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Governmental export promotion initiatives: awareness, participation, and perceived effectiveness among Swedish environmental technology firms

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Abstract

Some countries rely heavily on exports as an essential component of their economic competitiveness. With the current trends in economic globalization, promoting exports has become a common strategy to boost economic growth. Exports of environmental technologies represent a new window of opportunity for economic growth and a contribution to global sustainability. With this in mind, national governments have designed initiatives that promote exports within this sector. To address their objectives, governments provide initiatives to promote foreign commerce with their environmental technology sector. This article assesses the awareness, participation, and perceived effectiveness of such governmental initiatives to promote exports among Swedish environmental technology firms. An Internet survey was sent to 693 Swedish environmental technology companies, previously identified and classified, with a 25% response rate. The responses show a relatively high export orientation although a majority of the respondents claimed they were unaware of governmental initiatives that fit their particular export needs. The companies that did find appropriate governmental initiatives showed a high level of participation in such initiatives, but only a few of these participants could relate their participation to actual exports. The findings suggest there is a need to design support instruments based on the particular characteristics of the environmental technology sector rather than to offer generic solutions for such export promotion.

Keywords: Environmental technology, Technology diffusion, Market failures, Perceived effectiveness, Firm-level analysis

1. Introduction

In the wake of recent climate, energy, and economic challenges, politicians and academicians have focused on environmental sustainability (Čuček et al., 2012). It has become vital that sustainability transitions encompass long-term and far-reaching changes in technology, infrastructure, lifestyles, and institutions (Rennings, 2000). Although not sufficient, technological change is often regarded as an essential requirement in such societal transitions (del Río González, 2009). From this background, the term “environmental technology” has permeated many spheres of modern society. Such a term is used in many ways, but for this article, keeping in mind the context in which it was developed, we use the definition promulgated by the Swedish Ministry of the Environment (2005): “goods, systems, processes and services that offer clear environmental advantages in relation to existing or alternative solutions, seen from an ecocycle perspective”. The development and diffusion of environmental technologies present a three-fold promise: reduced environmental impacts, increased economic competitiveness, and increased social benefits (Chertow, 2000). Furthermore, transitioning into sustainability requires rapid global diffusion of environmentally relevant technologies.

Export provides one of the most common routes to enter international markets spurred by its greater structural and strategic flexibility compared to alternatives such as foreign direct investment and international aid (Leonidou et al., 2011). The market segment for environmental technologies is growing fast and has managed to confront crises (e.g., the 2008-2009 financial crisis) better than other well-established sectors (e.g., the oil and gas sector) (WWF, 2012). The market grew around 30% between 2008 and 2010 and the industries’ growth is a positive sign of a good outlook for the coming years (e.g., the wind industry grew at 100% per annum during this period) (idem). However, the dissemination of environmental technologies encounters several market-induced obstacles even when the demand is perceived higher in foreign than in domestic markets. These obstacles provide a strong rationale for governmental policies that encourage the development and diffusion of environmental technologies (Jaffe et al., 2005). Although several factors influence the international flow of technologies, export promotion is an opportunity for governments to influence the volumes and types of technologies their country exports (OECD, 1994). As a result, several governments support the export of environmental technologies through initiatives that can be categorised according to: *i*) target country or region; *ii*) environmental technology type; *iii*) alternative promotional service; *iv*) firm size; and *v*) firm stage in internationalisation (Kanda et al., 2012a).

As mentioned above, governments develop strategies to increase exports as some local markets can be relatively small and thus become saturated over time or when larger markets abroad have been identified. Sweden, for instance, has had around 50% of its annual GDP based on exports over the last ten years (USA around 10%; China around 30%; and Germany around 43%) (World Bank, 2012). In Sweden, the main exporting sectors historically have been machinery, electrical devices, telephone equipment, and paper and forestry products (Exportrådet, 2011). Although this continues to be the case, the Swedish government has identified the environmental technology sector as a potential sector for contributing to economic growth. This focus is based on the country’s international reputation in eco-innovation (e.g., the country is currently ranked third in the WWF’s Global Cleantech Innovation Index, behind Denmark and Israel) (WWF, 2012), the growing market segment for environmental technologies (expected to rival the oil and gas equipment sector by 2015 according to van der Slot and van den Berg (2012)), and the pressing global need for environmentally sound technologies.

