Untangling the Multiple Effects of Slack Resources on

Firms' Exporting Behavior

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ABSTRACT

Drawing on a behavioral theory perspective, we investigate how distinct types of slack resources affect distinct aspects of firms' exporting behavior. Using longitudinal data of Belgian manufacturing firms, we find that financial and human resource (HR) slack affect the probability of exporting positively at a diminishing rate. Controlling for the export decision, we find that HR slack affects export intensity negatively, while financial and HR slack affect export diversity positively at a diminishing rate. Findings are economically meaningful, especially for new exporters. Taken together, our study adds new insights at the nexus of the international business and slack literatures.

Keywords: Exports; Dimensions of exporting; Slack resources; Financial slack; Human resource (HR) slack.

1. Introduction

Exporting—the production of goods at home that are sold in foreign markets—is a key path to boost firm growth and performance (Bloodgood, Sapienza, & Almeida, 1996; Leonidou & Katsikeas, 1996). It is the initially preferred internationalization method and the most widely used strategy of internationalization (Agarwal & Ramaswami, 1992; Johanson & Vahlne, 1977; Leonidou, Katsikeas, & Coudounaris, 2010; Young, Hamill, Wheeler, & Davies, 1989). Compared to other foreign entry modes, such as establishing a foreign subsidiary, exporting involves comparatively lower levels of resource commitments (Cavusgil, 1984; Leonidou et al., 2010). Still, the costs of entry into exporting are not negligible (Bernard & Jensen, 2004), and competing across national borders consumes more resources than operating purely in the domestic market (Hitt, Hoskisson, & Kim, 1997). While the idea that resources affect firms' exporting behavior is now widely accepted, the purpose of this study is to enrich our understanding of this relationship by investigating two complexities that previous research has left under-explored.

First, previous research has generally explored one export dimension in isolation, typically the intensity of exporting or the extent to which a firm is dependent on foreign sales. However, as Hennart (2011, p. 136) indicates, "a firm's foreign footprint is the result of the many choices made by its managers". For instance, managers must decide to enter into exporting (Bernard & Jensen, 2004), and for those firms that enter into exporting, export intensity does not capture the diversity of foreign markets a firm serves (Verbeke & Brugman, 2009). Moreover, while the literature has generally tended to see these export dimensions as substitutable and has lumped them under umbrella terms such as "internationalization" (e.g., Hennart, 2011), there is increasing recognition of the multifaceted nature of firms' exporting behavior and the possibility

that distinct export dimensions are likely to have their own antecedents (e.g., Annavarjula & Beldona, 2000; Goerzen & Beamish, 2003; Marano et al., 2016; Sullivan, 1994; Thomas & Eden, 2004). Our study builds on this recognition by considering distinct aspects of firms' exporting behavior and their interrelatedness.

Second, previous research has often focused on the *absolute* amount of resources as determinants of firms' exporting behavior (e.g., Hitt, Bierman, Uhlenbruck, & Shimizu, 2006; Kaleka, 2012; Preece, Miles, & Baetz, 1998; Sapienza, Autio, George, & Zahra, 2006). However, Mishina, Pollock, and Porac (2004, p. 1182) argue that "without considering current resource demands, it is unclear why the quantity of resources possessed by a firm should relate to organizational growth except in quite general ways". Thus, slack resources—or those resources that are not consumed by the demands from current operations—may provide a theoretically more justifiable basis for firm growth more generally and the exploration and exploitation of foreign market opportunities more specifically. Moreover, conceptually, slack is a multidimensional construct, where distinct types of slack resources lie along a continuum representing the ease by which they can be redeployed by managers (Bourgeois & Singh, 1983), and these resources are likely to have their own distinct effects (Mishina et al., 2004; Tan & Peng, 2003; Paeleman & Vanacker, 2015; Vanacker, Collewaert, & Zahra, 2017). Our study builds on this recognition as well by considering distinct types of slack resources.

While a limited set of recent studies have examined the relationship between slack resources and firms' exporting behavior (Kiss, Fernhaber, & McDougall, 2017; Lin, Cheng, & Liu, 2009; Tseng, Tansuhaj, Hallagan, & McCullough, 2007), the current paper is unique in that it jointly addresses the two abovementioned complexities. Specifically, drawing on a behavioral theory perspective, we examine how *distinct* types of slack resources, including financial and HR

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slack, differently influence *distinct* aspects of firms' exporting behavior, including the probability of entering into exporting, as well as export intensity and export diversity. We focus on firms' exporting behavior, because firms generally prefer non-equity entry modes such as exporting (Baum, Schwens, & Kabst, 2015; Kuivalainen, Sundqvist, & Servais, 2007).[1] Moreover, the amounts and types of resources that foster firms' exporting behavior are likely to play an even more decisive role for other more resource-consuming foreign entry modes such as foreign direct investments. We focus on slack in financial resources (i.e., excess cash) and human resources (i.e., excess skilled employees) because these resources differ significantly in their redeployability and are most clearly related to firm emergence and development (e.g., Cooper, Gimeno-Gascon, & Woo, 1994; Mishina et al., 2004).

For the purpose of this study, we use a unique longitudinal dataset on the exporting behavior of 9,535 Belgian manufacturing firms between 1997 and 2010. Our results show that both financial and HR slack affect the probability of entry into exporting positively at a diminishing rate. Controlling for the export decision, we fail to find an effect of financial slack on firms' export intensity, while we find a negative effect of HR slack on firms' export intensity. Both financial and HR slack affect firms' export diversity positively at a diminishing rate. We find that our results are the most economically significant for new exporters (i.e., firms with no preexisting exporting activities). We further conduct several tests that demonstrate the robustness of these results to alternative explanations and measurement issues.

Our primary contribution is to the internationalization literature. Most studies that examine firms' exporting behavior treat distinct export dimensions as substitutable (see Hennart, 2011, for a similar observation). However, our study stresses the importance of differentiating

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[1] Empirically, as we detail below, we control for firms that have foreign subsidiaries and foreign shareholders because their presence is expected to influence firms' exporting behavior.

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between distinct export dimensions and incorporating their interdependencies. By doing so, we address recent calls to further unravel firms' exporting behavior (Hennart, 2011; Leonidou et al., 2010; Marano et al., 2016). Furthermore, internationalization scholars generally assume that having more resources is better than having fewer resources (e.g., Hitt et al., 2006). We show, however, that distinct types of slack resources differently influence distinct export dimensions. We also contribute to the literature on slack resources and the behavioral theory of the firm. There is increasing recognition that simply possessing slack resources will not generate performance or growth advantages—how managers use these resources may be more important (Sirmon, Hitt, & Ireland, 2007). Still, scholars have primarily focused on the effects of slack on firm performance and growth (e.g., Daniel et al., 2004; George, 2005; Mishina et al., 2004). While recent research has focused on the relationship between slack and a firm's foreign footprint (e.g., Lin et al., 2009), this footprint typically combines several managerial choices (Hennart, 2011). We provide a cleaner link between slack and specific managerial decisions by focusing on the impact of slack on distinct export dimensions.

2. Theory and hypotheses

Current research on firm exporting can be divided in two major streams, with relatively limited cross-fertilization between them. The first stream is concerned with the factors that differentiate exporting firms from non-exporting firms (e.g., Bernard & Jensen, 2004; Burton & Schlegelmilch, 1987; Cavusgil & Naor, 1987; Cavusgil & Nevin, 1981; Leonidou, 1995a). While these studies provide very useful insights with respect to managers' decisions to enter into exporting, by design they provide limited insights into the factors that increase firms' foreign

footprint once managers have made the decision to enter exporting (Katsikeas, Deng, & Wortzel, 1997).

A second stream focuses on exporting firms (e.g., Piercy, Kaleka, & Katsikeas, 1998; Tookey, 1964; Tseng et al., 2007) and is generally concerned with one export dimension, typically the export intensity. However, as indicated by Verbeke and Brugman (2009), the export intensity does not measure the diversity of the foreign markets a firm serves. Specifically, a Belgian firm that exports 50 percent of its output to neighboring France will have the same export intensity as a Belgian firm that generates half of its output from exporting to 50 different countries. Thus, studies on one export dimension (e.g., export intensity) provide limited insights into factors that drive managers' decisions with respect to other export dimensions (e.g., export diversity).

While scholars have made progress by addressing the multidimensionality of firms' exporting behavior by using composite measures, such measures also conceal differences between distinct export dimensions. Still, there is an increasing recognition that managers make multiple interrelated decisions with respect to their exporting activities and that distinct export dimensions may have their own antecedents (e.g., Annavarjula & Beldona, 2000; Goerzen & Beamish, 2003; Katsikeas & Leonidou, 1996; Marano et al., 2016; Preece et al., 1998; Sullivan, 1994; Thomas & Eden, 2004). Moreover, the limited cross-fertilization across the aforementioned research streams also raises concerns. Specifically, when studying export intensity or diversity, one cannot ignore the "first-step" (non-random) strategic decision of managers to enter into exporting (or not). Shaver (1998, p. 571), for instance, states that "If firms choose the strategy that is optimal given their attributes …, then empirical models that do not

account for this choice process are potentially misspecified and the normative conclusions drawn from them may be incorrect".

Our study builds on these observations by considering distinct export dimensions concurrently. We first focus on the decision to export, which refers to the probability that non-exporting firms enter into exporting (Leonidou, 1995b). Exporting is a less resource-intensive entry mode relative to, for example, foreign direct investments. Still, as we detail below, the costs related to entering exporting are significant (Bernard & Jensen, 2004), and most managers view exporting as a risky undertaking without immediate financial returns (Burpitt & Rondinelli, 2000). Controlling for the export decision, we focus on the export intensity—or the depth of exporting—which is higher when firms derive more revenues from their international activities (Mathews & Zander, 2007). Controlling for the export decision, we also focus on the export diversity—or the breadth of exporting—which is higher when firms derive more revenues from a more diverse set of the foreign markets or countries (Tallman & Li, 1996). As we detail below, increasing export intensity is less resource demanding and represents a more standardized workflow relative to increasing export diversity (Gomez-Mejia, 1988; Preece at al., 1998; Tookey, 1964).

