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Sui, Sui and Yu, Zhihao

Global Management Studies Department, Ted Rogers School of Management, Ryerson, Department of Economics, Carleton University

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# The Pattern of Foreign Market Entry of Canadian Exporters

### Le modèle d'entrée sur le marché des affaires étrangères des exportateurs

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SUI SUI Global Management Studies Department, Ted Rogers School of Management, Ryerson University sui.sui.66@gmail.com

ZHIHAO YU Department of Economics, Carleton University

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**Mots clés:** Exportateurs canadiens, États-Unis, Nouveaux marchés ou Marchés émergents, pénétration des marchés étrangers, globalisation ou mondialisation, modèle de croissance

This paper employs a unique large-scale longitudinal (1997–2005) dataset to investigate the pattern of foreign market entry by 6,079 Canadian exporters. We have found that fewer firms are choosing the United States as their initial export destination. This trend suggests that a growing number of firms are not following the traditional stage model of internationalization. Furthermore, our results suggest that government support should be targeted towards young and small Canadian-controlled firms, since they are more likely to encounter barriers and gain benefits from exporting to a wider range of foreign markets.

#### INTRODUCTION

With the portion of Canadian exports to the United States increasing following the passage of the 1989 Canada-US Free Trade Agreement, policy-makers and pundits were concerned that Canadian firms were "putting all their eggs in one basket" by mainly exporting to the US market. This issue formed the basis for policy efforts by Ottawa to diversify Canadian trade. Strategies included the negotiation of new foreign regional trade agreements and the launching of Team Canada trade missions – echoing the Trudeau Government's "Third Option" policy of decades before of widening commercial relations to non-US markets. Meanwhile, many studies (e.g., Beaulieu and Emery 2006; Head 2007) have commented that Canadian exporters are not competitive in the global market and that, compared to foreign-controlled counterparts, Canadian-controlled enterprises export to a narrower range of destinations, with the United States serving as the "natural export destination" (e.g., Byrd 2005).

However, our view is that a firm's choice of foreign market is determined by the perceived costs and benefits of entering a specific destination and by knowledge of a targeted country. Many Canadian firms begin their internationalization process with the United States because of familiarity with the American market where entry is less risky and costly compared to other foreign markets (O'Grady and Lane 1996). While these firms can benefit from exporting to a wider range of markets, they may be less motivated to gather information about them when their competitors can easily free ride on their initiative by exporting similar products to the same markets. The Canadian government has the potential to address this market failure through export promotion programs such as the direct provision of foreign market information. To avoid unnecessary expense,

however, the government must have a clear understanding of what types of firms most need the information. Due to the lack of a large-scale, firm-level dataset, this question has not been examined by previous studies.

It is our objective to investigate foreign market entry patterns of Canadian firms by utilizing a novel longitudinal (1997–2005) firm-level dataset. It includes 6,079 Canadian exporters and is drawn from three large-scale administrative Statistical Canada databases: the Exporter Register (ER), the Business Register (BR), and the Longitudinal Employment Analysis Program (LEAP). Our main database, the ER, consists of a listing of business activities of all Canadian exporting enterprises making at least one shipment to a foreign country between 1993 and 2005. Therefore, this research should be able to provide unique evidence of foreign market entry patterns from a representative sample of Canadian firms.

This study is investigating three types of foreign market entry patterns. The first pattern, "US first," refers to firms that choose the United States as their initial export destination. The second pattern, "simultaneous," refers to firms that start exporting to both US and other markets simultaneously. The third and last pattern, "non-US first," refers to firms that choose a country other than the United States as their initial export destination. Because these three unordered patterns are mutually exclusive, we employ a multinomial logit model to analyze how the characteristics of firms affect their choice of foreign market.

The remainder of this paper begins with a review of the relevant literature. Attention is then given to the methodology, and empirical results with discussion, policy implications, and concluding remarks.

#### LITERATURE REVIEW

# Internationalization Process of Firms and Changes in the Macroeconomic Environment

According to a traditional theory of internationalization – the stage model –, the internationalization of firms is "a process in which the enterprise gradually increases its international involvement" (Johanson and Vahlne 1990). Presumably, after building a strong presence in the domestic market, firms often export first to one neighbouring market with a similar cultural background to their own, then enter into more distant, less familiar foreign markets (Johanson and Vahlne 1977; Arenius 2005). Based on the stage model, Canadian firms would be expected to choose the United States as their first export destination because of the two countries' similar language, culture, and business practices.

Since the early 1990s, however, a number of empirical studies have reported an interesting phenomenon that contradicts the traditional stage model: international new ventures (INVs) that "from inception, [seek] to derive significant competitive advantage from the use of resources and sale of outputs in multiple countries" (Oviatt and McDougall 1994). Previous studies have applied macroeconomic factors such as shrinking transportation and communication costs and "improvements in global telecommunications and transport networks, combined with increasingly liberalized

global trading regimes" (Fan and Phan 2007) as an explanation for the emergence of INVs.

According to the gravity model of trade, bilateral trade flows are based on the economic size and distance among trading countries. Thus increases in the sizes (measured in GDP) of non-US countries relative to the United States may increase the probability of firms choosing these countries rather than the United States as their initial export destination. Other macroeconomic factors increasing the likelihood of Canadian firms choosing a non-US country include decreased political risks in some non-US countries; a rising number of new immigrants with social connections to non-US countries (Head and Ries 1998; Head, Reis, and Wagner 2002; Rauch 1999); new regional trade agreements between Canada and some non-US countries; recent Team Canada trade missions to some non-US countries (Head and Ries 2010); and tighter Canada-US border security following the 9/11 terrorist attacks (Burt 2009; Globerman and Storer 2009; Ferris 2010).

