

**From the Financial Crisis to the Real Economy:
- Using Firm-level Data to Identify Transmission Channels**

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Executive Summary

The 2007-2009 crisis that originated in the United States shocked the core of the global financial system. It led to a sharp drop in international trade in goods and services to a degree not seen since the end of WWII, and triggered a severe global recession, dubbed the “Great Recession,” unparalleled since the Great Depression. A small literature has studied the transmission of the crisis across national borders and the role of country factors (e.g., Claessens et al (2010), Blanchard et al (2010), Cetorelli and Goldberg (2009), Rose and Spiegel (2011)). The evidence from these studies to date is mixed on through which channels countries were affected—trade or financial—and how country initial conditions—openness, reserve positions, financial sector developments, etc.—affected the severity of impacts.

A common feature of these studies has been the reliance on aggregate data. Studies using macro data as outcome variables face challenges, however. Macro data reflect the aggregation of multiple underlying factors. Indicators like trade and financial openness can be highly correlated, which makes separating the specific channels causing firms’ adjustment hard. And with potentially numerous factors playing a role and a small number of observations, there is limited scope for uniquely identifying the relevant initial country conditions. The mixed evidence may thus not surprise.

To separate the importance of specific contagion channels and the role of country factors, one can employ firm-level data. One advantage is that one can exploit the large heterogeneity lost in aggregated data. By using actual firm-level balance sheets and income variables, one can examine how various firms were affected by the crisis and possible differences. Using such data for a large number of countries within and across various sectors allows one to broaden and identify better potential transmission channels and investigate country conditions that may have played a role.

For the current crisis, studies using firm-level evidence have been limited to date, largely because firm-level balance sheets and performance data are only released with a lag. In this paper, benefitting from the fact that firm-level data are now available for many countries, we study the real impacts of the 2008-09 crisis on manufacturing firms and the role of global linkages and country conditions. We analyze three channels through which the crisis may have affected firms: a financial, demand, and trade channel. To investigate the financial channel, we asked the question: if we characterize manufacturing firms into different baskets based on their ex-ante sensitivity to external financing shocks (in terms of investment and working capital needs), does this characterization help us to explain the ex-post performance of these firms? Similarly, if we characterize firms based on their intrinsic sensitivity to demand or trade shocks, do firms with different scores perform differently during the crisis? And to investigate the role of country conditions, we include country-level financial and trade linkages and their interactions with our proxies for the financial/demand/trade sensitivities, into our regression framework.

Studying changes over the crisis period in three measures of firm performance—sales, profits and capital expenditures—for 7722 manufacturing firms from 42 countries, we find the demand and trade channels to be the most important in economic terms, particularly in 2009. Examining the role of country-level conditions, we find trade linkages to play a significant role in causing the crisis to spillover across borders, while financial linkages play a considerably lesser role. We perform various robustness checks, such as controlling for sample selection and coverage, the role of government policies during the crisis, exploring alternative measures for the financial, demand and trade channels, and using actual firm sensitivities, and find our results confirmed. Still, the current paper is not meant to be a comprehensive assessment of the welfare effects of global linkages. To do that, several additional aspects need to be examined, including how different forms of global linkages affected firms and their growth rates during tranquil times, e.g., before the crisis. This would be a fruitful topic for future research.