

Assessing the Impact of Export Promotion Expenditure on National Export Performance: A Comparative Study of Canada and the United States

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This study investigates the correlation between export promotion and export outcomes. Drawing on historical data from Canadian and U.S. performance records, the study uses linear regression to examine the impact of export promotion spending on a nation's export performance. Building upon previous research that identified positive and significant returns for specific commodities, this study broadens the scope to analyze government spending on export promotion at an aggregate level. The analysis is presented in two main parts: first, examining the relationship between total input and output in dollars. Second the study assesses annual changes in dollar amounts alongside other relevant variables affecting export performance. The findings confirm previous assertions of positive returns from export promotion spending but also reveal inefficiencies, suggesting that such expenditures may not always yield optimal results.

INTRODUCTION

According to Freixanet (2022), export research has gone through an evolution over the last thirty years. The first decade was characterized as exploratory and dealt with issues such as why firms export and what are the factors that contribute to export activity. The second decade was where a plethora of empirical research pertaining to Small and Medium-sized Enterprises' (SMEs) export behaviour came into existence. In this era, variables such as managerial attitudes, organizational resources, and product features were investigated to determine their impact on export performance. The third decade brought advances in methodological export research topics and an increase in the number of comparative studies and large sample research. Dhanaraj and Beamish support this premise by noting that comparative studies, such as Dichtl et al. (1990), can provide data on differences in exporting practices across countries as well as can enhance the external validity of the model. This particularly becomes useful when country differences are related to performance.

Export research has seen significant advancement and changes since the dawn of the 21st century. Studies have explored various aspects like learning-by-exporting effect, export product quality improvement, and the export of cultural products and services. Research has focused on factors determining exporters' productivity and innovation, managerial capacities along with strategic internationalization decisions (Coudounaris, 2022). Export research has seen a shift towards dynamic evolution of export product quality which may help in differentiating between quantitative and qualitative changes in export product quality (Freixanet and Federo, 2022). There has also been a notable emphasis on the cultural

products and services' exports as a vital component of countries' international outreach strategies (Mamani et al., 2022).

The issues of export performance have drawn a great deal of attention from academicians, professionals, and politicians alike, as the importance of exports and export performance are recognized for their relationship to a countries' economic prosperity and a firm's profitability. Trąpczyński et al. (2021) are of the view that institution-based, resource-based and industry-based views are necessary to examine the determinants of export performance. Moreover, Czinkota (2002) concludes that exports offer the opportunity for economies of scale. Exports can lead to lower costs and higher profits both at home and abroad. To further this point, exporting means market diversification, and provides stability by not making a government or firm overly dependent on any particular market or source of revenue. Exporting lets a firm learn from the competition, makes it sensitive to different demand structures, and makes its managers appreciate and cope with diverse cultural environments.

It can be argued that we have begun to shift into an era of export research. In this era, there is an increase in the level of accountability for both government and firms and therefore should be represented in the research as an impacting variable in the decision making process regarding the allocation of resources. Noting that accountability must be considered, this study will focus on the effectiveness of government spending, particularly the expenditures on export promotion programs. The intent of export promotion programs is to increase the level of export performance realized not only by government as a level of GDP, but as well as a means to increase performance, profitability, and competitiveness of the firms under its regime.

Diamantopoulos et al. (1993) put forward that the terms export assistance, export promotion and, export incentives are often used interchangeably. To reduce the ambiguity amongst the research used in this study, the term export promotion programs will be used to encompass each of the term variations used by other researchers.

Export promotion measures are, in general, deemed justified as a tool for market intervention in the wake of market failure, especially in case where policy intervention outweighs the associated costs. The merits of export promotion efforts can be amplified by the presence of positive externalities resulting from a rise in exports (Lederman et al. 2010). Moreover, export promotion initiatives can result in various macroeconomic outcomes which may supplement the enhanced export performance of a country. In the context of international trade, establishing trade connections can be used as a tool of foreign policy to promote international relations. Export promotion agencies can play a key role in export promotion through export promotion programs (Aalto and Gustafsson, 2020).

Although understanding all of the elements which comprise export promotion programs is a difficult task, many authors have been successful at providing the literature base with umbrella definitions which enable the reader to understand what is meant by export promotion programs, without the need to understand exactly how or what makes it work. Seringhaus (1986) puts forward the following definition; "export promotion refers to all public policy measures that actually or potentially enhance exporting activity from a firm, industry or national perspective."

Within the parameters of this research study only those policy measures that directly enhance export activity will be investigated. In the methodology section, the study will show how it attempted to control for these "potential" export enhancements by using a constant coefficient. Using the definition of Seringhaus, Gencturk and Kotabe (2001) put forward their own definition of export promotion programs, indicating that export promotion programs refer to all public measures designed to assist firms' exporting activity, ranging from counseling, tax incentives, and export financing to trade shows and sales leads. Mota et al. (2021) argue that export promotion programs are initiatives supervised by government bodies and trade consortia aimed at supporting firms in tackling the obstacles to international expansion and mitigating the negative impacts of export impediments.

Leading the research on what export promotion programs offer their users, Pointon (1978) puts forward that the kind of help that can be provided is restricted by the General Agreement of Tariffs and Trade (GATT) and, as a result, government involvement typically manifests itself in a wide range of "back-up" services. Traiyarach and Banjongprasert (2022) state that export promotion programs may provide

specialized consultancy and facilitate firms' participation in international trade events. The ultimate goal of such programs is to enhance country's export capabilities and international competitiveness. Moreover, these programs may enhance awareness and utilization of government services available for export performance improvement (Jindal and Gakhar, 2015).

Reid (1980) concludes that among the range of export promotion programs offered, those most favoured by exporters are programs which provide experiential knowledge about foreign countries. Trade missions are one such program. In addition to trade mission, trade shows are another favoured means of gaining knowledge. Seringhaus and Rosson (1990) find that the objectives of trade shows are to further SMEs' expansion into foreign markets. Having already addressed the need for defining export promotion programs, Seringhaus and Rosson (1990) add that the role of export promotion includes; (1) the creation of awareness of exporting as a growth and market expansion option; (2) the reduction or removal of barriers to exporting; (3) the creation of promotion incentives and various forms of assistance to potential and actual exporters. Kotabe and Czinkota (1992) further the discussion of included programs and propose that forms of export promotion programs are generally comprise of:

- **Export service programs:**

- These programs include seminars for potential exporters, export counseling, how-to-export handbooks and port financing;

- **Market development programs:**

- These programs include dissemination of sales leads to local firms, participation in trade shows, preparation or market analysis, and export news letters.

Diamantopoulos et al. (1993) attempt to simplify the understanding of specific promotion programs and affirm that export promotion programs can be divided into indirect and direct services and programs.

- **Indirect programs:**

- These programs include all types of government support that are related to productivity; research and development; technology innovation support; manpower planning; regional and sector development; and fiscal measures such as tax/investment incentive policies at sector and firm level. Diamantopoulos et al. state that these programs are termed indirect because they are not specifically designed for export but could, nevertheless, generate future export benefits.