Existing studies on the effect of tighter post-9/11 border security on Canadian exports provide conflicting conclusions. On the one hand, Globerman and Storer (2009) found that, statistically, the value of Canadian exports to the United States significantly decreased in the immediate post-9/11 period. On the other hand, Burt (2009) concluded that the flow of goods crossing the Canadian-US border has not been adversely affected by tighter border security. While tighter border security may not affect existing exporters, in our view it may significantly reduce the entry of potential exporters. However, the 1997 Asian crisis and declining demand for Canadian products in Asia, combined with

the booming US economy prior to the recent recession, may have decreased the likelihood of Canadian firms choosing Asian countries over the United States.

#### **Organizational Age at Internationalization**

The amount of time a firm devotes solely to domestic operations influences its ability to manage the risks and costs associated with foreign business activities (Eriksson et al. 1997). "In internationalizing, a firm must develop structures and routines that are compatible with its internal resources and competence and that can guide the search for experiential knowledge about foreign markets and institutions" (Eriksson et al. 1997, 353). Firms starting to export at a later age are more likely to have developed competencies that can help them export to a wider range of markets (Autio, Sapienza, and Almeida 2000). Furthermore, compared to younger firms, older, more experienced firms are more likely to survive because of their agility in a volatile and competitive market (Amburgey, Kelly, and Barnett 1993).

#### New Trade Theory with Heterogeneous Firms

In the international trade literature, studies from the microeconometrics of international firm activities have found a higher performance of exporters relative to non-exporters (e.g. Bernard and Jensen 2004; Clerides, Lach, and Tybout 1998). For example, firm-level evidence from European countries has revealed that internationalized firms are "superstars." That is, they "are bigger, generate higher value added, pay higher wages, employ more capital per worker and more skilled workers, and have higher productivity" (Mayer and Ottaviano 2008, 135).

An important theoretical framework to explain such a phenomenon is the Melitz (2003) model which incorporates firm heterogeneity into the Krugman (1979)

monopolistic competition framework. Using a slightly modified version of the Melitz model, Eaton, Kortum, and Kramarz (2011) predicted that more productive firms should be able to export to more distant destinations. Their research is supported by Ruane and Sutherland's study (2004) on the characteristics of Irish manufacturers that export to a range of destinations. Furthermore, in the latter study, the UK was treated as a regional market for Irish firms under the close UK/Ireland trading relationship; the research confirmed that exporters seeking to export to non-UK destinations (globally) have superior performance indicators compared to those exporting primarily to the UK (regionally).

For most Canadian firms, there are lower risks and costs associated with entering the US market because of the geographical advantage, free trade agreements, and similarities between the two countries. As such, exporting to the United States can be viewed as simply an expansion of business activities into the regional market. On the other hand, exporting globally to unfamiliar foreign markets outside the United States exposes exporters to greater competitive pressures and the necessity of being more productive to meet the challenge.

#### METHODOLOGY

#### The Data

The dataset we constructed to examine our research questions comes from ER, BR, and LEAP, all databases produced and maintained by Statistics Canada.

Our main data source, ER, is a large-scale administrative database of all merchandise trade transactions by Canadian exporters between 1993 and 2005. Data were obtained

from two sources: the US Customs and Canada Revenue Agency (CRA). ER allows us to track the first year when an exporter starts to export, the value of the exports, the destinations, and the products sold internationally and annually between 1993 and 2005. The panel dataset of ER contains 113,111 Canadian exporters across all industries with at least one shipment to any foreign market between 1993 and 2005.

In order to conduct econometric analysis and obtain additional information on firm characteristics, we linked ER to BR and LEAP. The second data source, BR, is a complete, up-to-date, and unduplicated database of all active businesses in Canada that have a corporate income tax account, are employers, or have a Goods and Services Tax (GST) account. The BR database provides information on firms' annual revenue (1997–2005), country of control, and Business Register birth year. The third data source, LEAP, effectively covers all incorporated Canadian firms that legally hire employees and file corporate income tax returns. Specifically, LEAP provides information on firms' annual employment and payroll between 1997 and 2004.

A static identification number (ID) is individually assigned to firms in each of the databases used in this study. After we link ER with BR and LEAP by a firm's ID as a time-invariant identifier, our sample is reduced to 26,659 enterprises. The sample size dropped significantly because information from the LEAP database is only available for the years between 1997 and 2004. Therefore, exporters who were inactive between 1997 and 2004 were dropped from our sample. Moreover, ER includes unincorporated businesses, individuals, and non-profit organizations not included in either BR or LEAP; therefore, any exporter not categorized as an incorporated business was dropped from our

sample. Excluding observations that do not appear in BR and LEAP may help us produce more consistent results on the export behaviour of active incorporated enterprises.

# Sample Selection

The intent of this study is to investigate the foreign market entry pattern of active Canadian exporters in relation to their firm characteristics. For this purpose, we first excluded firms that did not export in either 2004 or 2005, the last two years that our data is available. Secondly, we excluded firms that exported for only one year because of the occasional nature of their export behaviour.<sup>1</sup> Thirdly, because data on firms' revenue, employment and payroll were only available after 1997, we excluded firms established prior to 1997. A total of 6,079 firms met all the selection criteria.

 TABLE 1

 Canadian Exporting Enterprises (1997–2005), Grouped by Export Patterns

Pattern	Observations	Percentage
US first	4,184	68.83%
Simultaneous	878	14.44%
Non-US first	1,017	16.73%
Total	6,079	100.00%

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

Table 1 shows the distribution of Canadian exporting enterprises with respect to their export patterns between 1997 and 2005. The export pattern of a firm is categorized as (1) "US first" if it chose the United States as its initial export destination;<sup>2</sup> (2)

"simultaneous" if it started exporting to both US and non-US markets simultaneously;

and (3) "non-US first" if it chose a non-US market as its initial export destination. The

results shown in Table 1 suggest that almost 69 percent of Canadian exporters chose the United States as their initial export destination.

Table 1 also suggests that a small but significant proportion of Canadian firms have adopted alternative export patterns during their internationalization process: more than 14 percent of exporters started exporting simultaneously to both US and non-US markets and almost 17 percent of exporters chose a non-US market as their initial export destination. In the rest of the paper, we use an econometric analysis to compare the characteristics of Canadian firms engaged in various types of export patterns.

