

China: Credit, Collateral, and Commodity Prices

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Summary

China has become a dominant influence in global commodity markets due to the economy's size and commodity intensity. China now accounts, on average, for about one-third of global consumption of a basket of important commodities. China's share of global trade varies by commodity but is high, and rising for many food, metal, and energy products. But the story of China's impact on global commodity markets may not end here. In this paper, we suggest that credit shocks—or specifically, unexpected changes in lending by banks—may now be an important and underappreciated source of Chinese influence on global commodity markets.

Why might credit shocks in China be important for commodity markets? One reason may simply be that changes in credit predict changes in economic activity and real commodity demand. It is certainly true that China's economic growth since 2008 has become more reliant on credit—in other words, a given level of GDP growth now requires a higher level of credit growth. Credit intensity may decline as China rebalances away from investment towards consumption, but it will surely take time to transition to an economic growth model

that is less reliant on borrowing. In the meantime, an unexpected pick-up in economic growth will require more borrowing, higher investment, and increased commodity consumption.

A second related but more direct channel through which credit shocks may impact commodity prices is through collateral demand. Collateral assumes a pivotal role in China's banking system. The domestic credit market in China is bedeviled by informational asymmetry problems between the lender and borrower, particularly for private sector borrowers. These problems can be partially overcome by borrowers posting collateral as security against the loans. Banks have long preferred, and even required, property or land as collateral. However, a watershed moment for the financial sector came with the 2007 Property Rights Law. This law made it much easier for firms to use "movable assets" as collateral and some commodities are ideally suited for this purpose. Our hypothesis in this paper is that a positive credit supply shock will increase the demand for collateral and commodities and cause commodity prices to rise. In this case, the commodities are purchased, imported, and stored as security for borrowing but not consumed.

We use a simple econometric model to assess the impact of credit shocks in China on global commodity prices. We find that a 1 percentage point (ppt) surprise increase in China's bank lending results in statistically significant price increases of 10-12 percent for some base metals, including copper. This contrasts with a 1 ppt shock to China's industrial production which leads to a statistically significant change of 7-9 percent of aluminum, copper, and crude oil prices. Not only is the size of the effects of credit and activity shocks different but the commodities most affected also vary. These results support the hypothesis that China exerts a direct financial influence, as well as a real demand influence, on global commodity markets. Specifically, our results are consistent with the story that commodities play an important role as collateral in the domestic financial system.