
International Trade: 20 Years of Failed Economics and Successful Economies

Daniel Trefler

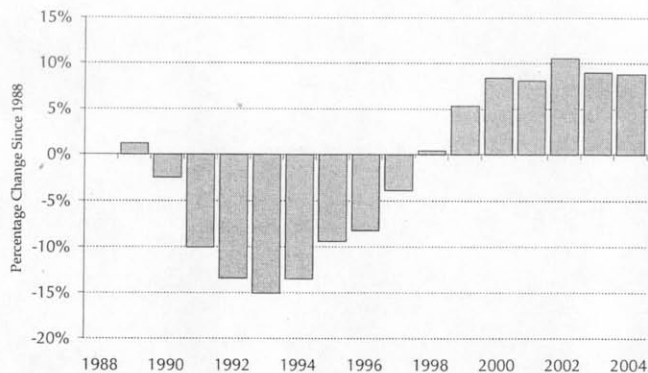
Careful what you wish for. The Macdonald Commission wanted a Free Trade Agreement with the United States and ended up with an accord that included Mexico. The Commission also wanted a set of rules for dispute-settlement and institutions for enforcing those rules that would have insulated Canada from the vagaries of U.S. trade sanctions. Instead, we got rules that both went too far (the expropriation clause) and that did not go far enough (softwood lumber). Many of the problems we have had with the North American Free Trade Agreement (NAFTA) have been in the resource and agricultural sectors. NAFTA has also had some important effects on manufacturing, some of which played out along lines foreseen by the Commission, and some of which were completely unanticipated. The impact on manufacturing is the subject of this paper.

Lost Jobs and Productivity Gains

The year 1993 was the low water mark for the Canada-U.S. Free Trade Agreement (FTA). Canadian manufacturing employment had declined by 15 percent and seemed headed for oblivion. Labour unions were arguing that our country had been betrayed.¹ Fortunately, 15 years into the FTA the picture is much less bleak.

¹ Indeed, as a supporter of the Agreement, I felt that I numbered among the betrayers and that my three post-graduate degrees in economics had blinded me.

Figure 1: Canadian Manufacturing Employment

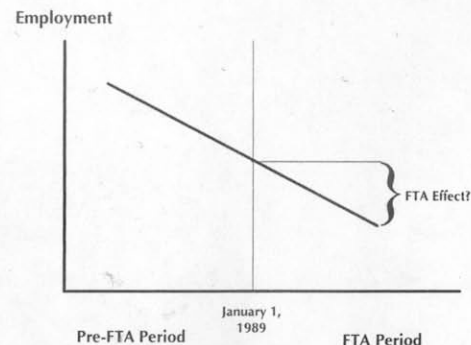


Source: Author's calculations based on labour force survey estimates, seasonally adjusted; Statistic Canada's CANSIM table number 282-0094.

Manufacturing employment today is significantly higher than in 1988 before the signing of the FTA — no mean accomplishment given the Chinese manufacturing onslaught that has crippled manufacturing employment in most countries in the Organisation for Economic Co-operation and Development (Figure 1).

It would be disingenuous to say that Figure 1 establishes the success of the FTA. Many things have happened since 1988 that potentially affected employment, including the GST, tight money and fiscal restraint. Two things are missing from the Figure 1 analysis. For one thing, the analysis is aggregative, failing to distinguish industries that were affected by the FTA, such as apparels, from those that were not, including the automotive sector. For another, for each affected industry, one needs to compare its FTA period performance with its pre-FTA performance. The problem is illustrated in Figure 2 which plots the time series of employment for a fictitious industry. If one were to look solely at the FTA period one would incorrectly attribute the long-term demise of the

Figure 2: Secular Change



industry to the FTA. What gives this example force is that apparels and other industries that were hurt by the FTA are low-end, labour-intensive industries that have been experiencing secular decline.

In Treffer (2004) I laid out an econometric methodology to deal with this and other problems that arise when estimating the impact of the FTA. Some key results appear in Table 1. For industries that were subjected to the deepest Canadian tariff cuts (import-competing industries), employment fell by 12 percent. Because of the high costs that displaced workers bear, that is a disturbing number. Unfortunately, these lost jobs were not picked up by the industries that experienced the deepest U.S. tariff cuts (export-oriented industries), for reasons that I shall explain.

