.0	0.1	0.7
Italy	0.8	2.1	1.6	-1.2	-5.5	1.8	0.6	-2.6	-1.9	0.8
Spain	3.6	4.1	3.5	0.9	-3.8	-0.2	0.1	-1.6	-1.3	0.7
Norway	4.4	4.8	5.3	1.5	-1.4	1.5	2.6	3.3	1.8	2.2
Sweden	3.2	4.6	3.4	-0.8	-5.0	6.3	3.0	1.3	0.7	1.9
United Kingdom	3.2	2.8	3.4	-0.8	-5.2	1.7	1.1	0.1	1.5	3.0
Bulgaria	6.4	6.5	6.4	6.2	-5.5	0.4	1.8	0.8	0.6	1.2
Czech Rep.	6.8	7.0	5.7	3.1	-4.5	2.5	1.8	-1.2	-1.4	1.9
Hungary	3.9	3.9	0.1	0.9	-6.8	1.3	1.6	-1.7	1.1	2.3
Poland	3.6	6.2	6.8	5.1	1.6	3.9	4.5	1.9	1.4	2.8
Romania	4.2	7.9	6.3	7.5	-6.6	-1.2	2.2	0.7	2.6	2.3
Russia	6.4	8.2	8.5	5.2	-7.8	4.5	4.3	3.4	1.5	2.2
Israel	4.9	4.2	6.9	5.0	0.9	5.5	4.6	3.3	3.6	3.5
Turkey	8.4	6.9	4.7	0.7	-4.8	9.2	8.8	2.2	3.5	3.0
All Europe	2.8	4.1	3.8	0.9	-4.7	2.4	2.2	0.0	0.2	1.6
World	4.3	4.8	4.8	2.1	-1.5	4.7	3.1	2.5	2.2	2.9
Developed markets	2.5	2.8	2.5	-0.1	-3.7	2.9	1.4	1.4	1.0	1.9
G-7	2.4	2.6	2.2	-0.3	-3.9	3.3	1.5	1.6	1.2	2.0
Emerging Economies	7.5	8.4	9.0	6.0	2.5	7.8	6.2	4.6	4.4	4.6
Latin America	4.5	5.3	5.9	4.5	-1.2	6.3	4.2	2.6	2.7	2.6
Emerging Asia	9.2	10.2	11.1	7.3	6.5	9.5	7.4	6.2	6.0	6.1
ex China	6.5	6.9	7.0	4.3	3.0	8.2	4.9	4.1	3.8	4.4
Emerging Europe	6.2	7.4	6.9	4.1	-5.6	4.8	4.9	2.3	1.7	2.4
ex Russia	6.1	6.6	5.2	3.0	-3.4	5.1	5.4	1.2	2.0	2.6
World ex-United States	4.6	5.5	5.8	2.9	-1.0	5.1	3.5	2.5	2.4	3.0
Developed Europe	2.0	3.3	3.1	0.1	-4.5	1.9	1.5	-0.5	-0.2	1.4
Euro ex GY, FR, IT	3.0	4.0	3.8	0.8	-4.1	0.6	0.5	-1.3	-0.9	0.7
Using PPP weights:										
World	5.1	5.7	5.7	3.0	-0.3	5.4	3.9	3.1	2.7	3.3
Developed markets	2.6	2.8	2.4	-0.1	-3.7	2.9	1.5	1.4	1.0	1.9
G-7	2.5	2.6	2.2	-0.3	-3.8	3.2	1.6	1.7	1.2	2.1
Emerging Economies	7.9	8.8	9.3	6.2	3.2	8.0	6.4	4.9	4.6	4.8
Latin America	4.7	5.5	5.8	4.4	-1.3	6.2	4.6	2.9	2.8	2.7
Emerging Asia	9.3	10.2	11.0	7.3	6.7	9.5	7.3	6.1	5.8	6.0
ex China	7.0	7.4	7.4	4.7	3.9	8.5	5.1	4.3	3.8	4.5
Emerging Europe	6.2	7.3	6.8	4.1	-5.4	4.8	4.9	2.3	1.7	2.4
ex Russia	6.0	6.6	5.3	3.1	-3.3	5.0	5.4	1.2	2.0	2.6
World ex-United States	5.6	6.5	6.9	3.9	0.3	6.0	4.4	3.2	3.1	3.6
Developed Europe	2.0	3.3	3.1	0.1	-4.5	1.9	1.5	-0.5	-0.1	1.4
Euro ex GY, FR, IT	3.0	3.9	3.7	0.7	-4.1	0.6	0.5	-1.3	-0.9	0.7

