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China's fight against economic gravity

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- Foreign reserves in China have been falling since mid-2014, as capital has been flowing out of China in excess of net revenues from the current account surplus.
- The loss of reserves was driven by lower economic growth and – as a response – the easing of monetary policy by the People's Bank of China. If foreign reserves continue to fall, China's immediate response is likely to be a tightening of capital controls.
- However, history shows that capital controls are a blunt instrument in a developed economy. Given the state of development of China's economy, the government will eventually have to let the exchange rate adjust.

China massively accumulated foreign exchange reserves (FX) until mid-2014 on the back of substantial current and capital account surpluses.¹

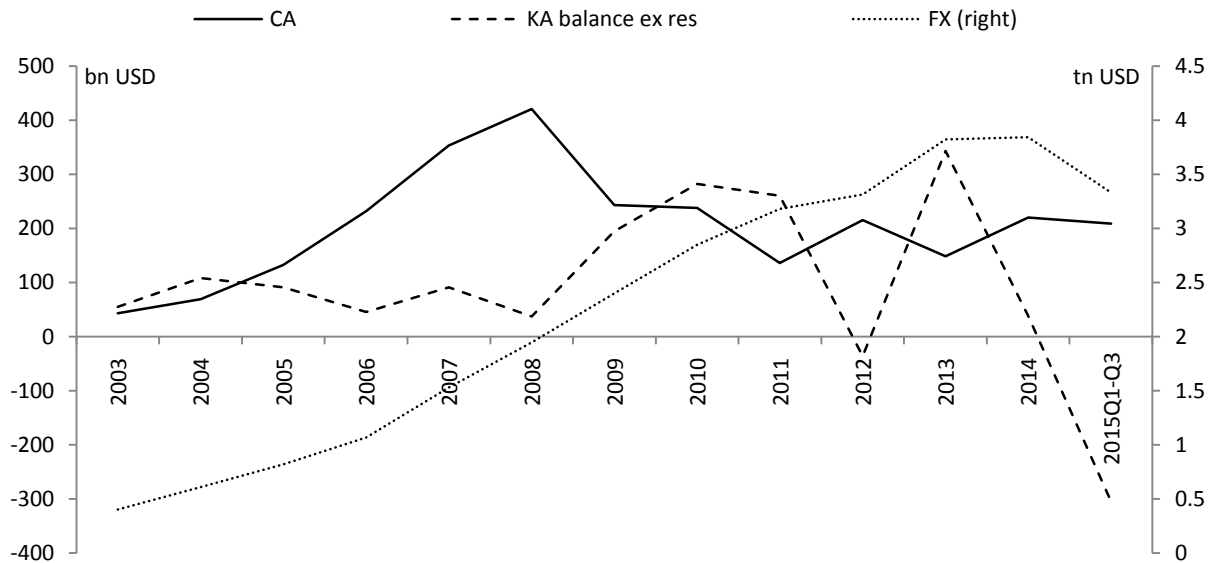
As of mid-2014, however, reserves began to decline as the capital account moved into a large deficit (Fig. 1).²

¹ We use the term capital account to refer to all major capital flows between the residents and non-residents of a country. This is customary in the economic and policy discussion but differs from the definition followed by the International Monetary Fund (IMF), which refers to financial account instead.

² The capital account was in a small deficit in 2011, but the current account was positive enough to let the foreign reserves accumulation continue. See the Appendix for a detailed interpretation of the balance of payments and of recent capital outflows in China.



Figure 1. Current account (CA) balance, capital account (KA) balance excluding reserves and foreign exchange (FX) accumulation by the People's Bank of China.



Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.

Although the stock of foreign reserves is still far above the IMF's prudential threshold,³ their ongoing decline suggests that the policy is caught in the "impossible trinity", which says that monetary policy cannot be pursued independently if the exchange rate is fixed and capital can move freely.

