'MultiProd': The micro drivers of aggregate productivity

Employment patterns and productivity growth play a central role in shaping the welfare of societies and the competitiveness of countries. 'MultiProd' is an OECD project to study productivity patterns, investigating the extent to which different policy frameworks can shape firm productivity, and examining the way resources are allocated to more productive firms through a process known as allocative efficiency.

The analysis aims to be a key input for policy makers as firm-level productivity and allocative efficiency are the engines of future growth.

Rationale

To a large degree, productivity differences explain the differences in income per capita across countries. But as firm-level productivity can vary widely, even in narrowly defined industries, **analysing industry-average productivity data does not offer a full picture**. Countries might display the same average, for example, but this might be characterised by very different underlying distributions.

This has important policy implications. For instance, low average productivity in a given country might be due to its having too few firms at the top, which would hint at an underlying lack of innovation, or to its having too many firms at the bottom, which would point to weak market selection. These two opposite situations would call for very different policies. **Understanding how firm-level productivity patterns translate into aggregate productivity is therefore a key challenge for policymakers**.

Drawing on the experience of the OECD *'DynEmp'* (Dynamics of Employment) project, which provided harmonised micro-aggregated data to analyse employment dynamics, the *MultiProd* project will provide cross-country harmonised micro-aggregated data of paramount importance for understanding productivity performances across countries.

Objectives of the project

- Better depict the **Schumpeterian process of creative destruction** across countries;
- Gauge whether resources are **efficiently allocated** through the analysis of the entire firm-level productivity distribution, with further refinements by size, age, and ownership categories;
- Identify firms at the **'frontier'** – the best performers - and understand how they differ across countries, what drives their performance, and how much they contribute to aggregate productivity growth;
- Investigate the cross-country differences in firm-level productivity performance and allocative efficiency before, during and after the **financial crisis**;
- Investigate the relationship between productivity and **wage dispersion**, and gauge to what extent heterogeneity in productivity has contributed to wage inequality;
- Examine the **effectiveness of various policy frameworks** aimed at shaping firm productivity and enhancing resource allocation to more productive firms.

Data and Methodology

The project will rely on a distributed microdata methodology, in a similar fashion to the *DynEmp* project. A software will be sent to countries, and the affiliated researchers in each country will run the code on their confidential microdata ensuring that the aggregated output will respect confidentiality rules. The micro-aggregated results will then be analysed by the OECD.

An important aspect of the methodology is to make sure that the data are comparable across countries. Productivity will therefore be measured in exactly the same way across countries, subject of course to data availability.

The data sources used will be production surveys or similar datasets, such as balance sheets and income statements, which contain information on output (production or sales), value added, inputs (employment, capital, intermediates) and labour costs. Wherever possible, they will be matched to social security records or business registers. The match will considerably improve the quality of the analysis as it will provide the weights to correct for the under-representation of certain groups of firms due to the sampling in the production surveys, thereby producing statistics based on representative sample and reliable aggregates.

Outputs

The output of the project will be a collection of statistics at the detailed sectoral level over the 2000-2012 period (or latest available year, and earlier periods wherever possible), for different variables:

- labour and multifactor productivity;
- capital intensity;
- investment;
- employment and wages (in both level and growth).

The statistics presented will be collected both at different percentiles of the firm-level productivity distribution and refined by size, age, and ownership categories. The output will include measures of within-industry productivity dispersion and firm-level wage inequality; measures of allocative efficiency; decompositions that will make it possible to quantify the contribution to aggregate productivity level, growth and volatility of different types of firms (e.g. entrants; low vs high productivity firms etc.).

In addition, the software will allow countries to perform empirical analysis within a harmonised framework, with the aim of establishing a set of stylised facts for each country regarding the relationship between productivity and firm characteristics (size, age, previous performance, ownership etc.).

Contacts

Ms. Chiara Criscuolo **Chiara.Criscuolo@oecd.org**

Mr. Giuseppe Berlingieri **Giuseppe.Berlingieri@oecd.org**