models of international trade[1]. In these models, firms can decide which stages of production should be internal to the firm, and which should be outsourced; and, in either case, they can decide whether to keep all production domestic, or spread some or all of it across borders. That is, a firm has the option of sourcing production from local or foreign affiliates, and/or from local or foreign independent suppliers. Trade and contracting costs affect all of these decisions.

If firms are considering outsourcing production, then they must find suitable suppliers. In some cases, standardized inputs can be purchased on a spot market. In other cases, suppliers must make firm-specific investments to produce specialized inputs that would have little value to alternative firms. In such cases, it is important that firms find a good match when looking for suppliers. Hence information costs such as those discussed above can be important determinants of the flow of trade in intermediates. Moreover, contracting issues loom large. If a supplier cannot write complete contracts with a purchaser regarding quality or firm-specific investments, then there may be a hold-up problem—once a supplier has made a firm-specific investment, the purchaser can take advantage of the sunk costs and attempt to get a better deal from the supplier; and suppliers who recognize this then have reduced incentives to make firm-specific investments. The ability to monitor costs and the quality of institutions affecting contract enforcement will then be important factors affecting the international organization of production, and hence the volume of trade.

Work in this area is still in its early stages, but there is some supporting evidence for these theories. For example, Nunn (2005) finds that countries with a legal system that is more effective in enforcing contracts have a comparative advantage in contract-intensive production activities and Antras (2003) interprets evidence that capital intensive goods tend to be imported into the US via intra-firm transactions whereas la-

[1] See for example Grossman and Helpman (2002), Antras (2003), McLaren (2000), Antras and Helpman (2004), Nunn (2005), and the survey by Spencer (2005).