#### Variables

In this section, we identify potential explanatory variables affecting a firm's choice of foreign market entry pattern.

Because BR is a complete administrative database that includes all active businesses in Canada, we use the BR birth year as a proxy for the first year a firm starts its business (Huynh, Petrunia, and Voia 2010). Because ER is an administrative database that includes all merchandise trade transactions by Canadian firms, we apply the ER birth year as a proxy for the first year a firm starts to export.

The independent variables constructed for our analysis are defined below. The variable "Age," the age of a firm when it starts to export, is measured by the difference between the ER birth year and BR birth year plus one. For example, if a firm enters the BR database and the ER database in the same year, its age is equal to one. The variable "Employees" indicates the number of workers hired by a firm. The variable "Revenue" is measured in millions of Canadian dollars and is deflated by annual industry price indexes, using base year 2000. The variable "Labour Productivity" is calculated by the ratio of

revenue to the number of employees. It is measured in thousands of Canadian dollars and is deflated by annual industry price indexes, using base year 2000. The variable "Wages" is calculated by the ratio of total payroll to the number of workers. It is measured in thousands of Canadian dollars and is deflated by annual consumer price indexes, using base year 2000. Following Wagner (2003), we use wage as a proxy for human capital intensity to reflect different levels of labour productivity. The variable "Products" refers to the variety of products a firm exported, based on the count of its six-digit Harmonized Schedule (HS6) codes. We constructed a dummy variable "Multi-establishment," which is equal to one if a firm has more than one establishment. We found the distributions of these numerical variables are substantially skewed towards small numbers. For this reason, we decided to use the logarithms of the values of these variables in our econometric analysis.<sup>3</sup>

Based on firm-level data, a study by Rao and Tang (2000) suggested that during the 1985–95 period, Canadian-controlled manufacturing firms have been less productive than their foreign-controlled counterparts. Furthermore, an earlier study by Shapiro (1981) suggested that the characteristics of US-controlled and non-US foreign-controlled Canadian firms are very different. Based on a firm's country of control from the BR database, this study categorizes the country of control of Canadian exporters as "Canadian-controlled," "US-controlled," and "non-US foreign-controlled."

To take into account the impact of the macro environment (such as changing tariff rates, political risk, and income levels in US and non-US markets) on a firm's choice of its first export destination, we included in our regression "Year," a set of time-varying first year of export dummy variables. Based on a firm's corresponding North American

Industry Classification System (NAICS) code, taken from the ER database, we generated a set of dummy variables, "Industry," which equals one if a firm belongs to a particular industry. There are 23 industry groups in this study. Based on a firm's corresponding two-digit province of location category variable from the ER database, we generated a set of dummy variables, "Province," which equals one if a firm is located in a particular province. If a firm has plants in multiple provinces, we used the province where the firm derives the greatest share of its value of exports as its province of location. Assessments of diagnostics and robustness tests are available in the Appendix.

#### **Econometric Analysis**

The dependent variable is a categorical variable that includes different foreign market entry patterns chosen by Canadian exporters: "US first," "simultaneous, and "non-US first." Because these three patterns are unordered and mutually exclusive, we use a multinomial logit model to investigate the characteristics of firms in relation to their choice of different export patterns. The probability for the *i*-th firm to choose the *j*-th the pattern ( $P_{ii}$ ) is given by

$$P_{ij} = Pr(U_{ij} > U_{ik}), \text{ for } k \neq j, i = 1, ..., N, j, k = 1, 2, 3$$
(1)

with  $U_{ij}$  being the maximum profit attainable for firm *i* if the firm chooses the  $j_{th}$  strategy, and

$$U_{ij} = x_i \beta_j + \varepsilon_{ij}, i = 1, \dots, N, j = 1, 2, 3$$
(2)

where  $x_i$  is a set of explanatory variables that might affect a firm's choice of foreign

market entry pattern, and  $\beta_j$  is a column vector of unknown parameters (Judge et al. 1985; Wooldridge 2010). If the stochastic term  $\varepsilon_{ij}$  is a random error that follows a log-Weilbull<sup>4</sup> distribution, the multinomial logit model can be expressed as

$$P_{ij} = \exp(x_i\beta_j) / \sum_{j=1}^{J} \exp(x_i\beta_j), \ i = 1, ..., N, j = 1, 2, 3$$
(3)

where J is the available choice of foreign market entry patterns and equals three in our model. As the model in equation (3) is indeterminate, it requires a normalization assumption with respect to a reference choice to identify the parameters. For instance, we can impose that  $\beta_1$ =0. Thus, the probability of firm *i* to choose an alternative pattern *m* can be written as

$$Pr(y_i = m) = \exp(x_i\beta_m) / (1 + \sum_{j=1}^{J-1} \exp(x_i\beta_m)), m = 1, 2, 3$$
(4)

where for firm *i*,  $y_i$  is the value of the outcome variable.  $x_i$  is the vector of the explanatory variables, and for alternatives j=1,..., J-1,  $\beta_j$  is the vector of parameters. The vector of independent variables  $x_i$  includes the age of the firm when it starts to export, size, labour productivity, various products exported in the first year of export activity, country of control, year-specific dummy variables, sector specific dummy variables and province specific dummy variables.

In order to interpret the estimation results more intuitively, this study makes use of the concept of marginal effects on event probability by examining partial derivatives of a response probability with respect to  $x_k$ 

Marginal Effect = 
$$\frac{\partial \operatorname{Pr} ob(y = m \mid x)}{\partial X_k} = P_m(\beta_{mk} - \sum_{j=1}^{J-1} P_j \beta_{jk}),$$
 (5)

where  $P_m$  is short for Prob(y = m/x),  $x_k$  is the  $k_{th}$  explanatory variable. As shown in Equation (5), the value of the marginal effect depends on the level of all variables in the model. It is often computed with all variables held at their mean or by computing the marginal change for each observation in the sample and then averaging across all values.