While there is general agreement that resources, and slack resources particularly, shape a firm's exporting activities, it remains unclear how they do so. Theoretically, slack resources may provide firms with the means to cross borders, allowing them to compete in international markets with fewer binding constraints (e.g., Tseng et al., 2007). From this perspective, slack resources are expected to foster firms' exporting activities. However, slack resources may also shield firms from external pressures, thereby reducing incentives to adapt to environmental pressures and to engage in uncertain projects (e.g., Nohria & Gulati, 1996). From this perspective, slack resources

are expected to hamper firms' exporting activities. Prior empirical work has also produced opposing results (Lin et al., 2009; Tseng et al., 2007).

There is also agreement that slack resources differ in their redeployability. We focus on financial and HR slack because they lie at opposing ends of a continuum, representing the extent to which slack resources are redeployable elsewhere (Bourgeois & Singh, 1983). Financial slack represents unabsorbed slack, which consists of resources that are currently uncommitted and are readily available for redeployment within a firm, such as the level of liquid assets in excess of those needed for basic operating expenses (e.g., Bradley, Shepherd, & Wiklund, 2011; George, 2005). HR slack represents absorbed slack, which consists of resources that are highly idiosyncratic to context and more difficult to redeploy, such as the skilled employees in excess of those needed for operational demands (e.g., Lecuona & Reitzig, 2014; Mishina et al., 2004).

Below, we develop a conceptual framework for how distinct types of slack resources (i.e., financial slack and HR slack) influence distinct export dimensions (i.e., the probability of entering into exporting, as well as export intensity and export diversity) by drawing on a behavioral theory perspective (Bromiley, 2005; Cyert & March, 1963).

2.1. Slack resources and the probability of entering into exporting

A first key decision managers make is whether their firms will enter into exporting or not (Bernard & Jensen, 2004; Leonidou, 1995b). By entering into exporting, managers seek out opportunities while also taking risks in an experimental operation of discovery that involves liabilities of foreignness (Zaheer, 1995). Indeed, managers often observe important economic motives for entering into exporting, but at the same time, they also view exporting as a risky

undertaking without immediate financial gains, making them cautious, particularly when they lack resources (Burpitt & Rondinelli, 2000).

From a behavioral theory perspective, slack resources are expected to facilitate risk taking and experimentation (Bromiley, 1991; Cyert & March, 1963). Without slack, entry into exporting may be attractive but beyond reach (Hambrick & Snow, 1977). Many tasks associated with entering into exporting entail a commitment of additional resources (Cavusgil & Naor, 1987). Some of these tasks include gathering (up-to-date) foreign market information, training and hiring additional staff, learning about export financing, developing new styles to satisfy foreign customers, adapting products to other languages, and establishing new distribution networks. Financial slack may help firms finance such expenditures that, by their very nature, are not matched by contemporaneous revenues (Burpitt & Rondinelli, 2000). HR slack may further help firms allocate required personnel to these tasks, prepare for future growth and build a knowledge base (Welbourne et al., 1999). Thus, slack in financial and human resources can cover the additional resource requirements related to entry into exporting.

Furthermore, according to behavioral theory predictions, slack resources are expected to buffer firms from uncertain outcomes of experimental or risky projects (e.g., Bourgeois, 1981; Nohria & Gulati, 1996). Firms with sufficient slack resources can afford to "lose". Specifically, when the decision to enter into exporting would turn out unsuccessful or the gains from exporting would take longer than expected, this should not affect the current (domestic) operations of firms that have slack, because these firms will be able to rely on their "excess" resources. However, firms that lack sufficient slack resources would have to cut vital resources required for their current (domestic) operations, thereby damaging these operations. Thus, when firms have sufficient slack, managers can more safely enter into exporting (Hambrick & Snow, 1977),

making them more likely to pursue such strategies. Thus far, a behavioral theory perspective suggests that slack will increase the probability that firms enter into exporting.

However, behavioral theorists also note downsides of having too much slack (e.g., Bromiley, 2005). Excessive levels of slack resources may lead to reduced searching for risky projects or dampened incentives for risk taking (Miller & Leiblein, 1996) and experimentation (Kim, Kim, & Lee, 2008). Debruyne et al. (2010), for instance, show that the presence of more resources makes decision makers believe they are able to react effectively to competitive attacks but also makes them less motivated to do so. This evidence suggests that when firms have excessive slack levels, managers' incentives to enter into exporting may diminish.

In summary, we expect that as financial and HR slack increase, firms will become more likely to enter into exporting because they can afford to do so. However, this relationship is unlikely to be linear, because of reduced incentives to enter into exporting when financial and HR slack levels become excessively high. Still, behavioral theorists generally advocate that the advantages of slack outweigh the disadvantages (Tan & Peng, 2003). Thus,

Hypothesis 1. The relationship between (a) financial slack and (b) HR slack and the probability to export is positive at a diminishing rate.

2.2 Slack resources and export intensity

When managers have made the decision to enter into exporting, they may subsequently make efforts to deepen market penetration by acquiring new customers in a specific set of countries (Jones & Coviello, 2005). After making investments in building up an infrastructure to enter into exporting, efforts to increase the intensity of exporting are often perceived as less risky and are generally less costly. Indeed, the liabilities of foreignness tend to decrease over time, while firm

legitimacy and credibility increase (Barkema, Bell, & Pennings, 1996). In addition, the more committed managers are to a specific set of export markets, the more knowledge they gain and the lower the (perceived) uncertainty (Barkema & Drogendijk, 2007). Consistent with this idea, Simpson & Kujawa (1974) argue that exporting firms have a lower perception of exporting risk compared to non-exporting firms.

Efforts to increase export intensity are not only perceived as less costly and less risky, they also entail a relatively steady, repeated and more standardized pattern of activities—relative to efforts to enter into exporting or to increase export diversity. Indeed, when managers take actions to increase firms' export intensity, they are already more confident with the foreign environment and their foreign customers' demands, which leads to lower coordination efforts and lower information processing needs, among others (Barkema et al., 1996; Lu & Beamish, 2004). Thus, expanding within a given set of foreign countries involves a more automatic reproduction of routines and knowledge (Ahuja & Lampert, 2001; Zollo & Winter, 2002). Prior research suggests that slack resources will function differently for less risky, more standardized patterns of activities (e.g., Lecuona & Reitzig, 2014).

Building on the arguments of prior research on the slack-export intensity relationship using a behavioral theory perspective (e.g., Lin et al., 2009), we expect that within the group of exporters, financial and HR slack will have a U-shaped relationship with export intensity. When workflows are more standardized and firms hold average levels of slack, managers are expected to feel comfortable with the status quo and engage in "satisficing" behavior—holding an attitude that they are doing ok (Danneels, 2008; Mosakowski, 2002; Winter, 2000). This attitude leads to complacent and inward-looking behaviors (Stevenson & Gumpert, 1985) that may hamper efforts to increase the export intensity of firms (Lin et al., 2009). However, in the case of low levels of

slack, the managers of resource-constrained firms may set aspirations to get out of the rut (e.g., Danneels, 2008). Resource constraints drive firms to work more efficiently, foster entrepreneurial ingenuity and look to the outside (Baker & Nelsen, 2005). Hence, confronted with resource constraints or limited slack, managers may have incentives to take less-costly, more-standardized patterns of activities related to increasing the intensity of exporting (Lin et al., 2009). When firms hold excessive levels of slack, managers may engage in "slack search" because they are flush with slack resources (Lant & Montgomery, 1987; Levinthal & March, 1981). Too much slack can loosen control of expenditures, for example, supporting expensive advertising campaigns of distributors or trade fair participation, which may also benefit export sales, although it may not necessarily benefit firm financial performance. Thus,

> **Hypothesis 2.** The relationship between (a) financial slack and (b) HR slack and export intensity is curvilinear (U shaped).

2.3 Slack resources and export diversity

Exporting firms can also extend their export activities geographically. Although tapping into a more diverse set of foreign markets may yield new opportunities (Sapienza et al., 2006), it inevitably involves increased liabilities of foreignness and risks (Hitt et al., 1997; Zaheer, 1995). For exporting firms, similar to the decision to enter into exporting, efforts to increase export diversity are more complex, more resource demanding and less standardized compared to efforts to increase export intensity (Preece et al., 1998). In the case of export diversity, every decision to enter a new country introduces new challenges and resource requirements (Gomez-Mejia, 1988; Tookey, 1964).

Firms entering a wider range of different countries must address different sources of liabilities of foreignness (Zaheer, 1995): transportation, travel and coordination costs; costs based on their unfamiliarity with the environment; costs resulting from their lack of legitimacy; and costs resulting from different government regulations and trade laws. Firms diversifying their export activities across a broader set of countries also deal with more-varied types of national systems, customers, cultures, political frameworks, rules and norms (Zhang, Li, & Zhou 2010). Finally, with a greater dispersion of exporting operations, the marginal benefits ascribed to scale and scope economies diminish, as firms tend to encounter coordination challenges. Hence, the expansion of geographic scope is generally more resource demanding than expanding in a given set of countries (Kobrin, 1991).

Following a behavioral theory perspective, the presence of slack can provide firms with the ability to explore *new* domains of activity and thus further diversify their export activities (Hambrick & Snow, 1977). Financial slack, for instance, might help managers increase export diversity, because it eases capital restrictions and provides legitimacy when experimenting with new directions, such as selling in countries with low fit. Financial slack also allows firms to invest in the development of new skills and capabilities, which are required as the firm adjusts to operations in countries that differ considerably from familiar ones (Nachum & Song, 2011). Hence, financial slack is expected to positively influence export diversity.

HR slack may also help managers increase export diversity. The activities involved in selling to a broader set of countries are more complex and more demanding than selling in a more limited set of countries (Gomez-Mejia, 1988). For example, selling to a broader set of countries involves the development of more new styles to satisfy customers in these different countries and involves correspondence in more foreign languages (Tookey, 1964). An increase in

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diversification may thus result in steeply rising work demands (Gary, 2005). Coordination costs and information processing demands are expected to increase when firms diversify their export activities, eventually overwhelming the firm's capabilities of coordination and control. Having HR slack available limits the danger of overextended managers and employees with too many demands on their time, which would reduce thoroughness and the overall quality of work and decision-making (Gary, 2005). Moreover, HR slack lowers the opportunity costs of diverting managerial resources toward learning at the time of export diversification (Kumar, 2009). Hence, HR slack is also expected to positively influence export diversity.