- **Direct programs:**

- These programs include export promotion measures that are designed to enhance a firm's export competitiveness, such as; (1) government departments and offices that supply standardized and customized market information and give advice on exporting in general and export marketing in particular. (2) Programs which render assistance to firms, ranging from awareness-creating to actual market entry. (3) Programs which attempt to cover firms' financial risks through insurance and financing arrangements

Adding to the works of Kotabe & Czinkota and Diamantopoulos, Armah and Epperson (1997) indicate that methods of export promotion include brand identification, product demonstration, liaison between domestic sellers and foreign buyers, and advertising through foreign media. In another attempt to simplify the existing literature, Gencturk and Kotabe (2001) propose their understanding of what comprises export promotion programs. The authors find that there are two key elements, which include (1) export service programs such as seminars for potential exporters, export counseling, how-to-export handbooks, and export financing and (2) market development programs such as dissemination of sales leads to local firms, participation in foreign trade shows, preparation or market analysis, and export newsletters.

REVIEW OF LITERATURE

Camilo (1987) has paved the way in the literature over the past twenty years on the issues of who develops the export promotion programs, who is responsible for their program offering, and what are they [the initiators and the programs] responsible for achieving. He stated that in most cases the central body in

charge of formulating the promotion program could be the ministry of foreign trade or one of the production ministries, for instance the ministry of industry. He also adds that export promotion and development for commodities tends to be handled by the government ministries responsible for the product in question, for instance the ministry of agriculture or mining, as well as state marketing boards or their equivalent, while for nontraditional exports, and particularly manufactured products, the national trade promotion institution is involved. Four broad categories are:

1. Product and market identification and development,
2. Trade information services,
3. Specialized support services, and
4. Promotion activities abroad.

Seringhaus (1986) states that Government promotion programs are designed to “motivate firms into export action” and to “stimulate the exporting process”. In addition to this, Yang et al. (1992) found that Governmental assistance and promotion efforts have grown substantially in an attempt to tap small to mid-sized firms’ export potential. Yang et al. (1992) further this notion by adding that the need for export promotion programs are necessitated by several external, operational, and internal barriers to exporting that have been identified by other researchers as impediments to the export process. The external barriers identified include tariff and non-tariff barriers, foreign exchange fluctuations, foreign market competition, and government policy, meanwhile operational barriers include difficulty in receiving payments, locating prospect customers, arranging transportation and shipping, and clearing customs. The external and operational barriers create a need for trail blazing government support programs, but the authors indicate that there are still internal [firm] barriers which are preventing firms from fully realizing their export potential. These internal barriers include inadequate export experience, lack of managerial commitment, and insufficient human and capital resources.

In order to overcome the barriers to export, export promotion programs must provide export marketing assistance in the form of information in order for firms to understand and overcome the uncertainty in the process of decision making, Diamantopoulos et al. (1993). Adding to the work of Diamantopoulos et al., Gencturk and Kotabe (2001) propose that the basic objective for government promotion programs is to act as an external resource for firms to gain knowledge and experience that is vital for successful foreign market involvement.

Entrepreneurial orientation (EO) may also influence export performance in a country. Hossain et al. (2022) examined the impact of EO dimensions on exports’ growth. The study analyzed the level of innovations and proactiveness along with risk orientation of Bangladeshi firms. They found that innovativeness and proactiveness positively impact export performance. However, risk orientation had no effect on exports. Similarly, Karami and Tang (2019) also found that EO play a vital role in firms’ international market entry leading to an increase in export performance.

Noting that the majority of the research surrounding export promotion programs attempts to evaluate its effectiveness on the firm, Czinkota (2002) eludes to the importance of export promotion programs relative to not only the firm, but as well the government by stating that export promotion must be seen as offering the latest approaches and the most recent tools to bring efficiency and effectiveness to an important component of government policy.

With a more historic perspective, Bilkey (1978) indicates that for maximum success, export promotion programs should be tailored to the export development position of the firms to be promoted. The author also asserts that as companies become more aware of the promotion programs offered, they are more likely to use them; noting the importance of making firms aware of the availability of export promotion programs. The study also found that the promotion programs had a higher effectiveness ratio with regular exporters, and a low effectiveness ratio with non-exporters. The literature supports that among the range of export promotion programs offered, those most favoured by exporters are programs which provide experiential knowledge about foreign countries (Reid 1980). Reid (1980) also concluded that government export promotion programs are effective at stimulating export expansion. Export promotion programs were found to boost the export sales of apples and tobacco. In the same study the results showed that export revenues of \$60 and \$31 were generated for US apples and Tobacco, respectively, per dollar of promotion program

expenditures (Rosson et al.1986). In a similar study, Armah and Epperson (1997) estimated the export demand for US frozen concentrated orange juice for France, Germany, Japan, the Netherlands, and the UK. Their findings confirmed that the gross rates of return per dollar on promotion program expenditures were estimated to be \$7.44, \$37.09, \$5.61, \$51.92, and \$7.64 for France, Germany, Japan, the Netherlands, and the United Kingdom, respectively.

Coudounaris (2018) analyzed the moderating role of export promotion programs on exports' performance and found that 31% variance in exports may be explained through the impact of these programs. Similarly, Lederman et al. (2010) concluded that export promotion programs influence exports positively after surveying 88 export promotion agencies. They also observed that budget allocated to these agencies is positively correlated to exports' performance. A 10% increase in budget for export promotion agencies may result in up to 1% increase in exports.

Onunkwo and Epperson (2000) affirm that the government export promotion programs have been valuable to the growth in the US agricultural export market. Realizing the high rate of return for export promotion expenditures, Czinkota (2000) finds that, currently, most governments maintain an export policy which regulates, stimulates, directs, and protects exports. According to information from the US Department of Commerce, Bilkey (1978) discovered that it is mainly smaller firms that do not export and were thus targets of export promotion activities. This finding illustrates the need for promotion programs to focus more on the SMEs in order to encourage and realize unutilized export potential. In the same study Bilkey found that both exporters and non-exporters reported a lack of awareness of available export assistance programs. He also concluded that as companies became more aware of the programs, they were more likely to use them. This supports the notion that awareness of program availability is a significant factor in the effectiveness of export promotion programs. In addition to the lack of awareness, Bilkey also asserts that a lack of financial incentives limits the export activity of smaller firms. Opposing this conclusion, Bilkey found that the results of his study indicated that none of the financial incentives variables were statistically significant.

Simpson et al. (1981) suggest that firms may not seek assistance because of the negative image of the respective government body. Although there is not a great deal of literature to support this finding, the study by Simpson indicates that its consideration is still warranted.

