Leverage Constraints and the International Transmission of Shocks

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Summary

The recent international financial crisis has highlighted the critical role of financial markets in the propagation of business cycle shocks, both in transmitting shocks from one country to another and in magnifying the effects of those shocks. One key aspect of this transmission mechanism, seen in both the recent crisis as well as the Asian and Russian crises a decade ago, is the importance of balance sheet linkages among investors and financial institutions across countries. This implies that asset price collapses in one country are transmitted internationally through deteriorations in the balance sheets of institutions in countries holding portfolios of similar assets.

This paper develops a theoretical model of a balance sheet channel for the international transmission of shocks. The model emphasizes how a process of balance sheet contractions, generated by a downturn in one country, is spread across countries through inter-connected portfolios. In the presence of leverage constraints, we show that this gives rise to a separate financial transmission mechanism of business cycle shocks that is independent of trade linkages. The paper's main contribution is to compare how macro shocks are transmitted under different financial market structures. We do not attempt to provide an integrated explanation of the recent crisis, or a full quantitative calibration, but instead highlight how the joint process of balance sheet constraints and portfolio interdependence generate an important cross-country propagation effect. We develop a two-country model in which investors borrow from savers, and invest in fixed assets. Investors also diversify their portfolios across countries and hold equity positions in the assets of the other country, as well as their own. Investors cannot commit to repay savers, however, and in order to ensure payment, may face limits on the maximum amount of leverage on their balance sheets.