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# Strategic responses by Canadian and U.S. exporters to increased U.S. border security measures: a firm-level analysis

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**Abstract**

Following the terrorist attacks on September 11, 2001, the U.S. and Canadian federal governments increased restrictions on materials and people crossing the border. These regulations have introduced costly compliance requirements for Canadian and U.S.-based companies who conduct business across the international border. Several regulations were shown to have disrupted Canada-U.S. supply chains in the years following 2001, due to clearance delays and unpredictable wait times at U.S. ports of entry (e.g., inspections, detentions, and product testing). A recent study by the Canada-U.S. Trade Center suggests that many Canadian and U.S. exporters plan to counteract these delays by either: (1) establishing production or distribution facilities inside the other country; (2) cutting their dependence upon international suppliers; (3) shifting existing production or distribution facilities back to their home country; or (4) diverting trade from overseas. Strategic adjustments of this nature could have profound effects upon the geography of Canada-U.S. supply chains, the structure and volume of bilateral trade, and the management of just-in-time (JIT) delivery systems. This project follows up on this study and addresses these emerging issues via in-depth personal interviews with 35 Canadian and U.S.-based companies that had indicated a commitment to exploring one or more of the strategic responses mentioned above. Preliminary findings suggest that firms on both sides of the border are quickly adjusting to the new security requirements and are improving communication channels throughout their cross border supply chains to stay abreast of new developments.

## Introduction and Context

Contemporary relationships between Canada and the U.S. have generally been considered congenial, mutually beneficial, and characterized by trust. This friendship has been expressed and symbolized by the maintenance of the world's longest 'unguarded' border. Frequent, intense, and extensive interactions have characterized the Canada-U.S. border as a conduit to the largest bi-national trading relationship and the generally politically friendly relations between Canada and the U.S. (Granatstein, 2003)

In the context of a rapidly-growing global economy, dominant neoliberal political and economic trends of the 1990s celebrated and institutionalized the permeable Canada-U.S. border through the formalization of international agreements including the 1989 Canada-U.S. Free Trade Agreement (FTA) and the 1994 North American Free Trade Agreement (NAFTA), intended to facilitate relatively unimpeded cross-border movement. The theoretical goals of a 'borderless world' idealized and made an international example of the relatively permeable border between Canada and the U.S., particularly for the merits of smooth economic transactions between the two nations. Indeed, the fact that Canada and the U.S. share the single largest bilateral trading relationship worldwide provides an indication of the strength that comes with minimally restricted border crossing capabilities.

However, even within the context of a politically neoliberal push toward freedom of movement (of money and goods) across international borders, the actual physical activity of border-crossing came to be framed as a possible future threat—with contemporary concerns ranging from illegal immigration to drug trafficking to, most recently, concerns of international terrorism.

In the days following the terrorist attacks of September 11, 2001 (hereafter 9/11), the 'unguarded border' immediately became a symbol—not of the close social, political and economic relationships of two friendly neighboring nations—but rather one characterizing the border as a five thousand mile weak link in the (U.S.) national defense system. The initial decision by the U.S. government to halt movement at all transportation hubs and ports of entry led to the widespread perception that U.S. borders, including the border shared with Canada, could not be allowed to maintain pre-9/11 levels of permeability—lest dangerous goods and undocumented or otherwise 'illegitimate' people be allowed to pass through, and terrorize U.S. citizens.

A dichotomous framework has characterized the dominant discourse regarding functions and meanings of the border over the past five years—the border as a security mechanism (hindering illegitimate—and consequently legitimate movement) has been posed against models of the border as an efficient conduit for frequent and meaningful social and economic interactions. Both extreme positions have been argued in a climate of elevated tensions and fear—with U.S. policymakers voicing concerns over the threat to national physical security in the context of possible future terrorist attacks; and with Canadian policymakers and business leaders emphasizing potentially detrimental effects of border closures on the Canadian national economy (Dobson, 2002; Fraser Institute, 2004; Goldfarb 2004a, 2004b; Goldfarb and Robson, 2003; Granatstein, 2003; Harvey, 2004, Gilbert, 2005).

Concerns rooted in a dichotomous perspective of physical versus economic security have prompted countless meetings between Canadian and U.S. policymakers, including leaders in the international business community. Although the common rhetoric has become focused on a new theme of achieving 'security *and* trade' through improved coordination and information sharing[1], the polarizing language, concepts, and fears (both physical and economic) remain at the heart of contemporary border discourse.

Since the days immediately following 9/11, U.S. lengthy border delays have decreased. However, U.S. policies regulating the border remain far more restrictive than pre-9/11 levels (Fraser Institute, 2004; Goldfarb and Robson, 2003). U.S. anti-terrorism regulations[2] were reported to contribute to shipment delays stemming from slowed commercial and personal traffic at Canada-U.S. border crossings (see the Ontario Chamber of Commerce, 2004). In a recent survey of Canadian and U.S. exporters, MacPherson and McConnell (2005) found that, although firms on both sides of the Canada-U.S. border were initially impacted by border delays and unpredictable wait times, Canadian firms had been substantially more negatively affected by these delays than their U.S. counterparts. Three primary reasons explain this finding. First, asymmetrical writing and implementation of border restrictions by the Canadian and U.S. federal governments affects firms differently based on their geographic location with respect to the border. That is, to date, border restrictions put into effect by the U.S. are more intense and restrictive than those put into effect by the Canadian government (Belelieu, 2004; Goldfarb and Robson, 2003). Therefore, Canadian firms exporting into the U.S. face restrictions greater than U.S. firms exporting into Canada. Additionally, Canadian firms in at all scales of analysis are likely to be proportionately more reliant on

[1] Examples of incentive programs initiated by the U.S. federal government include NEXUS, FAST and C-TPAT—all of which are intended to reward voluntary registrants with the provision of efficient processing at customs. Discussions of a mutual "security perimeter" have also taken place—whereby the border between countries is theoretically virtually eliminated, as customs representatives from both Canada and the U.S. assess people and goods coming in from outside the North American economic space. (Bonner, 2003; Phillips, 2004)

[2] See MacPherson, et. al. (2006) for an overview of regulations and initiatives impacting cross-border and marine trade following 2001.

profits from their exports into the U.S. than U.S. firms are to be reliant on their sales into Canada. A third explanation for this discrepancy is that, whereas all firms in the study initially indicated that they export into the other country, Canadian firms were far more likely than their U.S. counterparts to engage in importing activities across the border in question (MacPherson et.al., 2006). This indicates not only that Canadian firms interact commercially across the border more frequently than their U.S. counterparts, but that their highly-integrated supply chains face greater likelihood of disruption overall.