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Consumer prices

underlining denotes forecasts

	2011				2012				2013				2014			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
%q/q, saar																
United States	4.4	4.7	2.9	1.4	2.3	1.0	2.1	2.2	1.4	0.0	2.6	0.9	1.2	1.8	1.8	1.8
%oya																
United States	2.1	3.4	3.7	3.3	2.8	1.9	1.7	1.9	1.7	1.4	1.6	1.2	1.2	1.6	1.4	1.6
Japan	-0.5	-0.4	0.1	-0.3	0.3	0.2	-0.4	-0.2	-0.6	-0.3	0.9	1.0	1.0	3.2	2.9	2.9
Canada	2.6	3.4	3.0	2.7	2.3	1.6	1.2	0.9	0.9	0.8	1.1	1.3	1.4	1.4	1.7	1.8
Australia	3.3	3.5	3.4	3.0	1.6	1.2	2.0	2.2	2.5	2.4	1.7	2.3	2.5	2.5	2.2	2.0
Euro area	2.5	2.8	2.7	2.9	2.7	2.5	2.5	2.3	1.9	1.4	1.3	0.8	0.7	0.9	0.7	1.1
Germany	2.2	2.5	2.6	2.6	2.4	2.1	2.1	2.0	1.8	1.5	1.7	1.3	1.2	1.4	1.3	1.6
France	2.0	2.2	2.3	2.6	2.6	2.3	2.3	1.7	1.2	0.9	1.1	0.7	0.9	1.0	0.8	1.0
Italy	2.3	2.9	2.7	3.7	3.6	3.6	3.4	2.6	2.1	1.3	1.1	0.9	0.8	1.0	1.0	1.1
Spain	3.2	3.3	2.9	2.7	1.9	1.9	2.8	3.2	2.8	1.8	1.3	0.2	0.0	0.2	-0.3	0.1
Norway	1.4	1.4	1.5	0.9	0.8	0.4	0.4	1.2	1.3	2.0	3.0	2.6	2.8	2.5	2.3	2.2
New Zealand	4.5	5.3	4.6	1.8	1.6	1.0	0.8	0.9	0.9	0.7	1.2	1.7	1.9	2.3	2.2	2.2
Sweden	2.3	2.9	3.0	2.3	1.8	1.1	0.6	0.1	-0.1	-0.3	0.1	0.2	0.6	0.9	1.1	1.4
United Kingdom	4.1	4.4	4.7	4.6	3.5	2.8	2.4	2.7	2.8	2.7	2.7	2.2	2.2	2.3	2.2	2.3
Argentina	10.1	9.7	9.8	9.7	9.7	9.9	10.0	10.6	10.8	10.4	10.2	11.0	11.0	11.0	12.0	18.0
Brazil	6.1	6.6	7.1	6.6	5.8	5.0	5.2	5.6	6.4	6.6	6.1	5.8	5.5	5.6	5.9	5.9
Chile	2.9	3.3	3.1	3.3	4.1	3.1	2.6	2.2	1.5	1.3	2.1	1.8	1.9	2.9	2.8	2.9
Colombia	3.3	3.0	3.5	3.0	3.5	3.4	3.1	2.8	1.9	2.1	2.2	2.5	2.9	3.0	3.0	2.9
Ecuador	3.4	4.1	4.9	4.1	5.6	5.1	5.1	4.6	3.5	2.9	2.1	2.3	2.7	2.0	2.5	3.3
Mexico	3.5	3.3	3.4	3.3	3.9	3.9	4.6	4.1	3.7	4.5	3.4	3.4	3.5	3.1	3.7	3.7
Peru	2.4	3.1	3.5	3.1	4.2	4.1	3.5	2.9	2.6	2.5	3.1	3.0	3.0	3.0	2.3	2.5
Venezuela	29.1	24.6	26.5	24.6	25.1	22.3	19.0	18.7	22.6	33.0	43.4	52.7	60.5	59.5	49.7	40.2
China	5.1	5.7	6.3	5.7	3.8	2.9	1.9	2.1	2.4	2.4	2.8	3.1	3.6	3.8	3.5	3.2
Hong Kong	3.8	5.2	6.4	5.2	5.2	4.2	3.1	3.8	3.7	4.0	5.3	4.6	4.6	4.1	3.4	3.2
Indonesia	6.8	5.9	4.7	5.9	3.7	4.5	4.5	4.4	5.3	5.6	8.6	7.9	6.3	6.2	4.1	4.6
India	9.0	8.9	9.2	8.9	7.2	10.1	9.8	10.1	11.7	10.7	8.8	9.5	9.0	8.5	8.5	8.5
Korea	3.8	4.0	4.3	4.0	3.0	2.4	1.6	1.7	1.4	1.1	1.2	0.8	1.4	2.1	2.5	2.9
Malaysia	2.8	3.3	3.4	3.3	2.3	1.7	1.4	1.3	1.5	1.8	2.2	2.7	2.4	2.3	1.6	1.5
