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## Unbundling the effect of E-I relationship termination on export performance: The moderating role of export experience

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# LEM

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# Unbundling the effect of E-I relationship termination on export performance: The moderating role of export experience

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## Abstract

The termination of an exporter-importer (E-I) relationship could challenge the company's export process. What are the consequences on the company's export performance in the foreign country? What role does export experience play in this relationship? The paper explores the overlooked phenomenon of E-I relationship termination and provides robust empirical evidence that the event has negative consequences on the firm's export performance in the foreign country. Despite this unsurprising, yet previously untested finding, our study shows a second important remark i.e., if the exporting firm has prior export experience, it is then able to cope with the negative effect of the termination event. Moreover, we find that the positive effect of prior export experience is only present in the early years of exporting. The results are based on a large longitudinal sample of French firms exporting to foreign buyers in EU countries. Findings are discussed along an in-depth case study to enhance robustness and comprehensiveness.

**Key words:** Exporter-Importer (E-I) relationship termination; Critical event; Export experience; Export performance.

## 1. Introduction

In an international business (IB) landscape characterised by a continuous and evolving market forces, research on exporter-importer (E-I) relationships is of paramount importance to understand how parties deal with the complexity and dynamism of their exchange (e.g., Leonidou, Samiee, Aykol, & Talias, 2014).

Governed by a set of norms similar to domestic buyer-seller relationships (e.g., Narayandas & Rangan, 2004), E-I literature have covered a wide-range of topics since the seminal article by Håkansson and Wootz (1975). They have mainly focused on the efforts firms put into establishing, developing and managing E-I relationships (e.g., Ahmed, Evangelista, & Spanjaard, 2021; Leonidou, Katsikeas, & Hadjimarcou, 2002; Katsikeas, Skarmeeas, & Bello, 2009). However, even cooperative relationships can come to an end (Hurmelinna, 2018; Pressey & Tzokas, 2004), and relationship termination has largely been overlooked by previous studies (Aykol & Leonidou, 2018).

According to Aykol and Leonidou (2018, p. 1014), research on exit (Alajoutsijärvi, Möller, & Tähtinen, 2000), termination (Giller & Matear, 2001) dissolution (Pressey, & Mathews, 2003) or ending (Tähtinen & Halinen, 2002) of the E-I relationship has been the focus of only a small 3.1% of articles during the period 1975–2017. Their emphasis has been on the motives causing a termination of a relationship (Pressey & Selassie, 2007; Zhang, Griffith, & Cavusgil, 2006) which may lead to switching to other foreign partners (e.g., Li & Ng, 2002; Petersen, Benito, & Pedersen, 2000). However, what are the consequences of the E-I relationship termination on the firm's export performance in the foreign country remains unclear.

Bernard, Moxnes and Ulltveit-Moe (2018) report that the ending, exit, termination or dissolution<sup>1</sup> of an E-I relationship is a common practice during the export process. Conventional wisdom would suggest that the termination of an E-I relationship has a detrimental effect on the firm's export performance, as it may deprive the access to foreign knowledge, reduce the level of competitiveness and, in turn, jeopardise the firm's performance (e.g. Katsikeas et al., 2009; Payan, Obadia, Reardon, & Vida, 2010). However, the relationship between the termination of an E-I relationship and its impact on the firm's export performance is not always clear-cut (Habib, Bastl, Karatzas, & Mena, 2020). In some cases, exit from a particular relationship could be the result of a strategic decision by the seller to change business partners and shift sales to other buyers in the same foreign country (Petersen et al., 2000). Thus, exit from an E-I relationship may lead to a desirable positive export outcome at the country level as a result of a strategic decision by the seller.

Therefore, our first research purpose is to assess the surprisingly previously untested effect the E-I relationship termination on the firm's export performance in the foreign country.

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<sup>1</sup> In this paper the terms are used interchangeably.

The extant literature also highlights that the termination of a relationship could represent a 'critical' event (Hurmelinna, 2018) that challenges the firm's export status quo (Jones & Coviello, 2005; Surdu, Greve, & Benito, 2021). Clearly, this may depend on the nature of the relationship (Pels, Coviello, & Brodie, 2000). In this paper, we focus on the relational nature of the exchange where transactions happen over time supported implicitly and explicitly by trust, planning and long-term commitment (Dwyer et al., 1987).

The termination of an E-I relationship could also potentially represent a valuable learning experience (Gavetti, Greve, Levinthal, & Ocasio, 2012) in which firms unlearn old practices and achieve a higher level of learning (Cope, 2003; İpek, 2019). However, learning does not occur automatically (Argote, Lee, & Park 2021; Huber, 1991; Levitt & March, 1988), and prior experience may be required to turn an exit event into a learning event (Cope, 2005).

Our second research purpose is, therefore, to assess whether prior export experience plays a role in the relationship between the exit event and the firm's export performance in the foreign country. In this paper, we distinguish between country-specific and generic export experience.

According to Toyne (1987), the foundation of IB research is the international exchange between buyers and sellers from different countries. Johanson and Vahlne (2009) stressed how the study of firms' relationships is key for understanding today's dynamics in IB. In the realm of international management, the exploration of the E-I relationships and their intricacies is both timely and important for the advancement of export management research. Despite its critical relevance, there is a lack of research focusing on the outcomes and remedies of E-I relationship termination, which is the object of our study.

By drawing insights from the E-I relationship literature (e.g., Aykol & Leonidou, 2018; Leonidou et al., 2014) and by using unprecedented archival data (Barnes, Dang, Leavitt, Guarana, & Uhlmann, 2018) reporting French firms' export transactions to buyers in EU countries over a twenty-year period (Bergounhon, Lenoir, & Mejean, 2018), we aim to contribute to E-I research in several ways.

First, by studying the exit from an E-I relationship, but not necessarily from the country (e.g., Jeong & Yang, 2023; Kafourous, Cavusgil, Devinney, Ganotakis, & Fainshmidt, 2021), we contribute to understand a phenomenon which has been less studied than the complete exit of the firm from an export market (e.g., Ganotakis, Konara, Kafourous, & Love, 2022; Sousa & Tan, 2015) due to the difficulty of obtaining reliable and comparable information from partners across countries (Aykol & Leonidou, 2018).

Second, by drawing on the experiential learning literature (Argote & Miron-Spektor, 2011; Mintzberg & Waters, 1985; Surdu & Narula, 2021) and by isolating the 'criticality' of the exit event

along the relational nature of the exchange, we offer our contribution to critical learning event studies on the mitigating role of different types of export experience. Specifically, our study sheds light on the repercussions of E-I relationship termination and the potential remedies by exploring the role of country-specific and generic export experience as learning mechanisms in the critical event of termination. Thus, we aim at offering our contribution to the research on the resilience and adaptability of firms to the challenges and opportunities of the global marketplace (Galkina, Atkova, & Gabrielsson, 2023).

Third, by using the data at our disposal, we investigate the E-I relationship termination and its consequences offering our contribution to a body of literature often limited by primary data (Aykol & Leonidou, 2018). Using secondary data to study E-I relationship has potential benefits, such as facilitating longitudinal analyses over longer time frames, wider geographical areas, and larger samples than would often be impossible through primary data collection alone (Cerar, Nell, & Reiche, 2021). Thus, we aim at contributing to the E-I body of research by leveraging an unprecedented opportunity to gain generalization of our findings from the statistical power from millions of observations. However, employing only secondary data to study E-I relationship might have some drawbacks. One drawback of such data is that often lack nuances behind firm-level activities. Therefore, we triangulated our findings with primary data from an in-depth case study to enhance robustness and completeness of our research.

## **2. Theoretical Reasoning and Hypotheses**

### *2.1 Termination of an Export Relationship and Export Performance*

As noted by Aykol and Leonidou (2018) in their systematic literature review, the attention of E-I scholars has been primarily directed towards behavioural dimensions of the E-I relationship (e.g., trust, opportunism, dependency, commitment, cooperation, conflict, cultural distance). These dimensions along relationship characteristics (demographic, structure and partner's compatibility) remain at the core of contemporary studies as antecedents of satisfaction, long-term orientation and relationship performance. Most of these studies employ primary data and are based on perceptions of the participants or latent relationships.

Recent investigations continue along this traditional path by exploring the behavioural constructs and their direct or indirect impact on relationship performance. For example, Ahmed et al. (2021) investigated the impact of mutuality of key relational variables (e.g., trust, commitment) on E-I relationship performance in a dyadic model. Andaleeb, Saleh and Ali (2022) examined the role of cultural similarity to explain importers' commitment to their international suppliers and assessed whether commitment enhances trust in the E-I relationship. Leonidou, Aykol, Fotiadis and

Christodoulides (2023) examined the effect of key behavioral factors on social bonding between an exporter and its import buyer, and its subsequent impact on the exporting firm's long-term orientation. Along the same lines, Leonidou, Aykol, Larimo, Kyrgidou and Christodoulides (2021) investigated the role of exporters emotional intelligence in enhancing the quality and the long-term orientation of the relationship with its import buyers.

The initiation, development and maintenance of relationships remain of great importance to contemporary studies in the E-I body of research (Habib et al., 2020). However, the dynamic, complex, diversified and challenging IB environment gives rise to various negative phenomena that could characterize the E-I relationship (Leonidou, Aykol, Fotiadis & Christodoulides, 2018). Among the dark-side, negative phenomena of E-I relationship (Johnsen & Lacoste, 2016; Miocevic, 2021), the drivers of termination (e.g., contextual, behavioral, situational), the stages of the termination process, and the outcomes of termination remain largely unexplored (Aykol & Leonidou, 2018:1017). Table 1 shows the key articles on the topic of E-I relationship termination.

[Insert Table 1 here]

The majority of the studies reported in Table 1 focused on the reasons for business relationships termination. They include perceptions over opportunism by the partners (Li & Ng, 2002), lack of satisfaction (Giller & Matear, 2001), asymmetry of information (Petersen et al., 2000), availability of better price from competitors (Pressey & Selassie, 2007), low trust (Leonidou et al., 2018) and poor performance (Payan et al., 2010). Previous studies acknowledge that these motives are alleviated by the contextual factors (Alajoutsijärvi et al., 2000), the level of dependence and investments in the relationship (Giller & Matear, 2001), the duration of the relationship and the relative size of the counterpart (Habib et al., 2020), the presence of contractual obligations (Leonidou et al., 2018), the presence of the partner's capabilities (Li, & Ng, 2002) and the presence of social or other bonds (Leonidou et al., 2018).

Most of these studies employ explorative case study approach with some notable exceptions (e.g., Habib et al., 2020; Leonidou et al., 2018; Payan et al., 2010; Petersen et al., 2000). Besides the drivers, factors or reasons of the E-I relationship termination, the extant literature has focused on studying the types of termination (Pressey & Mathews, 2003; Zhang, Griffith, & Cavusgil, 2006) and the appropriate termination strategies (Giller & Matear, 2001) to reach a kind exit (Habib et al., 2020) or deal with re-encounters (Hurmelinna, 2018).

However, previous literature (e.g., Alajoutsijarvi et al 2000) acknowledges that the dissolution of a business relationship can be either harmful, involving costly legal disputes and the loss of company

reputation, or beneficial and desirable, freeing badly deployed resources. Yet, there are no E-I studies that examines the direct effect of E-I relationship dissolution on the export performance.

The significant churning activity (establish new relationships while dropping others each year) in international buyer-seller relationships (Bernard et al., 2018) seems to suggest that both exporting and importing firms are able to continuously search for better business opportunities (Petersen et al., 2000). For example, if a relationship is unprofitable for the seller/exporter, this latter could strategically plan the exit refreshing its portfolio of buyers and report in time a positive impact on the firm's export performance. This is in line with the notable exit strategy (Hirschman, 1975) and it should improve the export performance. This means that the seller/exporter who is looking for better business opportunities within the foreign country (Petersen et al., 2000) is able to strategically plan the exit to deal with potential losses of credibility and reputation, hostility and retaliation practices from other buyers (Alajoutsijärvi et al., 2000; Pressey & Mathews, 2003). In other words, the exporter is able to find new partners and deal with the potential dark side effects of the termination, including power' conflicts and dependency issues (Habib et al., 2020; Hurmelinna, 2018; Johnsen & Lacoste, 2016), and report positive export outcomes from the strategic move.

Nevertheless, the termination of an export relationship is likely to be a dysfunctional situation for exporting firms. This is the case of the buyer/importer who has better options or a new strategy and, the exporter could suffer a negative effect on export performance in that country, given the relatively short time available to reallocate sales to other buyers in the same export market. In this regard, the literature underlines the costs associated with establishing new reliable relationships (Blankenburg Holm, Eriksson, & Johanson, 1999; Friman, Garling, Millett, Mattsson, & Johnston, 2002; Zaheer & Zaheer, 2006) that could hamper the exporter's ability to reallocate sales within the same export market. In other words, exporting firms would lose access to foreign knowledge and suffer a decline in export performance in the foreign country.

Based on the above, and in line with previous E-I studies that describe exporting process as mainly unplanned and incidental, rather than thoughtful and planned (Petersen et al., 2000), we hypothesize that:

*HP1. The termination of an E-I relationship has a negative effect on the firm's export performance in the foreign country.*

## *2.2 The Moderating Effect of Export Experience*

Previous IB studies recognised that organisational learning is essential to fill gaps in the firm's knowledge of foreign markets (e.g., Johanson & Vahlne, 1977; Petersen, Pedersen, & Lyles, 2008)

and suggest that organisations that learn from their direct experience may be able to revise their strategies to respond to relevant changes in the internationalisation context (Casillas, Moreno, Acedo, Gallego, & Ramos, 2009).

In the E-I body of research, organizational learning (OL) has received only limited attention (e.g., Liu et al 2021). Aykol and Leonidou (2018) invited researchers to pay more attention to some theories, such as the OL, neglected but with an explanatory potential on E-I relationships. Indeed, OL provides a valid theoretical framework to discuss how firms may acquire knowledge to reduce uncertainty, opportunism and all issues associated with the hidden information problems in an international buyer-seller relationship (Petersen et al., 2000).

An organization learns by interpreting and retrieving relevant knowledge derived from its past experiences in a specific domain (Levitt & March, 1988). According to the OL theory (see Huber, 1991), knowledge can be acquired through congenital learning, experiential learning, vicarious learning, grafting and searching and noticing<sup>2</sup>. In this paper, we focus on experiential learning, which emphasises the central role of experience in the normal course of the firm's activities. Specifically, we focus on the export experience of firms. Once a firm starts exporting, it gains experience by doing business in a foreign environment, which leads to learning that supports the export process (D'Angelo, Ganotakis, & Love, 2020).

This learning mechanism can be important for managing a critical change that occurs in the firm's export process, such as the termination of an export relationship. Although the hypothesised critical event could have negative connotations, the dynamic nature of learning suggests that even apparently negative events can also produce positive outcomes (Cope, 2005). Indeed, more than routine work, critical events can trigger deep reflection leading to higher levels of learning (Cope, 2003). Of course, this depends on the learning history of the firm, which influences how the exit is elaborated to put further actions into practice (Argote & Miron-Spektor, 2011; Mintzberg & Waters, 1985).