Building on the work of Bilkey, Reid (1984) found that just over half of the respondents in his study were aware of some form of government export promotion programs and only 18 percent had used any of the services. Stureson et al. (1992) discovered the same program detriment and stated that insufficient information and expertise were the most important impediments to exporting. The concerns surrounding the awareness of export promotion programs are present in a great deal of literature. A study executed by Hammett and DeForest (1993) showed that 23 percent of the companies in their study reported that a lack of awareness of existing export promotion programs was a significant problem in their adoption and use of the programs. Comparable results were found by Diamantopoulos et al. (1993) whose comparative research indicated that awareness of government export promotion programs is relatively low. The studies indicated that on average, 25 percent of SMEs were unaware of any support organization. Ifju and Bush (1994) put forward the same finding, specifying that a lack of information about foreign markets is a significant barrier to exporting. One of the key roles of export promotion programs is to provide information to firms about foreign markets. If a lack of information about foreign markets has been proven to be the cause of reduced export performance than it can be assumed that export promotion programs are, in some cases, not performing their specific function; thus, are operating inefficiently. Ifju and Bush also attest to the fact that aid, in the form of export promotion programs, may go unused because firms are unaware of the existence of such programs.

In contrast to the above-mentioned evidence regarding the positive influence of export promotion initiative on export performance, some studies have found different results. Njinyah (2018) reported that export promotion programs may not directly influence export performance. Similarly, Mata et al. (2021) argued that export promotion programs may only be effective, if the exporting firms are competitive enough to compete with their international rivals.

Contrary to the great deal of literature supporting the need for increased levels of awareness and information about export promotion programs, Kleinschmidt and Ross (1984) found in their study that external information sources have less impact on export market decisions than internally collected data. Bauerschmidt et al. (1985) establish that a frequent complaint voiced by US technology firms who export was that there is a general dissatisfaction with the export promotion programs sponsored by the federal government, especially the lack of tax incentives and the unnecessary complexity of information programs.

Reich (1990) finds that formal tariffs and quotas are being superseded by a broad range of nontariff barriers. These nontariff barriers include laws and regulations which prevent a specific product from being useable in the potential importers country or region, thus preventing it from being exported. It is imperative that in order to deem an export promotion program as being effective, it must identify these nontariff barriers and provide firms with the means to overcome them. Camilo (1992) supports this finding and adds that one of the export promotion program's principal activities should be to identify current and future products available within the country for sale on the international market.

Yang et al. (1992) affirm that export promotion agencies continue to have difficulty getting firms to take advantage of numerous publicly sponsored support services. This finding supports the earlier findings that call for an increase in the awareness of export promotion programs, particularly amongst SMEs. In addition to the need for awareness to increase program adoption levels, Diamantopoulos et al. (1993) demonstrate an increase in the use of export promotion programs can be achieved by ensuring that different export promotion programs or services should be developed and targeted at different stages of a firm's export involvement process.

Paralleling the work of Yang et al., Schlegelmilch et al. (1993) confirm that many small exporters do not undertake export planning, or engage in systematic marketing research about foreign markets. The role of an effective export promotion program is to identify the deterrent factors creating this negative trend and propose a solution to firms to rectify the issue. The deterring factors include those put forward by Ifju and Bush (1994) which contest that export promotion programs should identify opportunities for export growth. The authors indicate that opportunity requires the recognition of potential markets and knowledge of customer needs and characteristics. Adding that financial support is necessary to pursue exporting and SMEs may find such support difficult to obtain and should be facilitated by export promotion programs.

Noting that SMEs are the segment of an economy that stands to benefit the most from export promotion programs, Moini (1998) identifies the complexities are targeting this segments with promotion programs. Unfortunately, SMEs do not constitute a single homogeneous group. Therefore, it is essential that policy-makers fully understand the kinds of differences that occur among them if they are to provide programs that effectively progress these firms toward a high level of export performance. McNaughton (2001) discovers that many export promotion agencies have adopted a stages model to target their services to firms that have different levels of export involvement. These agencies also emphasize the importance of formal planning for foreign market activities, and often make gathering and analysis of data, and a written plan the focus of their assistance to individual firms. This study depicts the necessary functions incorporated into an effective promotion program. McNaughton also indicates that firms that export directly frequently commented that it was the only option available to them because there are no appropriate distributors for their product. This result indicates the need for further refinement of export promotion programs in order to achieve higher level of program performance. This is supported by the conclusions of Czinkota (2002) who avows that governmental efforts also need to pay attention to the financial environment, particularly the variations in exchange rates. Ultimately, the study shows that there is little benefit to the development of competitive products and well-built export promotion programs if, due to currency fluctuations and volatility, international markets are no longer profitable.

In a counterintuitive study, Gencturk and Kotabe (2001) indicate that the perceived inability of export promotion programs to increase export sales either directly or indirectly suggests that export promotion programs are not a sufficient factor in enhancing a firm's export performance.

As the presented literature illustrates, there is a performance inefficiency relating to export promotion programs. Crick and Czinkota (1995) point out that with the limited funds available in government support programs, policy makers should be aware of the promotion programs firms require in order to satisfy the

needs of exporting firms and operate efficiently. Crick and Czinkota attest further to the need for promotion programs to increase export activities rather than just to concentrate on the issue of the firms' profitability. The authors also specify that export promotion must be seen as offering the latest approaches and the most recent tools to bring efficiency and effectiveness to an important component of government policy.

Firm Level Effectiveness of Export Promotion Programs

There is no denying that export performance is an integral part of an effective firm operating in today's global economy. Hatemi-J and Irandoust (2001) explain that export growth can lead to higher productivity growth as a result of greater capacity utilization. Ayal and Hirsch (1982) find that export performance is positively correlated with market share, market size, technical sophistication of products, and an intensive market growth rate. Myers and Harvey (2001) state that as the competitive pressure to expand globally increases, the survival of firms becomes a function of their ability to cope with the high levels of complexity and the need to coordinate marketing strategies across national boundaries. Shurchuluu (2002) propose a formula that explains how export performance affects the competitiveness and profitability of a firm.

$$\text{Competitive Assets} \times \text{Competitive Processes} = \text{World Competitiveness}$$

The authors explain that export performance is a function of domestic performance and explain that competitive assets include existing infrastructure, available financial resources, technological sophistication, and human capital. The competitive processes refer to the firm's quality, speed, adaptability, and service offering relative to the product. It is stated that proficiency in each of these areas within domestic operations will equate to world competitiveness in the export market by bringing an increase in market share, profit, growth, and long term sustainability of the firm. Czinkota (2002) explains that exports offer the opportunity for economies of scale and can lead to lower costs and higher profits, not only in the domestic market, but abroad in export ventures. In the same study, support for exporting is provided by indicating that exporting provides market diversification and provides stability by not making a firm overly dependent on any particular market. Exporting lets the firm learn from the competition, makes it sensitive to different demand structures, and makes its managers appreciate and cope with diverse cultural environments.

In this section, literature will be presented that deals with the need and impact of export promotion programs on the firms ability to realize exporting success, and ultimately result in high levels of export performance. The literature presented is based on the firm's need for these promotion programs and how a firm measures export performance.