For many Canadian and U.S. importers and exporters, compliance with U.S. security requirements is said to have contributed to negative externalities including increased insurance premiums, higher shipment rates, reduced productivity, loss of profits, delayed cross-border shipments, inflated prices, pressure to invest in costly voluntary compliance programs, and damaged commercial relationships between firms based on their relative location with respect to the border (Andrea and Smith, 2002; Canadian Council of Chief Executives, 2004; Coalition for Secure and Trade-Efficient Borders, 2005; Dobson, 2002; Goldfarb and Robson, 2003; MacPherson et al., 2006; Robson and Goldfarb, 2002; Walkenhorst and Dihel, 2006). Traffic delays and unpredictable wait times at ports of entry can potentially disrupt cross-border business. Delays are of particular concern to firms and industries that rely on speed and agility as primary competitive factors. Clearance delays following the writing and implementation of new antiterrorism border regulations impacted both Canadian and U.S. exporters across virtually all industry sectors that deal with time-sensitive goods such as perishables and those involved in JIT systems.

MacPherson, et.al. (2006) conducted a survey of U.S. and Canadian companies in Western New York and Southern Ontario during the summer of 2004. This survey revealed that firms on both sides of the border have suffered a wide variety of adverse effects related to new post-9/11 border security measures.[3]. As a consequence of such effects, many firms indicated an interest in exploring any of five types of production and logistical strategies ranging from relocating company facilities from the other side of the border back 'home', locating facilities on the opposite side of the border, bringing overseas operations back into North American space reducing dependence on cross-border suppliers and customers, to exploring new transportation options[4] in order to compensate for shipment delays and other problems related to cross-border movements (MacPherson et.al., 2006; MacPherson and McConnell, 2005; McConnell, 2003).

The variety of strategic responses found by MacPherson, et.al. (2006) indicates that security measures do, in fact, operate on both sides of the border. Administrative confusion and traffic delays contribute to disruptions for cross-border freight bound in both directions. Although Canada has not adopted reciprocal procedures that mirror the intensity of U.S. anti-terrorism measures, Canada's import clearance policies at the time of this study were more restrictive than those employed prior to 9/11 (Mason, 2004). In 2006, the Canadian government continues to debate implementation of stricter Canadian border policies in light of current U.S. policies (which are often criticized for their level of rigidity).

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[3] Reported consequences include a wide range of increased costs, such as increased insurance premiums and transportation, disruption of JIT and shipment delays, reduced productivity, reduced exports, higher-cost imports, higher security budgets, declines in productivity and profits, and irritants such as FDA testing of agricultural products and complex prior notice requirements.

[4] Alternative transportation options were also outlined in the study including shifting routes, modes and preferred providers of transportation.services.

Between 2002 and 2004, several publications estimating actual and projected damages to the Canadian and U.S. economies as a consequence of increased security regulations and traffic delays at border crossings emerged. The Ontario Chamber of Commerce made one such estimate (OCC, 2004). According to this report, Ontario-based firms lost an estimated annual average of C$5.2 billion as a direct result of late deliveries to U.S. customers between 2001 and 2004. A 60-minute delay in 2004 was estimated to cost as much as C$100,000 in lost revenue for automotive manufacturers (ibid.). Many JIT-reliant firms indicated a new need for increased inventories, at a cost of almost C$1 million for every additional hour of stock.

Although an increased political need for physical security measures at U.S. border crossings was widely recognized and accepted, literature emerging between 2001 and 2004 (see Vance, McConnell and MacPherson (2005) for an overview) pointed to growing sentiment among Canadian exporters (largely promoted by conservative research organizations such as the Fraser Institute and the C.D. Howe Institution) that new U.S. anti-terrorism measures were, in fact, "trumping trade" (Dobson, 2002; Fraser Institute, 2004; Goldfarb, 2004a; Robson and Goldfarb, 2002).

Such evidence reinforced a dominant dichotomous discourse that framed the border's dual functions: a conduit for international trade and movement (whereby physical security is compromised by minimal involvement and knowledge of who or what crosses the border) in stark contrast to the border as a line of defense (whereby movement and trade are severely impeded in the interest of physical national security).

Between large cost projections and the export imbalance that characterizes the Canada-U.S. trading relationship, concerns that trade might be slowed or "trumped" by new regulations is a very real concern. If increased security measures do increase the costs of doing business between Canada and the U.S., effects should be visible at the scale of the firm. At the firm level, effects are felt in a very tangible way, and strategies chosen by firms to accommodate or avoid border regulations should give a good indication of the nature and intensity of negative (or positive) impacts on the broader economy.

