Technical Paper: The Impact of Diplomatic Representation Abroad on Canada's Exports

By Dan Ciuriak

Executive Summary

This Technical Paper presents the methodology and results of the author's study of the effect of diplomatic representation abroad on Canada's exports. It is intended as a technical supplement to the author's C.D. Howe Institute E-Brief of the same name.

The economic literature provides evidence that diplomatic posts abroad have significant impacts on exports; at the same time, the literature shows that there are significant differences in the effectiveness of export promotion across the various instruments of export promotion as well as across contexts, products, and destinations. This study examines the impact of having diplomatic representation in a country on Canada's exports to that country, for different classes of goods and across different economic contexts.

Using the gravity modeling framework, the study revisits the issue of the impact of Canada's diplomatic representation abroad on exports. It confirms that economic diplomacy boosts exports – and quite significantly – and adds to the existing literature by shedding light on the questions of where, why and how. The study concludes that the impact is greater for the first, main post (usually an embassy) than for additional consulates; that the impact is stronger on undifferentiated commodities than for manufactured goods; and that the impact is greater in countries which are characterized by lesser degrees of economic freedom. The results, which also show the positive impact of trade agreements on exports, point to a separate, significant effect of diplomatic relations on trade that is over and above the export gains from having additional Trade Commissioner "boots on the ground" in Canada's targeted export destinations.

Keywords: Trade promotion, economic diplomacy, embassies, consulates, posts, Canada

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Introduction

In its new Global Markets Action Plan (GMAP), the Government of Canada states that it will ensure that "all the diplomatic assets of the Government of Canada are harnessed to support the pursuit of commercial success by Canadian companies and investors in key foreign markets."[1] Canada is also in the middle of a major budget consolidation exercise which constrains funding for economic diplomacy. Thus, Canada's embassies in Cambodia and Bosnia were both closed in 2009 following the closure of missions in Milan, Petersburg, Fukuoka and Osaka (the Osaka post was subsequently re-opened in 2012). More recently, several Canadian consulates and trade offices in the United States were also closed, including the only mission in Alaska and the Buffalo consulate, in this case due to immigration rules changes as well as budgetary reasons. As well, an agreement has been struck between Canada and the UK to share space in embassies for budgetary reasons. At the same time, the new GMAP will lead to strategic decisions concerning in what amount, to which programs, and in which geographic directions Canada's limited trade promotion resources will be allocated.[2]

The economic literature identifies significant differences in the effectiveness of export promotion across the various instruments of export promotion as well as across contexts, products, and destinations. Only very limited relevant work has been done from a Canadian perspective on this issue. Head and Ries (2010) evaluated the impact of Team Canada missions, concluding that these did not have a significant impact on future Canadian exports. Rose (2007) provides several estimates for the impact on Canada's exports of embassies, consulates and the total number of posts in destination countries based on 2002-2003 data; these estimates indicate a positive impact. In a study on Canadian export promotion services, Biesebroeck, Chen, and Yu (2010) found, in their preferred specification, that exporters that access Trade Commissioner services export, on average, 17.9 percent more than comparable exporters that do not get such assistance.

With economic diplomacy attracting renewed policy attention, I revisit the issue of the impact of Canada's diplomatic representation abroad on exports. I confirm that economic diplomacy does appear to boost exports – and quite significantly – and add to the existing literature by shedding light on the questions of where, why and how. I find that the impact is greater for the first, main post (usually an embassy) than for additional consulates; that the impact is stronger on undifferentiated commodities than for manufactured goods; and that the impact is greater in countries which are characterized by lesser degrees of economic freedom. The results, which also show the positive impact of trade agreements on exports, point to a separate, significant effect of diplomatic relations on trade that is over and above the export gains from having additional Trade Commissioner "boots on the ground" in Canada's targeted export destinations.

Situating Export Promotion in an Economic Framework

As Paul Krugman once observed, "The economist's case for free trade is essentially a unilateral case: a country serves its own interests by pursuing free trade regardless of what other countries may do."[3] Put another way, the welfare gains from trade come from imports – from lower- cost or new varieties of imported consumption goods which benefit consumers, and from foreign intermediate inputs and technology which boost domestic production efficiency. Exports are simply the price a country must pay to earn the foreign exchange to be able to import.

1 Government of Canada, Foreign Affairs, Trade and Development Canada (13 January 2014).

2 The update of the federal government's first Global Commerce Strategy announced in 2007 was announced in the 2012 Budget. On 29 May 2012, Canada's Minister of International Trade announced the establishment of an advisory panel to advise on how to frame the next version of the GCS to maximize economic opportunities for Canadian business.

3 Krugman (1997, 113).

That being said, imports are the easy part of trade – going shopping in the global mall; what is hard, as any breadwinner will readily grasp, is to get the job to pay for the shopping spree. Exporting is Canada's job in the global economy and it is the tough part in the trade equation.

Moreover, notwithstanding the uneasy reaction of economists when the benefits of exports are mentioned (the legacy of the 19th Century intellectual feud between mercantilists and free traders), exporting has also long been recognized as providing particular economic benefits. For example, exporting permits firms to attain scale economies that cannot be achieved in purely domestic commerce. Indeed, in technology-intensive industries such as aircraft and electronics where scale economies are exceptionally large, the extraordinary gains that flow from global leadership have induced many countries over the years to engage in "strategic trade policy" (Brander and Spencer 1985) to capture greater global market share – albeit with often uncertain results on overall welfare.

More recently, theoretical and empirical studies using firm-level data have identified further dynamic efficiency gains for an economy when its firms enter into exporting.[4] These gains stem in the first instance from the reallocation of market share from lower to higher productivity firms driven by reduction of barriers to exports and imports (e.g., Melitz 2003), by induced product and process innovation (Lileeva and Trefler 2010; and Lileeva and Biesebroeck 2010), and by various types of post-entry "learning" effects. The latter include "learning by exporting" by firms exposed to new foreign competitors and to sophisticated foreign clients with exacting standards, such as multinational producers that organize global value chains for intermediate inputs.

In addition, the literature has demonstrated learning by foreign markets about new exporters, which can relax financing constraints in the exporter's own market, and learning by non-exporting firms from export market pioneers through local spillovers.[5] Thus, in the new dynamic firm-level trade theory, exporting means more than foreign currency earnings – it means foreign currency earnings with benefits.

