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RESEARCH ARTICLE



The Effects of Timing and Order of Government Support Mechanisms for SME Exports

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Abstract

When small and medium-sized enterprises (SMEs) enter export markets, they face liabilities of smallness and foreignness. Their chances of success increase if they receive some support. Thus, many governments provide some export support for SMEs having realized that success in exports helps firm success and creates positive spillovers. We test the efficacy of three such support mechanisms: support for strategic export planning, support for trade fair participation and participation in ministerial visits and compare their relative results in various "time dimensions" (Jones & Coviello, J Int Bus Stud 36(3):284–303, 2005). Unlike past studies, we go beyond testing the effect of one support mechanism and compare the effect of the above different support mechanisms. We also show the importance of considering different dimensions of time - chronological "clock" time, "stopwatch" reference time, time sequence, and effect length time. We found evidence for the benefit of receiving multiple support mechanisms and we explored the sequence of receiving multiple support mechanisms. More specifically, our results suggest that exports are best facilitated by first receiving support to attend a trade fair, then developing an export plan; and then participating a ministerial visit abroad. Also, our study suggests that effect length is an important, previously ignored, dimension of time to consider. Empirically, hypotheses are tested on a longitudinal data set of Estonian SMEs receiving different types of government export support during 2009-2017. The data set was constructed from registry data covering the entire population of Estonian firms.

Keywords Government export assistance · Strategic export plan · Trade fair · Ministerial visit · Effect length · Time dimensions

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1 Introduction

The process of firm internationalization is a key foundation of International Business (IB). This is where IB adds value to society – by understanding firm growth in an international context and the strategies and instruments that enhance it. From time to time, academic journals publish empirical studies on government export support and its efficacy (e.g., Martincus & Carballo, 2010a; Wilkinson & Brouthers, 2000). The research question in many of these studies is "is government support for firm internationalization efficient?" and authors employ extensive datasets to support the conclusion. As with many phenomena, papers on the topic present mixed empirical findings. Thus, there is a need to explore the role of government support mechanisms for exports in a more nuanced way. This article shows that focusing on the role that different "dimensions of time" (Jones & Coviello, 2005) play can lead to a useful richer analysis.

The internationalization of small and medium-sized enterprises (SMEs) received little attention in the early days of IB theories, especially from a transition economy perspective. The same is even more true for exporting which is the most common way to expand internationally but which has received much less attention than other modes like foreign subsidiaries or joint ventures. However, with the advance of globalization, diminishing trade barriers and advances in information technology, conducting business abroad has become easier. In addition, policymakers have realized the important contribution SMEs can cumulatively create for providing employment and generating economic growth, so the internationalization strategies of SMEs have again emerged as an important topic of much interest to the general public, policy makers and IB scholars. Entering foreign countries is difficult for most foreign companies due to the liability of foreignness (Zaheer, 1995), which posits that any company that enters a foreign market is at a disadvantage. The challenges of expanding abroad are especially large for SMEs, which possess fewer resources than large companies and are thus doubly challenged also facing the liability of smallness (Paul et al., 2017). One of Paul et al.'s (2017) untested propositions suggested that SMEs should make use of institutional support, such as home government incentives, to create export success. The case for export promotion for the government emerges from the socio-economic benefits of outward orientation (Cavusgil & Yeoh, 1994). In much of the IB internationalization literature this role is mentioned only in passing, and is rarely explicitly included in models and systematically tested. This provides an important research opportunity.

There have been many studies about the effectiveness of a single home government support mechanism for internationalization. However, few studies compare the effects of several support measures to determine which works best and particularly how to best combine support measures in terms of sequence. This scarcity is unfortunate because rather than the general proposition that government incentives can help to increase foreign sales, SMEs, which often lack resources compared to large firms (Armario et al., 2008; Li et al., 2004), must decide which opportunities are most important to direct their limited resources towards. We focus on exporting, which is often the first mode of internationalization a firm uses (Johanson & Vahlne, internationalization.

1977) and the least committing mode of internationalization which comes with lower uncertainty and lower fixed costs (Helpman et al., 2004). Exporting is beneficial because it brings about external and internal benefits. Exporting is positively correlated with productivity, particularly labor productivity (Bernard & Jensen, 1995; García et al., 2012) and exporters pay higher wages (Schank et al., 2007). However, the benefits are not only due to potentially greater revenues that foreign markets offer but also the learning that takes place by observing and responding to competition in foreign markets which can spill over and result in innovation which can also benefit the home market (Blalock & Gertler, 2004; Salomon & Jin, 2008). The socio-economic benefits that exports generate in the home country nurture the interest of home governments to offer various types of support to firms endeavoring

Our research context – Estonia – is a small, open economy. However, it differs from other small, trade intensive countries, such as Ireland, Singapore, and New Zealand, as it was opened for international trade only in the 1990s. This means that its companies lacked exporting knowledge, experience and networks. In such a situation, capacity building activities are even more needed than in other countries with more export experience. However, at the same time in Estonia the government also had little experience offering such services. On the other hand, our setting is advantageous as in such a context, government support mechanisms do not carry path dependence – the support instruments can be designed based on the best international practice and there are no firms who expect to receive the support due to historical ties. In an open application procedure, such as in Estonia, one would expect a merit-based and unbiased recipient selection process. This likely has the potential to demonstrate better performance results for export support mechanisms than in countries where vested interests play a larger role.

The shift from a previously closed central trade system to the global market means that for the firm, by default, all potential export markets are more developed than the domestic market. Therefore, even more than it is common for SMEs, the first challenge of Estonian firms was to start exporting, and only later to expand their export geography. This also provides an advantage and makes our research context unique among other small and open economies, as we can assume a more similar starting position and mitigate the effects of previously established an international network to build their sales activities on or that the SME had superior products to start with when starting to export it. The purpose of this paper is to systematically explore if and how government assistance can advance the internationalization of SMEs. Specifically, we focus on firms that already export and delve further into the effect of government support on export intensity (export sales as a share of total sales) by studying the impact of each of the following government support mechanisms alone and in combination with another - (i) support to develop a comprehensive export plan, (ii) supported participation in trade fairs, (iii) participation in ministerial business delegation visits to a foreign country. Previous literature normally focuses on evaluating one support mechanism rather than comparing the efficiency of multiple support mechanisms. Our results will be presented in multiple time dimensions, and in a visual framework to distinguish between the different axes of dimensions, demonstrating the importance of considering applicable dimensions of time (e.g., chronological time, reference time, sequence time, and effect length time) in IB studies.

2 Literature Review

2.1 Concept of Time in Internationalization Literature

Traditional internationalization models (e.g., "Uppsala model" by Johanson & Vahlne, 1977) have discussed firm internationalization in stages. Even though the stages approach implies successiveness and therefore time, there is a lack of explicit acknowledgement of time in stage models (Jones & Coviello, 2005). Events are recognized when they mark change in stages (such as establishing the first subsidiary abroad), but otherwise the focus on states, which is rather stylized representation of the reality. Describing IB events is complicated as George and Jones (2000) discuss that the difference between incremental/evolutionary and discontinuous/revolutionary changes, is not phenomenon-specific, and can in different situations affect the same phenomenon differently (e.g., job stress in a regular situation or during layoffs). Empirical studies are normally time-linked, but the time dimension is usually commented on only descriptively, noting for example when the data was collected or the regularity of the data. Even if the authors suspected that the time frame may have an impact on the result, it is difficult to verify because frequent data collection is expensive (e.g., by surveys), often data cannot be collected post-hoc, and secondary data is often collected for reasons other than the research questions. Hurmerinta et al. (2016) caution that despite giving definitions and terminology to experienced changes to make time explicit, it would always remain an abstract and relational concept. In short, time matters, but to discuss academic research findings precisely, one needs to first specify which dimensions of time are being studied.

There are many ways in which to categorize time and a commonly-accepted typology of time aspects that are relevant to IB is far from established. In one such attempt, Jones and Coviello (2005, p. 290) identified several primary dimensions of time that may be relevant in studying internationalization: chronological time, reference time, time sequence, time periods, time duration, time intensity, cyclical dimension, gap time, and rate of internationalization. Not all of these will be integral to every research design, but it is important to consider which of the dimensions matter for a specific study. Hurmerinta et al. (2016) proposed conceiving time on horizontal and vertical axes. The former expresses the chronological time and the latter can be used to define the context and the events and actions in the cross-section of time.

In this article we will demonstrate that it is useful to consider different dimensions of time especially since results may be different for different dimensions of time. Specifically, we focus on chronological time, reference time, and time sequence (defined in the next paragraph) exploring the efficacy of different government support mechanisms aimed to increase exports on export intensity. As occurrences of government export assistance are independent year-linked binary events, other dimensions of time mentioned by Jones and Coviello (2005), such as duration



Fig. 1 Conceptual depiction of different dimensions of time

of the activity, time intensity, and cyclical dimension, are not applicable. However, we propose that their list is incomplete as we also show the importance of consciously discussing a fourth dimension of time called effect length time, which is a subsection of "reference time" but different in nuances. Effect length time measures the length of time that a change in dependent variable (e.g., export intensity) keeps changing in the intended direction as a result of a treatment occurring (e.g., a government support mechanism being used).

Building on Hurmerinta et al. (2016), we match chronological time to the x-axis, reference time to y-axis (effect length time is also depicted on the reference time y axis), and argue that time sequence represents a time-invariant z-axis. Figure 1 depicts what we mean by these three dimensions of time. Chronological time, which we call "clock time", is calendar time like 2009 or March 9, 2009. This is important for internationalization/exporting since macroeconomic and other external factors may affect export growth in a particular year like 2009 vs 2014. Reference time, which we call "stopwatch time" is not linked to a particular time in a calendar like 2009, but instead represents the time that one event happened after another. For example, this could be like the firm receiving an export support mechanism which could be called t₀. For one firm, t₀ might be in 2009, and for another firm, it might be in 2012. We might be interested in what happens to a firm's exports a year after the firm received export support whether that export support was received in 2009 or 2012. Time sequence is the order that different activities occur. For example, it may be that the order one uses different export support mechanisms like whether it is better to attend a trade conference and then develop an export strategy plan or the reverse matters. Time sequence lacks an explicit relationship to either chronological or reference time but as the events still occur in a clear order, we propose it belongs to the framework about time on a specific time-invariant z-axis. Furthermore, we believe that recognizing the existence of such z-axis is an important contribution to theories about time in IB, as the time-invariant sequence dimension also accommodates stage models, such as Uppsala model, in the time dimensions, as these have been criticized due to lack of explicit acknowledgement of time.

