

## Flows & Liquidity

### How scary are China's shadow banks?

- At 30% of bank assets, the Chinese shadow banking system is small compared to those of other countries.
- It is also simpler and more domestically owned than that of more advanced DM jurisdictions.
- China's private sector debt to GDP ratio has risen sharply over the past few years but it is below the ratio seen in other advanced Asian economies and it is lower than that of many DM economies.
- More than 80% of private non-financial sector debt in China is corporate debt. But Chinese companies appear overall less leveraged than either their EM or DM counterparts.
- Low foreign ownership not only makes a potential Chinese financial crisis less contagious to the rest of world but also protects China from bouts of global risk aversion and foreign investor withdrawal.
- Foreign ownership of Chinese debt and equities, at 4% and 19% respectively is amongst the lowest across DM and EM countries.
- The claims on Chinese banks by foreign banks totaled \$660bn in Q3, which represents only 2.6% of all cross-border bank claims.
- The EM countries most vulnerable to foreign debt investors' withdrawal appear to be Hungary, followed by Philippines, Indonesia, Poland, Turkey and Mexico. The EM countries most vulnerable to foreign equity investors' withdrawal appear to be Hungary, followed by Taiwan, Korea, Brazil and Thailand.
- EM ETFs outflows intensified. ETF flow momentum remains positive in US Tech and Healthcare.
- Euro area bank balance sheets contracted massively in 2013. The pace of shrinkage should slow this year.
- The Chinese shadow banking system has attracted markets participants' attention over the past few weeks as a result of the China Credit Trust issue. It is not the first time the Chinese shadow banking system is in the spotlight. In fact it has happened numerous times over the past two years or so, such as with the HuaXia Bank wealth management product (WMP) exactly a year ago. But this time there is **a growing sense that policy makers are intensifying their pressure on financial intermediaries to limit aggressive forms of shadow banking**. These aggressive forms relate to trusts and WMPs which either extend loans to very risky borrowers/prohibited sectors such as real estate and local government entities, or encompass very large duration mismatches. Indeed the policy tightening in Chinese money markets, which been a persistent phenomenon since last June, should be seen in this context as **the interbank market is used as a bridging tool for the inherent asset-liability duration mismatch in these products**.

#### Global Asset Allocation

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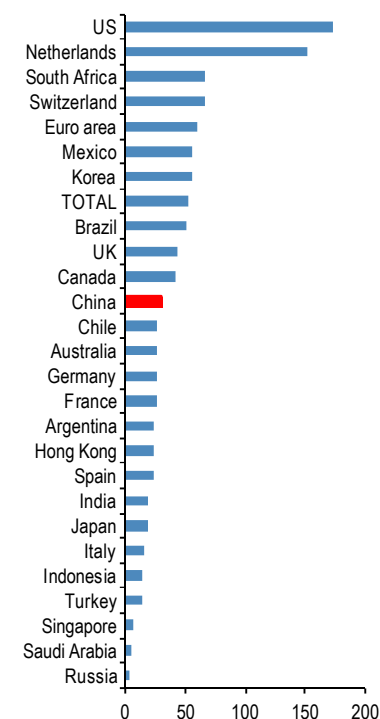
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**Figure 1: Shadow banking systems across countries**

Size of other financial intermediaries as % of bank assets. China's estimate is based on JPM calculations. The figures for the remaining countries are based on FSB (Financial Stability Board) estimates as of the end of 2012.

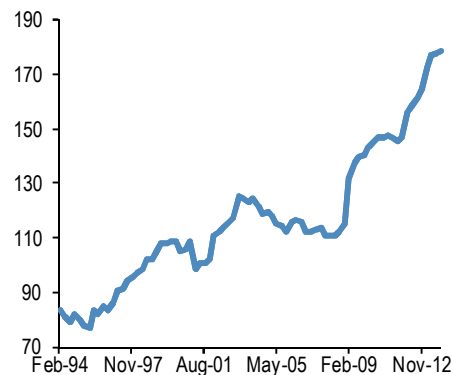


Source: FSB, J.P. Morgan

- It is not accidental that the Chinese interbank market saw exponential growth since 2010, from almost RMB2tr at the beginning of 2010 to RMB15tr currently. Over the same period, Trusts and WMPs expanded by close to 4 times, to more than RMB20tr as of the end of Q3 2013.
- The scope of this note is not to provide details about the Chinese shadow banking system but rather put it in a more global context. In particular, we compare the Chinese to other shadow banking systems in the world and assess debt and leverage metrics in China vs. other EM and DM countries. For details on China's shadow banks, we recommend our readers to see the recent research notes by our Chinese experts Haibin Zhu, John Klaczek and Ying Gu.
- There is no doubt that **the expansion of the Chinese shadow banking system has been dramatic over the past three years and the drivers were multiple:** 1) a strong tendency by households to diversify away from low-yielding, regulated bank deposits, 2) a strong tendency by the banking system to circumvent credit quotas (i.e. 75% loan/deposit cap) and escape capital charges by moving loans to a trust or WMP, and 3) deregulation and financial liberalization which induces competition among non-bank financial intermediaries either to provide direct financing to companies (circumventing the traditional banking system) or to help banks to transfer these loans off their balance sheet.
- But shadow banking systems are not only confined to China. Similarly rapid phases of shadow banking systems took place in 1980s and 1990s in the US and other developed economies. The Financial Stability Board (FSB) provides a global snapshot via its annual Global Shadow Banking Monitoring Report. Under the Financial Stability Board's definition, shadow banks refer to non-bank financial intermediaries which are similar to banks in that they are typically engaged in maturity transformation, i.e. they issue short-term liabilities and invest in long-term loans or other assets. But different to traditional banks, shadow banks are not subjected to traditional bank regulation, they do not have access to central bank emergency facilities and, unlike bank deposits, the liabilities of shadow banks are not guaranteed. Under the Financial Stability Board's definition, shadow banks include predominantly money market funds and other investment funds, broker dealers, structured finance vehicles, finance companies and funding corporations, and hedge funds. Insurance companies, pension funds and public financial institutions are excluded.
- How big is the Chinese shadow banking system relative to other countries? According to the FSB, as of the end of 2012, China's non-bank financial intermediation, accounted for 10% of bank assets, i.e. assets of deposit taking institutions (Figure 1). We believe that this number is closer to 30% currently for two reasons: 1) the FSB underestimates the size of Chinese shadow banks, and 2) the Chinese shadow banking system grew strongly in 2013. Josh Klaczek, our Chinese bank analyst, estimates the current size of the Chinese shadow banking system to be around RMB46tr or 30% of the assets of traditional banks. But as Figure 1 shows, **even at 30% of bank assets, the Chinese shadow banking system is small compared to those of other countries.** The average among 20 jurisdictions was 50% at the end of 2012. The US and Netherlands had the largest shadow banking systems at 170% and 150% of bank assets, respectively. South Africa and Mexico had the largest shadow banking systems among EM countries, at 66% and 56% of their own bank assets, respectively.
- **In addition the Chinese shadow banking system is simpler and more domestically owned than that of more advanced DM jurisdictions.** While structured investment vehicles and CDOs were prominent in the growth of the US shadow banking system in 2000s, trusts and WMPs are much simpler in structure and involve one layer of securitization. In addition many of these

**Figure 2: Chinese private non-financial sector debt as a % of GDP**

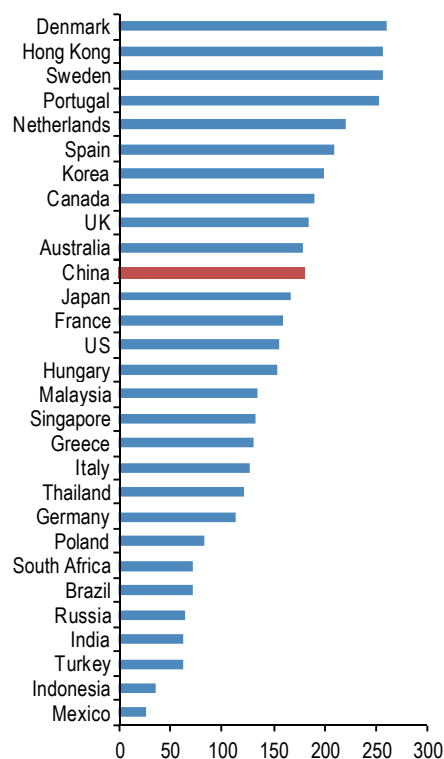
Quarterly data. Last obs is for Q4 2013. Data up until Q2 2013 are from the BIS. Data for H2 2013 are based on China's Total Social Financing figures.



Source: BIS, Chinese National Bureau of Statistics, J.P. Morgan

**Figure 3: Private non-financial sector debt to GDP ratios across major DM and EM economies**

% of GDP. Last obs is for Q2 2013 except from China which is for Q4 2013. Data up until Q2 2013 are from the BIS. Data for H2 2013 are based on China's Total Social Financing figures.



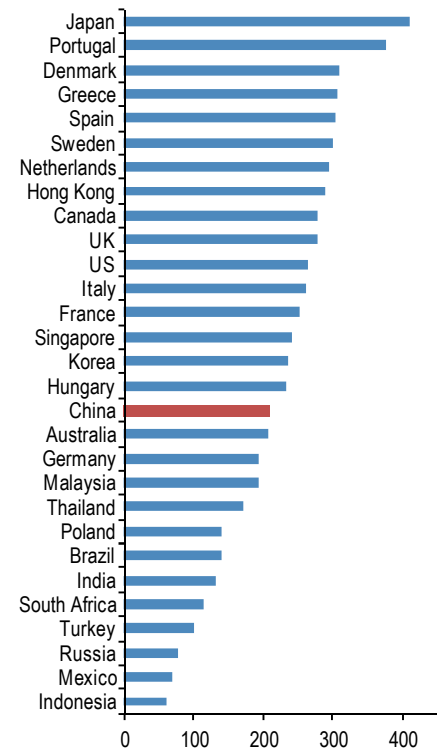
Source: BIS, Chinese National Bureau of Statistics, J.P. Morgan

products are linked to traditional banks very often via guarantees. The majority of the RMB10tr universe of WMPs is issued and managed by banks and of this a decent chunk is explicitly guaranteed by banks. Also foreign ownership of shadow banking products is extremely small in China relative to the more advanced and open financial systems of the US or other DM countries.