Philippines	4.5	5.0	4.8	5.0	3.1	2.9	3.5	3.0	3.2	2.7	2.4	3.7	4.3	4.6	4.6	3.8
Singapore	5.2	4.7	5.5	4.7	4.9	5.3	4.2	4.0	4.0	1.6	1.8	2.0	1.4	3.2	2.9	2.5
Taiwan	1.3	1.6	1.3	1.6	1.3	1.6	2.9	1.8	1.8	0.8	0.0	1.3	1.5	2.2	2.3	2.2
Thailand	3.0	4.1	4.1	4.1	3.4	2.5	2.9	3.2	3.1	2.3	1.7	1.9	2.0	2.2	2.9	2.8
Czech Republic	1.7	1.8	1.8	1.8	3.7	3.4	3.3	2.8	1.8	1.5	1.2	1.2	0.1	0.5	1.2	1.7
Hungary	4.2	4.0	3.4	4.0	5.6	5.5	6.1	5.4	2.9	1.8	1.5	1.1	1.3	1.8	2.2	2.7
Poland	3.8	4.6	4.1	4.6	4.1	4.0	3.9	2.9	1.3	0.5	1.1	1.1	1.6	1.9	1.6	2.0
Romania	7.5	8.2	4.2	8.2	2.6	1.9	4.1	4.8	5.6	5.3	3.3	2.0	1.4	1.4	2.6	3.5
Russia	9.5	9.5	8.1	9.5	3.9	3.8	6.0	6.5	7.1	7.2	6.3	6.0	5.6	5.1	4.5	4.4
Israel	5.4	4.1	3.3	4.1	4.0	1.6	1.8	1.6	1.4	1.2	1.6	2.2	2.0	1.9	2.0	2.2
South Africa	3.8	4.6	5.4	4.6	6.1	5.8	5.1	5.6	5.7	5.7	6.2	5.5	5.7	6.1	5.9	6.0
Turkey	4.3	5.9	6.4	5.9	10.5	9.4	9.0	6.8	7.2	7.0	8.2	7.8	6.7	7.0	5.8	6.2
Global	3.2	3.8	4.0	3.8	3.1	2.7	2.5	2.5	2.5	2.3	2.4	2.3	2.2	2.6	2.4	2.6
Developed market economies	2.0	2.7	2.9	2.7	2.4	1.8	1.7	1.7	1.5	1.2	1.4	1.2	1.1	1.7	1.5	1.7
Emerging economies	5.5	5.8	6.0	5.8	4.5	4.2	4.0	4.1	4.4	4.2	4.2	4.3	4.3	4.4	4.2	4.1
G-7	1.8	2.6	2.8	2.7	2.4	1.8	1.6	1.6	1.3	1.1	1.4	1.2	1.2	1.8	1.7	1.8
Latin America	4.9	5.1	5.5	5.1	4.9	4.4	4.7	4.7	4.9	5.2	4.7	4.6	4.5	4.5	4.8	4.8
Emerging Asia	5.3	5.7	6.0	5.7	4.1	3.9	3.2	3.4	3.8	3.6	3.7	4.0	4.1	4.3	4.0	3.9
Emerging Europe	6.9	7.3	6.4	7.3	5.3	5.0	6.1	5.7	5.8	5.6	5.4	5.0	4.6	4.5	4.0	4.2
All Asia	3.5	3.8	4.1	3.8	2.8	2.6	2.1	2.2	2.4	2.3	2.7	3.0	3.1	3.8	3.6	3.5
All Europe	3.5	3.8	3.7	4.0	3.3	3.0	3.2	3.0	2.7	2.4	2.3	1.8	1.6	1.8	1.6	1.8
The Americas	2.7	3.7	4.0	3.7	3.2	2.4	2.3	2.4	2.3	2.2	2.2	1.9	1.9	2.2	2.1	2.3
Using PPP weights:																
Global	3.8	4.3	4.5	4.3	3.5	3.1	2.9	3.0	3.0	2.8	2.8	2.8	2.7	3.0	2.8	2.9
Developed market economies	2.1	2.8	3.0	2.8	2.4	1.9	1.7	1.8	1.5	1.3	1.5	1.2	1.1	1.7	1.5	1.7
Emerging economies	5.6	5.9	6.1	5.9	4.6	4.5	4.3	4.3	4.7	4.5	4.4	4.5	4.5	4.6	4.4	4.3
G-7	1.9	2.7	3.0	2.8	2.5	1.9	1.6	1.6	1.4	1.2	1.5	1.2	1.2	1.8	1.6	1.8
Latin America	4.6	4.8	5.1	4.8	4.8	4.3	4.6	4.5	4.6	4.9	4.5	4.3	4.3	4.2	4.5	4.5
Emerging Asia	5.6	6.0	6.3	6.0	4.3	4.4	3.8	3.9	4.5	4.1	4.1	4.4	4.5	4.7	4.4	4.3
Emerging Europe	6.8	7.2	6.4	7.2	5.3	5.0	6.1	5.7	5.7	5.5	5.3	4.9	4.5	4.4	3.9	4.2