Although a number of policy changes have occurred over the past several years, and although concerns regarding the total possible economic costs of a changed border have been voiced in public forums, very little work has assessed actual impacts of border regulations at the level of individual firms. Overall, the body of literature addressing cross border trade between Canada and the U.S. after 9/11, until recently, has taken for granted the "security versus trade" dichotomy, and corresponding theoretical viewpoints asserting that security requires a relatively impenetrable border and trade requires a "free" or unregulated border. In the years immediately following 9/11 (2001-2004) there was no shortage of opinion pieces and academic publications on the issue, mostly containing only vague national-scale estimates of economic damage (for an overview see Vance, McConnell and MacPherson, 2005)[5]. MacPherson et.al. (2006), addressed this question at the firm level.[6] Using a survey questionnaire, MacPherson et.al. (2006) evaluated firms' strategic considerations in light of new anti-terrorism measures enforced at a Canada-U.S. borderland region.

Although theoretical evidence exists to explain the logic behind strategic geographic relocation of offices or even trial of different transportation options, the

[5] Copies available by request
[6] The author of this paper was actively involved in the conception, implementation and analysis of MacPherson, et.al. (2006).

nature and extent of pending changes have yet to be seen by researchers—indeed, by economic actors themselves—as the border is in a state of negotiation and evolution as new laws emerge and are tested and evaluated on each side of the border. This study's primary goal is to understand how business professionals, whose livelihoods are directly related to the ease and efficiency of cross-border movement, perceive and strategically accommodate policy changes that affect the permeability of the international border.

It should be noted that, although dramatic accounts of an impending trade crisis were perhaps disproportionately represented in the binational trade literature immediately following 9/11, literature embracing the notion of security *and* trade facilitation (largely a product of government entities) has also been represented. Industry Canada (2004) predicted that increasing restrictions would lead to greater levels of compliance with voluntary government programs such as C-TPAT and PIP, possibly leading to greater long-run efficiencies at border crossings. Since the introduction of antiterrorism measures, literature and conferences sponsored by the U.S. government (the Customs and Border Protection (CBP) in particular) have also frequently emphasized the paradigm of the free *and* secure border (see Bonner, 2002 and Phillips, 2004).

Since 2004, the volume and intensity of literature addressing the Canada / US border has substantially declined[7] and shifted focus from politically-driven speculation toward a more analytic and academic lens. Further, published literature in 2005 – 2007, has tended to re-focus from a dichotomous framework predicting scenarios of impending crises toward industry-specific guidelines for compliance with new trade regulations, and

[7] Published materials concerning the Canada-U.S. border between 2001 and 2004 tended to emerge out of government and business think tanks, and could generally be characterized as political commentary or economic projections based on assumptions of border delays. See Vance, et. al. for an overview. Following 2004, the author witnessed a substantial drop in the quantity of published materials, with a greater proportional representation found in academic journals.

has largely embraced the security *and* trade framework[8]—recognizing and framing the goals of free movement and greater security as mutually attainable and mutually reinforcing.

**Geographic Context**

Both phases of this study were geographically limited to the region of greater Niagara—a bi-national region that encompasses the Niagara Peninsula in Southern Ontario[9], and the Western counties of Upstate New York[10]. The Niagara River passes through this region, marking the political division between the neighboring countries. There are four border crossings for vehicular traffic in this region[11], which accommodate thirty five percent of all Canada-U.S. trade traffic (Fort Erie, 2003). Of these bridges, only the Queenston-Lewiston Bridge and the Peace Bridge are open to both commercial and personal traffic.[12]

The Niagara region, beyond providing the second-most utilized crossing point for commercial and passenger traffic between Canada and the U.S. (only the crossings in Detroit-Windsor see greater volumes of traffic, in terms of truck volume, trade dollars and passenger traffic (Taylor, Robideaux and Jackson (2003)), is a highly integrated borderland region characterized by intense social, economic and political bi-national linkages.[13]

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[8] As embraced and promoted by official agencies including the Department of Homeland Security

[9] The Regional Municipality of Niagara (Niagara Peninsula) stretches from the eastern border at the Niagara River to Hamilton, Ontario (at the western edge of Lake Ontario)

[10] Erie, Niagara, Monroe, Allegany and Cattaraugus Counties

[11] The Peace Bridge connecting Fort Erie, ON and Buffalo, NY; the Rainbow Bridge connecting Niagara Falls, ON and Niagara Falls, NY; the Whirlpool Bridge connecting Niagara Falls, ON and Niagara Falls, NY, and the Queenston-Lewiston bridge connecting Queenston, ON and Lewiston, NY.

[12] The Rainbow Bridge is exclusively open to personal traffic and the Whirlpool Bridge is open only to NEXUS-approved personal traffic as of 2004.

[13] See Regional Institute, 2007 for an overview of integration measures within the Niagara Region.

## Methodology

In order to understand how border impedances impact people, businesses, and economies at numerous scales, it is important to consider how the border itself is perceived and used by those who continue to rely on predictable and efficient operation of border crossings. For this reason, semi-structured qualitative interviews were selected as the method of investigation for this study. A qualitative methodology was selected for a number of reasons; 1. Where survey-generated data tends to artificially categorize responses, the open-ended nature of interviews is more likely to capture the highly-nuanced logic behind strategic decisions, without steering respondents in any particular direction; 2. Interview methods are arguably more sensitive than survey methods to the complexity of strategic decisions, particularly during times of change and when evaluating circumstances for which little research has been done (see Piore, 2006 and Schoenberger, 1991); 3. Knowledge generated by interviews will lend itself to improved future quantitative studies through the creation of better-informed hypothesis construction.

A thorough content analysis of interview data identifies strategic trends among the sample population that can be categorized and quantified for use in further analysis. Information generated through this process evaluates how businesses are currently coping with impedances related to border-crossing activities, as well as strategies being considered for the future.

