

# **China as a Reserve Sink: The Evidence from Offset and Sterilization Coefficients**

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## **Summary**

China has become the world's largest foreign exchange reserve holder, having amassed over US\$ 800 billion of international reserves by early 2006. The rapid accumulation of reserves has generated several controversies. One concern is whether this continuing balance of payments surplus signals the need for a substantial revaluation or appreciation of the Chinese yuan (CNY) to protect China both from the inflationary consequences of the liquidity buildup and a misallocation of resources as well as to help ease global economic imbalances.

Contrary to the widespread concerns among many economists about the huge size of the current global economic imbalance, Dooley et al. (2004) famously argued that mainstream economists have failed to recognize that we are now in a new informal version of the Bretton Woods system (BW2) and the global economy is therefore not in genuine disequilibrium. While there are clearly important analogies between the current international monetary system and Bretton Woods (BW1), the question of whether we are currently closer to the early or late days of BW1 is still open. In the later days of BW1 much attention was given to the concept of countries as *reserve sinks* into which reserves flowed. Instead of stimulating adjustments, as assumed in global monetarist models, the reserves effectively disappear from the system (down the sink) and hence contributed to continuing disequilibrium. Germany was seen as the prototype of the reserves sink during the BW1 days. Today China appears to be playing that role. Thus, investigating how China has reacted to its reserve increases is of international as well as national importance.

This paper estimates the degree of recent sterilization in China, as well as the degree of capital mobility as measured by offset coefficients, i.e. the fraction of an autonomous change in the domestic monetary base that is offset by international capital flows. To investigate the central bank's ability to control domestic monetary aggregates, it is necessary to estimate the extent to which international flows undercut its control. This in turn requires the estimation of the counterfactual of the desired rate of monetary growth, i.e. estimation of the central bank's monetary reaction function. There is no one correct theoretical specification for central bank reaction function, but the literature has developed a standard set of variables to be considered within this function. This allows us, at least in principle, to break down the interrelationship between international reserve changes and the monetary base into those relating to autonomous changes in the monetary base (the offset coefficient) and those relating to autonomous changes in international reserve flows (the sterilization coefficient). We also make use of recursive estimation to investigate changes in offset coefficients and sterilization over time.

Our empirical results suggest that China's effective degree of capital mobility has risen substantially in recent years with offset coefficients rising from around 0.1 to 0.2 in 2003 to above 0.6 for the most recent data. This is consistent with the judgments of a number of economists that China's capital controls have been becoming increasingly less binding. To date, however, this increased effective capital mobility has not undermined the PBC's ability to effectively sterilize its huge reserve accumulation. We estimate that the PBC has typically sterilized around 90 percent of the reserve inflows. This in turn explains how China has been able to maintain relatively low rates of money growth and inflation despite the surge of capital inflows. Our recursive estimations match recent historical episodes, such as the substantial increase in sterilization at the beginning of 2004 as the PBC succeeded in slowing money growth after the acceleration in 2003.

Overall our estimates of high sterilization over the period of China's recent huge buildup in reserves support the view that China has operated as a reserve sink, much as Germany and Japan did during the later stages of the Bretton Woods system. While Dooley et al. (2004) have suggested the current global economic imbalances are much less worrisome than most economists have suggested, the chaotic end of the Bretton Woods exchange rate regime in the early 1970s is but one of many examples that large prolonged international payments imbalances seldom lead to happy endings.