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Basic economic statistics: international comparisons

	Nominal GDP $ billion 2012	GDP per capita, $ 2012	Population million 2012	Average CPI %oya 1980-12	Average real GDP growth, %oya 1980-12	Unemployment rate, % 2012	Budget bal. % GDP 2012
The Americas							
United States	16245	51163	317.5	3.6	2.6	8.1	-6.7
Canada	1821	52275	34.8	3.5	2.5	7.3	-1.4
Argentina	476	11553	41.2	252.9	2.7	7.5	-2.6
Brazil	2254	11368	198.2	361.9	2.8	5.5	-2.5
Chile	269	15394	17.4	11.3	4.7	6.4	0.6
Colombia	370	7772	47.6	16.0	3.6	11.5	0.3
Ecuador	84	5651	14.9	27.9	3.1	7.0	-2.5
Mexico	1179	10159	116.1	29.0	2.5	4.5	-2.6
Peru	199	6709	29.7	392.1	3.3	7.5	1.9
Venezuela	381	12755	29.9	30.1	2.0	8.0	-8.0
Asia							
Japan	5960	46834	127.3	1.0	2.2	4.4	-10.0
Australia	1541	66871	23.1	4.5	3.3	5.2	-3.0
New Zealand	170	38021	4.5	5.3	2.4	6.9	-4.5
Hong Kong	263	36539	7.2	5.0	5.0	3.3	1.2
Singapore	273	52114	5.2	2.3	6.8	1.9	5.8
China	8226	6075	1354.0	5.7	9.9	4.0	-1.6
India	1856	1486	1249.0	8.2	6.4	…	-4.9
Indonesia	880	3590	245.2	10.4	5.2	9.0	-2.2
Korea	1143	23340	49.0	5.5	6.3	3.2	1.3
Malaysia	305	10352	29.4	3.1	5.9	3.7	-4.7
Philippines	250	2593	96.6	9.4	3.4	7.0	-2.4
Taiwan	475	20359	23.3	2.7	5.8	4.2	-2.0
Thailand	365	5221	69.9	4.3	5.4	1.7	-3.5
Europe							
Germany	3432	41451	82.8	2.3	1.8	6.8	0.1
France	2614	40879	63.9	3.5	1.8	10.2	-4.8
Italy	2015	33093	60.9	5.6	1.3	10.7	-3.0
United Kingdom	2480	39504	62.8	4.6	2.4	8.0	-7.0
Bulgaria	51	6903	7.4	…	1.3	11.4	-0.5
Czech Republic	196	18629	10.5	…	…	8.6	-4.4
Hungary	126	12628	9.9	11.8	1.4	10.9	-2.0
Poland	490	12792	38.3	43.7	2.3	12.8	-3.9
Russia	2018	14097	143.1	…	…	5.7	-0.1
Romania	169	7910	21.4	…	…	5.0	-3.0
Turkey	787	10554	74.5	46.4	4.2	9.3	-2.5
Africa/Middle East							
Israel	258	33544	7.7	43.5	4.3	5.5	-4.1
South Africa	385	7747	49.6	9.7	2.5	25.0	-5.1