Prior studies of government assistance have only measured the change between two moments in time, either using chronological time or reference time. To our knowledge, there have been no studies comparing and contrasting multiple dimensions of time or studying the optimal time sequence of different types of export support. Given the utility we will show while studying export assistance, it is likely that simultaneously discussing multiple time dimensions would reveal interesting insights when studying other IB phenomena.

2.2 SMEs and Exporting

SMEs are the economic backbone of most countries. In the European Union, SMEs comprise 99.8% of all companies, they provide 66.6% of employment and generate 56.8% of the value added to the economy (European Commission, 2017). However, SMEs often lack the financial and human resources to engage in building extensive sales networks and production plants abroad (Dangayach & Deshmukh, 2001; Lee et al., 1998). For most SMEs to prosper and grow, especially if they are based in a small country, they need to engage in some form of international business and the simplest form to start with is exporting (Johanson & Vahlne, 1977). Entry into foreign markets involves uncertainty and costs. Compared to other entry modes, exporting is associated with lower uncertainty and lower fixed costs (usually more suitable for resource-constrained SMEs), while Foreign Direct Investment (FDI) implies higher uncertainty but lower variable costs (Helpman et al., 2004). Hence, exporting is a lower risk first action and a good first step to increase market demand knowledge. Not surprisingly, exporting is the most widespread internationalization activity for SMEs, for example, Conconi et al. (2016) study of a sample of Belgian SMEs from 1998 to 2008 found 58,738 cases of exporting entry but only 1,199 cases of FDI entry. The drive towards exporting has also been explained theoretically, such as by Melitz (2003) which suggests that in open economies, entry of foreign firms into the local market pushes down domestic profits and the least productive firms either exit or need to find export markets to compensate the decrease in domestic sales/profit.

Export sales and export intensity are indicators that inevitably change over time for any exporting firm. In economics, international trade is often explained by gravity models (De Benedictis & Taglioni, 2011), which state that both bilateral exports and investments are above all determined by the size of the economies and the distance between them. Lukas et al. (2007) among others have suggested that export growth is not a revolutionary process but instead is an evolutionary process, in which particular defining moments are difficult to identify. Many factors have been suggested to affect export growth and scholars have categorized them in different ways. Chetty and Hamilton's (1993) meta-analysis of firm-level determinants of export

growth found three categories of drivers: firm characteristics, firm competences and export strategy. According to them, the most frequently studied firm characteristics were: firm size, market commitment and profit likelihood; firm competence characteristics were: technology, market knowledge and export exploratory analysis; and export strategy items were market selection, product mix and pricing. All of these factors were found to have a positive effect on export performance with at least a medium effect size. Gao et al. (2010) found that similar factors apply to emerging market firms suggesting that export intensity was linked to the three components of the "strategy tripod" (firm competences, industry factors, institutional environments), as well as the control variables for firm size and foreign ownership. In addition, Louter et al. (1991) emphasized personal relations and showed in their Lisrel analysis that export contacts is one of the determinants of the export to sales ratio. However, it was not among Chetty and Hamilton's (1993) most frequently studied reasons. Vossen (1998) summarized the size effect of relative advantage. Large businesses have material advantages (economies of scale and scope, financial and technological resources) while the advantages of SMEs are mostly behavioral (entrepreneurial dynamism, efficiency and motivation).

2.3 Export Promotion Activities

In addition to time dimensions, this article examines whether government assistance should be given a more prominent stakeholder role in SME internationalization models. The benefits of export success for firms and the home government are quite well aligned, but interestingly this has not been highlighted much in the IB literature. An early attempt to map the exporting and export promotion activities at the local level was done in the US, and in particular, in Minnesota (Cavusgil & Czinkota, 1990). Paul et al. (2017) divided SME export barriers into two categories: internal (micro) and external (macro) barriers. On their schematic model, all government-related factors were placed under external barriers (e.g., lack of proper institutions, political instability). The internal barriers (e.g., selection of reliable distributors, lack of negotiating power, little understanding of market) appear to be organization-related. However, it is rather easy to picture situations where the government can assist in overcoming the internal barriers and become an opportunity facilitator, instead of a business threat. For example, Yakop and van Begeijk (2011) raise the issue of intangible barriers to trade: lack of trust, cultural differences and ineffective governance, and suggest that these can be addressed by business diplomacy activities, such as work by embassies and consulates. Love and Roper (2016, p. 36), described exports as a typical information asymmetry and quoted a UK ministry paper stating that government can act as a "trusted intermediary, bridging gaps in private-sector networks in ways that could not be done as effectively, if at all, by a commercial service provider". As foreign market entry is associated with higher risk and greater uncertainty, governments can facilitate exports by reducing the transaction cost of selling abroad (Cassey, 2014).

Seringhaus (1986) defined three roles of government export marketing assistance: (1) to compare the risks and opportunities of foreign market entry; (2) to stimulate interest and commitment in exporting; and 3) to act as an external resource building knowledge and experience (p. 55). Public export assistance has been found to be beneficial for export propensity (Broocks & van Biesebroeck, 2017), export intensity (e.g., Wilkinson & Brouthers, 2000), aggregate exports (e.g., Lederman et al., 2010), and increased resiliency during times of global crisis (van Biesebroeck et al., 2016). Numerous studies assert that smaller firms benefit more from export promotion actions than larger firms do (e.g., Leonidou et al., 2011; Monreal-Pérez & Geldres-Weiss, 2020; Martincus & Carballo, 2010a). Other studies do not show a positive impact on the most common performance variables (e.g., Genctürk & Kotabe, 2001). However, to date export studies have not done much to carefully and extensively explore the role of time. Many studies are conducted as surveys, which reflect only one moment in time (especially if the dependent variable is subjective performance), or a selective depiction of a past indicator. The situation with longitudinal and panel data is marginally better but even then the selected window of time for analysis is rarely substantiated beyond data availability. Some studies pick one moment in time (e.g., Rose, 2007) and others have taken an average value within a particular period (e.g., Cassey, 2014). The latter approach reduces random fluctuations but still disregards export data dynamics. Unfortunately, random control trial designs are not feasible in business support studies for judicial reasons as well as for practical arrangements, such as the unattainability of applying a placebo condition (Dalziel, 2018). Compounding the issue, there is no standard approach as to when to expect results subsequent to intervention. Exploration, such as what we do in this study, is needed to resolve this issue and develop a common lag standard. Wilkinson and Brouthers (2000) take a questionable approach in which two dependent variables are measured at different time periods: high-tech exports as a two year average of t_0 and t+1 after a trade show, and FDI as a three-year average from t+2 to t+4after a trade mission. Van Biesebroeck et al. (2016) observe the effects from t+1 to t+4 but link it to the fixed year of financial crisis. It appears the only export support study that considers a moving treatment year is Nitsch (2007) which studies state visits, which does not analyze firm level, but only country level data. Next, we will look at the mechanisms behind three types of governmental export assistance.

2.4 Types of Export Support

The effect of various forms of government support on firm export growth have not received much attention in the literature, especially in terms of comparing multiple mechanisms and also considering their interaction and sequence, which will be the focus of this study. More specifically, we will focus on the three main forms of government support which exist in Estonia where this study is carried out – support to attend trade fairs, support to develop an export plan, and participation in ministerial visits abroad. We suggest that these three government support mechanisms facilitate growth in exports via affecting three key drivers of export growth – market knowledge, networks, and commitment.

Bijmolt and Zwart (1994) provide a useful summary of several key studies on the drivers of export success and make their own suggestions for a model with export attitude, export planning, and organizational structure being key drivers. Whereas their factors likely still impact export success, later theory development (especially in network theory) suggest that the model components could be framed in more active efforts sought by the firm. Export attitude is similar to export commitment, export planning is quite related to export knowledge, and while not clear from the name, organizational structure includes both the resources a firm is devoting to exporting and experience the firm has which is often related to the networks a firm has providing support for all elements of our model. One needs to have market knowledge to make informed decisions about the markets one is entering into rather than just placing effort blindly. Networks can help accelerate the process by providing trusted partners to work with, get information, and make introductions. Finally, exporting is not easy, so it is important for the firm to have high commitment for it to succeed. Indeed, many scholars including Chetty and Hamilton (1993) suggest the importance of market commitment as an important driver of exporting success.

There are various government support measures worldwide but there is no typology. Many previous studies have looked into either trade fairs or trade missions (similar to ministerial visits). Strategic export plans have been covered by the international marketing literature and as an instrument that is an internal company tool and not requiring government assistance. However, in Estonia, the government used to provide support for strategic export plans due to their expected contribution to exports and hence socio-economic benefits. These three instruments, although based on different theoretical foundations, are the most common export assistance mechanisms utilized in Estonia and other countries. Trade financing and credit insurance instruments are beyond the scope of the current study as they rely on different mechanisms and the data describing these services are protected by bank secrecy. After conducting the quantitative analysis on the hypotheses, we validated the results in several interviews with firms that have received the support and policymakers who coordinated these services.

Supported strategic export plan One of the key success factors in export markets is market knowledge. The moment that the company makes its first exports is often unplanned. An early meta-analysis by Bilkey (1978) summarized that according to seven previous studies, 44-83% of a firm's initial export orders were received unsolicited. However, as export experience grows, the ratio drops. Weaver et al. (1998) reported that in a survey of Norwegian SMEs, for 84% of respondents 40% or more of their export sales were reorders and 63% responded that the share of unsolicited sales were under 10%. Thus, strategic planning of export activities is instrumental in facilitating export development. An export marketing strategy includes the aspects of a conventional market plan (product, promotion, pricing, distribution), either standardizing or adapting it to the export market (Cavusgil & Zou, 1994). In the international marketing literature, marketing mix adaptation (Navarro-García et al., 2014) and having a conscious export marketing strategy (e.g., Falahat et al., 2017), which an export plan can help develop, have often been found to moderate the relationships between policies and performance. This makes sense as Leonidou et al. (2011) describe that export marketing strategies include identification and evaluation of foreign market opportunities, building of relationships, modification of firm's marketing mix, strategic HR issues, and development of innovative products to target markets. Since SMEs tend to be resource-constrained, this investment may be considered too costly, which is why some governments provide support for developing export plans.