- The small size of the Chinese shadow banking system relative to other jurisdictions, its predominantly domestic ownership, and its close interconnection to the traditional banking system, **make it easier for that non-bank intermediation to be absorbed by the banking system** if either regulators decide to crack down hard on shadow banks or customers lose confidence and start returning to traditional deposits, i.e. replacing their higher yielding WMPs with bank time deposits.
- Of course the relative small size of the Chinese shadow banking system does not mean that there is no credit overextension or leverage in China. Private non-financial sector debt grew massively since the Lehman crisis as a large amount of credit was extended via both the traditional and the shadow banking system. Figure 2 shows that private non-financial sector debt grew by 70 percentage points of GDP from 110% in 2008 to 180% at the end of last year. These figures are based on BIS credit creation data up until Q2 2013 augmented by Total Social Financing flows during H2 2013. But how high does Chinese private sector non-financial debt look relative to other economies?
- Figure 3 shows private non-financial sector debt to GDP ratios across major DM and EM economies, again based on BIS credit creation data for consistency across countries. China's 180% to GDP ratio is the highest among EM economies, especially other BRICs. But it is below the ratios seen in other advanced Asian economies such as Korea and Hong Kong and it is lower than many DM economies. Denmark, Sweden, Portugal, Netherlands, Spain, Canada, UK and Australia all have higher private non-financial sector debt to GDP ratios than China. Japan, France and the US are only marginally lower than China. So **China's ratio is above the median, but it does not look like an outlier under this simple metric.**
- In fact **China looks significantly better if one includes public sector to private sector debt.** The idea behind using of total debt is that countries with low government debt can afford to use fiscal policy to offset private-sector deleveraging during a potential financial crisis. Indeed one of the lessons of the euro debt crisis is that countries with low starting levels of public debt (i.e. Ireland and Spain) fared better than those with higher starting levels of public debt.
- Figure 4 shows the total debt to GDP ratio across countries, where total debt includes general government as well as private non-financial sector debt. We use IMF data on gross general government debt, as published in the October 2013 World Economic Outlook. In the case of China, we augmented the IMF's gross general government debt figure by 6.5% of GDP to take into account the latest National Auditing Office survey on local government debt. Figure 4 shows that China's ranking falls below the median under the total debt to GDP metric.
- Admittedly debt to GDP metrics have the disadvantage though that they do not accurately measure leverage especially if leverage is confined to certain sectors of the economy. And in China's case, it is the corporate sector which has most debt. **More than 80% of private non-financial sectors debt in China is corporate debt raising questions about corporate leverage and overextension.**
- To more accurately assess leverage we look at flow and stock corporate leverage metrics for the non-financial companies behind MSCI World, MSCI EM and

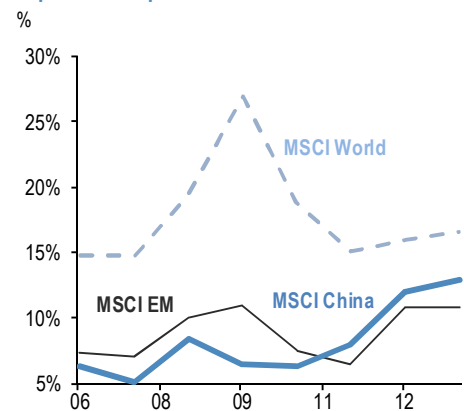
Figure 4: Total debt to GDP ratio across countries

% of GDP. Total debt includes general government debt as reported by the IMF as well as private non-financial sector debt as shown in Figure 3.



Source: IMF, BIS, Chinese National Bureau of Statistics, J.P. Morgan

Figure 5: Non-financial companies interest expense over profits

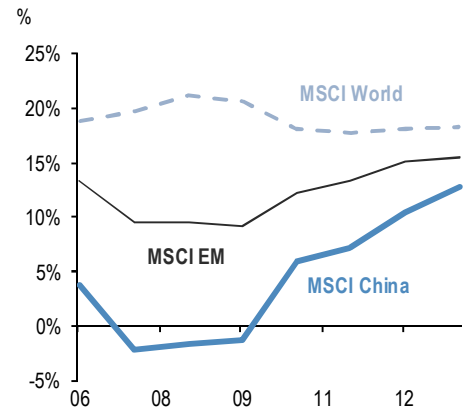


Source: Datastream, J.P. Morgan

MSCI China indices. Figure 5, Figure 6 and Figure 7 show that **Chinese companies appear generally less leveraged than either their EM or DM counterparts under both flow and stock measures of leverage**. It is true that MSCI China is a narrow universe of large Chinese companies and might not reflect the overall Chinese corporate leverage picture. An alternative and more comprehensive way of assessing leverage is to look at the debt to profit ratio from the monthly survey of Industrial Enterprises by the National Bureau of Statistics. The debt measure we get from this survey is gross and not directly comparable to the net debt data used in Figure 6 and Figure 7. But the picture we get in Figure 8 for the liabilities to profits ratio of Chinese Industrial Enterprises is of a modest increase in leverage over the past two years and of a declining trend over the past decade or so. In our mind, this makes it less likely that the “scary” rise in China’s private sector to GDP ratio shown in Figure 2 will abruptly reverse and translate to widespread corporate defaults.

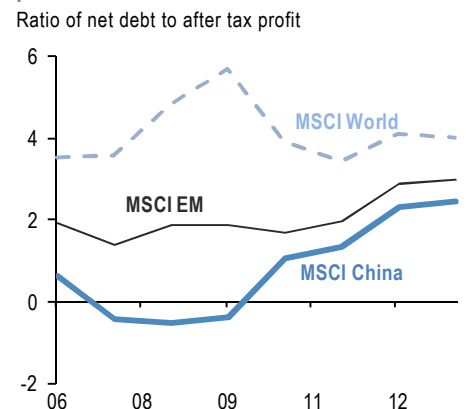
- But even if this assessment proves incorrect and a financial crisis eventually erupts in China and the private sector to GDP ratio falls abruptly, as it happened in several DM countries post Lehman, **the potential financial contagion to the rest of the world should be limited**. How contagious a country is from a financial point of view is largely a function of foreign ownership which in turn is a function of the openness of the financial system of a country.
- But **with China having been a rather closed financial system for a long time period, foreign ownership remains low even after the sharp rise of the past few years**. Using the data by the IMF’s Coordinated Portfolio Investment Survey, we look at the ratio of equity and debt portfolio liabilities as a proportion of the total stock of debt and equity across DM and EM economies (see Figure 9 and Figure 10). The amount of Chinese portfolio assets held by foreign investors (i.e. portfolio liabilities for China) amounted to \$644bn at the end of 2012, 80% of which is in the form of equities. Foreign ownership of Chinese equities as % of the outstanding stock of Chinese equities was 19% at the end of 2012, one of the lowest among DM and EM countries. The highest were in Netherlands, UK, Germany, France, Denmark and Hungary. In terms of foreign ownership of debt portfolio assets, the highest countries were Netherlands, Sweden, Germany, Hungary, Philippines, France and Indonesia. China was the lowest, at only 4%, and has been lower than this since 2001.
- **Low foreign ownership not only makes a potential Chinese financial crisis less contagious to the rest of world but also protects China from bouts of global risk aversion and foreign investor withdrawal** such as the one which many EM economies experienced over the past month. In fact if we look at Figure 10, the EM countries most vulnerable to foreign debt investors’ withdrawal appear to be Hungary, followed by Philippines, Indonesia, Poland, Turkey and Mexico. If we look at Figure 9, the EM countries most vulnerable to foreign equity investors’ withdrawal appear to be Hungary, followed by Taiwan, Korea, Brazil and Thailand.
- Very often financial crisis are transmitted via banks. Indeed **foreign ownership of bank assets** proved highly contagious during the Lehman or the euro debt crisis. Looking at BIS data for Q3 2013, the **foreign claims of banks globally on Chinese banks totaled \$660bn, which represents only 2.6% of all foreign claims**. As a comparison the equivalent foreign claims on US banks were \$5.5tr as of Q3 2013 which represents 22% of all foreign claims of banks globally. This shows how much more contagious the US financial system is for the rest of the world relative to that of China and explains why the US subprime crisis became such a global systemic event during 2008. The chances that a potential Chinese financial crisis in the future will become such a global systemic event seem low under this metric.

Figure 6: Non-financial companies net debt over assets



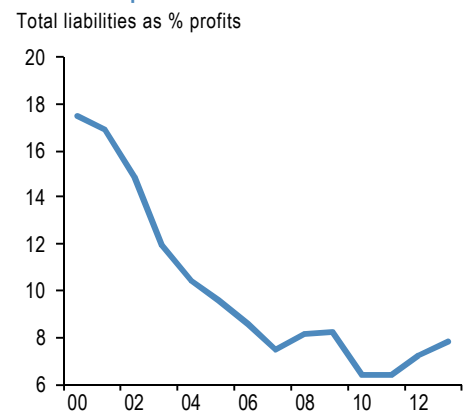
Source: Datastream, J.P. Morgan

Figure 7: Non-financial companies net debt over profits



Source: Datastream, J.P. Morgan

Figure 8: Chinese Industrial Enterprises: Total liabilities to profits



Source: Chinese National Bureau of Statistics, J.P. Morgan



- While the chances of global financial contagion appear limited, we do not dismiss the potential for contagion through economic, rather than financial, interlinkages. Indeed, David Hensley and colleagues used a VAR model to estimate the impact of a sharp slowdown of Chinese growth in the event a financial event materializes and Chinese policymakers fail to respond quickly to prevent a sharp economic slowdown. But these economic interlinkages are slower to materialize.

