



Taking a time-out from exporting: Implications for the likelihood of export re-entry and re-entry export performance

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ABSTRACT

Drawing from Organizational Learning Theory, we explain how the “time-out period” from exporting affects a) the likelihood of re-starting exporting and b) re-entry export performance. We also explain how foreign collaboration influences these two relationships. We show that the time-out period has an inverted U-shaped relationship with the likelihood of re-starting exporting, and a U-shaped relationship with re-entry export performance. Foreign collaboration enhances managerial confidence and thereby increases the likelihood of re-starting exporting during the *earlier* phases of the time-out period. It also enhances re-entry export performance by accelerating new knowledge accumulation in the *later* phases of the time-out period.

1. Introduction

Although the international business (IB) literature has offered valuable insights into firms' expansion in foreign markets (Laufs & Schwens, 2014; Majocchi, D'Angelo, Forlani & Buck, 2018; Park & LiPuma, 2020), little attention has been paid to the fact that firms often de-internationalize either by partially reducing their commitment or by completely withdrawing from foreign markets (Bernini, Du & Love, 2016; Dachs, Kinkel & Jäger, 2019; Gaur, Pattnaik, Singh & Lee, 2019; Rodrigues & Dieleman, 2018). The literature has paid even less attention to *re-internationalization*; a phenomenon that often follows de-internationalization. *Re-internationalization* occurs when firms again increase their commitment to foreign markets (following partial de-internationalization) or re-enter such markets after a *time-out period* during which they stay out of foreign markets and focus *only* on the domestic market (Aguzzoli, Lengler, Sousa & Benito, 2021; Chen, Sousa & He, 2019; Vissak & Francioni, 2013).

To deepen the understanding of this phenomenon, this study focuses on exporting firms that completely exit foreign markets and at a later phase re-start exporting (i.e., re-enter) in the same or different markets.

Specifically, this study examines the effects of the time-out period on two sequential outcomes: the likelihood of re-starting exporting and re-entry export performance. It also examines how these relationships are affected by firms' collaboration with foreign partners *during* the time-out period. This study's objectives differ from prior studies that have examined how internationalization experience and institutional factors influence the duration of the time-out period or the mode that firms use during exit and re-entry (Surdu & Narula, 2021; Surdu, Mellahi, Glaister & Nardella, 2018, 2019). Its objectives also differ from past research that has considered how the time-out period moderates the relationship between certain firm outcomes at exit and re-entry (Chen et al., 2019).

The study advances research on foreign market re-entry in two ways. First, it shows that (and explains why) the time-out period affects the likelihood of re-entry and re-entry performance in distinct ways.¹ Investigating both outcomes is important because the factors influencing the likelihood of re-entry might not affect re-entry performance in a similar way (Kafouros, Cavusgil, Devinney, Ganotakis & Fainshmidt, 2022a). For instance, while international experience can partly improve managers' confidence about re-entering foreign markets (Casillas, Moreno, Acedo, Gallego & Ramos, 2009; Ganotakis & Love, 2012;

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¹ We explain how two latent mechanisms (unlearning of experiential internationalization knowledge and the experience of the exit event) combine to influence managerial confidence regarding re-entry and form an inverted U-shaped relationship between the time-out period and the likelihood of re-entering markets through exporting. We also explain how the two latent mechanisms of unlearning of internationalization knowledge and the learning of new knowledge combine to affect the implementation of strategies that fit current external conditions, leading to a U-shaped relationship between the time-out period and re-entry export performance.

Vissak, Francioni & Freeman, 2020), the application of the same knowledge may misdirect managers toward implementing strategies that are ineffective when foreign market conditions change (Ozkan, 2020; Surdu, Mellahi & Glaister, 2019), resulting in lower re-entry performance. This challenge becomes particularly important when firms re-enter at a later phase of the time-out period as experiential knowledge might become less useful over time.

Second, research on re-entry (e.g., Bernini et al., 2016; Chen et al., 2019) typically focuses on the conditions that occurred when the firm exited foreign markets but pays little attention to contemporary aspects, such as the external knowledge that firms access *during* the time-out period (Kafouros et al., 2022a; Surdu et al., 2019; Vissak et al., 2020). As such, we have a rather incomplete understanding of the implications of the knowledge that a firm can access while it remains out of foreign markets, and how such knowledge adds to the experience that the firm previously gained from internationalization. This study addresses these questions by explaining how the knowledge that firms access from foreign collaboration during the time-out period influences the effect of the time-out period on a) the likelihood of re-entry and b) re-entry export performance. It also clarifies why the effect on each outcome differs.

By addressing the above two objectives, the study contributes to research on re-entry and organizational learning theory (Dodgson, 1993; Huber, 1991). First, although organizational learning theory suggests that unlearning is detrimental in some instances and beneficial in others, the theory is less explicit about the situations under which each scenario occurs. We show that extensive unlearning is detrimental to a firm's ability to restart an activity (i.e., exporting) because it reduces the managerial confidence needed to re-engage in that activity. However, when firms decide to re-start such activity (exporting), extensive unlearning assists in forgetting aspects of previous strategies that become ineffective due to changed external conditions. This helps firms avoid knowledge rigidities (Lane and Lubatkin, 1998) while learning new knowledge that assists in the implementation of internationalization strategies that respond to external conditions more effectively.

Second, organizational learning theory suggests that 'focused search' (e.g., through collaborations) provides firms with expertise that can substitute internal experiential knowledge (Huber, 1991). Hence, when a firm stops carrying out an activity, it can engage in an external search to compensate for the experiential knowledge that is lost due to unlearning (Huber, 1991). External search may, therefore, improve the effect of depreciated experiential knowledge on the likelihood of a firm re-starting an activity and on its performance. However, the theory does not explicitly clarify whether the benefits of external knowledge (in terms of compensating for the depreciation of internal experiential knowledge) are as useful across different levels of unlearning, and for different outcomes of an activity. In this regard, we contribute to organizational learning theory and the literature on re-entry by showing that although external knowledge enhances the effect of internal experiential knowledge on the likelihood of re-starting an activity (exporting) and on the performance of that activity, it does so at different stages of the time-out period for each outcome. Specifically, we show that external knowledge enhances the effect of internal experiential knowledge on the likelihood of re-starting an activity during the earlier (rather than the later) phases of the time-out period. We explain that not being able to re-start exporting after gaining access to external knowledge during the time-out period can further reduce managers' confidence about their ability to re-start exporting and the usefulness of such external knowledge sources.

Regarding the corresponding effects on export performance, we show that the influence of external knowledge on experiential knowledge is more pronounced at the later (rather than the earlier) stages of the time-out period. We explain that the reason for this effect is that managers that re-initiate exporting soon after the exit might become overconfident (Aguzzoli et al., 2021; Welch & Welch, 2009) and largely ignore external information thinking that the recently accumulated

experience is sufficient for the development of appropriate internationalization strategies.

2. Theoretical background and hypotheses development

2.1. Understanding export re-entry through organizational learning theory

The proposed framework in this study relies on organizational learning theory (Dodgson, 1993; Huber, 1991; Levitt & March 1998). It focuses on how firms learn from prior activities and experience (from exporting), how they unlearn knowledge when they stop carrying out an activity, and the consequences of unlearning. It also considers how external focused search from foreign collaborations can compensate for the internationalization knowledge that a firm gradually unlearns. Accordingly, in the following subsections, we develop hypotheses regarding the effect of the time-out period on the likelihood of re-starting exporting, on re-entry export performance, and on how foreign collaborations influence both relationships.

Organizational learning theory (Dodgson, 1993; Huber, 1991; Levitt & March 1998) suggests that learning from certain activities is transformed into practices and routines that are kept in a firm's organizational memory. Therefore, when firms engage in exporting, they accumulate market-specific and general internationalization knowledge and develop routines (Eriksson, Johanson, Majkgård & Sharma, 1997; Hsieh, Ganotakis, Kafouros & Wang, 2018) that can be used in future exporting efforts (D'Angelo, Ganotakis & Love, 2020). When a firm stops conducting an activity (such as exporting), the associated knowledge progressively depreciates and the firm starts to "unlearn" and eventually largely forgets related routines (Huber, 1991; Levitt & March 1998). The firm is, therefore, left with a smaller part of the blueprint that it previously possessed (Levitt & March 1998). This makes it difficult for the firm to perform future exporting activities (Chen et al., 2019; Welch & Welch, 2009).

However, the theory also suggests (Dodgson, 1993) that, in other instances, unlearning can potentially create room for new learning that becomes more effective when a firm has fewer old practices to unlearn (Nonaka & Takeuchi, 1995). Applying this reasoning in the context of market re-entry implies that firms can benefit from unlearning old routines that are based on obsolete knowledge because they constrain the assimilation of more relevant knowledge regarding new foreign market conditions (Surdu & Narula, 2021). However, organizational learning theory does not explicitly specify the situations under which unlearning can limit the scope of a firm's strategic choices regarding an activity or when it can have a positive outcome on that activity.

Moreover, the theory posits that when a firm is underperforming in an activity such as exporting, managers are likely to engage in external focused search to find solutions (Dodgson, 1993); for example, through inter-organizational linkages such as foreign collaborative agreements (Hsieh et al., 2018; Kafouros, Love, Ganotakis & Konara, 2020). These linkages help firms assimilate foreign market knowledge that can compensate for the loss of internal capabilities due to unlearning. In this regard, although the theory highlights the importance of external focused search, it is less clear how it influences the effect of experiential knowledge at different stages of unlearning and for different outcomes, including performance. The following subsections seek to address these two limitations in our understanding.

2.2. Effects of exporting time-out period on the probability of re-starting exporting

We expect that at any point across the time-out period, the likelihood of re-starting exporting will be driven by two mechanisms: (1) prior exporting experience that provides firms with market-specific and general internationalization knowledge, which in turn enhances managers' confidence and therefore the likelihood of re-entry (Tan & Sousa, 2019;

Vissak et al., 2020); and (2) the impact of a critical event (e.g., exit) that reduces managers' confidence about foreign operations as failure creates a negative predisposition towards market re-entry (Surdu & Narula, 2021; Welch & Welch, 2009). In the first hypothesis, we explain how these two mechanisms work together in a multiplicative form (Haans, Pieters & He, 2016), leading to an inverted U-shaped relationship between the time-out period and the likelihood of re-entry.

Exporting helps firms accumulate two types of experiential knowledge: market-specific knowledge which enhances understanding of market conditions and institutions, and general internationalization knowledge which helps firms understand the practicalities of the internationalization process (Eriksson et al., 1997; Javalgi, Deligonul, Dixit & Cavusgil, 2011). Both types of experiential knowledge can increase the likelihood of re-entry by reducing the level of uncertainty and perceived risk that managers have towards re-starting exporting activities (Aguzzoli et al., 2021). Firms with market-specific experience possess a greater understanding of customers' preferences, the competitive landscape, and institutions (both formal such as laws and regulations, and informal such as culture) (Javalgi et al., 2011; Surdu & Narula, 2021; Tan & Sousa, 2019). They are therefore more capable of identifying and analyzing opportunities and threats in the relevant country (Bernini et al., 2016; Casillas et al., 2009). General experience allows firms to learn how to organize and manage the internationalization, transportation and distribution procedures and processes that need to be followed, understand how to develop and maintain relationships, and find and collect the information required under different conditions (Eriksson et al., 1997; Love & Mañez, 2019).

