ECONOMIC ANALYSIS

It's not time to relieve yet: updating projections of China's foreign reserves

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Summary

- By use of a new method we find that portfolio outflows are still the dominant driver behind the fast depletion of foreign reserves last year. We estimate that portfolio outflows amounted to USD 322 billion last year, compared to the total decline of USD 513 billion in foreign reserves. A number of local factors, including foreign debt repayment, RMB cross-border flows, and the increase in domestic FX deposit holding, have also contribute to the steep fall in foreign reserves, whereas their impact is not comparable to that of portfolio outflows. That being said, policymakers should not overemphasize the importance of those local factors and lay down their guard against capital flight.
- We extend our scenario projections of foreign reserves to the end of this year. Two scenarios have contrasting assumptions about whether the trend of capital outflows since last year is transitory or permanent. In our benign scenario, China's foreign reserves will drop by USD 288 billion this year, to USD 3,042 billion by December. If a risk scenario is to materialize, foreign reserves could plummet by USD 1,000 billion, to USD 2,331 billion at end-year.
- The real case is likely to fall in between these two scenarios. Even in the risk scenario, the projected level of foreign reserves can broadly satisfy the IMF's adequacy standard as of the end-2016, which renders policymakers valuable time and policy room to manoeuvre.
- To avert a swift depletion of foreign reserves and its associated risks to financial stability, it is desirable for the authorities to maintain the exchange rate stability against a basket of currencies as they have repeatedly emphasized. In addition, they will have to strengthen enforcement of the existing restrictions on the capital account and enact more macro-prudential measures to combat illicit capital outflows.

Decomposing China's foreign reserves decline

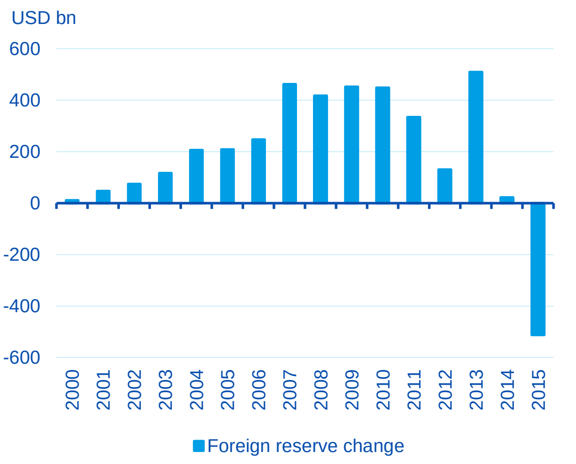
China's foreign reserves dropped to USD 3,330 billion by end-2015, a sharp decline of USD 513 billion from its level at end-2014. (Figure 1) The result falls in between the two scenarios (benign scenario projection: USD 3,492 billion versus risk scenario projection: USD 2,953 billion) suggested in our previous thematic report ("Projecting China's foreign reserves in the aftermath of the August RMB devaluation") last September, in which we concluded that the prospective fall of foreign reserves was mainly due to accelerating capital outflows triggered by China's stock market selloff and the unexpected RMB devaluation in mid-2015.

A confluence of factors has prompted us to extend our projection of foreign reserves to the end-2016, with a fine-tuning method. First of all, financial tensions escalated again in Chinese equity and FX markets at the beginning of this year, resulting in a deeper decline of foreign reserves. It is therefore crucial to know whether the current level of China's foreign reserves is able to withstand the persistent run-down of capital outflows during the rest of this year.

Second, since we published our last report, the People's Bank of China (PBoC) and State Administration of Foreign Exchange (SAFE), as part of their efforts to facilitate the RMB's inclusion into the currency basket of Special Drawing Rights (SDR), have enhanced their disclosure of relevant statistics, enabling us to fine-tune our methods to better analyse the variation of foreign reserve changes and to project its dynamic over the short-to-medium term. In particular, the PBoC, at one of its recent press conferences, revealed that the currency valuation effect alone led to a decline of USD 170 billion in foreign reserves last year, roughly one-third of the total decline of USD 513 billion. We can infer the portion of non-USD assets in gross foreign reserves from this announced figure and gauge the impact of their prospective change on foreign reserves.

