



Economic Letter

China's Capital Controls Appear to Arrest Flight, Stabilize Currency

by J. Scott Davis

ABSTRACT: China's yuan and balance of payments appear to have stabilized by early 2017. Controls on capital outflows may have been a key factor that averted a full-blown financial crisis in the country.

China's foreign exchange reserves and the value of its currency peaked in 2014. From mid-2014 to year-end 2016, foreign exchange reserves fell \$1 trillion, amounting to about 10 percent of gross domestic product (GDP). Meanwhile, the yuan lost about 14 percent of its value against the U.S. dollar.

Chinese foreign exchange reserves have since stabilized, with the currency appreciating about 4.5 percent in the first nine months of 2017.

Two lines of thought have attempted to explain the currency's behavior. One is that Chinese capital controls prevented the type of capital flight from the country that could turn balance-of-payments instability into a broader currency calamity. The other supposition is that foreign capital returned to China with the reemergence of global growth and investment prospects there.

A review of past emerging-market balance-of-payments crises suggests that capital outflows controls may have been the stabilizing factor that averted a full-blown crisis.

Beginning in the early 2000s, the Chinese currency was initially a story of strength through commerce. After the peg between the yuan and the U.S. dollar was broken in 2005, yuan/dollar trade

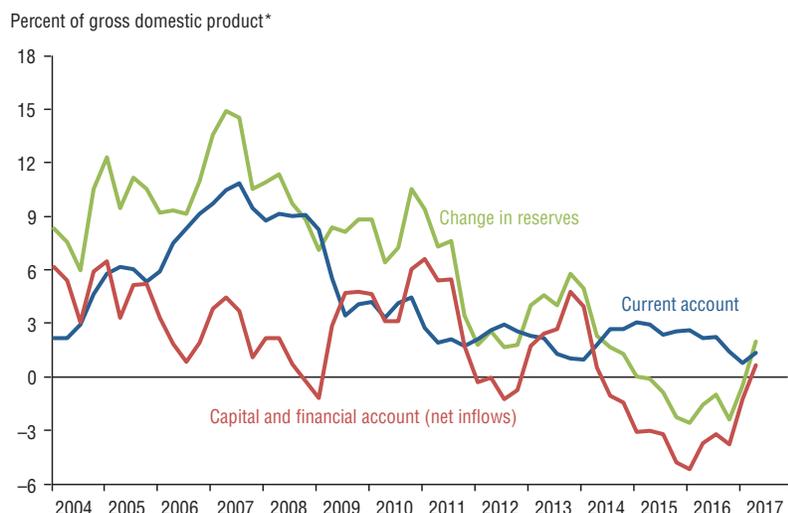
was nearly always a one-way bet through the end of 2013. Apart from a two-year period when China reinstated the peg following the 2008 global financial crisis, the yuan appreciated for nearly 10 years. The currency reversed course and depreciated from early 2014 through 2016, trading toward the end of that period at levels last seen in early 2008.

The yuan's earlier appreciation starting in 2005 signaled significant upward pressure on the currency from capital flows into China through its trade surplus and capital account. The flows came from foreign investors who sought Chinese assets given the prospects for the local economy.

China's central bank responded and intervened in the exchange rate market to relieve the upward pressure on the yuan, amassing a mountain of foreign exchange reserves. Between July 2005 (when China dropped its exchange rate peg) and June 2014 (when reserves peaked), foreign exchange reserves held by China's central bank increased from \$700 billion to \$4 trillion.

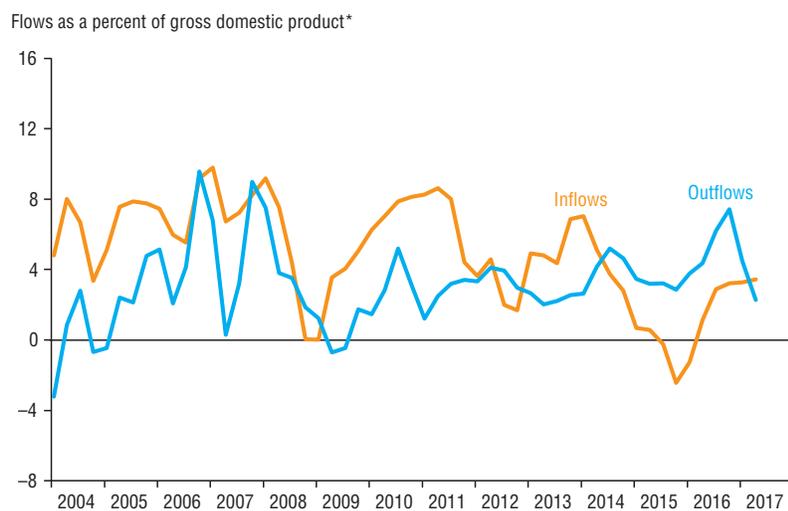
The situation changed when China's economic prospects dimmed in 2014 and international investors no longer sought assets. Capital inflows declined, depressing the currency and forcing the central bank to reverse its policy of reserve