An export plan is beneficial since it focuses a firm's efforts on export activities that are likely to give the greatest chances of export success. Prior literature has identified the positive impact of strategic planning (e.g., Chen et al., 2016; Leonidou et al., 2002; Samiee, & Walters, 1990) but has disregarded time aspects. Export plans take time to implement, and often the benefits will build on each other, snowball, and continue to result in export growth for some time. This is what we call effect length time in our discussion of time dimensions above. If prepared properly, implementing an export plan is a continuous process, embedded in a firm's core activities, and therefore likely to produce tangible export gains for the firm over the medium-term until the increase peaks, as it is unreasonable to assume the growth continues indefinitely. Thus, we hypothesize that having an export plan has a positive effect on export activities with an increasing magnitude, which we compare in three "time dimensions": chronological time, reference time, and effect length time:

Hypothesis 1: Government support for strategic export plan development is positively related to 1a) the growth of the export intensity of the firm (chronological time), and 1b) the effect increases over time (reference time), 1c) until it peaks (effect length time).

If hypothesis 1c is not supported, then government support for an export plan would result in an increase in a firm's export intensity which would continue to increase indefinitely. It is reasonable to expect that the effect of events like an export plan, while important, will wear off over time and thus their effects and thus export intensity will eventually peak.

Trade fair participation In the past 20 years, internationalization theories have been influenced by the network-based view. The authors of the theory, Coviello and Munro (1997), studied small software firms and found that the choice of foreign market and model of entry was shaped by their formal and informal network relationships. The impact of network theories is so powerful that the authors of the original Uppsala model, Johanson and Vahlne, essentially replaced the original cultural construct with another reflecting insidership/outsidership of a business network (2009). Networks can be developed by a firm itself or with the help of industry associations or a government export agency. International networks are often difficult to access but for SMEs, one such window is a trade show.

However, trade fairs also address another export impediment of SMEs, knowledge about foreign markets. This is important since based on a review of 35 studies focusing on exporting Leonidou (1995) identified lack of knowledge about foreign markets as the largest barrier for firms trying to export. Bonoma (1983) described that trade show participation has two types of benefits: selling benefits and nonselling benefits (e.g., intelligence about competitors). Empirical research has generally found a positive relationship between trade fair participation and performance, but there is some doubt about whether the effect can be separated from other developments in the company. In an attempt to eliminate all incidental effects, Gopalakrishna et al. (1995) studied many customer relationships of a single company and found the company's trade fair participation return on investment to be positive when controlling for the effects of other promotional activities. On the other hand, Alvarez (2004) found no significant relationship between trade fair participation and the probability of becoming a permanent exporter, commenting that the positive relationships between variables may be better explained by self-selection bias. Nevertheless, there are more studies confirming the usefulness of trade fairs. In research about the efficiency of US states' sponsored export programs, Wilkinson and Brouthers (2000) found a positive relationship between trade fair participation and objective measures of direct exports and growth in high-tech exports. In addition, when controlling for internal resources, Wilkinson and Brouthers (2006) found that the use of trade shows contributes to SME subjective export performance. Further, Martineus and Carballo (2010b) indicated that trade fair participation facilitates the establishment of new business contacts as evidenced by an increased number of destination countries.

As the literature in general suggests that trade fair participation has a positive impact on export performance, it would make sense for governments to co-finance an activity that would contribute to socio-economic indicators through more export sales. Measuring the direct impact from trade fair participation can be tricky as a trade fair in one country (e.g., Germany) may have benefits for exports to nearby countries (e.g., Austria) or even distant locations (e.g., Thailand, due to a sales lead who participated at the German trade fair). However, from the overall firm performance viewpoint, it is not as relevant to pinpoint the sales to a certain geographic location but rather to the tendency towards higher export orientation.

Trade fairs differ from export plans in their duration as unlike export plan, a trade fair is a short one-time event. Thus, we do not expect the effect for as long as would be the case for export plans. Nevertheless, the justification of providing government support to a firm, is not just to help with obtaining an odd export contract, but public money bets on developing longer-term export leads. Indeed, trade fair participation also develops sales networks, export sales skills, and a successful trade fair visit has the potential to result in secondary sales from primary sales or serendipitous interactions. Thus, the impact of a trade fair is expected to be cumulative with everyday activities. We examine whether its benefits increase over time and how long the positive impact continues until its peak:

Hypothesis 2: Government support for trade fair participation is positively related to 2a) the growth in firm export intensity (chronological time), and 2b) the effect increases over time (reference time), 2c) until it peaks (effect length time).

Ministerial visit participation For an unknown company from a foreign country there are significant liabilities to overcome. In addition to the liability of foreignness (Zaheer, 1995), there is the lack of awareness of the reputation that the company has established in its home country. For SMEs from many countries, this is not the only obstacle as firms from many emerging markets and smaller or less-known countries face the liability of origin (Ramachandran & Pant, 2010) whereby they

are discriminated against due to their country of origin. Cardoza et al. (2016) suggested that independent Latin American SMEs belonging to larger informal or formal institutions seem to be in a stronger position to expand internationally. In these situations, government contacts can fast-track the access to networks and help create legitimacy and status for the firm (Zhang et al., 2016). One important instrument that governments use to facilitate the access to foreign markets is ministerial business delegation visits.

Prior empirical research has tested the effects on business diplomacy and ministerial business delegation visits (trade missions) but unfortunately by only looking at macro level statistics. In a meta-analysis of several business diplomacy activities, Moons and Bergeijk (2017) find that studies about state visits and trade missions have significantly lower t-values than other objects of study such as embassies, export promotion offices abroad or diplomatic relations events. Rose (2007) demonstrated that there is a beneficial effect of business diplomacy by means of embassies and consulates showing a rise of 6-10% in bilateral exports with each additional consulate abroad. The benefits of association with their government may be especially helpful to companies from emerging markets. Some researchers have also doubted in trade missions' efficiency. For example, Wilkinson and Brouthers (2006) hypothesized that they did not anticipate a significant relationship with export performance as it is a tool for longer term relationship building.

Similar to trade fairs, ministerial visits are short one-time events, but governments do not invest resources to involve business delegations in state visits just for short-term purposes. We agree that participation in ministerial visits is useful as a "door opener" which can deliver benefits further in the future. However, since it is a one-time activity not focused on developing an explicit longer-term plan like an export plan, we expect that its effect will peak in a few years not lasting as long as is the case for export plans. The meetings to develop export leads within trade missions differ from trade fairs because firms cannot present their full-size products or display promotion videos in a specially prepared booth. Thus, reaching sales contracts will likely require follow-up visits by the negotiating firms using arrangements they make themselves. However, like other scholars mentioned above, we also believe that participation in ministerial visits will be useful for facilitating business activities through providing useful contacts to sell to in the short term, helping resolve current challenges, and providing a halo effect for the firm. Unlike the other export support tools in the study, previous research suggests an effect length at the country level. For example, Nitsch (2007) studied the travels of heads of state of France, Germany and United States in the period of 1948-2003, and found that a typical visit would result in about 8-10% higher bilateral exports in 2 years after the state visit, after which the export effect loses significance. Thus, we hypothesize that ministerial visits are increasingly beneficial for export orientation and we explore the relationship in chronological time, reference time, and effect length time:

Hypothesis 3: Participation in a ministerial delegation visit is positively related to 3a) the growth in firm export intensity (chronological time), and 3b) the effect increases over time (reference time), 3c) until it peaks in a few years (effect length time).

ures (the sequence dimension of time).

Interplay between support measures The preceding hypotheses aim to establish a baseline effect for benefits of the three support measures as well as to determine their impact over time (reference time and effect length dimension of time). However, companies are not limited to using just one support measure and it is not uncommon to combine various services to achieve export success. Thus, in this section we will explore the importance of using multiple support mechanisms in a particular order which is an example of the sequence time dimension mentioned further above. Regrettably, most of the literature stops after attempting to establish a link between a single export support activity and performance which we feel leaves some important questions unanswered. The relevant questions are not only whether these support measures are effective, but also if it is important to divide resources and use multiple measures because one then gets some sort of multiplicative synergistic effect, when to use each support measure and in what order to use the support measure

Extant literature on the interplay between different modes of support is scarce. Seringhaus and Mayer (1988) observed that companies that participated in trade missions made more extensive and systematic marketing planning compared to exporters that did not. Hence, it is reasonable to predict that companies using several different support measures will outperform the control group. However, such a statement does not imply suggestions on the time sequence of particular support measures. We do not believe that prior research has attempted to explicitly look into the results of such interactions of government support mechanisms.

Systems theory (e.g., Boulding, 1956; Kast & Rosenzweig, 1972; von Bertalanffy, 1950) can help shed light on the issue of interplay between different government support mechanisms and has been suggested by Teece (2018) to be relevant for management research and underutilized. Systems theory emerged from different disciplines including biology, economics, cybernetics, mathematics, and management (Teece, 2018) as an attempt to produce a theory to help unify science (von Bertalanffy, 1950) and suggests that when different components are brought together in a system, they can produce effects that surpass the results that the individual components could produce in isolation (Rock & Palmer, 1990). Examples of this in management include high performance work practices (Becker & Gerhart, 1996), absorptive capacity (Minbaeva et al., 2003), and innovation systems (O'Conner, 2008). Systems theory focuses on different parts of a system working together. One advantage of a system approach is that when multiple components work together one can decrease the risk of not obtaining the desired end result if one component does not work as hoped. We believe that this interactive (multiplicative) result is also the case for government support mechanisms. We suggest that the exploration of what order to use different support measures in, which explores the sequence dimension of time, which is rarely explored in IB studies, is of special relevance in this study since it may be that to get the best synergies between different support mechanisms order is important.