While adding to the case for trade, these various added benefits from exporting do not, however, by themselves necessarily establish a case for export promotion. For that, we need to first determine whether some sort of market failure exists and second whether the benefits of remedying that failure are greater than the costs.

Copeland (2008) reviews the theoretical case for trade promotion and concludes tentatively that many of the sunk costs that prevent firms from becoming engaged in foreign markets are information-related. He identifies two potential sources of market failure. One is information spillovers (or externalities). When one firm "learns the ropes" of exporting in one market, the information gained helps it (and local imitators) to overcome the information barriers to export to other markets. A second relates to asymmetries of information. Potential export market entrants face uncertainty about success in foreign markets. They have less knowledge than established local firms about these markets and the local partners or agents

4 A recent debate in the literature over whether the heterogeneous firm models identify new and additional forms of welfare gain from trade has clarified that there are additional gains. Arkolakis, Costinot, and Rodríguez-Clare (2012) show that for a number of standard trade models, including heterogeneous firm models, the welfare gains depend solely on the import share of consumption and the degree of substitutability of those imports for domestically produced goods (the less substitutable, the larger the welfare gains). However, this assessment is on an ex post basis with models calibrated to an observed trade share of GDP – it does not consider how that trade share of GDP came to be realized. Melitz and Redding (2013) demonstrate that firm-level productivity improvements endogenously induced by the entry into trade generate gains from trade that are additional to those identified in traditional trade models. See Melitz and Trefler (2012) for a recent overview of the heterogeneous firm trade literature.

5 See Ciuriak (2013) for a recent survey of the large and rapidly growing literature on learning effects related to export market entry.

that they must engage in order to succeed. In economics, uncertainty = costs. Reducing uncertainty, therefore induces firms to take the plunge and enter the foreign market. Once they do, the now-conventional trade economics tells us that they are much more likely to take productivity-enhancing actions: switching to mass production process technologies, increasing resources allocated to innovation, increasing training of personnel and so forth.

While the market creates incentives for firms to respond to these problems in various ways (e.g., through legal advice, market intelligence, facilitation with logistics and customs processes, etc.), Copeland's study concludes that both theory and some limited empirical evidence suggest that these responses go only part way towards resolving the underlying problems, thereby making a market failure-based case for policy intervention in the area of export and investment assistance and promotion.

In addition to purely economic rationales for export promotion based on the nature of markets, account must also be taken of broader international relationships. For example, the gravity model-based trade literature establishes that trade is more intense between countries which share common historical colonial ties; by the same token, firms must face different levels of trade costs breaking into different markets. Moreover, the role of security considerations in shaping trade blocs can hardly escape notice, being embodied in the original formation of the European Economic Community (EEC). Simply put, political relations matter to trade.[6]

Bergeijk and Moons (2011) summarize four arguments grounded in political economy/international relations that have been advanced for economic diplomacy:

1. Cultural factors may make it necessary for national governments to get involved in international transactions, particularly in former communist countries which account for an increasing share of world trade and in which the government is still regarded as a natural partner in the economy.
2. Since entrepreneurs may find that state-owned enterprises are the counterparties in international transactions, entrepreneurs may require involvement of their national government to equalize the power balance.
3. (Political) uncertainty about international transactions must often be removed or reduced. Government involvement may signal that a transaction will not raise political resistance.
4. Obtaining information needed for international transactions sometimes requires involvement of government officials.

These arguments are also explicitly made by Canadian industry, albeit in less theoretical terms. For example, in the consultations on the second iteration of Canada's Global Commerce Strategy, the Canadian Manufacturers and Exporters Association indicated that the government should "Support Canadian businesses by engaging in economic diplomacy at the highest political levels – this is especially critical in emerging markets and highly politicized sectors where strong government-to-government relations are critical for market entry and where state regulators, state-owned and state-invested enterprises play an important economic role."[7]

6 The interface between international economics and international relations is, of course, a subject unto itself. Okano-Heijmans (2011) positions economic diplomacy at the crossroads of international relations, economics, international political economy, and diplomacy. The conceptual framework in this study sees the state as the primary actor in economic diplomacy and discerns five strands of economic diplomacy: commercial diplomacy, trade diplomacy, financial diplomacy, "inducements", and negative sanctions; and four essential dimensions of economic diplomacy: the context, the tools, the theatres, and the processes. Notably, the tools and purposes range across a spectrum from the relatively more commercial/economic or "business end" in character to those that are relatively more political or at the "power-play end." She emphasizes that this intersection between politics and economics is studied very differently by political scientists and economists, with little interaction or understanding between the two disciplines (13).

7 Canadian Manufacturers and Exporters Association (2012), slide 20.

The role of diplomatic efforts is most clearly evident from anecdotal evidence. For example, in testimony to a Parliamentary committee investigating the effectiveness of Canada's Trade Commissioner Service, the following story was recounted:

> We export a large amount of product to Algeria. It's a very big consumption market for Canadian green lentils. We recently – let's say two years ago – had a problem. A very small shipment of lentils ended up in a customs problem on the import side when an importer actually went bankrupt. As a result of customs rules, we couldn't free that cargo from the grasp of the Algerian customs. We worked for over 13 months to resolve a small problem. Finally, with some advice from our colleagues at Foreign Affairs, we contacted our embassy in Algiers, and within 13 days – not 13 months – our containers were released, our problem was solved, and we were able to continue on with our business.[8]

Accordingly, economic and political-economy theory and empirical evidence, supported by industry experience, establish a case for export promotion (and similar types of public sector activities that generally fall under the rubric of trade facilitation). The extent to which governments should engage in this activity then depends on the balance of costs and benefits.

The Effectiveness of Export Promotion: What Works and How Well?

Governments worldwide promote exports in various ways. Such programs can command large budgets: for example, the budget for US federal export promotion activities was recently estimated by the US General Accounting Office to be on the order of US$1.3 billion (or about 0.08 percent of the value of US exports of goods and services) spread over nine agencies.[9] By comparison Canada's federal budgetary allocation for international commercial development (including investment as well as exports) amounts to $309 million in 2013-14, evenly split between Foreign Affairs, Trade and Development Canada and Agriculture and Agri-Foods Canada, or about 0.06 percent of Canada's exports of goods and services.[10]

The range of programs varies from general support to promote export capability (for example, by providing exporter training), to explicit export strategies to boost exports, often targeting "priority markets"[11] including through high-profile trade missions (for example, Team Canada, Team Finland missions, US state missions, etc.).[12] Support is often provided for trade fairs, or participation at such events, to showcase a country's products. Most WTO members have dedicated

8 See House of Commons Standing Committee on International Trade, "The Canadian Trade Commissioner Service," March 2012, http://www.parl.gc.ca/HousePublications/Publication.aspx?Mode=1&Parl=41&Ses=1&Language=E&DocId=5478079&File=0.