The marginal effect of a dummy variable on the event probability is for discrete change from 0 to 1; thus it can only provide a rough approximation of the signs of the effects. A positive sign of a parameter estimate suggests that the likelihood of the event increases with the level of X, holding the other variables constant, and vice versa. Therefore, this study focuses on the interpretation of the quantitative effect of continuous variables and the sign effect of dummy variables.

#### **EMPIRICAL FINDINGS**

#### **Descriptive Statistics**

Table 2 provides the descriptive statistics of our variables of interest, grouped by export patterns. On examining Table 2, it appears that the "US first" exporters are the youngest and the most likely to be Canadian-controlled; they are the least productive and exported the least variety of products. The "simultaneous" exporters are the largest both in terms of number of employees and value of revenues; they are the most productive both in terms of labour productivity and wage rates; they are the most product-diversified and the most likely to be US-controlled and have multi-establishments. Finally, exporters in the "non-US first" category are the smallest, the most likely to be non-US foreign-controlled, and the most likely to have a single establishment.

Pattern	US First	Simultaneous	Non-US First			
	Mean					
Variables	(Standard De	(Standard Deviation)				
Age	1.98	2.11	2.13			
-	(1.46)	(1.54)	(1.63)			
Employees	1.51	1.63	1.26			
	(1.28)	(1.33)	(1.28)			
Revenue	12.36	12.57	12.16			
	(1.80)	(2.00)	(2.00)			
Wages	9.47	9.55	9.46			
	(1.14)	(1.21)	(1.28)			
Labour	11.03	11.17	11.16			
productivity	(0.95)	(0.92)	(0.97)			
Products	0.50	0.77	0.51			
	(0.64)	(0.73)	(0.70)			
US-controlled	0.63%	1.56%	1.01%			
	(7.91%)	(12.40%)	(10.00%)			
Non-US foreign-	0.21%	0.43%	0.55%			
controlled	(4.58%)	(6.51%)	(7.40%)			
Multi-	0.82%	1.28%	0.46%			
establishment	(9.00%)	(11.23%)	(6.76%)			

TABLE 2Descriptive Statistics for Variables of Interest, Grouped by Export Patterns

**Notes:** Observations = 6,079. Employees = log (Employees), Revenue = log (Revenue), Wages = log (Payroll/Employee), Labour Productivity = log (Revenue/Employee), Products = log (Products). Standard deviations are reported in parentheses below the coefficient estimates.

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

# **Results of the Multinomial Logit Regressions**

Model 1, shown in Table 3, presents the key results for our baseline model. Its dependent variable has three categories: "US first "simultaneous" and "non-US first." The details of the estimated results are reported in Table 6 in the Appendix. To check the robustness of the results of our baseline model, we demonstrate the results of two alternative models, Model 2A and 2B, in Table 4. Both alternative models include all the individual

explanatory variables that are included in Model 1. Their dependent variable, however,

has four categories. In Model 2A, the "non-US first" exporters are further grouped into

"non-US first, emerging market" (NUEM) and "non-US first, non-emerging market"

(NUNM),<sup>5</sup> while in Model 2B, the "non-US first" exporters are further grouped into "non-US first, single-destination" (NUSD) and "non-US first, multi-destination" (NUMD)<sup>6</sup> Nonetheless, our results from the alternative models are consistent with the baseline model. We have also tried to exclude the auto sector from the analysis, which made no significant difference to the empirical results. Our discussion therefore will focus on Model 1.

The coefficients of Model 1 in Table 3 show the marginal effects of the explanatory variables on a firm's choice among the export patterns "US first," "simultaneous," and "non-US first." As shown in Table 3, if a firm started exporting a year after its establishment and kept all other variables at their mean values, the probability of it choosing the "US first" pattern decreases by 2.48 percent; the probability of it choosing the "simultaneous" and "non-US first" pattern increases by 1.21 percent and 1.27 percent, respectively. The evidence of a higher probability for younger firms to choose the United States as their first export destination suggests that the younger a firm is, the more likely it is to choose the "US first" relative to other patterns.

We see from Table 3 that more productive firms are more likely to choose the "simultaneous" pattern but less likely to choose the "US first" pattern. Labour productivity had no significant effect on a firm's probability of choosing the "non-US first" pattern. Furthermore, the results from Table 3 suggest that smaller firms are more likely to choose the "US first" pattern but less likely to choose the "simultaneous" pattern. This finding may suggest that small firms are more constrained from investing in the strategy in order to become export-ready for a wider range of foreign markets.

	Model 1			
Pattern	US First	Simultaneous	Non-US First	
Variable	Marginal Effect			
, 141/10	(Standard Error)			
Age	$-0.0248^{a}$	<b>0.0121</b> <sup>a</sup>	<b>0.0127</b> <sup>a</sup>	
5	(0.0039)	(0.0027)	(0.0030)	
Labour productivity	-0.0090 <sup>c</sup>	0.0131 <sup>b</sup>	-0.0042	
	(0.0050)	(0.0044)	(0.0063)	
Employees	-0.0075 <sup>c</sup>	<b>0.0078</b> <sup>b</sup>	-0.0004	
Employees	(0.0039)	(0.0032)	(0.0048)	
Products	-0.0401 <sup>a</sup>	<b>0.0468</b> <sup>a</sup>	-0.0067	
I Touucus	(0.0083)	(0.0053)	(0.0068)	
US-controlled	-0.2292 <sup>c</sup>	0.0120	<b>0.2171</b> <sup>b</sup>	
05-controlled	(0.0838)	(0.0385)	(0.0877)	
Non-US foreign-	-0.2673 <sup>c</sup>	-0.0490	<b>0.3162<sup>b</sup></b>	
controlled	(0.1371)	(0.0373)	(0.1418)	
Province (compare to				
Pattern	US first	Simultaneous	Non-US first	
Newfoundland	-0.1823 <sup>b</sup>	0.0294	0.1528 <sup>b</sup>	
NewIounulanu	(0.0738)	(0.0497)	(0.0686)	
Nova Scotia	-0.1588 <sup>a</sup>	0.0411	<b>0.1176</b> <sup>a</sup>	
nova Scolla	(0.0503)	(0.0364)	(0.0444)	
British Columbia	$-0.0543^{a}$	0.0231	0.0312 <sup>b</sup>	
Driusii Coluindia	(0.0166)	(0.0122)	(0.0130)	
New Brunswick	0.0156	0.0107	-0.0264	
	(0.0128)	(0.0113)	(0.0159)	
Manitoba	<b>0.0972</b> <sup>a</sup>	-0.0168	$-0.0804^{a}$	
	(0.0301)	(0.0241)	(0.0199)	
Alberta	-0.0175	0.0629 <sup>a</sup>	-0.0453 <sup>a</sup>	
AIDELIA	(0.0227)	(0.0192)	(0.0149)	
Sackatahawar	0.0257	0.0227	-0.0484	
Saskatchewan	(0.0452)	(0.0373)	(0.0306)	
	-0.0976 <sup>a</sup>	0.0129	0.0846 <sup>b</sup>	
Quebec	(0.0198)	(0.0323)	(0.0367)	
<b>Observations = 6,079</b>	Log likelihood	= -4.446	LR chi2 = 890	

