3 China's economy in the limelight: size, financial interconnections and potential contagion channels abroad

All eyes have been centred on the swelling and bursting of China's stock market bubble, given its potential impact on the domestic economic cycle, as well as global financial stability and economic growth. **There are basically three channels for contagion abroad, and all of them are significantly or increasingly far-reaching.** The first of these is deterioration **in local private-sector confidence**, which causes the private sector to hold back on its investment decisions and **amplifies the slowdown in activity, thereby spreading to the rest of the world via trade and foreign investment**. The second is a **widespread tightening of financing conditions among the emerging markets**, which is exacerbated by the effect of lower Chinese demand on commodity prices and the imminent Fed rate hike. The third, though not the least significant, relates to how **the Chinese economy is financially interconnected elsewhere,** both by virtue of its status as a net creditor of the rest of the world and its positions in terms of purely financial capital flows[4].

It may be concluded from inspection of China's relative critical mass within global economic and financial channels that the **biggest risk to world economic growth lies in any sharp contraction of its activity levels, which moreover could translate into increased risk aversion in the EM** and affect those economies which have the most trade exposure, the greatest dependence on the commodity cycle and/or the largest external imbalances. **A scaling down of decisions by China to invest in the rest of the world could also deteriorate global financing conditions, given that China is the world's largest net creditor and the biggest foreign holder of US sovereign bonds**.

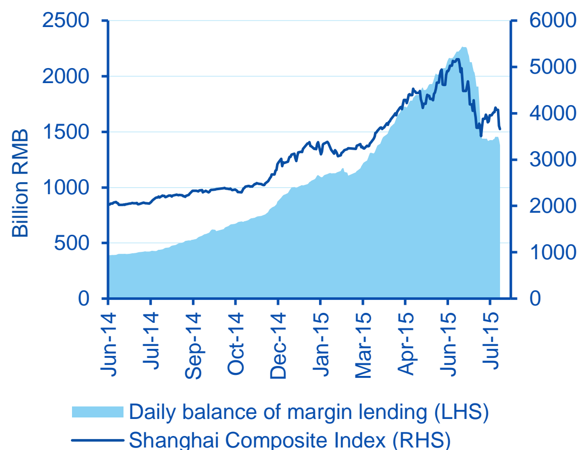
As for financial exposure to China, this is basically within the banking sector, which has played a key role in increasing the country's external debt in the last decade. Thus, **and taking into account financial centrality metrics developed by BBVA Research, if the shock were to affect the local banking sector, the financial channel could take on global significance**: the interconnectedness of China's banking sector with the world financial system comfortably outstrips the average for the EMs and is even above the average for developed markets, although considerably far behind countries such as the US.

Factors behind the Chinese stock market correction

Every market crash starts from its preceding run-up. China's case is no exception. Prior to the sell-off of mid-June, China's Shanghai Composite shot up from 2,181 points to 5,166 points in less than one year. For many small stocks, their magnitude of price increase outperformed the stock index substantially.

4: China's capital account is not completely closed, although there are still many restrictions in place. Through some programmes (QFII and RQFII), foreign investors can invest in China's domestic bond and stock markets. In the meantime, domestic investors can invest abroad through the QDII programme. The Shanghai-Hong Kong stock exchanges link programme, which was implemented last year, provided another channel for two-way cross-border investment between Hong Kong and China. Moreover, after several years of efforts, China has successfully established an offshore RMB market in Hong Kong and other financial centres. The offshore RMB deposit amounts to above RMB1trn (or USD160bn). There are other offshore RMB markets such as Dim Sum bond market and the RMB derivatives market.