Previous studies have acknowledged that experiential learning can be derived from generic (regardless of country) or country-specific export experience (Albornoz, Fanelli, & Hallak, 2016; Carrere & Strauss-Kahn, 2017; Esteve-Pérez, 2021; Timoshenko, 2015). Generic experience is 'experience in one place' (Surdu & Narula, 2021:3) and accumulated knowledge is transferable across countries (Eriksson Johanson, Majkgard, & Sharma, 1997). However, generic experience is considered to be only partially relevant because it is only by doing business in a specific country that

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<sup>2</sup> Congenital learning refers to the knowledge the firm's founders possess before the establishment of the firm; experiential learning refers to the knowledge acquired by the firm as it carries out its normal business activities; vicarious learning refers to the knowledge resulted from observing and imitating the actions of other firms; grafted learning refers to the knowledge acquired by hiring managers with relevant experience; searching and noticing refer to the knowledge proactively and explicitly pursued.

firms "learn how customers, intermediaries, competitors and public authorities act and react" (Johanson & Vahlne, 2003:90). Therefore, only country-specific export experience, which refers to 'the skills and knowledge [gained] in specific situations and the context in which they are developed' (Johanson & Vahlne, 2003:90), should have a positive effect on the level of knowledge acquisition. In other words, the idiosyncratic nature of country-specific export experiences should facilitate the process of absorbing and embedding knowledge in the organisation (Love, Roper, & Zhou, 2016), which should allow firms to respond with further actions to relevant changes in the export process.

According to Petersen et al. (2000:59), "as exporters gradually gain market experience and develop their capabilities, .... they can more easily identify and evaluate alternative courses of action". We argue that the dynamic nature of experiential learning through country-specific export experience, thanks to its idiosyncratic nature, allows firms to better manage the exit event, renew their strategic course of action and achieve the desired export outcomes (Argote et al., 2021; İpek, 2019; Surdu & Narula, 2021). Put differently, we argue that the exit event could represent a stage of reflective learning that leads the firm to an updated set of knowledge and practices, which finds a solid ground in country-specific export experiences. This mechanism could potentially positively influence the level of export performance in the foreign country despite the exit event. Thus, the occurrence of an E-I relationship termination may lead firms to leverage on the presence of country-specific export experience to turn the exit event into a critical learning event (Cope, 2005) that triggers the renewal of the firm's strategic actions. In other words, the presence of country-specific export experience should be able to mitigate the hypothesised negative impact of the termination of an E-I relationship and allow exporters to manage a possible reallocation of sales to other buyers in the same foreign country and, thus, mitigate the effect on the firm's export performance.

Based on the above, we hypothesise that the mitigating role of country-specific export experience, should allow firms to report a positive effect on export performance at the country level after the E-I relationship termination event. Thus, we postulate that:

*HP2. The firm's country-specific export experience positively moderates the relationship between the termination of an E-I relationship and the firm's export performance in the foreign country.*

### **3. Data and Methodology**

#### *3.1 Data set*

Our empirical analyses use export data disaggregated at the transaction level, i.e. we observe the business relationships between French exporting firms and their buyers outside France but within EU countries over the period 1995 to 2017. The data, collected and recorded by the French Customs

Directorate (Direction Générale des Douanes et Droits Indirects, DGDDI), were made available by the DGDDI to several researchers working on research projects approved by the Comité du Secret Statistique.

Despite the fact that the researchers have no control over the data collected, the use of this dataset provides the benefits of archival data claimed by Barnes et al. (2018), that is, it provides a large sample of professionally collected data with great statistical power. Furthermore, the use of the same archival secondary dataset by other researchers is another indication of the reliability of our data source and allows for the comparability of our findings.

The original sample includes 5,122,333 relationships at the exporter-country-year level with valid exporter and country identification codes, covering 149,047 French exporters trading with 27 EU countries, i.e. 884,774 unique exporter-country cells over the period 1995-2017. After standard cleaning procedures, we have 51,809 exporters, 463,299 exporter-country cells, and 2,877,736 observations at the exporter-country-year level with valid and consistent export values. (Refer to Appendix 1 for detailed information, including a specific explanation of the significant attrition - Appendix 2).

The definition of some key variables reduces the actual number of observations used (See Appendix 3 for the details). Specifically, after defining the dependent variable and the independent variable, and taking the partial year effect into account (Bernard, Bøler, Massari, Reyes, & Taglioni, 2017), we are left with 29,803 exporters, 274,611 exporter-country cells, and 1,802,895 observations. After matching the dataset described above with the Bureau van Dijk-Orbis data to calculate the age of the exporter, we are left with 1,421,344 observations involving 19,928 individual exporters and 198,948 unique exporter-country cells. These are the data (full sample) that we use for testing hypothesis 1. Since we do not have information on the year in which firms started exporting, we focus only on those exporters established in 1995 or later for which we observe active export transactions. This procedure is necessary to investigate the relevance of the export experience variables within our dataset. As a result, our data for testing hypothesis 2 shrinks to 274,115 observations involving 6,247 individual exporters and 55,783 unique exporter-country cells for our analysis (subsample).

The data (not shown here) show that Belgium, Germany, Spain, Italy and the United Kingdom are the top five countries in terms of presence, i.e. the number of individual exporters over the 20 years. However, in terms of total export value, the top five countries are Germany, Spain, Italy, the United Kingdom and Belgium.

We now report a series of interesting statistics based on the exporter-country-year cells from the full sample and/or subsample. Table 2.1 illustrates the evolution of the number of exporters and exporter-country cells for both datasets. Additionally, the table provides the evolution of the average

number of destination countries per exporter for each sample. For instance, in the full sample, the average number of destination countries is calculated as 8, derived from pooling the cells across all years (1,421,344/176,676).

[Insert Table 2.1 here]

Second, the average number of dynamics for an exporter-country relationship involved is 7, calculated as 1,421,344/198,948. Table 2.2 presents the distribution of exporter-country relationships across different dynamics counts. For example, there are 30,590 exporter-country cells that involve only one dynamic. To illustrate, consider an exporter selling to a destination country only in 1995 and 1997 in our data sample. In this case, the exporter-country pair contributes only one dynamic, specifically the dynamic from 1995 to 1997, since 1997 falls within the subsequent 3 years of 1995. However, the dynamic starting from 1997 is not defined. Consequently, this exporter-country pair contributes only one exporter-country-year cell for our analysis, namely exporter-country-1995. Conversely, a dynamics count of 20 indicates that all dynamics from  $t$  to the subsequent 3 years are well-defined for  $t = 1995, \dots, 2014$ .

[Insert Table 2.2 here]

Although our analysis is conducted at the exporter-country-year level, it is insightful to explore the distribution of these cells using the underlying information at the exporter(-country)-buyer-year level. Specifically, regarding the dynamics of E-I relationships, Table 2.3 categorizes exporter-country-year cells based on their activities in the subsequent three years as follows:

**No changes:** Cells where no buyers are added or dropped, meaning the same buyer(s) persist throughout the subsequent three years.

**Only additions:** Cells where at least one new buyer is added, but no buyers are dropped during the subsequent three years.

**Only drops:** Cells where at least one buyer is dropped, but no new buyers are added during the subsequent three years.

**Both additions and drops:** Cells where both the addition of new buyers and the dropping of existing buyers occur within the subsequent three years.

[Insert Table 2.3 here]

Regarding the distribution of sales across E-I relationships within an exporter-country-year observation, reporting nested distributions poses challenges. Instead, we compute key statistics: the mean and maximum sales across all E-I relationships within each exporter-country-year cell. We then report the distributions of these mean and maximum values across all such cells in Tables 2.4 and 2.5, respectively.

[Insert Tables 2.4 and 2.5 here]

To address the importance of interrupted E-I relationships in a firm's total exports, we report in Table 2.6 the number of exporter-country-year cells with E-I relationships interruptions (only the first criterion in our manuscript), as well as the number of cells where these interruptions involve important E-I relationships, defined as those accounting for at least 10% or 20% of the total export value in a given destination country.

[Insert Table 2.6 here]

To sum up, our full sample, for each observation — i.e., a seller-country-year specific cell — captures a French exporter's trading activities with one of its destination countries in a given year. Within a rolling 4-year window, we focus on the dynamics of these seller-country pairs observed in the initial year by comparing their activity in that year with the average over the following three years. However, if the seller appears to be inactive for most of the initial year, ceases exporting to this country in the subsequent three years, is suspected of going bankrupt during that period, lacks information on its incorporation date, or fails to meet a consistent export threshold over time, we exclude that seller-country pair and its dynamics from our analysis for hypothesis 1. Additionally, for hypothesis 2, we limit our subsample to seller-country-year cells from the full sample where the sellers were established in 1995 or later, ensuring accurate measures of both generic and specific experience.

Below we define our dependent variable and introduce the covariates used to test our working hypotheses.

### *3.2 Measures and Variables*

#### *3.2.1 Dependent variable*

*Export Performance.* Previous internationalisation studies have used different measures to capture success in export markets (Bernard et al., 2018; Carballo et al., 2018; Love et al., 2016; Obadia &

Robson, 2021). Following previous studies, we use growth in export sales at the country level (Bardaji, Bricongne, Campaigne & Gaulier, 2019; Bernard, Boler, Massari, Reyes, & Taglioniet, 2017; Bricongne, Fontagné, Gaulier, Taglioni, & Vicard, 2012). Specifically, to measure export performance, we model the export growth reported by an exporter within the exporting country with a continuous variable. Our variable  $Export\_Performance_{sc}^{t,t+3}$  represents the log difference growth rate of export sales in year  $t$  to average export sales in the following three years for seller  $s$  exporting to country  $c$ . When calculating the average export sales for one country over the following three years, the exporter only needs to be active in one year and not necessarily in all three years. If the exporter is active in more than two years, we calculate the average over those years. Using a three-year window to measure the average increase in export sales growth is consistent with the window we use to construct our independent variables.

To properly define this dependent variable, it is essential to focus on exporters who continue trading with the same destination country over the subsequent 3 years. Exporters that exit the destination country during this period would have an average future export value of zero, rendering both its logarithm and the log-difference growth rate undefined. As part of the data cleaning procedure, exporters exiting their destination countries have been excluded from both the full sample and the subsample used for the econometric analysis.

While the behavior of exporters exiting a country is indeed interesting, it lies beyond the scope of this paper. Our investigation is exclusively centered on exporters who continue trading with the same destinations over the subsequent three years. Specifically, we examine how the termination of an individual exporter's relationship with its buyer(s) impacts its continuing export performance within a given country.

Table 3.1 presents the 10th to 90th percentiles, as well as the minimum and maximum values, for the number of buyers across all exporter-country-year cells in both the full sample and the subsample. The first row of the table shows that in the full sample, over 60% of exporter-country-year cells are associated with more than two buyers, with the maximum number of buyers reaching 9,415. Notably, more than 30% of the cells involve only a single buyer. However, it is important to clarify that for these exporter-country-year cells, the termination of the sole buyer within the subsequent 3 years does not imply the exporter exits the destination country. In our data samples, exporters terminating their sole buyer must establish new buyer relationships within the same country during the subsequent 3 years, ensuring they remain active in the destination country. As previously explained, exporters who

exit the destination country, including those who terminate their sole buyer without forming new exporter-importer relationships, are excluded from the data sample<sup>3</sup>.

The second row of the table demonstrates that the construction of the subsample does not significantly alter the distribution of the number of buyers compared to the full sample, confirming the robustness of the dataset.

[Insert Tables 3.1 here]

The dataset's richness allows us to account for the partial-year effect (Bernard et al., 2017). Since the original dataset provides the month information for each trade record, we can pinpoint the exact year and month when an exporter begins trading. For example, if an exporter started trading in 2000 and the first record is from the first quarter, we consider the exporter active for the entire year. However, if trading began after the first quarter of the initial year, we do not count the export value as a full year's export value. Consequently, while we can still construct the dependent variable, it may overestimate the yearly growth rate since the current year's export sales do not cover the entire year. As a result, for those exporters who began trading after the first quarter of the initial year, their dynamics from the initial year to the following three years are excluded from our analysis.

### 3.2.2 *Independent variables*

*Terminating Export Relationship.* Our main independent variable captures the ‘critical’ event of exiting an export relationship from a relational perspective, with each transaction having both a history and an anticipated future (Dwyer et al., 1987). To account for the effects associated with the exit of long-standing export relationships (Habib et al., 2020), we use a dummy variable  $Exit\_Rel_{sc}^{t,t+3}$  that is set to take the value 1 if the seller simultaneously meets the following three characteristics/criteria:

- 1) the seller, trading with a buyer (in a foreign country) in the current year, does not trade with the same buyer in the next (at least) three consecutive years;
- 2) the same seller who trades with some other foreign countries in the current year, does not start exporting to any new country after the exit for the next three consecutive years;

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<sup>3</sup> If one exporter terminates the trading relationship with its only buyer without switching to new buyers in the same country, this implies stop exporting to this country. In this case, it is straightforward to have a negative effect from the termination on the change of export value since the average export sales in the following three years is zero. However, these exporters have been excluded from our data cleaning. Bergounhon et al. (2018) support our exclusion procedure, noting that for the raw data set “when more than 20% of firms have only one partner in Europe, they represent a tiny share of intra-EU French exports.”

- 3) the seller and buyer involved in the terminating relationship specified in criterion 1) must have traded with each other for at least three years up until year  $t$ .

In this way, we distinguish the termination of a long-standing relationship from the termination of more recent relationships. This variable is intended to capture the ‘critical’ event of the termination of a long-standing export relationship. Note that within the selected time window, a seller's trading dynamics in one country may involve the termination of multiple seller-buyer relationships. The constructed dummy variable indicates whether the seller exits a relationship with any buyer(s) in that country, without distinguishing the number of seller-buyer relationships that are terminated.

Clearly, criterion 1) implies that different temporal patterns of seller-buyer transactions have to be considered as cases of a continuing relationship, as illustrated in the example depicted in Figure 1, involving four sellers and four buyers over four years.

[Insert Figure 1 here]

Figure 1, top panel, shows that if a seller-buyer relationship is observed in year 1 and also in some other years between years 2 and 4, we consider this to be an ongoing relationship (i.e.,  $Exit\_Rel_{sc}^{t,t+3} = 0$ ). However, while it is not necessary for a relationship to take place in all years of the rolling window for it to be considered ongoing (as the top panel illustrates only some of the possible patterns), it is necessary for the parties to be engaged in international trade in year 4 and/or beyond. Otherwise, one or both parties could have already exited the trading business, for example, due to bankruptcy, resulting in the seller-buyer relationship continuing only until the 2nd and/or 3rd year. We exclude such dynamics from our analysis. As readers will see, the same logic applies when we define interruption.

Figure 1, bottom panel, illustrates the only scenario in which we consider a seller-buyer relationship to be interrupted. Specifically, this occurs when the relationship is not active for at least three years after it was last observed, even though both the seller and buyer continue trading with other parties. For example, in the last entry, Seller 1 and Buyer 3 are active in Year 1 but inactive from Years 2 to 4. However, during this period, Seller 1 is exporting to Buyer 1 in Year 4, while Buyer 3 is importing from Seller 2 in Years 3 and 4.

However, there may be several reasons why a relationship terminates, and these are not necessarily under the control of the partners. There are three possible cases where a seller-buyer relationship is not observed after year 1 and is not included in our definition due to lack of data. First, there may be no other recorded activity of the buyer (with any other seller) after year 1. Therefore,

we cannot exclude the possibility that the end of the seller-buyer relationship is due to the absence of the buyer, perhaps due to bankruptcy or some other exogenous shock outside the business relationship. In this case, we cannot assume that the seller and the buyer decided to end their relationship. Secondly, the same logic applies to the seller and, thirdly, a similar situation arises when both the seller and the buyer decide to stop international activities. The first three rows in the bottom panel of Figure 1 show that in all three cases we do not consider the seller-buyer relationship to be interrupted.

