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## Comment James Harrigan

Once upon a time, trade economists did not pay much attention to firms, and when they did they ignored within-industry heterogeneity. Bernard and Jensen challenged this orthodoxy in a series of influential papers that first appeared in draft form in the early 1990s. Using the Census Bureau's Longitudinal Research Database, the Bernard-Jensen papers focused on the exporting behavior of plants, and found tremendous heterogeneity: a small minority of plants exported, and they differed dramatically from nonexporters, with exporters generally being larger and more productive. Adding co-authors (including Peter Schott) along the way, the Bernard-Jensen research program has continued and been taken up by many others, and with Marc Melitz's seminal 2003 *Econometrica* paper the study of heterogeneity in export behavior was put into a tractable general equilibrium framework.

As the theory and empirics of heterogeneous exporters advanced rapidly in the 1990s and early 2000s, the microfoundations of importing were almost entirely ignored. For example, in Melitz's paper, the sophisticated and insightful treatment of exporters is complemented by the conventional, and utterly uninteresting, assumption that the demand for imports comes from the CES utility function of a representative consumer.

I recount this brief intellectual history to help explain why this new chapter by Bernard, Jensen, and Schott is so important. It makes several contributions that should, and I think will, have a profound impact on how trade economists think. It should be required reading (or at least skim-

ming) for graduate international trade courses, and textbook authors should incorporate its findings into their next editions.

There is much that is new in this chapter, but the newest is that it identifies imports with firms. As the authors note, prior to their paper there was “virtually no research documenting and analyzing importing firms.” I would add that there is virtually no theory that takes importing firms seriously, with the partial exception of the literature on vertical multinationals (e.g., Markusen 2002, Chapter 9). If importing firms do nothing more than add some retail and/or wholesale services to imported goods before handing them over to consumers, then thinking carefully about importing firms might not be important. However, this type of importing firm accounts for less than a third of total imports: the bulk of imports are bought by firms in goods or services categories (table 14.9). This suggests that the direct demand for imports comes largely from the production process, and the modeling of imports should reflect this.

Before proceeding further, it is worth defining what it means for a firm to trade, and examining how closely the measurement categories of the chapter match up with what we might ideally want to know.

A firm is deemed an exporter if it produces a good that is sold to a foreign customer. Of course, manufacturers buy intermediate inputs as well as hiring labor and capital. There are several implications of this observation:

- Attributing the gross value of an export transaction to a final product firm may be misleading about which firms are globally engaged.
- Export involvement may be less concentrated than the chapter’s figures suggest.
- The measurement of export involvement is sensitive to the organization and boundaries of firms.

To illustrate my point, consider Boeing, the largest U.S. exporter. Boeing purchases parts from U.S. suppliers, yet these parts suppliers will not be counted as exporting firms unless they sell parts directly to foreign buyers. Similarly, if Boeing buys services from accounting and legal firms these firms will not be counted as globally engaged. The point is not that Boeing’s parts suppliers or accounting firm should be counted as exporting firms, but simply to observe that the correct measurement depends on the question being asked.

For importing firms, many of the same concerns apply, and the appropriate definition is even more problematic. In the data, a firm is an importer if it purchases a product from a foreign supplier, with no reference to what happens next. As with the definition of an exporting firm, such a classification probably understates the extent of global engagement, perhaps dramatically. For example, big retailers such as Wal-Mart buy directly from foreign suppliers, while smaller retailers are more likely to buy from a distributor or broker. Thus, an electronics retailer that primarily sells im-

ported goods will not be recorded as an importer even if its wholesale suppliers buy exclusively from foreign manufacturers and do no more than add a small markup.

With the above caveats in mind, the most striking finding of this chapter is the extraordinary skewness in trading behavior: a small minority of firms import and export, and they are big. Skewness in firm size is a long-established fact (see, for example, Axtell 2001), but what is remarkable about this chapter is that what the authors call global engagement is even more skewed than size. This is illustrated in table 14.3: in 2000, the top 1 percent of firms employed 14 percent of the labor force and conducted 80 percent of trade. They also show that the vast majority of trade is conducted by huge multinationals that trade multiple products (table 14.4) with multiple countries (table 14.6) and conduct much of their trade with their affiliates (table 14.14), often in developing countries (tables 14.12 and 14.16). The implication is clear: if you want to think about U.S. trade, you need to think about big multinationals.

The dimensionality and scale of the data set assembled by the authors is nearly overwhelming. Dimensions of variations include

- time (1992–2000)
- firms (5 million!)
- sectors (manufacturing, wholesale/retail, etc.)
- types of firms (most globally engaged, other)
- trading partners (Mexico, China, Europe, . . .)
- products (within firms, one to ???)
- type of transaction (arms length, related party, . . .)
- size of firms (corner store to Wal-Mart)
- mode of shipment (air, surface)

In contemplating what questions can be addressed with such a data set, it is useful to think about what questions can be asked with more aggregate (and more publicly available) data. For example, as the authors note, trends in within-firm trade and multinational activity have been usefully analyzed by previous authors using Bureau of Economic Analysis data. Similarly, variation in highly disaggregated import and export data has recently been analyzed by a number of authors, including Schott (2004), Hummels and Skiba (2004), Hallak (2004), and (if I may be permitted some self-promotion) Harrigan (2005). For researchers, the key innovation in the data set is the linkage between product-level trade and individual firms. This is the link that permits identification of what I take to be the major finding of this chapter, the extraordinary concentration of U.S. trade in a tiny fraction of firms. The firm-trade link will also permit the analysis of important issues such as transfer pricing (an opportunity already taken up by the authors in a paper-in-progress), exchange rate pass-through, and economies of scope that it was not possible to study with earlier data sets.

Economic analysis of international trade is an intellectually healthier field than it was twenty years ago because of its embrace of empirical work and its receptiveness to surprising empirical findings. This paper has already been met with great interest, and just as the earlier Bernard-Jensen work has been influential, I expect this new Bernard-Jensen-Schott chapter to be the stimulus for exciting future research.

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