Excessive amounts of slack, however, may reduce the incentive to undertake risky or experimental initiatives (e.g., Debruyne et al., 2010; Kim et al., 2008). In firms with excessive financial and HR slack, the risk arises that promising new directions are not explored. Overall, managers require financial and HR slack to target new export markets, leading to a positive relationship between slack and export diversity. Yet, this relationship is unlikely to be linear because as slack levels become excessively high, incentives to explore new export markets decrease. Thus,

> **Hypothesis 3.** The relationship between (a) financial slack and (b) HR slack and export diversity is positive at a diminishing rate.

3. Methods

3.1 Data

To test our hypotheses, we construct a unique, longitudinal dataset by merging two databases. First, we use a confidential database at the National Bank of Belgium (NBB) that contains detailed export data on all Belgian firms. For instance, the database includes longitudinal data on

each firm's sales in each country outside of Belgium. The database includes exporting firms, non-exporting firms and firms that start (or stop) exporting. Second, we use a database that contains detailed annual accounts data for all firms in Belgium from the Central Balance Sheet Office at the NBB. Belgian law requires all firms registered in Belgium and operating with limited liabilities of shareholders to file their annual accounts. Data are collected from 1997 until 2010.

We select firms operating in the manufacturing sector. Focusing on firms operating in one industry limits the unobserved heterogeneity among firms that results from variance in industry conditions. Moreover, the manufacturing industry is the main goods-exporting sector (for example, it accounted for nearly 70% of total Belgian exports in 2004). Next, we only consider firms that report positive employment, capital stock and total assets at least once over the entire period. This criterion excludes firms that only exist on paper, primarily for fiscal reasons. Moreover, we focus on unconsolidated financial accounts. These criteria result in a large-scale longitudinal dataset of 9,535 firms, representing 60,874 firm-year observations. The dataset includes firms that eventually fail and hence limits survivorship bias. Some 50% of the firm-year observations in our dataset relate to non-exporters.

3.2 Dependent variables

We construct three dependent variables, representing different export dimensions. The dependent variable, *entry into exporting*, is a dummy variable equal to 1 when a firm has foreign export sales in a given year, and 0 otherwise (e.g., Ganotakis & Love, 2012).[2] This variable also accommodates the fact that firms can reenter into exporting (Bernard & Jensen, 2004).

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[2] Previous studies have often collapsed foreign sales generated from foreign subsidiaries with foreign sales generated from exporting (e.g., Hennart, 2011). We use a cleaner measure exclusively focusing on foreign export sales while controlling separately for other entry modes such as foreign subsidiaries.

Firms with a greater dependence on sales from international markets have a higher *export intensity* than other firms. In line with previous studies, we operationalize the level of export intensity as foreign export sales divided by total sales in a given year (e.g., Beleska-Spasova et al., 2012).

Export diversity examines the extent to which a firm enters foreign markets outside its home country. We calculate an entropy measure of export diversity in a given year with the following formula: $\sum Pj * \ln(1/Pj)$, where Pj is defined as the percentage of the firm's foreign (export) sales in a given market j and $\ln(1/Pj)$ is the weight given to each market, or the natural logarithm of the inverse of Pj (e.g., Hitt et al., 1997). Following previous work (e.g., De Clercq et al., 2005), we classify foreign markets into four segments representing their geographic and cultural distance from the firm's domestic market: the five countries bordering Belgium (including the United Kingdom); other countries within the European Union; other European countries and North America; and the rest of the world.[3]

3.3 Independent variables

The independent variables measure financial slack and HR slack. Cash and cash equivalents are the most easily (re)deployable resources (George, 2005). We therefore measure *financial slack* as the amount of cash and cash equivalents available within a firm, scaled by total assets and adjusted for sub-industry norms (e.g., Kim & Bettis, 2014; Vanacker, Collewaert, & Paeleman, 2013). We adjust for sub-industry norms by subtracting the median cash and cash equivalents to

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[3] The results remain qualitatively similar when we use the natural logarithm of the number of countries from which a firm generates foreign sales as an alternative dependent variable to measure export diversity. Furthermore, when calculating the entropy measure of export diversity, when we exclude the UK as a bordering country and include it in the category "other countries within the European Union", our results again remain qualitatively similar.

total assets ratio for all firms in three-digit NACE industries in which the focal firm operates (e.g., Bromiley, 1991).

Firms with more (skilled) employees relative to their peers to generate the same amount of sales are expected to have HR slack. Following prior research, we measure *HR slack* as the number of skilled employees (in FTE) relative to sales and adjusted for sub-industry norms (e.g., Mellahi & Wilkinson, 2010; Mishina et al., 2004; Vanacker et al., 2017). Skilled employees are white-collar workers. We again adjust for sub-industry norms by subtracting the median ratio of skilled employment to sales for all firms in the same three-digit NACE industry in which the focal firm operates.

3.4 Control variables

We include standard control variables. Because firm productivity may influence both trade patterns and levels of slack, we include *total factor productivity,* measured as in Levinsohn and Petrin (2003). Moreover, larger and older firms are more likely to enter into exporting (e.g., Zahra, Ireland, & Hitt, 2000). Thus, we also control for *firm size*, which is measured as the natural logarithm of total assets, and *firm age,* which is measured as the natural logarithm of the years since legal incorporation. The *intangible assets ratio*, defined as the ratio of intangible assets (including R&D expenses and the value of patents, trademarks, and brands) to total assets, is used as a measure of the growth potential of firms (Villalonga, 2004). Because firm performance may influence firms' exporting behavior (Hitt et al., 2006), we also include *lagged performance,* which is operationalized as operating profit or loss on total assets. Firms' exporting behaviors may also be affected by external financing secured. We therefore control for firms'

debt ratio or the ratio of debt to total assets (Lu & Beamish, 2004).[4] We also control for *government subsidies* because firms that receive government subsidies may be better positioned than their counterparts to overcome the liability of foreignness (Mudambi, 1998; Wren, 1996). Government subsidies are measured as the amount of subsidies received by the government (exploitation, capital and interest subsidies) scaled by total assets. Next, a firm's subsidiaries in other countries can help enhance its capabilities, competitiveness and knowledge base through experiential learning (e.g., Zahra et al., 2000). We control for this by including a dummy variable, *foreign subsidiary,* equal to 1 when a firm has a foreign subsidiary and 0 otherwise. Furthermore, because foreign ownership may affect firms' international operations and the resources available to them (e.g., Cassiman & Golovko, 2011), we include a dummy variable *foreign equity participation*—equal to 1 if a firm has a foreign shareholder that owns more than 50% of the equity of the firm and 0 otherwise. We also control for a firm's *international experience* because when a firm accumulates more international experience, the perceived risk of exporting may decline and additional incremental increases may be made in foreign operations and geographic scope (e.g., Johanson & Vahlne, 1977, 1990). International experience is measured as the number of years a firm has foreign (export) sales. A *one-period-lagged dependent variable* is also included as a control for firm heterogeneity (e.g., Katila & Ahuja, 2002). We further control for the *other dimension of exporting*, i.e., export diversity (export intensity), in the models with dependent variable export intensity (export diversity) to account for the interrelatedness between these distinct export dimensions within the group of exporters. We

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[4] We have also collected data to control for the fact that some firms may be venture capital (VC) backed. These investors may influence firms' exporting behavior and the slack resources that are available. For similar reasons, we also wanted to control for the fact that some firms are publicly held. Unfortunately, very few firms raised VC (i.e., 4 firms) and few firms are publicly held (i.e., 52 firms). Including 'VC-backed' and 'publicly held' dummy variables resulted in estimation problems for these specific variables. However, excluding these firms from our sample does not impact our findings.

further include *industry* dummy variables to capture subtler sub-industry-level effects within the manufacturing sector and *year* dummy variables to control for the effects of any general economic trend.

3.5 Method of analysis

To minimize concerns of reverse causality, we measure the dependent variables at time t and the independent and control variables at t-1. We use a two-step procedure that first predicts the probability that firms enter into exporting via a linear probability model and then control for that decision in second-stage regressions. This two-stage procedure accounts for the fact that entry into exporting is not a random choice (e.g., Greene, 2000). Modeling export intensity and diversity must take into account the possibility that exporters are not a random subset of all firms but may have certain characteristics that are also linked with export intensity or diversity (Ganotakis & Love, 2012). The first stage includes all variables from the second stage and other variables not included in the second stage that are likely to drive the decision to export (i.e., the lagged dependent variable "entry into exporting") but not the export intensity or export diversity. We then use the results from the first-stage models to create the inverse Mills ratio, which is included as a control in the second stage (Hamilton & Nickerson, 2003).

The second-stage regressions are Generalized Estimating Equations.[5] The GEE approach for modeling longitudinal data accounts for unobserved heterogeneity across firms and controls for potential autocorrelation and heteroskedasticity in the data (Liang & Zeger, 1986). We choose an identity link function to connect export intensity (diversity) to specified covariates and an exchangeable correlation structure for all models presented (see Ballinger, 2004, for more

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[5] Results remain consistent when using firm fixed effects regressions (i.e., the specification retained by the Hausman test).

details). We deal with heteroskedasticity by applying the Huber-White sandwich estimator of variance instead of the traditional variance calculation. Multicollinearity does not present any problems in our analyses, as the maximum variance inflation factor is well below 10.

4. Results

4.1. Main results

Table 1 provides the descriptive statistics for the entire dataset and for exporters and non-exporters separately. Table 2 presents the correlation matrix, excluding industry and year dummies.

Insert Table 1 and Table 2 about here

Table 3 shows the linear probability models estimating the probability that firms' enter into exporting. Given the stability of our results across specifications, our discussion focuses on the fully specified Model 4.

Insert Table 3 about here

Consistent with prior research (e.g., Autio et al., 2000, Bernard and Jensen, 2004; Bloodgood et al., 1996; Mudambi, 1998), the control variables indicate that firm productivity, size, performance and leverage are positively related to a firm's probability to enter into exporting. Moreover, firms with more government subsidies, foreign subsidiaries or international experience have a higher probability to export. Firms that are older and foreign-owned are less likely to export. Unsurprisingly, firms that were exporting in the previous year are more likely to export again in the following year.