To summarise, criterion 1) defined the continuation or termination of an export relationship with a buyer based on whether there is an active transaction in the first observed year and whether it continues or not in the subsequent three consecutive years within the four-year rolling window. Given the high frequency of churning activity in buyer-seller relationships in export markets reported in previous studies (Bernard et al., 2018), we believe that three consecutive years is a sufficient time span to consider a relationship termination. It's crucial to distinguish the termination of a seller-buyer relationship due to the active choice of either party from a termination resulting from the seller or buyer ceasing operations due to bankruptcy or some other exogenous shock unrelated to their business relationship. Our focus is on the former scenario. Since we lack direct data on the status of sellers and buyers, we employ an alternative method using the current dataset. If a seller-buyer relationship is observed in Year 1 but not from Year 2 to Year 4, and both the seller and buyer are still present in the dataset in Year 4 or later, we infer that they are still operational but have chosen not to continue trading with each other. This type of termination falls under our investigation. However, if neither party appears in the dataset from Year 4 onward, it is unclear whether they have ceased all trading activities or if one or both have exited the market entirely. Due to this uncertainty, we exclude such cases from our analysis.

Criterion 2) checked that the exporter did not enter other export countries in the following three consecutive years to ensure that the exporter did not shift sales to other countries (Pressey & Mathews, 2003).

Criterion 3) used the exit from relationships that have existed for at least 3 years in order to capture the 'critical' event of exit from an export relationship from a relational perspective, given the commitment behind long-standing relationships (Leonidou et al., 2002). Starting from the relevant seller-country-year cells in our full sample and subsample, we disaggregate the data to compute the duration of the trading relationship between each seller and buyer within a country for a specific year. This duration is calculated as the difference between the initial year the seller-buyer relationship is first observed in our dataset and the current year. For example, if a seller-buyer trading activity is first observed in 1995, and we observe them trading again in 1998, the duration is recorded as 3 years. We

report the 10th to 90th percentiles, as well as the minimum and maximum values of the duration for both the full sample and the subsample in Table 3.2. As one can see, the distributions between these two samples are quite similar. Additionally, it is important to note that in each case, more than 30% of seller-buyer relationships have a duration longer than 3 years, which makes criterion 3 practically meaningful.

[Insert Tables 3.2 here]

It is worth mentioning that both the dependent and independent variables are defined by comparing the situation at  $t$  with the subsequent three years. The simultaneity between these variables is a critical aspect of our analysis. Specifically, for an E-I relationship observed at  $t$  but not in the subsequent 3 years - indicating the termination of this relationship during that period - we examine how this absence impacts the firm's export performance in that country during the same timeframe.

### 3.2.3 Moderating variables

Esteve-Pérez (2021) acknowledges the importance of considering different types of experiential learning when operating in foreign markets. Previous scholars have acknowledged that the general knowledge gained from doing business abroad is different from the specific knowledge gained from operating in a particular country (Timoshenko, 2015). Therefore, our two moderating variables are as follows.

*Generic Export Experience.* To proxy for generic export experience, we compute the difference between the current year  $t$  and the first year we observe the exporter in our dataset, regardless of the destination country (Albornoz et al., 2016; Love et al., 2016; Love & Máñez, 2019). We define this difference as generic export experience  $G.exp_s^t$ .

*Specific Export Experience.* Similar to generic export experience,  $S.exp_{sc}^t$  measures the difference between the current year  $t$  and the first year the exporter  $s$  exported to the specific country  $c$  (Albornoz et al., 2016; Carrere & Strauss-Kahn, 2017; Timoshenko, 2015).

Nevertheless, previous studies acknowledge that the relationship between experiential learning from export experience and export performance may be not linear. For example, Love et al. (2016:808) argue that: 'because experiential learning is often most significant in early experiences, firms may learn less from each additional period of exposure to international markets.' Moreover, according to the authors, firms may enter relatively 'easy' markets during their first years in international markets, and gradually enter more distant/different markets.

Other studies support a non-linear relationship (e.g., Ogasavara, Boehe, & Barin Cruz, 2016), but they find the opposite effect, i.e., that early-stage export experience makes only a weak contribution to export success. Ogasavara and colleagues suggest that this could be explained by the costs associated with learning in international markets. These costs include the collection, encoding, transfer and decoding of knowledge and the need to change the firm's resource structures, processes and routines (e.g., Eriksson et al., 1997). In the early export experiences, these costs may be too high, making the process of embedding knowledge in the organisation difficult (Levitt & March, 1988) and reducing the positive effects of experiential learning on export success (Ogasavara et al., 2016). This argument fits well with the sunk cost hysteresis literature on the fixed and sunk costs that limit firms' participation in export activities (e.g., Maurseth & Medin, 2017; Roberts & Tybout, 1997; Timoshenko, 2015).

To control for this non-linear relationship, we squared both the generic and country-specific experience variables.

### 3.2.4 Control variables

As a standard procedure, we control for a number of variables to handle evolving internal and external forces.

*Firm Size.* Among other variables, the persistence of export relationships may depend on the size of the firm. Assuming the  $value_{sc}^t$  be the total sales value (in euro) that exporter  $s$  exports to destination country  $c$  at year  $t$ , we sum the exporter's sales value across all its destination countries in the EU (Esteve-Pérez, 2021) and denote its total export sales value as  $Firm\_Size_s^t$ , i.e.

$$Firm\_Size_s^t = \sum_c value_{sc}^t.$$

*Firm Age.* Following Love et al. (2016), we simply add the variable  $Age_s^t$  which is the age of the exporter  $s$  at time  $t$ , measured as the number of years since the firm's founding date.

*Total\_Import\_from\_France\_c^t* We use the total value of imports from France to destination country  $c$  in year  $t$  as a proxy for country size. Specifically, for each destination country  $c$ , we aggregate the trade value of all French exporters and denote the total import value of one country from France as,

$$Total\_Import\_from\_France_c^t = \sum_s value_{sc}^t.$$

*Relative Importance.* Chen, Sousa and He (2019) use the degree of market importance which is measured by the share of export sales to a market in total export sales. We extend this by considering the importance of the parties involved, which is measured from the perspective of both the seller and the destination country. As a proxy for the relative importance of a given country to the exporter, we define:

$$RI_{c/s}^t = \frac{value_{sc}^t}{Firm\_Size_s^t}$$

as the percentage of total exports of seller  $s$  to country  $c$ . The higher this share, the higher the relative importance of that country for the seller. Similarly, to measure the relative importance of a given exporter for a country, we define:

$$RI_{s/c}^t = \frac{value_{sc}^t}{Total\_Import\_from\_France_c^t}$$

as the percentage of total exports to country  $c$  by exporter  $s$ . The higher this share, the higher the relative importance of the exporter for that country.

*Country Size.* We use the logarithm of GDP (measured by millions of euro) of the destination countries as a proxy for their size, denoted as  $\ln(GDP)_c^t$ .

*Number of Buyers.* To control for different strategic approaches of exporters to foreign buyers (Obadia & Robson, 2021), we use  $Num\_Buyer_{sc}^t$ , which represents the number of buyers that exporter  $s$  trades with within country  $c$  in year  $t$ .

Previous studies (e.g. Miocevic, 2016) suggest that E-I relationships are influenced by psychic distance between the parties. We also control for the potential distance difference between France and the export destination country  $c$  in year  $t$ , and we introduce a set of distance variables such as  $Ind\_Dist_c^t$ ,  $Edu\_Dist_c^t$ ,  $Dem\_Dist_c^t$ ,  $Lang\_Dist_c^t$ , and  $Relig\_Dist_c^t$ , representing the differences in industrial development, level of education, degree of democracy, languages and religions, respectively. These objective indicators are meant to control for the overall perceived dissimilarity that individuals or groups hold regarding a particular country (Dow & Karunaratna, 2006) and are in line with the theoretical argument behind the research (Beugelsdijk, Ambos, & Nell, 2018).

Given our extensive dataset covering two decades, we also control for exogenous shocks such as the global economic and financial crisis by including *Year* dummy variables.

*Industry* can also play a crucial role in determining whether or not an E-I relationship ended. For example, in some sectors, the nature of the products may be such that the seller has made a long-term

commitment to serve a buyer, for example through specific investments, and is therefore more reluctant to terminate a transaction. To account for this possibility, we include a technology dummy for each exporter in each year, according to the technology sector (high, medium and low) of the main product exported in that year<sup>4</sup>.

### 3.3 Econometric model specification

To test our working hypotheses, we use an ordinary least square (OLS) regression model, which can be written as follows:

$$\begin{aligned} \text{Export\_Performance}_{sc}^{t,t+3} = & \beta_0 + \beta_1 \text{Controls}_{sc}^t + \beta_2 \text{Exit\_Rel}_{sc}^{t,t+3} + \beta_3 G.exp_s^t + \beta_4 (G.exp_s^t)^2 + \\ & \beta_5 \text{Exit\_Rel}_{sc}^{t,t+3} \# G.exp_s^t + \beta_6 \text{Exit\_Rel}_{sc}^{t,t+3} \# (G.exp_s^t)^2 + \epsilon_{sc}^t \end{aligned} \quad (\text{Eq1})$$

where  $\epsilon_{sc}^t$  is assumed to follow  $N(0,1)$ ,  $\beta_0$  represents the constant,  $\text{Controls}_{sc}^t$  includes all the control variables mentioned above, and  $\beta_i$  for  $i = 1,2,3,4$  are the corresponding coefficients (vectors).

Our regression model investigates the consequences of a firm exiting some foreign buyer(s) on its export performance in that foreign country, based on the seller-country pair within moving time window. The dependent variable, *Export\_Performance*, and the key independent variable, *Exit\_Rel*, are both constructed at the seller-country-year level. It's important to note that *Exit\_Rel* is derived from more granular data at the seller-buyer level, where we analyse each relationship between the seller and its individual buyers. While we have not disregarded the foreign buyer dimension, we have incorporated this detailed seller-buyer information into the broader seller-country variable *Exit\_Rel*.

The OLS methodology has been adopted by other scholars using the same dataset (De Rassenfosse, Grazzi, Moschella, & Pellegrino, 2022). Nevertheless, this technique has some drawbacks, which we have addressed as follows. First, the inclusion of the squared terms of the moderating variables allowed us to take into account the problems of non-linearity. Second, we introduced clustering at the seller level to account for potential correlations of the residuals at the firm level (see main models Table 5). In the robustness section, we change the time window for the dependent variable and the criterion 3 for the termination dummy from 3 to 4, 5, and 6 years.

Tables 4.1 and 4.2 present the descriptive statistics, the correlation metrics and the VIF, where we found no evidence of multicollinearity.

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<sup>4</sup> For an exporter in a given year, we first classify all its products (reported at the 8-digit Combined Nomenclature code) at the 2-digit HS product level (see <https://unstats.un.org/unsd/tradekb/Knowledgebase/50043/HS-2002-Classification-by-Section> for details of the classification. Second, for each 2-digit product, it can be classified into different technology classes, i.e. high-technology, medium-technology, and low-technology industries (see details in the OECD classification 2011 <https://www.oecd.org/sti/ind/48350231.pdf>). Third, for each exporter, we select the technology classes according to the sector of its main 2-digit product, i.e. the one that accounts for the highest export value.

[Insert Tables 4.1 and 4.2 here]

## 4. Results

### 4.1 Main results

Table 5 shows the main results, Column 1 reports only the control variables. Column 2 includes the  $Exit\_Rel_{sc}^{t,t+3}$  dummy variable. The significant and negative sign indicates that when the exporter terminates an export relationship with some buyer(s) in a foreign country, it experiences a lower level of export performance in that country. This result on the full sample confirms our hypothesis 1, which supports our intuition that the termination of export relationships is mainly a dysfunctional situation for exporting firms:

[Insert Table 5 here]

In columns 3 and 4, using the subsample for the reasons explained above, we report the results for generic export experience ( $G.exp_s^t$ ) and its squared term. Column 3 shows a negative sign for  $G.exp_s^t$  indicating that generic export experience (regardless of the destination country) determines a lower level of export performance in the foreign country. To test for non-linearity, we introduce the squared generic export experience term in column 4. A non-linear, U-shaped relationship between generic export experience and export performance in the foreign country emerges.

A simple calculation for Table 5 shows that the turning point for this U-shaped relationship is above 9.4 years<sup>5</sup>, implying that less than or equal to 9 years of generic export experience leads to exporters suffering from a decreasing level of export performance in the foreign country. On the other hand, more than 9 years of generic export experience benefits exporters with increasing levels of export performance in the foreign country.

The 9.4 threshold has a significant impact on the subsample examined, as it results in 17.2% of the observations, i.e. exporter-country-year transactions, being related to mature exporters, i.e. exporter-country-year transactions. It results in 82.8% of observations with a generic experience of less than or equal to 9 years, corresponding to the left half of the U-shape, i.e. a negative marginal effect of generic experience. This is consistent with the negative sign of generic experience in column 3, which only considers a linear relationship.

In column 5, we interact the dummy variable  $Exit\_Rel_{sc}^{t,t+3}$  with generic experience  $G.exp_s^t$  and its squared term. After confirming the U-shaped effect of generic experience on export performance as

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<sup>5</sup> We use 5-digit estimates of the corresponding coefficients to compute the turning point  $0.03912/(2*0.00209) = 9.4$ , although we report 3-digit values in the table. We use the same approach to compute the other turning point in the paper.

shown in column 4, we find that the interaction effects between the exit event and the generic export experience are significant but with opposite signs, i.e. the occurrence of the exit event modifies the effect of generic experience on export performance. We report an inverted U-shape of generic experience for the moderation with a turning point of 9.6 years. This threshold indicates that when the generic experience is less than or equal to 9 years (82.8% of the observations in the subsample meet this condition), the marginal moderating effect (MME) is positive. Specifically, the MME is<sup>6</sup>

$$-0.01044 * G.exp_s^t + 0.10013 \quad (\text{Eq2})$$

which shows a higher MME for early years of experience. For example, the premium effects on export performance are 9% and 0.6% for exporters with 1 and 9 years of generic export experience, respectively.

We replace  $G.exp_s^t$  with  $S.exp_s^t$  in the equation model (Eq1) and we get the model specification involving country-specific export experience as follow:

$$Export\_Performance_{sc}^{t,t+3} = \beta_0 + \beta_1 Controls_{sc}^t + \beta_2 Exit\_Rel_{sc}^{t,t+3} + \beta_3 S.exp_s^t + \beta_4 (S.exp_s^t)^2 + \beta_5 Exit\_Rel_{sc}^{t,t+3} \# S.exp_s^t + \beta_6 Exit\_Rel_{sc}^{t,t+3} \# (S.exp_s^t)^2 + \epsilon_{sc}^t \quad (\text{Eq3})$$

From columns 6 to 8 of Table 5, we replace  $G.exp_s^t$  with  $S.exp_s^t$  in the equation model (Eq1) and we report the effect of country-specific export experience and the interaction terms between the two independent variables  $Exit\_Rel_{sc}^{t,t+3}$  and  $S.exp_s^t$ . The results are similar to those in columns 3 to 5 of the same table. In column 7, we also report a similar U-shaped relationship between export performance and specific experience with a similar flipping point at around 9.3<sup>7</sup>.

In column 8, we observe that the interaction terms between the exit event and country-specific export experience are statistically significant. This highlights the moderating role of experiential learning on the relationship between export relationship termination and country level export success. The MME of country-specific experience is

$$-0.01542 * S.exp_s^t + 0.14355 \quad (\text{Eq4})$$

<sup>6</sup> Assume (inverted) U-shape  $aX^2 + bX$  where  $a$  and  $b$  represent the parameters while  $X$  the generic or specific experience, it is easy to see that the marginal effect of experience reads  $2aX + b$  which indicates that exporters with different experience level would encounter different marginal moderating effect.

<sup>7</sup> In column 7 of Table 5 we have  $0.06993/(2*0.00376) = 9.3$ .