Figure 3.1
Margin lending fuelled China's stock market boom



Source: BBVA Research

Table 3.1
Measures to stabilise the Chinese stock exchange

	Regulator	Date	Measure
1	PBoC	June 24	PBoC scraps loan to deposit ratio cap
2	PBoC	June 27	Rate cut by 25bp with a targeted RRR cut of 50bp
3	CSRC	July 5	IPOs suspended
4	PBoC	July 5	Establishment of USD19bn Financial Stabilization Fund by 21 brokers
5	PBoC	July 5	Liquidity support for China Securities Finance Corporate for the latter to buy shares in the market directly
6	CSRC	July 7	QFII told not to take new positions in future markets
7	CFFEX	July 8	Raise margin requirements for sell orders on CSI 500 index futures

Source: BBVA Research

A confluence of measures led the market to rally in such a short period: first, the government's support for HI-Tech listing firms have greatly lifted investors' expectations; second, in the face of growth slowdown the People's Bank of China (PBoC) have implemented a series of easing measures since November including interest rates and Required Reserve Ratio (RRR) cuts; third, the government, for the purpose of reducing corporates' reliance on debt financing, wrongly favoured retail investors into the equity market. More importantly, investors increasingly used margin loans from banks, security firms, trust companies and other shadow banking institutions to maximise their investment returns.

The market rally ended in mid-June when the trends in some of above-mentioned factors reversed. As the market rocketed up, the valuation of many stocks had gone far beyond levels justified by fundamentals. With some positive signs of growth stabilisation emerging in the second quarter, investors grew suspicious of the continuation of the PBoC's easing stance. Even worse is that **the authorities, in the wake of investors' fast-rising leverage, started to tighten margin loans through the shadow banking sector**.

When a large number of investors attempted to reduce their positions at the same time it soon translated into a text-book sell-off in the equity market. The initial correction of share prices caused by selling orders alerted other investors, in particular those who borrowed margin loans. To manage their risk exposure to the market, many leveraged investors opted to sell part of their shares, which magnified the supply in a short time and put more downward pressure on share prices. **The market thus entered a vicious circle: the more leveraged investors wanted to sell their shares, the further share prices fell, which encouraged more leveraged investors to sell**.

The authorities' rescue package is controversial

To stop the sell-off in the market the government has unleashed a set of bailout measures to stabilise it, including suspending IPOs, raising short-selling costs of stock index futures, directing insurance funds towards the stock market, etc. (Figure 3.1). And more importantly, the authorities instructed banks to lend money to the China Securities Finance Corporate so that the latter can prop up share prices through a buying spree in the market.

Although these measures have stabilised the market for a while, they failed to address a number of factors that spawned the sell-off, some of which have even been exacerbated by the authorities' actions. For example, the excessive use of margin lending has been widely blamed as one of the culprits for the run-up of share prices and the ensuing market plummet. As of 22 July, the official statistics of margin lending stood at RMB1.44trn, which is down from its peak of RMB2.27trn on 18 June but is still way above its daily average level of RMB0.52trn last year. These figures do not include margin lending through shadow banks.

Even the government's interventions themselves bear significant risks. The bailout measures functioned at the expense of market-based rules. This has largely dampened investors' confidence in China's stock market and driven away "smart money" institutional investors. As a consequence, market trading is expected to be increasingly dominated by retail investors and even more susceptible to their herd behaviour.

The recent sell-off could lead both foreign and domestic investors to rebalance their portfolio and reduce their positions in China's stock market. Additionally, if the market crash leads to large-scale capital flight, China's government might need to tap the foreign reserves to guard against the free-fall of its currency. That means China could need to unwind part of its holdings of US treasury bonds, which could have an impact on global financial market.

Adverse impact of the market crash on the outlook for China's economic growth

Looking ahead, we expect the stock market crash to have an adverse impact on the real economy. The channels from the financial market to the real economy include: i) the diminished brokerage services as part of total GDP; ii) firms' constrained financing channels due to the suspension of IPOs; iii) shrinking household wealth[5]; and iv) the impact of the deterioration in confidence of foreign capital on China's economy and financial system. We have therefore lowered our growth projection for FY15 to 6.7% and to 6.2% for FY16.