## Research Sample

A number of firms located in Southern Ontario and Western New York (MacPherson et.al., 2006) expressed an interest in developing remedial plans to address border-related problems and delays during the survey portion of their earlier study. [14] Thirty five out of forty firms (20 Canadian and 15 U.S.) expressing such plans indicated a willingness to participate in this proposed extension. Executives of these firms were contacted by telephone during summer, 2006. Of these, 25 firms, (14 Canadian and 11 U.S.) agreed to participate in on-site semi-structured interviews addressing how their plans had progressed.[15]

**Summary of findings from Part 1[16]:**

During the survey portion of their investigation, MacPherson, et.al. (2006) found that Canadian firms in the sample (compared to their U.S. counterparts) were 1. More price sensitive, 2. Thirteen times more likely to report negative trade effects of shifting border policies,[17] and 3. Far more likely to be engaged in both import and export activities.[18] When asked about considered strategic responses, Canadian firms were more likely than their U.S. counterparts to indicate that they were considering trade diversion strategies, relocating facilities (in the U.S.) back home (to Canada), and placing facilities on the opposite side of the border. The only strategic response that was reported by more U.S. firms than Canadian firms was the likelihood of cutting dependence (on Canada).

[14] Responding firms were roughly evenly divided between service and manufacturing, and also included both large and SME firms.
[15] Four of these companies (3 U.S and 1 Canadian) were interviewed over the telephone rather than face-to-face.
[16] All reported findings were statistically significant.
[17] Including higher insurance costs, higher storage costs, higher transportation costs, reduced productivity, reduced profits, and extra costs associated with traffic diversion.

**Findings from structured interviews:**

Two years after the initial survey was undertaken, firms that had indicated both consideration of geographic strategic responses and a willingness to participate in a second phase of investigation were contacted during the summer of 2006[19]. Twenty-five interviews were conducted (an overall response rate of 71.43%). What follows is an analysis of firms' responses to changing border regulations.

Some of the initial findings include: 1. Firms on both sides of the border have indicated that Niagara border crossings were easier to navigate in 2006 than between 2002 and 2004. 2. Time investments in required paperwork have increased in order to ensure compliance with new regulations, including prior notice requirements. 3. In many cases, outsourcing of expertise has become an increasingly important option. Firms are moving toward greater reliance on third party transportation providers and external customs brokerage firms. 4. Relationships within supply chains have become tighter since the introduction of new border regulations. 5. Exchange rate fluctuations have had a greater effect on firms' competitive abilities than have tightened border restrictions. 6. U.S. based firms continue to consider reducing dependence on Canadian suppliers. 7. A geographic strategy being considered by many firms on both sides of the border involves increasing warehoused stock on the "home" side of the border (and disinvesting from "away" sites) in order to reduce potential negative effects related to border delays and other uncertainties. 8. Global outsourcing appears to be increasingly important to the competitive ability of firms, as local providers face greater competition from overseas providers.

[19] In all, four executives were unable to meet in person but did give telephone interviews. Most interviews lasted between thirty and ninety minutes.

*Easier border crossings*

Although most executives interviewed acknowledged that the Niagara River border crossings between 2002 and 2004 frequently involved long delays and inconsistencies, nearly fifty-four percent of all respondents indicated that in the two years since 2004, delays had decreased significantly, and that border crossings were no longer as difficult or time consuming. These firms described the border as relatively fluid and easy to navigate. Some even asserted that border crossings in 2006 were easier and more predictable than prior to the writing and implementation of increased security measures. Canadian firms were more likely (57%) than U.S. firms (50%) to reach this conclusion.

Based on much of the literature emerging between 2001 and 2004, and based on MacPherson et.al.'s (2006) observation that Canadian firms were significantly more likely to report negative trade effects due to tighter regulations, this finding initially came as a surprise.[20] However, when considering important economic and trade asymmetries existing between Canada and the US,[21] it logically follows that knowledge of regulations, familiarity with conditions of border crossings, and strategies to overcome possible border-related impedances have become increasingly important for the competitive ability of Canadian firms relative to their U.S.-based neighbors within the North American economy. Although Canadian firms in 2004 were more likely to report difficulties directly related to the border, by 2006 the same firms were generally more

[20] One of the strengths of a qualitative research methodology, as discussed by Piore (2006), is the "surprise" of unanticipated findings that require further explanation and lead to greater depth of research.
[21] Although Canada and the U.S. enjoy the largest bilateral trading relationship worldwide (in both directions), The Canadian national economy relies proportionally to a greater extent on exports to the U.S.

familiar with regulations, and were nearly 12 percent less likely than their American counterparts to report difficulties.[22]

> One executive in Southern Ontario states: "We used to spend upwards of about an hour or an hour and a half going over the border at the Peace Bridge in Fort Erie. Because of changes in the regulations now, the crossings are very much more, in terms of time, economical. We probably see it in half an hour. Of course, we've also probably changed [the] times we go across, too. So, instead of going across at four or five in the afternoon, we probably go across early in the morning….I think it's much easier to cross than it was, say four, five years ago—when 9/11 first happened."

The above-quoted executive identified two sets of learning curves. First, he identified the importance of Customs agents themselves becoming familiar with changing regulations, and communicating these changes (a long-term process) within their agency and to people utilizing border crossings. The second learning curve has to do with strategy on the individual or firm level. In this case, crossing times were shifted to off-peak hours in order to avoid (and consequently ease) congestion on the bridge. This quote was fairly representative—particularly for firms located in Southern Ontario.