However, Sweden has not enjoyed much commercial success from its eco-innovation, especially in international markets, compared to other top innovative countries (Swentec, 2008). Apart from exports from large energy companies, the contribution of other areas within the sector remains comparatively small, although it is believed to have great potential (e.g., waste management, wastewater treatment, and noise control) (SCB, 2011). Export within the environmental technology sector represented around 16% of the total sector's turnover in 2011 (SCB, 2013). Sweden is in a good position to promote its innovative technologies abroad, a strategy that will consolidate and enhance Sweden's global competitiveness while increasing its contribution to global environmental sustainability (Swentec, 2008).

Recognising these opportunities and challenges, the Swedish government has formulated and continues to formulate several initiatives to boost export from the environmental technology sector. The content of these initiatives are discussed in detail in Section 2 of this article. In line with the government's efforts to boost exports, policy makers need to understand how target companies respond to export determinants external to the firm, such as governmental export promotion initiatives. These types of assessments would highlight these companies' specific needs and obstacles when accessing governmental support. Such an understanding would provide useful feedback for governmental initiatives, provide an opportunity to evaluate and reformulate existing initiatives, and possibly influence the allocation of limited resources among initiatives to boost export of environmental technologies.

To provide such an insight, we analyse governmental export promotion initiatives among Swedish environmental technology firms. We discuss the awareness of governmental export promotion initiatives among environmental technology firms, the participation of firms in these initiatives, and their perceived effectiveness from their participation in these initiatives. We begin this analysis by examining how governments promote export of environmental technologies, including the theoretical underpinnings, and then discuss specific initiatives by the Swedish government that promote export of environmental technologies. Section 3 describes the method used to obtain information from companies, Section 4 presents and discusses the results, and Section 5 discusses policy implications and presents some questions for further research.

2. Promoting export of environmental technologies

If environmental technologies are to provide effective environmental protection, they need high market penetration and widespread geographic distribution (del Río González, 2009; Jänicke and Zieschank, 2008). However, when markets are unable to connect supply and demand for environmental technologies efficiently, governmental intervention is necessary to stimulate their development and diffusion (Jänicke and Zieschank, 2008). As a result, many governments intervene through a variety of initiatives that promote the export of environmental technology (Kanda et al., 2012a). Kanda et al. (2012a) provide a deeper discussion of how countries promote the exports of environmental technology.

Previous studies have focused on governmental programs that promote general exports from two major perspectives: the government's and the firms'. From the provider's perspective, studies have examined the formulation mechanisms, structure, delivery channels, and methods for evaluating the effectiveness of such programs (e.g., Lederman et al., 2010 and Leonidou et al., 2011). On the

receiver's side, the focus has been on awareness, participation, and effectiveness of such programs among firms (e.g., Kumcu et al., 1995).