Worse is that the market crash has avoidably added uncertainty to the ongoing liberalisation of the capital account. The authorities could become more conservative after such a hard hit. The flaws in China's regulatory framework which were exposed by the market crash might make policymakers reluctant to open the domestic market to foreign investors. On the contrary, the authorities should not halt the opening of its capital account. By inviting more foreign investors, in particular institutional investors, into the domestic market, the authorities could balance the dominance of retail investors and make the market less susceptible to herd behaviour. Moreover, opening the capital account could also help domestic households to diversify their investments. The lack of suitable alternative investment choices for retail investors contributed to the overheating in both property and equity markets.

China's economy: heightened global importance including financial interconnectedness

Analysis of China's relative significance in global economic and financial channels are key to gauging the systemic nature of any bout of financial instability in the country, regardless of the fact that this might also have an impact on its growth dynamics.

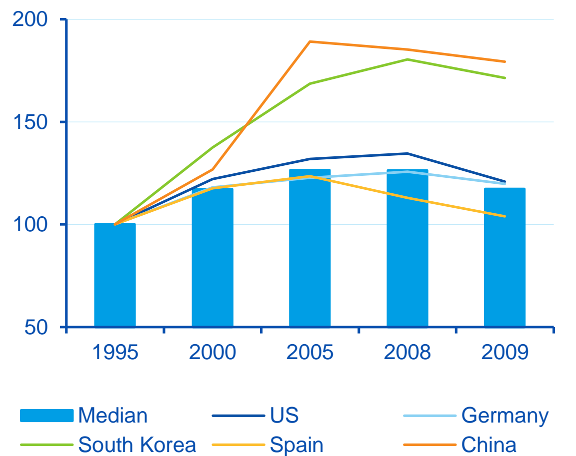
China's participation in global chains of goods and services (interconnectedness in real economic flows) has been expanding at a particularly brisk rate since the mid-1990s. The most direct way to measure a country's degree of interconnectedness within overall real economic flows (its share in global

5: According to the Financial Survey of Families (2012), around 8% of Chinese households own financial assets in the form of shares, which figure reaches 60% for those owning bank deposits. In value terms, only 5% of total household wealth is of a financial nature.

value chains-GVC-) is to find the sum of the imports of goods and services required to, in turn, sell goods and services abroad and the percentage of these exports which are intermediate inputs of sales of goods and services in third economies[6]. According to the indicator constructed by the OECD[7], China is the economy which increased its degree of interconnectedness the most between 1995 and 2009[8].

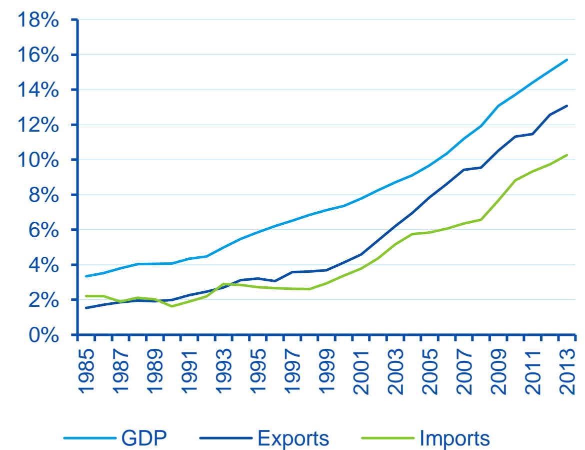
Since 2014, China has been the world's leading economy in terms of GDP, overtaking the US, with comparable positions in goods trade flows. In the mid-1990s China represented less than 6% of GDP and close to 3-5% of total exports and imports of goods; **in 2014, it accounted for 16% of output and exports and 12% of imports**. The nature of its trade structure means that, besides this, its share in global value chains is one of the highest among comparable countries in terms of size of economy and openness to trade.