However, the benefits of both types of experiential knowledge decline progressively over the time-out period (Love & Mañez, 2019). After exiting foreign markets, firms gradually unlearn the relevant knowledge and routines. Eventually, past knowledge can become inaccessible as a significant amount is forgotten (Chen et al., 2019; Javalgi et al., 2011). Therefore, as the time-out period lapses, firms have access to a reduced stock of experiential knowledge (Casillas et al., 2009; Welch & Welch, 2009), which in turn increases re-entry barriers and uncertainty about re-starting exporting. Hence, the longer firms stay out of foreign markets, the less likely it is that they will re-start exporting as managers' self-assurance about their export-related skills and knowledge declines (Javalgi et al., 2011; Vissak & Francioni, 2013). Therefore, if we look at this latent mechanism on its own, we expect the likelihood of re-entry to be higher during the initial phases of the time-out period because of the greater level of experiential knowledge available. This likelihood will progressively be lower during the later phases of the time-out period as the stock of such knowledge declines (see Fig. 1b).

However, knowledge depreciation is not the only mechanism affecting re-entry. Failure in foreign markets makes managers view re-

entry as a risky activity. They develop a negative perception about re-starting international operations given that a failed exit has financial consequences and is often accompanied by the stigma of failure (Javalgi et al., 2011; Surdu et al., 2018). Therefore, most managers are not confident about re-starting exporting during the early stages of the time-out period (Dominguez & Mayrhofer 2017). They will therefore resist doing so to avoid risking additional resources, increasing financial loss, and damaging their reputation (Chen et al., 2019).

Moreover, because of their negative predisposition towards re-starting exporting, managers might become less confident in using prior exporting experience and knowledge, which undermines the influence of such knowledge on the likelihood of re-entry (Aguzzoli et al., 2021; Surdu et al., 2019; Welch & Welch 2009). Such lack of confidence will be more pronounced during the early stages of the time-out period due to the recent and persistent memories of the failure that the firm experienced in foreign markets (Madsen & Desai, 2010; Surdu & Narula, 2021). Hence, the desire to re-enter foreign markets is expected to be low during the early stages.

After the initial exit shock, however, the dismissive attitude and negative perceptions of managers begin to subside as memories of the previous exit weaken. Hence, the importance that managers assign to it gradually decreases (Javalgi et al., 2011). For example, after exiting in 2000 from almost all Asian markets, the Australian bank ANZ did not restart foreign expansion until 2003 (Welch & Welch, 2009). When it did, it did so cautiously, followed by an incremental increase in internationalization over the coming years. The fact that the bank waited for 3 years and chose a small-scale gradual increase in international activities was considered to be guided by the negative memories of the exit, and the progressive increase in the CEO's confidence as time lapsed.

Firms, therefore, start to increasingly reflect on and use prior international experience and be more open to evaluating information about foreign opportunities (Casillas et al., 2009; Chen et al., 2019). The greater use of prior exporting experiential knowledge reduces the uncertainty perceived by managers and increases the likelihood of re-entry (Fig. 1a) (Casillas et al., 2009; Sousa & Tan, 2015). However, this effect occurs at a reducing rate over longer time-out periods. This occurs because at greater time-out periods, firms have a lower resistance from the exit, but they also have a lower stock of the initial experiential knowledge available, which reduces their confidence.

As time passes and the memory of exit disappears, only the effect of the experiential knowledge remains (Javalgi et al., 2011). From that point onwards, the likelihood of re-entry is primarily driven by the depreciation of prior experiential knowledge. As a result, the likelihood of restarting exporting starts to decline. Hence, we expect that these two latent mechanisms will produce an inverted U-shaped relationship between the time-out period and the likelihood of re-entry (as illustrated in

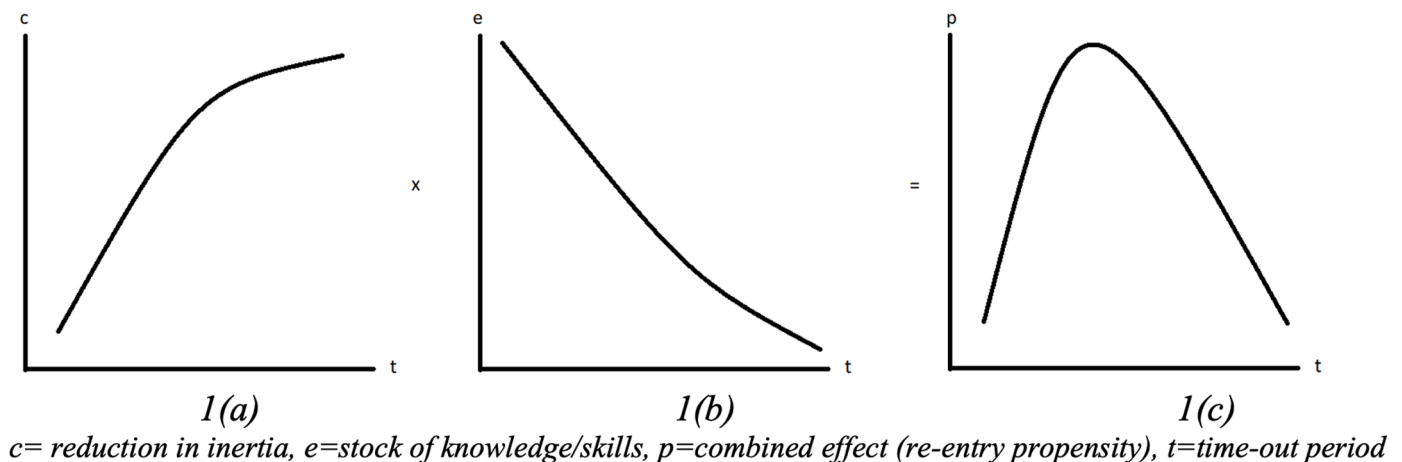


Fig. 1. Latent mechanisms and combined effect on probability to re-enter.

Fig. 1):

Hypothesis 1. *There is an inverted U-shaped relationship between the exporting time-out period and the likelihood of re-initiating the firm's export activities.*

2.3. The moderating effect of collaboration on the relationship between the time-out period and the likelihood of re-initiating exporting

We further argue that firms accumulate market-specific and general internationalization knowledge not only through exporting but also through collaborations with foreign partners, especially with suppliers, competitors, and (prior) customers (Casillas et al., 2009; Hsieh et al., 2018; Kafouros, Hashai, Tardios & Wang, 2022b; Li, Poppo & Zhou, 2008; Surdu et al., 2019; Vissak & Francioni, 2013). Collaboration in this study refers to active participation in innovation activities and excludes contracting out work (De Marchi, 2012; Hsieh et al., 2018; Kafouros et al., 2020). Even when firms exit foreign markets (e.g., they stop exporting), they can create new foreign collaborations during the time-out period or maintain those that were formed prior to exit (Welch & Welch, 2009; Yayla, Yenyurt, Uslay & Cavusgil, 2018). Therefore, after market exit, foreign collaborations can provide advantages and may help firms re-enter foreign markets (Dominguez & Mayrhofer 2017; Yayla et al., 2018).

Below, we describe **a)** the market-specific and general internationalization knowledge that firms access from collaborations and how it can help managers understand and overcome problems that led to the exit, and **b)** how collaborations provide firms with recent and more useful internationalization knowledge that can supplement internal experiential knowledge. This discussion allows us to explain how foreign collaborations reduce the negative effects that the two mechanisms described in H1 (i.e., the shock of market exit and knowledge depreciation) have on the level of uncertainty about re-starting exporting and consequently on how collaborations change the relationship between the time-out period and the likelihood of re-initiating exporting.

Collaboration with foreign suppliers, (former) customers, and competitors helps firms develop products that can attract substantial demand if managers choose to re-enter foreign markets. Customers can provide firms with information about a country's market, institutional, and technological environment. This information assists firms in identifying new product ideas and opportunities that reflect market preferences well, refine their offerings accordingly, and co-develop technological solutions to respond to market needs (Hsieh et al., 2018; Kafouros et al., 2020; Nijssen, Hillebrand, de Jong & Kemp, 2012). Similarly, collaboration with foreign suppliers can lead to the co-development of new or improved products and processes that accommodate not only customer needs but also the technical requirements of foreign countries (Ganotakis & Love, 2012; Menguc, Auh & Yannopoulos, 2014; Un & Asakawa, 2015; van Beers & Zand, 2014). In a similar vein, collaboration with competitors helps firms respond to new government policies and industry regulations, improve their competitive position and, thereby, capture market share in foreign countries (Harhoff, Mueller & Van Reenen, 2014; Hsieh et al., 2018).

Hence, foreign collaborations enhance managers' confidence about re-starting exporting by providing market-specific knowledge. For instance, firms can access information about foreign technologies that can be assimilated into their product development, identify appropriate marketing practices for these markets (D'Angelo et al., 2020; Kafouros et al., 2020), and learn about customer preferences and needs that they were not aware of during their previous export activities (Vissak et al., 2020). This information assists in the identification and evaluation of newly emerged opportunities (Casillas et al., 2009; D'Angelo et al., 2020; Surdu et al., 2019) and helps firms assess whether they would be more competitive if they were to re-start exporting (Aguzzoli et al., 2021; Laursen, Masciarelli & Prencipe, 2012; Yayla et al., 2018). It thus reduces concerns regarding future sales and profitability and decreases

uncertainty associated with re-initiating exporting.

Foreign collaborations also provide access to general internationalization knowledge, helping firms gain experience and access information on organizing various activities and managing issues related to the practicalities of internationalization. Hence, they can manage more effectively the complexities associated with differences in culture (including communication and negotiation issues), business systems (e.g., organizational practices and coordination), and institutions (e.g., IPR, contracts, and quality standards) (Barkema, Shenkar, Vermeulen & Bell, 1997; Hashai, Kafouros & Buckley, 2018); issues that are common to other internationalization activities including exporting (Barkema et al., 1997; Zhou, Wu & Luo, 2007). Prior research reinforces this view, showing that collaborative relationships provide information about the internationalization process itself and practices that can be adopted to overcome challenges and operational issues abroad (Costa, Soares & De Sousa, 2016; Musteen, Francis & Datta, 2010). Overall, collaboration enables firms to maintain some level of information processing that in turn helps them manage exporting activities in various foreign environments.

Therefore, both market-specific and general internationalization knowledge from foreign collaborations can assist in overcoming some of the challenges that led to the exit. As such, collaborations can increase confidence about re-entering export markets even during the earlier stages of the time-out period (Dominiquez & Mayrhofer, 2017; Havila & Wilkinson, 2002). Some of the challenges that led to exit include incomplete understanding of foreign markets, culture, and customers, loss of competitiveness, falling demand, operational failure as well as the inability to adjust to foreign institutions or meet new government regulations (Chen et al., 2019; Sousa & Tan, 2015; Vissak & Francioni, 2013).

Collaborations help managers understand what went wrong in the previous export attempt, identify how they should respond to such challenges if they were to re-start exporting and become more confident that the firm will avoid the same mistakes. Hence, we expect managerial confidence to increase even after experiencing an adverse exit event and regardless of how the export entry was initially approached (Welch & Welch, 2009). As managers increase their confidence by understanding the reasons for an exit, we expect the part of the curve associated with the effect of the latent mechanism related to the negative influence of exit (inertia) on the likelihood of re-initiating exporting to move upwards as shown in Fig. 2a.

The market-specific and general internationalization knowledge that firms gain through partnerships is also useful at the later stages since exit when firms' export-related experiential knowledge starts to atrophy or is even largely forgotten. At these stages, learning from foreign collaborators can be more useful than pre-exit experiential learning as recent knowledge is more valuable and can be retrieved more easily (Levitt & March 1988; Madsen & Desai, 2010). Therefore, foreign collaborators can provide firms with market-specific knowledge (Hsieh et al., 2018; van Beers & Zand, 2014) that can reduce the managerial effort when dealing with the renewed liability of foreignness (D'Angelo et al., 2020). They can provide continuous updates and knowledge regarding foreign market conditions (thus offering insights about new prospects) that would have been otherwise too expensive and time-consuming to collect. Finally, firms can enrich their general internationalization knowledge regarding practices that can be adopted to organize their overall internationalization more effectively, access information on what further contacts they need to develop and with whom (Welch & Welch, 2009; Zhou et al., 2007). Qualitative evidence suggests that firms that exit foreign markets can use relationships to compensate for their lack of foreign knowledge and relevant resources (Vissak et al., 2020).

