ESSAYS ON CORPORATE FINANCE
IN EXPORT-ORIENTED BELGIAN FIRMS

Dissertation presented
to obtain the degree of
Doctor in Business Economics

by

Elisabeth Maes

Daar de proefschriften in de reeks van de Faculteit Economie en Bedrijfswetenschappen het persoonlijk werk zijn van hun auteurs, zijn alleen deze laatsten daarvoor verantwoordelijk.

Doctoral Committee

Advisor

Prof. Dr. Cynthia Van Hulle   KU Leuven

Co-Advisor

Prof. Dr. Nico Dewaelheyns   KU Leuven

Members

Prof. Dr. Joep Konings   KU Leuven
Nazarbayev University

Dr. Catherine Fuss   National Bank of Belgium

Prof. Dr. Alessandra Guariglia   University of Birmingham

Chairperson

Prof. Dr. Katrien Antonio   KU Leuven
University of Amsterdam

Acknowledgments

In October 2013, I started my adventure as a PhD Candidate in Finance. In the years that followed I had the opportunity to explore interesting research topics, participate in national and international conferences, and meet so many inspiring people. This doctoral dissertation would not have been possible without their kind help and guidance. First and foremost, I would like to thank my supervisors, *Prof. Dr. Cynthia Van Hulle* and *Prof. Dr. Nico Dewaelheyns*. I am grateful for your expertise and your continuous guidance throughout this journey, and for your encouragement in broadening my views and attending conferences and workshops. You were always more than willing to give advice and discuss ideas. I would also like to express my gratitude to *Dr. Catherine Fuss*. Thank you for giving me the opportunity to start a joint project with the National Bank of Belgium, and for your valuable assistance with the data and unwavering input and support. Further, my deep gratitude goes to the other members of my committee, *Prof. Dr. Joep Konings* and *Prof. Dr. Alessandra Guariglia*, for their constructive feedback and refreshing insights on my work. Your suggestions have certainly enhanced the quality of this dissertation, and encouraged me to look at my work from a different angle. *Prof. Dr. Katrien Antonio*, thank you for accepting the role of chairperson of the committee. Finally, I acknowledge the National Bank of Belgium for the data assistance, and for providing financial support during the final year of my PhD.

In the course of this journey, I have met many interesting, pleasant and inspiring colleagues both at Campus Carolus Antwerp and at Campus Leuven. Therefore, I would like to seize this moment to thank all those with whom I have spent so many memorable moments. A number of people deserve special mention. *Monique* and *Natacha*, thank you for taking great care of all practical, organizational and contractual matters related to my PhD, and especially in its very final stages. *Weidong*, *Yannick*, *Hien*, *Lisa* and *Ivan*, thank you for bringing such a positive, open and joyful atmosphere into offices 01.120 and 0.117. I cherish all our small and great talks - whether they be research or non-research related -, and the words of wisdom and encouragement when preparing for seminars and (pre)defenses. And *Hien*, thank you for your generosity and your hos-

pitality when inviting me into your home and introducing me to the Vietnamese kitchen. You are a great friend. *Jorden*, I admire your collegiality, your spirit, and your sense of humor. We have shared some great moments in Leuven and its surroundings, and I hope we can keep up this tradition in future. *Matthias*, our paths crossed for the first time when we both started our Bachelor's, but strangely enough it would take us several more years to actually get to know one another. Words probably cannot express how much I appreciate you as a person, as a friend. Thank you for your companionship in a myriad of adventures big and small, and for being a supportive backing and a careful listener on many other occasions. I guess it is safe to say that you have become one of my dearest friends.

Finally, *Benedicte*, thank you for all the funny and more serious talks, dinner dates and trips over the past 10 years. They furnished me with distraction from daily (PhD) student life. *Lieselotte*, we have known each other since daycare, officially making you my oldest friend. Due to busy schedules we do not see each other that regularly, but when we do, it is like we saw each other just the other day, and pick up where we left off. Here's to another 28 years! *Brecht*, thank you for your endless patience when I was asking for editorial help over messenger, and for your time and courage to edit my texts again afterwards. You are one of the brightest persons I know, and I know quite a few. *Sebastiaan*, thank you for all the smart advice you have given me over the past couple of years. I know I can always count on you and I cannot thank you enough for that. On paper you are a few years younger; in practice you are more like a wise older brother to me. Soon enough you will be our next (flying) Doctor. *Mom* and *Dad*, I am ever so grateful for your ceaseless love, your encouragement, and your everlasting support during an occasionally bumpy road. You have given me all the freedom to find my own path in life, while at the same time you were (and still are) always there for me. I truly appreciate that.