Figure 3.2
Grade of connection through trade of goods and services, 1995=100



Share of imported inputs in the overall exports of a country and of its exported goods and services used as imported inputs to produce other countries' exports
Source: OECD (2015), Import content of exports (indicator)

Figure 3.3
China: share in World GDP and global trade of goods, % of total

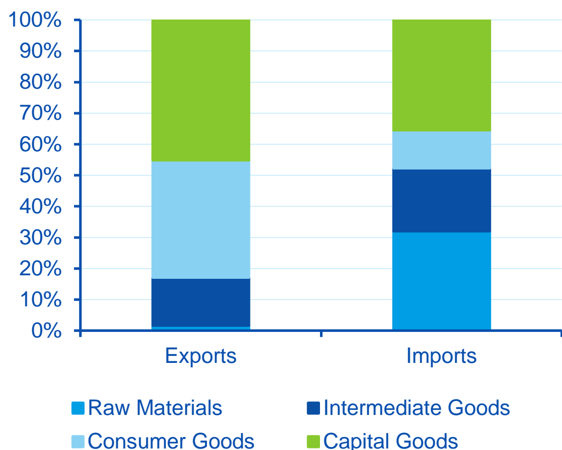


Source: BBVA Research, IMF and WTO

The fact that China imports over USD500bn a year in commodities (30% of the buying from abroad) **puts some perspective on its role as one of the biggest sources of demand for these goods worldwide**, for which reason any reduction in its level of activity places significant downward pressure on the prices of some of these, such as oil or copper.

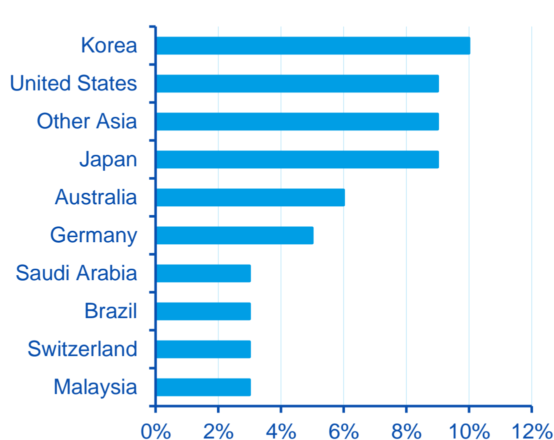
6: For further details on Global Value Chains, see the OECD at http://www.oecd.org/sti/global-value-chains-library.htm
7: Details at: https://data.oecd.org/trade/import-content-of-exports.htm
8: For the most recent period, it seems reasonable to assume that the intensiveness of China's share in global flows of goods and services has held up if one bears in mind that a little over one half of its imports and two thirds of its exports are capital and intermediate goods.

Figure 3.4
Structure of Chinese exports and imports by type of product, % of total, 2013



Source: BBVA Research, UNCTAD

Figure 3.5
China: total imports by trade partner, % of total, 2013



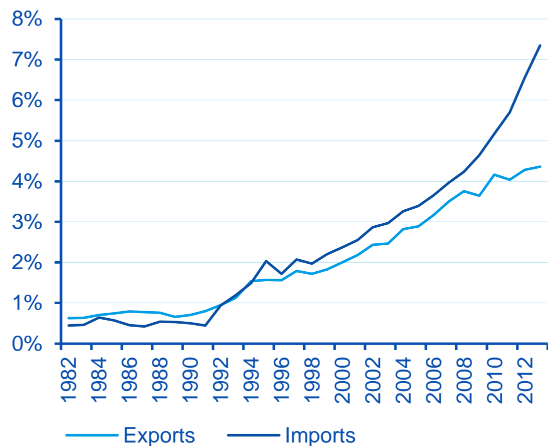
Source: BBVA Research, UNCTAD

The US, Japan and emerging Asia are China's key trading partners. The US accounts for 17% of total exports and 9% of imports, while Japan represents slightly below 10% of both flows. Hong Kong, Korea and other Asian countries such as India are also prominent among China's chief export destinations. Australia, Germany, Saudi Arabia and Brazil, on the other hand, are major import markets, above all due to the commodities they purchase, but also on account of the capital goods they buy. All in all, and despite the lack of overlap as regards some of its exports and import main markets, **China's centrality in world trade is very high, given that it does business with practically all of the countries in the world**[9]. As was pointed out by the IMF[10], this leads one to suppose that, in the event of a shift in China's demand there is more likely to be bias towards a spreading of the correction via successive rounds of drops in demand from other countries rather than any moderating effect of absorption of the shock, which could only be the case for a select few of China's trading partners, essentially the oil producers.

