

spreading fixed costs over a greater number of units produced reduces per unit costs. However, it is not clear on *a priori* grounds whether manufacturing activity is also subject to economies of scope. If there are joint products or if overhead costs can be spread over multiple product lines, there might be economies of scope; on the other hand, if a firm increases its productivity by specializing in fewer product lines, diseconomies of scope would be indicated. Complicating the story, there could be economies of scope at the *firm* level, notwithstanding diseconomies of scope at the *plant* level, if as Lileeva and Van Biesebroeck note, some of a firm's expenditures such as R&D costs can be spread over multiple plants. Importantly, firms can choose more or less flexible technologies that are optimal for, respectively, more or fewer product lines.

Lileeva and Van Biesebroeck find that Canadian plants generally face economies of scale but diseconomies of scope. While the scale-scope trade-off appears to be a pervasive phenomenon, it varies with the industrial context. In some cases, scale economies and the penalty for variety are large in absolute value; Lileeva and Van Biesebroeck identify these as involving mass production technologies. In other cases, scale economies and the penalty for variety are low; these they identify as involving flexible production systems. Examining cases where firms switch technologies, their results indicate that the "old" production technologies are more flexible and the newly adopted technology involves mass production. Thus, over time mass production technology has gained in importance.

The impact of trade liberalization differs for exporters versus non-exporters. The reduction of U.S. tariffs under the Canada-United States free trade agreements is associated with a decrease in available scale economies. Lileeva and Van Biesebroeck note that this might reflect investment by Canadian plants in the new technology needed to access these potential scale economies or—more plausibly, they suggest—simply an expansion of output, exploiting and exhausting the scale economies that their existing technologies provided. The reduction of Canadian import tariffs, on the other hand, had the