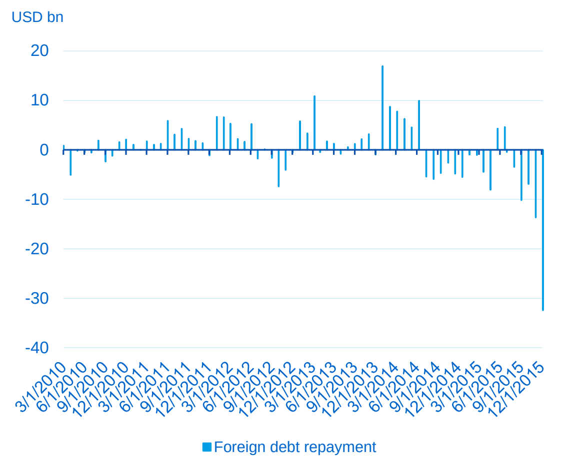
Last but not least, we attempt to assess to what extent the persistent decline in foreign reserves was due to the phenomenon that Chinese firms accelerated to pay down their USD-denominated debt in anticipation of further RMB depreciation. (Figure 2) Indeed, this factor has been repeatedly cited by the authorities and some analysts to appease the market. If the losses of foreign reserves are used to pay down outstanding foreign debt, it could even help the rebalancing of China's BOP. Our analysis is intended to show whether this factor is relevant quantitatively.

Figure 1
China's foreign reserves decreased sharply in 2015, the first drop since 2000



Source: CEIC and BBVA Research

Figure 2
The corporate sector has sped up their foreign debt repayment since 2015



Source: CEIC and BBVA Research

Decomposing China's foreign reserves decline

We compare two decomposition methods of foreign reserve changes used previously and in the current report as below:

The previous decomposition method:

Foreign reserves change=trade surplus + net FDI + FX deposit change by household and enterprises+ net RMB cross-border flow+ portfolio flow

The fine-tuned decomposition method:

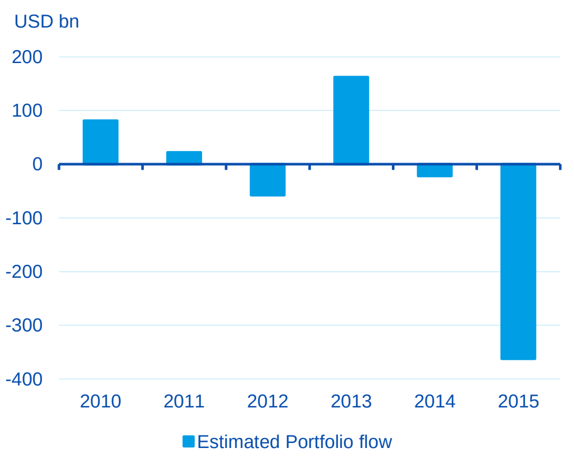
Foreign reserves change= foreign reserve's currency valuation effect +current account balance +net FDI+ +net RMB cross-border flow +foreign debt repayment+ domestic FX holding change + portfolio flow

We would like to highlight the differences between the two decomposition methods below:

- We take into account the currency valuation effect in the new method. According to SAFE, the valuation effect resulted in a decline of USD 170 billion in foreign reserves last year, mainly due to the depreciation of non-USD currencies in foreign reserves. Moreover, we infer that the non-USD assets account for around 30% of China's foreign reserves.