Before we discuss in detail strategies employed by the Swedish government that promote exports of environmental technologies, we will use economic theory to understand the general underlining theoretical justifications for governmental interventions that intend to promote export. The economic justification for government involvement in export promotion is grounded on the theory of externalities and other market failures associated with export (Lederman et al., 2010). Market failures describe situations in which the free market fails to arrange production and/or consumption in such a way that the allocation of resources is efficient (Borooah, 2003). In foreign trade, there exists potential positive spill overs regarding gathering foreign market information related to consumer preferences, laws, regulations, business opportunities, etc. Private exporters by themselves would hesitate to undertake such market research knowing very well the costs involved and the possibility that their competitors could reap some benefits from their work and investments. Pace setters in export who make ground breaking investments to open foreign markets, establish contacts, develop distribution links, and undertake other costly investments that could be beneficial to their rivals also face a similar dilemma (Lederman et al., 2010). This potential spill-over is because information on such activities could be publicly available to competitors via grey or scientific literature among other sources. Another source of market failure in export is information asymmetry among market players (Beltzér and Zetterqvist, 2008). In such a situation, market players could be oblivious of or miscalculate the risks and possibilities associated with export. As a result, trade might suffer. The uncertainty introduced by the levels of political and economic risks associated with export has also been used as another justification for export credits and guarantees financed by the public sector (Lederman et al., 2010). In the face of such market failures, a government is concerned with the design and implementation of strategies that correct such irregularities and create a "level playing field" (European Commission, 2007).

Governmental export promotion initiatives in Sweden

The Swedish Trade Council (formerly called *Exportrådet*, but renamed "Business Sweden" in 2013) is officially responsible for export promotion in Sweden. With offices in about 60 countries, Business Sweden works closely with trade associations, embassies, consulates, and chambers of commerce around the world to promote Swedish exports. Business Sweden's activities connected with export promotion include promoting Sweden as an attractive business destination and organising trade fairs, seminars, and business trips to and from Sweden. In addition, Business Sweden provides export related coaching and training. Although this agency explicitly highlights environmental technology as one of their main focuses, the content of the initiatives offered to target firms broadly resemble export promotion offered to general exporters. Other governmental agencies – e.g., *Exportkreditnämnden* (EKN) and *AB Svensk Exportkredit* (SEK) – are officially responsible for export credits in Sweden. EKN insures both large and small companies and banks against the risk of non-payment in export transactions. EKN operates in export transactions in 140 countries in a network with other export credit and export promotion agencies in several of those countries. SEK provides financial solutions for Swedish exporters and end-customers of Swedish products and services, including loans in local currencies and contractual guarantees to both Swedish consumers and end-consumers. Other state agencies involved with the promotion of export worth mentioning are Swedfund, the Swedish Energy Agency, Vinnova, and the Knowledge Foundation.

In addition to the general export promotion initiatives mentioned above, there are governmental action plans targeted particularly at the environmental technology sector. In 2008, the Swedish Environmental Technology Council (Swentec) was tasked to develop a comprehensive strategy that would encourage continued governmental support for the environmental technology sector. In its final report (a collaborative effort between Swedish companies, universities, and state actors), it proposed 82 measures in five strategic areas. Export promotion strategies stipulated a need for more commercialisation of eco-innovations, new business models that respond to opportunities in different geographic markets, and a better coordination among export promoters and the initiatives they develop. Implementation measures included providing support channels that help companies find collaboration partners, enhancing the market analysis function of state actors and stimulating large companies to act as leaders in international markets so as to pull along smaller firms (Swentec, 2008). As a follow-up to this initial strategy, the Swedish government has developed an environmental technology strategy for the period 2011-2014. The new strategy builds on efforts to promote exports of Swedish environmental technology. It defined priorities regarding technology types (sustainable building, transport, energy, and water management) and promising target markets (e.g., Western Europe, North America, Brazil, Russia, India, and China). In total, the government will invest SEK 400 million in environmental technology development and diffusion over this period. Finally, the strategy outlines twelve proposed initiatives that boost the Swedish environmental technology sector. These initiatives include steps to intensify research and innovation, the facilitation of financing and business development at an early commercial stage, support and assistance with market start-ups in export markets for small and medium enterprises, and measures that improve coordination among government and other actors relevant for the development of the sector (The Swedish Government, 2011).