9 Government of the United States, GAO (9 December 2009). The US expenditure level relative to the value of exports of goods and services is double the median of export promotion agencies surveyed by Lederman, Olarreaga, and Payton (2010), but within the OECD range of 0.03% to 0.13% as reported in that study.

10 The most recent comparable estimate for Canada to the GAO Report is a 1996 Report by the Auditor General which found the cost of federal activities in support of international business development to be greater than $375 million a year, not including overhead costs in Canada, or about 0.13% of Canada's exports at the time, Foreign Affairs and International Trade (67%) had the major budgetary allocation (including part of diplomatic missions' budgets), followed by Industry Canada (18%) and Agriculture and Agri-Food Canada (7%). See Office of the Auditor General of Canada, *1996 November Report of the Auditor General of Canada* (Ottawa: OAG, 1996).

11 Examples include the US "National Export Strategy", Canada's "Global Commerce Strategy", and the EU's "Market Access Strategy." Notably, the most successful export promoters – the major East Asian export-oriented economies – tend not to openly label their policies as such.

12 Since 1998, Canada has mounted 44 Team Canada missions or about 2.75 per year. By comparison, Cassey (2010) reports that over the period 1997-2006, US state governors led more than five hundred trade missions to foreign countries. Taking into account the relative size of the Canadian and US economies, the US is mounting state-level missions at an equivalent rate of 5 per year.

export promotion agencies.[13] Export credit or financing agencies are widely used to address specific gaps in export financing, working in this case within a multilateral consensus (the OECD Arrangement on Officially Supported Export Credits and parallel agreements on aircraft financing). In addition, countries engage in commercial diplomacy through embassies, consulates, and trade promotion offices in partner countries (in some cases established by sub-national levels of government).

Accordingly, it is a fair conclusion that governments worldwide believe that trade promotion works and put a considerable amount of resource to back that belief. If there is any doubt concerning the Government of Canada's view on the subject, the top priority for Canada's Department of Foreign Affairs and International Trade in 2013/14 is to "Implement an updated Global Commerce Strategy to improve the access of Canadian companies to key markets, capital, technology, talent, and trade-promotion and partnership-development support."[14]

The past decade has witnessed a renewed interest in the effects of the various tools of export promotion. Gravity model-based studies have examined the impact of diplomatic representation on aggregate trade levels or on the number of trading partners;[15] a range of micro-data studies have examined the "treatment" effect of export promotion services on firms' subsequent export performance;[16] and some studies have delved into the diplomatic processes themselves based on interviews and questionnaire data.[17] The available evidence suggests that the effectiveness of trade promotion varies by the type of service and the location of delivery – although not all studies agree about the effectiveness of particular types of promotional activities.[18] Moreover, the effectiveness of delivery of export promotion varies from country to country.[19]

Insofar as the market failures that provide the business case for export promotion are information-related, intuition suggests that the extent and impact of such failures would vary widely across export destinations. Additionally, the effectiveness of economic diplomacy may be related to the degree to which governments in the destination countries

13 Lederman, Olarreaga, and Payton (2010).

14 Government of Canada, Foreign Affairs, Trade and Development Canada, "Our Priorities," 13 April 2014, http://www.international.gc.ca/department-ministere/priorities-priorites.aspx.

15 For example, Rose (2007) and Segura-Cayuela and Vilarrubia (2008).

16 Treatment effects techniques in firm-level studies are inspired by randomized medical trials, which compare treated and control groups to isolate the effect of a particular medical treatment. Applied in a trade context, where the data are actual, non-experimental observations, statistical techniques are used to identify a suitable non-treated control group. See Wooldridge (2002) for an exposition and Imbens (2004) for a survey of the literature applying this technique.

17 See, for example, Kostecki and Naray (2007) and Ruël and Zuidema (2012).

18 For example, Poole (2010) finds that US export promotion programs that bring potential foreign clients to the United States facilitate trade matchmaking. Conversely, Biesebroeck, Chen, and Yu (2010) find that trade promotion services delivered by Canadian missions abroad are more effective than trade promotion services delivered by Canada-based DFADT personnel. Nitsch (2007) finds positive effects on exports of visits by UK, French, and German heads of state differentiated by type of visit (working versus official state visit) and strengthened by repeat visits. Conversely, Head and Ries (2010) find that Canada exports and imports above-normal amounts to the countries to which it sent trade missions, but conclude that this is not due to the missions, which have insignificant effects once country-fixed effects are taken into account. Álvarez (2004) finds that PROCHILE's trade shows and trade missions do not affect the probability of Chilean firms becoming permanent exporters, but exporter committees show a positive and significant impact.

19 For example, Ferreira and Teixeira (2012) compare a leading export promotion agency, Enterprise Ireland, with a lagging one, Portugal's AICEP based on questionnaire responses by employees of those agencies and find particularly significant differences in perceptions of the effectiveness of the respective agencies in terms of innovation, processes, and systems.

intervene in their economies. For example, Ciuriak and Kinjo (2006a) found that the distribution of Canada's embassies and consulates abroad was more closely associated with increased exports if the degree of economic freedom in the destination country was controlled for, with economic diplomacy appearing to matter more in countries with significant government influence in the economy. The same study also identified diminishing returns to additional consulates in the same country: if each of the large number of consulates that Canada has in the United States generated the same expansion of trade that the average consulate worldwide does, Canada's exports to the United States would be substantially greater than they are in reality.

The characteristics of firms that benefit most from assistance also appear to matter. For example, Volpe Martincus, Carballo, and Garcia (2010) find that promotion benefits smaller firms more than larger firms. This is consistent with the *a priori* expectation that overcoming entry barriers represents a greater challenge for smaller, relatively inexperienced exporters.

The characteristics of the products – differentiated versus undifferentiated goods, as well as goods versus services – are likely to result in differential effects of trade promotion efforts and possibly of different tools. For example, Volpe Martincus (2010) finds, in a Latin American context, that the establishment of an export promotion organization presence in a foreign office expands at the extensive margin of exports of more differentiated goods, while the establishment of a diplomatic mission is associated with increased trade at the extensive margin of more homogeneous goods.