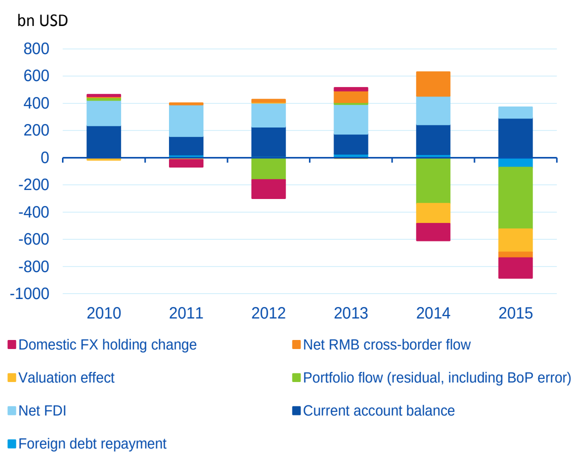
- In the new method we use figures of current account balance retrieved from Balance of Payment (BOP) to replace the trade balance in the previous method. We need to adjust the net RMB cross-border flow as in the equation because all the FDI and trade transactions settled in the RMB can be reflected on the BOP while not in foreign reserves. Therefore, we need to exclude the impact of these RMB flows under the current account. As shown by the PBoC's Quarterly Monetary Policy Conduct report, the RMB net cross-border flow shifted from a net outflow of USD 176 billion equivalent in 2014 to a net inflow of USD 41 billion equivalent in 2015.
- The proxy of foreign debt repayment is based on the monthly series of "Balance of Bank Client Cross-border FX Payment and Receipt" provided by SAFE. Compared to other proxies, it is a cash-based indicator just like foreign reserves. We found that Chinese firms started to accelerate the pace of their foreign debt payment after the unexpected devaluation of the RMB last August. Meanwhile, improved domestic credit conditions, due to the authorities' monetary easing measures, have enabled many firms to borrow domestically to pay down their foreign debt. (Figure 2)
- The item of domestic FX holding change includes not only FX deposit change of households and the corporate sector but also banks' FX position change. Banks have increased their holding of FX so as to honor their forward currency contracts sold to clients. Therefore, we use the nominal value of banks' forward FX sales to estimate the amount of banks' FX position change this year. It is noted that this item could underestimate the effect of Chinese household and corporate sector rebalancing their portfolios toward foreign currencies because they could move their holding of FX abroad instead of keeping it in the domestic banking sector.
- In both decomposition equations, the portfolio flow is the residual term. We also back up the historical data series since 2010. The portfolio flow has swung between net outflow and net inflow during the period of 2010-2014; however, in 2015, the portfolio outflow became significant mainly due to the stock market crash and RMB sharp depreciation in the middle of the year. (Figure 3)

Figure 3
The estimated historical portfolio outflows



Source: CEIC and BBVA Research

Figure 4
The decomposition of foreign reserve changes



Source: CEIC and BBVA Research

By our fine-tuned method, we decompose the historical series of foreign reserve changes since 2010. (Figure 4) With regard to 2015, it is obvious that the portfolio outflow is still the largest contributor as USD 454 billion, compared with USD 73 billion of foreign debt repayment and USD 146 billion of domestic FX holding increase. Our estimate could be subject to some downward biases. For example, the authorities recently indicated (but without revealing their data source) that the total loss of foreign reserves due to firms' foreign debt payment was around USD 100 billion last year. Such a figure is higher than our estimate of USD 73 billion but it is unable to change the big picture of our results.

It is noted that a considerable part of portfolio outflows could associate with Chinese household and firms' transferring their wealth to overseas in the face of uncertain currency and economic outlooks. As a result, although the foreign reserves have experienced a significant decline, gross foreign assets owed by Chinese residents (including governments, household, firms and banks) could see no change at all. The statistics of China's International Investment Position shows that Chinese residents' total foreign assets even slightly increased through the first three quarters of last year.

However, this type of portfolio outflows can still exert short-term disruptive impact on the exchange rate and financial stability. We therefore treat them as general portfolio outflows indistinguishably. Just like firms' behaviour of accelerating foreign debt repayment, this type of portfolio outflows is sensitive to the currency outlook. That being said, the authorities should keep vigilant on all kinds of capital outflows to avoid the adverse impact on financial stability.

Two scenarios of foreign reserve projection at end-2016

We construct two scenarios to forecast the dynamics of foreign reserves at end-2016 based on our new method of breaking down foreign reserve changes. In our "benign" scenario, we assume that the impact of the unanticipated devaluation in August 2015 is transitory. This means that most of items in the decomposition equation will revert to their pre-turmoil paths throughout 2016. By contrast, the "risk" scenario assumes that the market turmoil in August 2015 will have long-lasting impact on people's behaviours during the rest of 2016. We expect the real case will be somewhere between these two scenarios at end-2016.

We summarize key assumptions of both scenarios in Table 1. The main differences between two sets of assumptions concentrated on the items with high sensitivity to currency expectations and financial market movements. In the meantime, we make the same assumptions with respect to the performance of the real sector including the current account balance and net FDI.