The bright spot for the FTA was productivity growth. The most affected industries experienced productivity growth of 15 percent (Table 1). It must be emphasized that this is a huge increase. If the Canadian economy as a whole could grow by 15 percent it would all but close the Canada-U.S. income gap and provide the funds to meet every one of Canada's fiscal challenges, including health

Table 1: *Impact of the FTA on Manufacturing Employment and Productivity*

	Employment		Productivity	
	Effect of Canadian tariff cuts	Effect of U.S. tariff cuts	Effect of Canadian tariff cuts	Effect of U.S. tariff cuts
Total	-12%	-1%	15%	4%
<i>Within/Between</i>				
Within Plants	-12%	0%	0%	14%
Between Plants	0%	-1%	15%	-10%
<i>Exporter Status</i>				
Exporters	0%	0%	0%	10%
Non-Exporters	0%	-12%	0%	0%

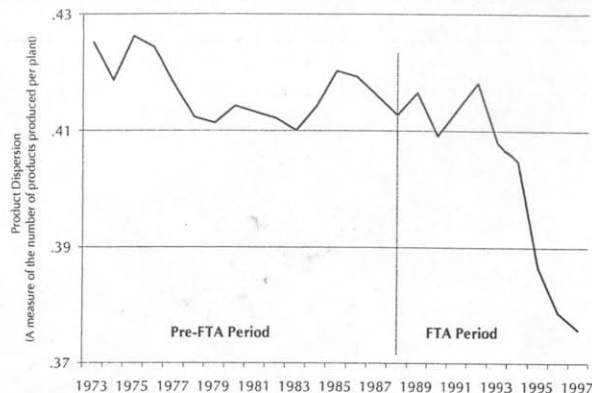
Source: Lileeva (2004) and Trefler (2004).

care, children, regional development transfers, single moms, Kyoto commitments, and a C.D. Howe Institute favourite, tax cuts. All of us should agree that a productivity increase of this magnitude is a good thing. It is amazing to me that a government policy could be so powerful.

The Commission's Predictions

The Macdonald Commission predicted the productivity gains. However, the Commission had a very particular view of where those gains would come from. Was the Commission right?

According to the Macdonald Commission, two things should have happened to promote productivity growth. First, companies should have rationalized their product lines. Then, each product line should have had a longer production run. Figure 3 shows that for manufacturing companies as a whole, product rationalization really did happen.

Figure 3: *Number of Products per Multi-Product Plant*

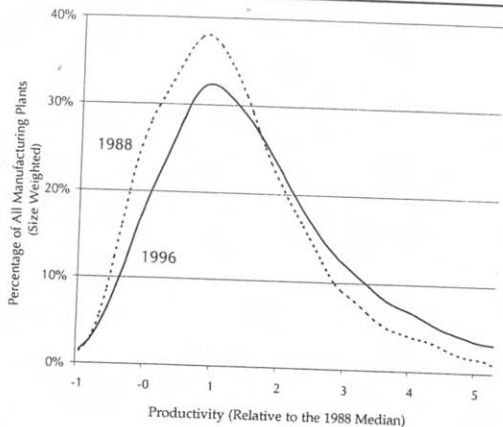
Source: Baldwin, Beckstead and Caves (2001).

The horizontal axis is a measure of the number of products produced by each multi-product manufacturing plant in Canada. Figure 3 shows a sharp downturn in the number of products produced in the FTA period. Of course, time-series data displays do not prove that this downturn was due to the FTA. Fortunately, careful analysis to be found in Baldwin Caves, and Gu (2005) and Baldwin and Gu (2004a) shows that this product rationalization was indeed driven by the FTA tariff cuts.²

The Macdonald Commission highlighted a second, related source of potential productivity gains: longer production runs for those products that survived rationalization. This is not evident in the data unless, once again, we look at exporters who faced falling U.S. tariffs. Thus, from a distance, the Macdonald Commission

2 It is worth pointing out that the Commission did not quite get this right. Product line rationalization was not widespread in manufacturing: Only exporters took advantage of rationalization as a route to increased productivity. I return to this point.

Figure 4: Productivity Distribution of Canadian Manufacturing Plants, 1988 and 1996



Source: Lileeva, 2004.

was right. However, the Commission also missed much that is important for understanding the effects of the FTA.

