Slicing Up Global Value Chains

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In this paper we provide a new metric for the contributions of countries to global value chains. It is based on an input-output analysis of vertically integrated industries, taking into account trade in intermediate inputs within and across countries. The value of global manufacturing output is allocated to labour and capital employed in various regions in the world. Using a new world input-output database, we find that for most countries an increasing part of domestic final output is captured as income by foreign production factors. Between 1995 and 2006, the foreign income share of final manufacturing output in China increased from 14 to 21 per cent. This share is now on par with the US but smaller than in any European country. The share of China in foreign final output is increasing even faster, although it is still smaller in value terms. We also find that the growth of Chinese manufacturing has led to major changes in the income of production factors around the world. Overall labour income related to global manufacturing in the EU and NAFTA changed only marginally, even for low- and medium-skilled workers. In contrast, incomes in Japan declined for all production factors, in particular medium-skilled labour and capital.

The database underlying this research is part of a large-scale European research project to analyze the effects of globalization on socio-economic and environmental trends at the industry, country and global level (see www.wiod.org). This database called WIOD (World Input-Output Database) is constructed by linking time-series of national input-output tables with international trade statistics. Building upon the EU-KLEMS productivity database, it is complemented with data on the use of various types of labour (by skill level) and capital. This is the first attempt to bring these disparate data together in a coherent database, firmly based on the System of National Accounts. And we aim to stimulate further harmonisation of these statistics at a global level in the future. The current database includes the major 40 economies in the world covering about 90% of world GDP and providing time series from 1995 onwards.