Table 1
Key assumptions of benign and risk scenarios

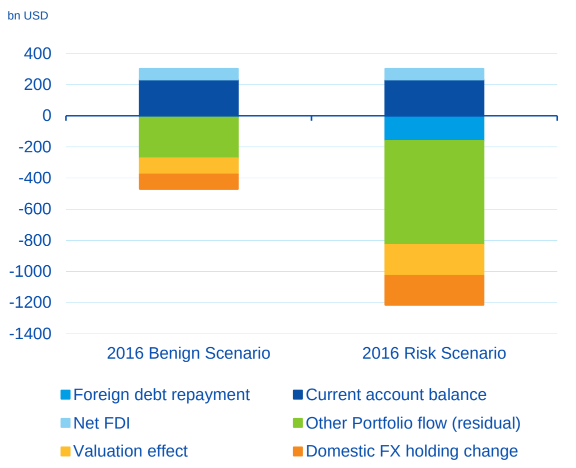
	Benign Scenario	Risk Scenario
(1) Foreign reserve's currency valuation effect	We assume that USD index (DXY) will appreciate by 5% (the average rate of the previous four years). Thus, other currencies (GBP, JPY and EUR) which count 30% of the foreign reserve currencies, will depreciate by 5% relative to USD. Altogether, foreign reserve will lose USD 50 billion by currency valuation effect	We assume USD index (DXY) will appreciate by 15%. Given this assumption, other currencies (GBP, JPY and EUR) which count 30% of the foreign reserve currencies will depreciate by 15% relative to USD. Thus, foreign reserve will lose USD 150 billion by currency valuation effect
(2) Current account balance	We assume that current account balance to GDP ratio in 2016 will be the average of the current account balance to GDP ratio from 2011 to 2015 which is 2.1%. Given that 2016 GDP growth of BBVA forecasting is 6.2%, the 2016 current account balance will be USD 232 billion.	The same assumption as the benign scenario
(3) Net FDI	We expect 2016 net FDI will be the average net FDI growth rate from 2010 to 2015 which is -1.7%, thus, net FDI will be USD 70.5 billion in 2016	The same assumption as the benign scenario
(4) Foreign debt repayment	We assume that the foreign debt repayment volume in 2016 is equal to the annualized amount of foreign debt repayment during the "pre-turmoil" period (January to May of 2015), which will be USD 10.2 billion.	We assume that the foreign debt repayment amount in 2016 is equal to the annualized average foreign debt repayment amount of "after-turmoil" period (June to December of 2015), which will be 160 bn USD
(5) Domestic FX holding change	FX deposit change by household and enterprises: we assume 2016 household and enterprises will increase their FX deposit as the annualized amount of FX deposit change during "pre-turmoil" period (January to May 2015), which will be USD 67 billion. Bank's FX positions: similar as FX deposit change by household and enterprises, we assume banks' FX positions will increase as the annualized average amount of "pre-turmoil" period (January to May 2015), which is USD 26 billion in 2016	FX deposit change by household and enterprises: we assume 2016 household and enterprises will increase their FX deposit as the annualized average amount of the FX deposit change during the "after-turmoil" period (June to December 2015), USD 94 billion. Bank's FX positions: similar as FX deposit change by household and enterprises, we assume banks' FX positions will increase as the average amount of "after-turmoil", which is USD 9 billion.
(6) Net RMB cross-border flow	If the RMB cross-border settlement continues its pervious trend in "pre-turmoil" (January- May 2015), the RMB will flow from overseas market to the mainland market with a pace of USD 127 billion in 2016	We assume that one third of offshore RMB (USD 138 billion) will flow back to the onshore market during 2016 through trade payment and direct FDI
(7) Portfolio flow	We assume that the monthly portfolio flow volume follows the average changing rate of the first five months of 2015 ("pre- turmoil"), which is USD -312 billion.	We assume that the monthly portfolio flow volume follows the average changing rate of June to December of 2015 ("after-turmoil"), which will be USD -668 billion.

Source: BBVA Research

Based on the above assumptions, we forecast that China's foreign reserves will drop by USD 289 billion this year, to USD 3,042 billion by December in our benign scenario. That being said, the pressure of portfolio outflows can largely be offset by the stable trade surplus. By contrast, foreign reserves will significantly decline to USD 2,331 billion by the end of this year in our risk scenario (falling by USD 1,000 billion in 2016). Accelerating portfolio outflows, speeding-up foreign debt payment and the residents' increasing willingness of holding FX deposits will all contribute to the sharp decline of foreign reserves. (Figure 5 & 6)