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Economic outlook in summary

	Real GDP growth (%oya)			Consumer prices (% oya)			Current acct. bal. (% GDP)		
	2012	2013	2014	2012	2013	2014	2012	2013	2014
The Americas									
United States	2.8	1.6	2.4	2.1	1.5	1.5	-2.8	-2.3	-2.3
Canada	1.7	1.7	2.2	1.5	1.0	1.6	-3.4	-3.2	-3.0
Latin America	2.6	2.7	2.6	4.7	4.9	4.7	-1.6	-2.2	-2.0
Argentina	1.9	5.6	1.5	10.0	11.2	17.0	0.1	0.0	-0.2
Brazil	0.9	2.5	2.3	5.4	6.2	5.7	-2.4	-3.5	-3.0
Chile	5.6	4.3	3.7	3.0	1.7	3.1	-3.5	-4.1	-3.6
Colombia	4.2	3.8	4.5	3.2	2.2	3.0	-3.3	-3.4	-3.0
Ecuador	5.1	3.0	4.0	5.1	2.7	3.9	-0.3	-0.7	-0.1
Mexico	3.9	1.4	3.4	4.1	3.7	3.5	-0.8	-1.0	-1.1
Peru	6.3	5.0	6.0	3.7	2.8	2.7	-3.6	-5.5	-4.5
Venezuela	5.6	1.5	-1.0	21.1	38.0	52.0	2.9	2.5	3.0
Asia/Pacific									
Japan	1.9	1.8	1.5	0.0	0.3	2.5	1.1	0.9	0.9
Australia	3.7	2.4	2.7	1.8	2.2	2.3	-3.7	-2.7	-3.8
New Zealand	2.7	2.6	2.8	1.1	1.1	2.2	-4.8	-4.5	-5.1
Emerging Asia	6.2	6.0	6.1	3.6	3.7	4.1	1.9	2.0	1.8
China	7.7	7.6	7.4	2.6	2.7	3.5	2.4	2.2	2.0
Hong Kong	1.5	2.8	3.3	4.1	4.4	3.8	2.3	2.0	3.7
India	5.0	4.1	5.0	9.3	9.6	8.4	-4.8	-3.6	-3.4
Indonesia	6.2	5.5	4.9	4.3	6.9	6.0	-2.6	-3.5	-3.2
Korea	2.0	2.8	3.7	2.2	1.2	2.2	3.7	5.2	4.1
Malaysia	5.6	4.5	5.7	1.7	2.1	2.5	6.1	2.1	0.6
Philippines	6.8	6.9	6.0	3.1	3.0	4.3	2.8	3.1	1.8
Singapore	1.3	4.3	3.5	4.6	2.4	2.5	18.8	17.8	17.2
Taiwan	1.3	1.8	3.1	1.9	1.0	2.1	10.5	9.9	10.5
Thailand	6.5	2.6	3.0	3.0	2.3	2.8	0.8	0.6	1.9
Africa/Middle East									
Israel	3.3	3.6	3.5	1.7	2.0	2.0	-0.1	0.5	-0.5
South Africa	2.5	1.9	3.0	5.7	5.8	5.9	-6.3	-5.6	-5.1
Europe									
Euro area	-0.6	-0.5	1.1	2.5	1.4	0.9	1.4	2.2	2.2
United Kingdom	0.1	1.5	3.0	2.8	2.6	2.2	-3.8	-3.7	-3.0
Emerging Europe	2.3	1.7	2.4	5.5	5.4	4.4	-0.1	-0.6	-0.6
Bulgaria	0.8	0.6	1.2	2.9	0.9	1.5	-1.3	1.5	-1.2
Czech Republic	-1.2	-1.4	1.9	3.3	1.8	1.7	-2.4	-1.6	-2.1
Hungary	-1.7	1.1	2.3	5.7	1.8	2.0	1.0	2.3	2.1
Poland	1.9	1.4	2.8	3.7	1.0	1.9	-3.7	-1.5	-2.0
Romania	0.7	2.6	2.3	3.3	4.7	3.5	-3.9	1.3	1.8
Russia	3.4	1.5	2.2	5.1	6.6	4.9	3.5	1.8	1.6
Turkey	2.2	3.5	3.0	8.9	7.6	6.4	-6.0	-7.0	-5.9
Global[1]	2.5	2.2	2.9	2.7	2.4	2.5	…	…	…
Developed market economies	1.4	1.0	1.9	1.9	1.3	1.5	-0.9	-0.4	-0.4
Emerging market economies	4.6	4.4	4.6	4.2	4.3	4.3	0.7	0.6	0.6

1. JPMorgan sample.

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J.P. Morgan FX forecasts vs. forwards & consensus