What is Export Performance?

Throughout the literature on export performance there has remained an inherent difficulty with developing a universally accepted definition of export performance. Walters and Samiee (1990) conclude in their study that universally valid prescriptions of success, meaning export performance, are unlikely to be found. Providing a reason for this concern, Cavusgil and Zou (1994) add that the complexity and difficulty of assessing export performance is further revealed by the diversity of approaches and measures employed in both conceptual and empirical research of this topic. Accepting that there is no single definition for export performance, a review of the main authors in the export performance literature provides this study with an array of definitions and methods of measuring export performance. Most notably is the interchangeability of the terms export success and export performance. The definitions and measurement techniques will be explored in the following sections.

In some of the most dated literature on this topic. Ayal and Hirsch (1982) put forward that market share, market size, technical sophistication in the product class, and market growth rate are positively correlated with export success. In addition, their research study found that relative product quality did not appear to contribute significantly to export success.

Richey and Myers (2001) determine that performance is measured by the extent to which the firm's specific objectives, with respect to the export venture, are achieved. This finding indicates the complexity

of defining export performance as performance is not entirely based on ROI or profitability, as in the case in many other measurements of performance. Akyol and Akehurst (2003) concluded that export sales and export growth are the objective measures of performance. Adding to a study they had conducted previously, Akyol and Akehurst also found that export performance of firms could be assessed using five dimensions; export sales, export growth, satisfaction with export operations, competitive performance, and overall export performance.

Export performance can be defined as the effectiveness of a country or industries in a country in exporting goods and services to international markets (Mohapatra, 2022). Cavusgil and Zou (1994, p.3) define export performance “as a strategic response by management to the interplay of internal and external forces.” Liu and Shu (2003) took an attempt at defining export performance in their research study and asserted that the determinants of export performance are foreign direct investment (FDI), firm size, labour costs, and R&D. Rather than adding a new method of measurement to the existing mound, Spence (2003) reviewed the literature in an effort to establish a general method of measurement and concluded that the most common measures of export performance used in academic studies have been exports as a proportion of sales, export profitability, and growth in export sales. Ogunmokun and Ng (2004) support the findings of Spence by stating that traditionally export performance has been measured by a single variable, namely export sales as a percent of total corporate sales, called export intensity. The authors further their conclusions by stating that the reliance on export intensity alone to measure export performance has been criticized.

Need for Research

As depicted in the preceding literature, both export promotion programs and export performance lack a universally accepted definition. There is however a universally supported claim to the need for additional research on both of these topics in hopes of establishing a common set of definitions and methods of measurement.

Leading the plea for additional research is Gemunden (1991) who suggests that there are over 700 explanatory variables that have been advanced in the literature as determinants of export performance. In previous sections, the research has shown that these variables could include firm size, market share, knowledge base, incentives, etc. It is therefore imperative that researchers begin to test the significance of these explanatory variables in order to identify the most important variables effecting export performance. Similarly, Dahooie et al. (2020) determine export performance through 15 criteria grouped into economics, strategic and other dimensions. The study regards strategic dimension as top most important dimension for enhancing export performance.

Calheiros-Lobo et al. (2023) identified several gaps in export promotion research while reviewing the contemporary literature. These gaps include; focus on services, a lack of longitudinal studies, network theory application, disruptive technologies and theory integration.

Calof (1994), using a Canadian database of 14,072 Canadian manufacturers, finds that the results highlighted the importance of other variables beyond firm size in determining the export performance. This finding contributed to the knowledge base by establishing a significance level for a particular variable believed to impact export performance. However, there was still a need to identify the other variables and their respective significance levels.

Crick and Czinkota (1995) conducted a study investigating the impact of export promotion programs on export performance and make the conclusion that “...the concentration on schemes already available does not consider whether the support is actually of need to exporters in order to meet customers’ needs.” The authors’ findings show that assistance such as subsidies and credits and insurance may increase the likelihood of profitability and reduce risks for exporters, and are actually desired by them. However, Crick and Czinkota argue that what is more important though is the need for assistance to increase export activities rather than just to concentrate on the issue of the firms’ profitability. This supports the finding presented in earlier sections which indicate the ambiguity of the term export performance and how export performance should be measured. In a similar study, Gencturk and Kotabe (2001) conclude that “The results of this study strongly support the assertion that government export promotion programs in general, and their

performance implication in particular, represent an important topic necessitating further theory development and empirical research.” Adding that there is a need for further refinement of the dimensions of export performance.

Li and Lakzi (2022) introduce a novel framework involving information technology (IT) based tools. They examine the role of extensive data from data warehouses and business intelligence (BI) tools in enhancing export competition efficiency. They found that IT-based systems like BI have positive impact on export competition efficiency.

Several other studies have also highlighted the gaps in the research concerning the impact of export promotion programs on export performance. These include; Comi and Resmini (2020), Malca et al. (2020), Artemenko and Titova (2022) and Traiyarach and Banjongprasert (2022), among others. These studies lay emphasis on the importance of comprehensive analyses of the relation between export promotion programs and export performance and recommend an over-arching approach to study this relation.

Moreover, in their research, Dhanaraj and Beamish (2003) indicate that many scholars have found there to be deficiencies with existing research studies on export performance and export promotion programs. The first of such deficiency is that most of the studies lack sound theoretical frameworks (Germunden 1991), relying largely on empirical relationships. Dahooie et al. (2020) also pointed out the lack of a comprehensive framework in the export performance studies. The second deficiency is that the emphasis of most studies has been on the decision to export rather than on the ongoing export strategy and its relationship to overall firm performance (Cavusgil and Zou 1994). Third, the studies have attempted to explain export behaviour and performance, ignoring the relationship among the explanatory variables. Lastly, the majority of studies have focused on firms within a single country (or state).

Noting the importance of comparative or multi-regional studies, Dhanaraj and Beamish (2003) suggest the research of Dichtl et al. (1990) who puts forward the understanding that comparative studies can provide data on differences in exporting practices across countries as well as can enhance the external validity of the model. Supporting this theory Beamish, Craig, and McLellan (1993) indicate that this particularly becomes useful when country differences are related to performance. Suggesting that variables which are country specific may affect export performance and must be factored into research methodology. Following the findings of Dichtl et al. (1990) and Cavusgil and Zou (1994), Akyol and Akehurst (2003) state that many previous studies have been conducted in a single-country context. Few were conducted in multiple countries.

Spence (2003) reiterates the need for comparative studies and adds that the perception of export success would significantly differ across export destinations, thus supporting the need for multi-regional, comparative studies. In addition, the view that the definition of export success would differ across destinations also supports the statements made in the literature in search of a universally acceptable definition of export performance.