Elisabeth Maes
Leuven, January 2018

Conferences

This dissertation greatly benefited from comments and suggestions received at several seminars, workshops and international conferences.

The first Chapter of this dissertation was presented at the 2015 Corporate Finance Day (November 2015, Ghent, Belgium), at internal seminars at the National Bank of Belgium (November 2015, Brussels, Belgium) and at KU Leuven (January 2016 and October 2017, Leuven, Belgium), at the 2016 3L Finance Research Workshop (April 2016, Brussels, Belgium), the 2016 FMA European Conference (June 2016, Helsinki, Finland), the 2016 Annual Conference of the Multinational Finance Society (June 2016, Stockholm, Sweden) and the 2016 Corporate Finance Day (September 2016, Antwerp, Belgium). I also thank Brecht de Groote, Sofie De Prijcker, Matthias Saerens and Weidong Xu for their helpful suggestions. In October 2016, this Chapter was included in the Working Paper Series of the National Bank of Belgium (No. 311).

The second Chapter of this dissertation benefited from helpful comments and suggestions from seminar participants at KU Leuven (May and October 2017, Leuven, Belgium) and from participants at the 2017 FMA European Conference (June 2017, Lisbon, Portugal). The third Chapter of this dissertation was presented at an internal seminar at KU Leuven (October 2017, Leuven, Belgium). Both Chapters also benefited from valuable comments and suggestions given by Brecht de Groote and Matthias Saerens.

Databases and Support

Contents

List of Tables

List of Figures

General Introduction

This dissertation contributes to the growing literature that analyzes the ways in which international integration and corporate behavior are intertwined. The following three Chapters aim to provide further insight into the relationship between export activities and corporate finance issues. The first two Chapters investigate the link between export activities and different aspects of the financing policy of smaller-sized, private firms. The third Chapter takes a different perspective and examines how labor force flexibility affects the export participation and subsequent export performance of this type of firm. As such, this dissertation connects with a diverse set of research areas, including corporate finance, international trade, labor economics and law.

Thanks to a cooperation with the National Bank of Belgium (NBB), we have been able to estimate our research on a large-scale proprietary dataset that comprises of firm-level financial, workforce-related and exporting information on private Belgian firms over the period 1998-2013. Belgium constitutes an interesting research setting to examine export activities since internationalization is generally a necessity due to the country's limited domestic market size. In addition, unlike many other countries, both large and publicly quoted corporations and smaller-sized unlisted firms are required to publish detailed financial statements under Belgian Accounting Law, ensuring a wide coverage of the NBB database. Financial data from the annual accounts was supplemented with firm-level information on the export and import transactions of our sample firms, obtained from the international trade database of the NBB. Data on the international trading behavior of Belgian firms is collected through the Intrastat inquiry for intra-EU trade, and by customs agents for extra-EU trade. The resulting dataset provides a unique opportunity to focus on the export activities of private and smaller-sized firms. One worrisome finding that emerges from prior research is the substantial difficulties faced by smaller-sized, private firms in accessing resources to support their (export) activities, in spite of their contributions to economic growth and development. This is a significant problem given that a lack of resources is an important impediment to the success of a firm's international strategy.

Chapter One

The first Chapter of this dissertation investigates how smaller-sized, private firms finance their export activities and what impact their export financing strategies have on their capital structure and debt maturity. Our empirical results show that exporting firms carry substantially more financial debt than their non-exporting peers do, which is rooted in exporters' greater use of short-term debt financing. This contrasts starkly with the literature on the corporate financing decisions of large multinational corporations, since we do not find evidence in support of a trade-off mechanism between debt maturities in our setting of private exporters. Prior studies on internationalization and financing policy generally show that large multinationals (MNCs) have lower long-term debt ratios and higher short-term debt ratios than comparable domestic corporations (DCs). Since smaller-sized private firms differ markedly from large firms regarding their banking relationships and access to external credit, and since they cannot substitute short-term and long-term debt financing as easily as large companies can, it is a matter of course that the available empirical evidence on the financing policy of large MNCs is not generalizable to our setting of private, smaller-sized exporters.