Chart 1 | China's Capital Inflows Turn Negative in 2014, Leading to Balance-of-Payments Deficit



*Two-quarter moving average.
SOURCE: Chinese State Administration of Foreign Exchange.

Chart 2 | China's Currency Outflows Rise in 2016 Before Returning to Normal; Inflows Recover



*Two-quarter moving average.
SOURCE: Chinese State Administration of Foreign Exchange.

accumulation. Foreign exchange reserves were deployed to plug the resulting balance-of-payments hole.

Chinese balance-of-payments instability in 2014–16 could have fomented a crisis by early 2016. Instead, an environment characterized by a rapidly falling currency valuation and depleting foreign exchange reserves stabilized by early 2017.

Capital Flows Reversal

The current account is a measure of the net flow of capital into a country from currently produced goods and services. The current account includes the trade balance (exports minus imports), the net income from investments held abroad and some unilateral transfers such as remittances and foreign aid. Separately, the capital and financial account is a

measure of the net flow of capital into a country from private financial transactions (purchase or sale of stocks, bonds, etc.).

The fundamental balance-of-payments identity states that a country's current account plus its capital and financial account must equal the net change in official reserves held by the central bank.

From 2004 to 2014, capital flows into China through either the current account or the capital and financial account resulted in strong demand for Chinese currency, pressuring the exchange rate higher (*Chart 1*).

Starting in 2014, the positive flow of capital into China through the financial account reversed. Net capital flows into China through the capital and financial account went from +5 percent of GDP to –5 percent over a two-year period. This decline forced the central bank to sell reserves to stabilize the currency; foreign exchange reserves fell at a rate of 1 to 3 percent of GDP per quarter though much of 2015 and 2016.¹

After bottoming out in 2016, net financial inflows began to recover and headed toward positive territory. As a result, reserves stabilized, growing in recent months.

Causes of the Decline

Capital inflows are defined as the net purchase of domestic assets by foreign residents, and outflows are the net purchase of foreign assets by domestic residents. While both a fall in capital inflows and an increase in capital outflows have the same effect on net capital flows—both put downward pressure on the currency—they may have very different causes.

An increase in capital outflows could be due to Chinese investors diversifying their international holdings, while a fall in capital inflows would be a sign that foreign investors are losing confidence in China's growth prospects and are withdrawing investments.²

A fall in capital inflows is referred to as a “sudden stop,” and an increase in outflows is known as “capital flight.” Both lead to a drop in net capital inflows. The fall in Chinese net capital inflows during 2014–16 was due to a fall in inflows, a sudden stop (*Chart 2*).

The subsequent recovery that extended into early 2017 was due to a recovery in inflows. In fact, capital outflows remained steady though much of 2014 and 2015 as inflows fell. Starting in early 2016, outflows started increasing, an early sign of capital flight as Chinese residents moved capital out of the country. The increase in outflows did not last; they have since returned to normal levels.

Balance-of-Payments Crises

Barring unforeseen events, the most recent period of Chinese balance-of-payments instability is over.

Why did the situation stabilize and what kept this episode from becoming a full-blown emerging-market financial crisis? Was a crisis averted because foreign money starting flowing back in or because there was no rush by domestic residents to move capital out?

Both of these effects kept the fall in Chinese net capital inflows from worsening, as Chart 2 shows. To better understand the role of outflows and inflows in the averted Chinese crisis, it is useful to look at past episodes of emerging-market sudden stops, subsequent recoveries and how factors such as the use of capital controls affect those recoveries.

