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Is Just-In-Case Replacing Just-In-Time?

How Cross-Border Trading Behaviour Has Changed Since 9/11

At a Glance

- Many Canadian companies have changed the way they go about exporting to the U.S. in the post-9/11 border security environment.
- Most of these changes represent efficiency losses and, in some cases, reversions to pre-Canada–U.S. free trade agreement patterns.
- The post-9/11 border environment may therefore be eroding some of the advantages of greater market access gained under that agreement.

INTRODUCTION

Since the terrorist attacks of September 11, 2001, the United States and Canadian governments have implemented a number of joint and unilateral border security policies. These include programs to fast-track pre-approved cargo and to require that advance notice of cargo contents be sent to border officials. There have also been changes to infrastructure and staffing. New border policies continue to be announced.

This briefing examines the effects of this post-9/11 border security environment on the recent trading behaviour of Canadian exporters. While it does not

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directly assess the security effects of these policies, it examines some of the economic ramifications against which policy-makers might weigh security imperatives.

This briefing delves more deeply into one of the key findings of the Conference Board's more comprehensive analysis on the overall effects of the post-9/11 border security environment on export volumes. (For that overview and a larger discussion of its methodology and findings, see *Reaching a Tipping Point? Effects of Post-9/11 Border Security on Canada's Trade and Investment*.)

Whereas just-in-time inventory management keeps inventories low, some companies are stockpiling inventory on both sides of the border just in case there are border problems.

It provides interview evidence that reveals that Canadian exporters appear to have changed the way they go about trading since 9/11. Many have shifted away from previously preferred and more efficient practices, in some cases slipping into behaviours not seen since before the Canada–U.S. free trade agreement. For example, whereas just-in-time inventory management keeps inventories low and delivers goods within hours of order, some companies are stockpiling inventory on both sides of the border, just in case there are border problems. These responses may indicate an erosion of some of the advantages of greater U.S. market access gained under the free trade agreement and its successor, the North American Free Trade Agreement (NAFTA). This, in turn, could make it less attractive to buy Canadian inputs or locate production in Canada, ultimately diminishing Canadian living standards.

The results of this briefing are drawn from 60 interviews conducted in late 2006, combined with data analysis. The Conference Board's International Trade and Investment Centre and Centre for National Security interviewed Canadian companies and associations that use the border regularly or whose members cross regularly. (See box "Companies, Associations and Border Officials Interviewed or Surveyed.") These included companies from different regions of the country and from a cross-section of sectors, including autos, auto parts, chemicals, forestry and paper, furniture, seafood, household products, and rail and truck carriers. Select government officials with border responsibilities were also interviewed.

WHY CHANGES IN TRADING BEHAVIOUR MATTER

The Canada–U.S. free trade agreement accelerated a restructuring of Canadian industry to take advantage of a tariff-free border. Many companies moved to just-in-time logistics (in which inputs or final goods are delivered across the border within hours of order, minimizing inventory levels). If we therefore observe a change in behaviour away from previously preferred and more efficient just-in-time patterns, this could reflect less predictability at the border. This would suggest that companies have had to absorb higher costs to get their goods to market, and that they have done so without commensurate revenue increases.

Even small increases in these types of indirect costs could have important economic consequences for Canada. This is because companies will always have a bias in favour of locating production in the larger U.S. market. Therefore, even small cost changes will exacerbate this bias and may tip the balance away from maintaining production in Canada or locating future plants in Canada. As well, goods often cross the border repeatedly as value is added at each production stage. Even small increases in trading costs are magnified as parts cross the border multiple times.

Even small cost changes may tip the balance away from maintaining production in Canada or locating future plants in Canada.