Exchange rates vs. U.S dollar

		Current							JPM forecast gain/loss vs Dec 14*			Actual change in local FX vs USD			
Majors		**Nov 26**	**Mar 14**		**Jun 14**		**Sep 14**		**Spot**	**Forwards**	**Consensus****	**Past 1mo**	**Past 3mo**	**YTD**	**Past 12mos**
	EUR	1.35	1.33		1.32		1.32	↓	-4.1%	-4.2%	1.6%	-1.8%	1.6%	2.7%	4.4%
	JPY	101.4	104	↑	100	↓	102	↑	-4.4%	-4.7%	3.3%	-3.9%	-3.7%	-14.4%	-19.0%
	GBP	1.62	1.63		1.61		1.61	↓	-0.6%	-0.3%	2.9%	-0.1%	4.0%	-0.6%	0.8%
	AUD	0.91	0.93		0.92		0.91	↓	-1.3%	1.4%	1.1%	-4.9%	2.0%	-12.3%	-12.9%
	CAD	1.05	1.07	↑	1.06	↑	1.05	↑	1.2%	2.2%	2.9%	-0.7%	-0.4%	-5.7%	-5.6%
	NZD	0.82	0.82		0.83		0.83		1.2%	4.7%	6.4%	-1.0%	5.1%	-1.1%	-0.2%
JPM USD index		84.2	85.2	↑	84.3	↑	84.1	↑	0.4%	-0.5%	-1.8%	1.6%	-0.4%	3.2%	3.7%
DXY		80.7	82.1	↑	82.1	↑	82.2	↑	3.3%	3.1%	-2.0%	2.0%	-0.8%	1.2%	0.6%
Europe, Middle East & Africa															
	CHF	0.91	0.92	↑	0.93	↑	0.92	↑	-3.1%	-3.6%	5.7%	-1.8%	1.5%	0.7%	2.0%
	ILS	3.54	3.60	↑	3.60	↑	3.55	↑	-0.2%	0.3%	-0.3%	-0.4%	3.1%	5.4%	8.7%
	SEK	6.57	6.88	↑	6.86	↑	6.82	↑	-4.1%	-3.3%	-3.1%	-3.8%	-0.9%	-1.0%	0.7%
	NOK	6.10	6.24	↑	6.21	↑	6.14	↑	-0.8%	0.6%	-2.5%	-3.4%	-0.9%	-8.8%	-7.4%
	CZK	20.17	20.30	↑	20.45	↑	20.45	↑	-2.9%	-3.4%	-0.7%	-7.6%	-4.5%	-5.7%	-3.3%
	PLN	3.10	3.23	↑	3.22	↑	3.18	↑	-2.9%	-0.6%	-1.6%	-2.3%	3.7%	-0.2%	2.0%
	HUF	221	228	↑	227	↑	223	↑	-1.1%	1.1%	1.6%	-4.0%	2.3%	0.2%	-1.5%
	RUB	32.97	33.09	↑	33.65	↑	34.31	↑	-4.1%	2.4%	-4.5%	-3.5%	0.6%	-7.4%	-5.9%
	TRY	2.01	2.20	↑	2.15	↑	2.15		-6.4%	1.5%	-7.0%	-1.5%	1.3%	-11.4%	-10.8%
	ZAR	10.11	10.60	↑	10.80	↑	10.75	↑	-5.5%	0.4%	-5.4%	-2.8%	2.0%	-16.2%	-12.4%
Americas	**ARS**	6.08	7.30		7.80		8.50		-33.9%	2.2%	-16.6%	-3.3%	-7.1%	-19.2%	-20.8%
	BRL	2.30	2.40	↑	2.45	↑	2.45	↑	-4.3%	5.4%	-2.9%	-4.8%	2.1%	-10.7%	-9.4%
	CLP	523	530	↑	530	↑	540	↑	-3.2%	0.8%	-3.5%	-3.2%	0.7%	-8.3%	-7.8%
	COP	1926	1950		1950		1950		-1.2%	2.3%	-1.5%	-2.3%	0.7%	-8.3%	-5.3%
	MXN	13.08	13.15		12.90		12.60		5.5%	8.9%	0.0%	-1.5%	1.8%	-1.7%	-0.5%
	PEN	2.81	2.80		2.82		2.83		-1.6%	2.3%	-5.3%	-1.6%	-0.1%	-9.0%	-7.7%