*Increased administrative costs (paperwork and time)*

When asked about the administrative and operational costs involved in compliance with post-9/11 border regulations, the most frequent response (82.61%)[23] was that firms had witnessed increased paperwork requirements, particularly pertaining to advance notice rules. However, in general, related costs were not reported to be prohibitive, and amounted only to minor increases in paperwork. Small and medium-sized firms estimated

[22] 61.54 percent of Canadian executives interviewed responded that the border is easier to cross today than in 2004. This is compared to 50.00 percent of American executives. These figures do not account for the two firms (one Canadian and one US).
[23] Two U.S. based firms that do not currently export to Canada (as of 2006) are not included in this calculation.

that their additional time allotment for additional paperwork amounted to only an additional 30 minutes to two hours per day, while larger firms were more likely to report multiple hours—or even one full day (and therefore an additional full or half-time employee's salary) of additional paperwork.[24] Most executives within large and small firms alike indicated that the additional time investment in paperwork amounted to a minor nuisance at worst. In fact, time invested in paperwork was often expressed favorably, as there was a general perception that small *predictable* investments of time on site saved costs of time and confusion at the border, therefore making border crossings more efficient and predictable. There was also a sense among some firms in the sample that, despite volume increases, the paperwork had become clearer and easier than in years past, was more standardized, and lent itself to greater efficiency at the border itself. In other words, executives expressed satisfaction associated with a greater sense of *control* over the process of border crossing activities that "push back" or "thicken" the border via advance notice requirements.[25]

A frequent administrative concern voiced during interviews had to do with redundancy of paperwork and layers or regulations when multiple government agencies were involved[26] (such as the U.S. Food and Drug Administration or the U.S. Department of Defense)[27] as well as concerns with regard to inconsistent processing of paperwork by individual Customs agents. This is an important finding because executives in this

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[24] Variability in times can be explained by the size of firm, the quantity of international shipments, and the requirement for some to fill out additional paperwork for government agencies other than (in addition to) CBP.

[25] Advance notice requirements by the U.S. Customs and Border Protection require that paperwork related to shipments is submitted at least 1 hour prior to the arrival of said shipments at the border crossing.

[26] It is important to keep in mind that the administrative functions of international borders are multifaceted and often involve more agencies than just the CBP (US) or the CBSA (Canada).

[27] Firms experiencing the greatest levels of administrative difficulty were food exporters or involved in the manufacture of weapons for the U.S. military forces.

sample generally did not find CBP *regulations* to be problematic—in fact, executives on both sides of the border were very supportive of increased security measures. Complaints about CBP had to do more with individual agents, who may not be familiar with regulations or processes, or who may simply be in a "bad mood."

With the exception of a few firms that are strategically located near one bridge crossing or another, when asked about crossing location preferences, executives in both the Niagara Peninsula and western New York tended to respond that both bridges were comparable, and had no strong preference between the two.[28]

Although time was cited as a concern, surprisingly, border wait times were infrequently cited. This can be explained along two rationales. 1. Border crossings, as explained above, had become easier, more fluid and more familiar as explained by the following U.S.-based executive:

> "Whatever increase the base cost is is based on the time that the person has to sit at the border. Now, he can maybe get his papers right through and go. The problem is, he may be in a line of trucks ahead of him that are *not* everyday truckers or are not, say, pre-approved, or *whatever*—and he's not gonna be able to bypass them. He's still gonna be sitting on the bridge or in the compound until it's his turn. So, even though we may say it doesn't affect us as far as our trucks go, it probably affects us *more* than most of the other truckers, because the one-time or once-a-month trucker has figured his cost in there—that he's gonna spend two, three hours at the border until he gets his papers right or whatever. But these trucks have to move, *our* trucks—not just ours, but *daily* commutes back and forth—they have to get over fast enough to make it profitable on both sides. And that's where the restrictions at the border have made it harder."

[28] Canadian executives explained that they occasionally cross into Michigan as well. While they tended to agree that administration at both commercial bridges within Niagara were consistent, executives voiced strong (and inconsistent) preferences for specific crossings into Michigan.

2. Many executives indicated that border wait times were not their concern, as their chosen strategies involve transferring responsibility of transport and brokerage-related services to third party providers.[29]

*Outsourcing and additional links in the supply chain (shifting responsibility)*

Most firms in the research sample had historically, and continue to subcontract transportation and customs brokerage services.[30] In light of tightening border restrictions, however, there appeared to be a greater reliance on third parties than prior to 2001. The general consensus among firms in this study was that border-crossing activities have become increasingly complicated with the introduction of antiterrorism regulations since 2001.[31] Small businesses simply do not have the necessary resources to keep up with new regulations on their own, and are therefore well-advised to hire firms whose core competencies included navigation of border regulations. In order to focus on their own core competencies, even firms possessing their own commercial fleets (on both sides of the border) were likely to make the decision to hire out cross-border shipping and customs responsibilities.[32] By hiring third party firms, the burden of efficiently passing through border crossings (including administrative expertise and crossing) can be transferred to third party service providers. One Canadian service provider explained:

> "We used to do (customs) paperwork ourselves, before 9/11. Now we…don't touch much of the paperwork. We…have a customs broker do that for us….because of all the new regulations and everything. It's simply not *feasible* for us to do that anymore—we're not experts in that area. So if there is a problem, I'd rather have somebody else handle it."

[29] Explained in the following section
[30] This statement excludes logistics providers included in the sample.
[31] This does not necessarily conflict with the findings that border crossings in 2006 were easier than in 2004
[32] The clear exception to this "rule" is participating firms whose business *is* cross-border transport services.

Accordingly, cost structures of subcontracted cross-border transport are said to have changed in response both to antiterrorism measures, ensuring that carriers are not forced to absorb costs related to border delays and to increasing costs of fuel. Customer firms indicated that they are aware of increasing rates, and (although they would prefer to pay less), for the most part seem not to mind.

Increased transportation costs were generally regarded as a fact of business in a changing regulatory environment, and executives were willing to accept the costs because: 1. Their competition also faces similar hurdles including rising prices and 2. Hiring someone else to take on the responsibility of transport redirects any fallout for late shipments. After explaining that transportation costs have increased, one U.S. executive remarked

> "If everyone's gonna [sic] have the same problem at the border, then you can't really hold me responsible for it… Now, if some lucky guy figures out a great process to remove the delays at the border… Then he might get (our company's) business… This is all hypothetical because, frankly, I haven't heard anybody say border delays are (placing their) business at risk."