Therefore, the curve depicting the effect of the latent mechanism related to prior export experience (stock of knowledge/skills) on export re-entry propensity will also move upwards as shown in Fig. 2b as the knowledge gained through the collaboration would compensate for some of the knowledge loss because of the depreciation of prior export

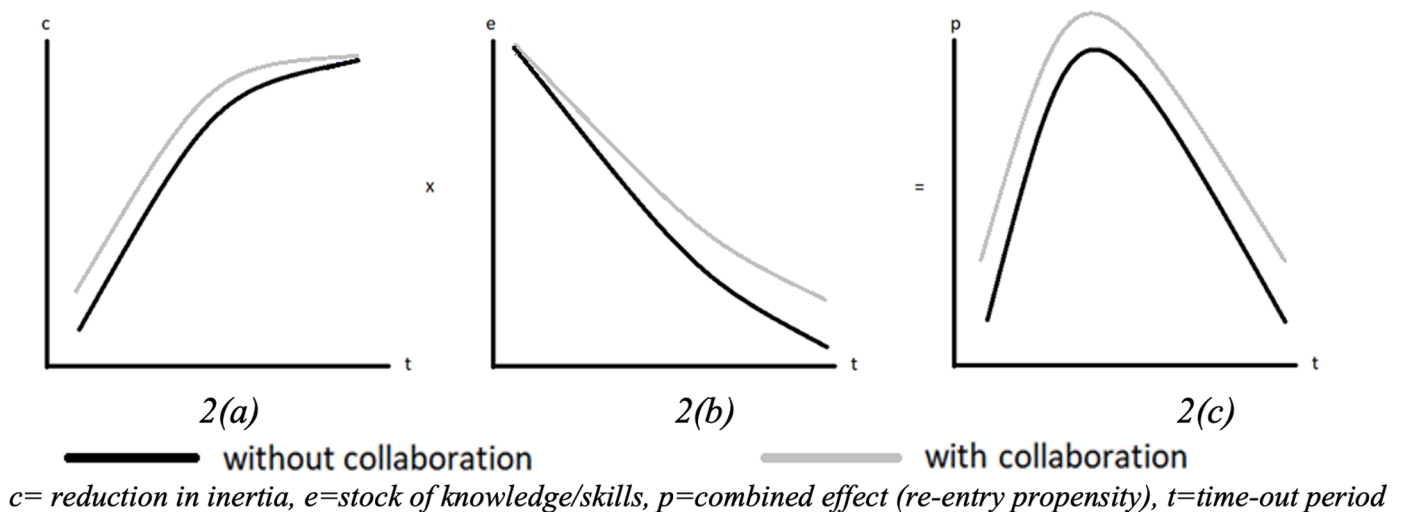


Fig. 2. Moderating effect of collaboration on latent variables and probability to re-enter.

experience. As the two latent mechanisms shift up (Figs. 2a and 2b), the resultant inverted U-curve relationship between the time-out period and export re-entry propensity would shift up as illustrated in Fig. 2. Therefore:

Hypothesis 2. *Collaboration with foreign partners enhances the effect of the time-out period on the likelihood of re-initiating the firm's export activities (i.e., it amplifies the increasing phase of the inverted U-shaped relationship and weakens the decreasing phase).*

2.4. Effects of the time-out period on re-entry export performance

As for the case of export propensity, we expect two latent mechanisms to determine the relationship between the time-out period and re-entry export performance: (1) unlearning that reduces the firm's export-related stock of knowledge and skills as the time-out period increases (Fig. 3a), and (2) new learning that occurs when the firm decides to re-enter foreign markets, which augments its pre-exit export-related knowledge and skills as the time-out period increases (Fig. 3b). Below, we explain how these two mechanisms work in an additive form (Haans et al., 2016), leading to a U-shaped relationship between the time-out period and re-entry export performance (Fig. 3c).

Although most managers may disregard the idea of re-entering export markets during the early stages of the time-out period, some

managers are motivated to re-initiate exporting sooner rather than later (Surdu et al., 2019). The negative perception toward re-entry derived from a failed exit can be alleviated if certain conditions exist, or changes occur in the firms' environment. These include lower domestic market share and/or the emergence of a new opportunity abroad (Dominguez & Mayrhofer, 2017; Welch & Welch, 2009). Drawing from organizational learning theory (Huber, 1991), we expect some firms that benefit from re-entry to carry out failure analysis during exit or at the early stages of the time-out period (Javalgi et al., 2011; Surdu et al., 2019). This analysis allows managers to understand the reasons behind the exit and take corrective action (Javalgi et al., 2011), which reduces the negative feelings toward re-entry. For instance, firms can learn when certain practices can be applied and when they cannot (Cassillas & Moreno-Menendez, 2014) as well as which market approaches are appropriate, and which are not (Welch & Welch, 2009).

Failure analysis also allows managers to avoid replicating unsuccessful strategies and find new ways to compile resources to adopt strategies that will resolve problems that led to exit (Surdu & Narula, 2021). The knowledge and skills gained through failure analysis can therefore become a source of firm-specific advantages, and enhance re-entry performance (Aguzzoli et al., 2021). Along those lines, organizational learning theory (Huber, 1991; Madsen & Desai, 2010; March 1991) suggests that problemistic search (i.e., failure analysis) and learning from failure can lead to a higher level of learning (double-loop),

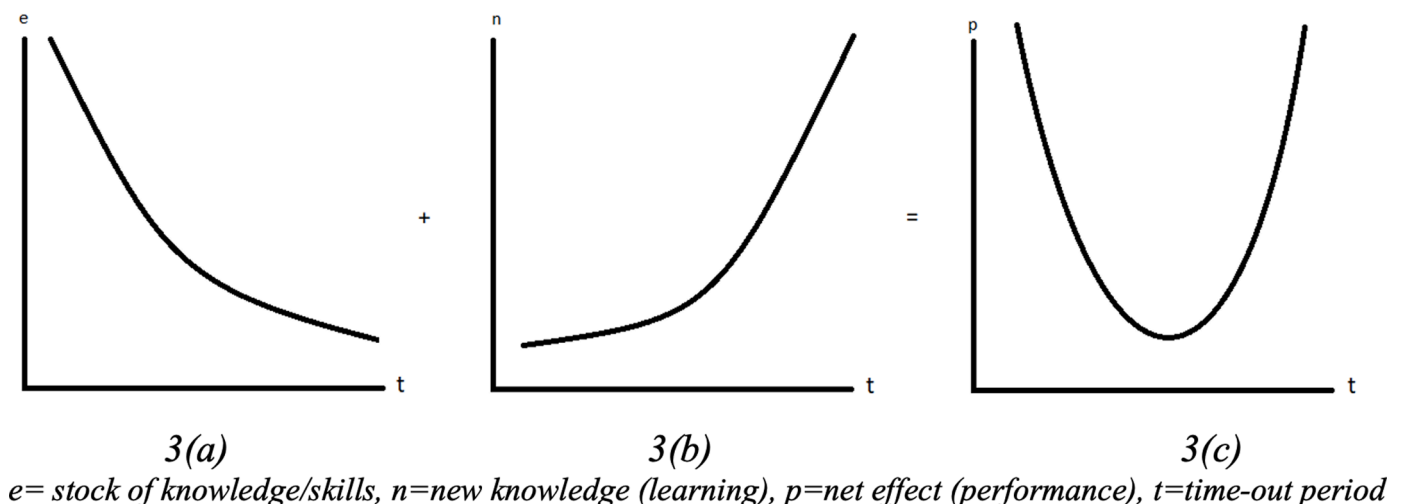


Fig. 3. Latent mechanisms and combined effect on re-entry export performance.

leading to the implementation of innovative solutions and hence to higher levels of re-entry performance. Firms that carry out failure analysis *at the early stages since exit* can achieve higher levels of re-entry performance as the resulting knowledge will still apply to external conditions (Surdu et al., 2019).

Organizational learning literature (Aguzzoli et al., 2021; Madsen & Desai, 2010) further suggests that firms learn from both successes and failures (although more so from failures). Once uncertainty about re-entering is reduced (using failure analysis), managers can also start to refer to positive experiences from their pre-exit export activities (related to market-specific and general internationalization knowledge). Those types of knowledge (Welch & Welch, 2009) will be largely intact during the early stages of the time-out period as they have not depreciated considerably. Furthermore, foreign market conditions will be similar to those when the firm stopped exporting, which means that export-related knowledge is still relevant (Surdu et al., 2018; 2019). By using recent exporting experience, the firm can assess new opportunities abroad that can enhance export performance (Chen et al., 2019). Hence, by using the knowledge and lessons learned from the exit and prior exporting before these become outdated, firms can manage more effectively some of the factors that led to the exit, thus strengthening their competitive advantage at re-entry, and achieving high levels of re-entry performance (Dau, 2018; Javalgi et al., 2011).

However, the benefits derived from the exit and prior exporting activities (market-specific and general) will decline as the time-out period increases. The longer firms take to carry out failure analysis the less beneficial that analysis will be. This is because the events that led to exit will be less well recalled and as external conditions would have changed, the lessons learned will be less applicable (Surdu & Narula, 2021). Similarly, pre-exit market-specific and general knowledge will depreciate as time passes (Chen et al., 2019; Welch & Welch, 2009) given that organizations gradually unlearn and discard practices that are no longer in use (Hedberg, 1981; Huber, 1991).

Therefore, firms' export performance is expected to be lower if they re-enter after the initial phases of a time-out period. This happens because they will be implementing strategies informed by less valuable knowledge (exit and pre-exit) (Casillas et al., 2009; Javalgi et al., 2011; Surdu et al., 2018; 2019) while applied to changed foreign market conditions (Dau, 2018; Kriz & Welch, 2018; Ozkan, 2020). For example, after exiting Europe in 2001 to focus on the UK market, M&S re-entered the European market through France in 2011 without much success in this market or others (Surdu et al., 2019). Similarly, Figueira-de-Lemos and Hadjikhani (2014) describe the internationalization path of 3 Swedish firms (Ericsson, PARS, and ALFA) that exited Iran during the Iranian revolution. After considering the level of market knowledge these MNEs possessed, Ericsson, which re-entered late, had lower levels of performance than PARS and ALFA, which re-entered early. In sum, we expect the effects of prior export experience on re-entry export performance to decrease as the time-out period increases (Fig. 3a).

However, there is also a second mechanism at work with a countervailing effect. After some point, firms will have unlearned their prior knowledge to such an extent that managers will start to depend less on it for their decision-making (Casillas et al., 2009; Welch & Welch, 2009). According to organizational learning literature (Bettis & Prahalad, 1995; Casillas et al., 2009), the extensive unlearning of old practices is a precondition for new learning to occur (derived for instance by analyzing foreign markets). In addition, new knowledge is generated more intensively when few old organizational routines have to be unlearned (Surdu et al., 2018; 2019). Hence, new knowledge that is needed to make strategic decisions after re-entry is developed more effectively when fewer old practices related to prior exporting activities need to be unlearned (Argote & Miron-Spektor, 2011; Surdu & Narula, 2021). Time is an ally to this process as it enables useful forgetting that reduces inefficiencies and biases in strategic decisions, promoting change (Welch & Welch, 2009). Moreover, because of its contemporary nature, new knowledge is likely to be more valuable than older knowledge, resulting

in the adoption of more effective strategies that fit external conditions well. Hence, as the time-out period increases, the new knowledge that firms learn when they decide to re-enter can subsequently contribute to re-entry export performance (Fig. 3b).