Regarding Hypothesis 1a, we start by analyzing how financial slack influences the probability to enter into exporting. The results of Model 4 in Table 3 show that the coefficient for

financial slack is positive and significant, while the coefficient for financial slack squared is negative and significant. These results indicate that the effect of financial slack on the probability to enter into exporting is positive but gradually diminishes. This relationship is also depicted in Figure 1, Panel A (moreover, note that the relationship does not turn negative within the valid range of the data). The effect of financial slack on the probability to enter into exporting is not only statistically significant but also economically meaningful. Specifically, for an average non-exporting firm, we find a 10.36% increase in the probability to enter into exporting when financial slack increases from the mean -1 standard deviation (SD) to the mean +1 SD. Thus, Hypothesis 1a is supported.

To test Hypothesis 1b, we analyze how HR slack influences the probability to enter into exporting. In Table 3, Model 4, the coefficient for HR slack is positive and significant, and that for its squared term is negative and significant. Hence, HR slack positively affects the probability to enter into exporting at a diminishing rate. This relationship is also depicted in Figure 1, Panel B (the relationship again does not turn negative within the valid range of the data). The effect of HR slack on the probability to enter into exporting is not only statistically significant but also economically meaningful. Specifically, for an average non-exporting firm, we find a 6.17% increase in the probability to enter into exporting when HR slack increases from the mean -1 SD to the mean +1 SD. Thus, Hypothesis 1b is also supported.

Insert Figure 1 about here

We now test the role of slack resources in firms' export intensity and export diversity levels *after controlling for the non-random export decision*. Table 4 presents the estimates for the second-stage models of export intensity. Table 5 presents the estimates for the second-stage models of export diversity. We again use the full models to discuss our results.

With respect to the control variables, the inverse Mills ratio in Tables 4 and 5 is positive and significant, which indicates that the correction for sample selection is necessary when modeling export intensity and export diversity. Table 4, Model 4, also indicates that government subsidies, foreign subsidiaries, prior-year export intensity and prior-year export diversity positively relate to export intensity. Firm age has a negative and significant relationship with export intensity. Further, Model 4, Table 5, shows that firm productivity, size, performance, leverage, government subsidies, foreign subsidiaries, international experience, prior-year export diversity and prior-year export intensity positively relate to export diversity. Firm age and foreign-ownership relate negatively to export diversity.

We first examine the relationship between financial slack and export intensity. The results in Model 4, Table 4, show that the coefficients for financial slack and financial slack squared are not significant, which suggests that financial slack plays a negligible role in the intensity of exporting. These results are not in line with our expectations. Thus, Hypothesis 2a is not supported. We then examine the relationship between HR slack and export intensity. The results in Model 4 in Table 4 show that the coefficient for HR slack is negative and significant, while the coefficient for HR slack squared is not significant. This indicates that the effect of HR slack on export intensity is negative. Figure 1, Panel D, depicts the negative relationship between HR slack and export intensity. These results are not in line with our expectations. Thus, Hypothesis 2b is not supported.

Insert Table 4 about here

To examine the relationship between financial slack and export diversity, we focus on Model 4 in Table 5. We find a positive significant coefficient of financial slack and a negative significant coefficient of financial slack squared. These results indicate that the effect of financial

slack on export diversity is positive but gradually diminishes. Figure 1, Panel E, illustrates that the relationship between financial slack and export diversity is nonlinear with a positive slope but gradually decreases at higher levels of financial slack (and the relationship does not turn negative within the valid range of data). Thus, Hypothesis 3a is supported. Moreover, Model 4 in Table 5 also presents a positive significant effect of HR slack and a negative significant effect of HR slack squared. Hence, HR slack positively affects export diversity at a diminishing rate. Figure 1, Panel F, illustrates this relationship (and shows that the relationship does not turn negative within the valid range of data). Thus, Hypothesis 3b is also supported.

Insert Table 5 about here

It is important to note the economic significance of our statistical findings with respect to export intensity and export diversity (e.g., Cuervo-Cazurra, Caligiuri, Andersson, & Brannen 2013). To do so, we focus on the average firm that just made its decision to enter into exporting and the average firm that has preexisting exporting activities. Let us first focus on the average firm that just made its decision to enter into exporting. The effect of HR slack on the export intensity is not only statistically significant but also economically meaningful. Specifically, for an average firm that enters into exporting, we find that the export intensity is 30.30% lower when HR slack moves from the mean -1 SD to the mean +1 SD. Moreover, we find that export diversity is 2.01% (6.61%) higher when financial slack (HR slack) moves from the mean -1 SD to the mean +1 SD. Taken together, slack resources play a statistically and economically significant role in the level of export intensity and export diversity for firms that enter into exporting.

However, when we focus on the average firm that has preexisting exporting activities, we find that the effects of slack resources on export intensity and diversity are economically of low

magnitude. For an average firm that has preexisting exporting activities, we only find a 1.42%

decrease in export intensity when HR slack moves from the mean -1 SD to the mean +1 SD.

Moreover, for an average firm that has preexisting exporting activities, we only find a 0.91%

(2.98%) increase in export diversity when financial slack (HR slack) moves from the mean -1 SD

to the mean +1 SD. Thus, for the average firm with preexisting exporting activities, the effects of

slack resources are negligible. The importance of the lagged dependent variables suggests that

firms' exporting intensity and diversity remain persistent.

4.2 Robustness checks and post hoc tests

We have carried out additional robustness tests and post hoc tests (detailed results are not

presented but are available upon request from the first author).

First, young firms may have different exporting patterns relative to older firms (e.g.,

Oviatt & McDougall, 1994), and firm age is an important moderator of the effectiveness by

which firms deploy resources (e.g., George, 2005). Thus, we test the moderating influence of

firm age on our hypothesized relationships. We add two-way interactions of firm age with

financial slack and HR slack, respectively. To reduce concerns of multicollinearity, firm age was

mean-centered prior to the calculation of interaction terms, as recommended by Aiken and West

(1991). The moderating effects of firm age on the relationship between financial (HR) slack and

distinct export dimensions (i.e., the probability to enter into exporting, as well as export intensity

and export diversity) were not significant. Hence, we fail to find significant differences in the

effects of financial (HR) slack on the probability of entering into exporting, on export intensity

and on export diversity among young and old firms. These findings are in line with the ideas

coined by scholars who have indicated that because it is a firm's choice to restrict or expand its

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international scope (Rugman & Oh, 2013), young firms will enter a foreign market only when they have the resources needed to do so (Mudambi & Zahra, 2007; Sui & Baum, 2014).

Second, firms with foreign subsidiaries or foreign shareholders may employ fundamentally different strategies from the bulk of firms without such subsidiaries or shareholders. Moreover, it is theoretically more ambiguous to determine what represents the appropriate organizational level to determine the level of slack resources. Hence, we exclude firms that have foreign subsidiaries and firms that have foreign shareholders from our regressions. Some 13% of the firms in our sample have foreign subsidiaries, and 11% of the firms have foreign shareholders (for at least one year during the timeframe of the study). The results remain qualitatively similar to those reported previously.

Third, given that the real effects of the financial crisis manifested strongly in 2009 and 2010 in European (and Belgian) trade activity, observations from these specific years might bias our results. We tried to address such issues by including year fixed effects in our standard regressions. However, as a robustness test, we also removed firm-year observations from 2009 and 2010 and rechecked our estimations. The results again remain qualitatively similar.

Fourth, we control for the possibility that slack resources might be endogenously determined (e.g., Wang, Choi, Wan, & Dong, 2016). We therefore measure slack resources using a "predicted value approach", which helps partial out the endogenously determined variance of the level of financial and HR slack. For financial slack, this approach entails that we first run regressions predicting the 'normal' level of cash and cash equivalents to total assets by regressing cash and cash equivalents to total assets on basic firm and industry variables and saving the predicted values. Subsequently, we subtract from the firm's actual cash and cash equivalents to total assets ratio the 'normal' cash and cash equivalents to total assets ratio based on our

regression in order to obtain financial slack. We follow a similar procedure for HR slack. This alternative technique also results in qualitatively similar results.

5. Discussion and conclusion

In this study, we investigate the effects of distinct types of slack resources on distinct dimensions of firms' exporting behavior. We provide support for the positive and diminishing effect of financial and HR slack on the probability to enter into exporting. The results also show that— controlling for the export decision—HR slack hampers firms' export intensity, while financial and HR slack positively, and at a diminishing rate, influence firms' export diversity. These findings are the most economically meaningful for new exporters. Overall, we provide a more complex view of the relationship between slack resources and firms' exporting behavior than traditionally assumed in the literature.

We do not find support for the hypothesized U-shaped relationship between financial slack (HR slack) and export intensity. Still, our non-significant finding for financial slack is consistent with Muûls (2015), who finds that once the fixed entry cost has been borne, the amount exported to a destination is not dependent on the availability of credit. We further recognize that this non-significant finding may be an artifact of our specific sample or measures. However, when we do not account for the non-random decision to export and do not account for the interrelatedness between different export dimensions, we find an inverted U-shaped relationship between financial slack and export intensity. This finding is consistent with prior research (e.g., Tseng et al., 2007). However, as we show in this paper, this finding does not remain robust when we control for the non-random decision to export and the interrelatedness between different export dimensions. It suggests that our results probably represent more than a

simple artifact of our sample or measures and that it is important to account for the non-random decision to export and the interrelatedness between different export dimensions. Our findings also indicate a negative significant relationship between HR slack and export intensity. This finding is consistent with Lecuona and Reitzig (2014), who have recently indicated that when firms' operational choices imply more stable and standardized workflows, HR slack in general may appear to be a costly alternative relative to hiring on the spot and may be suboptimal—thereby destroying firm value. We find a similar negative effect of HR slack for firms' exporting intensity.

5.1 Theoretical contributions

Our study contributes to the international business literature and the export literature more specifically. First, our study shows the need to (a) differentiate between distinct export dimensions and at the same time (b) incorporate the interdependencies between distinct export dimensions. We need to theoretically and empirically differentiate between distinct export dimensions, because our study highlights important differences in the effects of different types of slack resources for firms that make the decision to enter into exporting, firms that intensify their export activities and firms that diversify their export activities. Interestingly, we find that the resources that lead firms to increase their export diversity may actually hamper their export intensity. Thus, while prior studies examining firm exporting tend to classify exporting firms based upon a single variable without considering different export dimensions or considering different export dimensions as substitutable (see also Hennart, 2011), we show that distinct export dimensions have their unique drivers.