Establishment of new antiterrorism measures has also affected staffing. Executives who had previously sent goods and provided services across the border with their own personnel and trucks now take extra precaution when deciding which employees to send across the border for deliveries, sales and contracts, as there is a perception that some may face greater scrutiny by border security or may even be denied entry due to immigration-related restrictions. One Canadian executive explained that one of his company's most reliable employees is unable to work in the U.S. as a consequence of "something stupid he did when he was eighteen." As a precaution, this employee (who used to cross the border regularly for business-related projects) is now exclusively sent to work on domestic (Canadian) projects.

Many firms that indicated strategies of hiring third parties (enabling them to transfer responsibility) were also likely to indicate an insistence that other parties in the supply chain (backward as well as forward linked firms) assume the responsibility of transport coordination, paperwork and accountability to the state.[33] A Canadian executive noted:

> "(If our customers do not receive a shipment on time it) is not (our) problem, because they're not blaming *us*. They're blaming their own customs people or Homeland Security or whoever it is they yell at."

Besides the addition of outsourced transportation and customs brokerage services, some executives found a need to place additional service links into their supply chains. These additional links imply increased costs, and in some cases also imply a direct loss of business due to restructuring. Two firms (both Canadian) are currently facing lost business due to the addition of links. Both have structured alternative business strategies in order to ensure that losses are not extensive:

One Canadian service provider in advertising and promotional materials found that a U.S. customer had stopped purchasing printed materials in favor of digital files—choosing instead to have materials printed by a third party on the U.S. side of the border. This individual noted in his interview that this *does* impact his bottom line, and *does* place him at a potential disadvantage relative to his U.S. competitors, but only to a small extent. In order to compensate for these losses, this firm has adopted a strategy of changing its pricing structure.

> "…I've changed my pricing structure, where I charge more on the front end, or the design end of things—providing digital files—so…I'm charging more to prepare those files to compensate for…potential losses of them printing stuff on the other side … I guess my overall strategy is to increase the front end cost. I don't *have* to be in the States. I can just ship digital files…So, that it wouldn't

[33] By declaring themselves "importer of record"

impact my bottom line too much if they decide to print all their stuff in the States. I can get it on the other side."

In this case, the firm had not experienced any border delays or difficulties—regulations were not directly responsible for the change. However, the *perception* by their U.S. customer that the border was no longer reliable led to strategic actions resulting in a loss of business to a U.S.-based printing subcontractor. Border regulations do not only affect businesses due to delays and administrative difficulties. The *perception* of inefficient border crossings can be sufficient to justify geographic supply chain reconfiguration and consequential business losses, as demonstrated in this case.

In another case, a Canadian-based freight forwarder seasonally subcontracts a firm to re-package goods in order to comply with U.S. regulations regarding consignee information disclosure and homogeneity of pallets.

> "…we deal with one customer during Christmastime that's food-related, and we have to do the prior clearance of all the food goods that we're shipping over. We do not pack the goods over here anymore, like we used to, because it's so much more difficult for us to send over individual packages of food. So, we send over consolidated skids of food over to a packer in Buffalo and they do it for us. So, we've lost some work in that regard."

*Tighter relationships*

Following from the trend of increased outsourcing, it is apparent that the nature of relationships and the levels of communication within supply chains have become increasingly important. Services, including transportation and customs brokerage services, are competitive both in terms of price and quality. Although price competition remains an important component of the competitive ability of service providers, firms are increasingly recognizing the importance of the quality of service provided. Only a few executives (particularly based in the U.S.) indicated that they continue to shop around in order to obtain the best price on any given shipment. A *majority* of firms, on *both* sides of the border, indicated that the competitive advantage that can be gained through the maintenance of long-term relationships with third party service providers is greater than a small price differential. One interviewee discussed at length the importance of consistency:

> "The consistency with your forwarder, I think, is *huge*. As far as the smoothness of your transit, it's just a huge factor… In the good sense—I think that you really get into [a] routine. They know what we expect, we know what to expect from them."

Others explained that frequent communication within the supply chain (and with subcontracted carriers, in particular) lends itself to better protection against possible misinterpretations of border policies:

> "What we do is we have a good relationship with our curriers [sic]. My secretary spends a lot of time talking to them on the phone—getting information. They've been very good at giving us the information back, and telling us which forms have to be filled out…They're a buffer between us and the customs people."

The importance of close relationships extends throughout the supply chain, and indeed through professional organizations and state-sponsored outlets. National level trade organizations in Canada and the U.S., as well as government entities such as the U.S. Department of Homeland Security have organized countless workshops designed to communicate changes in regulations, rationale behind these decisions and advice to facilitate efficient border transactions. Some TNCs have even hosted similar information sessions for companies within their supply chain. At least two Canadian suppliers discussed the workshops hosted by their largest (U.S.-based) customers in order to facilitate efficient JIT supply, in light of new regulations.

*Exchange rate*

During the course of interviews, participants from both sides of the border emphasized that the border itself, in terms of increased regulations, has actually had minimal impact on their businesses in the past two years. However, fluctuating exchange rates between Canadian and U.S. currencies appear to have had a significant impact on the competitive ability of some Canadian firms. Between the summer quarters of 2004 and 2006, the exchange rate between the Canadian and U.S. dollars narrowed from a difference of nearly 0.31 USD to only 0.12 USD (U.S. Federal Reserve Bank, 2007), resulting in lost sales and revenues by Canadian exporters to the U.S.—particularly those who self-identify as price competitive.