Charts 3 and 4 present the paths of capital inflows, capital outflows and net capital inflows, averaged across a sample of emerging-market countries in the 12 quarters before and the 12 quarters after a sudden-stop episode.³ The charts depict the average behavior of capital flows across 37 sudden-stop episodes from 1980 to 2014. Chart 3 shows the average paths of capital flows in the 23 episodes in which the country had high capital controls, and Chart 4 presents the paths of capital flows in the 14 episodes in which the country had low or no capital controls.⁴

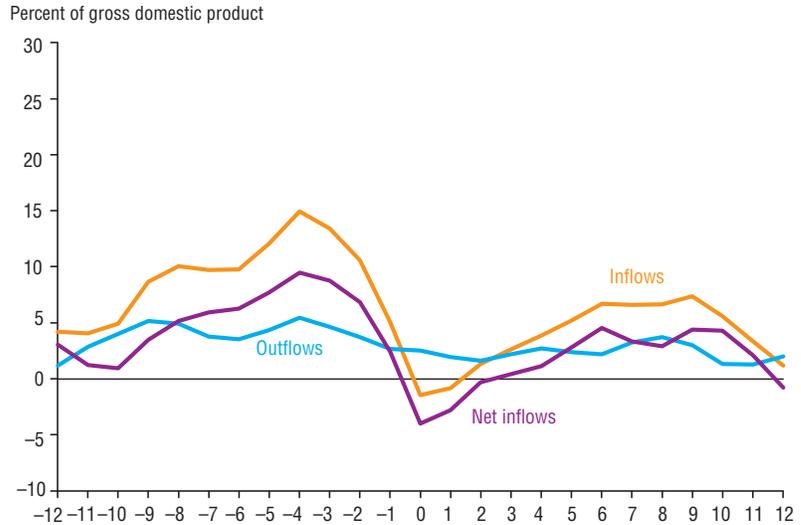
Capital controls are restrictions that the government of a country may place on the cross-border movement of capital. These could either be restrictions on foreign resident purchases of domestic assets (capital inflows controls) or restrictions on domestic resident purchases of foreign assets (capital outflow controls). These restrictions could vary from a tax that investors must pay when buying or redeeming cross-border assets,

to a strict limit on foreign ownership or a limit on the value of foreign assets that domestic residents are allowed to buy in a given year.

By definition, there is a sharp drop in capital inflows and net capital inflows in period 0 in both charts. Capital inflows are much larger and more volatile in

countries with low capital account restrictions and thus a relatively open capital account, but the behavior of net capital inflows is similar in both charts. Prior to the sudden-stop episode, net capital inflows were about +8 percent of GDP in both sets of countries, and in the sudden stop, net capital inflows fell

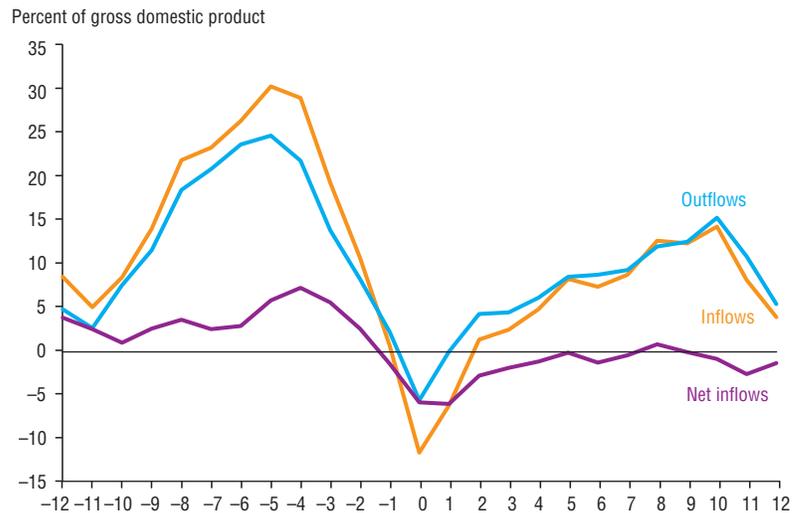
Chart 3 Emerging Economies with High Capital Controls
Benefit from Net Inflow Recovery After ‘Sudden Stop’ Crisis



NOTE: The chart depicts a sample of emerging-market economies, 1980–2014. “0” denotes a decline in capital inflows known as a sudden stop; 12 quarters before and after the sudden stop are shown.