The same is true of the nature of markets. Government procurement is likely to be more influenced by economic diplomacy than commoditized and highly price-competitive markets. The same considerations would apply with respect to "Mode 3" services exports[20] in regulated sectors, such as banking and other financial services, and telecommunications (as argued by industry) – that is, that the support of economic diplomacy is essential in such markets.

There have been some recent attempts at a stock-taking, including a meta-analysis of existing studies by Bergeijk and Moons (2011). This study concluded that, although all instruments of economic diplomacy contribute positively to trade and investment flows, different instruments have varying efficacy. Of particular relevance for the present study, Bergeijk and Moons found that embassies have an above average effect – and the higher the level of representation, the more powerful the effect.

While studies of international experience help to establish whether such instruments actually have some effect, they provide an estimate of the average effect across all countries in the study, which may or may not be representative of the effect for Canada. To this issue we now turn.

The Effectiveness of Canada's Representation Abroad: Methodology

The discussion above suggests that export promotion does boost exports; however, it also establishes that the effects of export promotion are highly heterogeneous, across traded products, exporting firms, export destinations and instruments of promotion. Below, I examine the effectiveness of one form of export promotion – economic diplomacy in the form of Canadian diplomatic representation abroad.

The approach to the study draws on the familiar gravity model of international trade. This model posits that bilateral trade will tend to be larger the greater the size of the respective economies and will tend to be smaller the greater the

20 Under the WTO General Agreement on Trade in Services (GATS), services may be trade in four modes, cross-border (mode 1), movement of the customer (mode 2), movement of the provider (mode 4), or establishment by the provider of a commercial presence in the foreign market, which is mode 3 and the most common mode for services export.

distance between them and the higher the costs of transacting business with that partner as reflected in such things as differences in language and cultural/historical backgrounds, absence of a common border, absence of a free trade agreement, use of different currencies, and so forth, relative to the average costs of transacting business with all other partners.[21] The equation used is as follows:

$$\ln X_{ij} = \beta_0 + \beta_1 \ln D_{ij} + \beta_2 \ln YPC_j + \beta_3 \ln POP_j + \beta_4 G_{gij} + \beta_5 FTA_{ij} + \beta_6 TSI_{ij} + \beta_7 EFI_i + \gamma Post_{ij}$$

This equation follows Rose (2007) but adds in two variables: the trade specialization index (TSI) and the economic freedom index (EFI). In this equation:

X_{ij} denotes exports from country i to country j

D_{ij} denotes the distance from country i to country j

$POPj$ denotes the population of country j

YPC_i denotes the per capita GDP of country i

FTA_{ij} is a dummy variable which takes the value one if between countries i and j have an FTA

TSI_{ij} is the correlation between the trade specialization indexes (TSIs) of countries i and j; this takes into account the similarity of the two countries' patterns of comparative advantage

EFI_j is an index measuring economic freedom in the destination market

Gg_{ij} stands for a set of dummy variables indexed by g that control for a range of factors that have been demonstrated to affect trade intensity, including whether countries i and j, share a common language or a common colonial history; if the partner country is landlocked, or is an island; and the physical size of the partner country

$Post_{ij}$ denotes whether country i has a post in country j

The TSI variable captures the extent to which comparative advantage plays a role in deepening trade. Canada should have greater exports to countries that import intensively the products that Canada exports intensively compared to countries that are themselves intensive exports in those products. Following Ciuriak and Kinjo (2006b), a country's Trade Specialization Index (TSI) is calculated for each sector defined at the 2-digit HS code level.

$$\frac{X_i - M_i}{X_i + M_i}$$

This yields a vector of 97 values; the correlation between Canada's vector and its partner's vector then captures the degree to which they specialize in the same exports. This variable can take values that range from 1 if the TSIs are identically distributed over the various sectors, to –1 if the TSIs are perfectly negatively correlated. Pairs that have a TSI correlation in positive territory would tend to be natural competitors in international trade while those in negative territory would tend to be natural trading partners, according to the principle of comparative advantage. For example, Canada and Australia are

21 For recent surveys of theory and practice in modeling trade using the gravity model see Anderson (2011).

very similar and thus have a high positive correlation; Canada and Australia are both very different from China and thus both have large negative correlations with China:

TSI Correlation Coefficients

Canada–China	Canada–Australia	China–Australia
-0.464	0.681	-0.554

The EFI variable is based on the economic freedom index published by the Fraser Institute in its annual *Economic Freedom of the World Report*. The Fraser Institute defines economic freedom as "the extent to which one can pursue economic activity without interference from government, as long as your actions don't violate the identical rights of others."[22] Countries with greater assessed economic freedom are expected to also be more open to trade.

Both the full "freedom of the world" (EFW) index and the sub-component measured freedom to transact commerce across borders are used. The variable is constructed as the inverse of a country's EFW (i.e., $1/EFW_j$) divided by the individual country-year value in the data set (Zimbabwe in 2005) for which the value is highest (meaning the degree of economic freedom was the lowest). The range of the variable so-constructed (EFI in my terminology) is thus from 1 for Zimbabwe in 2005 to 0.315 for Hong Kong in 2008. For the sub-index on commerce across borders (EFIT), the range is from 1.0 (for Myanmar over the period 2002-2004) to 0.155 for Singapore and Hong Kong in 2006.

The parameter which captures the effectiveness of posts in promoting exports is, following Rose (2007) nomenclature, γ, the coefficient of the posts variable in the estimating equation.

Where Rose (2007) examined the impact of the number of posts abroad on the exports of twenty-two major exporters, the focus in this paper is on Canada's exports to its various export destinations. Reflection on the comparative effect of the presence of, say, a US embassy on its exports in a given country versus the impact of a Canadian embassy in that country immediately calls into question whether we would expect the size or significance of an estimated effect to be the same, even after controlling for exporter fixed effects which are common across all export destinations. For example, geopolitical considerations lead the United States to maintain missions in many countries where Canada, which gives commercial considerations much greater weight, might choose not to maintain a diplomatic presence. Similarly, diplomatic support may be more important for some countries than for others based on their export mix. Accordingly, while Rose provided persuasive evidence that posts abroad boost exports, controlling for causality, the scale and significance of the finding was based on the average effect across a wide range of quite heterogeneous exporters. The question taken up in this paper is how well the results hold up for Canada.