With one-third of Canada's exports reflecting import content, goods production is highly integrated across the Canada–U.S. border. Predictability at the border is therefore critical to maintaining that production in Canada. Moreover, Canada and the U.S. trade similar types of goods across their border, with many goods highly substitutable for each other. If border costs increase, or if border uncertainty is a problem, it would

Companies, Associations and Border Officials Interviewed or Surveyed

The Conference Board of Canada wishes to thank the following organizations for taking the time to share their experiences and perspectives:

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DaimlerChrysler Canada Inc.
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Dow Chemical Canada Inc.
Erb Transportation Solutions Inc.
Ganong Chocolates
High Liner Foods Incorporated
IBM Canada Ltd.
Linamar Corporation
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NorFalco Sales Inc.
NOVA Chemicals Corporation
Palliser Furniture Ltd.
Purolator Courier Ltd.
RAM Contract Carriers Ltd.
Reimer Express Lines Ltd.
Shell Chemicals Canada Ltd.
3M Canada
Tolko Industries Ltd.
Unilever Canada
West Fraser Timber Co. Ltd.
Yanke Group of Companies

ASSOCIATIONS AND OTHERS
Armstrong Trade and Logistics Advisory Services Inc.
Automotive Parts Manufacturers' Association
Bridge and Tunnel Operators Association
British Columbia Trucking Association
Canadian Chamber of Commerce
Canadian Chemical Producers' Association
Canadian Council of Chief Executives
Canadian Manufacturers & Exporters
Canadian Society of Customs Brokers
Canadian Trucking Alliance
Can-Am Border Trade Alliance
Canola Council of Canada
Forest Products Association of Canada
Niagara Falls Bridge Commission
Ontario Chamber of Commerce
Ontario Trucking Association
Original Equipment Suppliers Association
Railway Association of Canada
Sarnia and Lambton Chamber of Commerce
Windsor Chamber of Commerce

GOVERNMENT OFFICIALS
Blue Water Bridge Authority
Buffalo-Fort Erie Public Bridge Authority
Canada Border Services Agency
Canadian Consulate (Buffalo)
Canadian Consulate (Detroit)
Department of Foreign Affairs and International Trade
Ontario Ministry of Economic Development and Trade
Public Safety and Emergency Preparedness Canada
Transport Canada

be relatively easy to source inputs from the U.S. side and avoid the border entirely.

In addition to consequences for future investment in Canada, any increased costs or uncertainty may cause small and medium-sized businesses—a key feature of the Canadian economy—to shy away from growth opportunities in the U.S. market.

MOVING FROM JUST-IN-TIME TO JUST-IN-CASE?