Other specialised governmental initiatives have been operating alongside the above-mentioned efforts. A brief description of these initiatives is given below. These initiatives are of particular interest to this study, because they are directly aimed at environmental technology exports and are representatives of the government's interest in this growing sector:

- **Symbiocity:** This program is organized by the Swedish Trade Council (now Business Sweden) and focuses on promoting abroad Swedish expertise within the area of sustainable urban development. It presents a holistic view on how cities can be made more sustainable by showing examples of waste management, wastewater treatment, renewable energy, sustainable transportation, and energy saving solutions implemented in Sweden.
- **Demomiljö:** This program is financed by the Swedish International Development Agency (SIDA) and administered by the Swedish Agency for Economic and Regional Growth (*Tillväxtverket*). The program objectives are to provide better living conditions for people in partner countries and to provide demonstration grounds for Swedish companies within the environmental technology sector.
- **Centec:** The Swedish Embassy Centre for Environmental Technology (Centec) started with financing from SIDA and has the objectives to improve living conditions in China and to spread holistic and component knowledge about environmental technology solutions, which should help Swedish firms gain access to the Chinese market.
- **SAGA:** The Swedish-American Green Alliance (SAGA) is a continuation of a previous agreement on renewable energies between Sweden and the United States of America. The

agreement has a wide scope, including cooperation in different areas such as sustainable urban development (for which Symbiocity is suggested as a contributing tool), sustainable transportation, and sustainable forestry.

3. Method

The empirical study was composed of two parts: database building and depuration and an Internet survey.

The first part consisted of the creation of a database using governmental and private information gathered from the different electronic sources (e.g., databases and webpages), contacts from academic and professional networks, industrial clusters, and environmental technology providers operating in Sweden. This information included data about each company's field (e.g., energy, air, and water), the area (e.g., energy efficiency, biofuels, and solar), products or services provided, location in Sweden, Website address and electronic contact information (if available). In total, the database consisted of 1020 records. However, some records were repeated as some companies belonged to two or more areas (e.g., a company producing equipment for biofuels production and chemical supplies for the production process could be recorded in two categories). Around 290 companies were eliminated for this reason or because they belonged to one of the following areas:

- Investment: Although investment companies included in the database explicitly expressed their interest in the environmental technology field, they do not directly participate in export activities.
- Public: There has been an on-going debate in Sweden about whether or not municipalities can export their technology, so these companies were omitted. By law, companies owned by municipalities are not allowed to risk public funds in foreign markets.
- Committees, marketing, and other: Some industrial associations have the task of promoting environmental technology exports but do not export, so they were not considered.

In addition, the Websites for 35 companies did not contain electronic contact information (i.e., they only had physical addresses or telephone numbers). The final list consisted of 693 companies.

The second part consisted of sending an Internet survey to these 693 companies. Both e-mail and pre-defined electronic contact forms were used. When information was available, the survey was sent to CEOs or managers; when not, it was sent to the general address provided by the company's Website. In any case, the invitation included the request to forward the survey to a person with the appropriate knowledge and involvement required to answer it. All participants remained anonymous. The survey was conducted during May 2012. The questionnaire was designed to be answered quickly (around five minutes) and was written in Swedish with the intention to reach a high response rate. The shortest path consisted of three questions, while the longest path consisted of six, all discussing the topic of exports and governmental export promotion initiatives. Two questions were open (i.e., free text) and all were obligatory except the last one, which was left for voluntary comments on the topic. More details about the questions can be found in the results section below.

Initially, many e-mails bounced, mainly due to out-dated contact information. In these cases, we updated the contact information and resent the e-mails. Other e-mails bounced because of automatic replies due to absence of the respondents. In some of these cases, another contact person was provided with the automatic reply. In the case of pre-defined forms, only a few companies replied with an automatic confirmation message of receipt. Even after updating the contact information and resending

e-mails that bounced, some e-mails kept bouncing. A shallow research on some of these companies led to the conclusion that they had been acquired by other companies or had gone bankrupt since the database was originally built. In an attempt to increase the response rate, two reminders were sent (two weeks apart) to all companies in the database. A total of 172 companies answered the survey (a response rate of approximately 25%).