## EM ETFs outflows intensify. ETF flow momentum remains positive in US Tech and Healthcare.

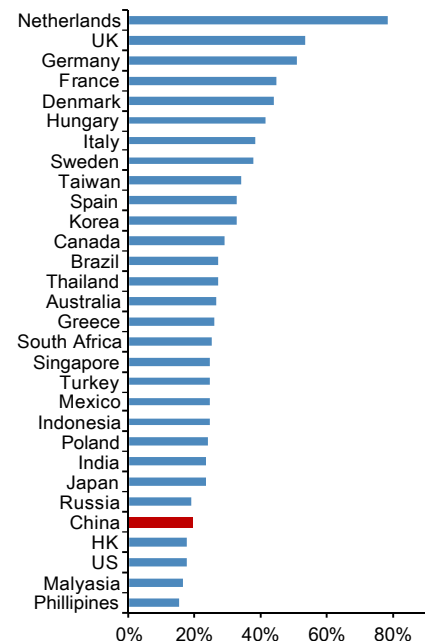
- Equity ETFs saw outflows of \$15.0bn (or 1% of AUM) for the week ending Jan 29 – this was the biggest weekly outflow since January 2008, when equity ETFs saw outflows north of \$20.0bn. This was mainly driven by EM and US equity ETFs. Instead, European and Japanese equity ETFs saw inflows during the week.
- Outflows from EM equities intensified this week. For the week ending Jan 29, EM equity ETFs alone saw an outflow of \$4.0bn (or 2.2% of AUM), making it \$9.3bn (or 5.2% of AUM) month-to-date for January. US equity ETFs presented a similar picture with an outflow of \$11.3bn this week, making it to \$12.8bn month-to-date. In contrast, European and Japanese equity ETFs continue to see inflows, \$2.73bn and \$1.57bn, respectively, both around 2% of AUM.
- Within bonds, EM bond ETFs saw outflows of \$0.5bn (or 2.9% of AUM), where Europe saw inflows of \$0.4bn (or 0.8% of AUM) for the week ending Jan 29. Within sectors, US HY and Money market ETFs saw outflows (2.2% and 2.8% of AUM, respectively).
- What about equity sectors? Chart A6 shows the cumulative flows in US equity ETFs across different sectors as a percentage of their AUM over 1-month, 3-months and the year. Technology and Healthcare continued to see strong flow momentum in January 2014. Industrials saw a reversal whilst Consumer Discretionary continued to experience outflows.
- Combining both ETFs and US mutual funds, **our high frequency Great Rotation proxy of Chart A1 fell to below zero for the first time since last March.**

## Euro area bank balance sheet shrinkage should slow this year

- The contraction in Euro area bank balance sheets accelerated in December to almost €900bn, bringing the total contraction since May 2012 to €4.4tr (Figure 10). **December's contraction was broad based.**
- Around half or €450bn of the total bank balance sheet shrinkage was driven by “remaining assets” and “remaining liabilities” which mostly include positions in financial derivatives as well as amounts receivable/payable in respect to future transactions/transit items/or items not related to MFI's main business and accrued interest on deposits and loans. The large shrinkage of remaining assets and liabilities, by €1.9tr or 36% since May 2012, most likely reflects a contraction of derivative books. While there is cyclicity in these figures, we believe the reduction in derivative books is the result of regulatory pressures.
- The second biggest component responsible for the euro area bank balance sheet reduction in December was in debt security holdings. Half of the reduction in debt securities in December was due to government bonds and the other half was split between bank bonds and corporate bonds. The sharp decline of government bond holdings in December to a large extent reflects window dressing ahead of the ECB's AQR/Stress Test, as the year end

Figure 9: Foreign ownership of equities

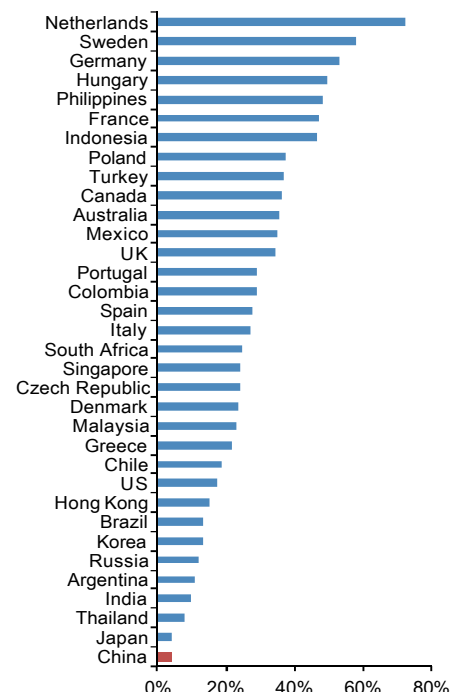
Equity portfolio liabilities as % of the total equity stock of each country. The total equity stock is based on Datastream equity indices.



Source: IMF CPIS, Datastream, J.P. Morgan

Figure 10: Foreign ownership of debt

Debt portfolio liabilities as % of the total debt stock of each country. The total debt stock is based on BIS data.



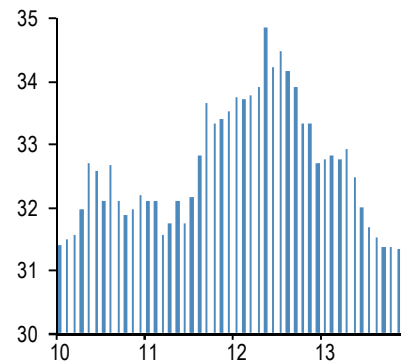
Source: IMF CPIS, BIS, J.P. Morgan

snapshot will form the basis of the Stress Test. The big picture since May 2012 is that the holdings of bank and corporate bonds have fallen sharply (by around €200bn each) but those of government bonds are up by €150bn. Regulations are again likely responsible for this divergence as higher capital charges for bank and corporate bonds contrast with a still zero risk weight for government bonds.

- The third biggest decline was in “external assets” and “external liabilities”. External assets and liabilities represent claims on or liabilities to non-residents of the euro area and may be denominated in euro or in foreign currency. This component has been in a secular decline since the Lehman crisis and has fallen by €1.4tr or 27% since then, as Euro area banks retrenched from international syndicate, loan and trade finance markets and cut funding to emerging markets.
- Interbank activity, excluding borrowing from or deposits with the ECB, has also shrunk, by around €700bn since May 2012 and by €100bn in December alone, also causing shrinkage in bank balance sheets. This, in conjunction with the reduction in holdings of bank bonds, highlights a trend towards lower intermediation: euro area banks are trading less with other banks as regulations make this interbank activity more expensive.
- The impact of balance sheet shrinkage on the real economy should be mostly felt via loans to households and non financial corporates. The stock of loans to the real economy, i.e. households and non financial corporations has also contracted in December but at a slower pace than overall balance sheets. Since May 2012 the stock of loans to the real economy has fallen by 5% or €525bn, a lot less than the 13% contraction in overall balance sheets. In addition, a big component of the €400bn decline in the stock of loans is due to writeoffs, bad-bank transfers, sales and securitizations, as well as a decline in loans to financial intermediaries such as pension funds and insurance companies. Adjusting for these effects the contraction of loans to the real economy has been more benign at €158bn since May 2012. In December alone, the contraction was around €5.5bn a lot less than the more than €10bn per month in the previous 3 months.
- What is the reason behind this shrinkage? There is little doubt in our mind that the December shrinkage was partly caused by window dressing ahead of the AQR/Stress Test. As mentioned above, the sharp decline of government bond holdings in December to a large extent reflects window dressing ahead of the ECB’s AQR/Stress Test, as well as year-end seasonality (see also Gianluca Salford’s section in today’s GFIMS). There is also little doubt that regulations have played a big role in driving the balance sheet shrinkage over the past two years. As we argued before, Basel III regulations, including that on “leverage ratios”, are having a bigger impact on Euro area banks than their US counterparts due to the bloated balance sheets of the former.
- **But there are two reasons to believe that the pace of euro area balance sheet shrinkage will slow significantly this year.** First, the December 2013 snapshot for the AQR/Stress Test is behind us. So there is no further need for window dressing and we expect some balance sheet items, such as government bond holdings, to reverse part of their December decline in January. Second the Basel Committee has recently relaxed the leverage ratio regulation with the revised rules cancelling most of the rise in the denominator of the leverage ratio that the June consultation was threatening to inflict (see F&L Jan 17<sup>th</sup>). In a nutshell the regulatory pressure to shrink derivative and repo books has become less intense.

**Figure 11: Aggregated Euro area bank balance sheet**

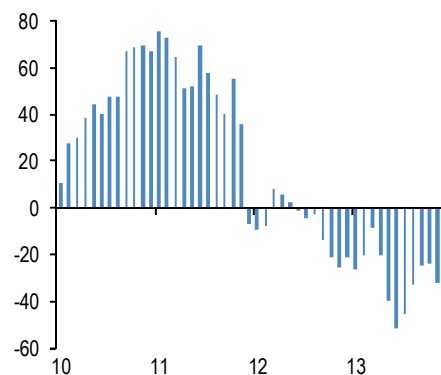
€tr, last obs is for Dec 2013



Source: ECB

**Figure 12: Flow of bank credit to Euro area households and non-financial corporates**

3-month rolling sum of bank loan flow in €bn. Bank loans adjusted for sales and securitizations. Last obs is for Dec.



Source: ECB

## Table A1: Weekly flow monitor

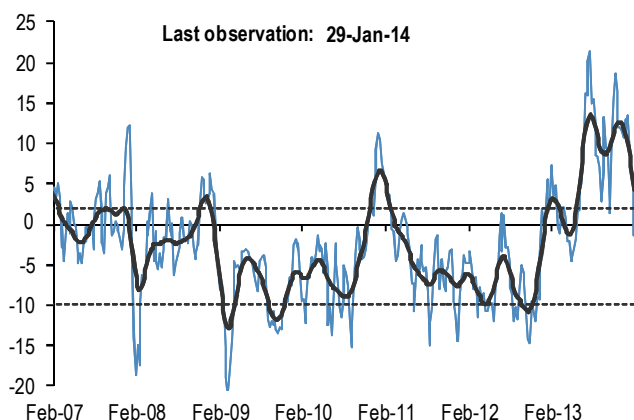
\$bn, Includes US domiciled Mutual Fund flows from ICI with a one week lag and globally domiciled ETF flows from Bloomberg. Current week data only includes ETF flows.