To build on systems theory, we assert that an export plan is an instrument, which is not defined by its name but its contents, that is the activities that it foresees. Gumede and Rasmussen (2002, p. 162) suggest that "access to information is a most critical factor when an enterprise decides to embark on exporting activities." Indeed,

Tybout (2000) suggests that for export success, it is important that firms starting to export have access to information about the markets they want to export to including information about customers' requirements. Attending a trade fair can help a firm to gain information about a foreign market including information about customer requirements. Further, having gained information from a trade fair one may be able to better understand what type of leads to try to develop and pursue and what customers need and thus develop a better export plan. In summary, the sequence that attending trade fairs and developing an export plan occur appear to affect exports. Thus, based on the sequence time dimension, we hypothesize the following:

Hypothesis 4a: *Receiving support for an export plan after receiving support to participate in a trade fair is positively related to the growth of export intensity of the firm.*

Conversely, as discussed earlier, an export plan takes time to materialize and result in tangible benefits. We also explore whether a firm, having received government support to prepare an export plan, benefits additionally from subsequent support to attend trade fairs. An export plan is composed identifies intentions, but it still needs to be flexible and adaptive to market signals. Therefore, it is interesting to explore whether there is a compounding effect of the two services (support for developing an export plan and support for attending a trade fair) in the opposite way of interaction from that suggested in hypothesis 4a. It would be less justified in terms of internationalization theory, but it would express the company's increased adaptability to reach out for new export customers after setting up the export plan, materializing in more export gains than in the baseline scenario of just having an export plan. If the effect is statistically confirmed, it would have practical implications for policymakers to encourage entrepreneurs with export plans to participate in more trade fairs as it becomes a tool of adaptation and perhaps even serendipity. Indeed, a key challenge firms face in starting exporting is where they will get the best return for focusing their efforts to export. An export plan, which normally identifies the most attractive markets to target and helps focus export activities in different ways should help activities that the firm undertakes at a trade fair to be less random, more informed or strategic, and more focused, and thus lead to greater export success. In short, we hypothesize that in sequence time that:

Hypothesis 4b: Participating in a trade fair after receiving support for an export plan is positively related to the growth of export intensity of the firm.

There is some research on the usefulness of specific export tools in certain stages of maturity of the firm. Diamantopoulus et al. (1993) suggest that different programs are more useful for firms at three stages of export maturity: information for the first stage, market visits for the second stage and trade fairs for the third stage. Strategic export plans (e.g., Leonidou et al., 2011) and trade fairs (e.g., Martincus & Carballo, 2010b) can be considered equally suitable to early exporters, either to make plans or learn from the international competition. Ministerial visits are arranged for either problem solving or match making between counterparts identified during preparations. Because ministerial visits result in fewer incidental contacts than at trade fairs,

ministerial visits are less likely to result in serendipitous benefits. Therefore, these are arguably more appropriate for more "advanced" exporters that know and can demonstrate why they want to establish or develop a particular bilateral business relationship, possibly initiated by a trade fair contact. Manly's (2016) qualitative research of trade mission participants recommended to test the participants' readiness before having them go on a trade mission. The preparation for the visit relies on clear strategic directions in export activities and setting the goals of the participation to match the company's needs. Thus, we use the data about prior use of different kind of government support as a proxy for well-informed export experience (we cannot distinguish between the export plan and trade fair support due to small sample size), and propose an additional hypothesis that posits that in sequence time, ministerial visits are an advanced layer of export promotion activities that has the most benefits coming after other initial activities:

Hypothesis 4c: Participating in a ministerial delegation visit after receiving support for an export plan or support for participating in a trade fair is positively related to the growth of export intensity of the firm.

3 Data and Methods

3.1 Sample and Data Collection

We test the hypothesized relationships on a sample of Estonian SMEs. The data set was constructed from registry data covering the entire population of Estonian firms. The single country design controls for institutional setting and for country-specific baseline export intensity. We chose Estonia to investigate SME internationalization because it is a small, open and entrepreneurial economy, in which trade makes up 152% of GDP, ranking 14th in the world on this measure.¹ Moreover, as most of the companies have a relatively short history due to Estonia's retransition to Capitalism after the breakup of Soviet Union, the sample of companies is relatively homogeneous with lack of outliers exporting successfully for decades. The idiosyncrasy makes our research context unique among most small, trade intensive countries. Export assistance is easily accessible to any firm that applies and meets the requirements, including foreign investors, which is the case in some open economies but not in many countries in the world. This implies that the government support tools are primarily targeting the benefits for the common good, such as providing employment, developing skills and knowledge, generating tax income. Furthermore, the Estonian business registry collects the annual reports from all active companies since the early 2000s. Thus, we were able to create a high-quality dataset about the population of Estonian firms which we can follow through most of their exporting history.

We use three secondary datasets to construct our database for our analysis:

1. The database of annual reports in the national business registry. This is the source of data for the dependent variable as well as the demographic information and

¹ Source: https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS.

ownership and management information control variables. For the purpose of the analysis, annual reports from 2002 to 2018 were collected for 16,281 companies having at least 10 employees in any given year. However, we narrowed the financial data to start in 2009 due to data quality issues in earlier years, and to avoid a structural break in data with many firms losing export markets or domestic markets for entirely exogenous reasons during the Global Financial Crisis.

- 2. The Enterprise Estonia database of companies that have received export support from the government from 2004 to 2013 (support programs were discontinued in 2013). This is the source for the list of companies that received support for the export plan and trade fair participation. To match the DV data period to the complete business cycle (see explanation above), we also limited the use of this data to the respective period with one exception. We retained the earlier data in interaction regressions (Models 2b, 3b, 4b), to properly account for prior benefitting from the other type of support, and to include as large sample of firms in time sequence analysis as possible. This was possible because we had the complete database about the support events (i.e., for all firms, we knew if they had or had not received the support since 2004).
- 3. The database of companies obtained from Enterprise Estonia (not publicly available) that have participated in official state VIP visits from 2014 (the year of first such visits) to 2017. The raw data consists of company name, month of the visit and the destination country.

We then narrowed the dataset to match European Union's definition of SMEs by number of employees (European Commission, 2017), and kept only the companies that had 10–250 employees at the consolidation group level in the period between 2009 and 2018, including the ones that have changed to have over 250 or fewer than 10 employees. In short, our sample excludes large firms, which may have substantially different needs for government export support, and micro firms with fewer than 10 employees since they often do not have as many resources, have trouble hiring experienced people, and face different issues than their larger counterparts (Quickbooks Canada Team, 2021).

When matching the sample to SME definition in 2009–2018, we eliminated 154 firms that had over 250 employees in all the years in the period, 2102 firms that had under 10 employees in all the years in the period (the firms had been larger in 2002–2008), as well as 3249 firms that did not record any employees in 2009–2018 (the firms that had stopped their activities). The resulting sample consisted of 10,776 SMEs. Data was checked for illogical data entries and any such instances were corrected. Finally, the data was triangulated with a commercially-operating credit information bureau which has similar data and the few resulting differences were resolved by checking original annual reports. The breakdown of the dataset is given in Table 1.

3.2 Measures and Control Variables

Independent variables Our operationalization of government assistance is divided into three modes of support: export plans (EP), trade fairs (TF) and ministerial visits (VIS), each used in individual regressions, and a regression with all three variables as a robustness check. We also explored when multiple modes were used by the same firm and if the sequence of different modes mattered. The current analysis considers support events between 2009 and 2017 and represents them as binary events. The interaction regressions of preceding and subsequent types of support also take into account the support events allocated between 2004 and 2008 as antecedents.

The application procedures for export plan and trade fair support were open to all firms registered in Estonia, without regard to the ownership. One grant could cover multiple trade fairs in a defined period of time (typically a year). The maximum support given to one company in one application was 160,000 euros. The mean support for export plans was 56,082 euros and 14,339 euros for trade fairs. The main limitation of the independent variable is that the dataset covers only participation and strategic export plans that are made with governmental support. That means that there may be firms in the population that have developed similar strategic tools or participated in trade fairs fully on their own expense. However, given that the literature suggests that SMEs normally have limited resources, it can be inferred that in systems like Estonia's which are open, fair, and well-advertised, that SMEs should tend to seek these extra resources.

The participants of ministerial visits are commonly found through trade and industry associations, but the visits are normally open to all companies that pass a background check. The travel costs are borne by the companies, but there are no extra fees for business matchmaking services.

Dependent variable Our dependent variable is export intensity (foreign sales/total sales), which we use in two formats: as a percentage value for chronological time and time sequence regressions, and as change compared to baseline in reference time and effect length difference-in-difference regressions. The sales figures are obtained from consolidated financial statements and therefore include also sales through foreign subsidiaries, however, in a sample of SMEs, their use with a substantial impact from subsidiaries is rare. The choice of export intensity over other degree of internationalization measures, such as number of markets or continents served, is justified by geography of Estonian exports. Many exporters, especially SMEs, primarily export to neighboring countries in Northern Europe. As these markets are more developed, export intensity represents upgrading of the market demands compared to domestic markets. However, the geography does not mean that the value chains Estonian firms participate in are as regional, as many Swedish, Finnish or German firms the Estonian firms subcontract for, sell their products worldwide.