With respect to exchanges of services, China has less of a trade presence in the world compared to goods, although the recent trends regarding this item are indicative of China's development from an industrial and export economy to one more oriented towards consumption and services, in keeping with the increase in the country's income per capita. **Something over 4% of total services exports are provided by China, which is in turn responsible for 7% of imports worldwide**. These are still low levels, but the growth is rapid, above all in the case of imports. Both shares are double what they were one decade ago, thus far exhibiting a high level of geographical concentration, mainly in terms of the flow of exports, where Hong Kong accounts for 40% of the total.

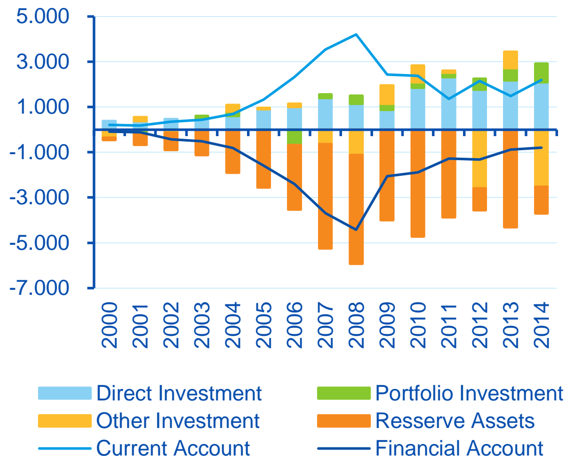
9: See "Network Effects of International Shocks and Spillovers", IMF Working Paper, July 2015 https://www.imf.org/external/pubs/ft/wp/2015/wp15149.pdf
10: See previous note.

Figure 3.6
China: share in global services trade
% of total



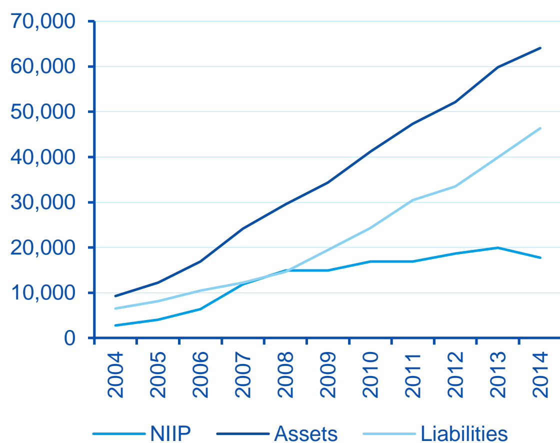
Source: BBVA Research, UNCTAD

Figure 3.7
China: balance of payments (USD100mn)



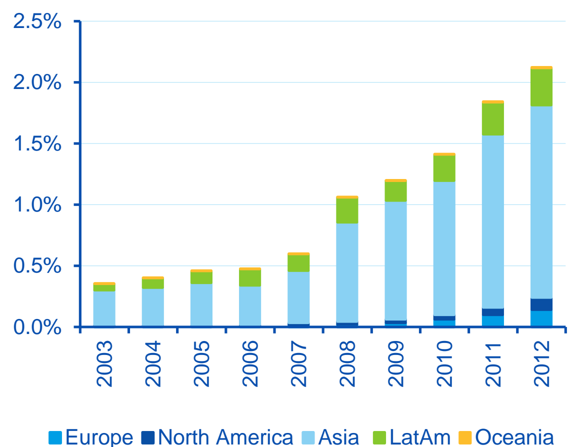
Source: BBVA Research, SAFE

Figure 3.8
China: Net international investment position (USD100mn)