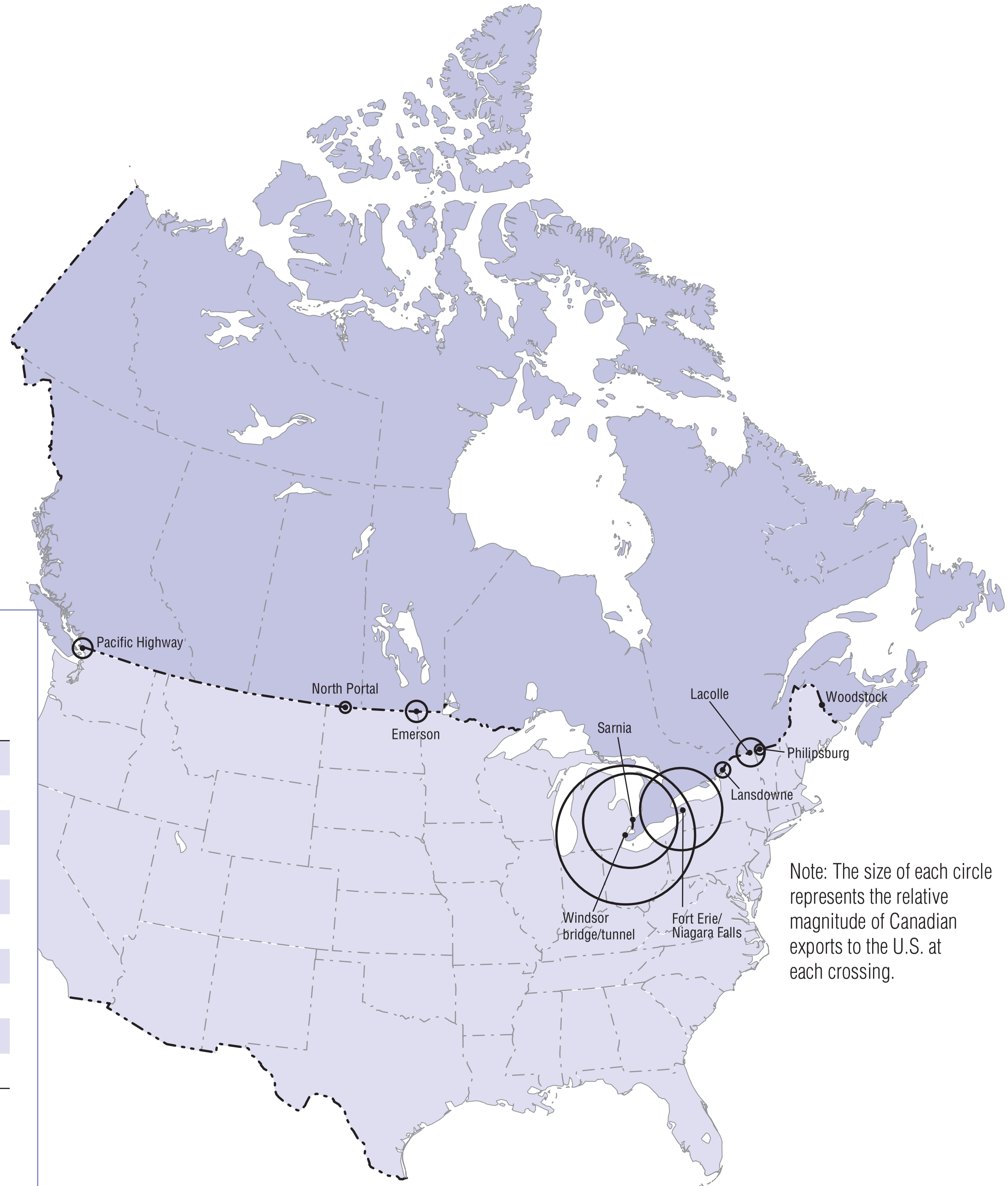
Though Canadian export volumes have not changed as a result of the post-9/11 border security environment,[1] almost all exporters reported that they had changed their behaviour in response to the new border environment post-9/11. Many of these changes appear to reflect increased uncertainty about crossing the border and losses of efficiency that have resulted from moving away from previously favoured practices. In theory, changes in trading behaviour may also represent efficiency gains, though the interview evidence suggests that efficiency losses are more likely. Some examples of changes to trading behaviour follow.

STOCKPILING INVENTORY

A number of interviewees reported that companies are now stockpiling inventory on both sides of the border to hedge against the possibility that goods may not make it across in time. In anticipation of another terrorist attack and the resulting delays at the border, some companies with warehouses in Canada have now set up second warehouses on the U.S. side of the border. The idea is to create redundancy, but that nullifies the benefits of specialization that occurred with the elimination of tariffs between Canada and the U.S. under their free trade agreement. It also eliminates the benefits (lower

1 Michael Burt, *Tighter Border Security and Its Effect on Canadian Exports* (Ottawa: The Conference Board of Canada, 2007).

Exhibit 1
Key Border Crossings



Note: The size of each circle represents the relative magnitude of Canadian exports to the U.S. at each crossing.

Exports to U.S., 2005
($ billions)

Border crossing	Exports
Windsor bridge/tunnel*	83.2
Sarnia	56.6
Fort Erie/Niagara Falls*	49.3
Lacolle	16.8
Emerson	12.7
Pacific Highway	11.8
Lansdowne	9.1
North Portal	6.6
Philipsburg	6.0
Woodstock	2.3

*These crossings have been combined to simplify presentation.
Source: Statistics Canada.

inventories and related costs) of just-in-time inventory management. This change in behaviour is clearly an efficiency loss.

PRE-SHIPPING

When border slowdowns are expected, some companies now pre-ship goods ahead of an order so as to guarantee that the goods arrive on time. While pre-shipping could be viewed as positive if it provides shippers with a discipline that eluded them beforehand, it also reflects new constraints that limit efficient behaviour. Canada may have lost some of the benefits of just-in-time production that the elimination of tariffs between the two countries made more attractive. Companies appear to be concerned more with sending goods in advance “just in case” than with keeping their operations lean with “just in time” logistics. The goal appears to be to build more certainty into a border environment that they view as unpredictable.