Our study also highlights important interdependencies between different dimensions of exporting that have remained largely unexplored. For example, the decision to export (i.e., Yes or No) is not randomly made as firms purposely choose their strategies based on their resources, capabilities and industry conditions (e.g., Ganotakis & Love, 2012; Shaver, 1998). Failure to consider that exporters represent a non-random set of firms when studying potential drivers of export intensity and diversity may lead to biased results. As such, in our first-stage regressions considering both exporters and non-exporters, we have estimated a selection instrument (the inverse Mills ratio) to control for unmeasured sources of heterogeneity in export participation. In our second-stage regressions, when modeling the export intensity and export diversity of exporters, the selectivity instrument (i.e., inverse Mills Ratio) was always highly significant—suggesting that a control for selection is needed. Moreover, the significance of the lagged dependent variables in our models and the significance of the other lagged export dimensions (i.e., export diversity lagged by one year positively influences export intensity in Table 4, and export intensity lagged by one year positively influences export diversity in Table 5) suggests that export behavior has a tendency to remain persistent through time and that different export dimensions further strengthen each other.

Second, we provide a more refined understanding of the role of *slack* resources in the exporting behavior of firms by drawing on a behavioral theory perspective. More specifically, we provide new theory and empirical evidence that suggests that more slack resources do not necessarily benefit firms' exporting behavior and that distinct types of slack resources differently influence distinct export dimensions. In classic internationalization studies, it is generally believed that firms require more resources (in absolute terms) to extend their activities beyond their own national borders. Specifically, firms with access to more valuable resources are

expected to be more likely to explore and exploit foreign market opportunities (e.g., Cavusgil & Naor, 1987; Hitt et al., 2006; Leonidou & Katsikeas, 1996; Preece et al., 1998). However, our study shows that more (slack) resources will not necessarily benefit all export dimensions.

We also contribute to the slack literature and the behavioral theory of the firm. Slack represents a central construct in the behavioral theory of the firm (Bromiley, 2005; Cyert & March, 1963). However, we lack deep insights into how managers actually use slack resources. Prior research has largely focused on the effects of slack on firm performance, growth and survival (e.g., Daniel et al., 2004; George, 2005; Mishina et al., 2004; Paeleman & Vanacker, 2015). However, many factors can intervene between slack and firm performance. Indeed, simply possessing slack resources is unlikely to cause higher firm performance; rather, managers must "unlock" and use these resources first to convert them into performance and growth advantages (Sirmon et al, 2007). One such use is that slack may allow managers to influence their firms' exporting behavior.

Prior studies have started to examine the issue of slack in firm internationalization at different ends of the spectrum and with different results (Kiss et al., 2017; Lin et al., 2009; Tseng et al., 2007). More specifically, Lin et al. (2009) examined a composite internationalization measure in listed high-tech firms in Taiwan, Tseng et al. (2007) examined export intensity in listed manufacturing firms in US and Kiss et al. (2017) examined export intensity in manufacturing SME's operating in 7 European countries. However, contrary to our study, these studies do not consider that firms' foreign footprint is the result of multiple, interrelated decisions. Taken together, this emerging research stream suggests that scholars have to be careful to generalize predictions regarding the effect of slack resources on firm behaviors and outcomes. To uncover the nature of the effects of slack resources on firms' exporting behaviors, it is

especially important to adopt precise definitions and measures of exporting behaviors and to clearly specify underlying assumptions.

5.2 Limitations and future research

Our study is subject to several limitations, which represent fertile avenues for further research. First, although this study addresses a number of dimensions of firms' exporting behavior, it does not look at which countries firms move into as they export, when and in what sequence. Examining such exporting patterns, where slack resources may also play a critical role, is an important area for future research. Slack may, for instance, push firms to export to more-distant countries rather than simply export to neighboring countries. Moreover, although exporting is a relatively straightforward way of entering foreign markets, it is not the only entry mode of internationalization. Future studies might attempt to examine the relationship between slack resources and other types of entry mode commitments.

Second, we examine the impact of two types of slack resources, namely, financial and HR slack. Although all firms require some financial and human resources (e.g., Cooper et al., 1994), they do not represent the complete set of resources that firms hold. For instance, firms can also have social slack resources in terms of relationships, networks, and foreign subsidiaries, among others. Future work could explore such other types of slack resources. It would also be interesting to refine slack measures. Using more-detailed human capital measures, such as those related to the education and international background of directors, may allow scholars to uncover additional implications of HR slack for firms' exporting behavior. Future work could also start to address how the relationship between distinct types of slack resources and distinct dimensions of firms' exporting behavior is contingent upon firm, industry and country characteristics.

Third, our findings may be limited in context because we solely focus on Belgian manufacturing firms. Because Belgium, together with Ireland and Singapore, is one of the most open economies in the world (Sleuwaegen & Onkelinx, 2014), it is important to explore whether our results hold in different geographic contexts (e.g., Vanacker et al., 2017). Replicating this study in other industries, for example, the service industry, would also be of particular interest to further establish the generalizability of our results.

5.3 Managerial and policy implications

Managers are often confronted with the dilemma of how much slack resources they need to hold. On the one hand, pressures for increased efficiency push managers to minimize slack resources. On the other hand, managers require slack resources to pursue new, valuable opportunities and buffer their firms against external or internal shocks. This study helps managers better understand the role of resource slack in their exporting behavior. Understanding how slack resources influence the export behavior of firms is important for managers because penetrating into foreign markets is often viewed as a key mechanism to boost firm growth and performance. Our study highlights the need for slack resources for firms to enter foreign markets. However, it also shows that slack resources by themselves are unlikely to foster the export intensity of firms that already export. For exporting firms, slack resources—and HR slack in particular—can even decrease firms' export intensity. For firms with global ambitions, however, there is a need for significant amounts of financial and HR slack. Overall, it suggests that managers should manage their buffers of slack resources conditional upon their ambitions to intensify versus diversify their export activities.

Getting more domestic firms to sell across borders and engage in export activities is also a key policy concern. Policymakers have paid special attention to easing resource constraints for exporting firms. Our results suggest that firms with more subsidies are more likely to enter into exporting and exhibit higher export intensity and diversity. Additional policy measures that increase access to financial and human resources are well positioned to push firms across borders and support their global expansion. However, for the majority of firms, which target a relatively limited set of foreign markets (i.e., typically Belgium's neighboring markets), increasing firms' access to additional financial and human resources may also have limited, or even detrimental, effects on export intensity. In policy design, it is thus important to differentiate between measures that target firms to enter into exporting and measures that target firms' intensification versus diversification of export activities.

5.4 Overall conclusion

The idea that resources influence firms' exporting behavior is widely accepted. Still, limited attention has been paid to heterogeneity in the types of slack resources, rather than the absolute amount of resources, firms hold. Moreover, previous research has often treated distinct export dimensions as substitutable. Drawing on a behavioral theory perspective, we argue and show that distinct types of slack resources differently influence distinct export dimensions. The results provide a richer view of the relationship between slack resources and exporting behavior than currently assumed in the literature and highlight the importance of incorporating heterogeneity in slack resources and exporting behavior in future theorizing and empirical work.

References

Agarwal, S., & Ramaswami, S. N. (1992). Choice of foreign market entry mode: Impact of ownership, location and internalization factors. *Journal of International Business Studies*, 23(1): 1-27.

Ahuja, G., & Lampert, C. M. (2001). Entrepreneurship in the large corporation: A longitudinal study of how established firms create breakthrough inventions. *Strategic Management Journal*, 22(6-7): 521-43.

Aiken, L. S., & West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions.* Newbury Park, CA: Sage.

Annavarjula, M., & Beldona, S. (2000). Multinationality-performance relationship: A review and reconceptualization. *The International Journal of Organizational Analysis*, 8(1): 48-67.

Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5): 909-924.

Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3): 329-366.

Ballinger, G. A. (2004). Using generalized estimating equations for longitudinal data analysis. *Organizational Research Methods*, 7(2): 127-150.

Barkema, H. G., Bell, J. H. J., & Pennings, J. M. (1996). Foreign entry, cultural barriers, and learning. *Strategic Management Journal*, 17(2): 151-166.

Barkema, H. G., & Drogendijk, R. (2007). Internationalising in small, incremental or larger steps? *Journal of International Business Studies*, 38(7): 1132-1148.

Baum, M., Schwens, C., & Kabst, R. (2015). A latent class analysis of small firms' internationalization patterns. *Journal of World Business*, 50(4): 754-768.

Beleska-Spasova, E., Glaister, K. W., & Stride, C. (2012). Resource determinants of strategy and performance: The case of British exporters. *Journal of World Business*, 47(4): 635-647.

Bernard, A. B., & Jensen, J. B. (2004). Why some firms export. *The Review of Economics and Statistics*, 86(2): 561-569.

Bloodgood, J. M., Sapienza, H. J., & Almeida, J. G. (1996). The internationalization of new high-potential U.S. ventures: Antecedents and outcomes. *Entrepreneurship Theory and Practice*, 20(4): 61-76.

Bourgeois, L. J. (1981). On the measurement of organizational slack. *Academy of Management Review*, 6(1): 29–39.

Bourgeois, L. J., & Singh, J. V. (1983). Organizational slack and political behavior within top management groups. *Academy of Management Proceedings*, 43-9.

Bradley, S. W., Shepherd, D. A., & Wiklund, J. (2011). The importance of slack for new organizations facing "tough" environments. *Journal of Management Studies*, 48(5): 1071-1097.

Bromiley, P. (2005). *The behavioral foundations of strategic management.* Malden, MA: Blackwell Publishing.

Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. *Academy of Management Journal*, 34(1): 37-59.

Burpitt, W. J., & Rondinelli, D. A. (2000). Small firms' motivations for exporting: To earn and learn?. *Journal of Small Business Management*, 38(4): 1-14.

Burton, F. N., & Schlegelmilch, B. B. (1987). Profile analysis of nonexporters versus exporters grouped by export involvement. *Management International Review*, 27(1): 38-49.

Cassiman, B., & Golovko, E. (2011). Innovation and internationalization through exports. *Journal of International Business Studies*, 42(1): 56-75.

Cavusgil, S. T., & Naor, J. (1987). Firm and management characteristics as discriminators of export marketing activity. *Journal of Business Research*, 15(3): 221-235.

Cavusgil, S. T. (1984). Organizational characteristics associated with export activity. *Journal of Management Studies*, 21(1): 3-22.

Cavusgil, S. T., & Nevin, J. N. (1981). Internal determinants of export marketing behavior: An empirical investigation. *Journal of Marketing Research*, 18(1): 114-119.