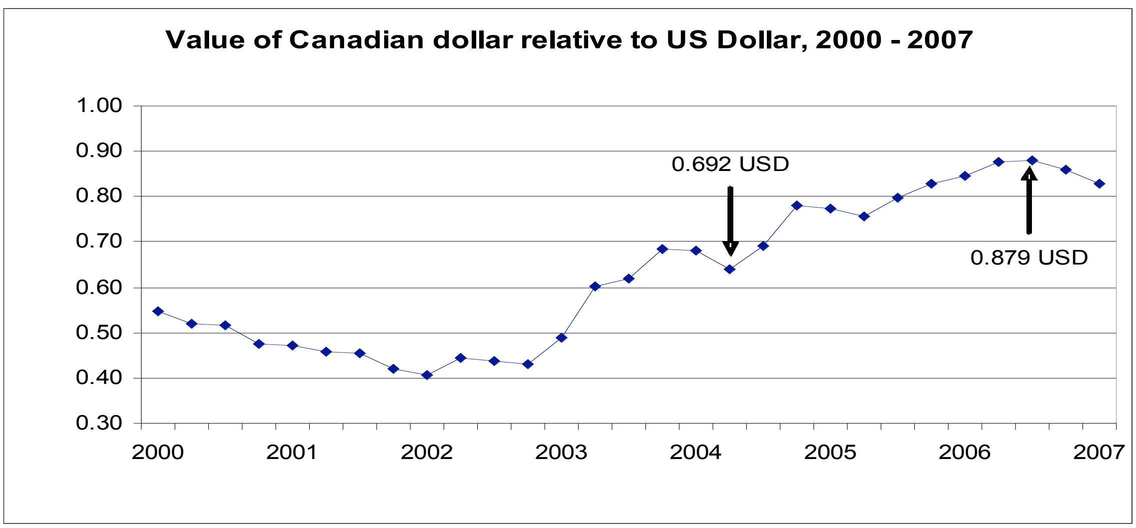


Table 1: Exchange rates
(Quarterly average calculations are based on data obtained from the U.S. Federal Reserve Bank, 2007)

Canadian and U.S. firms alike indicated that in an increasingly accessible global marketplace, it is more difficult for many Canadian firms[34] to be competitive based on

[34] Canadian firms hat sell standardized or cost-competitive products are harmed. Some quality-focused specialized firms downplayed the actual effect on their exports to the U.S.

lower costs today than in 2004, due to shifts in exchange rates as well as increasing international competition. Shifting exchange rates are reported to be a primary motivator for U.S.-based firms to pursue strategies that reduce their dependence on Canadian firms (and the fluctuating Canadian dollar)—and also for some firms in Canada to focus domestically. One Canadian executive who had suffered dramatic losses following 9/11 and is slowly re-building his presence in the U.S. market remarks:

> "Especially in the past six months, we've lost some business to the exchange rate. And it's not as advantageous to use our services because the exchange rate's so low for American companies. So we're just looking to compliment that *loss of revenue* by finding some revenue locally. So, we've got a sales rep that we've hired locally that handles the Niagara peninsula to sell (our services), and *with that* hopefully (we'll) find business going back into the US as well but most of it's domestic work."

*Cutting dependence*

A distinct difference arises between Canadian and U.S. based firms when the question is asked whether they are considering separating themselves from their neighboring market. While Canadian firms tended to downplay this possibility, U.S.-based firms were more likely to respond (regardless of whether they had experienced any significant border delays first hand) that they were looking to replace their Canadian suppliers with suppliers based in the U.S. This response by U.S. firms was explained two ways:

1. In some cases, the search to replace Canadian suppliers is a direct consequence of exchange rate fluctuations, as indicated above.[35] One U.S. manufacturer explains:

> "We're left with two and a half major Canadian suppliers—and I want out of them!... We're quoting on this side. …The dollar change has really given me a distinct disadvantage….We still want to *sell* in Canada, but the supply base… I think (the exchange rate) is killing Canadian manufacturers."

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[35] This is particularly the case for Canadian distributors and manufacturers of standardized cost-competitive goods

2. In other cases, firms perceiving that possible border crossing complications could hold up future shipments sought out different geographic strategies to ensure a secure and efficient supply chain.[36] One U.S. manufacturer explains:

> "We've gotten rid of three quarters of our Canadian suppliers. We just can't afford to do business with them any more. They've become noncompetitive because of the extra cost and the risk you have. We have to put a risk assessment factor on their shipments—we might never get it. Their currency's been quite stable, lately. For years now…they slowly fluctuate. It's not going to wildly gyrate twenty percent in a week or anything like that (which it has in the past, many years ago)."

Either way, a risk is perceived by U.S. based firms that is not necessarily reciprocated by Canadian customers of goods and services produced in the U.S.

*Warehousing*

Manufacturers (on both sides of the border) have been re-thinking the way they approach warehousing. While some firms selected strategies that involved increasing warehousing (arguably a return to just-in-case systems), others found themselves more inclined to reduce warehoused stocks.

Some participant firms on both sides of the border indicated that, in light of new border regulations and the geopolitics of terrorism that accompany those regulations, cross-border supply chains are becoming increasingly risky, particularly for time-sensitive industries that are JIT-dependant and those dealing with perishable goods. In the case of JIT-oriented manufacturing operations, firms in southern Ontario and western New York indicated that they hold greater amounts of stock within warehouses on the "home" side of the border to ensure that products and processes are not held up by short-term border delays. One distributor in Western New York indicated that the regional

[36] This is a concern primarily for Canadian manufacturers and service providers working with time sensitive products

[western New York] warehouse of Canadian exports had grown by fifty percent since 2001, due to concerns related to border delays. Another small firm in southern Ontario who sources globally and exports primarily to large U.S.-based transnational corporations reported a strategy of increasing in-house stock by thirty-percent in order to ensure that despite global uncertainty, his facility would not delays in his customers' just-in-time systems.