TABLE 3Regression Results on the Marginal Effects from the MultinomialLogit Model (Baseline Model)

Notes: The dependent variable "Pattern" is a categorical variable that includes three outcomes regarding the foreign market entry pattern of Canadian exporters: "US First," "simultaneous," and "non-US first." Employees = log (Employees), Revenue = log (Revenue), Wages = log (Payroll/Employee), Labour Productivity = log (Revenue/Employee), Products = log (Products). Standard errors are reported in parentheses below the coefficient estimates. a, b and c indicates statistical significant at the 1 percent, 5 percent and 10 percent level, respectively. Control variables include year, industry and location dummy variables. The complete results of Table 3 are reported in Table 5 in the Appendix.

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

	Model 2A	-			Model 2B			
Pattern	US First	Simultaneous	NUEM	NUNM	<b>US First</b>	Simultaneous	NUSD	NUMD
A	-0.0226 <sup>A</sup>	0.0128 <sup>A</sup>	0.0032 <sup>A</sup>	0.0066 <sup>B</sup>	-0.0241 <sup>B</sup>	0.0125 <sup>C</sup>	0.0086 <sup>c</sup>	<b>0.0030</b> <sup>a</sup>
Age	(0.0041)	(0.0027)	(0.0009)	(0.0032)	(0.0114)	(0.00650)	(0.0052)	(0.0013)
Labour	-0.0096 <sup>c</sup>	0.0135 <sup>c</sup>	0.0002	-0.0041 <sup>c</sup>	-0.0112 <sup>a</sup>	0.0135 <sup>c</sup>	-0.0043	0.0020
productivity	(0.0057)	(0.0076)	(-0.0043)	(-0.0063)	(0.0044)	(0.0069)	(0.0120)	(0.0143)
	-0.0018 <sup>a</sup>	<b>0.0077</b> <sup>b</sup>	-0.0019	-0.0040	-0.0100 <sup>b</sup>	0.0082 <sup>c</sup>	0.0001	0.0017
Employees	(0.0007)	(0.0034)	(0.0306)	(0.0068)	(0.0036)	(0.0048)	(0.0108)	(0.0121)
	-0.0391	<b>0.0482</b> <sup>c</sup>	0.0016	-0.0108 <sup>c</sup>	-0.0305 <sup>a</sup>	0.0499 <sup>c</sup>	<b>-0.0374</b> <sup>a</sup>	<b>0.0179</b> <sup>a</sup>
Products	(0.0128)	(0.0247)	(0.0334)	(0.0062)	(0.0033)	(0.0289)	(0.0071)	(0.0064)
	-0.1988 <sup>a</sup>	0.0216	<b>0.0805</b> <sup>a</sup>	0.0966	-0.1769 <sup>a</sup>	0.0271	0.0388	<b>0.1111</b> <sup>a</sup>
US-controlled	(0.0647)	(0.2326)	(0.011)	(0.3966)	(0.0645)	(0.1289)	(0.1468)	(0.0147)
Non-US foreign-	-0.2472 <sup>a</sup>	-0.047	<b>0.0461</b> <sup>a</sup>	<b>0.2482</b> <sup>a</sup>	-0.2573 <sup>a</sup>	-0.0474	<b>0.2544</b> <sup>a</sup>	0.0503
controlled	(0.0764)	(0.0563)	(0.0053)	(0.0564)	(0.0767)	(0.0408)	(0.0764)	(0.3442)
Log likelihood	-5,018				-5,007			
LR chi2	1,086.12				1,118.52			

 TABLE 4

 Regression Results on the Marginal Effects from the Multinomial Logit Model (Alternative Models)

Notes: The dependent variable "Pattern" in Model 2A includes four outcomes regarding the foreign market entry pattern of Canadian exporters: "US first," "simultaneous," "NUEM," and "NUNM." The dependent variable "Pattern" in Model includes four outcomes regarding the foreign market entry pattern of Canadian exporters: "US first," "simultaneous," "NUSD," and "NUMD." Control variables include year dummy variables, industry dummy variables, and location (province) dummy variables. Employees = log (Employees), Revenue = log (Revenue), Wages = log (Payroll/Employee), Labour Productivity = log (Revenue/Employee), Products = log (Products). Standard errors are reported in parentheses below the coefficient estimates. a, b and c indicates statistical significant at the 1 percent, 5 percent and 10 percent level, respectively.

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP

Results that related to the firms' ownership and product diversification are particularly interesting. Model 1 in Table 3 shows that, compared with Canadiancontrolled exporters, both US-controlled and non-US foreign-controlled firms are more likely to choose a non-US rather than the US market as their initial export destination. Model 2A in Table 4 further demonstrates that "US-controlled" is positively related to a firm's choice of the "NUEM" pattern but has a negative effect on its choice of the "US first" pattern. These results suggest that, compared to other Canadian exporters, Canadian subsidiaries of US multinationals are more likely to choose an emerging market as their first export destination.