Cooper, A., Gimeno-Gascon, J., & Woo, C. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing*, 9(5): 371-395.

Cuervo-Cazurra, A., Caligiuri, P., Andersson, U., & Brannen, M. Y. (2013). From the editors: How to write articles that are relevant to practice. *Journal of International Business Studies*, 44(4): 285-289.

Cyert, R. M., & March, J. G. (1963). *A behavioural theory of the firm.* New York, Englewood Cliffs: Prentice-Hall.

Daniel F., Lohrke, F. T., Fornaciari, C.J., & Turner, R. A. Jr. (2004). Slack resources and firm performance: A meta-analysis. *Journal of Business Research*, 57(6): 565–574.

Danneels, E. (2008). Organizational antecedents of second-order competences. *Strategic Management Journal*, 29(5): 519-543.

Debruyne, M., Frambach, R. T., & Moenaert, R. (2010). Using the weapons you have: The role of resources and competitor orientation as enablers and inhibitors of competitive reaction to new products. *Journal of Product Innovation Management*, 27(2): 161-178.

De Clercq, D., Sapienza, H. J., & Crijns, H. (2005). The internationalization of small and medium-sized firms. *Small Business Economics*, 24(4): 409-419.

Ganotakis, P., & Love, J. H. (2012). Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team. *Journal of International Business Studies*, 43(8): 693-718.

Gary, M. S. (2005). Implementation strategy and performance outcomes in related diversification. *Strategic Management Journal*, 26(7): 643-664.

George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal,* 48(4): 661-676.

Goerzen, A., & Beamish, P. W. (2003). Geographic scope and multinational enterprise performance. *Strategic Management Journal*, 24(13): 1289-1306.

Gomez-Mejia, L. R. (1988). The role of human resources strategy in export performance: A longitudinal study. *Strategic Management Journal*, 9(5): 493-505.

Greene, W. H. (2000.) *Econometric analysis*. New Jersey: Prentice-hall.

Hambrick, D. C., & Snow, C. C. (1977). A contextual model of strategic decision making in organizations. *Academy of Management Proceedings*, 109-12.

Hamilton, B. H., & Nickerson, J. A. (2003). Correcting for endogeneity in strategic management research. *Strategic Organization*, 1(1): 51-78.

Hennart, J.-F. (2011). A theoretical assessment of the empirical literature on the impact of multinationality on performance. *Global Strategy Journal*, 1(1-2): 135-151.

Hitt, M. A., Bierman, L., Uhlenbruck, K., & Shimizu, K. (2006). The importance of resources in the internationalization of professional service firms: The good, the bad, and the ugly. *Academy of Management Journal*, 49(6): 1137-1157.

Hitt, M. A., Hoskisson, R. E., & Kim, H. (1997). International diversification: effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal*, 40(4): 767-798.

Johanson, J., & Vahlne, J.-E. (1990). The mechanism of internationalization. *International Marketing Review*, 7(4): 11-24.

Johanson, J., & Vahlne, J.-E. (1977). The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1): 23-32.

Jones, M. V., & Coviello, N. E. (2005). Internationalisation: conceptualising and entrepreneurial process of behaviour in time. *Journal of International Business Studies*, 36(3): 284-303.

Kaleka, A. (2012). Studying resource and capability effects on export venture performance. *Journal of World Business*, 47(1): 93-105.

Katila, R., & Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of Management Journal*, 45(6): 1183-1194.

Katsikeas, C. S., Deng, S. L., & Wortzel, L. H. (1997). Perceived export success factors of small and medium-sized Canadian firms. *Journal of International Marketing*, 5(4): 53-72.

Katsikeas, C. S., & Leonidou, L. C. (1996). Export marketing expansion strategy: Differences between market concentration and market spreading. *Journal of Marketing Management*, 12(1-3): 113-134.

Kim, C., & Bettis, R. A. (2014). Cash is surprisingly valuable as a strategic asset. *Strategic Management Journal*, 35(13): 2053-2063.

Kim, H., Kim, H., & Lee, P. (2008). Ownership structure and the relationship between financial slack and R&D investments: Evidence from Korean firms. *Organization Science*, 19(3): 404-418.

Kiss, A. N., Fernhaber, S., & McDougall, P. P. (2017). Slack, innovation, and export intensity: Implications for small- and medium-sized enterprises. *Entrepreneurship Theory and Practice*, doi:10.1111/etap.12276.

Kobrin, S. (1991). An empirical analysis of the determinants of global integration. *Strategic Management Journal*, 12(SI): 17–32.

Kuivalainen, O., Sundqvist, S., & Servais, P. (2007). Firms' degree of born-globalness, international entrepreneurial orientation and export performance. *Journal of World Business*, 42(3): 253-267.

Kumar, M. V. S. (2009). The relationship between product and international diversification: The effects of short-run constraints and endogeneity. *Strategic Management Journal*, 30(1): 99-116.

Lant, T. K., & Montgomery, D. B. (1987). Learning from strategic success and failure. *Journal of Business Research*, 15(6): 503–517.

Lecuona, J. R., & Reitzig, M. (2014). Knowledge worth having in "excess": The value of tacit and firm-specific human resource slack. *Strategic Management Journal*, 35(7): 954-973.

Leonidou, L. C., Katsikeas, C. S., & Coudounaris, D. N. (2010). Five decades of business research into exporting: A bibliographic analysis. *Journal of International Management*, 16(1): 78-91.

Leonidou, L. C., & Katsikeas, C. S. (1996). The export development process: an integrative review of empirical models. *Journal of International Business Studies*, 27(3): 517-551.

Leonidou, L. C. (1995a). Export barriers: non-exporters' perceptions. *International Marketing Review*, 12(1): 4-25.

Leonidou, L. C. (1995b). Export stimulation research: review, evaluation and integration. *International Business Review*, 4(2): 133-156.

Levinsohn, J., & Petrin A. (2003). Estimating production functions using inputs to control for unobservables. *Review of Economic Studies*, 70(2): 317-341.

Levinthal, D. A., & March, J. G. (1981). A model of adaptive organizational search. *Journal of Economic Behavior & Organization*, 2(4): 307–333.

Liang, K. Y., & Zeger, S. L. (1986). Longitudinal data analysis using generalized linear models. *Biometrika*, 73(1): 13-22.

Lin, W. T., Cheng, K. Y., & Liu, Y. (2009). Organizational slack and firm's internationalization: A longitudinal study of high-technology firms. *Journal of World Business*, 44(4): 397-406.

Lu, J. W., & Beamish, P. W. (2004). International diversification and firm performance: The S-curve hypothesis. *Academy of Management Journal*, 47(4): 598-609.

Marano, V., Arregle, J.-L., Hitt, M. A., Spadafora, E., & van Essen, M. (2016). Home country institutions and the internationalization-performance relationship: A meta-analytic review. *Journal of Management*, 42(5): 1075-1110.

Mathews, J. A., & Zander, I. (2007). The international entrepreneurial dynamics of accelerated internationalisation. *Journal of International Business Studies*, 38(3): 387-403.

Mellahi, K., & Wilkinson A. (2010). A study of the association between level of slack reduction following downsizing and innovation output. *Journal of Management Studies*, 47(3): 483-508.

Miller, K. D., & Leiblein, M. J. (1996). Corporate risk-return relations: Returns variability versus downside risk. *Academy of Management Journal*, 39(1): 91-122.

Mishina, Y., Pollock, T., & Porac, J. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal*, 25(12): 1179-1197.

Mosakowski, E. (2002). Overcoming resource disadvantages in entrepreneurial firms: When less is more. In M. Hitt, D. Ireland, D. Sexton & M. Camp (Eds.), *Strategic entrepreneurship: Creating an Integrated Mindset* (pp. 106-126). Oxford, England: Blackwell.

Mudambi, R., & Zahra, S. (2007). The survival of international new ventures. *Journal of International Business Studies*, 38(2): 333-352.

Mudambi, R. (1998). The role of duration in multinational investment strategies. *Journal of International Business Studies*, 29(2): 239-261.

Muûls, M. (2015). Exporters, importers and credit constraints. *Journal of International Economics*, 95(2): 333-343.

Nachum, L., & Song, S. (2011). The MNE as a portfolio: Interdependencies in MNE growth trajectory. *Journal of International Business Studies*, 42(3): 381-405.

Nohria, N., & Gulati, R. (1996). Is slack good or bad for innovation?. *Academy of Management Journal*, 39(5): 1245-1264.

Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1): 45-64.

Paeleman, I., & Vanacker, T. (2015). Less is more, or not? On the interplay between bundles of slack resources, firm performance and firm survival. *Journal of Management Studies*, 52(6): 819-848.

Piercy, N. F., Kaleka, A., & Katsikeas, C. S. (1998). Sources of competitive advantage in high performing exporting companies. *Journal of World Business*, 33(4): 378-393.

Preece, S. B., Miles, G., & Baetz, M. C. (1998). Explaining the international intensity and global diversity of early-stage technology-based firms. *Journal of Business Venturing*, 14(3): 259-281.

Rugman, A. M., & Oh, C. H. (2013). Why the home region matters: Location and regional multinationals. *British Journal of Management*, 24(4): 463-479.

Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review*, 31(4): 914-933.

Shaver, J. M. (1998). Do foreign-owned and U.S.-owned establishments exhibit the same location pattern in U.S. manufacturing industries?. *Journal of International Business Studies*, 29(3): 469-492.

Simpson Jr., C. L., & Kujawa, D. (1974). The export decision process: an empirical inquiry. *Journal of International Business Studies*, 5(1): 107-117.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1): 273-292.

Sleuwaegen, L., & Onkelinx, J. (2014). International commitment, post-entry growth and survival of international new ventures. *Journal of Business Venturing*, 29(1): 106-120.

Stevenson, H. H., & Gumpert, D. E. (1985). The heart of entrepreneurship. *Harvard Business Review*, 63: 85–94.

Sui, S., & Baum, M. (2014). Internationalization strategy, firm resources and the survival of SMEs in the export market. *Journal of International Business Studies*, 45(7): 821-841.

Sullivan, D. (1994). Measuring the degree of internationalization of a firm. *Journal of International Business Studies*, 25(2): 325-342.

Tallman, S., & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management Journal*, 39(1): 179-196.