Zhou Xiaochuan, Governor of the People's Bank of China (PBoC), has recently tried to dismiss doubts about the sustainability of China's policy. He pointed to the high level of foreign reserves and no reason for further Renminbi depreciation.⁴ Foreign reserves might be relatively high at present. However,

if their decline continues at the average pace observed since August 2015 of around USD 70 bn per month, the IMF's prudential threshold of USD 2751 bn would be reached as soon as in August this year. But even assuming a slower path of decrease of USD 40 bn per month, in motion since the foreign reserves started declining in mid-2014, reaching of the prudential threshold would be postponed only to January 2017.

Others, e.g. Governor Kuroda of the Bank of Japan and Christine Lagarde, Managing Director of the IMF, have suggested that, in order to escape the "impossible trinity", China should tighten capital controls. This is probably the most likely next step. But historical experience shows that particularly outward capital controls are not effective in an economy at the state of development that China has reached.

³ The IMF has different metrics for the assessment of foreign reserves adequacy, depending on the currency regime (fixed or float) and the degree of capital controls. The most stringent requirements are put on an economy with a fixed exchange rate and no capital controls. This is where China stands today, after a period of capital account liberalization since 2010. According to estimations by the Société Générale from August 2015, the foreign reserves required for China would amount for USD 2751 bn, i.e. 74% of their current level.

⁴ FT on February 14, 2016.



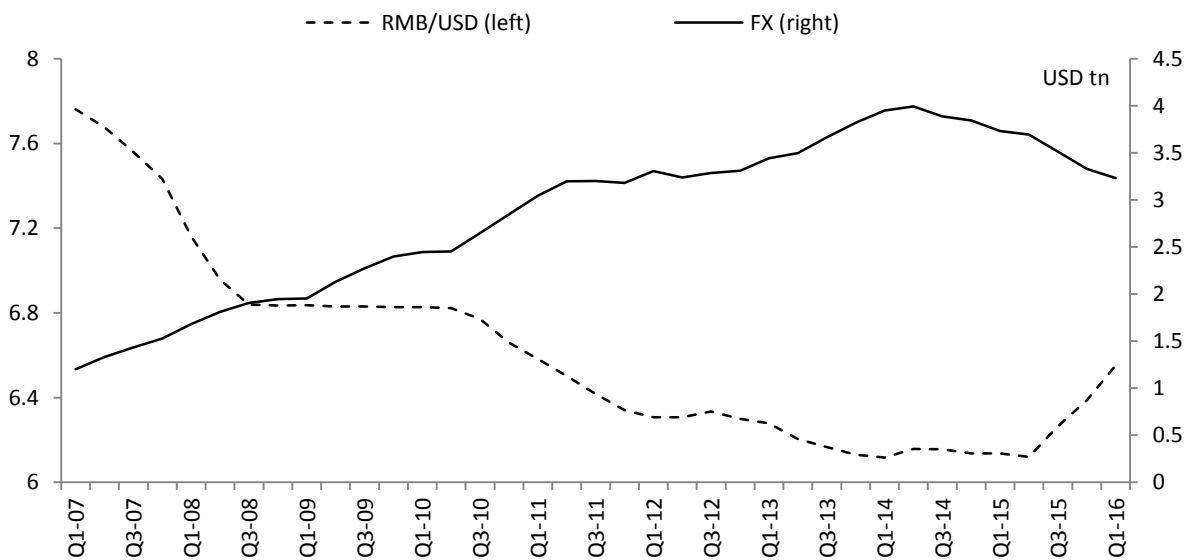
Why foreign reserves started falling?

As shown in Figure 2, the Renminbi appreciated against the US dollar from the first quarter of 2007 to mid-2015. Between 2014 and mid-2015, the Chinese currency was informally pegged to the US dollar at a rate of around 6.2 Renminbi per US dollar. But the stock of foreign reserves started to melt away.

In August 2015, the PBoC unexpectedly broke the peg. Since then the Renminbi has declined against the US dollar in several steps, with each step causing a bout of volatility in global equity markets.