Given the concern with the nature of the exporter, Australia is included as a check. This choice reflects the very high degree of similarity of Australia and Canada in terms of economic structure, socioeconomic conditions and governance frameworks.[23] Whereas the average effect of a post for a diverse group of countries may or may not be representative of what a post might do for a country with Canada's export profile, one would expect similar results for Australia and Canada.

22 Fraser Institute (6 March 2014).

23 See Ciuriak (2012) for a detailed discussion of the similarities between Canada and Australia.

There is one characteristic in which Canada and Australia differ sharply: Australia is relatively "remote" from global GDP while Canada is close to its centre of gravity. Insofar as "remoteness"[24] proxies for Anderson and Wincoop's "multilateral resistance",[25] Canadian exporters face much greater multilateral resistance than Australia's in markets that are not the United States. Including Australia in the study introduces significant variation while at the same time limiting the scope of investigation to highly similar exporters in terms of product mix.

In the same vein, several different export variables are used: total exports, total exports excluding mined products, and manufactured goods. Because of high weight-to-value ratios, basic mined products tend to be highly regionalized. Thus, while both Canada and Australia are heavily specialized in the extractive sector, almost all of Canada's output goes into the North American market while almost of Australia's goes to Asia. The distance effects are, in other words, intensified for this group of products which could muddy the estimate of the effect of posts. Accordingly, a narrower range of exported goods that trade globally might constitute a better test of the effects of economic diplomacy. This study addresses this issue.

Different levels of diplomatic representation are examined, with separate indicators for an embassy, a consulate, a trade office and whether the country is served by a Canadian post in a neighbouring country. This allows consideration of whether the level of representation matters, and in particular whether it is pure "economic diplomacy" (in the sense of political relations) or the stationing of specialized trade commissioners that makes the difference.

Posts in one country are often accredited to cover Canada's interests in third countries. For example, Canada's embassy in the Barbados also covers Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Guadeloupe, Martinique, Montserrat, St. Kitts and Nevis, St. Lucia, St. Maarten, and St. Vincent and the Grenadines. The post indicates on its website that, in countries where Canada does not have offices, the post's ability to provide services is limited. Accordingly, the extent to which posts abroad in one country serve to advance Canada's economic interests in third countries to which they are accredited is probably limited and uneven.

As an added wrinkle, I take advantage of the fact that Canada and Australia exchange favours by providing consular services in particular countries for each other to see whether export performance in these markets is affected.

Finally, following Ciuriak and Kinjo (2006a), regressions are included in which the variable describing the number of posts that Canada has in its trading partner is weighted with the EFI variable. Thus, a post in the least economically free country will have a full value of 1; the value of the post is lower the greater the degree of economic freedom in a country. Thus, by construction, the EFI-weighted post variable will imply a greater contribution to exports from a post in a less economically free country. The real test of the theory thus is whether the weighted posts index has a higher level of significance compared to the un-weighted index and explains more of the variation in export performance.

In terms of data, the distance and standard gravity data for the "gravitational unconstants" (common language, etc.) are drawn from CEPII; the GDP and population data are from the International Monetary Fund's World Economic Outlook

24 Remoteness in a gravity modeling framework is usually calculated as the inverse of the sum of distance-weighted GDP of other major trading partners as in the following expression where *i* indexes the exporter, *j* indexes the importer and w the world as a whole:

$$Remoteness_i = 1 / \sum_j \left(\frac{Dist_{ij}}{GDP_j / GDP_W} \right)$$

25 Anderson and Wincoop (2003) argue that multilateral resistance or the impact of alternative market opportunities includes border effects as well as distance. Canada generally faces similar border effects as Australia in third markets, again, reflecting the similarities of the economies, but the degree of remoteness is very different. Accordingly similar results for Canada and Australia in regressions excluding the United States would increase confidence in the consistency of the parameter estimates.

database (October 2013), and the trade data are taken from the International Trade Centre Trademap. A variable for a common border is not included as it would act like a dummy variable for the United States in equations limited to Canada as an exporter. The time series for posts data were compiled (laboriously) from various sources, including yearbooks, internet searches (to confirm openings and closings of posts), and communications with posts (many thanks are due to the individuals in Canadian and Australian posts who responded with helpful information!)

The dataset covers the years 2002-2012, eleven years in all, thus allowing both simple cross-sectional, averages of several years (as Rose did), and pooled time series/cross-section estimations. I focus on the countries for which the economic freedom index data are available. Preliminary regressions on a larger number of countries which excluded this index did not reveal significant differences in the coefficient estimates. I exclude a number of countries that are problematic from a political perspective, including Belarus (where Canada downgraded representation following the 2006 Belarus presidential elections, removed the GPT preferences and imposed export restrictions), Iraq and Syria (due to the conflicts), and Myanmar (because of the sanctions). The final number of countries is 149.

The length of the time period provides some useful variation in the posts variables since Canada was active in changing its representation, closing some consulates for budgetary reasons and to shift resources to locations considered of higher priority, including Milan (2007 – since reopened in 2013), Petersburg (2009), Fukuoka (2007) and Osaka (2007 – since reopened in 2013). Two consulate closures in the United States (Buffalo and Alaska) both took place in 2012 and so do not affect the number of posts for that year.

All data are in current US dollars at market prices; this avoids the need to deal with the many conundrums associated with deflation in a common currency.

In terms of empirical strategy, the approach is to establish a reasonable gravity model without taking into account the role of posts abroad, and then to add the posts variables in to see what difference they make.

Results

The Benchmark Model

Gravity works for Canada – that is, Canada's exports fit reasonably well with the stylized facts that have emerged from the vast gravity modelling literature. Canada exports more to larger and richer countries, and less to more distant and poorer ones. The results are consistent with the literature, with the usual good regression statistics.

For distance, the elasticity for Canada is in the expected range, and somewhat larger for total exports than for total exports excluding mined products or for manufactured exports. This is consistent with the intuition that higher-value-to-weight manufactures have a wider radius of trade than raw materials. The measure of the distance elasticity varies marginally according to the measure of distance used. CEPII provides four alternative measures: of these the weighted distance measure that takes into account the geographic distribution of major economic centres in the partner countries works marginally better in terms of goodness of fit, is also consistently the largest in absolute value and is the closest to the stylized value of -1. This weighted distance measure is used in the reported regressions.

