

1980s to the early 1990s reduced the diversity of their output. Within this group of firms, between 1983 and 1993 some 38 percent more firms switched from multiple-plant to single-plant firms than switched from single-plant to multiple-plant firms, further suggesting a move toward increased specialization.

Furthermore, given that Canada comprises many diverse regions, it was not surprising that the impact of increased trade liberalization and specialization yielded different impacts across the country. Brown (2008) has shown that the impact of trade liberalization on specialization was found to be greater in regions outside of urban areas and outside of Canada's industrial centres of Ontario and Quebec. As in the case for Canada as a whole, plants with higher export intensities in these regions were found to have increased levels of specialization in the industries under investigation.

The key benefit from specialization lies in the fact that as plants specialize they become increasingly productive, either through a one-time shift in resources or through an ongoing process of learning or exploitation of scale economies. As specialization has been shown to increase at the plant-level in tandem with trade liberalization, so too has plant-level labour productivity. Trebler (2004) found that 14 percent of export-oriented industries increased productivity following the implementation of the CUSFTA; and furthermore, productivity improvements across industries were shown to grow at a compound annual rate of 1.9 percent. As a whole, labour productivity in Canadian manufacturing rose about

6 percent with the implementation of the CUSFTA—strong support for the welfare-improving nature of specialization.

Along with labour productivity, output and wage growth were also shown to increase with the implementation of the CUSFTA (Trebler 2004). On the other hand, while export-market participation in Canada is linked to higher plant specialization and productivity growth, employment growth was found to be lower in exporting firms, likely a reflection of exporters employing a more skilled, more productive workforce and operating less labour-intensive plants.

The impact of specialization on Canada's trade has also been analyzed using computable general equilibrium (CGE) models, which have the capacity to assess the gains from trade on a per-agreement basis. Typically, CGE models estimate the economic welfare gains from FTAs under the assumption of perfect competition.⁸ As such, these models are best understood as estimates of the potential economic impacts of the FTA under investigation. Nonetheless, while a number of assumptions are made in the model, the results most likely understate the gains in output and economic welfare for a given amount of trade expansion. More specifically, under the assumptions made, the removal of tariffs has less of an effect on domestic prices, as the industries are already perfectly competitive, which is not the case in reality. Therefore, although the analysis does not separate out specialization in particular from gains overall, general economic gains are estimated—of which specialization is deemed to be one component. All of the four most recent joint

8 These models, popular for estimating the economic welfare gains from FTAs, usually assume a perfectly competitive market structure, that is, all industries in the domestic economy are price takers and their individual production cannot affect supply enough to influence prices. Under this assumption, the removal of tariffs produces a smaller effect on domestic prices as the industry is already competitive. Therefore, gains in trade often arise through other channels, such as increased exports.