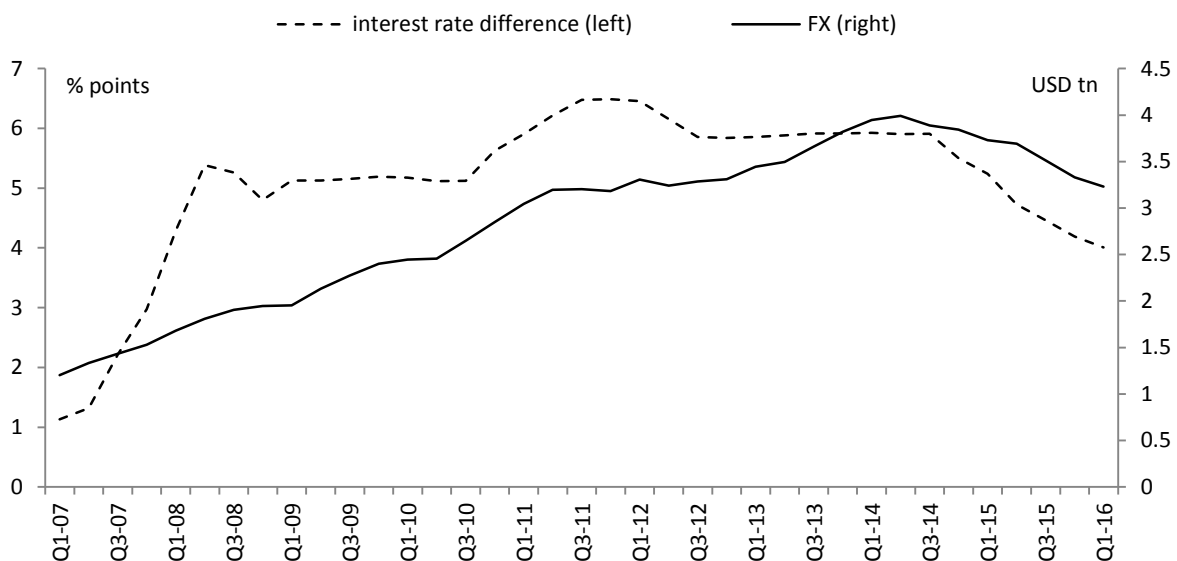
Figure 3 shows that the decline in foreign reserves followed the drop in the interest rate differential between China and the USA. This

Figure 2. Foreign reserves and RMB/USD exchange rate.



Source: People's Bank of China/Haver Analytics; Flossbach von Storch Research Institute.

Figure 3. Foreign reserves and international interest rate differential (Chinese policy rate - US effective fed funds rate).



Source: People's Bank of China, Federal Reserve/Haver Analytics; Flossbach von Storch Research Institute.



was due to a series of interest rate cuts by the PBoC starting in November 2014 on the back of weaker growth of the Chinese economy.

Since then, concerns about growth have intensified and the government has responded with heavy credit expansions. This is likely to have fueled even more capital outflows, making the stabilization of the exchange rate difficult.

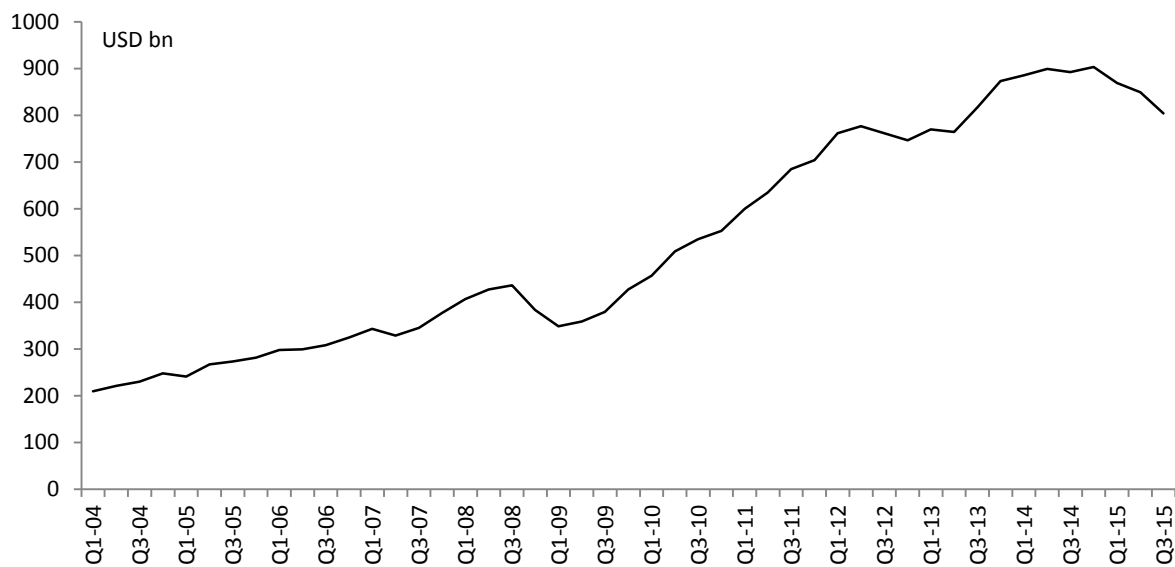
Capital moved out of China in the first three quarters of 2015 through both trackable and non-trackable channels, depending on whether the transactions could be traced back to the capital account of the balance of payments (see the Appendix for detailed information on the capital account).