This strategy is revealed, not only in terms of actual capital investments made at "home," but also, conversely, in investments *withdrawn* from the opposite side of the border. In at least three cases, U.S.-based firms that had established warehousing facilities in Ontario were planning to eliminate costly cross-border facilities in favor of smal distributions to Canadian retailers[37] combined with increased reliance on JIT transportation provision from the home (U.S.) manufacturing and distribution facilities. One western New York-based firm that had maintained a distribution warehouse near Toronto explained that his company is considering withdrawing capital investment from Ontario altogether. A fluid border (relative to 2004), he explained, combined with unfavorable exchange rate fluctuations, and high day-to-day costs of maintenance of the facility, his company no longer saw a need to maintain large stocks of product in Canada. It is important to note that while this strategy (a strategy of disinvestment / relocate home) was more likely among U.S.-based exporters, this was not exclusively the case. One notable Canadian manufacturer (the same mentioned above with the thirty percent increase in stock) had, immediately following 9/11, purchased a property in western New York. As of 2006, that property remains unused, unless a subsequent event causes future problems at the border.

[37] Primarily for maintenance services and small parts.

*Global outsourcing*

It is important to consider that Canada-U.S. trade relationships do not occur in a vacuum. Indeed, another theme that consistently emerged out of interviews on both sides of the border was the notion that cross-border trade relationships are influenced by and can shift toward other parts of the world. A Canadian-based firm looking to make up losses or expand, for example, may choose to look outside of North America for new purchases or sales opportunities. A number of firms expressed a desire to increase their reach (particualry with respect to backward linkages) into other global markets for reasons of competitiveness with regard to cost[38] as well as quality[39]. While the initial set of assumptions hypothesized and tested by MacPherson et.al. (2006) included the possibility of import substitution as a consequence of difficult border crossing, it seems that exchange rates and price competition are likely to overshadow that possibility.

**Conclusions**

Overall, firms located in Western New York were far more likely than Canadian firms to discount the importance of their cross-border suppliers and customers. One firm indicated that they are actively looking for U.S.-based suppliers to replace their Canadian suppliers, but that they would still like to continue *selling* to Canadians. Others were more passive, indicating that their business would still survive without their Canadian customers, and that they had no plans to actively grow their Canadian business.

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[38] China and Mexico were most frequently cited as examples of cost-based competitors, as well as possible cost-effective suppliers that could help cost-competitive firms maintain an edge. With two notable examples (two high tech firms based in U.S.), executives generally did not see China or Mexico as markets for finished goods.

[39] Firms distributing specialized goods frequently purchased technologies from Europe. The EU was not seen as a destination market because of a perception of market saturation. Canadian firms in particular wished to maintain their niche in their North American market.

Canadian businesspeople generally did not express any plans to reduce their dependence on the U.S. market. Themes that commonly emerged through interviews with Canadian firms emphasized the efficiency of the border and the improvements that have been made in terms of cross border movement since 2004. One firm in the sample had actually lost one hundred percent of its U.S. customers immediately after 9/11, and has been actively working to restore its bi-national customer base.

This is somewhat surprising, given the previous rhetoric that pervaded the Canadian media only two years ago—and also serves to explain the relatively silent media since 2004. Canadian firms seem to be downplaying the impedances related to border crossing activities, and are continuing to prioritize their strong ties in the U.S.

At the same time, however, this is not surprising when taking into account the trade deficit that exists between Canada and the U.S. Estimates of the national economies consistently emphasize the greater relative importance of the U.S. economy to Canada than the Canadian economy on the U.S. This idea was echoed within the sample of firms that participated in this study. Canadian firms were far more likely to credit a large percentage of their company's success to their links into the U.S. economy. In comparison, U.S. based businesses were far more likely to indicate that their Canadian customers and suppliers were not critical to the success of their business. This is important to keep in mind at all scales, because in the event of future disruptions, Canadian firms will find themselves in a position of relative vulnerability compared to their U.S. competitors.

Industry Canada (2004) and CBP publications, speeches and press releases from 2001 to 2004 emphasized the notion that the border would become more congested for a time, but that efficient regulation of the border was possible and would ultimately lead to a more efficient border. Based on evidence gathered thus far, this seems to be the case. One interviewee described the imposition of new regulations as a “wrinkle” that would cause harm to businesses and customers in the short term, but that in time the difficulties would diminish, as people adjusted to the new trade environment. Some of the adjustments being made to accommodate these changes manifest themselves in terms of increased costs of transportation and increased warehousing. Despite the added costs, firms on both sides of the border seem willing to absorb or pass on these costs in order to get over the “wrinkle” and back to business as usual.

The stories told over the summer of 2006 were, for the most part, stories of resilience and adaptation. Firms improved communication and solidified relationships in their supply chains. They placed greater reliance on third party experts and changed their warehousing strategies. It would appear that firms in western New York and southern Ontario successfully navigated the ‘wrinkle’ of 2001. It is important, however, to recognize that the regulatory context of North America continues to change. The Western Hemisphere Travel Initiative (WHTI), a U.S. law requiring passports for all travel into the U.S., is scheduled to go into effect for land crossings in June, 2009. This law could have the potential to significantly disrupt cross-border travel. The next challenge will be for firms to adjust to this and other unknown changes more efficiently the next time around.

Strategies that have been chosen by firms reveal both strengths and potential weaknesses in the ability of cross-border supply chains to survive future disruptions. The strategies discussed in this paper have worked well for a number of firms, and may continue to do so. But, in a constantly-changing regulatory environment, resilient firms must also prepare for the future.

In 2004, many firms indicated interest in voluntary government-sponsored programs such as C-TPAT. In 2006, however, few expressed interest due to the fact that they were no longer experiencing delays and did not wish to make the potentially costly investment. Furthermore, while every executive interviewed in 2006 had previously indicated that they were considering geographic supply chain reconfigurations, by 2006 few had followed through (or still intended to follow through). The only continuous strategy over this time period was the cautious approach by U.S.-based firms to disinvest from Canada. The border continues to change. Will firms be able to keep up?

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