For the size of the importer, alternative measures are GDP, and GDP broken down into population and per capita GDP. There is little to choose between the alternative specifications. The size coefficients vary modestly and cluster near 1.0; all are highly significant. The results are stable across the different specification of exports (total exports, total exports excluding mined products, and manufactured exports). Dropping the area of the importer boosts the size of the importer population variable slightly. For the reported regressions, the simpler specification of importer GDP is used and the importer area is left out.

The role of cultural and historical colonial links varies in a meaningful way. Both common English language and common British colonial ties are consistently significant; interestingly, however, where colonial ties have greater explanatory power for total exports and total ex-mined products, it is common English language that dominates for manufactured goods. Dropping the common British colonial variable transfers the explanatory power to common English language consistently across the specifications. Common French colonial links by contrast have no significant effect and for most specifications the coefficient is negative. French language however is consistently positive and significant. For the reported equations, the common French and British colonial links are dropped in favour of common language, resulting in a cleaner and more consistent benchmark equation.

Canada trades less with landlocked countries (although the negative effect disappears for manufactures which may reflect the use of air freight), and more with islands (although the island effect also weakens for manufactures).

The common border variable pertains only to Canada-US trade and hence tends to act as an importer-fixed effect variable for the United States rather than picking up common border effects and so is omitted.

The estimate of the impact of FTAs on Canada's total exports is stable across the various specifications, ranging from coefficient values of 0.54 to 0.58. Based on the coefficients from the benchmark equation, Canada's FTAs expand total goods exports by 77 percent (=exp[0.57]-1), total exports excluding mined products by 82 percent, and manufactures by 92 percent.

The coefficient on the trade specialization index varies in a meaningful fashion. For total exports and total exports excluding mined products, the TSI variable is negative and statistically significant. For manufactures, however, it becomes positive and even more statistically significant. This can be understood as Canada's comparative advantage in resources and resource-based products driving trade with dissimilar countries; however for the manufacturing sector, trade is much more intense with similar countries, likely a reflection of intra-industry value-chain trade. Based on the coefficient from the benchmark equation, Canada's overall trade level is about 25 percent less with a country that is most similar (e.g., Australia) as compared with a country that is most dissimilar (e.g., China), but 105 percent larger for manufactures.

The impact of having diplomatic representation in a destination market can now be assessed. From Table 1, we see that an embassy boosts total trade by 29 percent. The impact is stronger on exports excluding mined products (39 percent) but markedly smaller for manufactures (9 percent). Note that introducing a diplomatic representation variable has little effect on the coefficients of the other variables; the results are stable in this regard.

A comment is in order concerning the status of Canadian posts in Taiwan and Hong Kong. These are respectively labelled a trade office and a consulate. However, in each case, they are the highest form of representation available under the political circumstances and interact with the territorial government in much the same way an embassy would in other jurisdictions. Moreover, given the economic significance of these economies, it is highly unlikely under alternative political circumstances that Canada would not have an embassy in these jurisdictions. Moving these posts into the embassy column raises the impact of an embassy moderately to 35 percent for total exports, 45 percent for exports excluding mined products, and 16 percent for manufactures.

In a related experiment, I construct a variable that takes a value of one if there is an embassy or a consulate in a destination market (in one version including the trade office in Taiwan and in a second version excluding this office). The results are similar to those for embassies plus Hong Kong and Taiwan regression, with similar values for the coefficients and similar levels of significance.

By contrast with the impact of an embassy, the impact of a consulate or trade office is very small and statistically insignificant. Reflecting the relative explanatory power of embassies versus consulates, a "posts" variable that is the sum of the embassies and consulates variables has an intermediate but very small and statistically insignificant impact. The same is true of a "posts" variable that lumps together embassies, consulates and trade offices. Including separate variables for embassies, consulates and trade offices leads to the same results: a significant impact for embassies and very small and

Table 1: Main Results

	Benchmark			Embassy			Consulate			Posts			TradeOffice			AusCanRep			IV (SCM)		
	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg
Distance	-0.85	-0.77	-0.72	-0.82	-0.74	-0.72	-0.85	-0.77	-0.73	-0.83	-0.75	-0.72	-0.84	-0.76	-0.74	-0.83	-0.76	-0.69	-0.86	-0.79	-0.72
	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
GDP	1.07	1.05	1.09	1.04	1.01	1.08	1.07	1.05	1.09	1.06	1.04	1.09	1.07	1.04	1.09	1.07	1.05	1.09	1.06	1.04	1.09
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
ComLangEN	0.43	0.39	0.45	0.41	0.37	0.44	0.43	0.39	0.46	0.41	0.36	0.45	0.42	0.37	0.46	0.42	0.38	0.43	0.41	0.37	0.45
	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.05	0.06	0.06	0.05	0.06	0.06
ComLangFR	0.15	0.14	0.07	0.13	0.12	0.06	0.15	0.14	0.07	0.14	0.13	0.07	0.14	0.14	0.07	0.14	0.14	0.05	0.11	0.11	0.08
	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
Landlocked	-0.28	-0.28	-0.01	-0.24	-0.22	0.01	-0.28	-0.28	-0.01	-0.28	-0.28	-0.01	-0.28	-0.28	-0.01	-0.28	-0.27	0.00	-0.26	-0.25	-0.01
	0.05	0.05	0.05	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.06	0.06
Island	0.49	0.46	0.41	0.52	0.50	0.42	0.49	0.46	0.41	0.50	0.47	0.41	0.49	0.46	0.41	0.51	0.47	0.45	0.51	0.48	0.41
	0.06	0.06	0.06	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
FTA	0.57	0.60	0.65	0.57	0.60	0.65	0.57	0.60	0.67	0.53	0.54	0.65	0.54	0.57	0.67	0.58	0.61	0.66	0.59	0.62	0.65
	0.11	0.11	0.11	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13
TSI	-0.30	-0.28	0.72	-0.31	-0.30	0.71	-0.30	-0.28	0.72	-0.30	-0.28	0.72	-0.29	-0.28	0.71	-0.30	-0.28	0.71	-0.31	-0.29	0.72
	0.11	0.11	0.11	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13
DipRep				**0.26**	**0.32**	**0.09**	**0.00**	**0.00**	**-0.01**	**0.02**	**0.03**	**0.00**	**0.01**	**0.02**	**-0.01**	**-0.26**	**-0.22**	**-0.42**	**0.12**	**0.13**	**-0.02**
				0.05	0.05	0.06	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.02	0.14	0.14	0.17	0.05	0.05	0.06
R-squared	0.89	0.89	0.86	0.90	0.89	0.86	0.89	0.89	0.86	0.89	0.89	0.86	0.89	0.89	0.86	0.89	0.89	0.86	0.89	0.89	0.86
Root MSE	0.82	0.82	0.96	0.81	0.81	0.96	0.82	0.82	0.96	0.82	0.82	0.96	0.82	0.82	0.96	0.82	0.82	0.96	0.82	0.82	0.96
Memo: Status of HK & TW posts																					
DipRep				**0.30**	**0.37**	**0.14**	**0.00**	**0.00**	**-0.01**				**0.01**	**0.02**	**-0.01**						
				0.05	0.05	0.06	0.01	0.01	0.02				0.01	0.01	0.02						

Note: Standard errors are given below the coefficient estimate.

statistically insignificant impacts for consulates and trade offices. In regressions which include variables for embassies and consulates separately, and others with embassies and consulates and trade offices separately, the embassy variable continues to dominate while consulates and trade offices have little impact. Coefficient values are similar to those obtained when different types of posts are included in separate regressions.