Among the official channels, data on “other investment liabilities” in the balance of payments’ capital account indicate that

Chinese residents were largely liquidating debt held in foreign currencies (about 80% in USD) by paying back either foreign bank loans (USD 113 bn) or liquidating trade credit (USD 50 bn). This is confirmed in Figure 4 showing a gradual reduction of foreign debt since the end of 2014. However, the stock of debt outstanding remains still high.

Also, asset holdings by the Chinese in the form of loans as well as currency and deposits were increasing substantially in the course of 2014 and 2015. On the one hand this may be interpreted as a consequence of a growing foreign presence of Chinese firms, which increase their foreign currency holdings with the aim to reduce the currency risk from the depreciating Renminbi. On the other hand, however, it cannot be excluded that Chinese residents were increasingly losing confidence in the government’s policy and, consequently, were transferring money abroad.

Figure 4. China’s stock of external debt in foreign currencies.



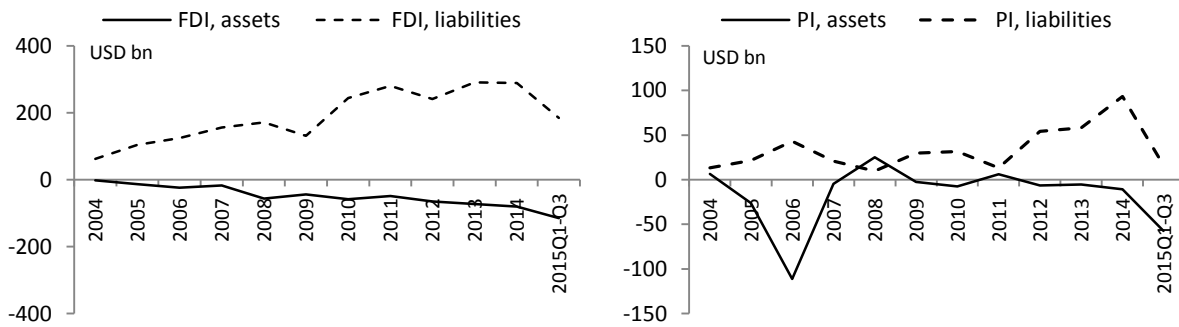
Source: Peoples Bank of China, State Administration of Foreign Exchange, Haver Analytics



While the balance of foreign direct investment (FDI) has remained positive, there is evidence that a decreasing number of foreign direct investors were entering the Chinese market in 2015. Similarly, portfolio investment (PI) liabilities started to decrease as well – this occur in 2015 for the first time since 2010.

At the same time, both FDI and PI asset accumulation (meaning capital outflow) was growing fast. This diminishing readiness to invest in China and the increasing interest in foreign investment by the Chinese residents is shown in Figure 5.