	VEF	6.29	11.50	↑	11.50	↑	11.50	↑	-45.3%	-45.3%	-32.2%	0.0%	0.0%	-31.7%	-31.7%
LACI		96.0	92.5	↑	91.8	↓	91.5	↓	-4.3%	5.3%	-3.4%	-3.1%	0.1%	-8.3%	-7.2%
Asia	**CNY**	6.09	6.08		6.05		6.03		1.5%	2.6%	0.0%	-0.1%	0.5%	2.3%	2.2%
	HKD	7.75	7.75	↓	7.75	↓	7.75	↓	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
	IDR	11765	12300	↑	12300	↑	12400	↑	-5.9%	3.1%	-7.6%	-6.4%	-4.2%	-16.8%	-18.4%
	INR	62.5	65.0	↑	63.0	↑	62.0	↑	0.8%	10.3%	-0.2%	-1.7%	10.1%	-12.0%	-10.9%
	KRW	1060	1070	↑	1040	↓	1030	↓	3.9%	5.9%	3.9%	0.2%	5.2%	0.4%	2.4%
	MYR	3.22	3.30	↑	3.32	↑	3.35		-3.9%	-1.9%	-4.8%	-1.9%	3.6%	-5.0%	-5.1%
	PHP	43.74	43.70	↑	43.50	↑	43.40	↑	1.2%	0.5%	-1.0%	-1.6%	2.3%	-6.2%	-6.2%
	SGD	1.25	1.25	↑	1.25	↑	1.25	↑	1.0%	0.9%	0.0%	-1.3%	1.9%	-2.4%	-2.5%
	TWD	29.62	29.30		29.20		29.20		1.4%	0.0%	0.0%	-0.8%	1.3%	-2.0%	-1.8%
	THB	32.08	32.00		32.20	↓	32.50	↓	-1.3%	1.4%	-3.4%	-3.3%	0.3%	-4.7%	-4.4%
ADXY		116.0	115.5	↓	116.3	↓	116.6	↓	0.9%	2.5%	-0.1%	-0.9%	0.1%	-1.9%	-1.6%
EMCI		89.5	87.1	↓	87.4	↓	87.6	↓	-1.5%	3.7%	-2.0%	-2.1%	2.5%	-6.5%	-5.7%
Exchange rates vs Euro												**Actual change in local FX vs EUR**			
	JPY	137	138	↑	132	↓	135	↓	-0.3%	-0.5%	1.7%	-2.1%	-5.2%	-16.7%	-22.5%
	GBP	0.839	0.815		0.820		0.820		3.6%	4.0%	1.3%	1.8%	2.4%	-3.2%	-3.5%
	CHF	1.23	1.230	↑	1.225	↑	1.220	↑	1.0%	0.6%	4.1%	0.0%	-0.1%	-1.9%	-2.3%
	SEK	8.90	9.15	↑	9.05	↑	9.00	↑	0.0%	0.9%	-4.6%	-2.0%	-2.4%	-3.5%	-3.6%
	NOK	8.27	8.30	↑	8.20	↑	8.10	↑	3.4%	4.9%	-4.0%	-1.6%	-2.4%	-11.2%	-11.4%
	CZK	27.33	27.00	↑	27.00	↑	27.00	↑	1.2%	0.8%	-2.2%	-5.9%	-6.0%	-8.2%	-7.5%
	PLN	4.20	4.30	↑	4.25	↑	4.20	↑	1.2%	3.7%	-3.1%	-0.4%	2.1%	-2.9%	-2.3%
	HUF	299	303	↑	300	↑	295	↑	3.0%	5.4%	0.0%	-2.2%	0.7%	-2.5%	-5.7%
	RON	4.45	4.50	↑	4.50	↑	4.50	↑	-2.3%	0.1%	-4.4%	0.0%	0.1%	0.0%	1.7%
	TRY	2.73	2.93	↑	2.84	↑	2.84		-2.4%	5.9%	-8.4%	0.4%	-0.3%	-13.8%	-14.6%
	RUB	44.67	44.01	↑	44.42	↑	45.29	↑	0.0%	6.8%	-6.0%	-1.8%	-1.0%	-9.9%	-9.9%
	BRL	3.11	3.19	↑	3.23	↑	3.23	↑	-0.2%	10.0%	-4.4%	-3.0%	0.5%	-13.0%	-13.3%
	MXN	17.73	17.49		17.03		16.63	↓	10.0%	13.7%	-1.5%	0.3%	0.2%	-4.3%	-4.7%