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AVOIDING CROSS-BORDER ROUTES

Truckers are increasingly reluctant to take on cross-border routes, a reversion to pre-Canada–U.S. free trade agreement behaviour. Most American trucking companies have abandoned cross-border routes, and only a few Canadian companies continue to carry goods across the border. Today, it is common for a U.S. carrier to drop cargo off at the border to be picked up and delivered to its final destination by a Canadian carrier. Some companies now charge a cross-border premium.

Others have started charging “empty mile rates”—a charge to cover the cost of driving an empty or partially empty truck across the border to get a U.S. shipment and return it to Canada. Until recently, such rates for cross-border trade had not been seen in many years.

SHIFTING TO OTHER BORDER CROSSINGS

Are companies shifting their cargo from one border crossing to another as a result of post-9/11 security measures at the border? This matters because a shift away from a previously favoured crossing to one that is less convenient most likely reflects an efficiency loss. And diversion costs are not one-time costs—truckers incur them at every border crossing.

According to the evidence, truckers do appear to be shifting between border crossings. (See Exhibit 1 for a listing of key border crossings.) An in-depth Conference Board statistical analysis[2] over 1988–2005 shows that post-9/11 security measures may have lowered export volumes at some southern Ontario border crossings and raised them at others, leaving total volumes unaffected. In particular, traffic appears to be diverting from Fort Erie to Niagara Falls (less than 40 kilometres apart), and possibly to other southern Ontario border crossings such as Sarnia and Windsor. The Fort Erie crossing experienced significant drops in auto, inorganic chemical and lumber exports, in particular. According to the analysis, those declines appear to be at least partly due to diversions to other crossings as a result of post-9/11 security measures, but may also be partly due to weak economic conditions in the U.S. (Several customs booths were added at Fort Erie after 2005, which may mitigate some of these effects.)

Several interviewees reported that FAST lanes did not work well at Windsor, and that even some FAST-approved drivers choose to use non-FAST lanes.

Several interviewees mentioned that trucks have also shifted away from crossing at Windsor to crossing at Sarnia in the post-9/11 period. At least one interviewee suggested this was as a result of post-9/11 security measures, since Sarnia has more lanes dedicated to the Free and Secure Trade (FAST) program. FAST aims to fast-track cargo that has pre-qualified as secure. Several interviewees reported that FAST lanes did not work well at Windsor, and that even some FAST-approved drivers choose to use non-FAST lanes. Therefore, a shift from crossing at Windsor to Sarnia to take advantage of FAST appears to represent an efficiency gain relative to the situation before FAST existed. However, if Windsor was the previously preferred crossing, then

2 Ibid.

this shift represents an efficiency loss relative to a more efficient situation in which FAST is working well at Windsor. So, overall, it appears that shifting away from previously preferred crossings represents an efficiency loss in some cases and a net gain in others—but even then the gains are diluted because FAST lanes are not working effectively at all crossings.

CROSSING AT OFF-PEAK TIMES

Some interviewees noted that trucks had changed their patterns to cross at off-peak times in order to avoid border congestion. This represents an added cost, given that it required a shift away from a previously preferred time for border crossing. If the most efficient option for a certain business was to travel or deliver through certain border crossings or by certain modes of transit, and it is no longer doing so to avoid or mitigate the effects of new border security measures, that business is now pursuing a less efficient option. This implies an increased cost, reducing the business' competitiveness.

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IDLING

There is a post-9/11 requirement to provide customs officials with one-hour advance notice of goods. Some companies have suffered losses of efficiency as a result. For example, interviewees noted that trucks often wait idling at the side of the road in order to time their arrival at the border to ensure they do not arrive before their cargo manifest has been faxed to U.S. customs officials and held for an hour. (Such idling also adds to the environmental costs of trading across the border.)

If plants are located close to the border, drivers may not know the cargo contents one hour in advance. One company with a Canadian plant close to the border either forwards cargo manifests before the truck is loaded and therefore runs the risk of being fined for incorrect cargo details, or idles a fully loaded truck for 20 minutes before leaving for the border crossing. Such behaviour represents efficiency losses.