MF & ETF Flows	29-Jan	4 wk avg	13 wk avg	2013 avg
All Equity	-14.99	-0.3	4.9	5.7
All Bond	-0.62	0.9	-3.1	-1.1
US Equity	-11.33	-1.5	0.8	2.3
Intl. Equity	-3.66	2.0	3.7	3.5
Taxable Bonds	-0.62	0.9	-2.0	-0.1
Municipal Bonds	0.00	0.0	-1.1	-1.0

Source: Bloomberg, ICI, J.P. Morgan

## Chart A1: Fund flow indicator

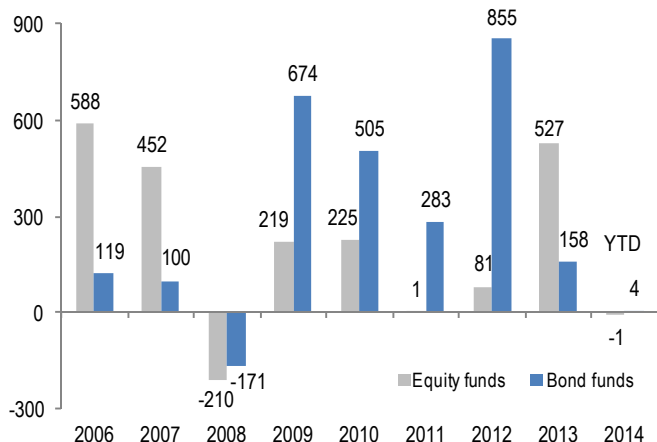
**Difference between flows into Equity and Bond funds:** \$bn per week. Flow includes US domiciled Mutual Fund and globally domiciled ETF flows. Current week data only includes ETF flows. The thin blue line shows the 4-week average of this difference. The thick black line shows a smoothed version of the same series. The smoothing is done using a Hodrick-Prescott filter with a Lambda parameter of 100.



Source: Bloomberg, ICI, J.P. Morgan

## Chart A2: Global equity & bond fund flows

\$bn per year. Flows include global MF and ETF flows. MF flows are from ICI (global flows up to Q3'13 is from ICI and data since then up to now is combination of EFAMA and ICI). Full year 2013 flows are estimated. ETF flows are from Bloomberg.



Source: Bloomberg, ICI, EFAMA, J.P. Morgan

## Table A2: Weekly corporate flows

\$bn, Gross bond issuance includes all corporates incl. financials. United States issuance is all issuance globally by US companies and W. European issuance is all issuance globally by W. European companies. M&A is announced deal value and Buybacks are announced transactions. Y/Y change is change in 13 week average over the same period last year. Equity supply is based on announced deals, not completed.

Equity Supply	31-Jan	4 wk avg	13 wk avg	y/y chng
Global IPOs	2.66	4.3	2.9	104%
Secondary Offerings	2.73	5.6	5.3	74%
<b>Gross corporate bond issuance</b>				
United States	10.9	20.6	24.3	-23%
Western Europe (€bn)	13.6	28.1	19.9	-2%
Japan	0.0	2.1	2.0	-27%
EM	4.9	13.1	13.4	-39%
<b>Corporate announcements</b>				
M&A - Global	20.0	38.7	42.2	-14%
- US Target	9.3	24.8	19.4	18%
- Non-US Target	10.7	13.9	22.8	-30%
US buybacks	20.77	7.0	7.7	42%
Non-US buybacks	0.13	0.1	1.3	20%

Source: Bloomberg, Dealogic, Thomson Reuters, J.P. Morgan

## Table A3: Monthly trading volume monitor

3 month avg. USTs are primary dealer transactions in all US government securities. JGBs are OTC volumes in all Japanese government securities. Bunds, Gold, Oil and Copper are futures. Gold includes Gold ETF's. Min-Max chart is based on Y/Y changes. The diamond is the current observation. The thin blue line marks the distance between the min and max for the complete time series. Y/Y change is change over the same 3m average period last year.

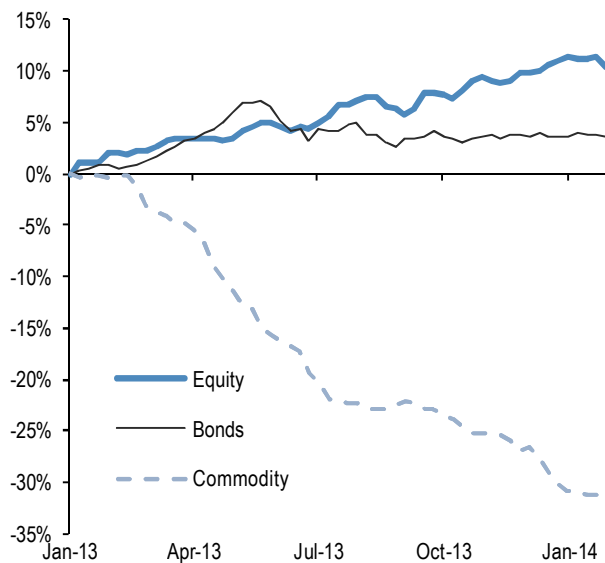
Equities	MIN	MAX	Dec-2013 (tr)	y/y chng
EM Equity			\$1.14	9%
DM Equity			\$3.19	23%
<b>Govt Bonds</b>				
USTs			\$2.22	9%
JGBs			¥747	30%
Bunds			€1.36	-23%
<b>Credit</b>				
US HG			\$0.21	18%
US HY			\$0.10	10%
US Convertibles			\$0.01	-7%
<b>Commodities</b>				
Gold			\$0.36	-24%
Oil			\$1.45	-32%
Copper			\$0.49	16%

Source: Bloomberg, Federal Reserve, TRACE, Japan Securities Dealer Association, WFE, J.P. Morgan. \* Data with one month lag

## ETF Flow Monitor (data as of Jan 29)

**Chart A3: Global Cross Asset ETF Flows**

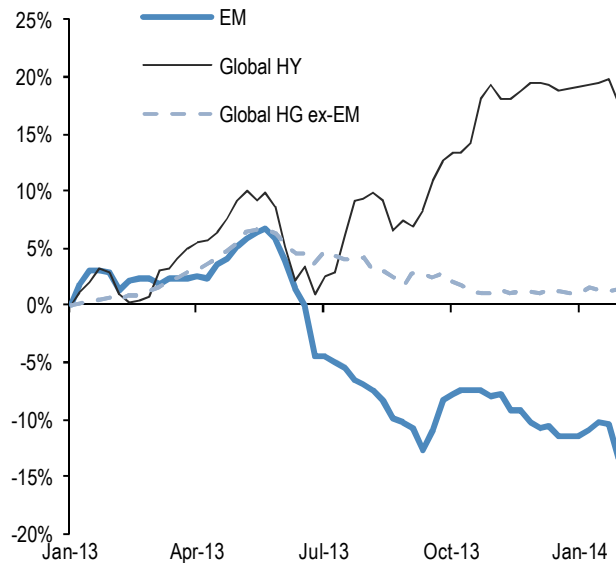
Cumulative flow into ETFs as a % of AUM.



Source: J.P. Morgan. Bloomberg

**Chart A4: Bond ETF Flows**

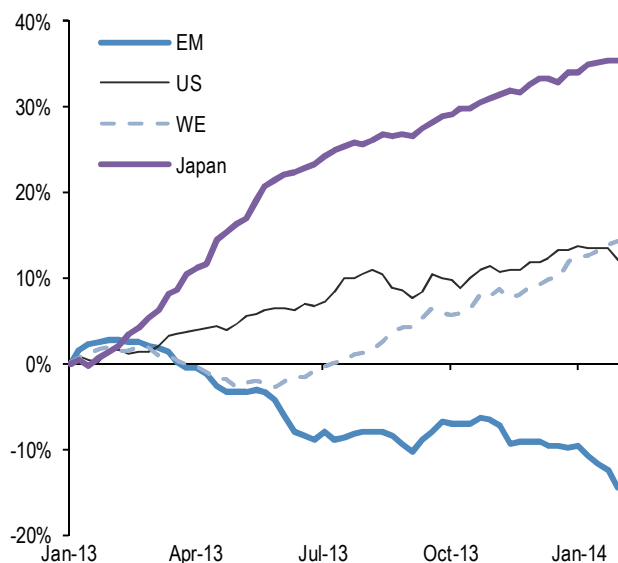
Cumulative flow into bond ETFs as a % of AUM.



Source: J.P. Morgan. Bloomberg

**Chart A5: Global Equity ETF Flows**

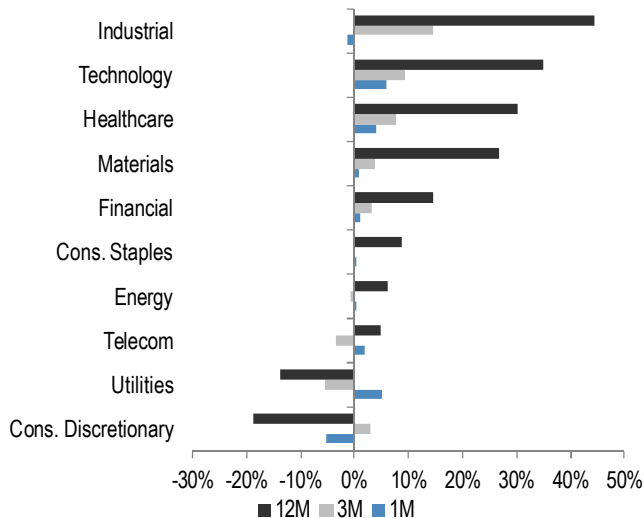
Cumulative flow into global equity ETFs as a % of AUM.



Source: J.P. Morgan. Bloomberg

**Chart A6: US Equity Sectoral ETF Flows**

Cumulative flow into US equity sectoral ETFs as a % of AUM.

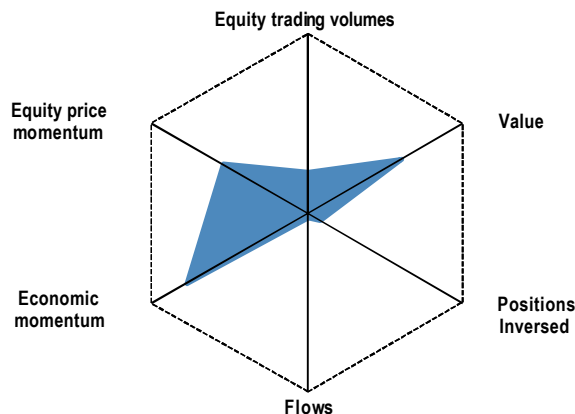


Source: J.P. Morgan. Bloomberg



## Chart A7: Market health map

Each of the six axes corresponds to a key indicator for markets. The position of the blue line on each axis shows how far the current observation is from the extremes at either end of the scale. The dotted line shows the same but at the beginning of 2012 for comparison. For example, a reading at the centre for value would mean that risky assets are the most expensive they have ever been while a reading at the other end of the axis would mean they are the cheapest they have ever been. See explanation on the right for each indicator. Overall, the larger the blue area within the hexagon, the better for risky markets.