We, therefore, expect that as firms forget old knowledge and improve their capacity to learn new knowledge, this will lead to a decrease in the rate at which export performance drops during the early phases of the time-out period (new knowledge reduces the adverse effect of the continuous depreciation of past knowledge) and to an increase in the rate at which performance increases in the later stages. This will result in a U-shaped-relationship as illustrated in Fig. 3. Hence:

Hypothesis 3. *There is a U-shaped relationship between the exporting time-out period and the firm's re-entry export performance.*

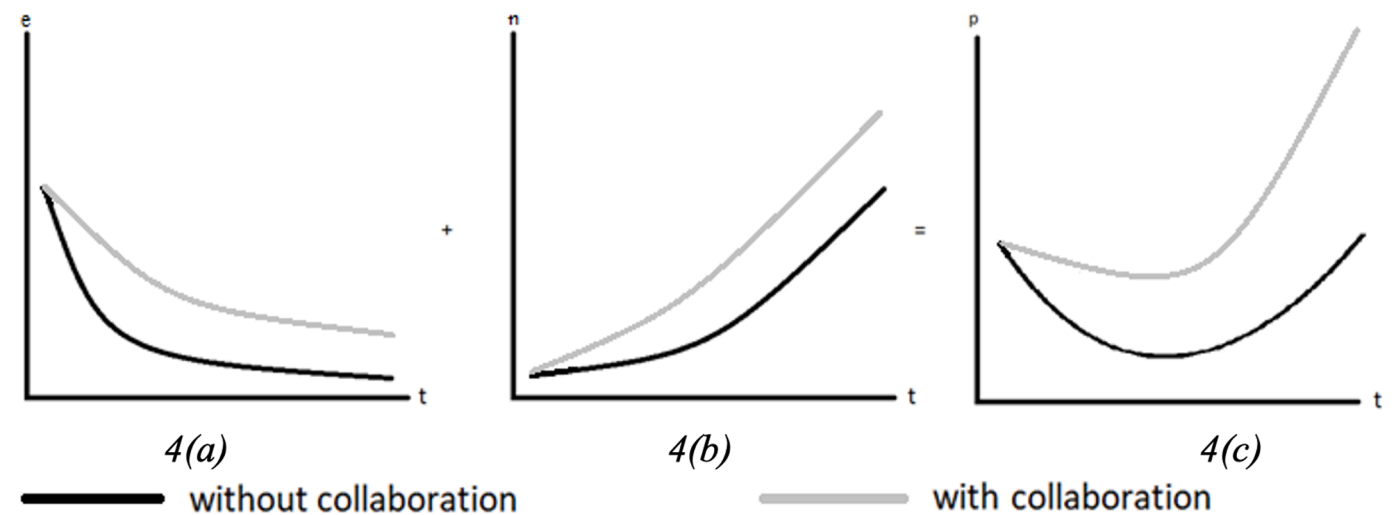
2.5. The moderating effect of collaboration on the relationship between exporting time-out period and re-entry export performance

We further hypothesize that collaboration with external partners during the time-out period can affect the two latent mechanisms discussed in Hypothesis 3. As a result, it moderates the relationship between the time-out period and re-entry export performance. Our logic is driven by two overarching premises. First, collaboration can reduce the pace at which firms' export-related experiential knowledge depreciates over the time-out period (Fig. 4a). Second, it can improve the rate at which firms learn new knowledge at the time of re-entry (Fig. 4b). Therefore, collaboration will shift the U-curve upward, and the shift will progressively increase as the time-out period lapses (Fig. 4c).

Foreign collaborations can be beneficial when firms' knowledge has started to depreciate, or when a significant amount is lost. As knowledge depreciates, firms develop strategies by using less valuable knowledge (which may also be less relevant due to changes in foreign market conditions). This in turn results in lower levels of performance (Ozkan, 2020; Surdu & Narula, 2021). Foreign collaborations assist in reducing the influence of those issues by adding to firms' market-specific and general internationalization knowledge, thus reducing their rate of atrophy. For instance, collaborations provide information regarding the market and institutional environment that exists in a specific country that allows managers to evaluate more accurately the relevant socio-economic, competitive, technological but also legal conditions. This enables the adoption of strategies that are based on up-to-date knowledge, and which are also in line with the changed market conditions. It thus allows managers to respond more effectively to changes in customers' expectations and needs, which can lead to improved performance (Bohmann, Spanjol, Qualls & Rosa, 2013; Hsieh et al., 2018; Javalgi et al., 2011; Kafouros, Wang, Mavroudi, Hong & Katsikeas, 2018).

Second, the experience firms continue to have from managing ongoing international collaborations during the time-out period can help to slow the depreciation of general organizational routines associated with operating at a distance. Maintaining and developing international networks helps to add knowledge and hence delay the decline of embedded routines related to the general processes of operating in foreign countries. Such routines allow firms to deal with cross-country variations in cultures, institutions, and business systems. These advantages apply to various internationalization activities, including exporting, and allow firms to develop and transfer best strategies across markets.

When pre-exit expertise has depreciated extensively and many aspects of it are mostly forgotten, foreign collaborations can increase the rate at which firms acquire new and up-to-date skills related to both market-specific and general knowledge, given that old routines have been largely forgotten. For instance, collaborations add hands-on experience about regulations, business practices, as well as social and cultural norms for foreign markets (Dau, 2018). Foreign partners can also assist firms in refining and adapting their international marketing



e = stock of knowledge/skills, n = new knowledge (learning), p = net effect (performance), t = time-out period

Fig. 4. Moderating effect of collaboration on latent variables and re-entry export performance.

strategy as well as the direction of firms' product development efforts which allows for a better product-market fit and improved market potential (Kafouros et al., 2020; Lawson, Krause & Potter, 2015).

Finally, firms that engage in collaborations during the time-out period accumulate general internationalization experience and knowledge that applies to many countries and internationalization activities. This knowledge relates to the practicalities of managing various complications that arise due to differences for instance in formal and informal institutions across countries. When old and less relevant knowledge has been unlearned, the newly accessed knowledge can be assimilated at a faster rate, improving the firm's strategic effectiveness. Hence:

Hypothesis 4. *Collaboration with foreign partners enhances the firm's re-entry export performance by weakening the reducing phase of the U curve and amplifying the increasing phase of the U curve.*

3. Data and methodology

3.1. Data and sample

The analysis in this study is based on data derived from the Spanish Technological Innovation Panel (PITEC), an annual survey based on the Community Innovation Survey (CIS) framework. The survey is carried out by the Spanish National Statistics Institute (INE) in collaboration with the Spanish Science and Technology Foundation (FECYT) and the Foundation for Technological Innovation (COTEC). The PITEC data are organized as a panel dataset and contain information from successive waves of the Spanish innovation survey providing us with a panel dataset of 9 years (from 2007 to 2015),² which allowed us to trace the exporting pattern of firms during the 2008–2015 period. Because we are interested in investigating the probability to re-enter export markets after complete exit as well as firms' re-entry export performance, we focus on firms that exited exporting and (1) either continued to serve only the domestic market (did not re-enter export markets during the observed time period) or (2) re-started exporting activities after a time-

out period that lasted for at least one year and then had a consistent presence in export markets. Our final sample consists of 1393 firms, out of which 725 (52%) re-started exporting during the period of our study.

Our sample of interest is therefore all firms that at some point during the 8-year period exited export markets, apart from sporadic exporters (i.e., firms that exported and re-entered foreign markets two or more times during the observed period). We are not considering sporadic exporters because those firms cannot be regarded as having completely exited export markets as they appear to be willing and prepared to respond to new foreign orders as and when those arise (Welch & Welch 2009). Moreover, such sporadic export behavior does not signal a psychological disengagement or a committed change in strategy that is part of an export exit (Welch & Welch 2009). Finally, sporadic exporters accumulate different types and levels of experiential knowledge from export activities in relation to consistent exporters, but also experience and perceive the exit event differently (Vissak et al., 2020). This means that those two groups cannot be considered (or investigated) together and that a different theoretical framework needs to be applied for each one (Bernini et al., 2016).

3.2. Model specification and measures: modeling export re-entry probability

The first stage of our analysis involves modeling the export re-entry decision. We, therefore, consider firms that exited from exporting and then either focused only on the domestic market or re-entered export markets at a later point in time. We then developed a panel dataset in which the firms can either stay away from exporting (remain in the panel) or re-enter into exporting (exit from the panel) in each year after export exit. The dependent variable in this stage is of a binary nature that takes the value of 0 if a firm continues to stay away from exporting and the value of 1 if a firm re-enters exporting (Bernini et al., 2016; Chen et al., 2019). We use a random-effects probit model in a panel data framework to carry out the analysis. Our key explanatory variable is the time-out period, i.e., the number of years since the firm stopped exporting (Bernini et al., 2016; Chen et al., 2019; Surdu & Narula, 2021). If a firm restarted exporting, then the duration of the time-out period ends at the time of re-entry. Moreover, we measure *collaboration* during the time-out period, by calculating the number of years in which the firm collaborated with a foreign customer, supplier, or competitor during the time-out period, and then dividing this by the length of the time-out period itself. For example, if a firm has not re-entered into exporting for 5 years (i.e., time-out period = 5) but has

² Although the PITEC data was available from 2003, complete information on exports were only available for 2003-2005 and 2008-2015 periods. This is because for the period 2006-2008, information on exports were only available for exports to outside EU, EFTA, or EU candidate countries. Therefore, we picked 2007-2015 period as we need lagged values of some explanatory variables for the year 2008.

collaborated with foreign partner(s) for 3 years during the time-out period, then our collaboration measure takes the value of $3/5 = 0.6$. This measure varies from zero (reflecting no collaboration during the entire time-out period) to one (reflecting collaboration throughout the time-out period).

Guided by previous studies, we control for several other factors. First, we controlled for *firm size* (measured by the logarithm of total turnover), and *age* (measured by the number of years since a firm's incorporation date) (Bernini et al., 2016; Surdu et al., 2018). We further controlled for a firm's *export performance* before exit, measured as the log of the volume of sales from exporting at the time of exit (Chen et al., 2019), for firm-level labor productivity (*productivity*) measured as the sales (in € millions) per employee (Ganotakis & Love, 2012) and for the level of employee skills within a firm (*human capital*) proxied by the percentage of employees with degrees (Love, Roper & Vahter, 2014). We also controlled for various aspects of a firm's innovative activity, as those have been found to affect export propensity but also intensity (Ganotakis & Love, 2011). These include *R&D intensity* measured as expenditure in internal and external R&D over the number of employees (we normalized this variable, so the estimated coefficients are easier to interpret); whether a firm has introduced a *product innovation* (dummy variable), and whether it has introduced a *process innovation* (dummy variable). *Size*, *productivity*, *R&D intensity*, *product innovation*, and *process innovation* were all lagged by one year to maintain the causal relationship between export re-entry propensity and firm-level explanatory variables. To account for market and industry conditions, we included the GDP growth in Spain (year on year growth in GDP) (*Domestic market growth*), domestic industry growth (year on year growth in turnover) (*Sectoral Growth*) to control for industry-specific performance (Bernini et al., 2016) and industry business cycle effects as well as the industry level concentration ratio (*Concentration*) measured as the market share of the 3 largest firms (Henisz & Delios, 2004). Following Bernini et al. (2016), we also included the GDP growth in Spain at the time of exit (*Domestic market growth at exit*) and a series of industry dummy variables.