Comparative analysis may reveal best practices and successful practices regarding export promotion (Belov, 2023). It may also help in determining a country’s competitiveness on the global stage which can point out the areas of improvement (Stratan and Fala, 2022). Comparative analysis of countries may also provide insights into market positioning along with growth potential through analyzing trends in export dynamics (Pirimova, 2020). Moreover, comparative analysis may assist in identifying effective strategies for not only export performance improvement but also enhancing tax revenue generation on account of export product diversification (Gnangnon, 2020).

Contrary to most research findings pertaining to comparative studies on the issue of export performance and export promotion programs, Madsen (1987) articulates that the fact that data has been collected in different countries actually reduces the comparability of the studies. He states that their findings can only be compared under the assumption that firms in different countries operate under fairly similar general export conditions. Madsen concludes that variables such as industry structure, domestic market size, government support, and several other factors are different from country to country and therefore limits the comparability of the data used in collective studies. Although this conclusion is uncommon in the literature, the methodology section of this study will address the concerns of data integrity and the means of overcoming the comparability concerns proposed by Madsen.

Budiarto and Pratito (2022) highlighted the fragmented approaches in analyzing the determinants of export performance among different countries. It may fail to provide accurate comparison. Inconsistent measurement of factors impacting export performance in different countries may also lead to inaccurate findings (Trapczynski et al., 2021). Furthermore, export performance measurement across countries may lack homogeneity in their analyses and construct measurement. Differences in export strategies, business models and varied foreign partners may further affect the results of a comparative analysis across countries (Emami, 2013).

METHODOLOGY

Research Intent

Based on the literature, it is evident that the necessity of exports success by both a firm and a government are justified. The literature supports the notion that export promotion programs are an effective means of achieving higher levels of export success. This is shown by the study conducted by Akyol and Akehurst (2003) who found that for a 1 percent increase in the coordinating mechanism, export sales increase by about 5.5 percent. Based on the supporting literature, it can be inferred that export promotion programs are in fact a coordinating mechanism, thus can significantly effect export performance.

The existing research studying the relationship between export promotion programs and their effect on export performance has not adequately concluded to what degree of significance export promotion programs have on export performance, merely that there is a relationship. Gencturk and Kotabe (2001) indicate that because virtually nothing is known about the relationships among knowledge utilization and organizational performance, little can be said conclusively about the effect of export assistance usage on export performance. As a result of this finding, the question and purpose of this research study is to determine: Do government expenditures on export promotion programs positively effect export performance?

In a recent study, Spence (2003) indicated that when taxpayers' money is at stake, the efficient use of funds should be investigated with quantitative measures. Providing the rationale that quantitative measures provide hard data on which to base rational decisions. Using a quantitative approach, this study will aim to provide the level of significance each of these variables has on each other in hopes of identifying inefficiencies with government spending and untapped export potential. The parameters of this research study are further outlined in the Methodology section of this study. The review of literature will provide a thorough understanding of the efficiencies and inefficiencies pertaining to export promotion programs and export performance, with the literature presented based on its effect of the two parties involved, the government and the firm.

Hypotheses

Many authors have put forward there findings which support the positive effect that export promotion program expenditures have on export performance. Such findings include that of Rosson et al. (1986) who indicate that export promotion programs were found to boost the export sales of apples and tobacco in the U.S. In the same study their results showed that export revenues of \$30 to \$60 were generated per dollar of promotion program expenditures. Armah and Epperson (1997) estimated the export demand for US frozen concentrated orange juice for various countries. Their findings confirmed that the gross rates of return per dollar on promotion program expenditures were estimated to range from \$7 to nearly \$52. Pointon (1978) concludes in his study, that the use of export promotion programs had positive effects on the export performance of the firm. Nearly two decades later, Akyol and Akehurst (2003) found result similar to those of Rosson et al. (1986) and Armah and Epperson (1997) when their study revealed that for a 1 percent increase of the export promotion program expenditures, export sales increase by about 5.5 percent. Mota et al. (2021) explored the impact of export promotion programs on export performance among Portuguese firms. They found that these programs positively influence export performance. It has been suggested by many researchers that the use of export promotion programs is an important determinant of a firms' export performance, which concludes that export promotion program usage can influence export performance

directly (Gencturk and Kotabe 2001). Based on the literature, there appears to be a positive relationship between export promotion program expenditures and export performance. Therefore, it can be hypothesized that:

H₁: Canadian government expenditures on export promotion are positively related to Canadian export performance.

Onunkwo and Epperson (2000) find in their exploratory study that the export promotion programs in the U.S. have been valuable to the growth of the U.S. agricultural export market. Spence (2003) indicates the need for comparative studies and adds that the perception of export performance would significantly differ across export destinations, thus supporting the need for multi-country, comparative studies. Comparative studies can provide data on differences in exporting practices across countries (Dhanaraj and Beamish 2003). These findings lend themselves to the need for this study to hypothesize that:

H₂: U.S. government expenditures on export promotion are positively related to U.S. export performance.

With the results of Akyol and Akehurst (2003) study concluding that a 1 percent increase of the export promotion program expenditures can increase export sales by about 5.5 percent, it is imperative to identify if this relationship is significant, and if so to what degree. Appreciating the value of comparative studies, it is also necessary to understand the significance of this relationship relative to other countries. It is therefore hypothesized that:

H₃: Government export promotion expenditures, in dollars, are significantly related to export performance, in dollars.

The purpose of this hypothesis is to identify to what level of significance export promotion programs have on export performance, relative to other influential factors that may affect export performance.

Data Collection

The data collection process was a long and complex endeavor that required the use of a large variety of research tools. The data requirements were broken into two stages to reflect the two variables in the study. The first stage of research included identifying the total export sales numbers for both Canada and the United States. The second stage of the research, by far the most difficult, was to identify the total expenditures on export promotion programs for the same countries. The difficulty in accomplishing stage two was not entirely in identifying the required data; it was primarily in identifying where to look for the data. Initially it had appeared that the data would be readily available, however, as asserted by a research librarian at the Canadian Department of Foreign Affairs and International Trade office, “The difficulty in obtaining the figures for total trade promotion expenditures rests in the way you define trade promotion.”

The total for export sales by country were easily identifiable and are published in many sources. Each government in the study has historical export sales totals available and offers them at a nominal charge. The inherent problems with using the data published by each government include the way each government defines total export sales from year to year and the appearance of over inflated statistical results. As a result of this notion, an unbiased third party source was used. The “Statistical Yearbook”, an annual United Nations publication, offers a number of country level and government level statistics, including the total export sales by country. This publication was used as the source for Canadian and U.S. total export sales data.

Sources of Data

The Department of Foreign Affairs and International Trade (DFAIT) is the governmental entity responsible for international trade and development. The DFAIT website provided performance reports that included annuals budgets and expenditures data for the department. International Business Development

(IBD), a business unit within DFAIT, is responsible for developing international export business opportunities for Canadian firms. IBD's total annual expenditures, published in the performance reports, was used as the data to conduct this research study. Each of the Canadian export promotion expenditures data points were collected using the DFAIT performance reports published annually by the department.