In the sub-sample, 90% of the observations are below the turning point, i.e. 9.3 years of country-specific experience. These observations show a positive MME for export performance.

Comparing the MMEs from generic and country-specific experience is very informative. The country-specific MME represented by Eq4 is consistently higher than the generic MME represented by Eq2 when the number of years is less than 8.7 years. This result is significant because most observations in the subsample (78%) have their generic and country-specific experience below 8.7 years. It is important to note that this threshold is lower than the thresholds for positive MME, which are 9.6 years for generic MME and 9.3 years for country-specific MME. This means that if an exporter has 1 year of generic or country-specific experience, an additional year of each would result in an export performance premium of 9.0% and 12.8% respectively. However, if the exporter has eight years of generic and specific experience, the corresponding premium effects are 1.7% and 2% respectively.

Figure 2 provides a graphical representation of the impact of generic and country-specific experience on export performance. The solid parabolas in the top and middle panels represent the U-shaped effect of generic and specific experience, respectively. As can be seen, both generic and country-specific experience have similar U-shaped effects on export performance, with a turning point between 9 and 10 years. On the other hand, the dashed parabolas in the same two panels respectively show the inverted U-shaped moderating effects of generic and country-specific experience. Similarly, the turning points for generic and country-specific cases are between 9 and 10 years. As discussed above when the number of years is less than 8.7, the country-specific MME is larger than the generic MME. This is shown in the bottom panel of Figure 2 with the dashed line above the solid line, when the number of years is less than 8.7.

Thus, the moderating role of country-specific experience is greater than that of generic experience. However, we cannot conclude that the moderating effect of country-specific experience is significantly better than that of generic experience. For example, according to the relevant coefficient in the columns 5 and 8 in Table 5, the 95% confidence intervals for both moderating effect of  $G.exp_s^t$  and  $S.exp_s^t$  respectively read [0.037, 0.163] and [0.085, 0.203] are not significantly different from each other (same overlapping happens to the 95% confidence intervals for both moderating effect of the corresponding squared experience terms).

Despite the greater magnitude of the country-specific export experience compared to the generic export experience, they report a similar U-shape relationship and a similar interaction effect. This result is a partial confirmation of our hypothesis 2 because we report no prevalence of country-specific experience over generic export experience. This finding may be the result of the research context in which we conducted our empirical analysis, i.e., the EU and its Single Common Market

after more than 20 years of regional integration. In other words, the research context seems to flatten the emergence of significant differences between country-specific and generic export experiences. Nevertheless, we observe that, in case of an exit event, the learning mechanism resulting from both types of export experience occurs only during the early years of exporting.

[ Insert Figure 2 here]

#### 4.2 Robustness and Endogeneity

We perform several additional exercises to ensure the robustness of our results. Given some of the drawbacks of the OLS technique, such as the possible presence of outliers in the dependent variable due to a fat-tailed distribution, we rerun the main regression by dropping the top/bottom 5% of the dependent variable. The results remained consistent (tables are available on request). We had no problems with outliers in our explanatory variables.

We also accounted for time-invariant unobservable heterogeneity by adding a destination-year fixed effect (tables are available upon request). Exporter firm-level fixed effect could not be implemented because, when combined with the year dummy in the specification of the main regression model, the coefficients on our variable of interest ( $G.exp_s^t$ ) would be omitted.

In addition, we performed another robustness check, by changing the measure of the dependent variable and using the median value of export growth to compute  $Export\_Performance_{sc}^{t,t+3}$  instead of the average. This ensures that the calculated export performance measure is less sensitive to possible extreme values in the reported transactions (tables are available on request).

We also changed the time window for the dependent variable and the criterion 3 for the termination dummy from 3 to 4, 5, and 6 years. The main results can be found in Tables 5.1, 5.2, and 5.3.

[Insert Tables 5.1, 5.2, and 5.3 here]

Finally, we addressed potential endogeneity issues. According to Li, Ding, Hu, & Wan (2021), sources of endogeneity include: 1) omitted variables; 2) non-random sample selection; 3) simultaneity bias (including dynamic endogeneity); 4) measurement error. To deal with 1) omitted variables, we used fixed effects modelling destination-year fixed effect, as explained above. Our model does not face the problem of 2) sample selection bias because the raw data set includes all export transactions with the same threshold, i.e. the population. Therefore, the Heckman correction is not necessary as there is no sampling procedure. When examining hypothesis 2, we restrict our analysis to exporters established after 1995. Note that our subsample covers the population of young exporters. This is

different from sampling from a restricted range of establishment years, in which case the Heckman correction should be applied. We fully understand the potential bias of focusing on the population of young exporters, but we consider it a necessary trade-off for a precise definition of general and country-specific experience. To deal with 3) simultaneity, we run further regression models (Table 6) focusing only on exporters that increased their export performance in the previous year. In this case, we rule out the possibility that exporters who terminate their relationship with one or more importers in the foreign country do so because they voluntarily decide to reduce exports to that country. Finally, we believe that 4) measurement error is not a potential source of endogeneity in this research.

[Insert Table 6 here]

## **5. Discussion**

### *5.1 Discussion of the results*

Our study reports interesting findings. First, we confirm that there is a negative relationship between the termination of an export relationship and the firm's export performance in the foreign country. In other words, exporting firms that terminate a buyer-seller relationship in a foreign country are more likely to experience a negative effect on their performance in that country.

The presence of significant churning activity in buyer-seller relationships reported in previous studies confirms hysteresis in trade relationships (e.g., Bernard et al., 2018; Impullitti, Irarrazabal, & Opromolla, 2013). Nevertheless, this activity of dropping and adding buyers does not seem to have a positive impact on the firm's export performance in the foreign country, but rather a negative one. This means that, in case of an export relationship termination, the exporter's ability to reallocate sales to other buyers within the same export market is severely constrained. Previous research recognises the burden of loss of credibility, reputation and referrals (Blankenburg Holm et al., 1999; Friman et al., 2002), which might hinder the exporting firm's ability to establish new reliable trading relationships in the short term (Johanson & Vahlne, 1977; Zaheer & Zaheer, 2006), which in turn prevents exporters from effectively reallocating sales to other buyers within the same export market. This finding supports previous E-I studies that describe exporting process as mainly unplanned (Petersen et al., 2000) and it is also in line with Rigo (2024) who recently found that sales to existing customers remain the predominant source of growth in a foreign market, with long-lasting relationships contributing to most export values. This latter indirectly supports our argument that ending such E-I relationships can significantly hamper a firm's performance and growth prospects abroad.

Second, we report that generic and country-specific export experience have a detrimental impact of the firm's exports performance and that only after some years positive effects emerge. These findings are in line with Ogasavara et al. (2016) who found that early-stage export experience makes only a weak contribution to export success. They suggest that this might be explained by the costs related to learning in international markets. These costs include collecting, encoding, transferring and decoding knowledge and the need to change the firm's resource structures, processes and routines (e.g., Eriksson et al., 1997). In the early experience of exporting, these costs can be too high, which makes the process of embedding knowledge in organizational routines difficult (Levitt & March, 1988) and reduces the positive effects of experiential learning on export success (Ogasavara et al., 2016).

Third, we find support for the moderating effect of experiential learning on the relationship between the exit event and firm export performance in the foreign country. In line with the theoretical arguments provided, we interpret the manifestation of the exit as a critical event leading firms to immediately recognise the existence of a knowledge gap (Petersen et al., 2008) as result of the difference between the firm's target outcome and its realised outcome (Mintzberg & Waters, 1985). This leads the firm to accelerate strategic change, and it guides the implementation of a new course of actions (Levitt & March, 1988) to address rapidly changing environments (Teece, Pisano, & Shuen, 1997).

Focusing on the relational nature of the relationship, the results seem to suggest that both country-specific and generic export experience are crucial to facilitate the implementation of a new course of action, turning the exit event into a critical learning event.

The similar moderating results of country-specific experience and generic experience we report can be observed also in table year 4, but not in year 5 and year 6 where the moderating role of generic experience disappears. This result is in line with the idea of export experience being characterized by "shelf-life" (Bernini et al., 2016). Our findings support this "shelf life" view, but only for the moderating role of generic experience. Whereas the moderating role of country-specific experience holds its significant level also in year 5 and year 6. In conclusion, even though the greater moderating role of country-specific experience is not significantly better than that of generic experience, we can observe that the moderating effect of country-specific experience is long-lasting than that of generic experience which is subject to "shelf-life" (Bernini et al., 2016).

Fourth, we find that the effect of experiential learning in moderating the relationship between the exit event and firm export performance in the foreign country is limited to the early years of exporting. Scholars of organisational learning acknowledge that experiential learning is not limited to the design of routines (Nelson & Winter, 1982), but to the ability of organisations to adapt to the normal course

of activities (Argote et al., 2021; Argyris & Schon, 1978; Gavetti et al., 2012). The exit from an export relationship is a critical event that can disrupt the normal course of the firm's export activities (Jones & Coviello, 2005; Surdu et al., 2021). However, when the exit event occurs in the early years of exporting, firms have fewer routines to unlearn (D'Angelo & Buck, 2019; Hutzschenreuter, Pedersen, & Volberda, 2007; İpek, 2019) and experiential learning can come into play with its positive effect (De Clercq et al., 2012).

### *5.2 Discussion of the case study*

The above discussion makes use of the theory to interpret the main findings from secondary data analysis. However, the use of secondary data has some drawbacks, such as the lack of nuances behind firm-level activities. Therefore, we triangulated our findings with primary data from an in-depth case study to enhance robustness and completeness of our research.

It was not easy to find a company who terminated a business relationship without exiting from the country at same time. This latter seems to occur more frequently as reported in previous studies on exporters exiting and re-entering foreign countries (e.g. Surdu & Narula, 2021; Ganotakis et al., 2022). Nevertheless, we managed to access an example of a company who terminated an existing E-I relationship but did not exit the foreign country. This research case is consonant with the logic of extreme theoretical sampling (Eisenhardt & Graebner, 2007: p. 27) where “cases are selected because they are particularly suitable for illuminating and extending relationships and logic among constructs.”

Two researchers, using a semi-structured interview scheme based on the revised literature, interviewed Mr. Roberto Cimberio, CEO of the Cimberio S.p.A.<sup>8</sup>.

Founded in 1957<sup>9</sup>, Cimberio S.p.A. is today a leading Italian manufacturer of valves, taps, faucets, flood-gates and ancillary systems. The company is known for its commitment to quality, innovation, and customer satisfaction (<https://web.cimberio.com/>).

Located in San Maurizio d'Opaglio (Novara, Piemonte, North-West of Italy), the company is led by Mr. Roberto Cimberio, a third generation CEO of the Cimberio's owning family, since 1984.

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<sup>8</sup> The interview with Mr. Roberto Cimberio took place on the 19<sup>th</sup> dec 2024 via Google meet and it lasted 45min to discuss the company's termination of an export-import (E-I) relationship and the relative consequences on the export activities in the foreign country along with the subsequent strategies emerged.

<sup>9</sup> This is the date of foundation reported in the statistics and official documents. However, Mr. Roberto Cimberio (CEO) told us that the real foundation of the company is dated back to 1927 when Mr. Giacomo Cimberio (Roberto's grandfather) started the activity as a craftsman along two other partners. In 1957, Mr. Giacomo Cimberio liquidated the two partners and funded Cimberio S.p.A.

In 2023, the company counted 176 employees and reported revenues for 65mln of Euro. With a strong presence in Europe, North America and Asia, the company reported 95% of the total revenues coming from exports.

Cimberio S.p.A. mainly internationalizes through the establishment of sales offices abroad. However, it also establishes relationships with foreign buyers on a not-exclusive basis.

Mr. Roberto Cimberio, during the interview, mentioned a few cases of E-I relationships termination occurred during his 30 years of experience leading the company internationally.

For example, in December 2022, after a successful 8-years partnership [that overcame the Covid-19 exogenous event], Cimberio and a key importer in Poland abruptly ended their business relationship. The reasons for this termination, as reported by the CEO, were mainly in terms of unresolved conflicts between partners (Pressey & Selassie, 2007).

Despite the termination, the company did not withdraw from the Polish market. Instead, it continued its operations by establishing new partnerships with other local distributors. “In this case – Mr. Roberto Cimberio said – the termination of the business relationship allowed us to be approached by other leading Polish distributors. We were well known in the country for our innovative products and services. It was not a surprise that our product lines and services were highly demanded”, – he emphasised. “However, it is also fair to say that our local partner played an important role in improving our products and services for the local market”, – he remarked.

After the termination, “new and big distributors, who did not partner with us in the first place because of the presence of our first distributor, approached us for doing business” – he concluded.

This exit event ensured that Cimberio's products remained available in the Polish market without significant disruptions. On the contrary, “...the sales increased in Poland as a result – Mr. Roberto Cimberio said – and we were able to select the best partners”.

He continued: “quality and the right price are surely important, but knowledge of the market, its culture and the business etiquette along the company's ability to learn how to handle relationships for products and services improvements, are perhaps even more important to success abroad”.

The Cimberio's case testifies that the end of a business relationship does not necessarily equate to market exit. Furthermore, the case highlights that the relationship between the termination of an E-I relationship and its impact on the firm's export performance is not always clear-cut (Habib et al., 2020). In this case, exit from a particular relationship leads to a desirable positive export outcome at the country level. From the case, it is difficult to disentangle the planned vs unplanned strategic decision by the exporter (Petersen et al., 2000). However, the case emphasizes the importance of two learning mechanisms following the termination event and two strategic factors driving post-termination export growth.

As for the two learning mechanisms, the Cimberio's case reflects the company's ability to learn and adapt quickly after the exit event to address rapidly changing environments (Teece, Pisano, & Shuen, 1997). According to Surdu and Narula (2021), the knowledge acquired in the period before the exit event can be an important source of firm-specific advantage. This should allow firms to avoid the losses in export performance that typically occur after an exit event<sup>10</sup>.

Moreover, the continuation of Cimberio's presence in the Polish market highlights the continuous process of learning from past experiences to select new partners and build stronger, more resilient relationships (Johanson & Vahlne, 2009).

Two important strategic factors also emerged that allowed Cimberio to experience export growth following the termination.

First, the long-standing relationship acted as a catalyst for innovation (Larson, 1992), particularly during the first years of the relationships. This enhanced the company's market knowledge fostering further efforts to ameliorate its products and services offerings that, in turn, made the company itself more resilient in case of a negative event, such as that of relationship termination.

Second, the exit event discussed in the case made the company realize the importance of a diversified and not-exclusive distribution channel to mitigate the risk associated with dependency on a single partner (Li & Ng, 2002).

## **6. Conclusions, implications and limitations**

At a time of great uncertainty about the political and economic turmoil around the world, the phenomenon of firms reducing their involvement and commitment to cross-border activities becomes relevant (Kafourous et al., 2021).

The dynamic nature of internationalisation calls for research not only on the complete or partial withdrawal from a foreign market, but also on other possible exit 'events' such as the termination or dissolution of an export relationship, as this may deprive the firm of access to foreign knowledge and reduce its level of innovation and competitiveness in foreign markets.

This paper examines exporting firms that terminate one export relationship in a foreign market while maintaining others in the same foreign market. This overlooked exit event is examined in terms of its impact on the firm's export performance in the foreign country. Our results confirm that the

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<sup>10</sup> The value of the mechanism described above declines when the exit event occurs later in time (as reported in our secondary data analysis). We think there are two main reasons for this. First, firms may learn less from experience with each additional year of engagement in the export market (Bernini, Du, & Love, 2016; Carrere & Strauss-Kahn, 2017; Love et al., 2016). Second, once routines are established in the organisation (i.e., after a certain period of time), they may be difficult to unlearn (İpek, 2019). In this case, the learning driving mechanism associated with additional years of exporting loses its power.

termination of an export relationship leads firms to suffer from declining export performance. This result echoes previous anecdotal evidence acknowledging how critical long-term buyer-seller relationships are and how dropping such hard-earned relationships could be very detrimental (Lee & Lehmborg, 2022).

