

# **The RMB Debate: Empirical Analysis on the Effects of Exchange Rate Shocks in China and Japan**

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## **Summary**

The exchange value of China's currency, the renminbi (RMB), has become a contentious issue. Many economists argue that the currency is undervalued; thus, it has become the main source of the country's large current account surpluses especially in relation to the U.S. There has been mounting external pressure on China to allow the RMB to appreciate against the U.S. dollar. However, China has been resisting the pressure, permitting only gradual and small changes in its exchange rate policy. Apparently, its main concern seems to be that currency appreciation would cause detrimental effects on its crucial export sector and create a host of economic problems that may worsen the unemployment problem in the rural sector and reduce economic growth.

To shed light on the issue, this paper examines empirically the effects of exchange rate changes on various macro variables of the Chinese economy, especially output and the current account/trade balance and their components by employing a vector auto-regression (VAR) model. As the Japanese experience of undergoing a decades-long recession after huge appreciation has frequently been invoked as a reason for Chinese resistance, we apply a similar model to Japan and compare the results with those of China.

Empirical results show that currency appreciation in Japan reduces current account surpluses, which is consistent with the popular notion, although it may not induce an economic downturn, contrary to what many people argue. On the other hand, RMB appreciation is not likely to have any significant effects on the current account balance but may have a negative effect on real GDP in China. These results suggest that pressuring China to undertake RMB appreciation for the purpose of current account adjustment may be ill guided. On the other hand, they give moderate support to the claim that currency appreciation will put recessionary pressure on the Chinese economy. Our results also suggest that attributing Japan's long recession to the yen appreciation is not necessarily warranted. There is little or no evidence showing that the appreciation of the yen leads to output contraction in Japan.

Further empirical analysis suggests that "dollar pricing," possibly combined with vertical trade integration, provides a clue to the insignificant responses of the Chinese current account to exchange rate shocks. Given that both exports and imports are set in terms of the U.S. dollar, the value effects from an RMB appreciation decrease both exports and imports in terms of RMB, offsetting each other. In addition, China's imports do not seem to strongly respond to the increase in the RMB import price, which is consistent with the vertical trade integration story. On the other hand, Japan seems to be a case of partial pass-through of exchange rate changes in which the expenditure switching effect is more relevant than in China.

The empirical results also suggest that the decline of output in response to currency appreciation in China is due to a reduction in investment, which seems to be related to the decline in the real money balance. On the other hand, Japan's output response to the exchange rate changes is weak and insignificant. This is because a significant decline in the current account is offset by an increase in consumption and investment, which may be induced by capital inflows following the yen appreciation.