### Explanation of indicators:

All variables are expressed as the percentile of the distribution that the observation falls into. I.e. a reading in the middle of the axis means that the observation falls exactly at the median of all historical observations.

**Equity trading volumes:** The Y/Y change in the average daily trading volume of stocks on the NYSE.

**Value:** The slope of the risk-return tradeoff line calculated across USTs, US HG and HY corporate bonds and US equities (see GMOS p. 6, Loeys et al, Jul 6 2011 for more details).

### Conti... Explanation of indicators:

**Positions:** Difference between net spec positions on US equities and rates. See Chart A14.

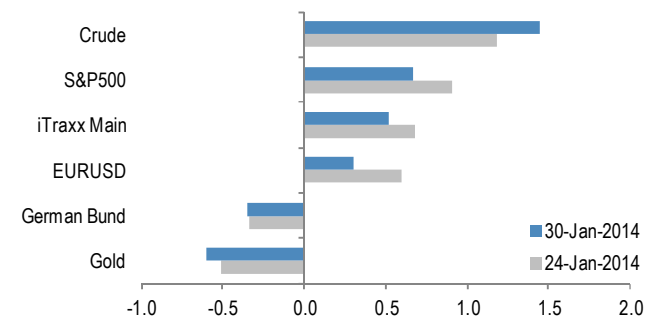
**Flow momentum:** The difference between flows into equity funds (incl. ETFs) and flows into bond funds. Chart A1. We then smooth this using a Hodrick-Prescott filter with a lambda parameter of 100. We then take the weekly change in this smoothed series as shown in Chart A1

**Economic momentum:** The 2-month change in the global manufacturing PMI. (See REVISITING: Using the Global PMI as trading signal, Nikolaos Panigirtzoglou, Jan 2012).

**Equity price momentum:** The 6-month change in the S&P500 equity index.

## Chart A8: Option skew monitor

Skew is the difference between the implied volatility of out-of-the-money (OTM) call options and put options. A positive skew implies more demand for calls than puts and a negative skew, higher demand for puts than calls. It can therefore be seen as an indicator of risk perception in that a highly negative skew in equities is indicative of a bearish view. The chart shows z-score of the skew, i.e. the skew minus a rolling 2-year avg skew divided by a rolling two-year standard deviation of the skew. A positive skew on iTraxx Main means investors favor buying protection, i.e. a short risk position. A positive skew for the Bund reflects a long duration view, also a short risk position.

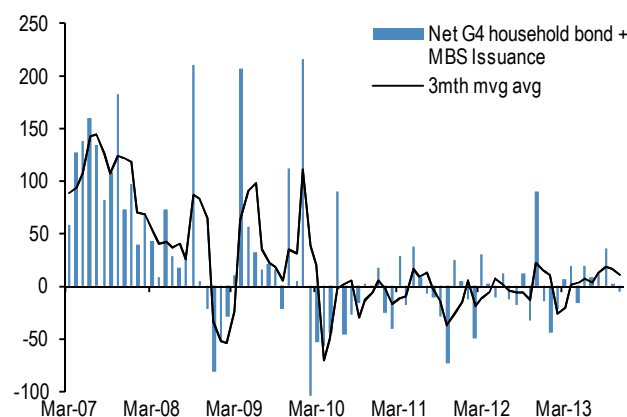


Source: Bloomberg, J.P. Morgan

## Credit growth

### Chart A9: G4 bank lending to households

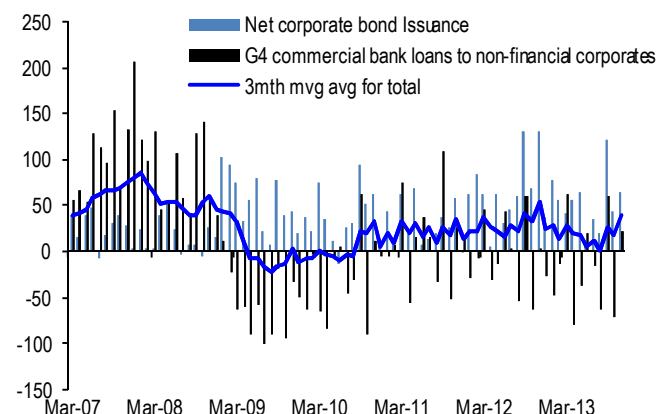
In \$bn, Quarterly changes in outstanding commercial bank loans to households, adjusted for changes in exchange rates and MBS net issuance. As of Nov. 2013.



Source: ECB, BoJ, BoE, Federal Reserve, Bloomberg and J.P. Morgan

### Chart A10: G4 non-financial corporate debt issuance

In \$bn, Bank lending to and net issuance of secured, unsecured and securitized bonds by US, Japanese and European non-financial corporates. Bank lending is adjusted for changes in exchange rates, net bond issuance is currency unadjusted. As of Nov. 2013.

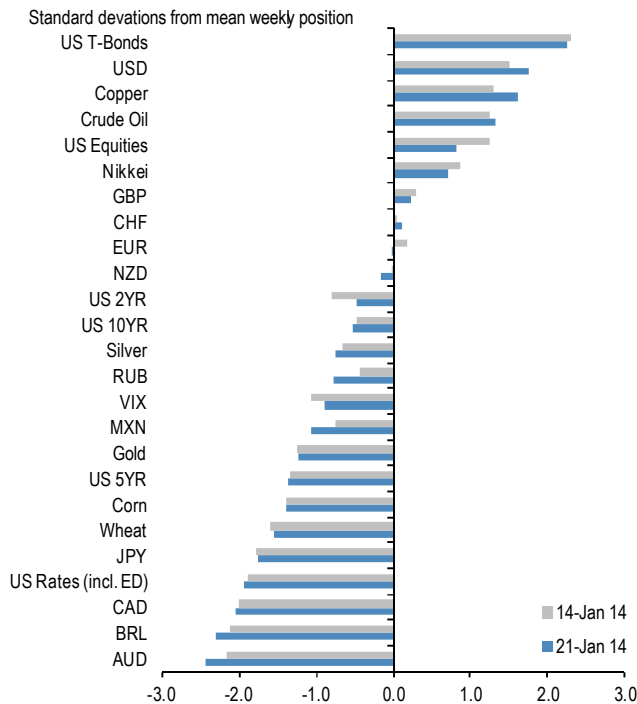


Source: ECB, BoJ, BoE, Federal Reserve, Bloomberg, Dealogic, J.P. Morgan

## Spec position monitors

### Chart A11: Weekly Spec Position Monitor

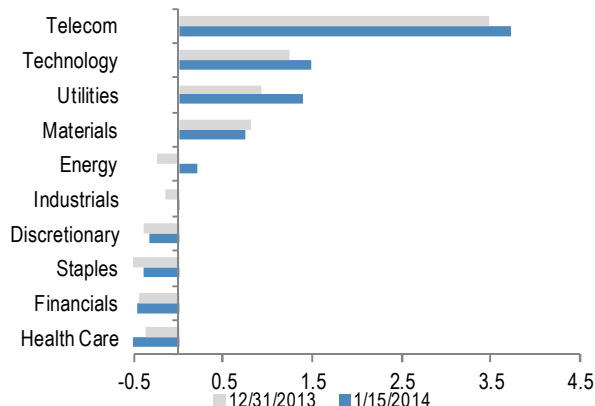
Net spec positions are the number of long contracts minus the number of short using CFTC futures only data. This net position is then converted to a USD amount by multiplying by the contract size and then the corresponding futures price. To proxy for speculative investors, commodity positions use the managed money category, while the other assets use the non-commercial category. The chart shows the z-score of these net positions, i.e. the current net position minus the average over the whole sample divided by the standard deviation of the weekly positions over the whole sample. US rates is a duration-weighted composite of the individual UST series plus the Eurodollar contract. The sample starts on the 13th of June 2006.



Source: Bloomberg, CFTC, J.P. Morgan

### Chart A13: S&P500 sector short interest

Short interest as a % of shares outstanding based on z-scores. A strategy which overweights the S&P500 sectors with the highest short interest z-score (as % of shares o/s) vs. those with the lowest, produced an information ratio of 0.7 with a success rate of 56% (see *F&L*, Jun 28, 2013 for more details)

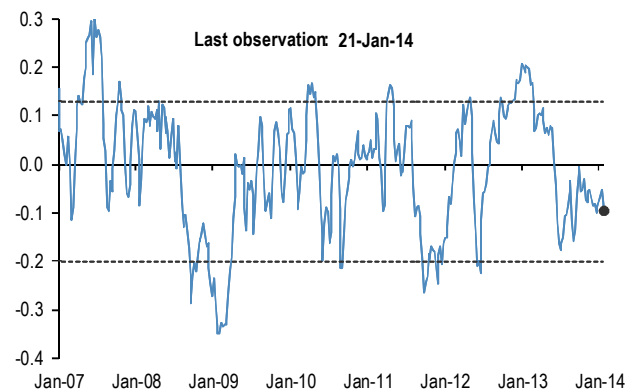


Source: NYSE, J.P. Morgan

### Chart A12: Spec position indicator on Risky vs. Safe assets

#### Difference between net spec positions on risky & safe haven assets

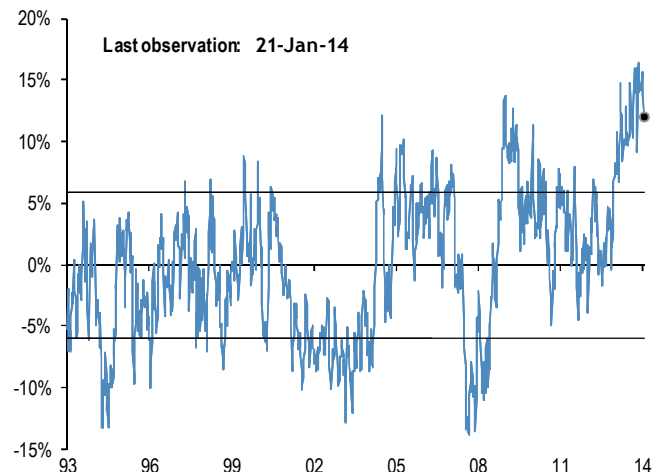
Net spec position is calculated in USD across 7 "risky" and 7 "safe" assets. These positions are then scaled by open interest and we take an average of "risky" and "safe" assets to create two series. The chart is then simply the difference between the "risky" and "safe" series. The final series shown in the chart below is demeaned using data since 2006. The risky assets are: Copper, AUD, NZD, CAD, RUB, MXN and equities (an aggregate of the S&P500, Dow Jones, NASDAQ & Nikkei). The safe assets are: Gold, VIX, JPY, CHF, Silver, an aggregate of the UST and Eurodollar futures & an aggregate USD index. The USD series is the inverse of the sum of positions in EUR, JPY, GBP, CHF, AUD, NZD, CAD, RUB and MXN futures. The UST series is a duration weighted aggregate of the Eurodollar, UST2YR, UST5YR, UST10YR, UST long bond & the UST Ultra long bond futures.