Model 1 in Table 3 shows that firms specializing in exporting a larger range of products are more likely to choose the "simultaneous" pattern but less likely to choose the "US first" pattern. Model 2B in Table 4 further demonstrates that "Products" are negatively related to a firm's choice of the "US first" and "NUMD" pattern but positively related to its choice of the "simultaneous" and "NUSD" pattern. Such evidence suggests that product diversification is a critical factor in a firm's ability to export to multiple destinations.

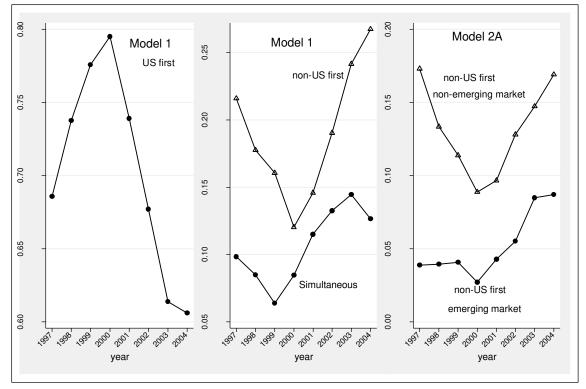
Turning now to location-specific factors, the results suggest that, compared with those located in Ontario (central Canada), exporters based in provinces such as "British Columbia" (West Coast), "Newfoundland and Labrador" (East Coast), "Nova Scotia" (East Coast), and "Quebec" (French language province) are more likely to choose as their initial export destination a non-US rather than the US market. For instance, for firms that started to export in 2000, the proportion targeting the European market as their initial export destination was 100 percent, 75 percent, and 66 percent if they are located in

Newfoundland and Labrador, Nova Scotia, and Quebec, respectively. Also, the proportion of firms that chose the Asian market as their initial export destination was 83 percent if they were located in British Columbia. These results make sense because many firms located on the West Coast have close ties with Asian countries and those on the East Coast with European countries. These views are reflected in recent federal-level meetings in which a government minister, Peter Van Loan, met with the Asian-Canadian business community in Vancouver to promote Canada's trade relations with Japan and India ("Ministerial Visit to Vancouver" 2011) and another minister, Ed Fast, spoke with Canada's East Coast area workers and business leaders to discuss the benefits of Canadian-EU trade agreements (Husny 2011). On the other hand, firms located in Quebec have a stronger connection with Europe than the United States simply because of the language.

Figure 1 plots an average Canadian exporter's predicted probability of choosing different types of entry patterns, in relation to the year in which it started exporting. As discussed earlier, the year-of-exporting dummy variables capture time-variant factors such as changes in sizes, political risks, tariffs, and exchange rates of the United States relative to other trading partners. From 1997 to 2000, a new exporter's predicted probability of choosing the "US first" pattern increased from 69 percent to 79 percent, possibly as a result of the 1997 Asian crisis. From 2001 to 2004, the probability of a new exporter choosing the "US first" pattern decreased from 74 percent to 61 percent, possibly a result of the 9/11 terrorist attacks.

While most studies (Burt 2009; Globerman and Storer 2009; Ferris 2010) on the effect of post-9/11 Canada-US border security on Canadian exports have used quarterly data, the data applied in our study are year by year. Therefore, it is beyond the scope of this paper to identify the immediate effect of 9/11 on the probability of Canadian firms choosing the "US first" pattern. However, the possibility that such an effect exists should not be ignored by policy-makers.

FIGURE 1 Predicted Probability in Relation to Year a Firm Starts to Export



Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

Given the increasing importance of the emerging market as an export destination, we want to examine whether the post-2001 trend of the growing number of "non-US first" exports was driven by the emerging or non-emerging market. Based on the estimated parameters from Model 2A, the right panel of Figure 1 plots an average Canadian exporter's predicted probability to choose "NUEM" and "NUNM" patterns in relation to the year in which it started exporting. Our results suggest that while the probability of a new exporter choosing an emerging, compared to that of choosing a non-emerging market, as its initial export destination is significantly lower, the post-2001 growing trends are similar in these two markets. Therefore, we believe that the post-2001 "US first" pattern is US-specific and not related to other trading partners.

#### POLICY IMPLICATIONS AND CONCLUDING REMARKS

Based on a unique large-scale longitudinal firm-level dataset, we used multinomial logit models to investigate the characteristics of Canadian exporters in relation to their choice of foreign market entry patterns. We found that almost 70 percent of Canadian exporters target the "US first" pattern by choosing the United States as their initial export destination. This evidence supports the stage model of internationalization, in which firms target a neighbouring country with lower trade barriers as their initial export destination (Johanson and Vahlne 1977; Johanson and Wiedersheim-Paul 1975). Our finding that fewer Canadian firms chose the "US first" pattern after 2001 than before that date, however, suggests that the traditional stage model of internationalization is not universal to all firms; over time, there is a growing minority of firms that are not following the stage model. Although we are only able to observe the timeline between 1997 and 2004 in this study, it has been shown by Statistics Canada's merchandise trade data that the share of Canada's exports to the United States decreased from 83.82 percent to 74.9 percent between 2005 and 2010.

Our results reveal that Canadian-controlled young and small firms are more likely to choose the United States as their initial export destination. This result is not surprising, because for many Canadian firms it requires less time and resources to collect US market information on business opportunities, regulations, consumer preferences, and quality and technical requirements. Domestic firms, especially those that are newly established, usually lack sufficient human or financial resources to collect export-relevant information on a wide range of foreign markets. Although some firms can afford the research and marketing costs of gathering information about potential markets and would benefit from exporting to new markets, they may be reluctant to invest in becoming export-ready to such markets because their investment may also benefit potential competitors.