3.3. Model specification: modeling export performance after export re-entry

The second stage of our analysis involves modeling export performance following export re-entry. Here, we concentrate on firms that restarted exporting and we examine their export performance in the first year of re-entry. We measure export performance as the log of sales from exporting (Chen et al., 2019). This is an established, appropriate and direct measure of market-related export performance (Sousa, 2004).

We use a random effect model to estimate the model. Again, our key explanatory variable is the time-out period, i.e., the number of years since the firm stopped exporting to the time that they re-started exporting. Similar to the first stage, we use *collaboration* to test our moderating hypotheses. We controlled for several variables that can affect export re-entry performance, such as *firm size* and *age*, *export performance before exit*, *human capital*, *R&D intensity*, whether the firm has introduced a *product innovation*, and whether it has introduced a *process innovation*. Again, to maintain the causal relationship between export re-entry performance and the firm level explanatory variables, we lagged the following variables by one year: *Size*, *productivity*, *R&D intensity*, *product innovation*, and *process innovation*. We also included the domestic industry growth (year-on-year growth in turnover) (*Sectoral Growth*) to control for any effect that the domestic growth can have on our dependent variable. Finally, we again include a series of industry dummy variables to control for any other industry-specific effects that can affect export performance.

4. Results

Table 1 includes the descriptive statistics and correlation

coefficients. Table 2 reports the coefficients of the random-effects probit model where the dependent variable captures whether a firm re-enters into exporting. Model 2.1 presents the results of the baseline estimation for the effect that the time-out period has on export re-entry probability. Results show that the coefficient of *time-out* is positive and statistically significant ($\beta = 2.339$, $p = 0.000$), and that of *time-out squared* is negative and statistically significant ($\beta = -0.376$, $p = 0.000$). In Fig. 5a, we plotted the average adjusted predictions at different points of the time-out period.³ We can observe an inverted U-curve relationship between the time-out period and export re-entry propensity. The predicted value of the turning point where we observe the maximum re-entry propensity is at around 3 years (the exact value of the turning point calculated by setting the first derivative to zero (Haans et al., 2016) is 3.11). Following the recommendation by Haans et al. (2016), we used the Fieller method to calculate the 95 percent confidence interval of the turning point (2.796, 3.330), which is well within the sample data range. We also tested whether the slopes are sufficiently steep at both ends of the data range (Haans et al., 2016; Lind & Mehlum, 2010), and both slope tests were significant.

Since the coefficients of the models with limited dependent variables cannot be interpreted directly, we also estimated the average marginal effects⁴ of the time-out period at different durations (years) of a time-out period. Table 3 reports the average marginal effects and their significance levels. Fig. 5b depicts the plot of average marginal effects. We can observe from both Table 3 and Fig. 5b that the average marginal effect is positive from the start until year 3 albeit with a reducing (still positive) rate of change. Beyond year 3, the average marginal effect becomes negative with an overall reducing rate of change. The average marginal effect is positive and significant before year 3 (cross-over point, i.e., the turning point in the inverted U-curve) and negative and significant after year 3. Overall, we find strong support for hypothesis 1.

To test hypothesis 2, we interacted the first order term and the squared term of *time-out* with *collaboration*, and the estimated results are reported in Model 2.2. Again, the coefficient of the time-out variable is positive and statistically significant ($\beta = 2.382$, $p = 0.000$), and that of the *time-out squared* is negative and statistically significant ($\beta = -0.378$, $p = 0.000$). Similarly, the coefficient of the interaction between *collaboration* and the first order term of the *time-out* period is also positive and significant ($\beta = 1.236$, $p = 0.025$) while the interaction between *collaboration* and the square term of the *time-out* period is negative and significant ($\beta = -0.241$, $p = 0.059$). To gain a better understanding of the moderating relationship, in Fig. 6a we plotted the average adjusted predictions at different points of the time-out period for three levels of collaboration: 0 (no collaboration during the time-out period), 0.5 (collaboration during half of the time-out period), and 1

³ For each time-out period, adjusted predictions are calculated by specifying values for each of the other variables in the model, and then computing the probability of the export propensity. Depending on how we specify values for each of the other variables, there are different types of adjusted predictions, e.g., average adjusted predictions and adjusted predictions at mean. Average adjusted predictions are computed by first calculating the adjusted predictions for each observation with their observed levels of covariates, and then averaging these adjusted predictions across all observations. As a robustness test, we computed adjusted predictions at means, that is, we calculated adjusted predictions keeping other variables at their mean value, and the results are qualitatively similar.

⁴ Depending on how we specify values for each of the other variables, there are different types of marginal effects, e.g., average marginal effects and marginal effects at mean. We report average marginal effects in all the tables. Average marginal effects are computed by first calculating the marginal effects for each observation with their observed levels of covariates, and then averaging these marginal effects across all observations. As a robustness test, we computed marginal effects at means, that is, we calculated marginal effects keeping other variables at their mean value, and the results are qualitatively similar.

Table 1
Descriptive statistics and correlation matrix.

Stage 1					Correlation coefficients														
Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
1	Reentry	0.18	0.39	0	1														
2	Time-out	1.39	1.5	0	6	0.06													
3	Export performance at exit	17.75	3.11	9.74	26.44	0.09	-0.05												
4	Productivity	0.45	4.37	0	124.1	-0.02	0.05	0.1											
5	Size	15.65	2.29	6.85	23.03	0.08	-0.08	0.68	0.14										
6	Age	27.27	19.93	2	180	0.04	0.03	0.31	0.02	0.39									
7	Human Capital	33.66	32.4	0	100	-0.02	0.1	-0.17	0.02	-0.25	-0.16								
8	R&D intensity	0	0.01	0	0.09	-0.03	0.01	-0.06	-0.02	-0.16	-0.1	0.28							
9	Product Innovation	0.57	0.5	0	1	0.05	-0.21	0.03	-0.03	0.03	-0.01	0.05	0.08						
10	Process Innovation	0.58	0.49	0	1	0.03	-0.19	0.1	-0.02	0.16	0.04	-0.05	-0.05	0.22					
11	Collaboration	0.04	0.18	0	1	0.03	-0.05	0.06	0.02	0.06	-0.06	0.09	0.15	0.13	0.1				
12	Competition	22.51	9.93	6.8	68.84	-0.08	0.16	-0.05	0.02	-0.09	-0.05	0.15	0.08	-0.01	-0.04	-0.04			
13	Sectoral growth	16.41	366.23	-99.88	12,806.74	0.01	0.01	-0.01	0	-0.02	0.06	0.02	0.02	0	0	-0.01	0.03		
14	Domestic market growth	-0.62	2.16	-3.57	3.43	0.1	0.33	0.02	0.01	0.04	0.09	0.03	-0.02	-0.04	-0.07	-0.07	0.05	0.02	
15	Domestic market growth at exit	-0.91	1.93	-3.57	1.38	0	0.04	0.03	0	-0.03	-0.01	0	0.06	0.01	-0.01	0.02	-0.01	0	-0.16

Stage 2					Correlation coefficients										
Variable	Mean	S.D.	Min	Max	1	2	3	4	5	6	7	8	9	10	
1	Export performance	18.44	2.85	11.01	25.75										
2	Time-out	1.57	1.09	1	6	-0.09									
3	Export performance at exit	18.36	2.98	10.51	26.19	0.84	-0.09								
4	Size	16.04	2.05	8.7	22.15	0.74	-0.06	0.73							
5	Age	28.93	19.23	3	130	0.27	0.02	0.26	0.3						
6	Human Capital	32.33	29.13	0	100	-0.11	0.08	-0.12	-0.19	-0.22					
7	R&D intensity	0	0	0	0.04	-0.07	0.04	-0.08	-0.22	-0.07	0.27				
8	Product Innovation	0.62	0.49	0	1	0.08	-0.16	0.07	0.05	-0.05	0.02	0.12			
9	Process Innovation	0.61	0.49	0	1	0.14	-0.11	0.12	0.14	0.02	-0.07	0	0.18		
10	Collaboration	0.07	0.24	0	1	0.07	-0.05	0.07	0.04	-0.08	0.11	0.19	0.16	0.11	
11	Sectoral growth	22.43	499.56	-99.67	12,806.74	-0.04	0	-0.05	-0.06	0.01	0.08	0.12	0.04	0.04	-0.01

Table 2
Estimation of Export re-entry probability.

	(2.1)	(2.2)
Time-out	2.339*** (0.368)	2.382*** (0.377)
Time-out squared	-0.376*** (0.0472)	-0.378*** (0.0482)
Collaboration	0.515 [†] (0.300)	-0.153 (0.454)
Time-out * Collaboration		1.236* (0.550)
Time-out squared * Collaboration		-0.241 [†] (0.128)
Export performance at exit	0.0640* (0.0277)	0.0677* (0.0290)
Productivity	-0.0502 (0.0539)	-0.0479 (0.0539)
Size	0.0525 (0.0384)	0.0512 (0.0399)
Age	-0.00113 (0.00319)	-0.00108 (0.00333)
Human Capital	0.00786*** (0.00224)	0.00816*** (0.00233)
R&D intensity	-5.677 (13.06)	-6.429 (13.84)
Product Innovation	0.451*** (0.119)	0.452*** (0.121)
Process Innovation	0.193 [†] (0.106)	0.200 [†] (0.110)
Competition	-0.0220** (0.00713)	-0.0225** (0.00740)
Sectoral growth	9.55e-05 (0.000124)	9.74e-05 (0.000128)
Domestic market growth	0.186*** (0.0318)	0.195*** (0.0337)
Domestic market growth at exit	0.0520 (0.0317)	0.0523 (0.0331)
Constant	-6.719*** (1.299)	-6.928*** (1.348)
Observations	3981	3981
Number of firms	1393	1393
Number of re-entries	725	725
chi2	140.0***	137.6***

Standard errors in parentheses
 *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$
[†] $p < 0.1$.

(continuous collaboration during the time-out period). In that figure, we can see how the inverted U-curve that represents the relationship between the time-out period and the probability to re-enter, changes for different values of the collaboration variable. The graph shows that the U-curve relationship between the time-out period and export re-entry propensity shifts up as the values of the collaboration variable increase. This is in line with the predictions of H2. However, this upward shift is more pronounced in the first half of the U-curve as the difference between the curves reduces progressively with the increase in the time-out period, and eventually, the curves merge at the end of the graphs. This suggests that collaboration has a more pronounced effect on the first latent mechanism (i.e., through reducing the inertia as per in Fig. 2 (a)) than the second latent mechanism (i.e., through increasing the stock of knowledge/skills as per in Fig. 2(b)).

As for H1, given that the coefficients of the probit model cannot be directly interpreted, we also estimated the average marginal effects of the time-out period at different lengths of time-out period, for different values of the collaboration variable (reported in Table 4). Fig. 6b depicts the plot of average marginal effects. For years 1 and 2, before the turning point in the inverted U-curve (year 3), the average marginal effect is positive and significant, and overall, tends to be comparatively higher for higher levels of collaboration (except for between collaboration levels 0.5 and 1 at year 2 - that is at a similar level). The confidence intervals further show that a significant difference exists in the first year after the exit event, between firms that don't engage in collaboration

(collaboration = 0) and those that engage in collaboration (collaboration = 0.5 or 1). In contrast, after the turning point (years 4 to 6), the average marginal effect is negative, and the effects are significant except for three instances where effects are non-significant: collaboration = 1 in year 4 and collaboration = 0.5/1 in year 6). However, confidence intervals show no significant difference between different levels of collaboration, except for year 5 where not engaging in collaboration is more beneficial for re-entry than collaborating. These results suggest that collaboration has a more pronounced positive effect on increasing the export re-entry propensity in the first year since exit. However, this effect becomes insignificant/negative in the later years. H2 is therefore only supported in the early stage since exit.