Source: CFTC, J.P. Morgan

### Chart A14: Spec position indicator on US equities vs. rates

Similar to Chart A12, this indicator is derived by the difference between total CFTC spec positions in US equity futures also (in \$bn) scaled by open interest (also in \$bn) minus a duration weighted composite of UST futures and scaled by open interest.

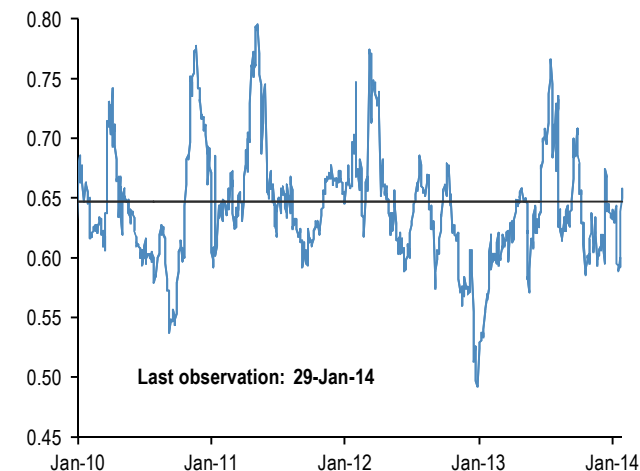


Source: CFTC, Bloomberg and J.P. Morgan

## Mutual fund and hedge fund betas

### Chart A15: Balanced fund equity exposure

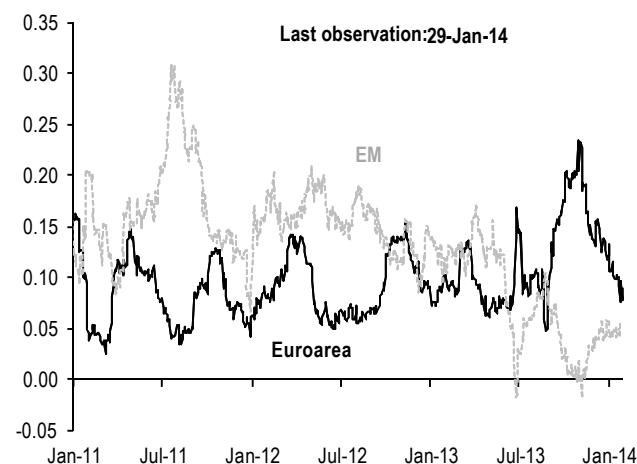
Rolling 21-day beta of balanced MF returns to returns on the S&P500. Balanced funds are top 20 US based funds by assets that have existed since 2006. It excludes tracker funds and funds with a low tracking error. The thin black line is the average during expansion since 2006.



Source: Bloomberg J.P. Morgan

### Chart A16: Equity mutual fund beta to Euro vs. US and EM vs. US equities relative performance

41-business-day rolling beta of the average daily returns of 20 biggest US-domiciled active equity funds against the daily relative return of Euro area vs. US equities and emerging markets vs. US equities. The betas are based on multiple regressions of the relative performance of the Eurostoxx50 vs. the S&P500, MSCI EM vs. the S&P500 and the S&P500 outright performance.

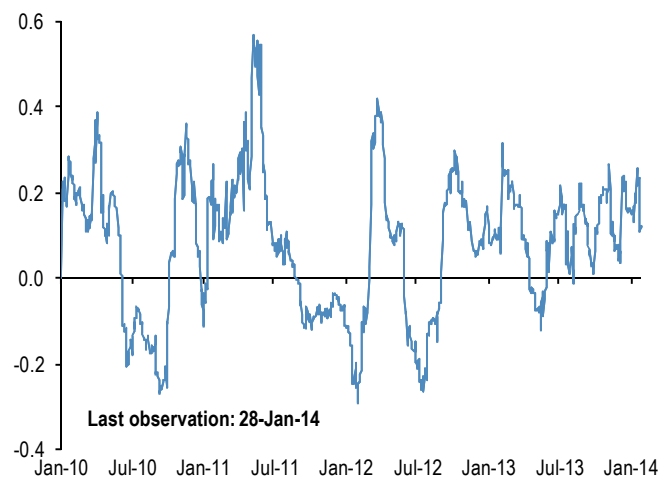


Source: Bloomberg J.P. Morgan

### Chart A17: Macro hedge fund monitor

#### Macro hedge fund equity exposure

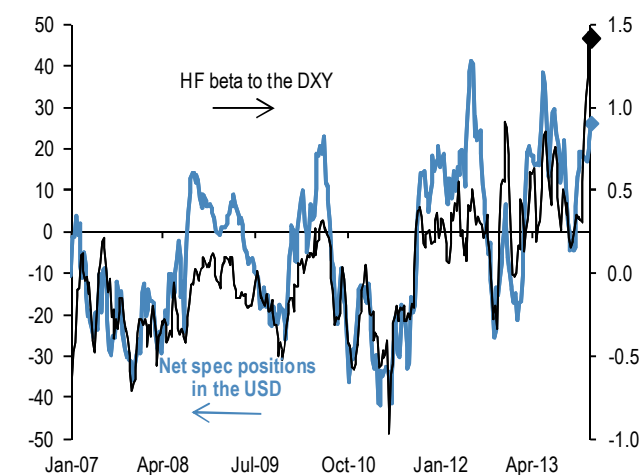
Rolling 21-day beta of macro fund returns to returns on the S&P500. The beta represents the average exposure of macro hedge funds to equities over the previous 21-days.



Source: Datastream, Bloomberg, J.P. Morgan

### Chart A18: Currency hedge fund USD exposure

The rolling 21-day beta of the Barclay Hedge FX index with the DXY vs. the net spec position in the USD as reported by the CFTC. Spec is the non-commercial category from the CFTC. Last observation is Jan 21, 2014.

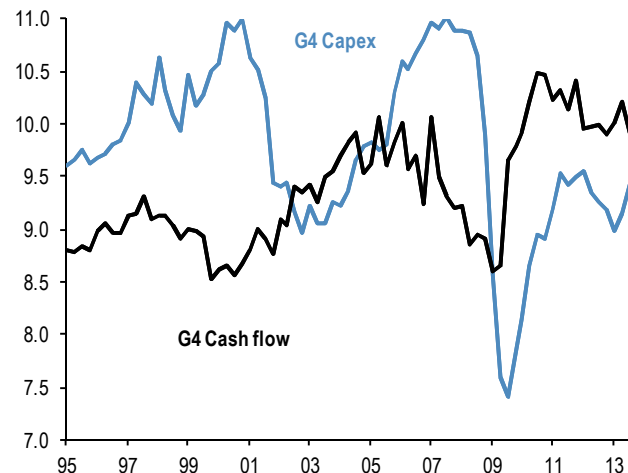


Source: CFTC, Datastream, Barclay Group, Bloomberg, J.P. Morgan

## Corporate activity

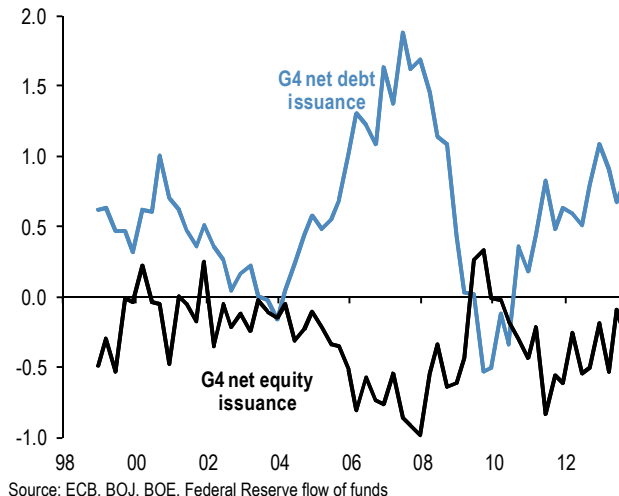
**Chart A19: G4 non-financial corporate capex and cash flow as % of GDP**

% of GDP, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2013.



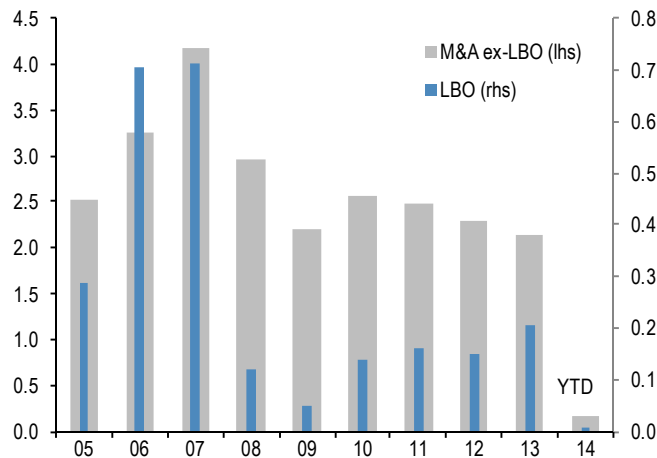
**Chart A20: G4 non-financial corporate sector net debt and equity issuance**

\$tr per quarter, G4 includes the US, the UK, the Euro area and Japan. Last observation as of Q3 2013.



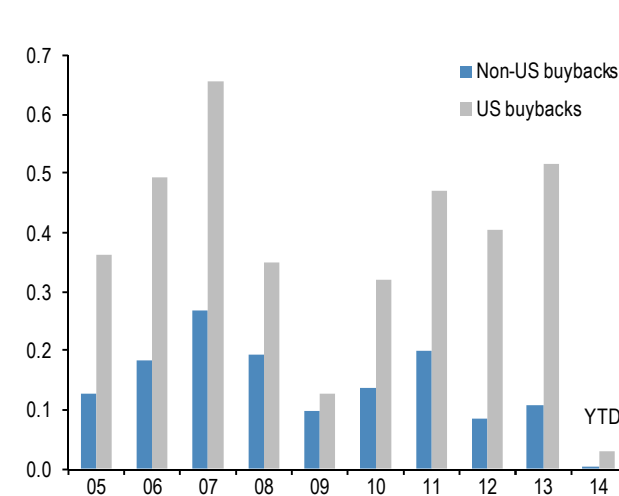
**Chart A21: Global M&A and LBO**

\$tr. YTD 2013 as of Jan 31, 2014. M&A and LBO's are announced.