SOURCE: International Monetary Fund.

Chart 4 Emerging Economies with Low Capital Controls
Confront Capital Outflows Following Crisis



NOTE: The chart depicts a sample of emerging-market economies, 1980–2014. “0” denotes a decline in capital inflows known as a sudden stop; 12 quarters before and after the sudden stop are shown.

SOURCE: International Monetary Fund.

to about –4 percent of GDP in countries with high capital controls and –6 percent of GDP in countries with low capital controls.

Capital inflows recover quickly following the sudden stop in both sets of countries. Capital inflows returned to about half of their pre-sudden-stop level within eight quarters after the sudden stop.

In countries with high capital controls, there is also a recovery in net inflows. Capital outflows after the sudden-stop episode are contained, so the recovery in capital inflows leads to a recovery in net inflows. But in countries with low capital controls, there is an increase in capital outflows in the wake of the sudden stop and, thus, despite the increase in capital inflows, there is little recovery in net inflows.

China has tight capital controls, and the index used to distinguish between high and low capital-control countries ranks China as having a nearly closed capital account. In particular, China has tight controls on capital outflows by Chinese residents. The government tightened these in early 2016 when net capital inflows were at their lowest and foreign exchange reserves were falling at a rate of \$100 billion a month.⁵

Examples of sudden-stop episodes in other emerging-market countries seem to suggest that capital controls may have arrested the fall in net capital inflows and prevented a deeper crisis in 2016.

The Chinese data show there was a sharp increase in capital inflows after the bottom was reached in early 2016.

Previous sudden-stop episodes show that this V-shaped recovery in capital inflows is common. The Chinese data also show there was an initial increase in capital outflows in early 2016 that began to resemble a capital flight, but it quickly receded.

The limited response of capital outflows in China in 2016 closely resembles what occurred in other sudden-stop episodes in emerging-market countries with high capital controls, suggesting that China's controls may have limited the capital flight and allowed a recovery in net capital inflows and a return of balance-of-payments stability.

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Notes

¹ The International Monetary Fund's Balance of Payments Manual 6 (BMP6) sign convention is used when discussing capital outflows. In this simple asset/liability approach, a positive net purchase of foreign assets by domestic residents is recorded as a positive capital outflow. Alternatively, some studies use the Balance of Payments Manual 5 direction-of-flow principle that would say when the net purchase of foreign assets is positive, there is capital flowing out of a country and capital outflows are recorded with a negative sign. In this case, net capital flows would equal capital inflows plus capital outflows.

² Many articles in the press assume that negative capital inflows are the same as positive capital outflows, though they aren't. In fact, they are far from being opposites, and several papers have found that capital inflows and capital outflows are positively correlated. See "Capital Flow Waves: Surges, Stops, Flight, and Retrenchment,"

by Kristin J. Forbes and Frances E. Warnock, *Journal of International Economics*, vol. 88, no. 2, 2012, pp. 235–51; "Gross Capital Flows: Dynamics and Crises," by Fernando Broner, Tatiana Didier, Aitor Erce and Sergio L. Schmukler, *Journal of Monetary Economics*, vol. 60, no. 1, 2013, pp. 113–33; and "Globalization and the Increasing Correlation Between Capital Inflows and Outflows," by J. Scott Davis and Eric van Wincoop, National Bureau of Economic Research, NBER Working Paper no. 23671, August 2017.

³ A sudden stop is defined as a fall of more than two standard deviations in capital inflows and net capital inflows over a one-year period.

⁴ Low and high capital controls are defined using the Chinn–Ito capital control index from "A New Measure of Financial Openness," by Menzie D. Chinn and Hiro Ito, *Journal of Comparative Policy Analysis*, vol. 10, no. 3, 2008, pp. 309–22 (using the data updated through 2015). The index is normalized on a 0–1 scale (where 0 indicates a closed capital account and 1 indicates an open capital account). Low-capital-control countries are those nations in which, prior to the sudden-stop episode, the Chinn–Ito index was greater than 0.5; high-capital-control countries are nations in which, prior to the sudden-stop episode, the Chinn–Ito index was less than 0.5.

⁵ One well-known Chinese capital outflow control limits the value of foreign assets that a Chinese resident is allowed to buy in any given year to \$50,000.

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