Plant-Level Heterogeneity: The New, New International Trade Theory

The key to understanding the effects of the FTA is to focus on plant heterogeneity. Not all manufacturing plants responded to the FTA in the same way. The first thing to notice is that the dispersion among plant productivities is huge. Figure 4 from my student Alla Lileeva (2004) at York University shows the distribution of plant productivities in 1988 and 1996. The first thing to note is that plants to the far right of the figure are eight times more productive than plants to the far left. This is indicative of enormous productivity heterogeneity across Canadian manufacturing plants. The

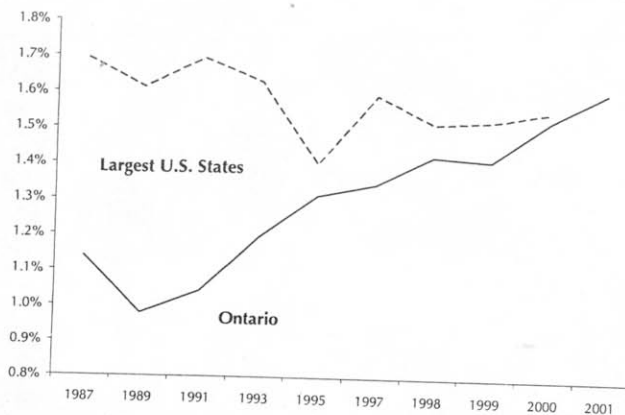
second thing to note is how the distribution changed over the FTA period. It shifted right, which means that less productive plants either shrunk or closed, and more productive plants either entered or expanded.

Baggs, Head and Ries (2003), Gu, Sawchuk and Whewell (2003), Lileeva (2004), and Trefler (2004) all show that the FTA led to the closing of less productive plants and to the entry of more productive ones. This work, together with additional results from Trefler (2004a), help us piece together the complicated industry dynamics that led to the FTA-induced productivity gains. As Table 1 shows, the Canadian tariff cuts led to a 15-percent rise in productivity among the most affected, import-competing industries. However, it did not lead to any rise in plant-level productivity. Thus, the industry-level productivity gains were a result of the closing of less-productive plants.

As well, the U.S. tariff cuts led to a 14-percent increase in plant-level productivity. This rise had nothing to do with productivity gains from the entry of productive plants. Indeed, the entry of plants actually reduced productivity because young plants are rarely as productive as older ones. This is the -10 percent number in Table 1.

The striking dimension of plant-level heterogeneity is the difference between exporters and non-exporters. It turns out that almost all of the plant-level productivity gains that have been documented can be traced back to exporters. As Baldwin and Gu (2003, 2004a) show, the U.S. tariff cuts led to productivity gains only among Canadian exporters (Table 1). As Baldwin and Gu (2004a) also show, while all plants rationalized production, only exporters experienced longer production runs for surviving products.

The behaviour of exporters also explains why there were not larger employment gains from the FTA. While exporters expanded output substantially, they did so without hiring new workers. Rather, they raised output by raising productivity. Thus, as Lileeva (2004a) shows, the U.S. tariff cuts had no impact on employment by exporters. However, because these exporters were also expanding in the Canadian market, non-exporters fired about 12

Figure 5: Business R&D Expenditure as a % of GDP

Source: Institute for Competitiveness, Productivity and Prosperity (2004).

percent of their workforce. The net effect was lost jobs in the export-competing sector, not job gains. Thus, plant-level heterogeneity, which was not considered by the Commission, is central to understanding the productivity and employment dynamics set off by the FTA.

Firm Strategy: The New, New, New International Trade Theory

Why are plants so heterogeneous in their responses to international trade? Recent work points to the sophistication of corporate strategy. Figure 5 plots business-sector research and development (R&D) as a percentage of gross domestic product (GDP) for Ontario and for the 14 largest U.S. states, and shows that before the FTA was signed on January 1, 1989, Ontario companies were not

doing nearly as much R&D as their U.S. counterparts.

What does this R&D information mean? In the case of the Vintners Quality Alliance (VQA) strategy of Ontario wineries, it means upgrading the product. While the volume of wine sold by Ontario wineries has not moved much since the signing of the FTA, the value has sky-rocketed. This is a much more general phenomenon than is at first apparent. Baldwin and Gu (2004b) provide evidence that plants that move into export markets do several things:

1. They increase investments in R&D.
2. They increase training programs.
3. They develop capacities for absorbing foreign technologies and international best practices.

When companies enter export markets, they increase the number of advanced technologies used, as well as the amount of foreign sourcing for advanced technologies. These companies also gain access to more information about advanced technologies. Entering export markets is associated with improvements in the novelty of the innovations that are introduced, as well.

At the end of the day, some companies succeed where others fail because they adopt sophisticated strategies that involve continuous upgrading and innovation. The FTA, by providing both pressure and support for Canadian companies, forced plants to adopt the kinds of strategies that raise productivity and encourage success.

Conclusions

The Macdonald Commission had the right idea. The FTA has been a boon to Canadian productivity. Of course, the Macdonald Commission did not foresee everything. The FTA led to considerably greater labour market disruption and lost jobs than was originally anticipated. At the same time, the mechanisms for productivity gain have been far richer than was understood by then state-of-the-art economic theories.

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