Table 5 presents the estimated results of the regression models regarding export performance after re-entry. Model 5.1 presents the results of the baseline model for the effect of the time-out period on export performance. Results show that the coefficient of *time-out* is negative and statistically significant ($\beta = -0.608, p = 0.007$), and the coefficient of *time-out squared* is positive and statistically significant ($\beta = 0.105, p = 0.010$), indicating a U-curve-shaped relationship between time-out period and the re-entry export performance. In Fig. 7a, we plotted the average adjusted predictions at different points of the time-out period, and we can clearly see a U-curve relationship between the time-out period and re-entry export performance.

The predicted value of the turning point where we observe the minimum re-entry propensity is at around 3 years (the exact value of the turning point calculated by setting the first derivative to zero (Haans et al., 2016) is 2.895), and the confidence interval of the turning point (2.352, 3.998) is well within the sample data range. We also tested whether the slopes are sufficiently steep at both ends of the data range (Haans et al., 2016; Lind & Mehlum, 2010), and both slope tests were significant. We further estimated the average marginal effects of the time-out period at different years across the time-out period (reported in Table 6). Fig. 7b depicts the plot of average marginal effects. Before year 3, the average marginal effect is negative, although this negative effect becomes smaller between years 1 and 2 (i.e., decreasing but still negative rate of change). In Year 3 and beyond, it becomes positive with an overall increasing rate of change. The average marginal effect is negative and significant before year 3 (cross-over point) and positive and significant after year 3. Overall, we find strong support for Hypothesis 3.

To test Hypothesis H4, we interacted the first order term and the squared term of *time-out* with *collaboration*, and the estimated results are reported in Model 5.2. Regarding the first order term and squared term of *time-out*, the coefficient of time-out is negative and statistically significant ($\beta = -0.566, p = 0.014$), and the coefficient of *time-out squared* is positive and statistically significant ($\beta = 0.0923, p = 0.025$), indicating a U-curve-shaped relationship between time-out period and the re-entry export performance for the firms that did not maintain any collaboration with foreign partners during the time-out period. Similar to the coefficient of the first order term of the *time-out* period, the coefficient of the interaction between collaboration and the *time-out* period is negative but insignificant ($\beta = -2.369, p = 0.112$). Again, similar to the coefficient of the squared term of the *time-out* period, the coefficient of the interaction between collaboration and the square term of the *time-out* period is also positive and significant ($\beta = 0.569, p = 0.055$). These results suggest a steepening of the U-curve with the increase of the collaboration variable.

We plotted (Fig. 8a) the average adjusted predictions at different points of the time-out period for three levels of collaboration: 0 (no collaboration during the time-out period), 0.5 (collaboration during half of the time-out period), and 1 (continuous collaboration during the time-out period). We can see that the left half of the U-curve does not change much, but the U-curve steepens up sharply (the effect is strong) in the second half (after year 3) of the U-curve as the time-out period increases. We also estimated the average marginal effects of the time-out period at different years across the time-out period for different values of the collaboration variable. Table 7 reports the average marginal effects,

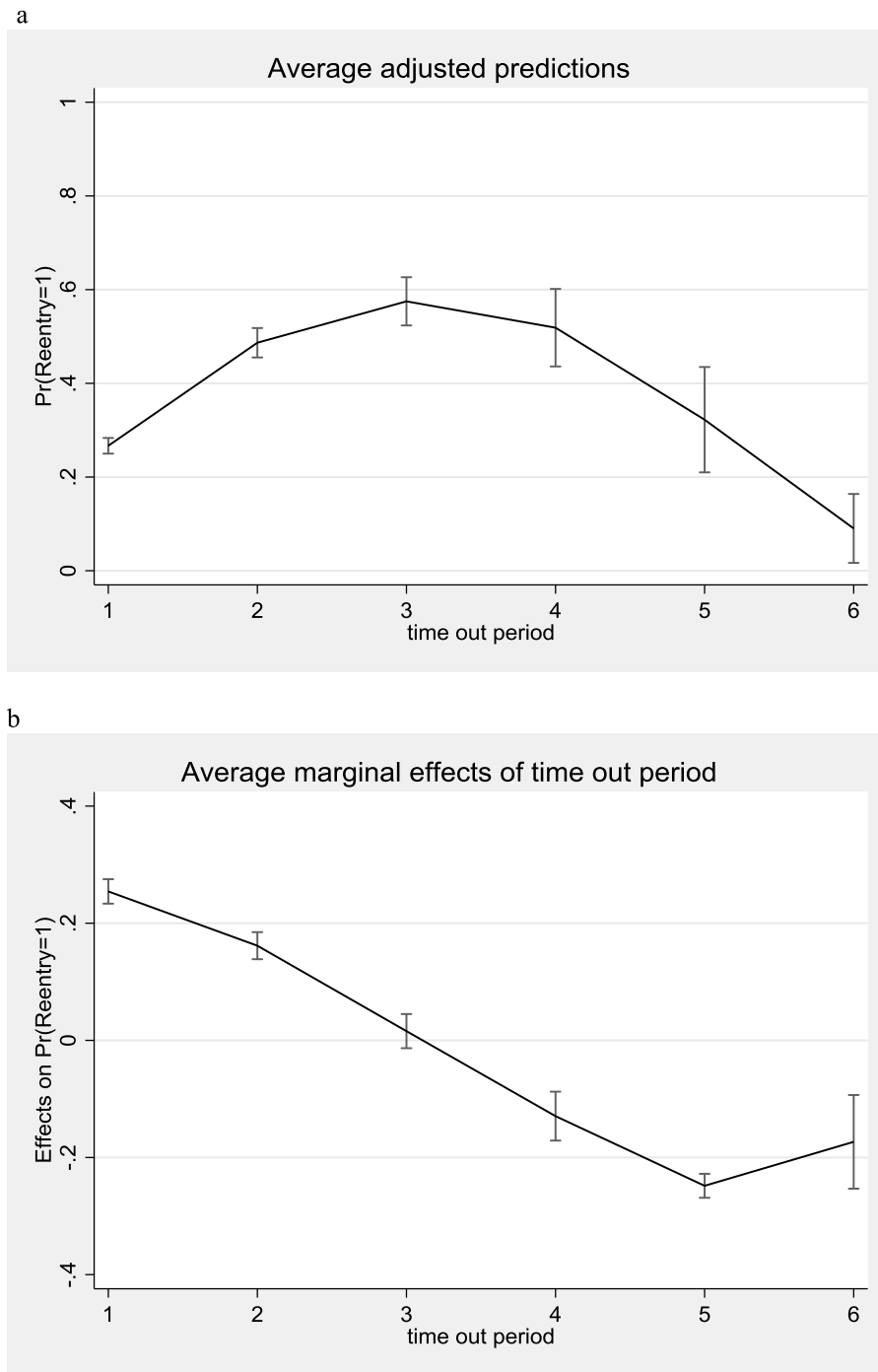


Fig. 5. a: The effect of time-out period on export re-entry probability. b: Plot of average marginal effects.

Table 3
Estimated marginal effects of time-out period for the baseline model (model 2.1 in table 2).

time-out period	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	
1	0.254	0.013	0.000	0.233	0.275
2	0.162	0.014	0.000	0.139	0.185
3	0.016	0.018	0.374	-0.013	0.045
4	-0.129	0.025	0.000	-0.171	-0.088
5	-0.248	0.012	0.000	-0.269	-0.228
6	-0.173	0.049	0.000	-0.253	-0.093

their significance levels, and corresponding confidence intervals, and Fig. 8b depicts the plot of average marginal effects. Both Table 7 and Fig. 8b show that in years 1 and 2 the average marginal effect is negative regardless of the level of collaboration. Confidence intervals further indicate that there is no significant difference in the performance of firms that engage and do not engage in collaboration. In contrast, from year 3 onwards, the average marginal effect is positive and significant (apart from firms that don't collaborate in years 3 and 4, in which case it is not significant), and confidence intervals show that this average marginal effect is significantly greater for firms that engage in collaboration (collaboration = 0.5 or 1) in relation to those that don't (collaboration = 0). This provides partial support for Hypothesis 4. Collaborations appear to help firms accumulate new knowledge faster,

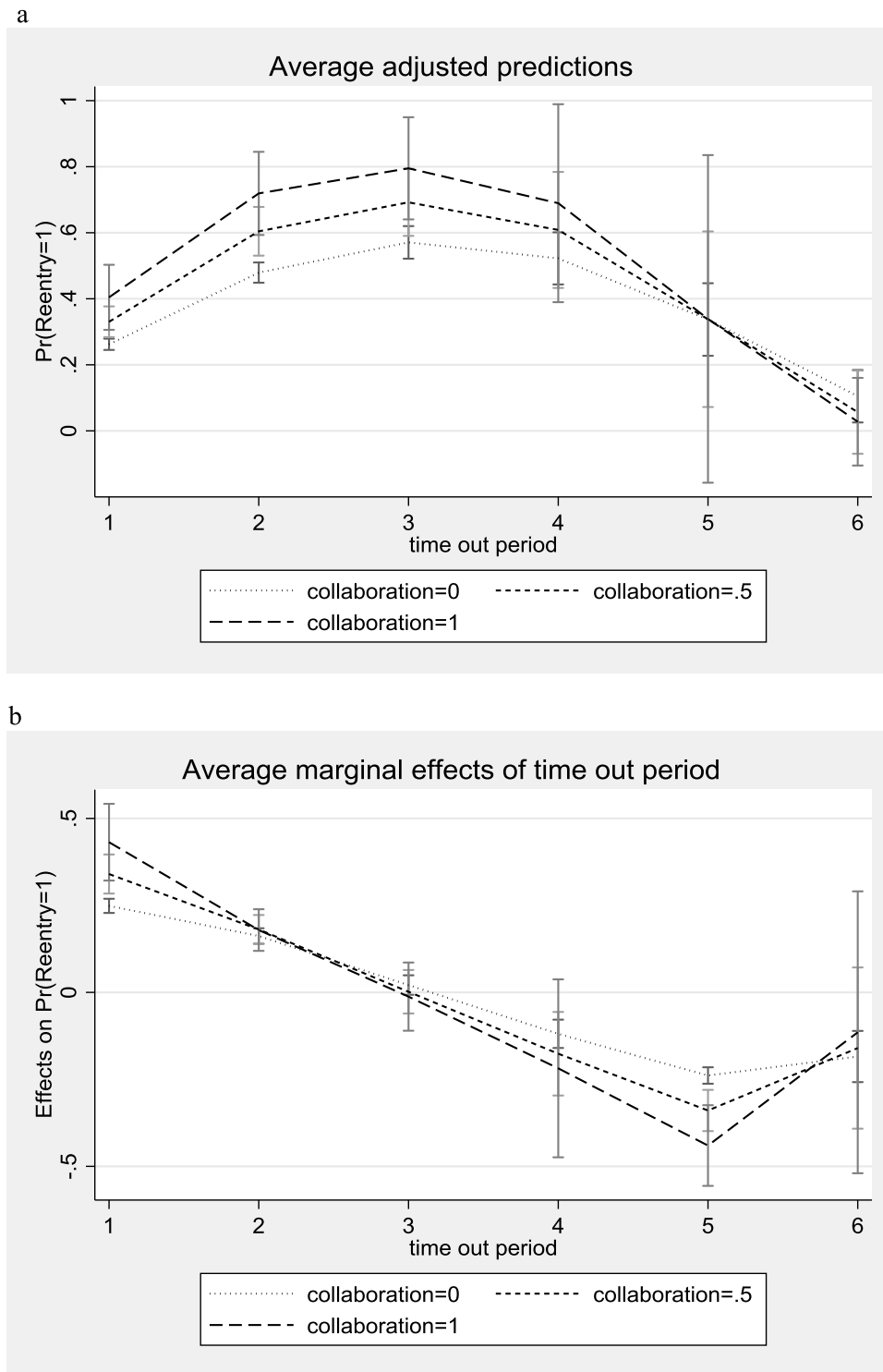


Fig. 6. a: The moderating effect of collaboration on the effect of time-out period on export re-entry probability. b: Plot of average marginal effects.

but this is the case only after they have unlearned a (large) part of their previous experiential knowledge. Hence, for firms that collaborated during the time-out period, new learning gained through collaboration can compensate for the loss of prior knowledge and skills due to depreciation once firms have lost a considerable part of their prior knowledge.