Although measuring the impact in a discrete year, 2018, in chronological time and time sequence regressions means that for some firms the export growth is measured at t+1 (firms receiving support in 2017) and for others at t+9 (firms receiving support in 2009) after the support, there are several advantages to this approach. First, by focusing on calendar years, the bull or bear market effects play an equal role for all companies. Second, the long analysis window is necessary for analyzing the

	Companies in the population	Companies receiving any mode of support	Companies receiving support for trade fairs	Companies receiving sup- port for export plans	Companies participat- ing in ministerial visits
п	10,776	471	147	320	71
n (manufacturing)	2405	304	106	232	17
n (services)	1234	105	16	59	43
Mean age in 2018	16.3	18.3	19.2	18.8	14.3
Mean export intensity in 2009	19.0%	48.8%	54.6%	50.2%	35.3%
Mean export intensity in 2018	20.6%	52.7%	56.1%	55.3%	44.5%
Mean # of employees in 2009	32.7	65.5	59.6	71.3	79.0
Mean # of employees in 2018	34.4	85.4	70.1	95.9	105.2
Mean foreign ownership in 2009	14.4%	17.1%	19.0%	16.2%	20.7%
Mean foreign ownership in 2017	17.0%	22.0%	16.7%	23.8%	25.9%
Mean foreign management in 2017	5.7%	5.2%	3.8%	5.7%	5.0%

 Table 1
 Descriptive statistics of the population and subsamples of companies that have received support

combinations of multiple types of assistance, as these appear with varying lengths of time between events within the nine year data period (mean time lag of EP occurring after a TF is 1.57 years, TF after EP is 3.02 years and VIS after TF or EP is 4.50 years). The disadvantage of using two calendar years as the reference point is that we do not account for the particular year the support was allocated (or, in time sequence regressions, the time lag length) but instead focus on what has occurred in the studied period. However, we address this shortcoming by also doing difference in difference regressions which use reference time.

Control variables We control for some variables that may be related to SME export growth. Previous studies (e.g., Stoian et al., 2011) have discussed that the speed of firm internationalization depends on firm experience. We operationalize firm experience by controlling for firm age (in years) and for the dummy that expresses firm location in the capital region ('1' = capital, '0' = otherwise). We also control for the proportion of foreign shareholding and foreign persons on management boards. As shown in correlation table, Table 2, foreign shareholding and foreign management indeed have higher correlation with export intensity than other control variables, suggesting that foreign ownership and management ties help to achieve a higher export intensity in general. Where applicable we control for the effect of business cycles by controlling for the change in national GDP, and national exports and domestic consumption as export intensity is affected by sudden changes in both export demand and domestic demand. Lastly, we also control for the industry. The regressions either include nine dummy variables for sectors for all sectors with more than 5% of firms that have received support; or two dummy variables for sectors: manufacturing and service sector firms. The sectors with more than 5% of the supported firms are - six doubledigit manufacturing sectors: wood products, metal products, food products, furniture products, plastic and rubber products, and printing; and three single-digit service sectors: information and communication services, professional, scientific and technical services, and retail and wholesale services. The distinction at double-digit manufacturing sector level allows us to also control for product-specific factors, such as whether the product is a B2B or B2C product, and the ease (size, weight) of transportation of the product. Two dummy variables are used in Models 5-7, with smaller sample size, where using nine sector dummies caused the model F value to become insignificant presumably due to due to limited degrees of freedom.

3.3 Propensity Score Matching

The sample of companies that received any mode of support was matched to the nearest neighbor by propensity score matching so that we had a treatment (received government support for exporting) sub-sample and a non-treatment (received no government support for exporting) of equal size so that our analysis could work as well as possible. We use export intensity in 2009 and the number of employees in 2009 (see Table 3) as the predictors for the propensity score

Table 2 Descr	iptive st	atistics a	and correlations								
	Mean	SD	Age 2018	Capital region	Export inten- sity 2018	Export inten- sity 2009	# of employ- ees 2009	Foreign ownership	Foreign management	Export plan	Trade fair
Age 2018	19.55	5.56									
Capital region (dummy)	0.55	0.50	- 0.060 (0.000)								
Export inten- sity 2018	20.9%	33.8%	- 0.056 (0.000)	0.031 (0.024)							
Export inten- sity 2009	20.3%	33.7%	- 0.080 (0.000)	0.011 (0.389)	0.669 (0.000)						
# of employ- ees 2009	31.4	51.0	0.192 (0.000)	0.018 (0.158)	0.143 (0.000)	0.082 (0.000)					
Foreign own- ership	14.4%	33.5%	- 0.014 (0.255)	0.158 (0.000)	0.324 (0.000)	0.283 (0.000)	0.140 (0.000)				
Foreign man- agement	5.5%	19.9%	- 0.087 (0.000)	0.110 (0.000)	0.220 (0.000)	0.184 (0.000)	0.032 (0.012)	0.537 (0.000)			
Export plan (dummy)	0.04	0.20	- 0.003 (0.801)	0.033 (0.008)	0.217 (0.000)	0.191 (0.000)	0.139 (0.000)	0.001 (0.928)	- 0.001 (0.944)		
Trade fair (dummy)	0.02	0.14	0.004 (0.756)	0.010 (0.429)	0.147 (0.000)	0.148 (0.000)	0.058 (0.000)	0.014 (0.237)	- 0.010 (0.424)	0.210 (0.000)	
Ministe- rial visit (dummy)	0.01	0.08	- 0.016 (0.191)	0.044 (0.000)	0.053 (0.000)	0.028 (0.016)	0.059 (0.000)	0.014 (0.248)	- 0.008 (0.530)	0.084 (0.000)	0.015 (0.196)
Significance le	svels in _F	parenthe	ses								

Variable	Non-Su	pport	Support					
	М	SD	М	SD	t	df	р	d
Pre-matching								
Exp intensity 2009	17.9%	32.5%	50.0%	35.5%	- 19.608	7976	0.000	0.943
Employees 2009	29.7	48.1	59.6	79.9	- 11.871	7355	0.000	0.453
Post-matching								
Exp intensity 2009	48.3%	38.6%	49.2%	37.0%	- 0.303	728	0.762	0.024
Employees 2009	55.9	59.6	58.2	64.8	- 0.491	728	0.624	0.037

Table 3 Comparison of the effect from support using matched and non-matched samples

matching since we presume that in an open procedure, similar size of the firm and prior export success makes the companies equally likely to expand their exports and seek export support and sets an equal grounds for treatment comparison. This selection would also include the industry effects as it takes into account the propensity to export within the industry as well as the tendency for firm size.

4 Results

The following analysis reports the increase in the dependent variable (export intensity) as either the difference between data points from annual reports from 2009 and 2018 (linear regression analysis for chronological time and time sequence analysis) or the change of time-lagged variables (difference-in-difference analysis for reference time and effect length time analysis). See Fig. 1 for more details about the different dimensions of time.

Chronological time The chronological time analysis reports the increase in export intensity between 2 calendar years, as the dependent variable using linear regression analysis. This setup has the advantage that it controls for the business cycle effects as the reference years for all firms are the same. Consistency of results was checked and confirmed for other year pairs. Table 4 presents the OLS regressions for hypotheses 1a through 3a baseline effects. Model 0 shows the baseline model with only the control variables. Model 1 presents a robustness check with all three dependent variables in one model and also informs that receiving government support for an export plan has the largest impact on export intensity (Hypothesis 1a, b=11.65, p=0.000) followed by support for trade fair participation (Hypothesis 2a, b = 7.19, p = 0.004) and then ministerial visits (Hypothesis 3a, b=8.57, p=0.035). Standardized Beta coefficients are: 0.09 for export plan, 0.04 for trade fair, 0.03 for ministerial visit. These results provide support for hypotheses 1a-3a. Then, for each independent variable, we constructed models, which provide further support the hypotheses 1a through 3a (Models "a") but also established the baseline measures in regressions without the support mechanism sequence interaction effects, to which we added the support mechanism sequence time interaction terms (Models "b", corresponding to hypotheses 4a-4c). Models 2a through 4a test the main effect of three types of government support. The coefficients for the respective independent variables are positive and highly significant at p = 0.000 or p = 0.009 (for ministerial visits).

Adding time sequence to chronological time Hypothesis 4a posits that the interaction effect of formulating a strategic export plan after participating in a trade fair is related to a firm's export intensity. Model 2a establishes the baseline and 2b includes an interaction term that is positive and significant at p = 0.097, providing some support for hypothesis 4a. Gaining government support for a strategic export plan increases export intensity growth by 12.7% compared to having no export plan. However, doing so after participating in trade fair increases it by 19.6%, and when there is no prior trade fair participation, by 11.7%. In a similar vein, hypothesis 4b is tested in Models 3a and 3b. The results show a positive coefficient for trade fair participation at p=0.001 (trade fair participation increases export intensity growth in the period by 11.7%) but the interaction term for trade fair participation after having an export plan is not significant as p = 0.87. Finally, Model 4a shows the coefficient for ministerial visits participation is quite significant as p = 0.009 (ministerial visit participation increases export intensity growth in the period by 10.6%). Hypothesis 4c, which suggests that participating in ministerial visits after formulating a strategic export plan or participating at a trade fair is related to export intensity, is tested in Model 4b by adding the interaction term. The order interaction term is positive and significant at p = 0.098 (participating in ministerial visit after receiving other support mechanisms increases export intensity growth in the period by 20.9%, and when there is no prior trade fair participation, by 6.3%). It is important to look beyond statistical impact and also consider substantive impact or effect size. One measure of this for the overall regression is R^2 or the percentage of variance explained by the model. R² for models 2a and 2b for export plan and controls is 0.20, for models 3a and 3b for trade fairs and controls is 0.19, and models 4a and 4b for ministerial visits and controls is 0.19. Thus, the models explain 19-20% of the variance in growth of export intensity. Cohen's f^2 is considered to be a preferred measure of effect size for the overall model (Cohen, 1992). Model 0 has a Cohen's f² value of 0.236, model 1 is 0.253, models 2a and 2b are 0.250, models 3a and 3b are 0.241, and model 4a is 0.237 and 4b is 0.239. All of these models thus have a medium effect size since Cohen suggests that medium effect sizes are between 0.15 and 0.34. The F value tests for the change, compared to the Model 0 with only controls, are significant for all models. The industry controls that were significant at p < 0.05 in Models 0–4 were: wood products, metal products, furniture products, plastic and rubber products, printing; and professional, scientific and technical services. While the models themselves have substantive explanatory power, we should point out that the control variables provide quite a bit of the explanatory power with additional independent variables in some of the models only explaining about 1% of the variance. Despite this relatively low incremental variance explained, the change in \mathbb{R}^2 from the base model to the models with additional independent variables are always quite significant as can be seen in Table 4.