Tan, J., & Peng, M. W. (2003). Organizational slack and firm performance during economic transitions: Two studies from an emerging economy. *Strategic Management Journal*, 24(13): 1249-1263.

Tookey, D. A. (1964). Factors associated with success in exporting. *Journal of Management Studies*, 1(1): 48-66.

Thomas, D. E., & Eden, L. (2004). What is the shape of the multinationality-performance relationship? *Multinational Business Review*, 12(1): 89-110.

Tseng, C. H., Tansuhaj, P., Hallagan, W., & McCullough, J. (2007). Effects of firm resources and growth in multinationality. *Journal of International Business Studies*, 38(6): 961-974.

Vanacker, T., Collewaert, V., & Zahra, S. A. (2017). Slack resources, firm performance, and the institutional context: Evidence from privately held European firms. *Strategic Management Journal*. DOI: 10.1002/smj.2583.

Vanacker, T., Collewaert, V., & Paeleman, I. (2013). The relationship between slack resources and the performance of entrepreneurial firms: The role of venture capital and angel investors. *Journal of Management Studies*, 50(6): 1070-1096.

Verbeke, A., & Brugman, P. (2009). Triple-testing the quality of multinationality-performance research: An internalization theory perspective. *International Business Review*, 18(3): 265-275.

Villalonga, B. (2004). Intangible resources, Tobin's q, and sustainability of performance differences. *Journal of Economic Behaviour & Organization*, 54(2): 205-230.

Wang, H., Choi, J., Wan, G., & Dong, J. Q. (2016). Slack resources and the rent-generating potential of firm-specific knowledge. *Journal of Management*, 42(2): 500-523.

Welbourne, T. M., Neck, H. M., & Meyer, G. D. (1999). Human resource slack and venture growth: An exploratory analysis of growing employees at a faster rate than sales. *Frontiers of Entrepreneurship Research*, 19, 480-90.

Winter, S. G. (2000). The satisficing principle in capability learning. Strategic Management Journal, 21(October Special Issue): 981-996.

Wren, C. (1996). *Industrial Subsidies:* The UK Experience, Macmillan: London.

Young, S., Hamill, J., Wheeler, S., & Davies, J. R. (1989). *International market entry and development.* Upper Saddle River, NJ: Prentice-Hall.

Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management Journal*, 38(2): 341-363.

Zahra, S. A., Ireland, R. D., & Hitt, M. A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5): 925-950.

Zhang, Y., Li, H., & Zhou, L. (2010). FDI spillovers in an emerging market: The role of foreign firms' country origin diversity and domestic firms' absorptive capacity. *Strategic Management Journal*, 31(9): 969-989.

Zollo, M., & Winter, S. G. (2002). Deliberate learning and the evolution of dynamic capabilities. *Organization Science*, 13(3): 339-51.

Table 1: Descriptive Statistics

Variables	Overall sample			Exporting sample			Non-exporting sample			
	N	Mean	s.d.	N	Mean	s.d.	N	Mean	s.d.	
1 Entry into exporting	60,874	0.497	0.500	30,262	1.000	0.000	30,612	0.000	0.000	
2 Export intensity	28,634	0.405	0.320	28,634	0.405	0.320	—	—	—	
3 Export diversity (entropy)	30,262	1.003	0.275	30,262	1.003	0.275	—	—	—	
4 Number of foreign countries [c]	30,262	2.310	1.039	30,262	2.310	1.039	—	—	—	
5 Financial slack [a, b]	60,874	0.032	0.110	30,262	0.017	0.088	30,612	0.047	0.126	***
6 Human resource slack [a, b]	60,874	0.057	0.195	30,262	0.043	0.137	30,612	0.071	0.238	***
7 Total factor productivity [b, c]	60,874	11.040	0.795	30,262	11.443	0.695	30,612	10.642	0.679	***
8 Size [b, c]	60,874	14.644	2.052	30,262	15.975	1.655	30,612	13.329	1.478	***
9 Age [c]	60,874	2.878	0.694	30,262	3.061	0.673	30,612	2.698	0.667	***
10 Intangible assets on total assets [b]	60,874	0.011	0.049	30,262	0.010	0.042	30,612	0.012	0.055	***
11 Lagged performance [a, b]	60,874	0.058	0.108	30,262	0.061	0.101	30,612	0.056	0.115	***
12 Debt ratio [a, b]	60,874	0.656	0.276	30,262	0.646	0.240	30,612	0.666	0.307	***
13 Government subsidies [a, b]	60,874	0.002	0.004	30,262	0.002	0.005	30,612	0.001	0.004	***
14 Foreign subsidiary	60,874	0.133	0.339	30,262	0.248	0.432	30,612	0.018	0.133	***
15 Foreign equity participation	60,874	0.111	0.314	30,262	0.194	0.395	30,612	0.029	0.168	***
16 International experience [b, c]	60,874	1.743	1.530	30,262	2.873	0.912	30,612	0.627	1.151	***

Notes:

[a] Winsorized variable

[b] Lagged variable

[c] Logarithm

Significance levels indicate test results from differences between exporting and non-exporting firms (Chi-square tests or Mann-Witney tests)

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 2: Correlation Matrix

Variables	N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
						Overall sample [a]											
1 Entry into exporting [b]	60,874	1															
2 Export intensity	28,634	**0.66**	1														
3 Export diversity (entropy)	30,262	**0.93**	**0.47**	1													
4 Number of foreign countries [c]	30,262	**0.84**	**0.6**	**0.82**	1												
5 Financial slack [d, e]	60,874	**-0.14**	**-0.02**	**-0.06**	**-0.11**	1											
6 Human resource slack [d, e]	60,874	**-0.07**	**-0.13**	**-0.04**	**-0.1**	0.00	1										
7 Total factor productivity [c, e]	60,874	**0.5**	**0.11**	**0.26**	**0.39**	**-0.1**	**-0.16**	1									
8 Size [c, e]	60,874	**0.64**	**0.2**	**0.37**	**0.56**	**-0.24**	**-0.11**	**0.79**	1								
9 Age [c]	60,874	**0.26**	**0.01**	**0.08**	**0.14**	**-0.03**	0.00	**0.23**	**0.34**	1							
10 Intangible assets on total assets [e]	60,874	**-0.01**	0.00	**0.06**	**0.07**	**-0.04**	**0.06**	-0.01	**-0.02**	**-0.14**	1						
11 Lagged performance [d, e]	60,874	**0.02**	**0.04**	**0.04**	**0.05**	**0.18**	**-0.13**	**0.32**	**0.01**	**-0.03**	**-0.04**	1					
12 Debt ratio [d, e]	60,874	**-0.04**	**-0.03**	**-0.04**	**-0.04**	**-0.25**	**0.05**	**-0.15**	**-0.09**	**-0.22**	**0.08**	**-0.25**	1				
13 Government subsidies [d, e]	60,874	**0.13**	**0.02**	**0.02**	**0.02**	**-0.08**	0.00	**0.12**	**0.17**	**-0.02**	0.00	**-0.06**	**0.04**	1			
14 Foreign subsidiary [b]	60,874	**0.34**	**0.2**	**0.31**	**0.39**	**-0.13**	**-0.02**	**0.35**	**0.48**	**0.19**	**0.02**	**-0.01**	**-0.03**	**0.05**	1		
15 Foreign equity participation [b]	60,874	**0.26**	**0.1**	**0.18**	**0.24**	**-0.06**	**-0.03**	**0.38**	**0.43**	**0.15**	**0.03**	0.00	**-0.03**	**0.02**	**0.23**	1	
16 International experience [c, e]	60,874	**0.73**	**0.15**	**0.22**	**0.31**	**-0.14**	**-0.05**	**0.50**	**0.66**	**0.56**	**-0.05**	0.00	**-0.11**	**0.09**	**0.34**	**0.27**	1

Notes:

[a] Number of observations overall sample = 60,874. Number of observations for correlations with export intensity = 28,634, with export diversity = 30,262, and with number of foreign countries = 30,262. Correlations significant at 0.05 level are in bold. Industry dummies and year dummies are not reported.

[b] Binary variable thus their correlations should be interpreted with care.

[c] Logarithm

[d] Winsorized variable

[e] Lagged variable

Table 3: Results of Linear Probability Models Representing the Probability of Entry into Exporting

Variable	Model 1 Coeff.		Robust S.E.	Model 2 Coeff.		Robust S.E.	Model 3 Coeff.		Robust S.E.	Model 4 Coeff.		Robust S.E.
Financial slack				0.085	***	(0.019)				0.082	***	(0.019)
Financial slack²				-0.185	***	(0.048)				-0.177	***	(0.048)
Human resource slack							0.031	**	(0.009)	0.030	**	(0.009)
Human resource slack²							-0.052	***	(0.013)	-0.050	***	(0.013)
Total factor productivity	0.012	***	(0.003)	0.011	***	(0.003)	0.012	***	(0.003)	0.011	***	(0.003)
Size	0.024	***	(0.001)	0.025	***	(0.001)	0.024	***	(0.001)	0.024	***	(0.001)
Age	-0.034	***	(0.002)	-0.034	***	(0.002)	-0.034	***	(0.002)	-0.034	***	(0.002)
Intangible assets ratio	-0.012		(0.017)	-0.011		(0.017)	-0.012		(0.017)	-0.010		(0.017)
Lagged performance	0.027	*	(0.011)	0.024	*	(0.011)	0.027	*	(0.011)	0.024	*	(0.011)
Debt ratio	0.015	***	(0.004)	0.018	***	(0.004)	0.015	***	(0.004)	0.018	***	(0.004)
Government subsidies	1.309	***	(0.249)	1.317	***	(0.249)	1.304	***	(0.249)	1.312	***	(0.248)
Foreign subsidiary	0.011	***	(0.003)	0.011	***	(0.003)	0.011	***	(0.003)	0.012	***	(0.003)
Foreign equity participation	-0.010	**	(0.004)	-0.010	**	(0.004)	-0.010	**	(0.004)	-0.010	**	(0.004)
International experience	0.051	***	(0.002)	0.051	***	(0.002)	0.051	***	(0.002)	0.051	***	(0.002)
Lagged dependent variable	0.676	***	(0.007)	0.675	***	(0.007)	0.676	***	(0.007)	0.675	***	(0.007)
Intercept	-0.329	***	(0.025)	-0.334	***	(0.025)	-0.324	***	(0.025)	-0.330	***	(0.025)
Year fixed effects?		Yes			Yes			Yes			Yes	
Industry fixed effects?		Yes			Yes			Yes			Yes	
N (Firm-years)		60,874			60,874			60,874			60,874	
Number of companies		9,535			9,535			9,535			9,535	
R²		0.7763***			0.7764***			0.7764***			0.7765***	

Notes:

Where * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, conservative two tailed tests.