The survey's results were analysed both through the survey tool (for the case of numeric data) and manually. Open-text responses were grouped in different categories. We registered how many companies mentioned one particular type of support program and whether or not they could relate it to successful business abroad. After the data were organized and figures computed, a group discussion took place to decide what and how information would be presented. A cross-referencing of the major findings was made. In some cases, this cross-referencing was done with previous similar studies to highlight similarities and differences and to put this study in context with earlier research.

4. Results and discussion

As has been presented in Section 2, the Swedish government has developed a variety of strategies to promote export of environmental technologies. However, the success of such governmental initiatives depends not only on how well they are designed and implemented but also on whether the targeted firms are aware of the initiatives and if so, whether they perceive them as adequate enough to participate in them. The perception of adequacy and awareness influences export behaviour (including the decision to access governmental support and engage in export) as well as potential success of target firms in foreign markets. Thus, governmental officials and academicians need a clear understanding into this sector's characteristics to promote effectively the global diffusion of environmental technologies. The survey results on the awareness, participation, and perceived effectiveness of governmental export promotion initiatives among firms are presented and discussed below.

The first survey question aimed at a better understanding of the current export activities of the different companies identified within the environmental technology sector. A total of 136 respondents (79%) indicated that they were currently exporting or thinking of exporting in the near future, and 17% of the respondents were not exporting or planning to do so. The remaining 4% were indecisive. The companies that did not intend to export their products/services expressed four main reasons: 1) they were newly established companies; 2) they had a local niche market; 3) their exports were not included in their business idea or were not their core business (e.g., they were suppliers to a larger company); and 4) they had limited capacity or limited resources (e.g., small companies, no financial resources, or lack of contacts). The high percentage of respondents interested in export activities (79%) gives an indication of the engagement of the survey participants in foreign markets. However, this high percentage does not indicate export volumes, export intensity, or revenues, which is what really interests the government and what its initiatives address. Rather, it gives a strong validation to the usefulness of the results as feedback about governmental initiatives targeted at export-oriented companies and export promotion.

On the other hand, out of the 693 companies that were surveyed, 521 (75%) of them did not respond to the survey even after two reminders. There are several possible explanations for this result:

- Out-dated contact information;

- A dynamic sector in which small actors are acquired by large actors (many times changing their original contact information);
- Inadequate formulation of the invitation e-mail's subject leading to the lack of interest in the survey. Since the subject was "survey about environmental technology export", non-exporting companies, also important for the study's aim, might have interpreted this as not of their concern (e.g., some companies stated "we do not export"); and
- Large companies might be more bureaucratic and filter incoming inquiries in a way that makes it difficult for this kind of invitations to make it through. Other companies might have an inefficient process for handling messages sent to the provided contacts or through their system (e.g., predesigned electronic forms).

Those companies that declined to answer the survey largely because of lack of interest in export activities represent an important target for governmental initiatives. Well-designed instruments might spark their interest in export promotion activities and make them aware of the benefits of governmental support and export activities. On the other hand, companies that might have an inadequate handling of their communication channels might need to improve the process, as several business orders and enquiries from interested foreign customers could be placed via e-mail and some companies could be missing out on potential export business opportunities (Kanda et al., 2012b).

