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How does multinational production affect the measurement of competitiveness?

Topic 7 – Better statistics for a globalised world

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Introduction

The global growth of multinational groups is heightening the separation between measures of activity based on location of production and measures based on the nationality of firms. Standard measures of competitiveness based on gross exports or value added might be heavily affected by the strategies of multinational companies.

The lack of detailed bilateral datasets on foreign affiliates' activity has thus far prevented a thorough analysis of how multinational production affects the measurement of the competitiveness of a nation's companies.

This paper attempts to fill the gap. It starts by assembling a unique bilateral dataset in which value added and factor incomes are simultaneously broken down by country of location and by firms' ultimate owner country. The dataset, which covers 44 countries over the years 2004-11, is built using a combination of statistics on foreign affiliates from international sources, national sources, commercial firm-level databases and various estimation procedures. Using this innovative dataset, the work computes measures of production capabilities of the manufacturing sector, in which value added is allocated across countries not according to the location of the activity but according to the nationality of the firms or of the factors involved in production.

This framework is also used to analyse – with a common metric – the choice between exports and foreign direct investment (FDI) as alternative modes to serve foreign markets.

Methods / Problem statement

We assemble a detailed bilateral dataset on the activity of foreign affiliates in the manufacturing sector for 44 countries and a “Rest of the world” aggregate over the years 2004-11, with a breakdown by location of activity and by ultimate owner country (e.g. value added of U.S.-owned companies in Brazil).

Data on multinational production is based on the statistics of foreign affiliates (FATS) reported by Eurostat, OECD and national sources, combined with commercial sources (Bureau van Dijk's Orbis). Building on the seminal contribution of Baldwin and Kimura (1998), we allocate the world manufacturing value added across countries using, instead of the location of production, two alternative criteria: the nationality of firms (value added generated at home or abroad by domestically-owned firms) and the nationality of factors (value added generated by national factors, i.e. labor at home and domestically-owned capital at home and abroad).

Our dataset also enables us to compare the two modes of supply of foreign markets (cross-border exports and FDI) on a common metric based on value added (domestic value added in exports versus value added of foreign affiliates), thus avoiding the duplications that arise if one compares gross exports with foreign affiliates' sales.

Results / Proposed solution

How do ownership-based measures differ from geography-based measures?

The value added by nationality of firm is significantly larger than the value added by location for France and the U.K. (about 25 per cent), Japan (15 per cent) and the U.S. and Germany (10 per cent).

The value added by nationality of firms tends instead to be smaller than domestic value added in Central and Eastern European countries, emerging and developing countries (which are typically FDI recipients, reflecting the need for foreign capital and technologies) but also in a few selected euro-area countries with high levels of inward FDI (Belgium and Ireland).

When we allocate value added by nationality of factors, the differences with location-based indicators become smaller but tend to remain significant. We also compare world market shares in terms of the overall value added to serve foreign markets with world market shares in terms of value added in exports only. Including the value added of foreign affiliates increases the world market share of the U.S. and of the U.K. by approximately 30 per cent with respect to considering only the share in terms of value added in exports.

The world market share of France and Japan also increases after considering the activity of foreign affiliates, although to a smaller extent (10 per cent). Germany's market share remains almost unchanged with the inclusion of the value added of foreign affiliates.

Conclusions

This paper is the first to assemble a detailed bilateral dataset on multinational production, in which value added and factor incomes are broken down by location of activity and by ultimate owner country.

We use this newly developed dataset to compute a set of ownership-based measures of competitiveness in the production of tradable goods, in which manufacturing value added is allocated across countries not according to the location of the activity but according to the nationality of the firm or on the nationality of the factors involved in production. The dataset is also applied to the analysis of the two modes of supply of foreign markets (exports and production in foreign affiliates), using a common metric based on value added.

We find that there are marked differences between geography-based and ownership-based measures of competitiveness. Considering the value added of foreign affiliates among the modes of supply of foreign markets also matters for cross-country comparisons of world market shares.

We argue that these new indicators, which take into account the ownership structure of multinational groups, capture important aspects of the competitiveness of a country's firms or factors of production and could be used to supplement standard indicators based on the location of the activity.