The documented leverage differential between exporting firms and their non-exporting peers is at least partly attributable to a higher need for working capital financing within exporting firms, which the latter resolve by carrying more short-term debt on their balances. Besides one-time significant sunk costs, such as the costs associated with foreign market research and setting up distribution networks, exporting increases the cash conversion cycle of the firm due to longer transportation periods and the administrative paperwork that comes along with international trade (Djankov, Freund, and Pham, 2010; Hummels and Schaur, 2013). A number of papers have documented the added time required to complete international sales transactions, as compared to domestic sales. Using a dataset covering 126 countries, Djankov, Freund, and Pham (2010) find that it takes on average 30 days between the moment goods are ready to leave the factory until they are loaded on a ship. Hummels and Schaur (2013) further observe that European goods which are imported into the US have typically spent about 20 days on a vessel before reaching US ports. It requires another several weeks for the goods to be cleared by customs at the port of destination and to arrive at the importer's premises. As a result, it is not uncommon for goods to spend around two months in transit. In addition, what with their limited market power and buyers' insistence on inspecting the goods prior to making payment, suppliers often have to offer payment terms under open account terms: the seller delivers the goods and waits for the agreed upon credit period for payment. Since the time that elapses between landing the sales contract and collecting payment from the

buyer is considerably longer in international sales transactions, the prefinancing of these orders causes exporters to be particularly reliant on and in need of working capital financing as compared to non-exporting firms.

Besides having a higher need for working capital financing, we also find that exporters have better access to short-term debt financing on the basis of the assets they can pledge to secure their working capital loans. In particular, we find that the positive association between short-term pledgeable assets, such as accounts receivable and inventories, and short-term debt financing is prevalent for exporting firms. The link between pledgeable short-term assets and short-term debt financing is strongest for export-intensive firms and those firms that serve riskier and geographically and culturally distant export destinations. There are several possible channels that can explain this finding. Due to the significant sunk costs associated with international trade, the simple act of conducting export activities might signal borrower quality to external creditors, since only the largest and most productive firms can overcome such barriers. The higher perceived borrower quality of exporters by external creditors may facilitate access to external debt financing. Furthermore, geographic sales diversification stabilizes earnings and may therefore reduce a firm's operating risk. In turn, the cost of debt financing decreases and access to external debt financing might be widened for exporting firms. In addition, risky firms tend to borrow on a secured basis. Since cross-border transactions are riskier and more complex than domestic sales transactions, the provision of short-term assets that can be pledged when applying for external financing may be of higher importance to exporters. In this respect, exporters do possess a large pool of accounts receivable and inventories that they can use to secure their working capital loans.

Finally, following their higher need for working capital financing and the riskier nature of international sales transactions, exporters are also much heavier users of trade financing instruments, such as the letter of credit and trade credit insurance, than domestic players. Trade finance instruments comprise of the bank and insurance products that are linked to sales transactions. Financial institutions and insurers facilitate trade by providing such products to help their clients mitigate the risks associated with sales transactions (e.g. commercial and political risks) and to improve their capacity for short-term borrowing by increasing the collateral strength of receivables and inventory used to secure working capital loans. The intenser use of trade financing instruments by exporting firms presumably allows these firms to enhance the confidence of external financiers regarding the quality of their receivables and inventories as pledgeable assets. In addition, the close monitoring by the bank of the sales transaction under the letter of credit reduces information asymmetries between the lender and the exporter/borrower. As a result, the borrowing capacity of exporting firms may increase.

Chapter Two

In the second Chapter, we examine how export activities affect corporate financial flexibility. Relying on the framework offered by dynamic capital structure theory, financial flexibility is defined as the ease with which firms can adjust their debt positions upwards and downwards when the need arises. Firms that experience lower leverage adjustment costs will rebalance their debt positions more frequently, and therefore experience superior financial flexibility. While private, smaller-sized firms take up a significant share of economic growth and development, their access to financial resources to support their (export) activities remains a key concern. Due to higher leverage adjustment costs, it is therefore generally observed that private, smaller-sized firms adjust their capital structures less frequently and at a slower speed in response to a shock in leverage. Since financial frictions are often regarded as severe impediments to the success of the international strategy of the firm, and because the activities of smaller-sized and private firms may suffer greater hindrance from such obstacles, this Chapter aims to provide deeper insight into the linkage between international trade and corporate financial flexibility.