4.1. Robustness tests

To test for any potential selection bias arising as a result of any omitted variables that could potentially affect both export re-entry and re-entry performance, we re-estimated our models using a two-stage Heckman correction procedure (Bernini et al., 2016; Ganotakis & Love, 2012). First, we estimated the first stage (model explaining re-entry probability) while including an Inverse Mills Ratio derived from a model explaining the initial decision to opt-out from exporting (export

Table 4
Estimated marginal effects of time-out period for different levels of collaboration (model 2.2 in table 2).

time-out period	collaboration=0				collaboration=0.5				collaboration=1			
	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval
1	0.249	0.012	0.000	0.228 0.269	0.340	0.034	0.000	0.284 0.396	0.432	0.067	0.000	0.321 0.542
2	0.162	0.013	0.000	0.140 0.184	0.181	0.025	0.000	0.139 0.222	0.179	0.036	0.000	0.119 0.239
3	0.021	0.017	0.215	-0.007 0.049	0.002	0.038	0.961	-0.061 0.064	-0.012	0.060	0.838	-0.110 0.086
4	-0.119	0.025	0.000	-0.160 -0.078	-0.176	0.073	0.016	-0.296 -0.056	-0.218	0.155	0.160	-0.474 0.037
5	-0.239	0.014	0.000	-0.263 -0.215	-0.339	0.036	0.000	-0.399 -0.280	-0.440	0.071	0.000	-0.556 -0.324
6	-0.184	0.045	0.000	-0.258 -0.111	-0.160	0.141	0.256	-0.392 0.072	-0.115	0.246	0.641	-0.520 0.290

Table 5
Export performance after re-entry.

	(5.1)	(5.2)
Time-out	-0.608** (0.225)	-0.566* (0.229)
Time-out squared	0.105* (0.0406)	0.0923* (0.0412)
Collaboration	0.0876 (0.234)	1.887 (1.285)
Time-out * Collaboration		-2.369 (1.486)
Time-out squared * Collaboration		0.569† (0.296)
Export performance at exit	0.600*** (0.0273)	0.598*** (0.0273)
Size	0.368*** (0.0409)	0.375*** (0.0410)
Age	0.00369 (0.00305)	0.00367 (0.00304)
Human Capital	0.00276 (0.00224)	0.00266 (0.00224)
R&D intensity	35.31* (17.95)	35.42* (18.04)
Product Innovation	0.0293 (0.118)	0.0287 (0.118)
Process Innovation	0.146 (0.115)	0.129 (0.115)
Sectoral growth	8.13e-06 (0.000111)	1.56e-05 (0.000110)
Constant	1.346 (0.921)	1.268 (0.923)
Observations	725	725
Adj R-squared	0.7397	0.7410
F statistic	109.30***	99.62***

Standard errors in parentheses.
*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$.
† $p < 0.1$.

exit decision). The estimated effect of the Inverse Mills Ratio was insignificant, suggesting an absence of such a selection bias from the initial export entry decision to the subsequent export re-entry decision. Second, we estimated the second stage (model explaining re-entry performance) while including an Inverse Mills Ratio derived from the first stage (model explaining re-entry probability). The estimated effect of the Inverse Mills Ratio was insignificant, suggesting an absence of such a selection bias between the re-entry decision and subsequent performance.

We also conducted a test for endogeneity to test whether the collaboration is endogenously determined, i.e., more successful firms (in terms of export performance) tend to collaborate more with foreign partners. In our context, a good instrument should be correlated with foreign collaboration but be exogenous to export performance. We use two variables to instrument the foreign collaboration variable. First, we use a similarly constructed domestic collaboration variable (the proportion of the period in which the firm collaborated with a domestic customer, supplier, or competitor during the time-out period). This is a good instrument as firms that collaborate with domestic partners are

more likely to also collaborate with foreign partners (Kafouros et al., 2020), but domestic collaborations should be exogenous to export performance. The second instrument captures whether the firm introduced new methods for managing external relations with partners. Such methods could facilitate collaboration with foreign partners (Kafouros et al., 2020) but they are not likely to be directly linked to exporting. The validity of instruments was also checked by conducting an over-identification test and the test statistic confirms the validity of the instruments used. The result of the endogeneity test suggests that endogeneity is not a concern.

We conducted another robustness test in which we used an alternative measure to account for multiple collaborations with different partner types. We took the sum of the number of partnership types (customers, suppliers, or competitors) each year during the time-out period and used the average during the time-out period. All the results remained the same with this alternative collaboration measure. We also carried out a test in which we replaced the export performance (logged export sales) variable with the percentage of exports (i.e., the share of export sales over the total sales of the firm). As this dependent variable is censored (i.e., a percentage), we used a Tobit regression. Similar results were derived.

5. Conclusions

5.1. Theoretical contributions

Building on organizational learning theory (Dodgson, 1993; Huber, 1991), we examine how the time-out period affects the likelihood of firms re-entering export markets, their re-entry export performance, and how foreign collaborations moderate the effect of the time-out period on those two outcomes. The study addresses the need to understand the role that the time-out period plays in the process of re-entering foreign markets (Chen et al., 2019; Welch & Welch, 2009), how firms learn from foreign partners during the time-out period and whether external learning can compensate for the loss of experiential knowledge (Kafouros et al., 2022a; Surdu & Narula, 2021; Vissak et al., 2020). Accordingly, it contributes to the IB literature on re-entry and to organizational learning theory.

The first contribution to the re-entry literature lies in explaining how the time-out period influences the likelihood of re-entry but also re-entry performance *in different ways*. Specifically, we explain how the combination of two mechanisms across the time out-period, the exit event, and the gradual unlearning of export-related experiential knowledge influence managerial confidence about re-entering export markets, leading to an inverted U-shaped relationship between the time-out period and the likelihood of re-entry. We further explain how interactions between the unlearning of export-related experiential knowledge and the learning of new knowledge influence the effectiveness of strategies adopted when firms re-initiate exporting. In this regard, we clarify how the combined effect of those mechanisms at different stages since the exit leads to an inverted U-shaped relationship between the time-out period and re-entry export performance.

We also contribute to the re-entry literature by explaining that the

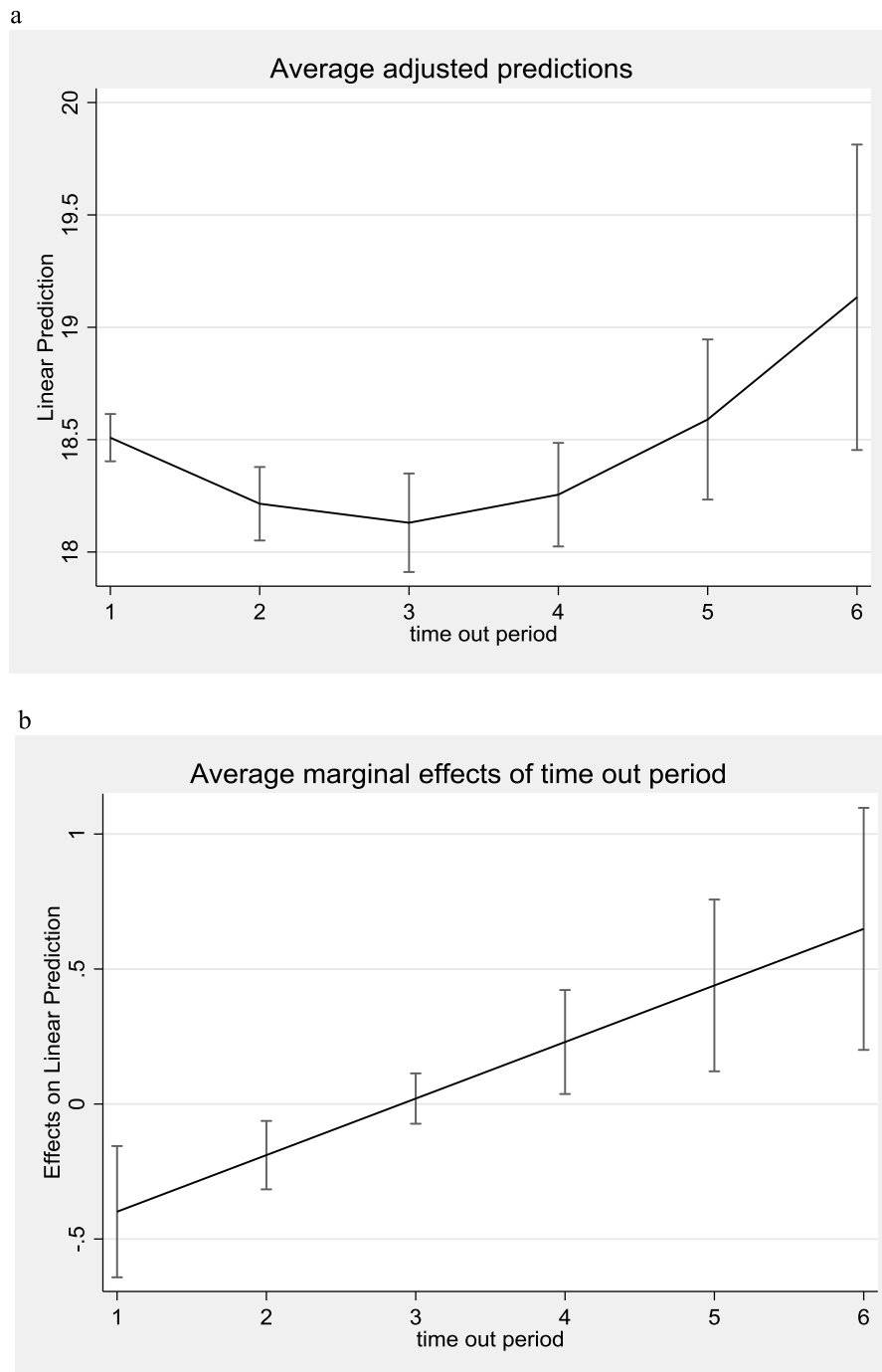


Fig. 7. a: The effect of time-out period on export performance after re-entry. b: Plot of average marginal effects.

Table 6
Estimated marginal effects of time-out period for the baseline model (model 5.1 in table 5).

time-out period	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	
1	-0.399	0.148	0.007	-0.642	-0.156
2	-0.189	0.077	0.014	-0.316	-0.063
3	0.020	0.057	0.722	-0.073	0.114
4	0.230	0.117	0.050	0.037	0.422
5	0.439	0.193	0.023	0.121	0.757
6	0.649	0.272	0.017	0.200	1.097

knowledge that firms accumulate during the time-out period from foreign collaborations enhances (1) the confidence of managers about re-starting exporting during the earlier (rather than the later) stages since the exit, and (2) the effectiveness of a firm’s strategies and re-entry export performance during the later rather than the earlier stages since the exit event has occurred.

