Second, the result that the main cause of the decline in shipments over longer distances is due to the extensive margin (decline in establishments shipping and commodities shipped) is consistent with other evidence that many firms do not export. However, they find that this is just as true within countries as it is between countries. The question of what causes this is not resolved by their work. They suggest it is due to agglomeration: firms producing specialized intermediate goods locate near each other. However, presumably firms locate near each other in part because of the costs of trading over large distances. The nature of these costs cannot be inferred from their work, but the results are consistent with evidence of fixed costs of trading which prevent many establishments from exporting at all.

Much of the evidence from other studies is consistent with the existence of fixed and/or sunk costs of exporting. For example, Bernard and Jensen (2004) using US data infer evidence of substantial sunk entry costs into foreign markets from a pattern of behaviour in which exporting in the past has a large and significant impact on the likelihood of exporting in the present. Roberts and Tybout (1997) find similar evidence using Colombian data. Using aggregate data, Eichengreen and Irwin (1996) find that history matters for the pattern of bilateral trade flows, a result that is consistent with fixed costs of beginning to export.

A large amount of international trade is in intermediate goods and there is evidence that international fragmentation of production and the importance of international supply chains has been increasing over time. Hummels, Ishii and Yi (2001) calculate an index of vertical specialization in international trade for 10 OECD countries—essentially the fraction of the value of a country's exports accounted for by embodied imports. Vertical specialization accounts for about 21 percent of exports from these countries, and its importance increased by about 30 percent between 1970 and 1990.

Trade costs affecting trade in intermediate goods are influenced by many of the factors that affect trade in final goods, but there are some differences as well. In particular, there can be a cumulative effect of trade costs, if goods and components cross borders during various stages of production. In an interesting