

Foreign Shocks as Granular Fluctuations*

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Abstract

This paper uses a dataset covering the universe of French firm-level sales, imports, and exports over the period 1993-2007, and a quantitative multi-country model to study the international transmission of business cycle shocks at both the micro and the macro levels. The largest firms are both important enough to generate aggregate fluctuations (Gabaix, 2011), and most likely to be internationally connected. This implies that the largest firms are the key channel through which foreign shocks are transmitted to France. We first document a novel stylized fact: larger French firms are significantly more sensitive to foreign GDP growth. Our quantitative framework is calibrated to the observed firm- and country-level trade data, capturing the full extent of firm-level heterogeneity in both firm size and export and intermediate goods import markets. We simulate the propagation of foreign shocks to the French economy. “Granular” firms are quantitatively important of in transmitting the foreign shocks, due to the combination of their import and export linkages with foreign countries and their large size relative to the overall French economy. About one third of the impact of a foreign shock on French GDP is accounted for by the covariance between firm size and firm sensitivity to the foreign shock.

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