↑ indicates revision resulting in stronger FX rate , ↓ indicates revision resulting in weaker FX rate. Source: J.P.Morgan

* Positive indicates JPM more bullish on local currency than spot, consensus or forward rates. ** Bloomberg *FX Consensus Forecasts.*

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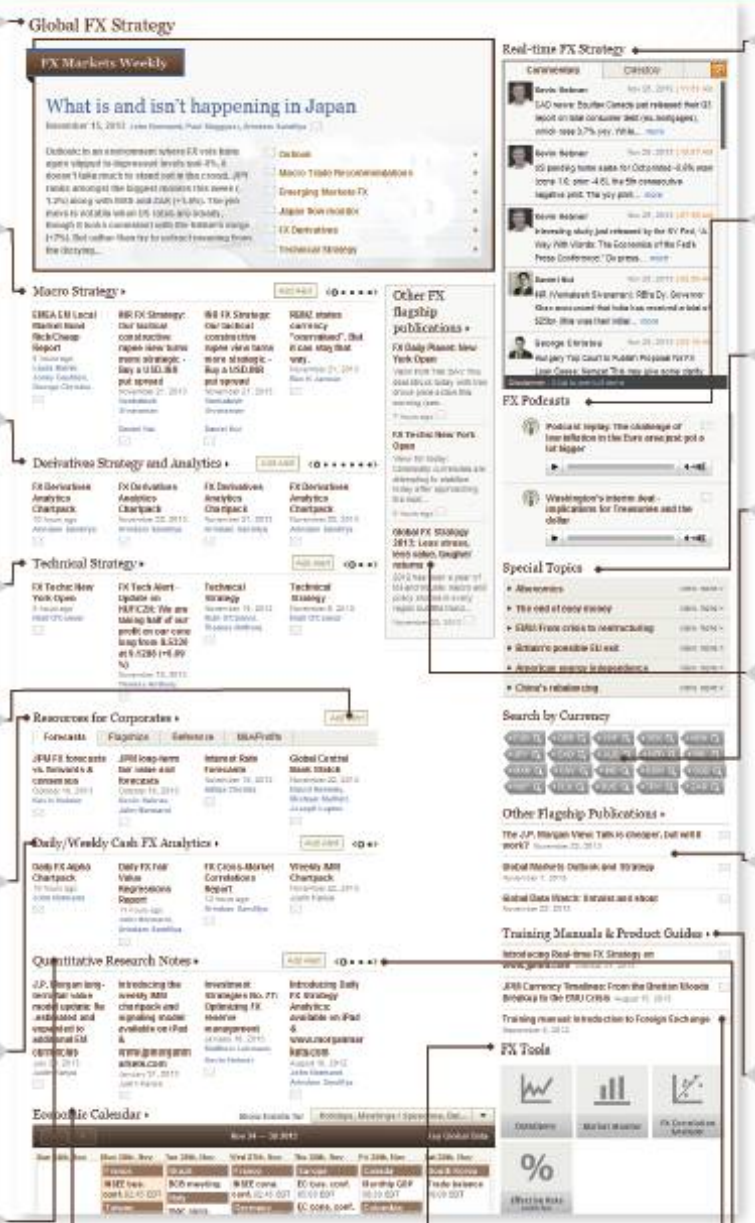

FX Tools
Databases and interactive tools such as DataQuery, FX Correlation Analyzer, Real Effective Exchange Rate Indices and EMPIRE Market Monitor

Email Research Link
Sends an email to your email address with a synopsis of the research report and a link to it

Real-time FX Strategy
Real-time market commentary from JPM's macro, technical and derivatives strategists in London, New York, Tokyo, Sydney and Singapore

Podcasts
Audio summaries of *FX Markets Weekly* themes or views on breaking events

Special Topics
Research on significant cross-market topics such as Abenomics and The end of easy money

Search by Currency Pair
In addition to main search engine in top right corner of browser, click these buttons for quick search by FX pair

Other FX Flagship Publications
Links to Global FX Strategy's daily, monthly and annual products: *FX Daily Planet, FX Techs, Key Currency Views* and the year-ahead outlook

Other Flagship Publications
Links to weekly and monthly publications from other JPM Research departments: Economics, Rates, Emerging Markets, Commodities and Global Asset Allocation

Training Manuals and Product Guides
Training materials on FX fundamentals, options markets, technical analysis and portfolio management, plus a guide to all FX research products and instructions on accessing via iPad and iTunes

Archives
Toggle for more documents, or click on any section heading for up to 10 years of archived reports

J.P.Morgan