The small measured impact of consulates and trade offices may reflect the fact that not all consulates have major economic mandates and that the number of professional trade promotion staff and the size of the trade promotion budget varies. A variable that counts the number of posts does not capture these differences. The same is true of trade offices: Canada has 150 trade offices around the world. Moreover, additional posts in a country typically have regional/sectoral mandates. A consulate general in Chongqing or a trade office in Chengdu may, for example, boost exports to those regional markets by a very large percentage; however, these additional exports may be small relative to Canada's total exports to China.

The small impact of consulates may simply reflect the scale of the support they provide. The available firm-level literature on Canada's export promotion activities demonstrates that only a very small fraction of Canadian exporters, less than 5 percent, avail themselves of these services – even though the impact on exports for those firms that do make use of such services is quite large (Biesebroeck, Chen and Yu, 2010).

Interestingly, Canada's exports to destinations where Canada enlists Australia's posts to handle consular matters are reduced by about 20-30 percent compared to otherwise (this result is consistent in regressions with other "posts" variables included and excluded).

As regards causality, introducing an instrumental variable (whether a destination country has been on the United Nations Security Council), reduces the size of the impacts somewhat but the impacts remain statistically significant, and the general pattern across different classes of exports remains unchanged.[26]

The Interaction between Diplomatic Representation and Economic Freedom in Destination Markets

The above results suggest that the level of diplomatic representation matters – and by the same token that political relationships matter. One way to test this conclusion is to introduce into the analysis a variable that measures the economic role of the state in destination markets. For this purpose, I use the Fraser Institute's index of economic freedom. Two specific indexes are used: the total freedom of the world index (EFW in the Fraser Institute's terminology, EFI in mine) and the sub-index for freedom to transact business across borders (EFI-trade in my terminology).

Following Ciuriak and Kinjo (2006a), the economic freedom indexes are introduced in inverse form – that is, the least economically free country-year in the Fraser Institute's database is normalized to unity; other country-years receive a fractional value that is equal to the ratio of the EFI score for that country-year to the least-free country-year. This approach facilitates the interpretation of the interaction between economic freedom and the impact of a diplomatic post.

By and large, the values of the economic freedom indexes so-computed fall into a fairly narrow range. However, there is a small number of observations that might be considered outliers, in particular Myanmar. Regression results are sensitive to the inclusion of the outliers: in particular, in initial regressions which included Myanmar, the results were heavily skewed by the highly restrictive economic regime in this country and the economic sanctions imposed on it during the period covered by the analysis. Accordingly, Myanmar was dropped from the dataset.

26 Rose (2007) went into the issue of causality at great length. The parsimony in this study on this issue is enabled by those results. Thanks are due to Daniel Schwanen for suggesting the use of the SCM variable and making it available.

Table 2: Diplomatic Posts and Economic Freedom in the Destination Market

	EFI			EFIT			EFI-Emb			EFIT-emb			EFI-Emb+interaction			EFIT-emb+interaction		
	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg	Total	Ex-Mined	Mfg
Distance	-0.83	-0.76	-0.67	-0.85	-0.77	-0.68	-0.80	-0.72	-0.65	-0.82	-0.74	-0.67	-0.79	-0.72	-0.65	-0.82	-0.74	-0.67
	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
GDP	1.07	1.04	1.07	1.07	1.05	1.08	1.02	0.99	1.04	1.03	1.00	1.05	1.03	0.99	1.04	1.03	1.00	1.05
	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02
ComLangEN	0.43	0.39	0.44	0.43	0.39	0.47	0.40	0.35	0.42	0.41	0.36	0.45	0.39	0.35	0.42	0.41	0.36	0.46
	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06
ComLangFR	0.17	0.16	0.13	0.15	0.14	0.14	0.15	0.14	0.12	0.14	0.13	0.13	0.17	0.15	0.13	0.17	0.15	0.16
	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
Landlocked	-0.28	-0.28	-0.01	-0.28	-0.28	0.02	-0.23	-0.21	0.02	-0.23	-0.21	0.05	-0.23	-0.21	0.02	-0.22	-0.20	0.06
	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06	0.05	0.05	0.06
Island	0.46	0.44	0.32	0.48	0.46	0.37	0.48	0.46	0.33	0.51	0.49	0.38	0.48	0.47	0.34	0.51	0.49	0.38
	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07	0.06	0.06	0.07
FTA	0.56	0.59	0.61	0.57	0.60	0.63	0.55	0.59	0.61	0.57	0.60	0.63	0.59	0.62	0.63	0.59	0.62	0.65
	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13
TSI	-0.30	-0.29	0.70	-0.30	-0.28	0.71	-0.30	-0.28	0.70	-0.29	-0.28	0.71	-0.31	-0.29	0.69	-0.31	-0.29	0.69
	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13	0.11	0.11	0.13
EFI	-0.69	-0.45	-2.16	-0.16	0.01	-1.87	-0.91	-0.73	-2.29	-0.34	-0.22	-1.97	-2.08	-1.77	-2.95	-1.46	-1.41	-3.39
	0.34	0.34	0.40	0.36	0.36	0.42	0.34	0.34	0.40	0.36	0.36	0.42	0.54	0.54	0.63	0.63	0.63	0.74
DipRep							**0.32**	**0.39**	**0.18**	**0.30**	**0.38**	**0.17**	**-0.47**	**-0.31**	**-0.26**	**-0.17**	**-0.13**	**-0.43**
							0.05	0.05	0.06	0.05	0.05	0.06	0.29	0.29	0.34	0.23	0.23	0.27
Interaction													**1.77**	**1.58**	**1.00**	**1.55**	**0.72**	**0.84**
													0.64	0.64	0.75	0.72	2.28	2.30
R-squared	0.89	0.89	0.86	0.90	0.89	0.86	0.89	0.89	0.86	0.90	0.89	0.86	0.89	0.89	0.86	0.90	0.89	0.86
Root MSE	0.82	0.82	0.96	0.81	0.81	0.96	0.82	0.82	0.96	0.81	0.81	0.96	0.82	0.82	0.96	0.81	0.81	0.96

Included as a separate variable in the benchmark equation, the EFI and EFI-trade variables are either statistically insignificant or borderline significant for total exports and for total exports excluding mined products, but become statistically significant and quantitatively large for manufactured products.