The department responsible for export promotion programs in the U.S. was much easier to identify, compared to the discovery of the Canadian counterpart. The difficulty in collecting the data is the U.S. was that, according to the U.S. Treasury, departments are only able to offer data from the previous five years. The U.S. Department of Commerce (DOC) publishes annual performance and accountability reports similar to that of DFAIT. Listed as a department under the jurisdiction of the DOC, the International Trade Administration (ITA) is the entity responsible for the design, execution, and expenditures of export promotion programs. Gencturk and Kotabe (2001) explain that the ITA promotes export partnerships through the development of export promotion programs. Using online performance reports provided by the DOC, the annual expenditures for the ITA were gathered. As a result of the five year publication limit imposed by the U.S. Treasury, it was necessary that archived data be retrieved for the data older than five years.

Using data published by governments and the United Nations it can be concluded that the data gathered is consistent and reflective and can therefore be reliably used to answer to stated research question.

Statistical Approach

Linear regression attempts to explain the correlation of variables in order to make predictions about a single value. Simple linear regression involves discovering the equation for a line that most nearly fits a given set of data, and then the linear equation is then used to predict values for the data. Correlation describes the strength, or degree, of linear relationship. It specifies to what extent the two variables behave alike or vary together.

The purpose of this study is to evaluate the relationship between two variables, export promotion program expenditures and total export sales. The intent is to show the association of the two variables and conclude to what degree of significance each variable is related. Based on the statistical requirements of this study to answer the research question, linear regression is the best quantitative statistical analysis technique to use. Spence (2003) proposes that quantitative analysis should be used whenever taxpayers' money is at stake; because quantitative measures provide hard data on which to base rational decisions.

The two variables to be examined in this research are export promotion program expenditures and total export sales. What the literature, and thus the hypotheses, suggest is that export promotion program expenditures effect total export sales. In this examination, the dependent variable will be total export sales and the independent variable will be export promotion program expenditures.

The data range selected for this study includes export promotion program expenditures for Canada and the US from 1993-2002, and total export sales for Canada and the U.S from 1993- 2002. The specific data used in this analysis is presented in Appendix 1.1 – Data Set: Raw Data. This data set provides twenty data points per country, for a total of 40 data points. This number is large enough to effectively use a linear regression analysis to conduct the objective of this research study.

In the data analysis section, the analysis of data will be presented into two sections. These sections serve two purposes; (1) to present the data in a way that most effectively enables the hypotheses to be explained; and (2) to present the data in a way that depicts year to year, dollar to dollar analysis for each country as well as the year to year changes in the total dollar expenditure. In section one, the analysis of country by country data will be presented and this includes the results of the Canadian data analysis, from 1993-2002 and the results of the U.S. data analysis from 1993-2002. The purpose of section 1 is to investigate the relationship between total expenditures on export promotion and export performance for each respective country. The outcomes of the section one data analysis will serve to explain H_1 and H_2 . In section 2, the changes in year to year expenditures and export performance will be investigated. In each format a constant variable will be used to help explain H_3 . Further explanation of the constant variable and its purpose is provided.

ANALYSIS

As described in the methodology section, the data analysis will be presented in two parts. The first section shows the result of the linear regressions performed on the Canadian and U.S. data. The independent variable in this analysis is the total expenditures on export promotion programs in each year of the study. The dependent variable is therefore the total export sales for Canada, and for the U.S. in each year of study. The second section presents the findings from the regressions that investigated the relationship of these variables using year to year changes in dollar amount. There is also regression analysis presented for the both countries' data combined to provide support of H_3 .

It is believed that a country's expenditures on export promotion may not affect the total export performance in the year in which the expenditure took place. The assumption is made that expenditures in year 1 would likely affect the export performance realized in year 2. As a result of this assumption, section 1 will present regression analysis for Canada and the U.S. using matched, year to year data, and also data with a one year lag.

Section One

Canada

The results of the regression indicate that Canadian export promotion program expenditures are statistically significant at 5 percent to Canadian export performance and support H_1 which states that:

H₁: Canadian government expenditures on export promotion are positively related to export performance.

Using a one year lag, it is believed that the total Canadian expenditures on export promotion programs would not actually impact the results of total Canadian export sales for the year in which they were expended. It is believed that the expenditures in Year 1 facilitated the export sales in Year 2. As a result of this assumption, a regression of the Canadian data was run using a lag of one year. The hypothesis, H_1 , still holds its relevance to this analysis. The results of the regression indicate that Canadian export promotion program expenditures with a one year lag are statistically significant at 5 percent to Canadian export performance.

The following comparison table (see Table 1) shows the results of the Canadian regression and the Canadian regression with a one year lag. The results of the two regressions performed here indicate that there is a significant, positive relationship between the level of Canadian government export promotion program expenditures and Canada's export performance.

TABLE 1
REGRESSION RESULTS, CANADIAN EXPENDITURES TO EXPORT PERFORMANCE

| Regression Data | R Square | F | Constant (B) | Independent (B) | t | Significance |
|-----------------|----------|-------|--------------|-----------------|-------|--------------|
| Canada | .439 | 6.250 | 360223.3 | 2813.879 | 2.500 | .037 |
| Canada with lag | .466 | 6.120 | 285429.7 | 2579.112 | 2.474 | .043 |

United States

The results of the regression indicate that U.S. export promotion program expenditures are not statistically significant at 5 percent to U.S. export performance. The results support H_2 which states that:

H₂: U.S. government expenditures on export promotion are positively related to export performance.

The expectation is that the total U.S. expenditures on export promotion programs would not actually impact the results of total U.S. export sales for the year that they were expended. It is believed that the expenditures in Year 1 facilitated the export sales in Year 2, similar to Canada. As a result of this assumption, a regression of the U.S. data was run using a lag of one year.

The results of the regression indicate that U.S. export promotion program expenditures with a one year lag are not statistically significant to U.S. export performance.

The following comparison table (see Table 2) shows the results of the Canadian regression and the Canadian regression with a one year lag.

TABLE 2
REGRESSION RESULTS, UNITED STATES EXPENDITURES TO EXPORT PERFORMANCE

| Regression Data | R Square | F | Constant (B) | Independent (B) | t | Significance |
|-----------------|----------|-------|--------------|-----------------|-------|--------------|
| U.S. | .324 | 3.831 | -246104.4 | 2689.113 | 1.957 | .086 |
| U.S. with lag | .336 | 3.544 | -371492.6 | 3175.417 | 1.883 | .102 |

The results show that the effect of U.S. export promotion program expenditures on U.S. total export sales is not statistically significant at 5 percent, in addition, regressing the same data using a lag also shows that the effect of U.S export promotion program expenditures on U.S. total export sales is not statistically significant at 5 percent.

Section Two

Year to Year Impact with Constant

The second section will present the findings (see Table 3) from the regressions that investigated the relationship of these variables using year to year changes in dollar amounts, as well as percent changes. There is also regression analysis presented for the both country's combined data to provide support of H₃.