**Chart A22: US and non-US share buybacks**

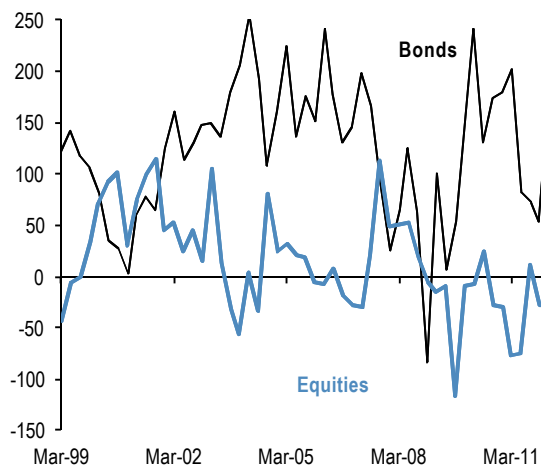
\$tr, YTD 2013 as of Jan 31, 2014. Buybacks are announced.



## Pension fund and insurance company flows

**Chart A23: G4 pension funds and insurance companies equity and bond flows**

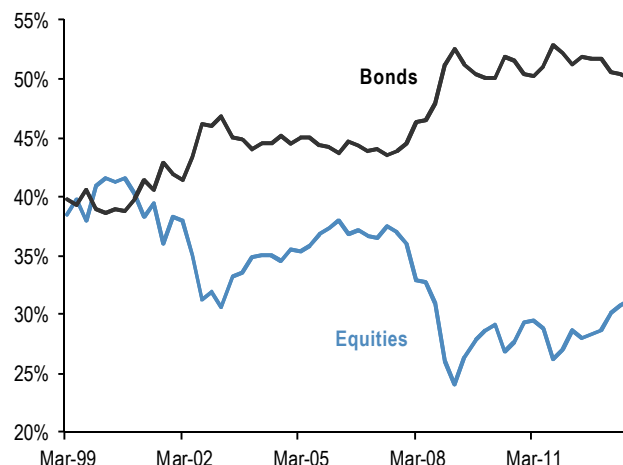
Equity and bond buying in \$bn per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2013



Source: ECB, BOJ, BOE, Federal Reserve flow of funds

**Chart A24: G4 pension funds and insurance companies equity and bond levels**

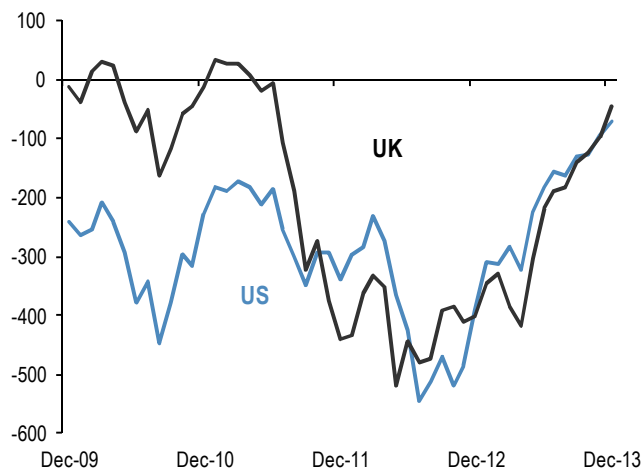
Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2013.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds

**Chart A25: Pension fund deficits**

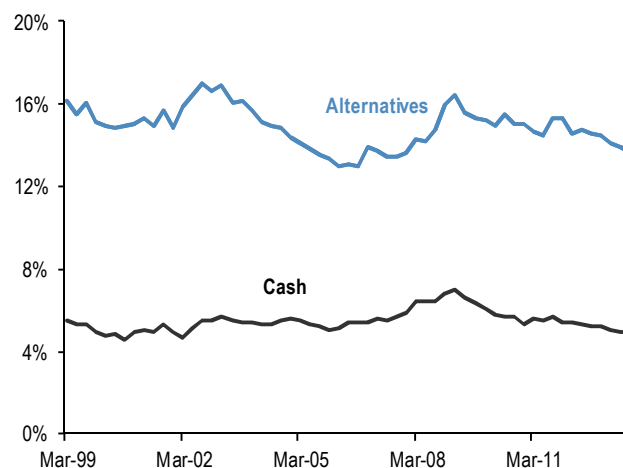
US\$bn. For US, funded status of the 100 largest corporate defined benefit pension plans, from Milliman. For UK, funded status of the defined benefit schemes eligible for entry to the Pension Protection Fund, converted to US\$ at current exchange rates. Last observation is Dec 2013.



Source: Milliman, UK Pension Protection Fund, J.P. Morgan

**Chart A26: G4 pension funds and insurance companies cash and alternatives levels**

Equity and bond as % of total assets per quarter. G4 includes the US, the UK, Euro area and Japan. Last observation is Q3 2013.



Source: ECB, BOJ, BOE, Federal Reserve flow of funds

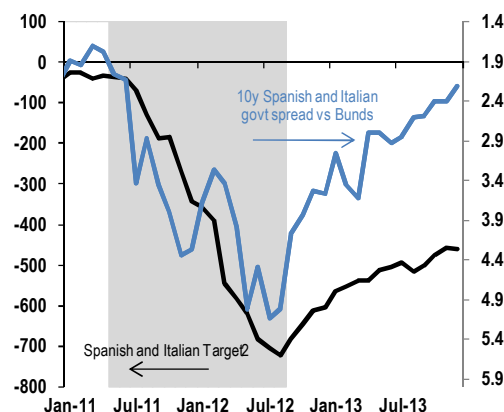


## European Funding market monitor

**Table A4: Bank deposits and ECB reliance**

Deposits are non-seasonally adjusted Euro area non-bank, non-government deposits as of Nov 2013. We take total deposits (item 2.2.3. in MFI balance sheets minus "deposits from other financial institutions", which includes deposits from securitized vehicles and financial holding corporations among others. We also subtract repos (item 2.2.3.4) from the total figures to give a cleaner picture of deposits outside interbank borrowing. ECB borrowing and Target 2 balances are latest available. ECB borrowing is gross borrowing from regular MROs and LTROs. The Chart shows the evolution of Target 2 balance for Spain and Italy along with government bond spreads. The shaded area denotes the period between May 2011 and Aug 2012 when convertibility risk premia were elevated due to Greece exit fears.

€bn	Target 2 bal.	Target 6m chng	ECB borrowing	Depo 3m chng	Depo 12m chng
Austria	-40	1	8	-0.2%	1.7%
Belgium	-15	-3	16	1.2%	4.8%
Cyprus	-8	0	2	-3.5%	-27.3%
Finland	26	3	2	-0.2%	0.5%
France	-68	3	72	0.1%	5.3%
Germany	510	-65	9	1.0%	1.1%
Greece	-51	8	61	-1.3%	4.0%
Ireland	-72	4	40	-0.1%	0.1%
Italy	-229	-6	236	0.7%	4.9%
Luxembourg	104	0	6	-2.7%	-6.6%
Netherlands	46	-28	11	0.1%	0.0%
Portugal	-60	3	48	0.7%	0.3%
Spain	-230	53	222	0.9%	6.7%

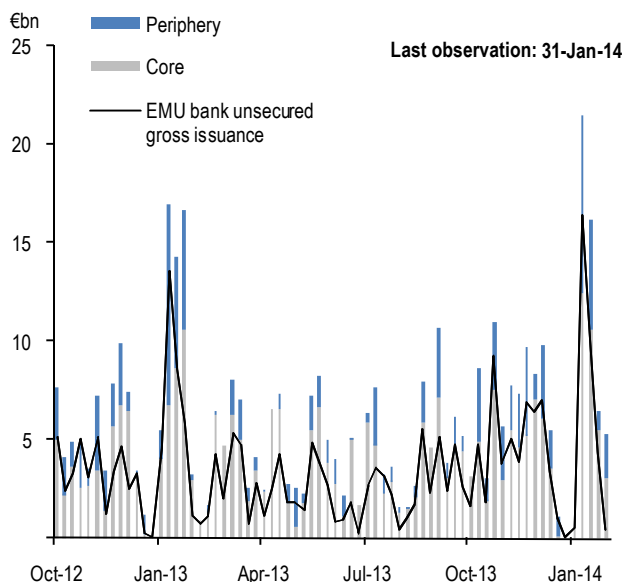


Source: Bloomberg, ECB, National Central Banks, J.P. Morgan

Source: Bloomberg, National Central Banks, J.P. Morgan

**Chart A27: Euro area gross bank debt issuance**

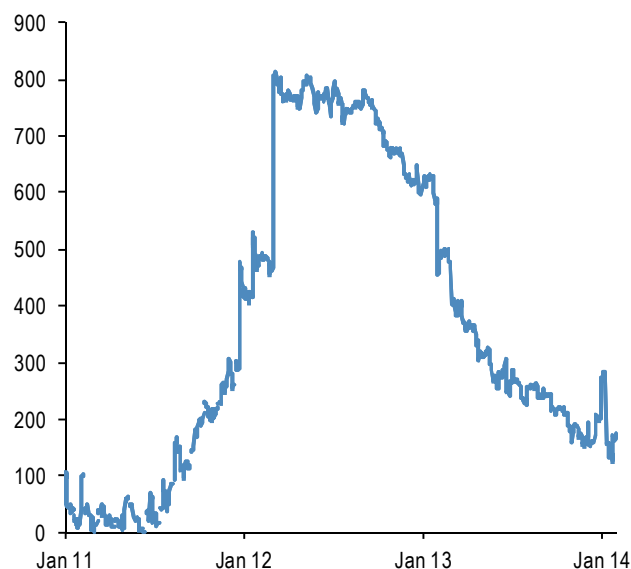
Includes secured, unsecured and securitized issuance in any currency. Excludes short-term debt (maturity less than 1-year) and self funded issuance (where the issuing bank is the only book runner).



