

Debt Deleveraging and the Zero Bound: Potentially Perverse Effects of Real Exchange Rate Movements

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Summary

This paper presents a microfounded two-country model of global imbalances, deleveraging and a zero bound on nominal interest rates, and examines the resulting exchange rate behaviour.

The paper brings two ideas together in a formal model. Ben Bernanke (2005) has argued that it is impossible to understand the global financial crisis without reference to global imbalances in trade and capital flows that began in the latter half of the 1990s as a result of the global 'savings glut'. Paul Krugman (2012) has argued that any analysis of the GFC requires an understanding of how deleveraging caused interest rates to fall to the zero bound and led to a collapse in aggregate demand. The model shows how these issues may be thought about together at the same time.

Within this model of the US and China we examine the impact of two unanticipated shocks: an increase in patience in China followed by exogenous decrease in leverage in the US. The first shock generates global imbalances, while the second shock is meant to capture the impact of the US financial crisis. Our results are as follows. In response to the savings shock in China, global interest rates fall to ensure that resources remain fully employed. During the crisis, deleveraging in the US causes interest rates to fall further. When a zero bound is assumed, the deleveraging shock in the US causes a large fall in output and deflation. A zero bound in the US also makes real interest rate in the US higher than China. This means that the real exchange rate of the US appreciates, magnifying the negative effects of the zero bound on US output and the extent of deflation. These patterns appear consistent with the empirical facts.