The next two questions aimed at finding out about the awareness of governmental initiatives that could fit each company's export activities and interests and whether or not companies were taking advantage of these government programs. A large percentage (62%) of the export-oriented respondents (currently exporting or thinking of doing so in the near future) were unaware of governmental export promotion programs that could meet their particular export needs. There are several possible explanations for this lack of awareness. One could be that the programs do not reach their target audience due to ineffective communication channels. In some cases, even when they do reach them, they are not well received by target firms due to misunderstandings or because companies perceive that the programs do not address their specific needs. From another perspective, the sector could be highly diverse and too complex for the government to design suitable or customized support options for a large number of companies. Given the characteristics of the sector (i.e., SMEs dominated), variables such as communication channels and tailor-made support could be considered by the government to effectively support the environmental technology sector rather than lump support initiatives that intend to satisfy the specific needs of all kinds of exporters. The remaining 38% of export-oriented respondents identified programs that fit their needs, but a third of these decided not to participate. These companies identified four reasons for not participating: 1) they are difficult to access (e.g., inefficient, expensive, unclear benefits, and too bureaucratic for small companies); 2) the lack of resources (e.g., time and staff); 3) denied applications (e.g., financial support); and 4) they were planning to take part in the future. On the other hand, 69% of those companies that found suitable programs decided to take part in governmental programs. This percentage might be a sign that the entrepreneurs trust the governmental initiatives once they see clear and explicit benefits that are in line with their interests. Figure 1 summarizes the whole survey's results.

Figure 1: Graphical description of the survey's results.

However, company participation in governmental export promotion initiatives is not always considered as a catalyst for successful business abroad. Therefore, the last question aimed at discovering which governmental programs were chosen by companies and whether or not these companies experienced a direct link between such programs and successful business abroad. Of the export-oriented respondents participating in governmental programs, 32% could relate and 68% could not relate the initiatives in which they participated to a successful export business.

Several respondents participated in two or more programs, which makes it difficult to link success/failure to participation in one particular program. However, a trend was observed when the survey responses were analysed in detail. Many of the respondents who reported having participated in only one governmental program could not link it to successful business abroad, although those who had taken part in two or more programs reported better results (especially when financial support was included). This finding was also confirmed by Volpe Martincus and Carballo (2010) in their study about governmental export promotion initiatives in Colombia. They concluded that participation in bundled services results in better outcomes than participation in isolated assistance actions.

When analysing individual export promotion programs, we observed that most respondents who have participated in financial aid related programs appreciated this kind of support as a catalyst for their export business. This outcome, however, should be approached with some caution, especially by governmental officials. It should not be interpreted as a surety that financial aid initiatives lead to better export performance because some companies might use financial assistance to cover up internal deficiencies such as the lack of managerial experience in foreign markets, less competitive products and prices, and poor communication channels. In such instances, those firms could disengage from export activities once such governmental financial support is withdrawn. Such firm behaviour would not foster governmental objectives that trigger and sustain independent export interest at the firm level after some period of accessing governmental support. Firms and governmental officials must be aware that export success is also linked to the internal managerial and resource capabilities of the firms in attracting and capturing foreign business opportunities. It should also be mentioned that participation in financial aid related programs alone was not a guarantee for export success as was indicated by participants in information and education related programs.

Clearly, export-oriented companies appreciate financial support from export promotion initiatives. However, governmental initiatives should continue providing additional resources for the development of internal capabilities, such as managerial skills for internationalisation and the provision of useful information about markets, trends, actors, networks, and business opportunities, training for engagement in export activities, and foreign language skills development. All these activities are difficult for individual firms to undertake by themselves knowing very well the positive externalities involved in gathering such foreign market information and the cost of developing such competencies internally. The European Commission (2007) also mentions programs such as foreign market information provisions, education, and training as important for addressing the effects of market failures and externalities related to gathering information about export markets and other difficulties and risks associated with international business operations.

There are many possible explanations why some firms do not perceive their participation in governmental export promotion initiatives as yielding actual export business in foreign markets. This failure could be based on the content and scope of the export promotion initiative as such, the procedures for implementing the initiatives, and communication gaps between officials and target companies. On the other hand, target firms might simply not be mature enough to engage in export activities. Government officials need to understand the reasons for the negative perceptions and effectively tackle them to realise their objectives of boosting the export of environmental technologies. For example, the scope and content of governmental initiatives should move from static and lumped approaches to understanding and incorporating the dynamics of export needs among environmental technology firms. In particular, government officials could bear in mind that firms have different needs depending on their degree of international involvement, export experience, and firm size (Kumcu et al., 1995). Thus some level of customization in support initiatives based on these differences will be more effective in boosting exports than merely providing generic support for a typical exporter.