Furthermore, our analysis also suggests ways to deal with it thanks to learning and the role of experience. Our results show that each year of export experience is important to avoid a decline in export performance following the termination of an export relationship. Both generic and country-specific experience are strategically important, but while the positive effect of generic experience seems to diminish with years, the effect of country-specific experience seems more long-lasting. Moreover, the positive effect of experience seems to occur primarily in the early years of exporting. Therefore, we argue that in the early years of exporting, firms with few routines to unlearn can rely on export experience to turn the negative event into a critical learning event, allowing firms to respond with a new course of action to maintain a higher level of export sales in the foreign country. This new course of action can follow the company's alertness and ability to learn how to handle relationships to continuously innovate both products and services, and distribution channel to keep experiencing export growth following the termination of an E-I relationship.

We believe that our paper provides novel insights into the independent power of experience-based foreign knowledge and its effect in limiting the decline in the firm's export performance resulting from the termination of an export relationship. The paper also provides important implications for theory and management practice.

### *6.1 Implications for theory*

Previous IB literature reporting on multiple exit and re-entry events (Bernini et al., 2016; Chen et al., 2019; Ganotakis et al., 2022) has focused on events occurring at the country level (i.e., exit and/or re-entry into foreign markets). In the E-I body of literature the focus has been on the relationship, but the exit or termination event has remained largely unexplored (Aykol & Leonidou, 2018). Nevertheless, empirical findings report that there is significant churning activity in buyer-seller relationships every year (Bernard et al., 2018). In this paper, we fill this gap and find that exiting an export relationship has a negative impact on the firm's export performance.

We remark the need to study E-I relationship termination events and offer our contribution to the literature on how to manage the consequences by exploring the role of country-specific and generic export experience as potential remedies in the critical and most likely negative event of termination.

Our study adds to the research on how organisations use the sets of routines and learning mechanisms for continuous or contingent use in relation to specific events (Argote & Miron-Spektor, 2011; Argyris & Schon, 1978; Levitt & March, 1988; Nelson & Winter, 1982). OL theory has been used in the IB literature, but not in relation to critical events such as the termination of an export relationship. In this case, the associated undesirable outcome of reduced export performance can be mitigated by firms through experiential learning derived from export experience.

In particular, this study highlights how export experience is particularly relevant when the exit event is based on long-standing relationships and it occurs in the early years of exporting, when firms have fewer routines to unlearn. We argue that export experience acts as an important source of firm-specific advantage, transforming the exit event into an exit-induced learning event, where exporters recognise the existence of a knowledge gap following the materialisation of an unexpected negative outcome on export performance, which requires a new course of action while rethinking existing routines to be unlearned. Thus, in the early years of exporting, only those firms that have been able to draw on the existence of past experience and knowledge can avoid the negative consequence of declining export performance in the foreign country following the critical event of ~~the termination of~~ a relational export relationship termination.

### *6.2 Implications for managers and practitioners*

Given the consequences of the E-I relationship termination, firms and managers should handle the event with great caution given the negative effects on the firm's export performance in the foreign country. Our results show that both country-specific and generic experience play an important role in the early years of exporting. These findings have important implications for managers. Previous literature acknowledges that the impact of a critical event (e.g., the termination of an export relationship) can reduce managers' confidence in handling foreign operations (Requena-Silvente, 2005; Surdu & Narula, 2021). Our findings suggest that the presence of experience acts as a protective mechanism, enabling managers and their firms to cope with the costs and practical losses associated with such a disruptive event. This is limited to the early years of exporting, when managerial routines can be replaced by new learning actions. Nevertheless, from our in-depth case emerge the need for managers to be alert and open to exploit relationships to ameliorate the product and services offerings of their companies in order to be ready to manage the exit event and be more resilient.

Our results should also be of interest to practitioners especially when the termination of an export relationship may be the first step towards a loss of competitiveness. Policy makers certainly cannot intervene in the firm's contingent use of export experience to respond to the specific exit event. However, they could design programs to facilitate firm's learning during the early years of exporting,

when firms are inexperienced and more vulnerable to the potential losses of export performance as a result of termination of E-I relationships (David, Stevenson, & de Royere, 2005). For example, they could strengthen the support services to help firms to find, build and manage new relationships abroad to better cope with the potential losses of termination.

### *6.3 Limitations and further research*

Our longitudinal analysis of country-year-buyer-seller transactions has some limitations that may suggest directions for future research. First, our data do not allow us to distinguish between foreign buyers in terms of final consumers and/or intermediaries. In addition, we cannot distinguish between the exit of firms that use exclusive importers and those that use a wide range of importers or distributors in a foreign market. These important distinctions certainly deserve more research attention as also highlighted by the in-depth case study. Second, our data do not allow us to control for other available entry modes that firms could have used to justify the distortion in export performance. Third, our data are limited to French exporting firms trading with EU buyers and do not allow us to assess the effect reported in Love et al. (2016) with respect to more difficult and more distant/different markets. Future studies using extra-EU transaction data could assess the effect of experiential learning, or other types of learning, in more difficult and distant market contexts. Finally, future research could focus on investigating the micro-foundations of learning and the nuances of the critical event of E-I relationship termination, as we tried to do in the in-depth case study, so to better understand the strategic changes and actions that firms undertake (Agarwal & Helfat, 2009; Kirtley & O'Mahony, 2023; Mintzberg & Waters, 1985) to respond or to manage the probable firm's export performance losses. Nevertheless, we believe that our paper offers several contributions not only from a managerial perspective, but also provides novel empirical evidence to the export management literature, where problems in collecting reliable and comparable buyer-seller data have limited research using relationships as the unit of analysis.

## **Declaration of generative AI and AI-assisted technologies in the writing process**

During the preparation of this work the authors used Microsoft Copilot and DeepL in order to improve language and readability of the article. After using these tools, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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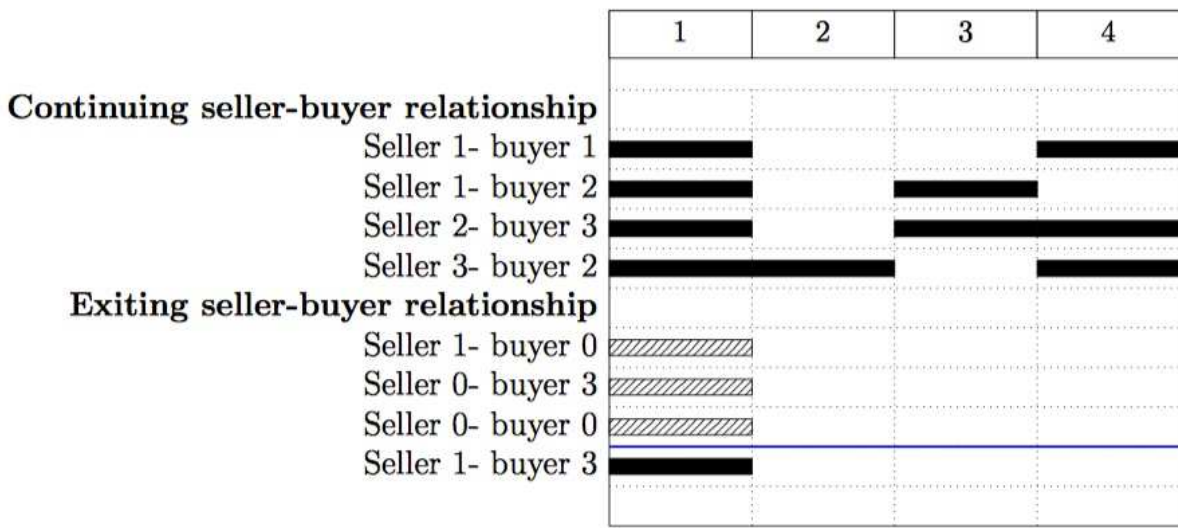
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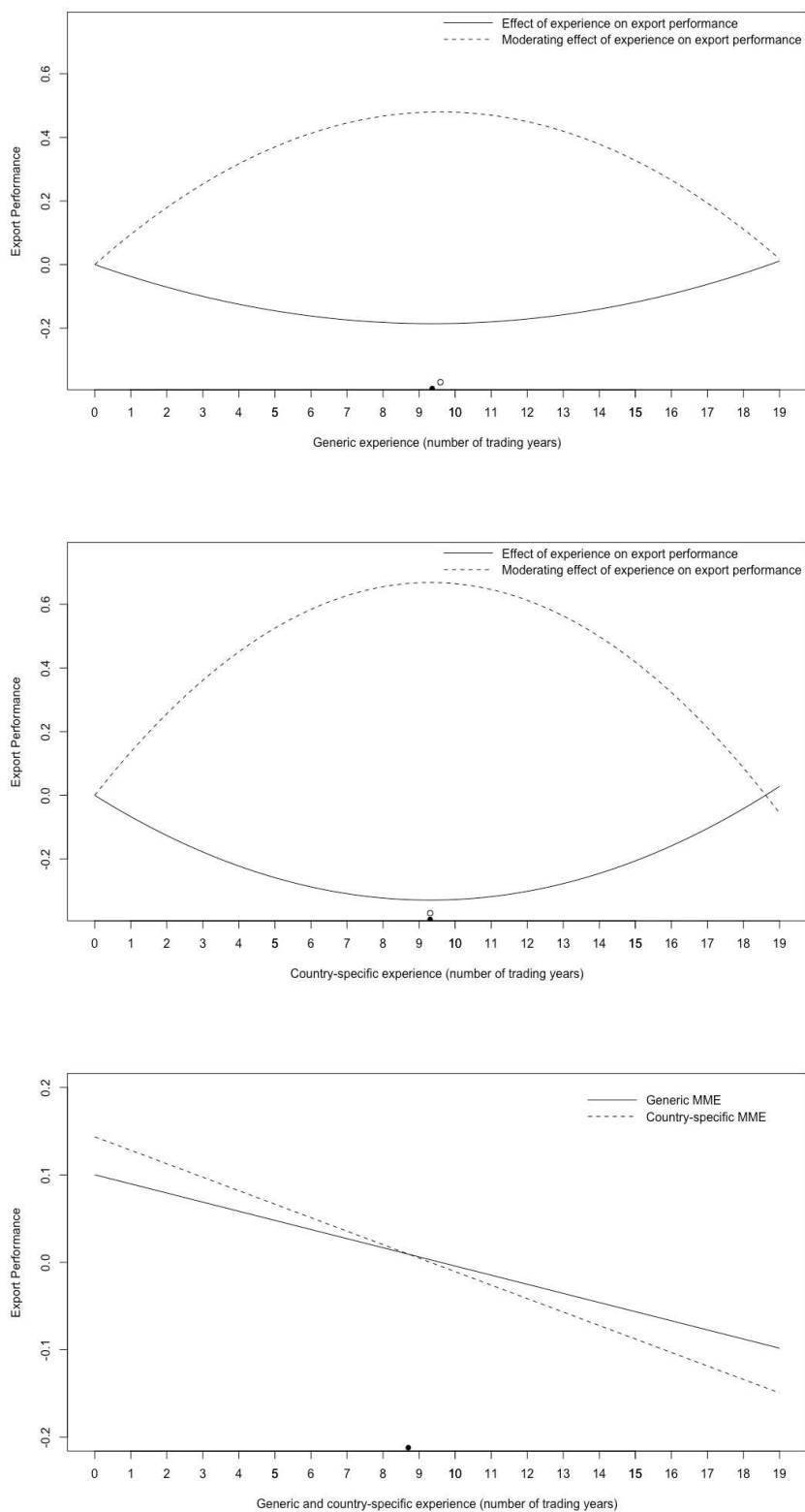
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**Fig. 1** Illustration of continuing (all 4 cases valid in the top panel) and exiting (only 1 case valid in the bottom panel) a buyer-seller relationship. Sellers 1, 2, and 3, as well as Buyers 1, 2, and 3, are clearly active between Years 2 and 4, while Seller 0 and Buyer 3 appear to have likely exited the market, possibly due to bankruptcy.



**Fig. 2** The effects of generic and country-specific experience on export performance. Top panel: U-shaped and inverted U-shaped moderating effects of generic experience on export performance (solid and empty dots indicate the turning points of the parabolas, respectively). Middle panel: U-shaped and inverted U-shaped moderating effects of country-specific experience on export performance (solid and empty dots indicate the turning points of the parabolas, respectively). Bottom panel: a comparison of MME of generic and country-specific experience.

**Table 1**  
Key articles on E-I relationship termination

Authors (Year)	Title	Goal of the research	Methodology	Main findings
Alajoutsijärvi, K., Möller, K., & Tähtinen, J. (2000)	Beautiful exit: how to leave your business partner	To study the relevance of communication strategies in the dissolution process	Three case studies	The quality of the exit is not something that can be determine when choosing a strategy, but it is the result of the context and the interactions between the two partners.
Petersen, B., Pedersen, T., & Benito, G.R.G. (2000)	Replacing the foreign intermediary: Motivators and deterrents	To study factors that drive exporters to replace a foreign intermediary (i.e., agents or distributors), and factors that impede such actions	Logistic regression on 221 Danish exporters at two points in time	Dissatisfaction with the local intermediary does not appear as a determinant of replacement. Instead, changes in the level of information asymmetry exert the most important influence on the decision to replace the foreign intermediary.
Giller, C. & Matear, S. (2001)	The termination of inter-firm relationships	To identify strategies appropriate for bringing about termination	Four (dyadic) case studies	Both firms use termination strategies, not only the terminating firm. There is a range of termination strategies which may be employed. Different termination strategies may be expected to lead to different outcomes.
Tahtinen, J. & Halinen, A. (2002)	Research on ending exchange relationships: A categorization, assessment and outlook	Systematize research concerning the ending of exchange relationship	Literature review of 44 articles for the time period 1980-2000	A comparison of research approaches in terms of references to other disciplines, terminology used, focus of the research and method used.
Li, L., & Ng, P. (2002)	Dynamics of export channel relationships in high-velocity environments	To identify and explain the dynamics of export channel relationships	Pre-study interviews with 22 British and Canadian exporters who exported into Mainland China. Plus 179 questionnaires from North America or Western Europe exporters into China.	Export channel members terminate their relationships if their partners have committed opportunistic acts. Partners' capabilities may not moderate the relationship termination. This finding may be due to opportunism that damages the mutual trust on which the channel relationships are based. The termination occurs even if the opportunistic partners possess distinctive and superior capabilities.
Pressey, A.D., & Mathews, B.P. (2003)	Jumped, pushed or forgotten? Approaches to dissolution	To present a typology of relationship dissolution	Nine in-depth interviews	Four categories of dissolution: bilateral voluntary, unilateral involuntary by either the seller or the buyer, bilateral involuntary.
Zhang, C., Griffith, D.A., & Cavusgil, S.T. (2006)	The litigated dissolution of international distribution relationships: A process framework and propositions	To understand relationship dissolution through litigation in terms of (1) trigger factors; (2) sequence of events; (3) process	Systematic analysis of 19 legal cases over the period 1985–2005	Two types of international litigated relationship dissolution: proactive and reactive termination. Differences in triggers and processes exist across the two types of termination.
Pressey, A.D., & Selassie, H.G. (2007)	Motives for dissolution in export relationships: Evidence from the UK	To examine the motives for dissolution	Interviews and mail survey to 212 export managers within the UK	Out of 23 reasons, a better price from competitors was the first motive for dissolving a relationship.

