How Much do Individual Firms Shape a Country's Comparative Advantage?

BACKGROUND

Firms play a pivotal role in international trade, shaping the comparative advantage of countries. Much of trade is dominated by a small number of large firms that enjoy substantial market shares. It follows that if some of these firms disappeared, the country's comparative advantage would be dramatically altered: Consider Nokia in Finland or Intel in Costa Rica.

In this paper, researchers Cecile Gaubert and Oleg Itskhoki developed a trade model to look at these granular effects. Most trade models are continuous models, in which a country has many small firms and no single firm can have an impact on the overall aggregate productivity of a country. In a granular model, there are a finite number of firms that can influence aggregate trade patterns.

To investigate the role of granularity in determining trade patterns, the researchers altered a mainstream trade model so that:

- Countries have a finite number of firms
- Firms compete by *oligopolistic* competition rather than *monopolistic* competition

These changes allowed them to quantify trade flows by both a fundamental comparative advantage component (countries differ in their productivity in certain sectors) and a granular component (countries happen to have certain firms which are productive in certain sector).



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BRINGING THE MODEL TO DATA

The researchers took this model to a firm-level micro-dataset from France. The data provide information on the domestic and export sales of manufacturing firms across 117 manufacturing industries.

To match the model to the data, the researchers used a method called Simulated Method of Moments to choose model parameters that replicate certain features of the data. They found the model captures well the salient features of the French firm data.









gross trade flows export shares and and **EXTENSIONS AND APPLICATIONS** By extending the model, the researchers find that: Granularity can The death of a single high account for a large productivity part of the change firm can greatly in a country's change the comparative export stance advantage over of a sector. time.

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QUANTIFYING GRANULAR TRADE

After calibrating the model, the researchers calculated the extent to which trade flows are due to fundamental productivity or granular productivity.

They found that granular comparative advantage accounts for:

10% of variation in

17% of variation in

Mergers between large firms have larger welfare implications in a closed economy compared to an open economy.

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