TABLE 3
REGRESSION RESULTS, YEAR TO YEAR IMPACT WITH CONSTANT CANADA — UNITED STATES

| Regression Data | R Square | F | Constant (B) | Independent (B) | t | Significance |
|--------------------------------|----------|-------|--------------|-----------------|--------|--------------|
| Canada \$ change with constant | .013 | .090 | 22643.030 | 127.591 | .300 | .773 |
| U.S. \$ change with constant | .453 | 5.791 | 46500.340 | -2820.806 | -2.406 | .047 |
| Both \$ change with constant | .046 | .768 | 26995.291 | -455.543 | -.876 | .394 |

H₃: *Government export promotion expenditures, in dollars, are a significantly related to export performance, in dollars.*

The purpose of this hypothesis is to identify to what level of significance export promotion programs have on export performance, relative to other influential factors that may affect export performance.

The data presented in this section investigates the year to year changes in total dollars of export promotion program expenditures and export performance. The following regressions were run using a constant variable. A constant variable is used in order to determine not only whether expenditures on export promotion significantly effected export performance, but to what extent expenditures on export promotion affected export performance relative to other variables that may affect export performance.

Year to Year Impact without Constant

Provided here are the regression results for the total dollar change in year to year dollar values individually and for both countries' combined expenditures on export promotion and total dollar change in year to year dollar values of both countries' combined total export sales. These results were calculated without the use of a constant (see Table 4).

TABLE 4
REGRESSION RESULTS, YEAR TO YEAR IMPACT WITHOUT CONSTANT CANADA — UNITED STATES

| Regression Data | R Square | F | Constant (B) | Independent (B) | t | Significance |
|-----------------------------------|----------|------|--------------|-----------------|-------|--------------|
| Canada \$ change without constant | .047 | .392 | | 334.047 | .626 | .549 |
| US \$ change without constant | .038 | .312 | | -765.992 | -.559 | .592 |
| Both \$ change without constant | .000 | .005 | | 41.973 | .071 | .944 |

The value of zero for the R Square is because for regression through the origin (the no- intercept model), R square measures the proportion of the variability in the dependent variable about the origin explained by regression. This cannot be compared to R Square for models which include an intercept.

CONCLUSION

The results of the data analysis section concluded that some case, particularly in Canada, there was a significant positive relationship between export promotion program expenditures and export performance. The real difficulty with drawing these conclusions was not so much the data analysis, but the difficulty identifying and defining the variables. All too often the literature proposed different meanings of the terms export promotion and export performance. This somewhat prohibitive factor necessitated the need for a lengthy piece of this study to focus solely on defining the terms. The introduction provided a great deal of literary findings, each with their own interpretation of how the terms should be defined, however, there were a number of articles that were found to have similar definitions to each other and in line with the needs of this research.

The literature suggests overall that the importance of exports and export performance are recognized for their relationship to a country's economic prosperity and a firm's profitability. There was nothing but positive contribution toward the importance of export to a governing body and a firm as export are attributed to the benefit of market diversification. Exports provide stability by to governments and firms by not making them overly dependent on any particular market or source of revenue. This understanding was generally consisted across the literature, coupled with the notion that export promotion programs increase the level of export performance realized not only by government in the form of GDP, but as well as a means to increase performance, profitability, and competitiveness of firms. The relationship had been established that export performance was necessary and desired and export promotion programs were believed to be a way of facilitating export growth.

Seringhaus (1986) offers one of the most influential and widely supported definitions of export promotion. He asserts that export promotion refers to all public policy measures that enhance the exporting activity of a firm, industry or government. Using this definition as a foundation, the key articles on this topic began to gravitate towards the understanding that export promotion programs refer to all public measures designed to assist firms' exporting activity. Seringhaus indicates that export promotion programs are needed because they are designed to motivate firms into export action and to stimulate the export process. As the key authors began to notice the potential relationship between export promotion programs and export performance, challenges started to appear in the literature concerning how export performance should be defined, and until it was defined, the relationship could not be tested definitively. Walters and Samiee (1990) conclude that a universally valid meaning of export performance is unlikely to be found. This support for this claim was published by Cavusgil and Zou (1994) who suggested that the complexity and difficulty of assessing export performance is evident in the diversity of approaches and measures employed in both conceptual and empirical research of this topic, meaning simply that as a result of all the existing research studies not adopting a common definition of the terms, export promotion programs and export performance, it was unlikely that they would ever do so. This notion is challenged by Richey and Myers (2001) who advocate that performance is measured by the extent to which the firm's specific export objectives are achieved by their export ventures.

The literature review presented articles that mainly focused on relational data and variables. In particular, the majority of the researched assessed the effect of export promotion programs and expenditures on the effectiveness of a government and the firm. In the pursuit of efficiency and effectiveness within the realm of export promotion program expenditures and export performance, there were a few key articles and authors worth noting. Their contributions to the outcomes of this research study have been pivotal. A significant contributor to the research on the effects of export promotion and export performance on a government, Czinkota (2002) proves that exports shape the public perception and the competitiveness of a nation and determine the level of imports that a country can afford. The authors add that exports are also seen as important to a government because they can affect currency values and fiscal and monetary policies. A reason why there is a strong support for the expenditures on export promotion programs is made evident by a nationwide study conducted by Coughlin and Cartwright (1987) who found that for every increase of \$1 in export promotion program expenditures was claimed to result in approximately \$432 increase in exports. Their final conclusion is however quite consequential, the authors state that their results show that export promotion programs as a whole, are neither overly rewarding nor a complete waste of resources. Although, it was conclusively found that the promotion programs had a higher effectiveness ratio with regular exporters and a low effectiveness ratio with non-exporters. Many researches suggest factors affecting the effectiveness or ineffectiveness of export promotion programs, although the most predominant variable is indicated to be a lack of awareness of export promotion programs. Reid (1984) found that just over half of the respondents in his study were aware of some form of government export promotion programs and only 18 percent had used any of the services. Hatemi-J and Irandoust (2001) add that countries that are successful in their export performance seem also to be successful in their productivity performance and vice versa.

The results of this study and all previous studies on the topic of export promotion expenditures and export performance are primarily applicable to two parties, the government and the firm. Many authors

have put forward their findings as to how export promotion and export performance are important factors in the profitability and sustainability of the firm. Ayal and Hirsch (1982) identify that export performance is positively correlated with market share, market size, technical sophistication of products, and an intensive market growth rate. This finding is opposed by that of Gencturk and Kotabe (2001) who indicate that the perceived inability of export promotion programs to increase export sales either directly or indirectly suggests that export promotion programs are not a sufficient factor in enhancing a firm's export performance. However, this is not a typical result in many studies. Czinkota (2002) explains that exports offer the opportunity for economies of scale and can lead to lower costs and higher profits, not only in the domestic market, but abroad in export ventures. As well, the use of export promotion programs has been shown to have positive effects on the export sales of the firm (Pointon 1978). Reid (1980) found that among the range of export promotion programs offered, those most favoured by exporters are programs which provide experiential knowledge about foreign countries. The belief is that export promotion programs may be necessary for firms to compete in international markets. It has been found however, that it is not sufficient, by itself, to cause this effect (Macintosh 1980).