The evidence reviewed in this study suggests that government intervention to assist firms during their internationalization process is important on light of market failures stemming from a lack of research in foreign markets. Although exporting to unfamiliar foreign markets may increase the hazards to survival, it also prompts firms to develop new capabilities during the pursuit of opportunities. In addition, internationalization may enhance the legitimacy of firms in their domestic market and enable them to more effectively access and mobilize resources for growth. The evidence also suggests that government support should be targeted towards Canadian-controlled, young, small firms, since they are more likely than older, larger ones to encounter barriers but at the same time can benefit from exporting to a wider range of foreign markets.

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#### Appendix

#### Assessment of Diagnostics and Robustness Test

The most powerful assessment of a single predictor in logistic regression is the likelihood-ratio test, which approximately follows the chi-squared distribution. The LR test is computed by comparing the log likelihood from a full model, including all the explanatory variables with that of a restricted model that excludes the tested variable  $X_k$ . An insignificant test at a conventional level such as 0.05 suggests that the variable  $X_k$  should not be used in the model (our data support the hypothesis that  $\beta_{jk} = 0, j = 1,...,J$ .).

According to Table 5, the effect of "Age," "Age<sup>2</sup>," "Labour Productivity," "Employees," "Products," "US Controlled," "Non-US foreign Controlled," "Year," "Province," and "Industry" variables are statistically significant for the choice of export pattern at the 0.05 level. However, the hypothesis that the coefficients associated with "Age<sup>2</sup>," "Multi-establishment," "Revenue," and "Wages" variables are equal to 0 cannot be rejected at the 0.10 level. Therefore, these four variables are not included in our regression.

Variables tested	LR Chi2	Prob > Chi2	Significant
Age	124.59	0.0000	Yes
Age <sup>2</sup>	2.97	0.2261	No
Labour productivity	11.14	0.0038	Yes
Wages	1.20	0.5485	No
Employees	8.81	0.0122	Yes
Revenue	7.52	0.1108	No
Products	73.36	0.0000	Yes
US controlled	10.42	0.0055	Yes
Non-US foreign controlled	7.47	0.0238	Yes
Multi-establishment	2.65	0.2659	No
Year	61.38	0.0000	Yes
Industry	589.68	0.0000	Yes
Province	81.40	0.0000	Yes

TABLE 5Likelihood-Ratio Test of Coefficients

Notes: Observations = 6,079. Employees = log (Employees), Revenue = log (Revenue), Wages = log (Payroll/Employee), Labour Productivity = log (Revenue/Employee), Products = log (Products).

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

# TABLE 6

# Regression Results on the Marginal Effects from the Multinomial Logit Model (Baseline Model)

	Model 1				
Pattern	US First	Simultaneous	Non-US First		
Variable	Marginal Effect				
variable	(Standard Error)				
Age	-0.0248 <sup>a</sup>	<b>0.0121</b> <sup>a</sup>	<b>0.0127</b> <sup>a</sup>		
Age	(0.0039)	(0.0027)	(0.0030)		
Labour productivity	-0.0090 <sup>c</sup>	0.0131 <sup>b</sup>	-0.0042		
	(0.0050)	(0.0044)	(0.0063)		
Employees	-0.0075 <sup>c</sup>	0.0078 <sup>b</sup>	-0.0004		
P-0,5 • • •	(0.0039)	(0.0032)	(0.0048)		
Products	-0.0401 <sup>a</sup>	<b>0.0468</b> <sup>a</sup>	-0.0067		
	(0.0083)	(0.0053)	(0.0068)		
US controlled	-0.2292 °	0.0120	<b>0.2171<sup>b</sup></b>		
	(0.0838)	(0.0385)	(0.0877)		
Non-US foreign	$-0.2673^{\circ}$	-0.0490	<b>0.3162<sup>b</sup></b>		
controlled	(0.1371)	(0.0373)	(0.1418)		
Year start to export (c			New UC Court		
Pattern	US first 0.0480 <sup>b</sup>	Simultaneous -0.0165	Non-US first           -0.0316 <sup>b</sup>		
1998	(0.0211)	(0.0153)	(0.0155)		
	<b>0.0869</b> <sup>a</sup>	-0.0413 <sup>a</sup>	- <b>0.0456</b> <sup>a</sup>		
1999	(0.0191)	(0.0132)	(0.0145)		
	0.0981 <sup>a</sup>	-0.0185	-0.0796 <sup>a</sup>		
2000	(0.0189)	(0.0147)	(0.0126)		
2001	0.0432 <sup>b</sup>	0.0147	-0.0578 <sup>a</sup>		
	(0.0211)	(0.0170)	(0.0138)		
••••	-0.0145 °	0.0349 °	-0.0203		
2002	(0.0236)	(0.0189)	(0.0162)		
0000	-0.0737 <sup>a</sup>	0.0510 <sup>b</sup>	0.0226		
2003	(0.0279)	(0.0222)	(0.0206)		
2004	-0.0782 <sup>b</sup>	0.0336	<b>0.0446</b> <sup>c</sup>		
2004	(0.0318)	(0.0235)	(0.0253)		
Industry (compare to	the Computer and I	Electronics sector)			
Pattern	US first	Simultaneous	Non-US first		
Agriculture	<b>0.1389</b> <sup>a</sup>	<b>-0.0866</b> <sup>a</sup>	-0.0523 <sup>c</sup>		
5	(0.0289)	(0.0099)	(0.0275)		
Textile, clothing &	<b>0.1163</b> <sup>a</sup>	-0.0598 <sup>a</sup>	-0.0565 <sup>c</sup>		
leather	(0.0328)	(0.0141)	(0.0302)		
Printing	<b>0.1478</b> <sup>a</sup>	-0.0515 <sup>b</sup>	-0.0963 <sup>a</sup>		
	(0.0389)	(0.0228)	(0.0324)		
Metal	0.1248 <sup>a</sup>	$-0.0469^{a}$	-0.0779 <sup>a</sup>		
	(0.0277)	(0.0150)	(0.0239)		
Furniture	<b>0.1896<sup>a</sup></b>	$-0.0842^{a}$	-0.1054 <sup>a</sup>		
	(0.0232)	(0.0106)	(0.0209)		
Plastic & rubber	<b>0.0962<sup>a</sup></b>	-0.0182	-0.0780 <sup>a</sup>		
	(0.0349)	(0.0226)	(0.0279)		