Payan, J.M., Obadia, C., Reardon, J., & Vida, I. (2010)	Survival and dissolution of exporter relationships with importers: A longitudinal analysis	To extend knowledge on the survival or dissolution of interorganizational exporter/importer relationships	Structural equation model using binary logistic analysis on a sample of 144 French exporters	Trust and economic performance have a significant positive relationship with survival. Business distance can diminish the impact of trust on survival of the relationship. In contrast to trust, results suggest that the impact of economic performance on the survival of cross-border business relationship is somewhat immune to business distance.
Aykol, B. & Leonidou, L.C. (2018)	Exporter-importer business relationships: Past empirical research and future directions	To provide a systematic and holistic review of the extant empirical research on E-I relationships from its inception	Literature review of 196 articles for the time period 1975-2017	Eight thematic areas: behavioural dimensions, relationship characteristics, environmental influences, internal influences, performance implications, specialised issues, relationship initiation/dissolution and miscellaneous topics.
Hurmelinna, P. (2018)	Exiting and entering relationships: A framework for re-encounters in business networks	To understand the interplay of exit and after-exit processes	Conceptual	Exits and relationship terminations are critical events, and they may leave imprints that spread to varying extent across different levels, and surface when the re-encounter takes place and decisions are made on the subsequent steps.
Leonidou, L.C., Aykol, B., Fotiadis, T.A., & Christodoulides, P. (2018)	Betrayal intention in exporter-importer working relationships: Drivers, outcomes, and moderating effects	To investigate drivers and outcomes of inter-organizational betrayal intention in international business relationships	Structural equation model on a sample of 262 indigenous exporters of manufactured goods based in Greece	Betrayal intention is significantly and negatively affected by four key parameters: trust, communication, long-term orientation, and social bonds. Older relationships and relationships characterized by contractual obligation reduce the likelihood of betrayal intention.
Habib, F., Bastl, M., Karatzas, A., & Mena, C. (2020)	Treat me well and I may leave you kindly: A configurational approach to a buyer's relationship exit strategy	To investigate the link between the buyer's perception of its relationship with the supplier, and the manner in which the buyer-supplier relationship ends once the buyer has decided to kindly disengage from it.	fsQCA on 315 UK-based supply chain managers and purchasing executives of the buying firms involved in managing exit from a relationship with one of their suppliers.	Four possible configurations leading to a kind exit, depending not only on relationship characteristics, but also on contextual factors, specifically, the relative size of the supplier and the duration of the relationship.

**Table 2.1**

Annual number of exporters, number of exporter-country cells, and average number of destination countries per exporter for the full and the subsample

Year	Full sample			Subsample		
	Num. of Exporters	Num. of exporter-country cells	Average Num of countries per exporters	Num of Exporters	Num. of exporter-country cells	Average Num of countries per exporters
1995	6177	41948	6.8	13	69	5.3
1996	6518	44938	6.9	102	563	5.5
1997	7162	49339	6.9	261	1459	5.6
1998	7654	53023	6.9	471	2674	5.7
1999	7842	54717	7	634	3785	6
2000	8226	56855	6.9	843	5025	6
2001	8231	57331	7	1019	6281	6.2
2002	8357	58258	7	1270	7737	6.1
2003	8488	59013	7	1440	8936	6.2
2004	8769	72092	8.2	1659	12044	7.3
2005	8969	75809	8.5	1865	14080	7.5
2006	9249	78570	8.5	2097	15922	7.6
2007	9521	83852	8.8	2306	18087	7.8
2008	9808	86202	8.8	2578	20039	7.8
2009	9588	85559	8.9	2650	21184	8
2010	9811	88046	9	2873	23119	8
2011	10876	93996	8.6	3456	26816	7.8
2012	10614	93531	8.8	3504	27813	7.9
2013	10505	94411	9	3564	29080	8.2
2014	10311	93854	9.1	3562	29402	8.3
Cumulated Total Num.	176676	1421344	8	36167	274115	7.6
Num. of Unique Cells	19928	198948	-	6247	55783	-

**Table 2.2**

The number and percentage of exporter-country cells with different dynamics counts, i.e. the numbers of corresponding exporter-country-year cells (Full sample)

Dynamics counts	Num of exporter-country cells	Percentage of exporter-country cells
1	30590	15.4%
2	22304	11.2%
3	18020	9.1%
4	16524	8.3%
5	12845	6.5%
6	11792	5.9%
7	10591	5.3%
8	10227	5.1%
9	8167	4.1%
10	7286	3.7%
11	9369	4.7%
12	4427	2.2%
13	4145	2.1%
14	3875	1.9%
15	3618	1.8%
16	3473	1.7%
17	3048	1.5%
18	3491	1.8%
19	3233	1.6%
20	11923	6%
Total Num. of exporter-country cells	198948	100%

**Table 2.3**

Number of exporter-country-year cell with different patterns of buyers switching in the coming 3 years among from 1995 to 2014 (Full sample)

Year	With same buyer(s)	Adding New buyer(s) Only	Dropping old buyer(s) Only	Both Adding and Dropping	Yearly sum
1995	7624	14649	1416	18259	41948
1996	8108	16003	1460	19367	44938
1997	8973	17244	1816	21306	49339
1998	10068	17884	1926	23145	53023
1999	10390	18311	2169	23847	54717
2000	10910	19215	2181	24549	56855
2001	11148	19255	2176	24752	57331
2002	11428	19984	2223	24623	58258
2003	11733	20439	2268	24573	59013
2004	17307	25699	2578	26508	72092
2005	18669	26380	2830	27930	75809
2006	19625	27446	2970	28529	78570
2007	21847	28960	3315	29730	83852
2008	22812	28975	3450	30965	86202
2009	23016	30321	3236	28986	85559
2010	24530	31059	3319	29138	88046
2011	26287	33239	3495	30975	93996
2012	26522	33958	3240	29811	93531
2013	27164	35047	3089	29111	94411
2014	27002	36254	2941	27657	93854
Sum	345163	500322	52098	523761	1421344

**Table 2.4**

Percentiles, minimum, and maximum of the average sale (measured by thousand euros) of E-I relationships across exporter-country-year cells from 1995 to 2014 (Full sample)

Year	minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	maximum
1995	0.003	2.799	7.135	13.881	24.427	41.504	70.480	124.231	247.426	655.978	501326.618
1996	0.001	2.706	6.852	13.406	23.721	40.236	69.041	123.917	250.641	657.492	1134074.375
1997	0.007	2.651	6.901	13.497	23.800	40.641	69.929	123.735	247.893	658.482	1244224.413
1998	0.003	2.664	6.765	13.355	23.792	40.255	69.213	125.723	252.155	669.325	650713.182
1999	0.004	2.598	6.755	13.372	23.643	40.555	69.541	123.670	251.160	667.011	571550.832
2000	0.002	2.744	7.036	13.883	24.851	43.082	73.626	132.518	267.939	715.872	890558.459
2001	0.004	2.796	7.093	14.029	24.945	42.924	73.701	131.282	261.659	720.243	613915.484
2002	0.003	2.774	7.113	13.824	24.554	42.300	73.190	130.565	262.582	715.817	570856.969
2003	0.001	2.785	6.883	13.347	23.851	41.451	71.088	129.089	257.915	702.762	589710.920
2004	0.001	2.390	5.915	11.731	20.870	35.953	62.745	111.835	226.948	635.026	658046.206
2005	0.002	2.374	5.996	11.738	20.983	36.408	62.966	114.403	230.554	629.787	597422.583
2006	0.001	2.416	6.186	12.238	22.101	38.256	66.272	120.660	242.986	682.027	977158.113
2007	0.001	2.571	6.505	12.748	22.929	40.198	70.324	127.372	258.841	715.467	983123.995
2008	0.001	2.528	6.444	12.744	22.875	39.834	69.631	126.881	257.097	699.767	898514.617
2009	0.001	2.204	5.553	10.886	19.450	33.875	58.683	106.418	215.420	585.172	845349.483
2010	0.001	2.274	5.715	11.250	20.284	35.277	61.696	113.223	231.000	629.569	683304.807
2011	0.001	2.078	5.367	10.601	19.168	33.682	59.462	109.291	225.127	623.159	743432.280
2012	0.001	2.048	5.188	10.300	18.689	32.989	58.578	108.079	222.708	621.004	761963.398
2013	0.001	2.047	5.216	10.323	18.629	32.797	58.015	106.405	218.772	613.061	709571.945
2014	0.001	2.117	5.456	10.661	19.400	33.830	59.345	108.421	224.271	620.604	912668.562

**Table 2.5**

Percentiles, minimum, and maximum of the maximum sale (measured by thousand euros) of E-I relationships across exporter-country-year cells from 1995 to 2014 (Full sample)

Year	minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	maximum
1995	0.003	4.158	12.525	27.061	51.232	91.167	160.403	294.648	587.153	1536.572	1631963.120
1996	0.001	3.974	12.128	26.450	50.705	90.846	161.861	294.268	587.258	1531.439	1993241.772
1997	0.007	3.999	12.329	26.899	50.994	92.679	163.815	295.268	584.820	1567.353	2140053.175
1998	0.003	3.975	12.168	26.573	50.736	93.166	164.520	298.808	596.027	1578.502	2887657.730
1999	0.004	3.936	12.238	26.792	51.311	93.805	166.536	300.892	597.550	1600.843	3326396.947
2000	0.002	4.193	12.659	28.038	53.652	97.004	174.801	319.204	632.557	1682.662	3358307.074
2001	0.004	4.268	12.758	28.304	53.500	97.316	175.038	316.942	630.018	1704.446	2955156.213
2002	0.003	4.200	12.961	27.832	52.876	96.009	171.661	311.783	627.558	1715.967	2165158.802
2003	0.001	4.225	12.550	27.008	51.593	94.001	166.845	307.528	618.394	1670.400	2383325.864
2004	0.001	3.283	9.616	20.878	39.945	73.652	133.500	248.709	517.701	1432.647	2092721.170
2005	0.002	3.272	9.718	20.963	40.356	74.158	134.112	251.238	519.758	1449.617	1969683.010
2006	0.001	3.349	10.000	21.934	42.349	77.480	141.092	265.984	546.033	1500.594	1703247.126
2007	0.001	3.544	10.255	22.257	42.869	78.984	146.249	272.992	570.641	1570.891	1563983.554
2008	0.001	3.456	10.187	22.038	42.284	78.508	143.035	266.099	557.394	1545.225	1216034.513
2009	0.001	2.980	8.584	18.700	35.813	66.000	119.949	226.486	468.899	1269.632	1240350.834
2010	0.001	3.073	8.900	19.283	37.260	68.506	126.546	238.605	498.060	1364.966	1403758.143
2011	0.001	2.777	8.219	17.880	34.220	63.936	119.413	228.547	486.151	1355.198	1435610.198
2012	0.001	2.746	7.942	17.362	33.949	63.390	117.500	225.592	479.118	1328.303	1104656.851
2013	0.001	2.730	7.975	17.284	33.461	62.516	115.540	220.596	465.757	1301.936	1099429.144
2014	0.001	2.797	8.205	17.811	34.539	64.186	118.707	223.938	475.109	1322.594	1093650.141

**Table 2.6**

Number of exporter-country-year cells, number of these cells with at least 1 buyer termination, and the number of these cells with at least 1 significant buyer (with more than 10% and 20% market share) from 1995 to 2014 (Full sample)

Year	Num of exporter-country cells	Num of exporter-country cells with E-I relationships termination	Num of exporter-country cells with E-I one relationship termination accounting for at least 10% market share	Num of exporter-country cells with one E-I relationship termination accounting for at least 20% market share
1995	41948	19675	7654	5553
1996	44938	20827	7876	5723
1997	49339	23122	8723	6266
1998	53023	25071	9501	6835
1999	54717	26016	9799	7023
2000	56855	26730	10117	7341
2001	57331	26928	10354	7512
2002	58258	26846	10036	7178
2003	59013	26841	9913	7150
2004	72092	29086	11282	8298
2005	75809	30760	11884	8830
2006	78570	31499	12134	8910
2007	83852	33045	12852	9501
2008	86202	34415	13869	10270
2009	85559	32222	12574	9389
2010	88046	32457	12510	9256
2011	93996	34470	13623	10260
2012	93531	33051	12647	9367
2013	94411	32200	12267	9155
2014	93854	30598	11218	8264

**Table 3.1**

Percentiles, minimum, and maximum of the number of buyers across exporter-country-year cells for the full sample and subsample

	minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	maximum
Full sample	1	1	1	1	2	2	3	5	7	15	9415
Subsample	1	1	1	1	2	2	3	4	7	15	6353

**Table 3.2**

Percentiles, minimum, and maximum of the duration of EIRs, calculated as the difference between the current year and initial year, based on pooled seller-country-buyer-year cells generated from the exporter-country-year cells in full sample and subsample

	minimum	10%	20%	30%	40%	50%	60%	70%	80%	90%	maximum
Full sample	0	0	0	0	1	2	2	4	5	8	19
Subsample	0	0	0	0	1	1	2	3	4	6	19

**Table 4.1**

Descriptive statistics, correlations and VIFs of the full sample

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. $Export\_Perf_{sc}^{t,t+3}$	1.000												
2. $\ln(Firm\_Size_s^t)$	-0.069***	1.000											
3. $\ln(GDP_c^t)$	-0.009***	-0.084***	1.000										
4. $RI_{c/s}^t$	-0.132***	-0.138***	0.328***	1.000									
5. $RI_{s/c}^t$	-0.026***	0.178***	-0.045***	0.032***	1.000								
6. $Age_s^t$	-0.021***	0.145***	-0.047***	-0.064***	0.028***	1.000							
7. $Num\_Buyer_{sc}^t$	-0.025***	0.054***	0.101***	0.118***	0.011***	0.003***	1.000						
8. $Ind\_Dist_c^t$	0.009***	0.041***	-0.489***	-0.195***	0.016***	0.053***	-0.064***	1.000					
9. $Edu\_Dist_c^t$	0.004***	0.01***	-0.369***	-0.062***	0.019***	0.022***	-0.020***	0.331***	1.000				
10. $Dem\_Dist_c^t$	0.002*	0.027***	-0.290***	-0.110***	0.013***	0.009***	-0.029***	0.203***	-0.048***	1.000			
11. $Lang\_Dist_c^t$	0.005***	0.078***	0.201***	-0.111***	0.014***	0.019***	-0.034***	-0.166***	-0.042***	-0.104***	1.000		
12. $Relig\_Dist_c^t$	-0.008***	0.047***	0.076***	-0.048***	0.011***	0.022***	-0.023***	-0.086***	-0.229***	0.088***	0.353***	1.000	
13. $Exit\_Rel_{sc}^{t,t+3}$	-0.049***	0.047***	0.056***	0.064***	0.007***	0.024***	0.08***	-0.041***	-0.014***	-0.017***	-0.027***	-0.013***	1.000
Mean	0.167	15.262	12.822	0.121	0.000	27.184	8.147	0.820	0.739	0.277	8.465	1.963	0.024
Median	0.067	15.033	12.756	0.036	0.000	23.000	2.000	0.731	0.475	0.186	9.576	1.752	0.000
SD	1.241	1.541	1.324	0.198	0.002	18.531	40.168	0.608	0.707	0.236	1.862	0.826	0.153
Minimum	-12.847	2.197	8.499	0.000	0.000	0.000	1.000	0.005	0.005	0.032	4.152	0.876	0.000
Maximum	14.984	23.230	14.890	1.000	0.626	259.000	9415.000	2.864	3.488	1.453	10.000	5.000	1.000
VIF	-	1.09	1.71	1.21	1.04	1.03	1.03	1.40	1.32	1.15	1.27	1.23	1.02

