

How much of Chinese exports is really made in China? Assessing foreign and domestic value-added in gross exports

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Abstract

As China's juggernaut export machine employs many imported inputs, there is a wide interest in assessing accurately the extent of domestic value added (DVA) in its exports. To that end, we aim to make three contributions. While we use China for illustration, the methodological contributions of the paper are applicable to Mexico, South East Asia, Central and Eastern Europe and other countries that engage in processing trade.

First, we clarify a connection between the concepts of domestic value-added in the input-output (IO) literature and that of vertical specialization (VS) share in the international trade literature (Hummels, Ishii and Yi, 2001). By analytically demonstrating that a nation's gross exports could be completely decomposed into domestic and foreign value-added shares, we provide a broader interpretation of VS share when it is applied to countries that engage heavily in processing exports.

Second, we develop a mathematical programming model that separates the production of processing trade account from a standard IO table by incorporating information from published trade statistics. Using this to construct an extended IO table, we propose a procedure to compute the domestic and foreign value added share in gross exports.

Third, we apply the procedure to decompose China's gross exports in 83 goods producing industries based on China's published 1997 and 2002 benchmark IO tables and related trade statistics that distinguish processing and normal trade. Our estimates of domestic value added tend to be higher than those derived from existing methods in the literature. There is also a trend increase in the DVA component of the exports (which is the opposite from what one would have estimated using the existing measure). For the Chinese manufacturing exports as a whole, DVA (as a share of the total value of exports) rose from 47.1% in 1997 to 51.3% in 2002.

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