Unstandardized regression coefficients and robust standard errors are shown.

Table 4: Results of GEE Regression Analysis for Export Intensity

Variable	Model 1 Coeff.		Robust S.E.	Model 2 Coeff.		Robust S.E.	Model 3 Coeff.		Robust S.E.	Model 4 Coeff.		Robust S.E.
Financial slack				0.010		(0.017)				0.009		(0.017)
Financial slack²				-0.035		(0.053)				-0.033		(0.053)
Human resource slack							-0.033	***	(0.009)	-0.033	***	(0.009)
Human resource slack²							0.026		(0.018)	0.026		(0.018)
Total factor productivity	0.005		(0.003)	0.005		(0.003)	0.005		(0.003)	0.005		(0.003)
Size	0.002	*	(0.001)	0.002	*	(0.001)	0.002		(0.001)	0.002		(0.001)
Age	-0.009	***	(0.002)	-0.009	***	(0.002)	-0.009	***	(0.002)	-0.009	***	(0.002)
Lagged performance	0.027	*	(0.011)	0.027	*	(0.011)	0.021	*	(0.011)	0.021		(0.011)
Debt ratio	0.005		(0.003)	0.005		(0.003)	0.005		(0.003)	0.005		(0.003)
Government subsidies	0.590	***	(0.147)	0.590	***	(0.148)	0.613	***	(0.148)	0.612	***	(0.148)
Foreign subsidiary	0.011	***	(0.002)	0.011	***	(0.002)	0.011	***	(0.002)	0.011	***	(0.002)
Foreign equity participation	-0.004	*	(0.002)	-0.004	*	(0.002)	-0.004		(0.002)	-0.004		(0.002)
International experience	0.003		(0.002)	0.003		(0.002)	0.003		(0.002)	0.003		(0.002)
Lagged dependent variable	0.921	***	(0.003)	0.921	***	(0.003)	0.919	***	(0.003)	0.919	***	(0.003)
Lagged export diversity	0.025	***	(0.003)	0.026	***	(0.003)	0.026	***	(0.003)	0.026	***	(0.003)
Inverse Mills ratio	0.038	***	(0.004)	0.038	***	(0.004)	0.038	***	(0.004)	0.038	***	(0.004)
Intercept	-0.075	**	(0.023)	-0.075	**	(0.023)	-0.068	**	(0.023)	-0.068	**	(0.023)
Year fixed effects?	Yes			Yes			Yes			Yes		
Industry fixed effects?	Yes			Yes			Yes			Yes		
N (Firm-years)	28,634			28,634			28,634			28,634		
Number of companies	4,246			4,246			4,246			4,246		
Wald chi-square	207,977.22***			208,973.61***			210,117.68***			210,941.00***		

Notes:

Where * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, conservative two tailed tests.

Unstandardized regression coefficients and robust standard errors are shown.

Table 5: Results of GEE Regression Analysis for Export Diversity

Variable	Model 1 Coeff.		Robust S.E.	Model 2 Coeff.		Robust S.E.	Model 3 Coeff.		Robust S.E.	Model 4 Coeff.		Robust S.E.
Financial slack				0.057	**	(0.020)				0.058	**	(0.020)
Financial slack²				-0.184	**	(0.057)				-0.180	**	(0.057)
Human resource slack							0.099	***	(0.014)	0.099	***	(0.014)
Human resource slack²							-0.147	***	(0.021)	-0.146	***	(0.021)
Total factor productivity	0.010	**	(0.003)	0.010	**	(0.003)	0.011	**	(0.003)	0.011	**	(0.003)
Size	0.035	***	(0.001)	0.036	***	(0.001)	0.035	***	(0.001)	0.036	***	(0.001)
Age	-0.068	***	(0.004)	-0.068	***	(0.004)	-0.068	***	(0.003)	-0.069	***	(0.004)
Lagged performance	0.043	**	(0.013)	0.041	**	(0.013)	0.050	***	(0.013)	0.048	***	(0.013)
Debt ratio	0.018	**	(0.005)	0.018	**	(0.005)	0.018	***	(0.005)	0.019	***	(0.005)
Government subsidies	0.702	***	(0.193)	0.706	***	(0.193)	0.694	***	(0.192)	0.698	***	(0.193)
Foreign subsidiary	0.017	***	(0.003)	0.017	***	(0.003)	0.017	***	(0.003)	0.017	***	(0.003)
Foreign equity participation	-0.009	**	(0.003)	-0.008	**	(0.003)	-0.009	**	(0.003)	-0.009	**	(0.003)
International experience	0.069	***	(0.003)	0.069	***	(0.003)	0.069	***	(0.003)	0.069	***	(0.003)
Lagged dependent variable	0.531	***	(0.008)	0.532	***	(0.008)	0.534	***	(0.008)	0.534	***	(0.008)
Lagged export intensity	0.081	***	(0.005)	0.080	***	(0.005)	0.082	***	(0.005)	0.082	***	(0.005)
Inverse Mills ratio	0.286	***	(0.005)	0.287	***	(0.005)	0.289	***	(0.005)	0.290	***	(0.005)
Intercept	-0.299	***	(0.029)	-0.304	***	(0.029)	-0.314	***	(0.029)	-0.320	***	(0.029)
Year fixed effects?	Yes			Yes			Yes			Yes		
Industry fixed effects?	Yes			Yes			Yes			Yes		
N (Firm-years)	30,262			30,262			30,262			30,262		
Number of companies	4,594			4,594			4,594			4,594		
Wald chi-square	19,471.67***			19,517.54***			19,940.36***			19,983.86***		

Notes:

Where * p < 0.05, ** p < 0.01, *** p < 0.001, conservative two tailed tests.
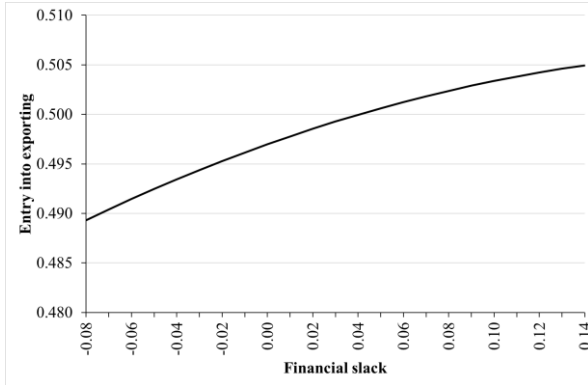
Unstandardized regression coefficients and robust standard errors are shown.

Figure 1: The Relationship between Different Types of Slack Resources and Different Dimensions to Firms' Exporting Behavior

Panel A: The Relationship between Financial Slack and the Probability of Entering into Exporting
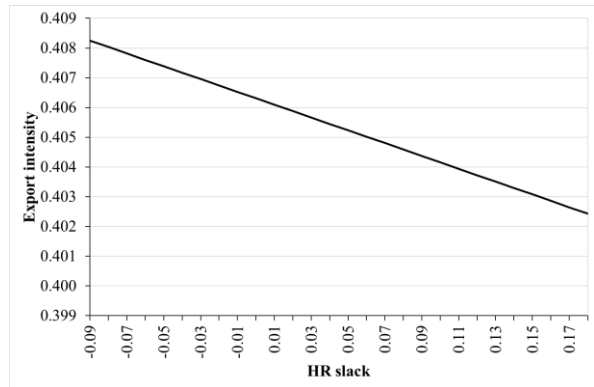
Panel B: The Relationship between HR Slack and the Probability of Entering into Exporting
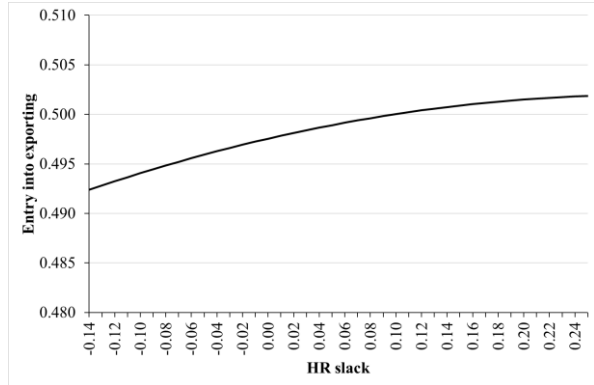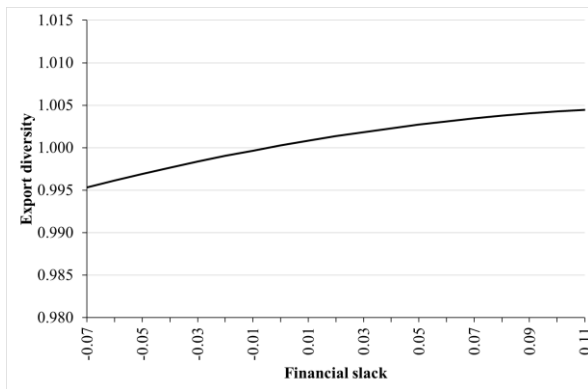

Panel C: The Relationship between Financial Slack and Export Intensity
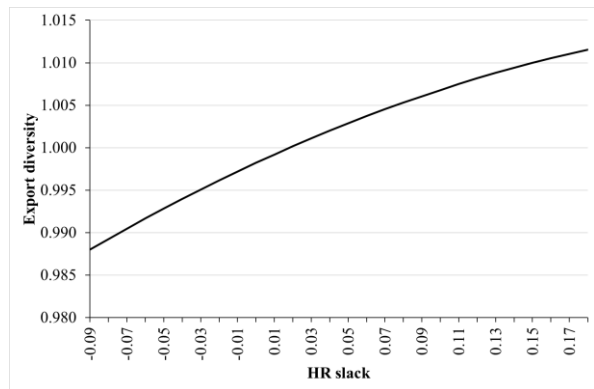
No significant relationship

Panel D: The Relationship between HR Slack and Export Intensity

Panel E: The Relationship between Financial Slack and Export Diversity

Panel F: The Relationship between HR Slack and Export Diversity

Notes: One standard deviation from the means of financial and HR slack were used.