Based on the responses from the survey, it might be so that government officials must improve their communication efforts and explain in detail their export promotion initiatives to target firms so these firms can explore fully the available alternatives. The majority of participating companies in governmental initiatives could not relate the initiative to actual business in foreign markets. However, caution must be exercised when interpreting such results since many factors could influence export success. Moreover, studies that examine the influence of governmental initiatives tend to be inconclusive (Kumcu et al., 1995). For example, because 75% of potential survey respondents did not respond, the perceived effectiveness of participation in export promotion initiatives and actual business in foreign markets could vary based on the total number of respondents. Although understanding that many respondents show a high interest in foreign markets and claim to have participated in programs that satisfied their needs, the results regarding their negative perception of the effectiveness of their export promotion programs sends a strong signal to governmental officials. This negative perception should be taken seriously since it can hinder the likelihood of companies accessing governmental support and in effect the usefulness of governmental initiatives in actually boosting export of environmental technologies.

5. Concluding discussions

Swedish companies that responded to the survey showed a clear interest in participating in export activities. Importantly, the results identify challenges such as the need to reach those companies that claim that they have no knowledge about governmental export programs that fit their specific export

needs. For example, many export initiatives are lumped through regular export promotion agencies, a process that could confuse small companies in the sector that have very specific needs. As there are clear plans for the promotion of environmental technology (e.g., The Swedish Government, 2011), specialised agencies that promote environmental technology export could be discussed. These discussions could examine how governmental agencies develop export promotion strategies in order to address particular characteristics of the environmental technology sector and the specific needs of individual companies.

On the other hand, a deeper understanding of each type of governmental initiative and its effectiveness in actually promoting business abroad is needed to redefine current strategies and reach a wider audience. Further research could focus on finding reliable information that could lead to conclusions about the best combinations of governmental initiatives and ways of addressing different needs among the interested parties, especially the target companies. This approach could lead to better resource allocation by the government and better export performance.

For policy makers engaged in promoting environmental technology exports, this study provides information that could be useful. With respect to the characteristics of the sector (i.e., SME dominated), the companies mentioned typical obstacles faced by SMEs in exporting and/or accessing export-related governmental support. As mentioned earlier, these obstacles include the lack of skilled personnel, lack of time, and lack of financial resources needed to apply for and access governmental support. Noting that the environmental technology sector is dominated by SMEs, government initiatives should consider specially designed export promotion instruments for SMEs with simpler application procedures and quicker response times. Perhaps these moves could help targeted companies overcome reported barriers such as bureaucratic application processes, expensive procedures, and lack of time and human resources. Such customized export promotion could prove to be more effective than generic initiatives. The possibilities of such initiatives could be analysed in line with governmental budgetary allocation and the large number of firms in the sector.

In addition, a majority of the firms (75%) on the contacted list did not respond to the survey. As it has been discussed, the companies that did not respond might not be interested in export-related activities or chose not to participate in the survey for reasons not related to exports (e.g., no time available to respond or no interest in doing so). This group of non-respondent companies represent interesting targets for governmental export promotion initiatives in the future. It is important not only to consider the needs of current exporters but also to consider the needs of potential exporters. This approach will allow government initiatives to anticipate challenges and barriers to exporting and spark interest in export activities. The success of export promotion programs would also depend to some extent on the pool of companies engaged in export. That is, the larger their number, the higher the probability of realising export growth. This increase in numbers can be accomplished by providing information on the advantages of exporting, by offering training workshops that help companies understand the mechanisms of exporting, by sharing information and experience on business opportunities in foreign markets through networking, and by participation in trade missions. An important research question this paper raises is whether there is the need for specialised agencies that promote the export of environmental technologies and also whether such firms face any peculiar challenges in export compared to exporters of general goods.

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