When the embassy variable is added, however, the EFI variable becomes statistically significant, which suggests an important interaction between the presence of an embassy and the impact on trade of restrictions on economic freedom in the destination market. The inference is that embassies reduce the inhibiting effect on exports of lower levels of economic freedom. Once this effect of economic diplomacy is taken into account, the role of economic freedom or lack of it on trade becomes more apparent.

Multiplying the EFI/EFI-trade variables times the diplomatic representation variable proxies the interaction between the two variables. When the interaction between the EFI variable and the embassy variable is included, the size of both coefficients increase sharply; however, the embassy variable loses explanatory power.

Applying the same approach to the instrumental variable used in these regressions has a similar effect.

The effect of economic freedom in the importing country varies in a meaningful way across types of exported products. For total exports and goods excluding mined products, the effect is smaller than for manufactured goods. This undoubtedly reflects again the fact that trade in many resource-based products may be driven as much by state procurement as by business relationships. Manufactured products however thrive better in contexts where business is free to make its own decisions.

Finally, it is of interest to note that the method of constructing the interaction variable by weighting the posts variable with the inverse of the economic freedom index allows the following interpretation: a post abroad in the least economically free country is worth full value, while an embassy in a country that is, say, 20 percent more free in some sense is worth 80 percent of a full post, and so forth.

Sensitivity Analysis

I consider now the sensitivity of the results to the specific dataset developed for the above regressions. Since the general patterns of the effect of diplomatic representation are consistent across a wide range of alternative data subsets, I focus on the effect of diplomatic representation abroad for total exports excluding mined products. I report the impact of embassies on exports for two equations: the benchmark model with both the embassies variable (including the posts in Hong Kong and Taiwan) and the consulates variable (in this case excluding the consulate in Hong Kong); and the benchmark model with the EFI variable and the weighted embassy variable included.

Table 3 provides the estimate of the parameter γ for various permutations of the data set:

- the full dataset for the benchmark model,
- the same dataset excluding the United States (given the dominant role of the United States for Canadian trade),
- a dataset that includes matching data for Australia, the most similar economy to Canada in the world but relatively remote from global economic activity compared to Canada, also with and without the United States
- by year.

Summary and Conclusions

The analysis in this paper suggests four major conclusions. First, having diplomatic representation in a country increases the level of exports to that country. Second, the impact varies by the level of representation and appears to have diminishing returns in the sense that additional posts generate much less export value than the first, principal post. Third, the impact also varies by type of product, with exports excluding mined products benefiting more from diplomatic representation than

Table 3: Impact of an Embassy/Weighted Embassy on Canada's Exports				
	Embassy	Standard Error	Weighted Embassy	Standard Error
Benchmark ex-mined	0.39	0.05	0.90	0.12
Benchmark ex mined – ex-US	0.38	0.05	0.94	0.12
Pooled with Australia ex-mined	0.52	0.05	1.34	0.11
Pooled with Australia ex-mined – ex-US	0.47	0.05	1.31	0.11
Pooled data ex-mined – Importer Fixed Effects	0.34	0.05	0.83	0.11
Pooled data ex-mined– Importer Random Effects	0.36	0.05	0.88	0.11
Benchmark by Year				
2002	0.15	0.20	0.57	0.41
2003	0.24	0.18	0.53	0.38
2004	0.39	0.19	0.89	0.40
2005	0.44	0.17	0.92	0.37
2006	0.51	0.17	1.15	0.37
2007	0.40	0.18	0.91	0.39
2008	0.43	0.17	0.93	0.38
2009	0.30	0.19	0.78	0.42
2010	0.58	0.19	1.24	0.42
2011	0.69	0.19	1.44	0.42
2012	0.44	0.19	1.03	0.41
Memo				
Pooled with Australia – Total exports	0.44	0.05	1.17	0.11
Pooled with Australia – mfg exports	0.44	0.06	1.13	0.13
Pooled with Australia ex US – Total exports	0.41	0.05	1.11	0.12
Pooled with Australia ex US – mfg exports	0.39	0.06	1.08	0.13

total exports, or than manufactured goods. Fourth, there is a powerful interaction between the degree of economic freedom in a destination market and diplomatic representation.

The latter interaction warrants careful further consideration – both in terms of assessment of the underlying data and of the appropriate statistical techniques – before drawing firm conclusions. However, the results suggest that diplomatic representation serves to partly neutralize the negative effect on trade of restrictions on economic freedom in a destination market. Introducing the economic freedom index into the equation results in a rather weak estimated effect on exports. Adding the embassy variable strengthens the revealed effect of restrictions on economic freedom in a negative sense and of diplomatic representation in a positive and offsetting sense.

When Canadian embassies, consulates (and trade offices) are lumped together, the effect is consistent with the low end of the range of estimates reported in Rose (2007) for the total number of posts.

The main policy findings are that maintaining high-level diplomatic relations, through an embassy, has of itself a larger positive impact on exports than the deepening of relations via additional posts, and that the existence of a trade agreement with a destination market has a significant positive influence on exports to that market.

The results hint that there is a distinct and separate importance in the "G2G" (government-to-government) relationship from the role of government in providing "B2B" (business-to-business) trade facilitation. That is, it is not a simple question of government stepping in to correct a market failure of inadequate provision of trade facilitation services for companies seeking to break into foreign markets, but rather that there is a more complex interaction between politics and business that is revealed by the interaction between the level of trade, the role of the state in economic decision-making, and the level of diplomatic representation in a country. At the same time, it is important to emphasize that simple "count" variables (the number of consulates or trade offices) may be inadequate to capture the marginal effect of an additional post abroad.

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