We show that some private firms - the exporters - are able to overcome some of their scale disadvantages by geographic sales diversification, and that they are thus able to adjust their capital structures more frequently or in larger steps than their non-exporting peers. In particular, export-intensive firms and firms that serve distant and risky export destinations are more likely to alter their debt positions. Since leverage adjustments are costly, this suggests that exporters face lower adjustments costs and experience superior financial flexibility. The differential in leverage adjustment behavior between exporters and non-exporting firms may be explained by a number of channels. As only the most productive firms are able to overcome the hurdles associated with international trade, the mere act of exporting may signal borrower quality to external creditors, which facilitates access to financing and which reduces the costs associated with adjusting leverage. In accordance with one of the stylized facts documented in the international trade literature, Belgian exporters show significantly higher total factor productivity than their non-exporting peers, which is generally interpreted as a sign of superior borrower quality. In addition, besides one-time significant sunk costs, exporting increases the cash conversion cycle of the firm due to longer transportation periods and increased and more complex paperwork (Djankov, Freund, and Pham, 2010; Hummels and Schaur, 2013). In consequence of their higher need for working capital financing, exporters carry substantially more short-term debt on their balances, which is also likely to contribute to lower leverage adjustment costs. Since short-term debt positions can be altered more easily and at lower cost, and because leverage is naturally adjusted downwards at the moment debt matures, exporters may experience superior financial flex-

ibility. Finally, exporters are much heavier users of trade finance instruments, such as the letter of credit. The close monitoring by the bank of sales transactions covered by such instruments presumably reduces information asymmetries and agency conflicts between the firm and its bank. Consequently, exporters may be able to afford rebalancing their capital structures at relatively lower cost, which results in more frequent adjustments of their debt positions.

Chapter Three

The third and last Chapter of this dissertation takes a different perspective, and examines how labor force flexibility affects export behavior. In an attempt to explain the success of the international strategy of a given firm, existing empirical research typically focuses on the availability of managerial, financial and technological resources as sources of competitive advantage in international trade. Employee human capital, another scarce resource that requires careful allocation within the firm, has received considerably less attention. However, one may expect that the characteristics of the entire workforce may constitute a competitive advantage for the firm, since it is the employees that are ultimately involved in the day-to-day execution of the firm's strategy. Our dataset allows us to focus on private firms, whose access to resources is particularly constrained. Because of their smaller scale, their lower degree of diversification and their resource constraints, employee human capital is likely to be of utmost importance for the performance and survival of this type of firm, both at home and overseas. The current Chapter aims to contribute to the prevailing literature by studying the manner in which one particular dimension of employee human capital - labor force flexibility - affects export participation and subsequent export performance of private manufacturers. A firm is assumed to be flexible regarding its labor input when it can adapt its workforce swiftly and at relatively low adjustment cost, when the need arises. This ability to adjust the workforce easily and at low cost is a source of competitive advantage. For the purpose of this paper, we exploit legal differences in worker protection under Belgian Labor Law as a source of labor force flexibility.

Prior studies on labor flexibility are often conducted at the country level, mostly investigating the implications of country differences in worker protection on firms. These studies implicitly assume that firms cannot decide upon their exposure to employee protection legislation since these regulations are set at the national level. However, this assumption is invalidated when several types of labor contracts exist that differ with respect to the set of employment protection rules that apply to each contract. In contrast to earlier studies, we acknowledge that, in spite of worker protection regulations being set at the country level, firms can still achieve labor flexibility by diversifying the composition of their workforce and employing their personnel under different types of labor contracts. Detailed information on the composition of the workforce is incorpo-

rated in the social balance sheet section of the financial statements of Belgian firms. This section contains information on the workforce by gender, education and contract type, amongst other dimensions, and is amidst the most extensive data on workforce-related aspects within Europe. Moreover, in an international context, this type of information is generally only available for large and publicly quoted firms.