Source: Dealogic, J.P. Morgan

**Chart A28: Excess cash in the Euro area banking system**

€bn, Measured as the difference between the amount in the ECB deposit facility minus that in the lending facility, plus the difference between the current account reserves that banks hold with the ECB minus required reserves. Last observation is Jan 29, 2014.

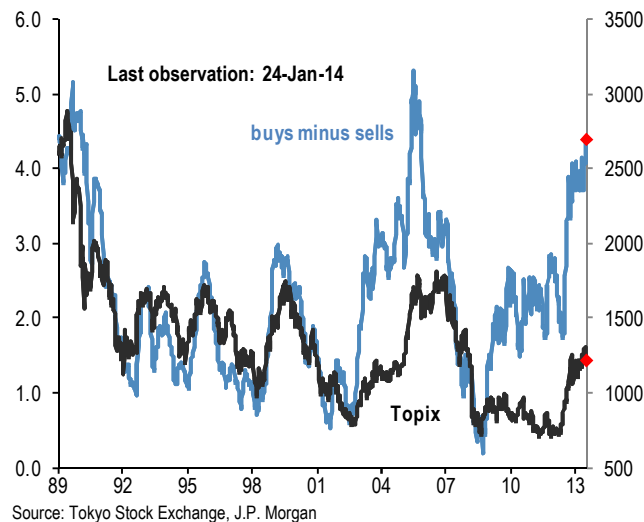


Source: ECB, J.P. Morgan

## Japanese flows and positions

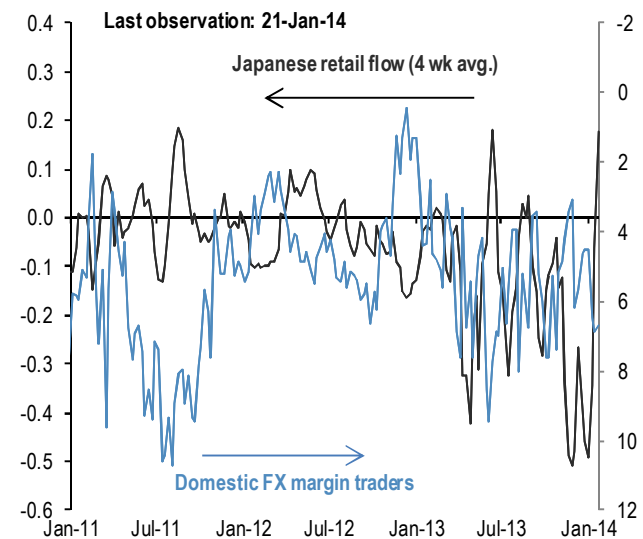
**Chart A29: Tokyo Stock Exchange Margin trading: total buys minus total sells**

in bn of shares. Topix on right axis.



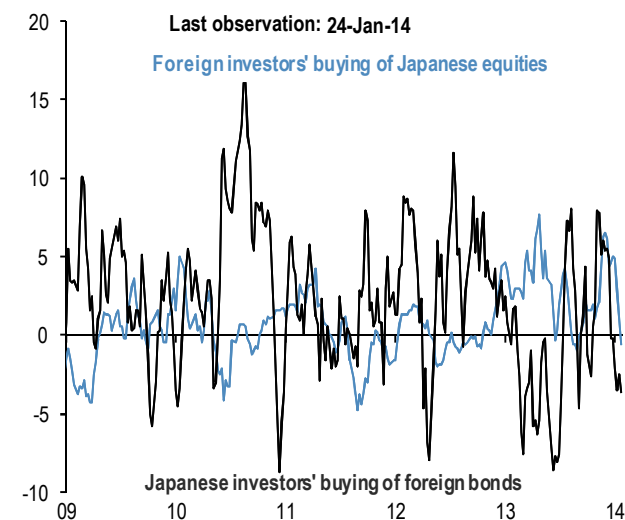
**Chart A30: Domestic retail flows**

In JPY tr. Retail flows are from Tokyo stock exchange and FX margin trader positions are JPM calculation. FX margin trader positions are in reverse order. A higher number means a larger short and vice versa.



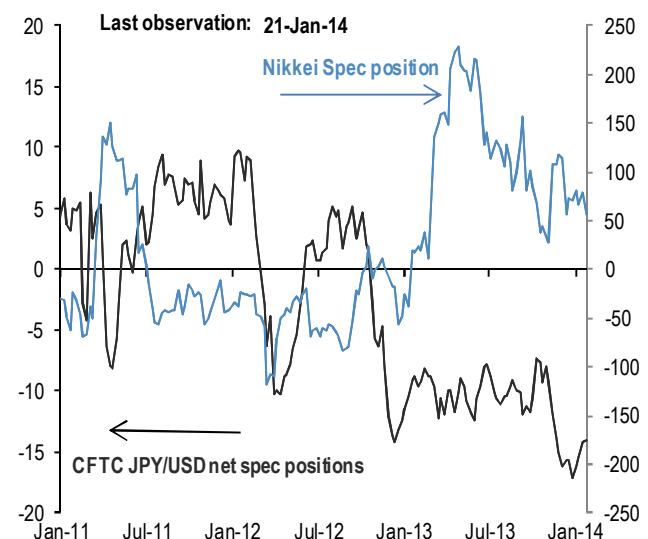
**Chart A31: Japanese equity buying by foreign investors. Japanese investors' buying of foreign bonds**

\$bn, 4 week moving average.



**Chart A32: Overseas CFTC spec positions**

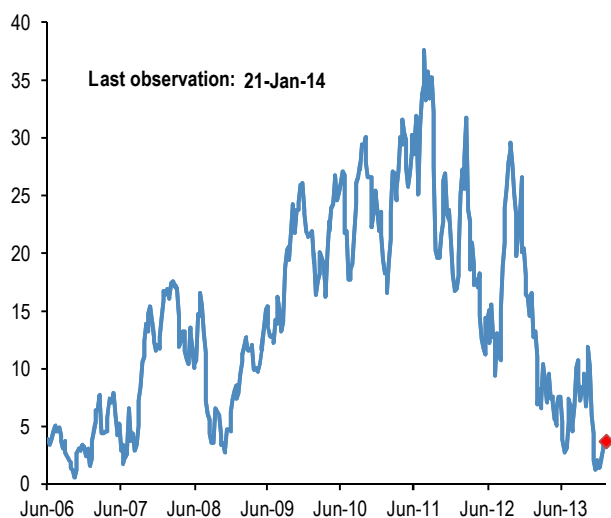
CFTC positions are in \$bn.



## Gold flows and positions

### Chart A33: Spec positions

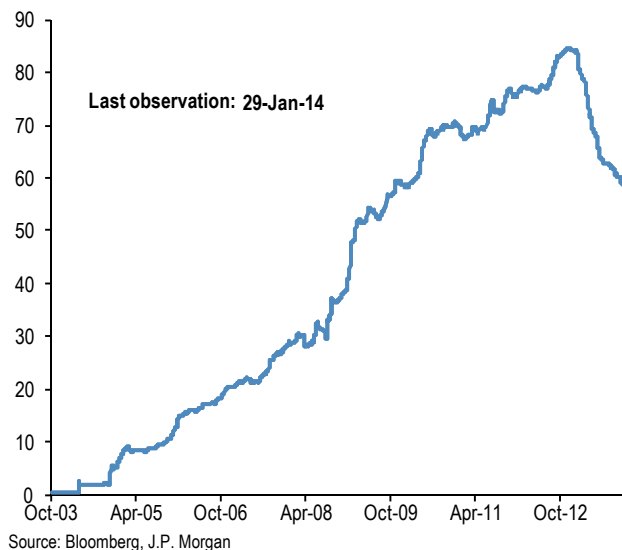
\$bn. CFTC net long minus short position in futures for the Managed Money Category.



Source: CFTC, Bloomberg, J.P. Morgan

### Chart A34: Gold ETFs

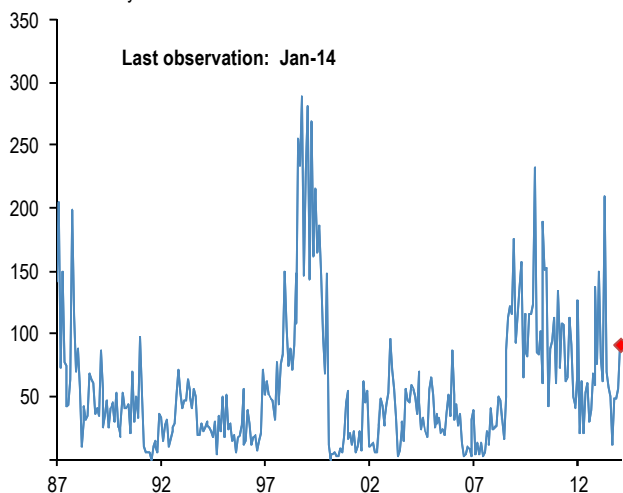
Mn troy oz. Physical gold held by all gold ETFs globally.



Source: Bloomberg, J.P. Morgan

### Chart A35: Gold coin sales

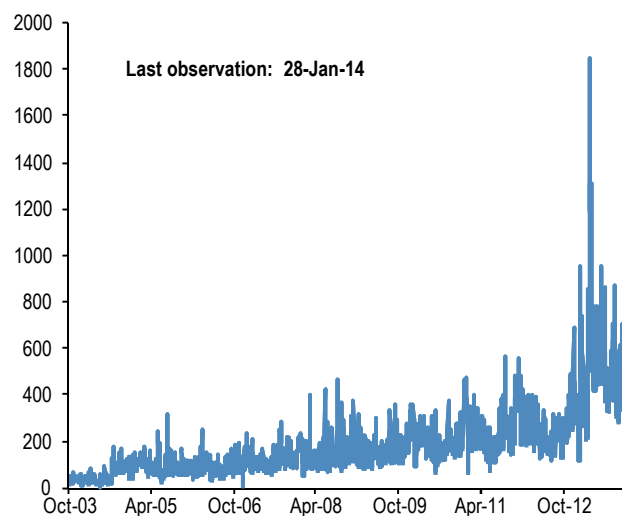
Thousand troy ounces



Source: US Mint, Bloomberg, J.P. Morgan

### Chart A36: Shanghai exchange gold volumes

Thousand troy ounces.



Source: Shanghai Gold Exchange, Bloomberg, J.P. Morgan.

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## Disclosures

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Global Asset Allocation  
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