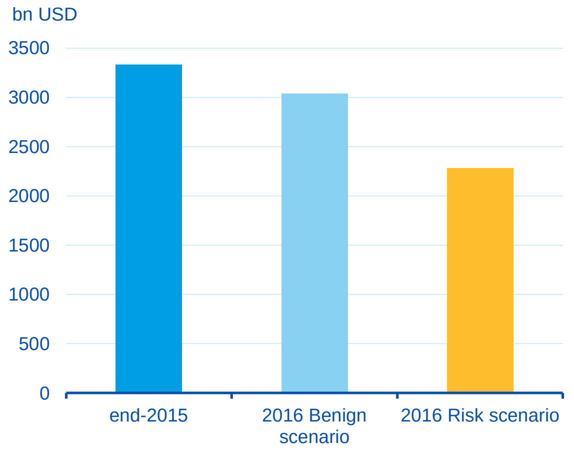
To assess the risk associated with steep decline in foreign reserves, we compare the results in our two scenarios to the adequacy level which is calculated by use of the IMF's metric-based method (BOX 1). The IMF metric-based method indicated that China's adequate foreign reserve level should be around USD 2,336 billion USD, which is way below our benign-scenario projection of USD 3,092 billion while slightly above our risk-scenario projection. That being said, the adequacy issue is not acute for foreign reserves this year. However, whether China maintain the adequacy level of foreign reserves in the next couple years will largely hinge on the authorities' capability of stabilizing the currency market and stemming capital outflows.

Figure 5
Assumptions of benign and risk scenarios



Source: CEIC and BBVA Research

Figure 6
Projections under benign and risk scenario



Source: CEIC and BBVA Research

Conclusions

We use a new method to break down the change of China's foreign reserves last year. We find that portfolio outflow was still the dominant driver behind the steep decline in foreign reserves while a number of local-factors also play their roles, including foreign debt repayment, net RMB inflows, and the increase in domestic FX deposit holding.

We update our scenario analysis of foreign reserve evolution. In our benign scenario, China's foreign reserves will drop by USD 288 billion this year, to USD 3,042 billion by December thanks to large surplus under the current account. If a risk scenario is to materialize, foreign reserves could significantly plummet by USD 1,000 billion through this year, to USD 2,331 billion by end-2016. We expect the real case will be somewhere between these two scenarios at end-2016. The good news is that in both scenarios, the level of foreign reserves at end-year will broadly satisfy the IMF's adequacy standard of foreign reserves.

Our analysis should put policymakers on the alert because they need to look beyond a short-term horizon. Harmless as they may appear, those local factors are still dominated by portfolio outflows in causing foreign reserve declines. To avert a swift depletion of foreign reserves as well as its associated risks to financial stability, it is pivotal for the authorities to anchor people's expectations of the RMB exchange rates through improved policy formulation and public communication. In addition, we expect the authorities to beef up the enforcement of the existing restrictions on the capital account and enact more macro-prudential measures to combat illicit capital outflows.

Box 1: China's foreign reserve adequacy assessment

Under the financial headwinds of stock market crash and RMB depreciation, a most frequent question that is of market investors concern is whether China's current foreign reserve is adequate to offset the capital outflow, foreign debt repayment, as well as to maintain the RMB stability etc.

International Monetary Fund (IMF) has a series of metric-based and model-based methodologies to evaluate whether a country's foreign reserve is adequate. We choose the most widely used metric-based method, as it has advantages of simplicity, tractability and transparency. We calculate China's foreign reserve adequate level based on this method and compare the current level and our forecasts with the IMF standard.

1. Import cover: it is often seen as a measure of the number of months that imports can be sustained should all inflows (such as export revenue and external financing) cease. It is generally applied to countries where shocks arise from the current account (i.e., where capital and financing account transactions may be small or restricted). Traditionally, the measure has been based on three months of the highest imports coverage as a benchmark.
2. Short-term debt (STD): it has a well-established record as an indicator of crisis risk for market-access countries, and as such has a key role in any assessment of reserve adequacy. The "Greenspan-Guidottill rule" of 100% cover of STD is still the most widely-used standard of adequacy for Emerging countries, which is driven mostly by the definition of "short-term" debt itself.
3. Broad money (typically M2): Given that many recent capital account crises have been accompanied by outflows of deposits of domestic residents, this metric is usually intended to capture this risk of capital flight. It may also be seen as a measure of potential need for bank support in or after a crisis. The 5% coverage of M2 volume is most widely used in assessing the adequacy of foreign reserve.
4. Adjustment by current account balance. In practice, the combination of the above three items need to be adjusted by a country's current account balance.

Reference:

International Monetary Fund, "Assessing reserve adequacy", by the departments of Monetary and Capital Markets, Research, and Strategy, Policy, and Review Departments, approved by Reza Moghadam, Jonathan D. Ostry and Robert Sheehy. Feb 14, 2011.

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