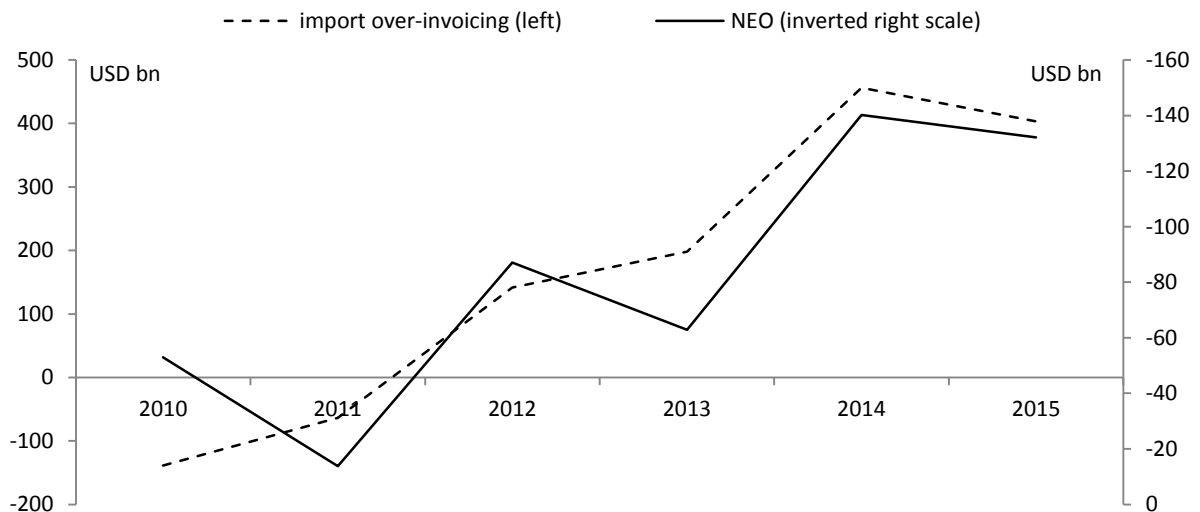
Figure 5. Foreign direct investment (FDI) and portfolio investment (PI), assets and liabilities.



Note: A negative sign for assets represents their net increase and thus capital outflow. See the Appendix for more details.

Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.

Figure 6. Net errors and omissions (NEO) in the Chinese balance of payments and import over-invoicing.



Note: Import over-invoicing is calculated as the difference between payments for goods imports as in the bank accounts and goods imports reported by customs data, based on the methodology by Zhang and Zeng (2016) in their DB Research Special Report. Calculations for 2015 cover the first three quarters of the year.

Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.



Finally, there is fresh evidence by Zhang Zhiwei and Zeng Li from Deutsche Bank⁵ that a substantial part of the decline of foreign reserves since mid-2014 has been due to over-invoicing of imports.⁶ By comparing the customs data with the actual bank payments for goods imports, Zang and Zeng find a discrepancy of USD 500 bn for the entire year 2015. As these “additional” capital outflows are not tracked in any entry of the capital account, they should help to explain the growing position dubbed “net errors and omissions” in the Chinese balance of payments. As shown in Figure 6, there seems to be a strong correlation between the two.

Ways out of the “impossible trinity”

Although reforming the economy seems indispensable to credibly exit the trilemma, the long lags between reforms and GDP growth together with the low appetite for reforms at present is shifting the focus on fast solutions. Hence, at least one of the three goals of the “impossible trinity” will soon be given up.

Both from the economic and political point of view, China has little autonomy left to influence the interest rate differential at the moment. Monetary policy in China is loosened as growth slows. The US Federal Reserve seems on its way to shelve further interest rate hikes. Moreover, the ECB has just delivered and the Bank of Japan considers

further monetary policy expansion as well. But this will probably not be enough to reverse the development of the Chinese foreign exchange reserves.

Against this background, the Communist Party’s instinct is to tighten restrictions for foreign currency transactions with a view to inhibiting capital outflows. Controls over foreign exchange transactions have already been tightened over the recent weeks, as domestic banks have faced new currency trading rules and extended scrutiny over foreign currency transactions.⁷

Tighter controls of foreign currency transactions would most likely contain capital outflows, but more controls would reverse the strong aspirations for the liberalization of the financial sector of the past years. Also, the economic effects of capital controls depend on their extent and direction. Whereas controls on capital inflows might reduce the risk of potential fast reversals, tight controls of capital outflows are more likely to induce a vicious cycle of less foreign investment (direct and portfolio) flowing in, weakening growth in the short-run and increasing worries over the growth prospects in the future.⁸ Finally, the

⁵ Zhang Zhiwei and Zeng Li (2016), China: Unveiling the channels of capital outflows. DB Research Special Report, February 29, 2016.

