

Title: Processing vs. Ordinary Trade
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I. Policy Motivation. The rapid decline in transportation costs and policy barriers over the last few decades has dramatically increased international trade flows. It has enabled the exchange of not only final consumer goods, but also of intermediate inputs for further processing and assembly. For the past 30 years, China has waived import duties on foreign materials used for re-exporting as a means of export promotion. Processing firms choose either to source foreign parts and export on their own (import-and-assembly) or to process inputs directly provided by a foreign buyer at no cost (pure assembly). By 2005, 55% of Chinese exports comprised processing trade, making China a key link in global supply chains. This project examines why Chinese firms engage in different trade regimes and how this decision affects company performance. The study is particularly relevant to developing countries that rely on foreign trade for economic growth because cross-border linkages can affect welfare, generate technological spillovers and propagate business cycle shocks.

II. Policy Impact. Understanding the determinants and consequences of global production networks will shed light on questions of first-order importance to policy makers. How should trade policy be designed when different stages of the manufacturing process occur in different countries? What are the aggregate welfare and distributional consequences of such trade flows and policies? How does trade in intermediates affect exchange-rate pass-through and the transmission of supply and demand shocks across nations?

III. Audience. Decision makers active in the design of international trade and capital flow policies, as well as in the development of domestic financial markets.

IV. Policy Implications

Using matched customs and balance sheet data on Chinese exporters, we establish two results. First, profits, profitability and value added systematically decrease as producers re-orient sales from ordinary towards processing trade, and from import-and-assembly towards pure assembly. Second, more productive firms and less liquidity constrained firms are more likely to pursue ordinary trade relative to processing exports, and import-and-assembly relative to pure assembly.

These results have the following policy implications:

- Financial market imperfections impede export activity.

Our results indicate that limited access to capital prevents exporters from pursuing more profitable activities. Compared to ordinary trade, processing trade and pure assembly in particular entail lower up-front costs since they do not incur import tariffs, distribution costs abroad, and potentially the cost of foreign materials. However, the exporters' bargaining power in negotiations with foreign buyers increases with their share of total costs and thereby affects firm revenues. This is consistent with evidence in the growing literature on trade and finance and points to a novel mechanism - choice of trading contract and regime - through which liquidity constraints impact firms' export outcomes and ultimately profitability. Improving financial contractibility and relaxing capital constraints is thus expected to bolster countries' exports.

- Import liberalization can boost developing countries' exports.

Our findings imply that facilitating access to imported materials can improve a country's export performance. This is consistent with findings in the prior literature that sourcing foreign inputs of superior quality than domestic parts enables firms in developing countries to produce high-quality goods that appeal to rich consumers in developed markets. Earlier work has also shown that import liberalization increases the variety of imported intermediates and thus allows manufacturers to expand product scope. To the extent that multilateral tariff reductions would encourage trade in both intermediate and final goods, global production chains also point to complementarities in trade policies across countries.

- Trade policy has differential effects across firms.

Our analysis suggests that less productive and more liquidity constrained manufacturers might benefit more from import liberalization (and presumably other export-promoting policies as well). The processing regime in China likely allows producers that would have otherwise been unable to pursue any cross-border operations to share in the gains from trade. Imperfect financial markets might thus provide some justification for government intervention in the regulation of international trade flows. In other words, trade policy can serve as a second best when improving financial institutions proves challenging.

V. Implementation

While our conclusions have specific policy implications, the appropriateness of such measures will in practice depend on other economic forces that we have abstracted away from as well as on the specific institutional context. These need to be carefully evaluated and taken into account for the proper design and implementation of policy interventions. Such considerations include:

- the impact of import liberalization on domestic producers and consumer prices;
- the potential for larger, less constrained exporters to benefit more from import liberalization if the infrastructure for importing materials is underdeveloped and smaller firms are unable to import inputs on their own;
- the spillover effects of access to new and technologically sophisticated inputs, including quality upgrading and moving up the value-added chain;
- the suitability of local labor markets and transportation networks for processing trade;
- the reliability of contract enforcement, intellectual property rights protection and product quality control for securing foreign processing trade contracts;
- the engagement of domestic firms versus foreign multinationals in processing trade;
- the exposure to global demand shocks associated with higher export levels;
- the implications of processing trade for firms' response to exchange rate movements.

VI. Dissemination. World Bank, Inter-American Development Bank, Central Bank of China, central banks and ministries of international commerce and investment in developing countries.

VII. Further Reading. Please see www.stanford.edu/~manova/research.html and the references in the working paper associated with this brief.