\* p &lt; 0.05, \*\* p &lt; 0.01, \*\*\* p &lt; 0.001

**Table 4.2**

Descriptive statistics, correlations and VIFs of the subsample

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. $Export\_Perf_{sc}^{t,t+3}$	1.000														
2. $\ln(Firm\_Size_s^t)$	-0.093***	1.000													
3. $\ln(GDP_c^t)$	-0.004	-0.071***	1.000												
4. $RI_{c/s}^t$	-0.129***	-0.133***	0.324***	1.000											
5. $RI_{s/c}^t$	-0.025***	0.121***	-0.046***	0.053***	1.000										
6. $Age_s^t$	-0.023***	0.051***	-0.017***	-0.046***	0.007***	1.000									
7. $Num\_Buyer_{sc}^t$	-0.019***	0.043***	0.080***	0.102***	0.004*	-0.010***	1.000								
8. $Ind\_Dist_c^t$	0.008***	0.026***	-0.460***	-0.181***	0.017***	0.118***	-0.051***	1.000							
9. $Edu\_Dist_c^t$	0.003	0.008***	-0.340***	-0.048***	0.017***	0.026***	-0.017***	0.308***	1.000						
10. $Dem\_Dist_c^t$	0.001	0.024***	-0.227***	-0.100***	0.008***	-0.012***	-0.018***	0.222***	-0.084***	1.000					
11. $Lang\_Dist_c^t$	0.001	0.069***	0.154***	-0.114***	0.001	0.020***	-0.041***	-0.141***	0.008***	-0.035***	1.000				
12. $Relig\_Dist_c^t$	-0.006**	0.037***	0.027***	-0.055***	0.004*	0.043***	-0.026***	-0.027***	-0.187***	0.105***	0.348***	1.000			
13. $Exit\_Rel_{sc}^{t,t+3}$	-0.046***	0.035***	0.053***	0.065***	0.003	0.043***	0.059***	-0.028***	-0.013***	-0.019***	-0.028***	-0.015***	1.000		
14. $G.exp_s^t$	-0.052***	0.269***	-0.027***	-0.070***	0.022***	0.698***	-0.002	0.086***	0.018***	-0.006**	0.036***	0.046***	0.068***	1.000	
15. $S.exp_{sc}^t$	-0.075***	0.233***	0.160***	0.029***	0.017***	0.590***	0.028***	-0.031***	-0.054***	-0.101***	-0.036***	0.010***	0.096***	0.846***	1.000
Mean	0.191	15.116	12.882	0.128	0.000	8.307	8.188	0.895	0.739	0.266	8.507	2.007	0.016	5.245	4.222
Median	0.080	14.882	12.828	0.036	0.000	8.000	2.000	0.856	0.475	0.183	9.576	1.752	0.000	4.000	3.000
SD	1.304	1.539	1.346	0.211	0.003	4.597	48.698	0.635	0.667	0.256	1.830	0.840	0.127	4.179	3.832
Minimum	-12.847	3.178	8.499	0.000	0.000	0.000	1.000	0.005	0.005	0.032	4.152	0.876	0.000	0.000	0.000
Maximum	14.984	21.565	14.890	1.000	0.583	19.000	6353.000	2.864	3.488	1.453	10.000	5.000	1.000	19.000	19.000
VIF	-	1.17	1.58	1.20	1.02	2.05	1.02	1.40	1.30	1.13	1.25	1.21	1.02	2.19	-
	-	1.14	1.63	1.20	1.02	1.63	1.02	1.40	1.30	1.14	1.27	1.21	1.02	-	1.78

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table 5**  
Main regression results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(\text{Firm\_Size}_s^t)$	-0.065*** (0.002)	-0.064*** (0.002)	-0.084*** (0.004)	-0.081*** (0.004)	-0.081*** (0.004)	-0.077*** (0.004)	-0.073*** (0.004)	-0.073*** (0.004)
$\ln(\text{GDP}_c^t)$	0.044*** (0.001)	0.046*** (0.001)	0.049*** (0.003)	0.049*** (0.003)	0.049*** (0.003)	0.060*** (0.003)	0.060*** (0.003)	0.060*** (0.003)
$RI_{c/s}^t$	-0.997*** (0.011)	-0.987*** (0.011)	-0.986*** (0.022)	-0.990*** (0.022)	-0.990*** (0.022)	-0.981*** (0.023)	-0.982*** (0.022)	-0.981*** (0.022)
$RI_{s/c}^t$	-2.353 (1.549)	-2.387 (1.548)	-0.977 (1.321)	-1.071 (1.343)	-1.073 (1.344)	-1.018 (1.334)	-1.081 (1.361)	-1.078 (1.362)
$\text{Age}_s^t$	-0.001*** (0.000)	-0.001*** (0.000)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)
$\text{Num\_Buyer}_{sc}^t$	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
$\text{Ind\_Dist}_c^t$	0.024*** (0.002)	0.023*** (0.002)	0.012** (0.005)	0.012** (0.005)	0.012** (0.005)	0.008 (0.005)	0.007 (0.005)	0.007 (0.005)
$\text{Edu\_Dist}_c^t$	0.017*** (0.002)	0.018*** (0.002)	0.024*** (0.005)	0.024*** (0.005)	0.024*** (0.005)	0.023*** (0.005)	0.024*** (0.005)	0.024*** (0.005)
$\text{Dem\_Dist}_c^t$	-0.030*** (0.005)	-0.031*** (0.005)	-0.022** (0.011)	-0.022* (0.011)	-0.022* (0.011)	-0.042*** (0.011)	-0.044*** (0.011)	-0.044*** (0.011)
$\text{Lang\_Dist}_c^t$	-0.008*** (0.001)	-0.009*** (0.001)	-0.012*** (0.002)	-0.012*** (0.002)	-0.012*** (0.002)	-0.017*** (0.002)	-0.017*** (0.002)	-0.017*** (0.002)
$\text{Relig\_Dist}_c^t$	-0.004*** (0.001)	-0.004*** (0.001)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.000 (0.003)	-0.000 (0.003)	-0.000 (0.003)
<i>High Tech</i>	0.049*** (0.007)	0.047*** (0.007)	0.030* (0.016)	0.033** (0.016)	0.033** (0.016)	0.026 (0.016)	0.029* (0.016)	0.029* (0.016)
<i>Middle Tech</i>	0.048*** (0.004)	0.046*** (0.004)	0.036*** (0.011)	0.038*** (0.011)	0.038*** (0.011)	0.036*** (0.011)	0.038*** (0.010)	0.039*** (0.010)
$\text{Exit\_Rel}_{sc}^{t,t+3}$		-0.286*** (0.009)	-0.325*** (0.030)	-0.314*** (0.030)	-0.695*** (0.131)	-0.301*** (0.030)	-0.286*** (0.030)	-0.812*** (0.124)
$G.\text{exp}_s^t$			-0.010*** (0.002)	-0.039*** (0.003)	-0.040*** (0.003)			
$(G.\text{exp}_s^t)^2$				0.002*** (0.000)	0.002*** (0.000)			
$\text{Exit\_Rel} \# G.\text{exp}_s^t$					0.100*** (0.032)			
$\text{Exit\_Rel} \# (G.\text{exp}_s^t)^2$					-0.005*** (0.002)			
$S.\text{exp}_{sc}^t$						-0.023*** (0.001)	-0.070*** (0.003)	-0.071*** (0.003)
$(S.\text{exp}_{sc}^t)^2$							0.004*** (0.000)	0.004*** (0.000)
$\text{Exit\_Rel} \# S.\text{exp}_{sc}^t$								0.144*** (0.030)
$\text{Exit\_Rel} \# (S.\text{exp}_{sc}^t)^2$								-0.008*** (0.002)
Constant	0.770*** (0.030)	0.740*** (0.030)	1.065*** (0.071)	1.074*** (0.071)	1.077*** (0.071)	0.882*** (0.072)	0.884*** (0.071)	0.887*** (0.071)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1421344	1421344	274115	274115	274115	274115	274115	274115
Adjusted $R^2$	0.032	0.033	0.036	0.037	0.037	0.038	0.041	0.041
F-test	757.554	740.595	168.382	165.029	147.802	189.272	198.203	178.024

Standard errors (cluster seller) in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 5.1**

Main regression using 4-year time window

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(Firm\_Size_s^t)$	-0.073*** (0.002)	-0.072*** (0.002)	-0.094*** (0.005)	-0.091*** (0.005)	-0.091*** (0.005)	-0.086*** (0.005)	-0.081*** (0.005)	-0.081*** (0.005)
$\ln(GDP_c^t)$	0.052*** (0.002)	0.053*** (0.002)	0.058*** (0.003)	0.058*** (0.003)	0.058*** (0.003)	0.070*** (0.004)	0.071*** (0.004)	0.071*** (0.004)
$RJ_{c/s}^t$	-1.136*** (0.012)	-1.128*** (0.012)	-1.129*** (0.025)	-1.133*** (0.025)	-1.133*** (0.025)	-1.124*** (0.025)	-1.124*** (0.025)	-1.124*** (0.025)
$RJ_{s/c}^t$	-2.653 (1.622)	-2.685* (1.622)	-0.627 (1.407)	-0.717 (1.438)	-0.716 (1.439)	-0.669 (1.416)	-0.712 (1.458)	-0.708 (1.458)
$Age_s^t$	-0.001*** (0.000)	-0.001*** (0.000)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.006*** (0.002)
$Num\_Buyer_{sc}^t$	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
$Ind\_Dist_c^t$	0.032*** (0.003)	0.031*** (0.003)	0.022*** (0.006)	0.022*** (0.006)	0.022*** (0.006)	0.017*** (0.006)	0.015** (0.006)	0.015** (0.006)
$Edu\_Dist_c^t$	0.020*** (0.002)	0.020*** (0.002)	0.027*** (0.006)	0.027*** (0.006)	0.027*** (0.006)	0.025*** (0.006)	0.027*** (0.006)	0.027*** (0.006)
$Dem\_Dist_c^t$	-0.046*** (0.006)	-0.047*** (0.006)	-0.043*** (0.013)	-0.042*** (0.013)	-0.042*** (0.013)	-0.065*** (0.013)	-0.067*** (0.013)	-0.067*** (0.013)
$Lang\_Dist_c^t$	-0.010*** (0.001)	-0.010*** (0.001)	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)	-0.020*** (0.002)	-0.020*** (0.002)	-0.020*** (0.002)
$Relig\_Dist_c^t$	-0.004** (0.002)	-0.004** (0.002)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.003 (0.004)	0.002 (0.004)	0.002 (0.004)
<i>High Tech</i>	0.062*** (0.009)	0.060*** (0.009)	0.043** (0.019)	0.045** (0.019)	0.045** (0.019)	0.037* (0.019)	0.041** (0.019)	0.041** (0.019)
<i>Middle Tech</i>	0.061*** (0.005)	0.060*** (0.005)	0.047*** (0.013)	0.048*** (0.013)	0.048*** (0.013)	0.047*** (0.013)	0.049*** (0.013)	0.049*** (0.013)
$Exit\_Rel_{sc}^{t,t+3}$		-0.275*** (0.011)	-0.279*** (0.034)	-0.268*** (0.034)	-0.673*** (0.147)	-0.241*** (0.033)	-0.229*** (0.033)	-0.717*** (0.142)
$G.exp_s^t$			-0.011*** (0.002)	-0.041*** (0.004)	-0.042*** (0.004)			
$(G.exp_s^t)^2$				0.002*** (0.000)	0.002*** (0.000)			
$Exit\_Rel \# G.exp_s^t$					0.106*** (0.038)			
$Exit\_Rel \# (G.exp_s^t)^2$					-0.006*** (0.002)			
$S.exp_{sc}^t$						-0.027*** (0.002)	-0.080*** (0.004)	-0.080*** (0.004)
$(S.exp_{sc}^t)^2$							0.004*** (0.000)	0.004*** (0.000)
$Exit\_Rel \# S.exp_{sc}^t$								0.130*** (0.036)
$Exit\_Rel \# (S.exp_{sc}^t)^2$								-0.007*** (0.002)
Constant	0.843*** (0.036)	0.822*** (0.036)	1.168*** (0.084)	1.175*** (0.084)	1.177*** (0.084)	0.955*** (0.085)	0.955*** (0.084)	0.958*** (0.084)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1327490	1327490	244713	244713	244713	244713	244713	244713
Adjusted $R^2$	0.039	0.039	0.043	0.044	0.044	0.045	0.048	0.048
F-test	797.252	761.968	168.179	163.133	146.440	186.344	192.777	173.029

Standard errors (cluster seller) in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 5.2**

Main regression using 5-year time window

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(Firm\_Size_s^t)$	-0.079*** (0.002)	-0.078*** (0.002)	-0.099*** (0.006)	-0.096*** (0.006)	-0.096*** (0.006)	-0.091*** (0.006)	-0.085*** (0.006)	-0.086*** (0.006)
$\ln(GDP_c^t)$	0.060*** (0.002)	0.061*** (0.002)	0.065*** (0.004)	0.065*** (0.004)	0.065*** (0.004)	0.079*** (0.004)	0.080*** (0.004)	0.080*** (0.004)
$R1_{c/s}^t$	-1.249*** (0.013)	-1.242*** (0.013)	-1.244*** (0.028)	-1.248*** (0.028)	-1.248*** (0.028)	-1.238*** (0.028)	-1.238*** (0.028)	-1.238*** (0.028)
$R1_{s/c}^t$	-2.925* (1.699)	-2.963* (1.700)	-0.561 (1.443)	-0.650 (1.474)	-0.649 (1.475)	-0.604 (1.452)	-0.631 (1.497)	-0.629 (1.497)
$Age_s^t$	-0.001*** (0.000)	-0.001*** (0.000)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)
$Num\_Buyer_{sc}^t$	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
$Ind\_Dist_c^t$	0.041*** (0.003)	0.040*** (0.003)	0.031*** (0.007)	0.031*** (0.007)	0.031*** (0.007)	0.025*** (0.007)	0.023*** (0.007)	0.023*** (0.007)
$Edu\_Dist_c^t$	0.024*** (0.002)	0.025*** (0.002)	0.029*** (0.006)	0.029*** (0.006)	0.029*** (0.006)	0.027*** (0.006)	0.029*** (0.006)	0.029*** (0.006)
$Dem\_Dist_c^t$	-0.071*** (0.007)	-0.072*** (0.007)	-0.076*** (0.016)	-0.075*** (0.016)	-0.075*** (0.016)	-0.100*** (0.016)	-0.103*** (0.016)	-0.103*** (0.016)
$Lang\_Dist_c^t$	-0.012*** (0.001)	-0.012*** (0.001)	-0.017*** (0.002)	-0.017*** (0.002)	-0.017*** (0.002)	-0.023*** (0.002)	-0.023*** (0.002)	-0.023*** (0.002)
$Relig\_Dist_c^t$	-0.001 (0.002)	-0.001 (0.002)	0.007 (0.005)	0.007 (0.005)	0.007 (0.005)	0.007 (0.005)	0.006 (0.005)	0.006 (0.005)
<i>High Tech</i>	0.069*** (0.010)	0.068*** (0.010)	0.044* (0.023)	0.046** (0.023)	0.046** (0.023)	0.037* (0.022)	0.041* (0.022)	0.041* (0.022)
<i>Middle Tech</i>	0.067*** (0.006)	0.066*** (0.006)	0.045*** (0.015)	0.046*** (0.015)	0.046*** (0.015)	0.044*** (0.015)	0.047*** (0.015)	0.047*** (0.015)
$Exit\_Rel_{sc}^{t,t+3}$		-0.275*** (0.014)	-0.271*** (0.042)	-0.265*** (0.042)	-0.537*** (0.196)	-0.219*** (0.042)	-0.220*** (0.042)	-0.672*** (0.177)
$G.exp_s^t$			-0.013*** (0.003)	-0.045*** (0.005)	-0.046*** (0.005)			
$(G.exp_s^t)^2$				0.003*** (0.000)	0.003*** (0.000)			
$Exit\_Rel \# G.exp_s^t$					0.061 (0.051)			
$Exit\_Rel \# (G.exp_s^t)^2$					-0.003 (0.003)			
$S.exp_{sc}^t$						-0.032*** (0.002)	-0.089*** (0.005)	-0.090*** (0.005)
$(S.exp_{sc}^t)^2$							0.005*** (0.000)	0.005*** (0.000)
$Exit\_Rel \# S.exp_{sc}^t$								0.116*** (0.045)
$Exit\_Rel \# (S.exp_{sc}^t)^2$								-0.007** (0.003)
Constant	0.883*** (0.041)	0.868*** (0.041)	1.215*** (0.098)	1.221*** (0.098)	1.222*** (0.098)	0.978*** (0.100)	0.976*** (0.099)	0.978*** (0.099)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1233079	1233079	215633	215633	215633	215633	215633	215633
Adjusted R <sup>2</sup>	0.044	0.045	0.048	0.049	0.049	0.051	0.054	0.054
F-test	807.272	760.467	162.594	157.302	140.421	178.204	184.049	164.377