⁶ FT from January 26 reports that over-invoicing of Chinese imports have accelerated recently amid turbulences in the equity market and the Renminbi depreciation. Whereas according to the Chinese data imports from Hong Kong to China grew by 64% over a year in December, the analogous customs data from Hong Kong reported a lean increase by 0.9%.

⁷ At the same time, steps have been taken to liberalize foreign capital inflows. On February 24, the PBoC decided to abolish bond investment quotas on qualified foreign institutional investors, with most real money investors eligible for transactions, including commercial banks, insurance companies, fund/asset management companies, pension funds, endowment funds etc.

⁸ A vast literature shows that tightening of inflow restrictions reduces appreciation pressure, allows more independent monetary policy and influences the composition of inflows in favor of longer term investments. See, for instance, Magud Nicolas, Reinhart Carmen and Rogoff Kenneth (2011), Capital controls: Myth and reality. A portfolio balance approach. National Bureau of Economic Research Working Paper 16805. A paper by the IMF staff [Saborowski Christian, Sanya Sarah, Weisfeld Hans and Yopez Yuan (2014), Effectiveness of capital outflow restrictions, IMF Working Paper WP/14/8] shows, instead, that controls



effectiveness of capital controls in general in countries that have reached an advanced level of economic development – like China today – has been often questioned.⁹

But when tighter capital controls are excluded on the grounds that this would stand in the way of economic development, the exchange rate will eventually have to give. This is what we can learn from the past experience of the European Exchange Rate Mechanism (ERM). In the early 1990s, the members of the ERM were forced to raise interest rates each time the Bundesbank tightened its policy stance in order to keep the exchange rates stable against the Deutsche Mark. As economic growth was weak, the market found high interest rates to be unsustainable and more capital flew abroad. In the event, the fixed exchange rate mechanism broke.

The ERM experience shows that there is not much an open economy can do to escape

market pressure on the exchange rate. If capital controls are seen as economically and politically unsustainable, the Chinese government will have to further adjust the present exchange rate regime.

Letting the currency depreciate sharply is surely not without drawbacks. It would weaken the finances of Chinese firms indebted in foreign currency. More importantly, however, a lower exchange rate would militate against the government's policy of weaning the economy from its dependence on exports and strengthening consumption.

Thus, one long-term objective – financial deregulation – stands against another – structural change. In the event, however, short-term objectives will dominate. As industrial countries have amply demonstrated, exchange rate depreciation is always an effective quick fix.

on capital outflows are effective only if supported by strong macroeconomic fundamentals or good institutions.

⁹ See, for instance, Dornbusch Rudiger (1998), Capital controls: An idea whose time is gone, Massachusetts Institute of Technology, mimeo; Klein Michael (2012), Capital Controls: Gates versus Walls, National Bureau of Economic Research Working Paper 18526; Klein Michael and Shambaugh Jay (2013), Is There a Dilemma with the Trilemma? VoxEU.org, 27 September.



Appendix

China's balance of payments explained

The balance of payments (BoP) summarizes economic transactions that the residents of a country conduct with the rest of the world over a given period of time (commonly a year, quarter or a month).¹⁰ Two main components of the BoP – current account and capital account – constitute the so called double-entry system. This means that, as a rule, “every recorded transaction is represented by two entries with equal values”¹¹, but of the opposite sign. In principle, the sum of all entries in the BoP should be zero.

A schematic representation of the BoP of the People's Republic of China with its main components is shown in Table A.1. Current account balance can be further decomposed in the trade balance (of goods and services, 1.A) and two income (primary and secondary, 1.B and 1.C respectively) balances. Trade balance results from the difference between Chinese exports and imports of goods and services. Income balance records the net flows of payments for services of input factors, labor (compensation of employees) and capital (investment income from interest payment).