Source: BBVA Research, SAFE

Figure 3.9
China: outstock FDI, % of total



Source: BBVA Research, UNCTAD

Aside from the potential trade impact, which is evidenced by the size of China's economy and export and import flows, **China also stands out for being the largest net holder of financial assets of the rest of the world** (net creditor) as a result of persistently amassing current account surpluses[11]. **A portion of these surpluses has been channelled out into the rest of the world in the form of portfolio investments (mainly), while another and more significant part has been set aside for building up reserves** which, at the end of 2014, totalled some USD3.9trn.

Consequently, **China's net international investment position** (the difference between the value of its assets and liabilities against the rest of the world) **has been systematically positive, at around 20% of GDP in 2014**. Asset purchases in the rest of the world, together with the appreciation in their value, have

11: After reaching USD400bn in 2008, these have since stabilised at around USD200bn, or 2% of China's GDP.

lifted China's investment position in the rest of the world to USD6.4trn, which more than outweighs the increase in liabilities in the form of external debt and which, according to SAFE (State Administration of Foreign Exchange), measured approximately USD1.6trn at the close of 1Q15 (barely 16% of GDP and 35% of the country's total liabilities with the world outside it).

This leads us to draw a twofold distinction when trying to gauge the financial interconnection and potential contagion channels in the event of a crisis of this nature. The first lies with **a potential sale of assets abroad and/or a scaling down of acquisitions by China** for the sake of preserving financial stability at home and compensating for the recent outflow of capital in the wake of doubts over the robustness of the economic cycle. The second focusses on the structure of Chinese external borrowing to determine its **financial interconnectedness with the global nodes of influence**.

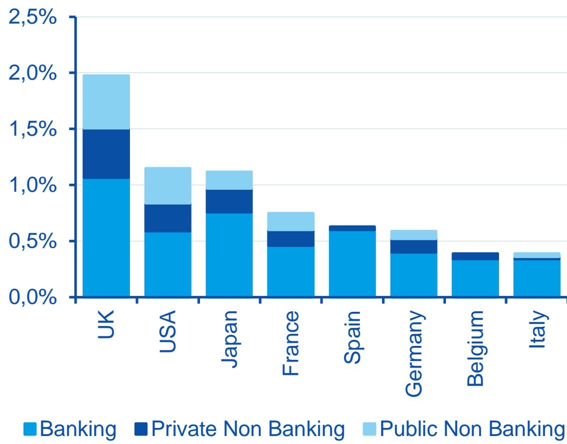
The lion's share of China's credit position is in the form of reserve assets, which represent over 50% of the country's overall assets in its external relations. A considerable part of these reserve assets is invested in US government debt; in fact, 20% of total US sovereign debt in foreign hands is owned by the Chinese. Since 2013 and in 2015 to date, buying from China has managed to offset net sales of US debt by all other foreign investors. Therefore any slowdown in the pace of buying from China or net selling process could prompt a spike in US yields which would imply tougher financing conditions worldwide.

In terms of foreign direct investment decisions, China's position seems less awkward as regards the global situation (China's stock of FDI abroad represents scarcely 2.3% of the total worldwide and is mainly concentrated in Asia), even though a deterioration in the domestic economy might translate into less of an appetite to invest, in spite of the fact that the Chinese authorities have committed to buttressing the internationalisation process by buying business interests in regions with a low presence up to now (such is the case of the European Union).

Turning to the share of global financial flows as measured on the basis of total external liabilities and drawing on BIS statistics[12], China **hardly even accounts for 3% of world financial liabilities**. Furthermore, intermediation for half of China's external debt is handled through the financial sector and represents **7% of the banking sector's liabilities globally, which is still a low percentage if compared with China's relative importance in economic activity and trade**. The banking sectors in the UK, the US and Japan are, in that order, the Chinese financial sector's top external creditors but, in all these cases, with the exception of the UK, the exposure which this represents with respect to bank lending granted externally is modest (Figures 3.10 and 3.11).