Table 4 Gov	vernment sup	port me	chanisms' et	ffect on (change in exp	ort inte	ensity from 20	009 to 2	2018: OLS te	ssts of c	chronological	time a	ind time sequ	ence ^{a,b}		
	Model 0 with only control variables	s.e	Model 1 with all 3 IV	s.e	Model 2a IV: EP	s.e	Model 2b IV: EP after TF	s.e	Model 3a IV: TF	s.e	Model 3b IV: TF after EP	s.e	Model 4a IV: VIS	s.e	Model 4b IV: VIS after TF or EP	s.e
Constant	6.98	1.35	7.06	1.34	7.05	1.34	7.08	1.34	7.04	1.34	7.05	1.35	6.94	1.35	6.97	1.35
(p-value)	(0000)		(0000)		(0000)		(0000)		(0000)		(0:000)		(0000)		(0:000)	
Export intensity 2009	- 0.38	0.01	- 0.40	0.01	- 0.40	0.01	- 0.40	0.01	- 0.39	0.01	- 0.39	0.01	- 0.38	0.01	- 0.38	0.01
(p-value)	(0000)		(0000)		(0000)		(0000)		(0000)		(0:000)		(0000)		(0:000)	
# of employ-	0.04	0.01	0.03	0.01	0.03	0.01	0.03	0.01	0.04	0.01	0.04	0.01	0.04	0.01	0.04	0.01
ces 2009					100007											
(p-value)	(0,000)		(0.000)		(0,000)		(0,000)		(0,000)		(0.000)		(0,000)		(0.000)	
Firm age (years)	- 0.14	0.06	- 0.13	0.06	- 0.13	0.06	-0.14	0.06	- 0.15	0.06	- 0.15	0.06	- 0.14	0.06	- 0.14	0.06
(p-value)	(0.026)		(0.038)		(0.037)		(0.035)		(0.024)		(0.024)		(0.029)		(0.028)	
Capital region (dummy)	0.44	0.70	0.10	0.70	0.17	0.70	0.17	0.70	0.38	0.70	0.38	0.70	0.38	0.71	0.39	0.71
(p-value)	(0.530)		(0.882)		(0.806)		(0.807)		(0.586)		(0.587)		(0.586)		(0.578)	
Foreign share- holding	0.10	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01	0.11	0.01
(p-value)	(0000)		(0000)		(0000)		(0000)		(0000)		(0000)		(0000)		(0000)	
Foreign manage- ment	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02	0.07	0.02
(p-value)	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)	

Table 4 (con	ntinued)															
	Model 0 with only control variables	s.e	Model 1 with all 3 IV	s.e	Model 2a IV: EP	s.e	Model 2b IV: EP after TF	s.e	Model 3a IV: TF	s.e	Model 3b IV: TF after EP	s.e	Model 4a IV: VIS	s.e	Model 4b IV: VIS after TF or EP	s.e
Industry: Wood	7.87	1.95	6.17	1.95	6.35	1.96	6.35	1.95	7.59	1.95	7.58	1.95	7.74	1.95	7.74	1.95
(p-value)	(0000)		(0.002)		(0.001)		(0.001)		(0000)		(0:000)		(0000)		(0000)	
Metal	8.43	1.77	7.43	1.77	7.55	1.77	7.44	1.77	8.10	1.77	8.10	1.77	8.49	1.77	8.49	1.77
(p-value)	(0000)		(0000)		(0000)		(0000)		(0000)		(0:000)		(0.000)		(0.000)	
Food	2.95	2.19	1.71	2.18	1.65	2.18	1.80	2.19	2.88	2.18	2.88	2.18	2.94	2.19	2.99	2.19
(p-value)	(0.178)		(0.434)		(0.449)		(0.410)		(0.188)		(0.187)		(0.179)		(0.172)	
Furniture	10.26	2.58	8.95	2.58	9.30	2.57	9.03	2.58	9.57	2.59	9.55	2.59	10.34	2.58	10.35	2.58
(p-value)	(0000)		(0.001)		(0000)		(0000)		(0000)		(0:000)		(0.000)		(0.000)	
Plastic	12.72	3.07	10.64	3.07	10.69	3.07	10.79	3.07	12.35	3.07	12.33	3.07	12.78	3.07	12.78	3.07
(p-value)	(0000)		(0.001)		(0000)		(0000)		(0000)		(0:000)		(0.000)		(0.000)	
Printing	13.27	3.63	11.05	3.62	11.18	3.63	11.21	3.63	12.77	3.63	12.77	3.63	13.34	3.63	13.35	3.63
(p-value)	(0000)		(0.002)		(0.002)		(0.002)		(0000)		(0:000)		(0.000)		(0.000)	
ICT ser- vices	3.73	2.10	2.28	2.11	2.89	2.10	3.00	2.10	3.54	2.10	3.54	2.10	2.94	2.19	2.94	2.12
(p-value)	(0.077)		(0.279)		(0.168)		(0.152)		(0.092)		(0.092)		(0.150)		(0.166)	
Profes- sional services	3.50	1.47	3.04	1.46	3.15	1.46	3.21	1.46	3.46	1.47	3.46	1.47	3.36	1.47	3.38	1.47
(p-value)	(0.017)		(0.038)		(0.031)		(0.028)		(0.018)		(0.018)		(0.023)		(0.021)	
Retail and wholesale	- 1.45	0.92	- 1.49	0.91	- 1.48	0.91	- 1.49	0.91	- 1.51	0.91	- 1.50	0.91	- 1.41	0.92	- 1.42	0.91
(p-value)	(0.113)		(0.102)		(0.104)		(0.103)		(0.090)		(0.100)		(0.123)		(0.121)	

Table 4 (con	tinued)															
	Model 0 with only control variables	s.e	Model 1 with all 3 IV	s.e	Model 2a IV: EP	s.e	Model 2b IV: EP after TF	s.e	Model 3a IV: TF	s.e	Model 3b IV: TF after EP	s.e	Model 4a IV: VIS	s.e	Model 4b IV: VIS after TF or EP	s.e
Export Plan (EP)			11.65	1.77	12.70	1.74	11.67	1.85								
(p-value)			(0000)		(0000)		(0.000) 7.05	OL V								
Er aller 11 (p-value)							(760.0)	4.79								
Trade Fair (TF)			7.19	2.50					9.83	2.48	9.59	2.90				
(p-value)			(0.004)						(0000)		(0.001)					
TF after EP											0.86	5.38				
(p-value)											(0.873)					
Ministe- rial Visit (VIS)			8.57	4.07									10.60	4.08	6.32	4.83
(p-value)			(0.035)										(0.009)		(0.191)	
VIS after EP or TF															14.55	8.79
(p-value)															(0.098)	
statistics																
Model R ²	0.191		0.202		0.200		0.200		0.194		0.194		0.192		0.193	
F-value	82.147		73.175		81.363		76.765		78.462		73.835		77.772		73.383	
Cohen's f ²	.236		.253		.250		.250		.241		.241		.237		.239	

Table 4 (ct	ontinued)															
	Model 0 with only control variables	s.e	Model 1 with all 3 IV	s.e	Model 2a 8 IV: EP	s.e	Model 2b s. IV: EP after TF	i.e. I	Model 3a V: TF	s.e	Model 3b s IV: TF after EP	e.	Model 4a s IV: VIS	e	Model 4b IV: VIS after TF or EP	s.e
p-value for F-test	0.000		0.000		0.000		0.000)	000.		0.000	-	0.000	-	0.000	
Δ in model ${f R}^2$			0.011		0.009		0.00	J	0.003		0.003	_	0.001	-	0.002	
F-value for Δ in \mathbb{R}^2			21.992		53.199		27.986	-	15.668		7.845		6.735		4.739	
p-value for ∆F-test			< 0.00001		< 0.00001		< 0.00001)	.00008		0.00040		0.00948	-	0.00879	
Z	5236		5236		5236		5236	4)	5236		5236		5236		5236	
^a Unstandar ^b The depen	dized regressic dent variable i	on coeff s the ch	ficients are repo 1ange in export	orted.	Significance le sity from 2009	evels a to 20	re reported in <i>i</i> 18	italics	in parenthes	es						

310

Reference time Next, we stacked the data from the treatment group and propensity score matched control group to match the export intensity time lags from the time of the export assistance event and performed a difference-in-difference analysis. We used t-1 as the pre-treatment period and periods from t+1 up to t+4 as post-treatment periods to explore how long it took for when the compounding positive effect of receiving government support occurs and what is the point at which the maximum effect is reached. We control for the business cycle effects by adding the control variables for national GDP growth, national exports growth and domestic consumption growth. As export intensity is measured on a 100-percent scale, we also control for export intensity at t_0 to account for the available space to increase.

The results to test hypotheses 1b through 3b, concerning the increase in time, are displayed in Tables 5, 6 using difference-in-difference methodology to determine the main effects. Models 5 through 7 test the main effect of three types of support on changes in export intensity. The interaction terms in Models 5-i and 7-i in t + 1 are positive and highly significant, which supports hypotheses 1b and 3b regarding the immediate effects of export plan support and ministerial visits on export intensity. The interaction term in Model 6-i is significant at p=0.081, suggesting that the trade fair positive effects take longer to materialize. It is noteworthy that the time coefficients in these regressions are negative, owing to decreasing export intensity trend in the entire population during 2009–2018 due to domestic consumption growing more than the export markets' demand.