	0.1163 <sup>b</sup>	0.0400	0.05426
Non-metallic mineral			$-0.0743^{\circ}$
	(0.0460)	(0.0264)	(0.0393)
Machinery	0.0623 <sup>c</sup>	-0.0255	-0.0368
	(0.0338)	(0.0178)	(0.0301)
Transportation	0.0946 <sup>b</sup>	-0.0063	-0.0883 <sup>a</sup>
equipments	(0.0378)	(0.0267)	(0.0282)
Wholesale trade	-0.1631 <sup>a</sup>	$-0.0477^{a}$	<b>0.2107</b> <sup>a</sup>
	(0.0397)	(0.0138)	(0.0403)
Retail trade	-0.0773	-0.0746 <sup>a</sup>	<b>0.1519</b> <sup>a</sup>
	(0.0476)	(0.0106)	(0.0480)
Transportation &	-0.2116 <sup>a</sup>	-0.0628 <sup>a</sup>	<b>0.2744</b> <sup>a</sup>
warehousing	(0.0607)	(0.0140)	(0.0626)
Finance & insurance	-0.2196 <sup>a</sup>	-0.0242	<b>0.2438</b> <sup>a</sup>
	(0.0678)	(0.0248)	(0.0706)
Mining, oil, gas&	0.0224	-0.0657 <sup>a</sup>	0.0433
utilities	(0.0775)	(0.0222)	(0.0764)
Construction	0.0129	- <b>0.0771</b> <sup>a</sup>	0.0642
Construction	(0.0449)	(0.0110)	(0.0446)
Business services	-0.0067	$-0.0458^{a}$	0.0525
Dusiness services	(0.0376)	(0.0138)	(0.0368)
Other services	0.0366	-0.0668 <sup>a</sup>	0.0302
Other services	(0.0430)	(0.0133)	(0.0420)
Wood	0.0583	$-0.0647^{a}$	0.0064
woou	(0.0404)	(0.0136)	(0.0390)
Food & beverage	0.0143	-0.0439 <sup>b</sup>	0.0295
roou & beverage	(0.0463)	(0.0182)	(0.0446)
Information &	-0.0261	-0.0143	0.0404
cultural	(0.0638)	(0.0312)	(0.0600)
Paper	-0.0225	-0.0146	0.0370
i apei	(0.0927)	(0.0441)	(0.0878)
Petroleum &	-0.0646	0.0318	0.0328
chemical	(0.0561)	(0.0336)	(0.0513)
Miscellaneous	0.0206	0.0222	-0.0429
winscentaneous	(0.0373)	(0.0250)	(0.0304)
Province (compare to t	he province of Ont	ario)	
Pattern	US first	Simultaneous	Non-US first
	-0.1823 <sup>b</sup>	0.0294	0.1528 <sup>b</sup>
Newfoundland	(0.0738)	(0.0497)	(0.0686)
News Casti-	-0.1588 <sup>a</sup>	0.0411	<b>0.1176</b> <sup>a</sup>
Nova Scotia	(0.0503	(0.0364)	(0.0444)
	-0.0543 <sup>a</sup>	0.0231	0.0312 <sup>b</sup>
British Columbia	(0.0166)	(0.0122)	(0.0130)
N D ''	0.0156	0.0107	-0.0264
New Brunswick	(0.0128)	(0.0113)	(0.0159)
	0.0972 <sup>a</sup>	-0.0168	-0.0804 <sup>a</sup>
Manitoba	(0.0301)	(0.0241)	(0.0199)
	-0.0175	0.0629 <sup>a</sup>	-0.0453 <sup>a</sup>
Alberta	(0.0227)	(0.0192)	(0.0149)
	(0.0==/)	(0.01/=)	(0.01.7)

Saskatchewan	0.0257 0.0227		-0.0484	
Saskatchewan	(0.0452)	(0.0373)	(0.0306)	
Quehee	- <b>0.0976</b> <sup>a</sup>	0.0129	<b>0.0846</b> <sup>b</sup>	
Quebec	(0.0198)	(0.0323)	(0.0367)	
<b>Observations = 6,079</b>	Log likelihood =	LR chi2 = 890		

Notes: The dependent variable "Pattern" is a categorical variable that includes three outcomes regarding the foreign market entry pattern of Canadian exporters: 'US first', 'simultaneous', and 'non-US first'. Employees = log (Employees), Revenue = log (Revenue), Wages = log (Payroll/Employee), Labour Productivity = log (Revenue/Employee), Products = log (Products). Standard errors are reported in parentheses below the coefficient estimates. a, b and c indicates statistical significant at the 1 percent, 5 percent ,and 10 percent level, respectively.

Source: Authors' calculations from Statistics Canada's ER, BR, and LEAP.

# NOTES

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<sup>1</sup> According to a study by Sabuhoro, Larue, and Gervais (2006), between 1993 and 2000, 42.2 percent of Canadian exporters have export duration of one year or less.

<sup>2</sup> To take into account the seasonality in firms' export behaviour, a firm's initial export destination is considered as its export destination within the first *two* years of its export activity.

<sup>3</sup> The log likelihood of our regression increased when we use the logarithms rather than the natural value of these variables in our econometric analysis.

<sup>4</sup> The log-Weibull distribution, also known as the Gumbel distribution, is a special case of the Fisher-Tippett distribution.

<sup>5</sup> Among the 1,017 "non-US first" group of exporters, 332 of them chose emerging market as their first export destination and 758 of them chose non-emerging market as their first export destination.

<sup>6</sup> Among the 1,017 "non-US first" group of exporters, 752 of them start with exporting to a single destination and 338 begin with exporting to multiple destinations.