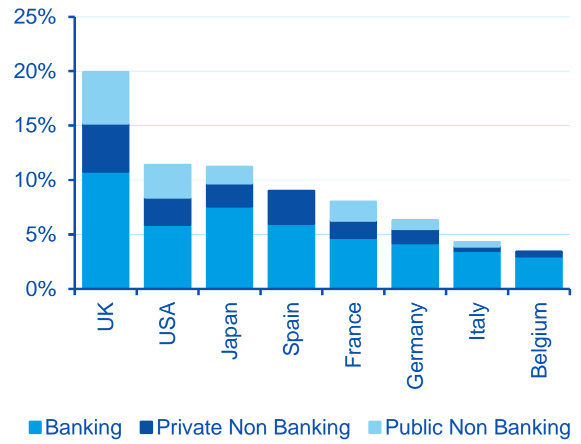
12: See https://www.bis.org/statistics/r_qa1509_hanx9e_u.pdf

Figure 3.10
Claims on China
(% of total claims)



Source: BBVA Research & BIS CBS Table 9E

Figure 3.11
Claims on China
(% of total claims held by each country)



Source: BBVA Research & BIS CBS Table 9E

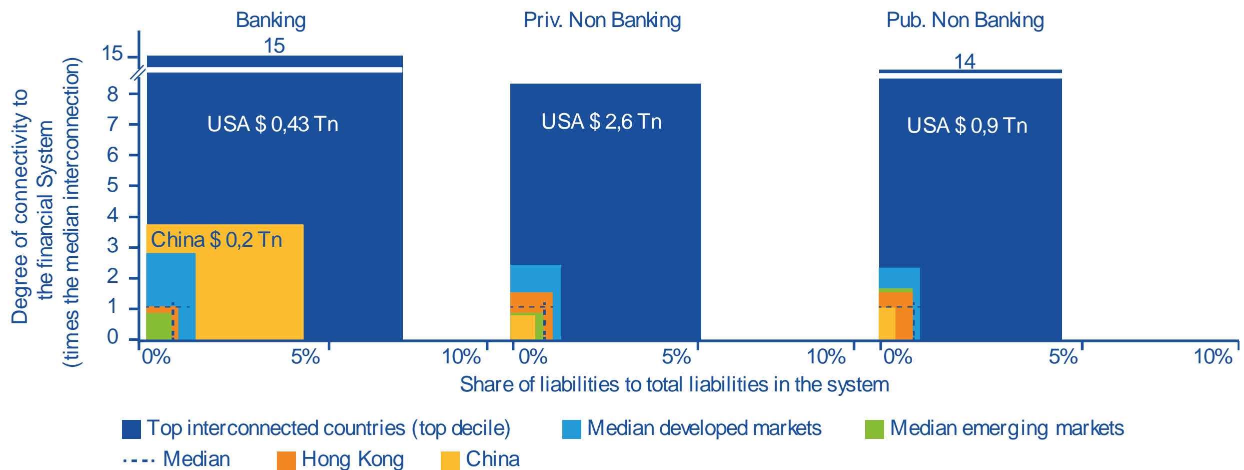
Even so, as with the case of global flows of goods and services[13], **the exposure to a financial shock emanating from China does not merely depend on the scale of the Chinese economy's financial liabilities, or who the holders of these liabilities are, but also on the degree of creditors' interconnectedness, their centrality within the world financial system**.

Calculation of measures of interconnectedness, which are being developed by BBVA Research, is based on the number of financial links an economy has with the global system as a whole, both inbound (the country's liabilities) and outbound (assets) and these are weighted by the relative size of each exposure. This measure locates the degree of centrality of each country (node) within the whole but does not make it possible to establish the proximity of each of these nodes in relation to the centre of the system. To add in this aspect we weight the significance of each link according to its relationship with those clusters which have the highest degree of interconnectedness with the rest. **The synthesis of the two metrics mentioned enables the fusion of the connectedness criterion with the degree of overall integration within the global financial system and gives us an idea of the capacity an economy (node) has for spreading contagion to the system as a whole**.