Effect length time It is important not only to understand that a particular government support mechanism has an effect on exports, but how it changes and how long it lasts which is the effect length time dimension which we will now explore. In other words, we are also exploring whether we could really claim that the time effects over a longer period are linear, or nonlinear if the positive impacts fade. Model specifications i-iv in Table 6 refer to post-treatment periods t+1 through t+4to observe the impact over time and explore its peak effect. As a robustness check, the results retain consistent effect sizes when changing the post-treatment timing. The non-standardized b sizes for interaction terms in Model 5 (export plan regressions) increase year by year, suggesting that the impact of the treatment event is long lasting and builds up over time, supporting the hypothesis 1b (that the effect receiving government support for an export plan has on export intensity increasing increases over time). However, we could not support hypotheses 1c (that the effect of receiving government support for an export plan on export intensity peaks) as the analysis presented no peak in time period until t+4. We acknowledge that this is due to our data limitation because the period (4 years) we are able to explore is too brief. The non-standardized b sizes and the significance for the interaction terms in Model 6 (trade fair regressions) increase until t+3 where they peak, lending support to hypotheses 2b (that the effect receiving government support for attending a trade fair has on export intensity increases over time) and 2c (that the effect of receiving government support for attending a trade fair on export intensity peaks over time). The interaction terms in Model 7 (ministerial visit regressions) are positive but marginally significant at p < 0.05 level only for t + 1 supporting our hypothesis 3c (that the effect receiving government support for attending a ministerial visit has on export intensity peaks over time) but as the effect size continues to increase

Table 5 Difference-in-difference reference time and	alysis exploring governme	ant support mecha	unisms' effect on change	in export intensit	ty ^{a,b}	
	Model 5-i: EP	[s.e.]	Model 6-i: TF	[s.e.]	Model 7-i: VIS	[s.e.]
Constant	12.96 (0.304)	[12.60]	43.54 (0.493)	[63.40]	0.26 (0.966)	[6.05]
Export intensity at t ₀	- 0.08 (0.000)	[0.01]	-0.07 (0.001)	[0.02]	-0.08(0.012)	[0.03]
# of employees at t ₀	0.00 (0.626)	[0.01]	0.01 (0.577)	[0.01]	-0.00(0.808)	[0.01]
Firm age (years)	0.01 (0.951)	[0.11]	-0.33(0.060)	[0.17]	0.20~(0.383)	[0.23]
Foreign shareholding	0.03 (0.013)	[0.01]	-0.00(0.820)	[0.02]	- 0.11 (0.003)	[0.04]
Foreign management	-0.02(0.458)	[0.02]	-0.04(0.316)	[0.04]	0.19(0.084)	[0.11]
Manufacturing	3.82 (0.000)	[1.07]	- 0.28 (0.865)	[1.63]	9.12 (0.002)	[2.87]
Services	- 1.11 (0.455)	[1.49]	1.34(0.583)	[2.45]	7.96 (0.007)	[2.87]
Change in GDP from t_0 to $t + 1$	- 1.70 (0.426)	[2.14]	- 5.23 (0.654)	[11.65]	Dropped	
Change in exports from t_0 to $t + 1$	0.30(0.430)	[0.38]	0.91 (0.657)	[2.05]	Dropped	
Change in domestic consumption from t_0 to $t+1$	0.15 (0.527)	[0.23]	0.34(0.763)	[1.12]	- 0.68 (0.202)	[0.53]
Dummy for post-treatment (t + 1)	-2.87 (0.018)	[1.21]	- 2.00 (0.265)	[1.80]	- 3.82 (0.127)	[2.48]
Dummy for Export Plan (EP)	- 4.40 (0.002)	[1.44]				
Dummy for t+1 and EP interaction	6.16 (0.000)	[1.70]				
Dummy for Trade Fair (TF) participation			- 3.61 (0.092)	[2.14]		
Dummy for t+1 and TF interaction			4.46 (0.081)	[2.55]		
Dummy for Ministerial Visit (VIS)					- 6.70 (0.026)	[2.96]
Dummy for t+1 and VIS interaction					7.45 (0.029)	[3.37]
Model statistics						
Model R square	0.082		0.063		0.233	
F value	5.259		1.873		2.587	
p-Value for F-test	0.000		0.028		0.005	
Z	839		405		114	
a: The pre-treatment variable is measured at t-1 at $\Delta(\text{export intensity})$, indicating the change prior to a	nd post-treatment variable and after the treatment	e at t+1. Time r	otion t ₀ marks the timi	ng of the treatme	ent event. The dependen	t variable is

^bUnstandardized Betas are reported. Significance levels are reported in *italics* in parentheses. Standard errors are reported in square brackets

lable o Exploring the effect length c	or government support r	necnanist	ns enjection change in ex	port inte				
	Models 5-i, 6-i, 7-i (post-treatment at t+1)	[s.e.]	Models 5-ii, 6-ii, 7-ii (post-treatment at t+2)	[s.e.]	Models 5-iii, 6-iii, 7-iii (post-treatment at t+3)	[s.e.]	Models 5-iv, 6-iv, 7-iv (post-treatment at t+4)	[s.e.]
Dummy for year and EP interaction	6.16 (0.000)	[1.70]	8.42 (0.000)	[2.12]	9.94 (0.000)	[2.27]	10.29 (0.000)	[2.37]
Dummy for year and TF interaction	4.46 (0.081)	[2.55]	5.58 (0.051)	[2.85]	8.76 (0.005)	[3.09]	8.36 (0.010)	[3.24]
Dummy for year and VIS interaction	7.45 (0.029)	[3.37]	7.71 (0.059)	[4.04]	7.19 (0.125)	[4.65]	13.95 (0.094)	[8.13]
^a The above are Interaction terms for 1	regressions with post-tr	eatment v	ariables measured at t+1	through	t+4. The control variable	s are kei	ot the same as in Tables 5	

d.a. 19 · off. εŧ μ v Table

^bUnstandardized Betas are reported. Significance levels are reported in *italics* in parentheses.. Standard errors are reported in square brackets à

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in magnitude even if not as significant, there is also support to hypothesis 3b (that the effect receiving government support to attend a ministerial visit has on export intensity increases over time). Therefore, the results are in line with both the Wilkinson and Brouthers (2006) expectation of no significant immediate benefits due to trade missions focusing on long term relations and the Nitsch (2007) finding an immediate effect. The results, which explore the effect length time dimension, suggest that the impact of ministerial visits is short lived compared to other means of government support that were studied. Regarding broader industries, manufacturing dummy was significant in export plan and ministerial visit models, services' dummy was significant in ministerial visit models.

Results suggest that the impact of treatment events are long lasting and build up over time but depending on the mechanism, benefits tail off over time. This mirrors the nonlinear effects in performance argued by Contractor et al. (2003), but on the instrument level. Table 7 summarizes the results of the analysis when using various time dimensions.

We suggest that differing peak effects highlight that "effect length" is an important dimension of time that should be explicitly acknowledged and researched in internationalization studies, in addition to the dimensions defined by Jones and Coviello (2005). This aspect is not covered by any of the other dimensions, including "duration", which refers to the duration of an active effort of a process undertaken (as opposed to the length of time an effect continues after an event or process which we call "effect length"). It is not just important that there is an effect, but how long the effect lasts, is of great importance in determining the impact of the variable being explored.

To validate our results and provide greater understanding of how our findings could work in practice, we conducted four interviews with senior managers from exporting firms in Estonia and two interviews with Estonian ex-senior government officials working with export support from the time the data was collected. All interviewed firms had received multiple support instruments and therefore were well placed to validate several our findings in one interview. Two firms were from manufacturing industries and two from services industries. The interviewed firms were founded in 1993, 1997, 1997 and 2007. Three firms had increased their export intensity between 2009 and 2018, and one decreased by less than 5%.

The interviews generally confirmed our findings. The managers pointed out that the results are likely to depend on the firm's industry as well the target market. The industry determines the mode of sales (e.g., a showroom product which is easier to sell at trade fairs and sales happen relatively fast vs a software solution where negotiations on what is required can take 2 years). In our statistical model we control for the industry. In general, an export plan was considered the most useful at early stages of exporting. The results of both trade fairs and ministerial visits were both considered highly dependent on the prior homework and subsequent follow-up activities. However, serendipity was also emphasized, especially in relation to high level officials. For example, one firm mentioned that a contact with a R&D director of a German MNC happened only because the deputy minister was sitting at his dinner table. None of the firms mentioned knowingly using the different types of government support in a particular order. However, some commented after hearing

	a: Chronological time	b: Reference time	c: Effect length (peak time)	Time sequence
Hypothesis 1(a-c)	Supported	Supported	Not supported (t + 4 may not be sufficient time to observe the peak)	
Hypothesis 2(a–c)	Supported	Supported for medium-term effect	Supported (peaks at t+3)	
Hypothesis 3(a–c)	Supported	Supported	Supported (Sig. peaks at t+1)	
Hypothesis 4a				Supported
Hypothesis 4b				Not supported
Hypothesis 4c				Supported

 Table 7
 Summary of the hypotheses and analysis results for various time dimensions

our results that the results made sense and the support instruments could be used more strategically than they had and that our results would be helpful to guide firms in doing that.

The interviewed policymakers provided us with a different viewpoint. The individual support measures were evaluated mostly from the cost per unit perspective. However, the understanding about the role of different services and their succession was much more informed. The interviewees described the envisioned path between the various services offered by the government, including some not directed to exports. An ex-deputy minister suggested the following sequence though for the optimal export result (before knowing our results): (1) trade fair or low level contact visit, (2) export plan to set the following steps, (3) a visit in a grander scale, such as ministerial visit, to resolve more detailed issues. The latter resembles the optimal order of support services in our study – trade fair, export plan, ministerial visit - providing face validity for our results. The same interviewee also suggested that the largest individual impact from the three services we explored was likely to be obtained from getting an export plan which was indeed what our results showed. Finally, we do want to highlight that all of the support for ministerial visits in our data occurred after support for trade fairs and export plans. However, the validation interview indicated that our lack of data about ministerial visits before trade fairs or supported export plans is only a minor shortcoming as it can be seen to confirm that ministerial visits are most appropriate for firms with experience of exporting and using other export services.

5 Discussion

This paper makes two types of contributions to the IB literature. First, it shows empirically that the "dimension of time" matters and that it is useful to consider multiple dimensions of time. In this study we consider chronological time, reference time, time sequence, and effect length time and map them on a visual framework. By analyzing the same dataset from various angles of time, the results become more nuanced and reveal aspects that analysis of single dimension cannot achieve. This has two practical implications for authors: first, any empirical study that uses longitudinal data needs to specify the time dimension(s) it looks into, and second, studies need to justify their choice of a particular dimension(s) of time. Second, specifically to SME export assistance literature, the article establishes that the effects of various government export support mechanisms on export intensity peak at different times, and that there are benefits in optimal sequencing of export support mechanisms that magnify the positive effects of previous export support mechanisms and allow export support mechanisms used later to be more effective.