SHIFTING TRANSIT MODES

Some exporters seem to have shifted away from shipping goods by truck to shipping them by rail, though most trade still goes in trucks. The data confirm this interview finding, as truck volumes post-9/11 were flat, but rail volumes have continued to increase. Since the previous mode of transit was presumably optimal, companies appear to be moving to a second-best, less efficient option.

POLICY AND BUSINESS IMPLICATIONS

A number of years have passed since the immediate aftermath of 9/11, allowing time for governments to address post-9/11 border security imperatives and create a predictable, efficient border, and for businesses to adjust. Other Conference Board research[3] shows that the post-9/11 border security environment has not reduced export volumes. It also shows that delays have fallen from their high levels in the first few years after 9/11. So there is some evidence to suggest the border has, to some degree, become more predictable and efficient. Unfortunately, the evidence in this paper and in the earlier research also shows that Canadian companies are absorbing new costs. They appear to be behaving in ways that suggest the border is still unpredictable and a constraint on efficiency for many companies. Worse, some of these recent behaviours had not been seen since Canada and the U.S. signed their free trade agreement in the late 1980s, suggesting some of the gains from that agreement may have been eroded.

Improvements to border infrastructure and staffing made since the interviews were completed, as well as ongoing efforts to make border processes electronic, could mitigate some of the negative changes in behaviour mentioned by interviewees. Some changes in behaviour were arguably efficiency-enhancing. Still, those efficiency gains have been limited because FAST does not always

3 Danielle Goldfarb, *Reaching a Tipping Point? Effects of Post-9/11 Border Security on Canada's Trade and Investment* (Ottawa: The Conference Board of Canada, 2007); Michael Burt, *Tighter Border Security and Its Effect on Canadian Exports* (Ottawa: The Conference Board of Canada, 2007).

work effectively to smooth border crossings. Much more needs to be done to create a predictable border environment that will improve the smooth flow of cross-border activity and generate widespread efficiency gains rather than losses.

The federal and provincial governments should review non-security-related border barriers and de-emphasize them to offset the efficiency losses observed in this analysis.

The federal and provincial governments must above all work to ensure minimal, predictable, and simple U.S. and Canadian border rules. They need to ensure the FAST program delivers the benefits it promises. They should review non-security-related border barriers, such as duty collection, and de-emphasize them in order to offset the efficiency losses observed in this analysis. Also key is a solid border emergency plan in the event of another attack. Further, Canada's government should assess a range of other strategies—such as pursuing free trade agreements with major trading partners and refining its tax and education policies—to improve Canadian competitiveness and mitigate what appears to be an erosion of Canada's preferred access to the U.S. market.

One implication for businesses is that they should include flexibility measures and alternative plans in their strategies, given that the border still appears unpredictable. Businesses might also turn what appear to be constraints on their behaviour into opportunities to improve internal systems, impose discipline on their operations, and create more predictability where government policies have not been able to do so.

CONCLUSIONS

The results of 60 interviews suggest that Canadian companies have changed the way they trade with the U.S. as a result of the post-9/11 border security environment. These changes represent either efficiency gains that are diluted by border programs not working effectively or, for the most part, outright losses of efficiency. Instead of sending goods just-in-time, some companies are stockpiling inventories on both sides of the border and pre-shipping goods to their destinations. Some trucking companies charge more for cross-border routes, and many companies now drop goods on one side of the border to be picked up by another company on the other side. These changes of behaviour signal that, even six years after 9/11, crossing the border is still unpredictable for many companies.

Particularly worrying is the finding that some of these new behaviours were reversions back to those that existed before the Canada–U.S. free trade agreement. It suggests that Canada's access to the U.S. market has been eroded. This, in turn, could make it less attractive to buy Canadian inputs or locate production in Canada over the longer term. In a highly competitive international environment, and with a high Canadian dollar, even small indirect costs such as those reported here could tip the balance away from investing in Canada. The result would be diminished Canadian living standards. Governments still have much to do to ensure that Canadian companies have predictable and stable access to the U.S. market. Where the border environment is still unpredictable, businesses should find ways to build in predictability to their cross-border trading—and use the new border environment as a chance to improve their operations.

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by *Danielle Goldfarb*

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