Standard errors (cluster seller) in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 5.3**  
Main regression using 6-year time window

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(\text{Firm\_Size}_s^t)$	-0.083*** (0.003)	-0.083*** (0.003)	-0.102*** (0.007)	-0.099*** (0.007)	-0.099*** (0.007)	-0.094*** (0.007)	-0.088*** (0.007)	-0.088*** (0.007)
$\ln(\text{GDP}_c^t)$	0.066*** (0.002)	0.067*** (0.002)	0.071*** (0.005)	0.071*** (0.005)	0.071*** (0.005)	0.087*** (0.005)	0.088*** (0.005)	0.088*** (0.005)
$RJ_{c/s}^t$	-1.344*** (0.014)	-1.339*** (0.014)	-1.338*** (0.030)	-1.341*** (0.030)	-1.341*** (0.030)	-1.330*** (0.031)	-1.331*** (0.031)	-1.330*** (0.031)
$RJ_{s/c}^t$	-3.150* (1.809)	-3.174* (1.808)	0.045 (1.512)	-0.037 (1.548)	-0.036 (1.548)	0.010 (1.513)	0.002 (1.567)	0.003 (1.567)
$\text{Age}_s^t$	-0.001*** (0.000)	-0.001*** (0.000)	0.002 (0.003)	0.002 (0.003)	0.002 (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)
$\text{Num\_Buyer}_{sc}^t$	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
$\text{Ind\_Dist}_c^t$	0.047*** (0.004)	0.047*** (0.004)	0.039*** (0.008)	0.039*** (0.008)	0.039*** (0.008)	0.032*** (0.008)	0.028*** (0.008)	0.028*** (0.008)
$\text{Edu\_Dist}_c^t$	0.027*** (0.003)	0.027*** (0.003)	0.033*** (0.007)	0.033*** (0.007)	0.033*** (0.007)	0.032*** (0.007)	0.034*** (0.007)	0.034*** (0.007)
$\text{Dem\_Dist}_c^t$	-0.094*** (0.008)	-0.094*** (0.008)	-0.105*** (0.018)	-0.105*** (0.018)	-0.105*** (0.018)	-0.132*** (0.018)	-0.137*** (0.018)	-0.137*** (0.018)
$\text{Lang\_Dist}_c^t$	-0.014*** (0.001)	-0.014*** (0.001)	-0.019*** (0.003)	-0.019*** (0.003)	-0.019*** (0.003)	-0.027*** (0.003)	-0.027*** (0.003)	-0.027*** (0.003)
$\text{Relig\_Dist}_c^t$	0.001 (0.002)	0.001 (0.002)	0.010* (0.006)	0.010* (0.006)	0.010* (0.006)	0.010* (0.006)	0.009* (0.006)	0.009* (0.006)
<i>High Tech</i>	0.079*** (0.012)	0.078*** (0.012)	0.054** (0.026)	0.055** (0.026)	0.055** (0.026)	0.046* (0.026)	0.049* (0.026)	0.049* (0.026)
<i>Middle Tech</i>	0.074*** (0.007)	0.074*** (0.007)	0.044** (0.018)	0.046** (0.018)	0.046** (0.018)	0.043** (0.018)	0.046*** (0.018)	0.046*** (0.018)
$\text{Exit\_Rel}_{sc}^{t,t+3}$		-0.258*** (0.018)	-0.230*** (0.051)	-0.236*** (0.051)	-0.472* (0.265)	-0.160*** (0.051)	-0.191*** (0.052)	-0.569** (0.245)
$G.\text{exp}_s^t$			-0.015*** (0.003)	-0.048*** (0.006)	-0.049*** (0.006)			
$(G.\text{exp}_s^t)^2$				0.003*** (0.000)	0.003*** (0.000)			
$\text{Exit\_Rel} \# G.\text{exp}_s^t$					0.074 (0.064)			
$\text{Exit\_Rel} \# (G.\text{exp}_s^t)^2$					-0.005 (0.004)			
$S.\text{exp}_{sc}^t$						-0.037*** (0.003)	-0.101*** (0.005)	-0.102*** (0.005)
$(S.\text{exp}_{sc}^t)^2$							0.006*** (0.000)	0.006*** (0.000)
$\text{Exit\_Rel} \# S.\text{exp}_{sc}^t$								0.115** (0.059)
$\text{Exit\_Rel} \# (S.\text{exp}_{sc}^t)^2$								-0.008** (0.003)
Constant	0.924*** (0.046)	0.913*** (0.046)	1.242*** (0.113)	1.247*** (0.113)	1.248*** (0.113)	0.981*** (0.115)	0.979*** (0.114)	0.980*** (0.114)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1139548	1139548	187820	187820	187820	187820	187820	187820
Adjusted $R^2$	0.049	0.049	0.052	0.053	0.053	0.056	0.059	0.059
F-test	798.413	744.528	151.483	146.283	130.425	165.242	171.798	153.016

Standard errors (cluster seller) in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

**Table 6**

Results of the regressions where all exporters increasing export value in the previous year

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\ln(Firm\_Size_s^t)$	-0.056*** (0.002)	-0.055*** (0.002)	-0.084*** (0.005)	-0.084*** (0.005)	-0.084*** (0.005)	-0.078*** (0.005)	-0.076*** (0.005)	-0.077*** (0.005)
$\ln(GDP_c^t)$	0.062*** (0.002)	0.063*** (0.002)	0.065*** (0.003)	0.065*** (0.003)	0.065*** (0.003)	0.070*** (0.003)	0.070*** (0.003)	0.070*** (0.003)
$RJ_{c/s}^t$	-1.208*** (0.012)	-1.203*** (0.012)	-1.158*** (0.025)	-1.158*** (0.025)	-1.158*** (0.025)	-1.156*** (0.025)	-1.156*** (0.025)	-1.156*** (0.025)
$RJ_{s/c}^t$	-4.327** (2.046)	-4.332** (2.046)	-1.134 (2.052)	-1.146 (2.057)	-1.147 (2.059)	-1.258 (2.088)	-1.287 (2.104)	-1.285 (2.105)
$Age_s^t$	-0.001*** (0.000)	-0.001*** (0.000)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)
$Num\_Buyer_{sc}^t$	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
$Ind\_Dist_c^t$	0.016*** (0.003)	0.016*** (0.003)	0.007 (0.006)	0.007 (0.006)	0.007 (0.006)	0.005 (0.006)	0.005 (0.006)	0.005 (0.006)
$Edu\_Dist_c^t$	0.013*** (0.002)	0.013*** (0.002)	0.012** (0.006)	0.012** (0.006)	0.012** (0.006)	0.012** (0.006)	0.012** (0.006)	0.012** (0.006)
$Dem\_Dist_c^t$	-0.038*** (0.006)	-0.039*** (0.006)	-0.042*** (0.013)	-0.042*** (0.013)	-0.042*** (0.013)	-0.051*** (0.013)	-0.052*** (0.013)	-0.052*** (0.013)
$Lang\_Dist_c^t$	-0.011*** (0.001)	-0.011*** (0.001)	-0.014*** (0.002)	-0.014*** (0.002)	-0.014*** (0.002)	-0.016*** (0.002)	-0.016*** (0.002)	-0.016*** (0.002)
$Relig\_Dist_c^t$	-0.008*** (0.002)	-0.008*** (0.002)	-0.003 (0.004)	-0.003 (0.004)	-0.003 (0.004)	-0.003 (0.004)	-0.003 (0.004)	-0.003 (0.004)
<i>High Tech</i>	0.035*** (0.008)	0.035*** (0.008)	0.025 (0.017)	0.025 (0.017)	0.025 (0.017)	0.021 (0.017)	0.022 (0.017)	0.022 (0.017)
<i>Middle Tech</i>	0.028*** (0.005)	0.027*** (0.005)	0.016 (0.011)	0.016 (0.011)	0.016 (0.011)	0.016 (0.011)	0.017 (0.011)	0.017 (0.011)
$Exit\_Rel_{sc}^{t,t+3}$		-0.161*** (0.010)	-0.178*** (0.033)	-0.177*** (0.033)	-0.498*** (0.131)	-0.158*** (0.033)	-0.153*** (0.033)	-0.605*** (0.127)
$G.exp_s^t$			-0.000 (0.002)	-0.004 (0.004)	-0.004 (0.004)			
$(G.exp_s^t)^2$				0.000 (0.000)	0.000 (0.000)			
$Exit\_Rel \# G.exp_s^t$					0.083** (0.033)			
$Exit\_Rel \# (G.exp_s^t)^2$					-0.004** (0.002)			
$S.exp_{sc}^t$						-0.011*** (0.002)	-0.028*** (0.003)	-0.028*** (0.003)
$(S.exp_{sc}^t)^2$							0.001*** (0.000)	0.001*** (0.000)
$Exit\_Rel \# S.exp_{sc}^t$								0.120*** (0.031)
$Exit\_Rel \# (S.exp_{sc}^t)^2$								-0.006*** (0.002)
Constant	0.673*** (0.034)	0.660*** (0.034)	1.079*** (0.079)	1.079*** (0.079)	1.082*** (0.079)	0.946*** (0.080)	0.939*** (0.080)	0.941*** (0.079)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	913150	913150	184226	184226	184226	184226	184226	184226
Adjusted $R^2$	0.037	0.038	0.038	0.038	0.038	0.039	0.039	0.039
F-test	795.755	751.861	162.652	152.479	136.149	170.847	160.904	144.224

Standard errors (cluster seller) in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Appendix

### 1. Data cleaning

Although the French customs data are of high quality, we implement a two-step cleaning procedure to ensure the validity and completeness of the entries in the dataset. In the first step, we follow the guidelines of Bergounhon Lenoir and Mejean (2018), who suggest some trimming procedures to eliminate invalid and missing data. In particular, we retain:

1. Transactions that had valid exporter identifiers (SIREN), which is a 9-digit identifier assigned to French firms and is commonly found in French firm-level datasets;
2. Transactions that had valid product codes (CN8), an 8-digit classification system based on the harmonized System (HS6). This system is used to categorize the products in the dataset;
3. Transactions that had valid destination country codes, with missing information being filled in whenever possible using the buyer's VAT number;
4. Transactions that had buyer VAT numbers, which were anonymized in the dataset;
5. Transactions that did not involve third party trade;
6. Transactions that had positive exporting values<sup>11</sup>.

The current data sample involves 139,203 exporters, 823,786 exporter-country cells, and 4,825,499 exporter-country-year cells.

In the second step, we focus on the cleaning required by our choice of key variables. This led us to retain:

- 1 Transactions with exporters meeting a constant minimum size threshold (see subsection 2 below for details) with positive export values, weights and units;
- 2 Transactions that had their nature exports of taxable goods.

The current data sample involves 51,809 exporters, 463,299 exporter-country cells, and 2,877,736 exporter-country-year cells.

Notice that after applying the trimming procedures in the first step, the number of exporters decreases from 149,047 to 139,203. The second step further reduces the number of exporters to 51,809. This significant reduction in observations is necessary because the original dataset only records detailed information on a firm's transactions if the annual value of the firm's exports exceeds a certain

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<sup>11</sup> Bergounhon Lenoir and Mejean (2018) excluded transactions with export value, weights and units equal to zero.

reporting threshold, which varies over time. Pooling observations from all years based on varying threshold values could introduce a sample selection issue. By excluding exporters below the constant threshold, our investigation consistently focuses on the behavior of relatively large exporters over time.

## **2. The constant threshold construction**

The number of variables recorded for each transaction in the dataset depends on the size of the exporting enterprise, measured by the total value of its intra-EU trade in the given calendar year. If the annual value of a firm's exports exceeds a certain reporting threshold, the firm is required to provide more detailed information on its transactions. Thresholds are set by Intrastat for French exporters to monitor their movement of goods within EU Member States (Eurostat, 2018). Before 2011, there were four levels of disclosure thresholds, referred to as stringency levels 4, 3, 2 and 1, with 4 being the least demanding level and containing only minimal information on the transaction. However, in 2011 the system was simplified to only two levels of stringency (4 and 1) and transactions exceeding the threshold had to report the full set of variables.

As we need information on destination countries, we include all transactions that meet at least stringency level 3 before 2011 - for which destination country information is available - and stringency level 1 after 2011. However, there is a potential selection bias because the threshold for stringency level 3 before 2011 has changed over time and is different from the threshold for stringency level 1 after 2011. To avoid this problem, we set the threshold for stringency level 1 also after 2011 (460,000-euro export turnover) as a constant threshold over time for all exporters, since this level corresponds to the highest value among all stringency level 3 reporting thresholds in the years before 2011.

## **3. Attrition due to variable construction**

The definitions of *Export\_Performance* and *Exit\_Rel* reduce our sample for four different reasons:

a) To define these two variables at time  $t$ , we require information for the following three years. Although the original dataset covers observations from 1995 to 2017, our data sample only ranges from 1995 to 2014 because these two variables cannot be defined for the years 2015 to 2017.

b) To avoid the possibility that a seller-buyer relationship ends because the seller or buyer exits the market (e.g., due to bankruptcy), we require both the buyer and seller to remain active in the dataset when defining whether a seller-buyer relationship at time  $t$  ends within the next three years or not. If an exporter or buyer no longer appears in the dataset, we assume they are either uninterested in trading or inactive, possibly due to bankruptcy but we cannot tell one from another. In such cases,

we exclude the seller-buyer relationship from our analysis. This is explained in section 3.2.2, with a toy example provided in Figure 1 in the new manuscript.

c) When defining `Export_Performance` at time  $t$ , we need both the seller-country specific export sales for year  $t$  and the average export sales over the following three years. If a seller ceases to export to a particular country during this period (resulting in an average export sale of zero), we exclude the seller from our analysis.

d) To account for the partial-year effect (Bernard et al., 2017), if an exporter begins trading with a country from the 2nd quarter of the initial year, we do not consider this export activity as representative of the full year. Consequently, we exclude that seller-country pair and its dynamics from the initial year from our analysis.

We conduct these four procedures sequentially, and report the number of remaining exporters, number of remaining seller-country cells, and number of seller-country-year cell in following table.

	Number of sellers	Number of seller-country cells	Number of seller-country-year cells
After Step a)	47,007	415,313	2,399,102
After Step b)	31,289	306,639	1,907,802
After Step c)	29,933	275,503	1,803,787
After Step d)	29,803	274,611	1,802,895