The results for China (Figure 3.12) makes it clear that **only if the shock affects the banking sector will the financial channel be able to take on global proportions**: the interconnectedness of the Chinese banking sector with the world financial system comfortably outstrips the median value for EMs and is even ahead of the median for DMs, although it is a very considerable distance short of countries such as the US or even the group of the most highly financially interconnected countries.

13: See IMF reference in note 6.

Figure 3.12
Interconnectivity and exposure of financial systems as of 4Q14



Source: BBVA Research, BIS Consolidated Banking Statistics Table 9E

Potential impact of an economic shock in China

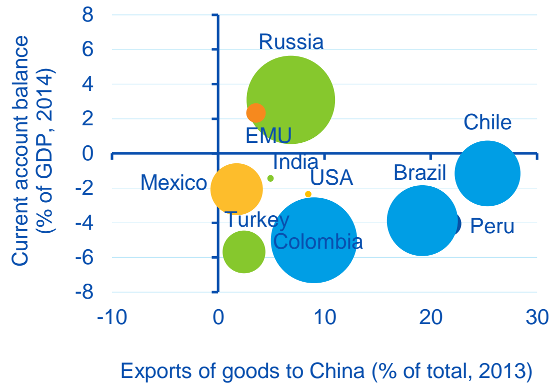
From analysing the channels for contagion mentioned above it may be deduced that the greatest risk to the global situation of deterioration in China's economic situation is from a contraction in activity which affects the rest of the world via trading and investment ties, whereas there is less vulnerability to purely financial contagion.

This can also entail an increase in global risk aversion, which would be more intense in the EMs, with an increase in sovereign bond spreads and a depreciation of their currencies given a possible outflow of foreign capital. Those countries with greater trade exposure to China, and those relying more heavily on the commodity cycle and/or more dependent on sizeable disequilibrium in terms of their external position, could possibly experience worse relative responses, both economically and financially. The recent trends in the currency market support this pattern (Figure 3.13).

A marked correction in the pace of China's economic growth, together with an upturn in the perceived risk in the bulk of the EMs to levels on a par with those observed in 2008-09, could translate into a widespread contraction in economic activity across the world, but with a major difference among the various economies. In the US the deterioration in financial conditions would be mitigated by the view of the dollar as a safe-haven asset, whereas among the EMs, and especially in those that are more financially vulnerable owing to their reliance on external capital flows, the impact would be greater, even possibly worse than the initial shock from China[14].

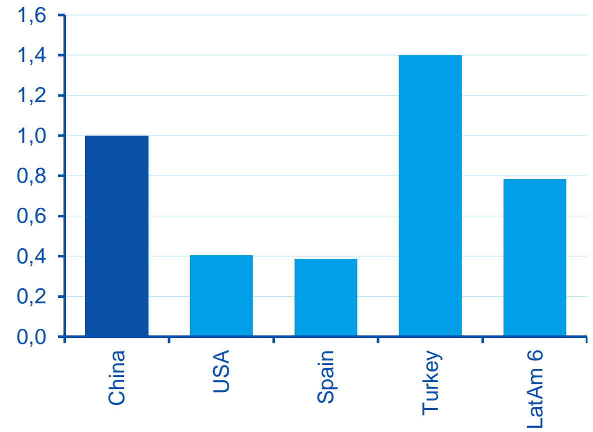
14: Calculation of impacts based on the BBVA Research GVAR model.

Figure 3.13
Exposure to China and foreign funding needs*



* Size of bubble: magnitude of currency depreciation against USD since May15
Source: BBVA Research, UNCTAD, IMF

Figure 3.14
Impact on GDP due to an activity and risk premia shock triggered by China, %



Source: BBVA Research

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