Table A.1 Balance of payments of the People's Republic of China.

<i>Item</i>	2015 Q1	2015 Q2	2015 Q3	2015 Q1-Q3
1. Current account (CA)	76	73	60	209
1.A Goods and services	74	88	94	256
1.B Primary income	2	-12	-27	-37
1.C Secondary income	0	-3	-6	-9
2. Capital account	-27	-50	0	-77
2.1 Capital account excluding reserve assets (KA)	-107	-37	-160	-304
2.1.1 Direct investment	42	32	-4	70
2.1.2 Portfolio investment	-8	-16	-17	-41
2.1.3 Financial derivatives (other than reserves)	-1	0	-1	-2
2.1.4 Other investment	-140	-53	-137	-330
2.2 Reserve assets (RA)	80	-13	161	228
3. Net errors and omissions (NEO)	-49	-23	-61	-133

Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.

¹⁰ According to the IMF Balance of Payments Manual, resident (producer or consumer) is identified based on the concept of economic territory and the center of economic interest.

¹¹ See the IMF Balance of Payments Manual, p. 6.



The balance of the capital account (excluding reserve assets) contains four sub-balances. They record the net flows of outward and inward direct investment (2.1.1), of portfolio investment of Chinese residents abroad and of non-residents in China (2.1.2), of financial derivatives (2.1.3) and of other investment (2.1.4).

The difference between the current account balance and capital account balance should equal the variation in the foreign reserves (entry dubbed “reserve assets”, 2.2). This can be written as follows:

$$CA - KA = RA$$

If, for instance, a country runs a current account surplus (meaning that exports exceeded imports and incomes flowing in the country were in excess of incomes flowing out over a period of time) and the financial account of that country is in deficit (meaning that the residents of the country would bring more money abroad than the foreigners would bring in) exceeding the current account surplus, foreign reserves would fall. This is clearly the case for China at the moment. The official net capital outflow was equal to USD 304 bn, whereas the net revenues from the current account transactions were equal to USD 209 bn (last column of Tab. A.1). The difference of USD 95 bn was covered with reserve assets. However, the change in reserve assets was higher than the official needs. Indeed, as much as USD 228 bn of reserve assets were used in the first three quarters of 2015 to cover capital flowing out

of China. This difference between the reserve assets actually used and the official financial outflows net of current account revenues is reported in net errors and omissions (NEO). Their negative sign means that the actual capital outflows were higher than those officially reported. Thus, NEO can be obtained from the above identity as:

$$NEO = CA - KA - RA$$

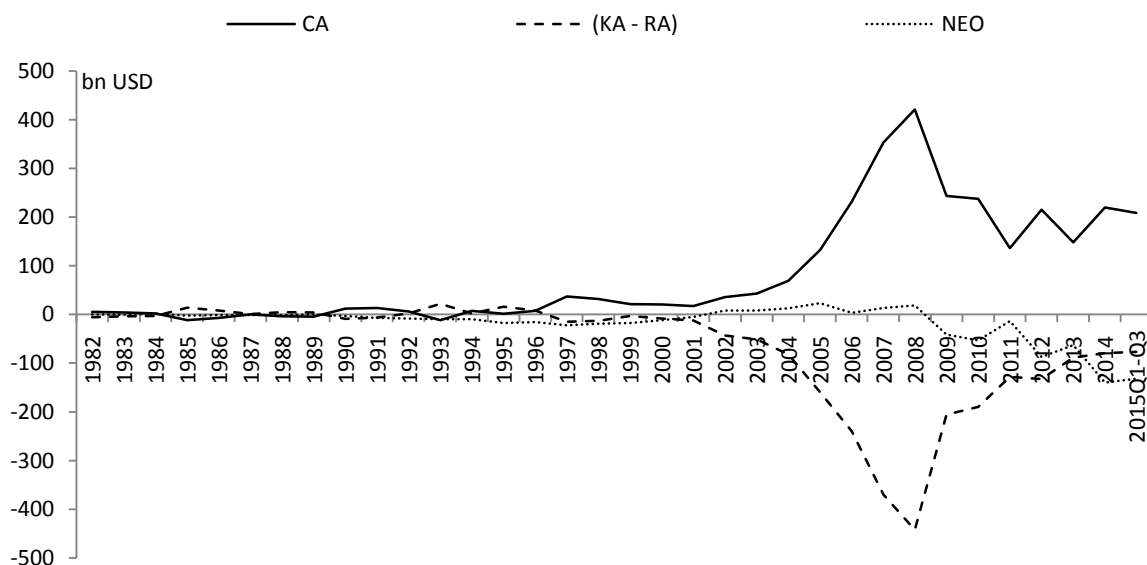
Figure A.1 shows that until 2008 there was an almost perfect balance between the current account and capital account net of reserve assets. Since then, however, the divergence has started to grow, with increasing net errors and omissions.