5.1 Contribution to Theories about Time in International Business

The study extends the research of single measure efficiency studies and some mixed measure efficiency studies (e.g., Alvarez, 2004; Monreal-Pérez & Geldres-Weiss, 2020) where the measures were not clearly distinguished or temporally ordered. Looking at the prior export assistance literature from a time perspective, it impels to consider whether "chronological time" is the only or even the most appropriate framing of time to empirically measure the success of an intervention. As the analysis revealed different nuances when the research question was framed in different time dimensions, the article also contributes to the general IB literature by demonstrating that in an empirical study, merely using longitudinal data is insufficient to make the claim that an intervention has a positive effect. Our results raise the question that many other IB and management phenomena might benefit from considering various time dimensions. More specifically, the time sequence of different mechanisms and considering how long various effects take to develop and last is something that more IB and management studies should pay attention to. Specifically, we propose a graphical model to analyze the effects in intrinsically different time dimensions, x-axis or "clock time", y-axis or "stopwatch time" and z-axis, which is time-invariant and which might suit for the sequence analysis of non-defined time settings, such as the order of events or when discussing time aspects in stage models.

Our study also questions whether the typology of the time aspects that are relevant to internationalization (Jones & Coviello, 2005) is complete or whether it would be useful to add additional dimensions of time. In particular, we find that effect length is a dimension that can produce different effect than merely relying on the start of the effect would suggest. Effect length is a dimension that is particularly interesting for policy makers, as for them, companies are the unit of analysis in terms of the efficiency of public support. However, effect length dimension has relevance for all firms that receive export support, as the fadeaway implications may prompt certain action or follow-up activities. Therefore, it is important to understand that the effects policies have in this study deserve more attention when exploring range of other IB phenomena that include events or interventions.

5.2 Managerial and Policymaker Relevance

This research contributes to the literature of SME internationalization and export assistance measures (e.g., Leonidou et al., 2011; Seringhaus, 1986; Martincus & Carballo, 2010b) by examining multiple types of support and their interactions in various time dimensions, for the first time to our knowledge. Participation in export promotion programs is not "free" as it requires the commitment of significant resources by participating companies, either directly or indirectly through associated opportunity costs (Torres et al., 2016). If a manager improves his/her understanding of what "works" from experience and learning, the company can direct financial and human resources to activities that are more likely to bring export success. In addition, governmental policy makers in most developed countries direct substantial money into export promotion and firm internationalization programs, and closer insight could increase its efficiency. However, due to the large number of SMEs and their small size, they are difficult and costly to reach. The differentiation between the effectiveness of various support measures and the findings about timing are especially relevant for the activities targeted to SMEs because the high percentage of SMEs in the economy results in well-executed export support activities having a significant impact on macroeconomic figures, employment, and other socio-economic indicators. The principle that guides the government is not unlike what the firm faces, how to achieve maximum efficiency on a limited budget, but unlike the firm, the government is also in position to occasionally reorganize the export support measures it uses.

The current research confirms the general propositions in the academic literature that governmental support can benefit companies by increasing export activities. However, our study fills a gap by showing in a fine-grained way how this happens and by providing additional empirical evidence for the importance of government support in facilitating exports. As suggested by Model 1, the largest increase in export intensity is achieved by formulating strategic export plans. Trade fairs and ministerial visits also have a positive impact but materialize for shorter time, for trade fairs in medium-term with a slower start, and for ministerial visits, in the short-term, ebbing sooner. As elucidated by managerial interviews, trade fairs are venues for either creating completely new business contacts or reinforcing existing ties. Hence, whereas these are beneficial for SME internationalization, neither reason has very high potential to result in quick sales. In the case of ministerial visits, the possible reason for the short time frame of the effect is that business contacts need follow-up activities to remain effective (Wilkinson & Brouthers, 2006) and ministerial visits are often one-time activities. The positive effect of having an export plan on export intensity is enhanced if the creation of an export plan follows trade fair participation, but not vice versa - order matters. Trade fairs are important venues to gain experience, and although there is no objective measurement for the quality of an export plan, this finding implies that a strategic export plan created after trade fair participation may be better informed as firms have been able to gain more information about the market from the trade fair and are thus more knowledgeable about foreign customer wishes, their own strengths and their competitive advantages. On the other hand, trade fair participations that follow a less informed

export plan which may be less accurate since it was based on less information, do not increase the export intensity. These results are understandable since Tybouut (2000) has suggested that when firms start to export information about the foreign market they are exporting to is important for export success and attending a trade fair is one good way to gain such information. Further, the results are consistent with Bonoma (1983) who suggested that trade fairs have a number of benefits and advised to look beyond immediate sales when attending trade shows. Importantly our paper advances past research by showing which government support mechanisms are most important for SMEs, suggesting that the order one uses the government support mechanisms matters, and suggesting that there are advantages to using multiple support mechanisms.

6 Conclusions

Using a sample of 10,776 SMEs from population data, this research advances the discussion regarding the usefulness of government export support to SME internationalization. We found that answering questions regarding the efficacy of government export assistance is not easy as the support is heterogeneous. Furthermore, we recommend looking beyond "chronological time", as the results can be interpreted differently using several time dimensions. Whereas the prior literature has examined the pure effects of various single export assistance programs, we went several steps further to assess the efficacy of export assistance programs by exploring the benefits of using multiple export assistance programs and their sequence. The study also illustrates that paying closer attention to time and acknowledging its various types can make a study more informed and by our example, we believe it can be useful for many other researched phenomena in IB and management studies.

Overall, our findings demonstrate that all three government export assistance mechanisms proved beneficial to increase SME export intensity. The most efficient mode of support is a government supported strategic export plan. However, the substantive differences appear in nuances that can be matched to various dimensions of time. Our findings suggest that firms and policy makers should evaluate not just the size of the effect but when the positive effect starts and how long it lasts. Export plan and ministerial visits presented immediate effects, whereas trade fair effects took 2 years longer to reach similar significance. However, our empirical results also indicated that various interventions have different lengths of effect. Thus, we propose adding a subsection of reference time, "effect length", as an additional dimension of time to consider in addition to those Jones and Coviello (2005) suggest. Our data showed that an export plan produced the longest lasting effect, and the briefest benefits were provided by ministerial visits. As the result about effect length differs from the results about the start of the positive impact, we believe that this distinction is quite important, and it is something that much extant internationalization literature and IB literature more broadly has not paid much attention to but should consider to do moving forward.

Furthermore, we found evidence that the sequence of support modes matters. For example, opting to attend a trade fair before producing an export plan has

a larger effect on export intensity than pursuing the support mechanisms in the reverse order. In short, it is beneficial to use multiple support mechanisms, and the optimal order to increase export intensity is: first, participating in trade fair, subsequently composing a strategic export plan and finally taking part in ministerial trade missions. By illustrating how the conclusions differ depending on the chosen dimension of time, we call for future studies to explicitly describe why the authors have chosen the particular time framework, beyond mere data availability reasons. In this study we explore chronological time, reference time, time sequence, and effect length time, and place them in a framework consisting of "clock time" axis, "stopwatch time" axis and time-invariant axis. We believe this framework is also useful to relate dynamic stage models, such as Uppsala model, to the theories about time in IB.Our study highlights the need for SMEs and policymakers to realize that the benefits of export assistance programs are not linear and straightforward. Insight regarding the interactions and conditions when different support treatments are effective will result in firms becoming more knowledgeable about when to use these tools in their strategy puzzle. This advice is especially valuable for SMEs which want to internationalize since they normally have fewer resources.

Our study is subject to several limitations, which we suggest future research to tackle. First, the study focuses on one county, Estonia, a small homogeneous and open economy. We recognize that it is not representative of most countries. However, neither are the Nordics, which were instrumental in developing the influential Uppsala model of internationalization. While we can only speculate, we believe the largest difference between the situation for SMEs from small countries and SMEs from large countries is that SMEs from small countries have easier access to the government export support. One could make arguments for and against the role of networking between firms being easier or harder in larger countries. There are more firms exporting to a particular country from a large country, but there are so many firms that a firm may just be one of many and have a hard time to get attention of other exporting firms. It may also be that the size of the country matters less as the poor quality of regulatory frameworks drives firms to network internationally (Cardoza et al., 2016). The same type of argument also applies to industry associations. It may also be that Estonian firms are generally in more need for government support to develop export knowledge and networks due to the need to catchup after the Communist period. Therefore, government support may be more helpful to Estonian SMEs than would be the case in other countries. However, we presume that the results for those SMEs which receive support in large and small countries would be similar. Thus, we encourage future studies to replicate this study in other, including larger, countries.

Second, the model does not take into account the host location of export-related activity. There are several reasons for this but most importantly, some of the independent variable data, especially the export plan, cannot be linked to a particular market. The data obtained from trade fair visits that could be linked to a specific location could be misleading as many of the trade fairs are regional and the export contacts that are developed during the trade fair can result in export sales to an unrelated third country. Nevertheless, future studies could follow particular SMEs

(e.g., as Gopalakrishna et al, 1995 have done) receiving support for developing their export plans, participating in trade fairs or ministerial visits to attempt to quantify location-linked export effects.

Finally, this article studied the impact of government export assistance in four dimensions of time (reference time, chronological time, time sequence, and effect length). Considering the variety of results when considering these dimensions of time, it raises questions of whether decomposing a similar empirical dataset with longer observation history to more time dimensions, including, for example, cyclical time, can reveal even more nuanced results. Some of these varying time and location specific effects could potentially be captured by an additional mixed methods data collection in a future study. Thus, while this study presents evidence for the usefulness of government support mechanisms like support for attending trade fairs and support for developing an export plan and the importance of considering sequence for increasing export intensity, the above also highlights that there is much research left to be done in this area.

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Availability of Data and Material Data would be available 3 or 5 years after publication to allow time to work on other papers or at the time of publication.

Code availability SPSS.

Declarations

Conflicts of interest/Competing interests None.

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