Armah and Epperson (1997) found that the firm's gross rates of return per dollar range from \$7.00 to \$51.00 with the use of export promotion programs. This return is facilitated by the objective of export promotion programs, which is to act as an external resource for firms to gain knowledge and experience (Gencturk and Kotabe 2001). Halikias and Panayotopoulou (2003) find evidence to show that today exports are a critical activity and that activity is facilitated by government export promotion policies. This finding is not supported by that of Reich (1990) who notes that export promotion programs have failed the firms through its failure to reduce nontariff barriers. A widely supported claim is that a major predictor of the export performance of a firm rests in the strength of the commitment of managers to export, rather than any other factor external to the firm (Bauerschmidt et al. 1985).

All in all, there was enough of a disagreement among researchers to encourage future research studies to clarify the meaning of export promotion programs and export performance, either qualitatively or quantitatively. It was also widely encouraged that new research studies investigate other variables, aside from export promotion program expenditures, and their effect on export performance. According to Gemunden, (1991) there are over 700 explanatory variables that have been advanced in the literature as determinants of export performance. It is therefore imperative that researchers begin to test the significance of these explanatory variables in order to identify the most important variables effecting export performance. As a result of this vast number of potential variables needing to be studied, Trąpczyński et al. (2021) recommended the inclusion of the neglected variables in future studies to enhance the understanding of export performance resulting in more comprehensive empirical studies. Gencturk and Kotabe (2001) strongly assert that government export promotion programs in general, and their performance implication in particular, represent an important topic necessitating further theory development and empirical research.

The call for more research is, in some facets, based on the generally consensus that existing research is plagued by three main deficiencies. The first of such deficiency is that most of the studies lack sound theoretical frameworks (Gemunden 1991), relying largely on empirical relationships. The second deficiency is that the emphasis of most studies has been on the decision to export rather than on the ongoing export strategy and its relationship to overall firm performance (Cavusgil and Zou 1994). Third, the studies have attempted to explain export behaviour and performance, ignoring the relationship among the explanatory variables. Lastly, the majority of studies have focused on firms within a single country (or state).

Section 1 of the data analysis sought to explain the level of significance between export promotion program expenditures and export performance. A regression was completed using a ten year data set for Canada and the U.S. For Section 1 data, it was hypothesized that:

H₁: Canadian government expenditures on export promotion are positively related to export performance.

H₂: U.S. government expenditures on export promotion are positively related to export performance.

The Section 1 data analysis for H_1 shows that Canadian export promotion program expenditures are statistically significant at 5 percent to Canadian export performance. This was concluded with and without the use of a one-year lag. The conclusion is therefore that there is a significant, positive relationship between the level of Canadian government export promotion program expenditures and Canada's export performance. These results support the proposition of H_1 .

The Section 1 data analysis for H_2 shows that U.S. export promotion program expenditures are not statistically significant at 5 percent to U.S. export performance. However, running a regression with same data, using a one-year lag shows that the effect of U.S export promotion program expenditures on U.S. total export sales is not statistically significant at 5 percent. The results of this regression indicate that there is not a significant, positive relationship between the level of U.S. government export promotion program expenditures and U.S. export performance. These results do not support the proposition of H_2 .

Similar studies have found results comparable to those for H_2 . According to Le et al. (1997), U.S. export promotion programs had a positive and significant impact on exports in only one of the four countries they researched. Bauerschmidt et al. (1985) explains that a high value of the US dollar relative to foreign currencies is perceived to be an extremely important barrier to exporting.

Section 2 of the data analysis sought to explain the level of significance between export promotion program expenditures and export performance using the changes or differences in year to year values for both of the variables. Using annual dollar changes and annual percent changes, a regression analysis was performed for Canada, U.S., and both countries' combined data. For Section 2 data, it was hypothesized that:

***H₃:** Government export promotion expenditures, in dollars, are a significantly related to export performance, in dollars*

The results of the Section 2 data analysis indicate that in all cases, the relationship between export promotion programs expenditures and export performance is not statistically significant. Each of the regression outputs indicated that they do not support the proposition of H_3 .

Noting the inefficiency of export promotion program indicated by the results in Section 2, Yang et al. (1992) suggest that one way to increase the success of export promotion programs is be to target resources more effectively toward nonexporting firms with high export potential. Gencturk and Kotabe (2001) argue that the realization of export sales entails several other interrelated activities, any of which can adversely affect the firm's prospects of achieving its sales objectives.

Limitations of Research

The most predominant limitation to the research was the lack of previous studies upon which to make a comparison of results. Although the literature presents a number of similar studies, this study is the first known study to direct compare or regress the total expenditures on export promotion programs with total export sales. This limitation is in some forms prohibiting further conclusions to be made about the relationship and significance of the two variables.

Although the use of a quantitative approach is advised for this type of research, it has been found that quantitative measures of export performance may present a number of shortcomings. Export sales and growth in export sales reported in dollar values could be distorted by possible price inflations or deflation, or changes in exchange rates, which would make the cross- comparison or results difficult. Export profitability would also give an inaccurate view of export performance as firms might use varying accounting methods, which in turn affect their profitability figures (Spence 2003).

As with many studies, the results calculated are only relative to the data used in the study. As a result of using a sample size of ten years per country, the results are limited to such a short historical perspective of the relationship.

Additional Research

For the use of linear regression, the sample size used in this study is significant enough to infer conclusions and understand what is occurring in the relationship. However, testing the same hypotheses using a larger sample size would enable a researcher to better explain the significance of the relationship between the two variables in hopes of better understanding the variables effecting export performance.

Research studies such as Armah & Epperson (1997) and Rosson et al (1986) have shown that there are high rates of return from expenditures on export promotion. The findings of these research studies have been based on the profitability or return of a specific commodity such as tobacco or fruit. This study took an aggregate approach to the analysis of the variables and is believed to be the first of its kind to look at the total level of expenditures on export promotion and its relationship to total export performance. The significance of this research is that governments and firms are able to assess the potential profitability of exporting using the available promotion programs in their country. As a result, it is believed that further research is needed to solidify the findings of this study and should include a larger sample size for the countries used in this study, and as well as comparative studies with other G8 countries.

The value of comparative studies on export performance has been provided in great depth throughout this report. As such, comparative studies investigating the effect of export promotion program expenditures on export performance, in countries that are categorized by having similar economic conditions, will provide a significant contribution to the existing literature base.

Diamantopoulos et al. (1993) identifies that additional research attention is needed to expand the available empirical base on export promotion research. He asserts that this should be done through the conduct of cross-cultural studies. Gencturk and Kotabe (2001) add that there is a need for further refinement of the definition and dimensions of export performance.

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