In the face of diminishing foreign reserves in China, it is insightful to analyze not only the balances but also the gross flows of the capital account. Table A.2 summarizes this information for the time period starting in 2010.

As a rule, a negative sign in entries in Table A.2 means capital actually flowing out of China, either because Chinese residents transfer money abroad (increasing assets), or because they liquidate their positions in foreign currencies (decreasing other investment liabilities), or because foreign residents disinvest in China (decreasing FDI and PI liabilities). Regarding the latter, although FDI and PI liabilities are still positive (meaning capital inflows), these positions were diminishing in 2015 compared with 2014, suggesting that a declining amount of foreign capital was brought into China.



Figure A.1 Current account, capital account net of reserve assets and net errors and omissions in the China's balance of payments.



Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.

Table A.2 China's capital account and its components.

	2010	2011	2012	2013	2014	2015
2.1 Capital account excl. reserve assets	282	260	-36	343	38	-305
Assets	-182	-226	-303	-220	-394	-273
Liabilities	464	486	267	563	432	-32
2.1.1 Direct investment	186	232	176	218	209	69
Assets	-58	-48	-65	-73	-80	-115
Liabilities	244	280	241	291	289	184
2.1.2 Portfolio investment	24	20	48	53	82	-41
Assets	-8	6	-6	-5	-11	-57
Liabilities	32	13	54	58	93	16
2.1.3 Financial derivatives	0	0	0	0	0	-2
Assets	0	0	0	0	0	-3
Liabilities	0	0	0	0	0	1
2.1.4 Other investment	72	9	-260	72	-253	-330
2.1.4.1 Assets	-116	-184	-232	-142	-303	-97
2.1.4.1.1 Other equity	0	0	0	0	0	0
2.1.4.1.2 Currency and deposits	-58	-116	-105	-7	-160	-68
2.1.4.1.3 Loans	-21	-45	-65	-32	-74	-85
2.1.4.1.4 Insur., pensions and st. guar. sch.	0	0	0	0	0	-4
2.1.4.1.5 Trade credit and advances	-62	-71	-62	-60	-69	-27
2.1.4.1.6 Other accounts receivable	24	48	0	-42	-1	86
2.1.4.2 Liabilities	189	192	-28	214	50	-233
2.1.4.2.1 Other equity	0	0	0	0	0	0
2.1.4.2.2 Currency and deposits	60	48	-59	76	81	-68
2.1.4.2.3 Loans	79	105	-17	93	-34	-113
2.1.4.2.4 Insur., pensions and st. guar. sch.	0	0	0	0	0	2
2.1.4.2.5 Trade credit and advances	50	38	42	45	-2	-50
2.1.4.2.6 Other accounts payable	0	1	5	0	5	-4
2.1.4.2.7 Special drawing rights	0	0	0	0	0	0

Note: Data for 2015 are based on information from the first three quarters of the year. A negative value for assets represents a net increase, whereas for liabilities a net decrease. In both cases, it means a capital outflow. Entries 2.1.4.1.4 and 2.1.4.2.4 refer to insurance, pensions and standardized guarantee schemes assets (2.1.4.1.4) and liabilities (2.1.2.2.4).

Source: State Administration of Foreign Exchange; Flossbach von Storch Research Institute.



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