Regarding the likelihood of re-entry, collaborations play an important role in reducing the high level of perceived risk that arises after the exit (Javalgi et al., 2011; Welch & Welch, 2009). Foreign partners can help firms identify some of the challenges (e.g., adjusting to different cultures, customer preferences, and institutions) that led to exit and overcome those by assisting managers in identifying corrective actions. This, in turn, increases confidence about re-entering export markets

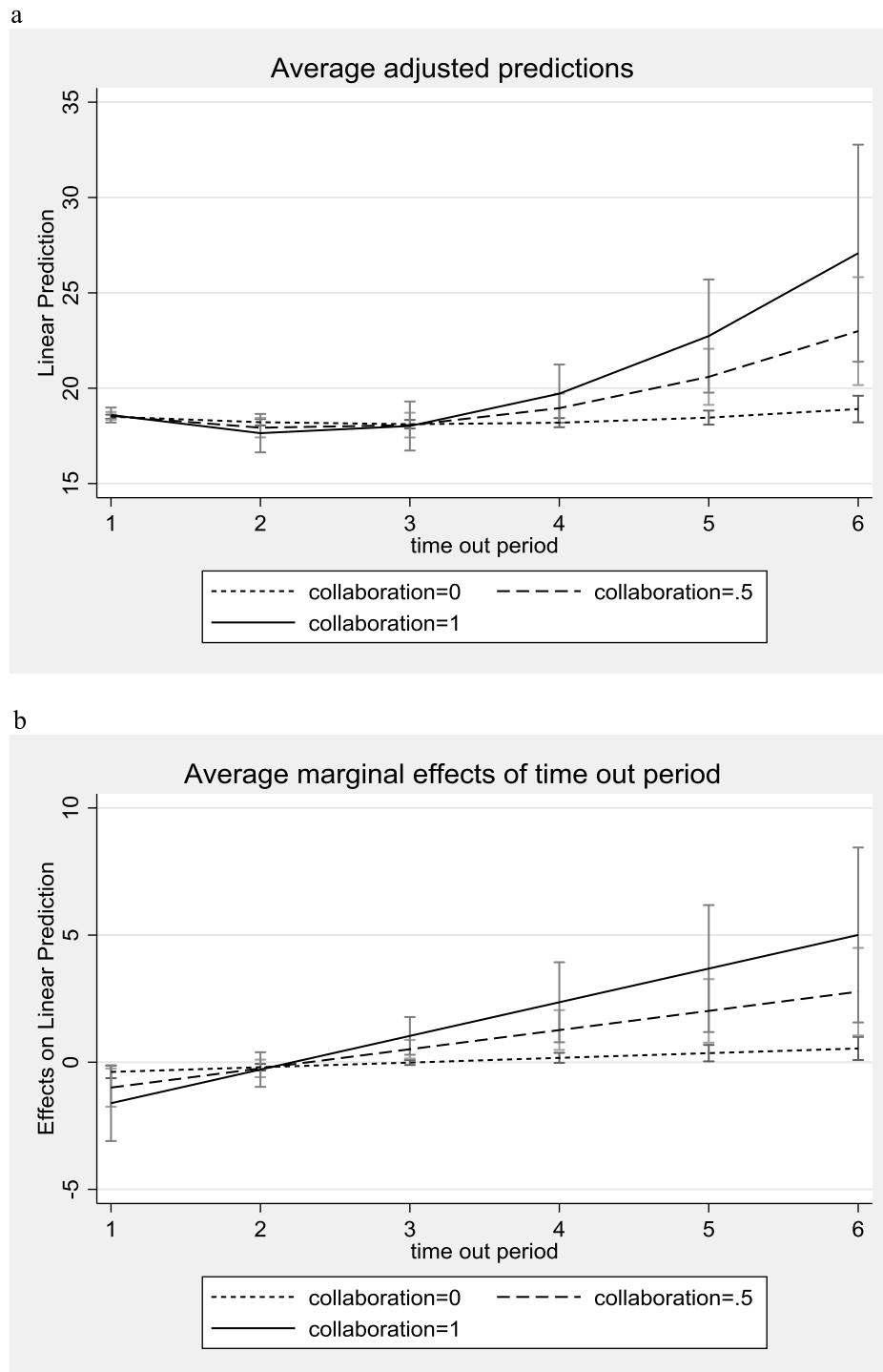


Fig. 8. a: The moderating effect of collaboration on the effect of time-out period on export performance after re-entry. b: Plot of average marginal effects.

(Dominguez & Mayrhofer, 2017; Vissak & Francioni, 2013; Vissak, Francioni, & Freeman, 2020). Nevertheless, after this early phase, collaborating appears to have a progressively less important effect on the likelihood of re-entry. Firms that have not re-started exporting after exchanging knowledge with foreign partners for some time may lose trust in their partners' ability to help their re-entry efforts and/or in their own capabilities to do so. This may lead to 'internal failure' and therefore to a loss of confidence about re-starting exporting. We, therefore, show that the effect of foreign collaborations on the likelihood of re-entry is not merely positive as the literature often presumes (Yayla et al., 2018).

Furthermore, the study also shows that foreign collaborations appear to enhance re-entry export performance mainly during the later (rather than the earlier) stages of the time-out period. Our analysis suggests that during the early stages since exit, firms with a greater motivation to re-enter may become more confident to do so (e.g., through failure analysis). During that early phase, firms are more likely to base their decision making regarding the strategy to be adopted after re-entry on their prior knowledge, derived from the exit event and prior exporting activities which will still be largely intact (Surdu & Narula, 2021; Surdu et al., 2018). That level of knowledge might lead to overconfidence which can cause managers to disregard external information (Aguzzoli et al., 2021;

Table 7
Estimated marginal effects of time-out period for different levels of collaboration (model 5.2 in table 5).

time-out period	collaboration=0				collaboration=0.5				collaboration=1			
	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval	marginal effect (dy/dx)	Std. Err.	p value	Confidence Interval
1	-0.381	0.150	0.011	-0.628 -0.134	-0.996	0.456	0.029	-1.747 -0.245	-1.611	0.903	0.075	-3.099 -0.123
2	-0.196	0.079	0.013	-0.326 -0.067	-0.242	0.209	0.247	-0.586 0.102	-0.288	0.413	0.487	-0.968 0.393
3	-0.012	0.059	0.839	-0.108 0.085	0.512	0.223	0.022	0.144 0.880	1.036	0.450	0.022	0.294 1.778
4	0.173	0.119	0.148	-0.024 0.369	1.266	0.476	0.008	0.482 2.050	2.359	0.955	0.014	0.786 3.932
5	0.357	0.196	0.069	0.034 0.681	2.020	0.758	0.008	0.772 3.267	3.682	1.516	0.015	1.185 6.179
6	0.542	0.277	0.051	0.086 0.997	2.774	1.045	0.008	1.053 4.495	5.006	2.089	0.017	1.566 8.446

Nummela, Saarenketo & Loane, 2016), even if it comes from their partners. However, if firms re-enter over longer time-out periods, knowledge from foreign partners tends to be more important and valuable for adapting re-entry strategy (Surdu et al., 2018; Welch & Welch, 2009). This is often the case because prior experiential knowledge will have atrophied (and confidence in managerial ability reduced) and because the external knowledge will be more recent and, therefore, in line with external market conditions.

The above contributions to the re-entry literature also extend organizational learning theory in two ways. First, the study provides a detailed explanation of the circumstances under which unlearning (Levitt & March 1998; Hedberg, 1981; Huber, 1991) is detrimental and when it can be beneficial to a firm. We show that although unlearning can have a detrimental effect on the probability of an event recurring, it can be beneficial for the performance of that event. Second, the study contributes to organizational learning theory by clarifying how useful the knowledge obtained from ‘external focused search’ is across different levels of unlearning, and for different outcomes of an activity. Specifically, we show that external knowledge is beneficial for the performance of an activity only once a substantial amount of prior knowledge has been unlearned (i.e., the effect of external knowledge on experiential knowledge is more pronounced after an initial period has passed since a firm stopped an activity). By contrast, external knowledge is more beneficial for increasing the likelihood of repeating an activity during the initial phase after a firm has stopped carrying out that activity, i.e., when a firm has just started to unlearn prior knowledge.

Finally, our findings allow us to contribute to the wider IB and organizational learning literatures. The IB literature (Freixanet & Renart, 2020; Johanson & Vahlne, 1977; 2009; Luo & Peng, 1999) emphasizes the importance of experiential knowledge in carrying out various foreign activities. However, our results indicate that when firms no longer carry out a certain activity for a considerable period does not necessarily mean that the loss of experiential knowledge will have an adverse effect on all aspects of performing that activity in the future. It can be beneficial for its performance (if firms choose to repeat it) because less valuable and outdated knowledge and routines are unlearned. Importantly, we also contribute to the wider debate (Aguzzoli et al., 2021; Madsen & Desai, 2010) in organizational learning literature regarding how effective learning from failure is. Results suggest that learning from failure can help firms achieve higher levels of performance (e.g., by avoiding unsuccessful strategies and taking corrective action) if they attempt to 1) learn from failure as soon as possible and 2) restart that failed activity once failure analysis has taken place. Delaying either of those actions may lead to reduced performance due to potential knowledge atrophy.

5.2. Managerial relevance

In terms of managerial implications, our analysis suggests that managers that experience an exit should learn from failure as soon as possible. Doing so will enable their firms to achieve higher levels of re-entry export performance than if they re-enter at a later point because of the contemporary nature of their skills and knowledge. Firms can also

overcome the psychological barriers of re-entering sooner by forming foreign collaborations. Although restarting exporting may become more difficult when firms delay their attempt to re-enter export markets (because a large part of the previous experiential knowledge will have been unlearned), achieving re-entry should be beneficial because the firm will be forced to search for and absorb new and up to date foreign knowledge. Collaboration with foreign partners can increase the effectiveness of new knowledge assimilation and use.

5.3. Limitations and future research

For theoretical reasons, this study focused on a specific group of companies that have a consistent pattern of exporting. Our results therefore can be generalized specifically for the case of those firms and not for sporadic exporters (Bernini et al., 2016) that may experience and perceive exits differently. Moreover, we examined the effect of the time-out period only for exporting firms. Future studies should examine the effect of the time-out period for other forms of internationalization, such as joint ventures or divestments and acquisitions (Fuad & Gaur, 2019; Konara, Stone & Mohr, 2020; Lee, Chung & Beamish, 2019; Surdu et al., 2018).

As in other re-entry studies (Bernini et al., 2016; Chen et al., 2019), a limitation of our study concerns the fact that the dataset does not include information on other entry modes. Nevertheless, this is less of a concern in our study for two reasons. First, empirical evidence (Surdu et al., 2018; 2019) shows that when firms exit and re-enter foreign markets, they are most likely to do so through exporting rather than resource-intensive modes of internationalization. Second, it is unlikely that firms will stop exporting to all countries to re-enter one or more markets with a different mode of internationalization. Such a scenario has not been observed in recent qualitative studies (Dominguez & Mayrhofer, 2017; Vissak & Francioni 2013; Vissak et al., 2020).

Finally, the internal knowledge that firms possess and use for decision making can be derived not only from experience from their activities but also from the knowledge and skills that managers had prior to joining the firm; or otherwise, congenital learning (Huber, 1991). For example, the type and level of experience that managers possessed can determine not only their perception of internationalization but also that of failure, and consequently whether firms will be able to learn faster and more effectively from such an event (Madsen & Desai, 2010). Moreover, beyond formal collaborations, firms can also access external knowledge through vicarious learning (Huber, 1991; Surdu, Greve & Benito, 2021); learning that occurs by observing the actions of other firms. Future work can extend this study by investigating the role of managerial knowledge and skills and that of learning from more informal external sources on the ability of firms to react and learn from failure, reduce the rate of unlearning useful knowledge, assimilate new knowledge during the time-out period, and ultimately in re-entering and performing well in foreign markets.

Data Availability

The authors do not have permission to share data.

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