Employee protection hinders workforce adjustments by raising the cost of hiring and firing employees. Firms that are subject to less stringent employee protection legislations are hampered less by hiring and firing costs, and are therefore more flexible since they can adapt their labor force without delay and at relatively low cost. During our research period, Belgian Labor Law ensures that white-collar contracts are more protective since regulations on trial and notice periods and absenteeism, for instance, are more favorable to this type of worker. As a consequence, it is much less expensive to hire and fire blue-collar than white-collar workers. Firms employing higher numbers of temporary workers are also more flexible, because the costs associated with firing temporary workers are smaller as compared to the dismissal costs of permanent workers.

A higher degree of contractual flexibility of the entire employee base should lead to superior productivity and performance in foreign markets. Our results accordingly show that labor force flexibility enhances export participation and subsequent export performance, albeit at diminishing rates. We find that firms with higher levels of blue-collar workers, who can be hired and dismissed more easily and at lower cost than white-collar workers, are more likely to start exporting, and generate a larger part of their sales in export markets. These firms also export to a more diverse range of geographical regions. We fail to find overwhelming evidence that temporary labor affects export behavior, which is probably due to the negligible use of temporary contracts within our sample firms. Overall, our results support the notion that labor flexibility enables the efficient allocation of human capital throughout the firm, which enhances its international competitiveness, both at the intensive and extensive margin of trade.

Chapter 1

The Impact of Exporting on SME Capital Structure and Debt Maturity

Abstract - Using financial and exporting data from Belgian small and medium-sized enterprises (SMEs) between 1998 and 2013, this article examines how firms finance their export activities and the resulting impact on their capital structures. We find that exporters have to finance relatively more working capital than their non-exporting peers and that they resolve this financing need by carrying more short-term debt. Besides having a higher need for working capital financing, exporters also seem to be able to access short-term debt financing more easily on the basis of the short-term assets available to secure such loans. In particular, we document that the relationship between pledgeable short-term assets, such as accounts receivable and inventories, and short-term debt financing is more pronounced for exporters. In fact, the positive association between short-term assets and short-term debt levels is strongest for export-intensive firms and exporters that serve distant and risky destinations. Overall, our empirical findings suggest that the development of tools that facilitate the pledging of assets is likely to boost SME export activities by widening access to debt financing and reducing financial constraints.

1.1   Introduction

Over the past decades, considerable effort has been devoted to enhancing our understanding of the complexity of corporate financing decisions. So far, studies on corporate capital structure and debt maturity choice have mainly focused on firm characteristics and industry determinants (Titman and Wessels, 1988; De Jong, Kabir, and Nguyen, 2008), and on the influence of national culture, legislation and other country characteristics (Demirgüç-Kunt and Maksimovic, 1999; Fan, Titman, and Twite, 2012). Studies investigating the relationship between internationalization and corporate financing policy, however, are much more limited and mostly confined to large, stock exchange quoted firms. One of the main insights of this literature is that multinational corporations (MNCs) have lower long-term debt ratios and higher short-term debt ratios than comparable domestic corporations (DCs) (Fatemi, 1988; Burgman, 1996; Doukas and Pantzalis, 2003). This leverage differential between MNCs and DCs is explained by the fact that the positive effect of geographic diversification on long-term debt financing is offset by increased risk, stemming from exchange rate exposure and unforeseen political events. Furthermore, due to their operational complexity, MNCs are more informationally opaque, which increases agency costs of debt. To mitigate the problems associated with a riskier borrower profile and agency conflicts, external creditors shorten loan maturities (Myers, 1977; Barclay and Smith, 1995).

Building on these studies, the aim of this article is to advance the current literature by empirically investigating the impact of exporting on the corporate financing decisions of another important class of exporters, viz. small and medium-sized enterprises (SMEs).[1] Since SMEs cannot substitute short-term and long-term debt financing as easily as large companies - due to difficulties in obtaining long-term debt financing from financial institutions (Ortiz-Molina and Penas, 2008) -, the mechanism through which export activities affect SME financing policy may very well be different from what is evidenced in the MNC literature. According to the World Trade Organization (WTO), access to financial resources to support export activities is a key concern for SMEs since, besides one-time upfront sunk costs (e.g. costs related to compliance with foreign market regulations and preparatory market research), exporting requires substantial ongoing investment in working capital as export activities considerably lengthen the cash conversion cycle of the firm (e.g. through longer shipment periods and the administrative burden associated with trading internationally) (WTO, 2016). Hence, understanding how exporting SMEs cope with these financing needs and how this affects their capital structure may yield useful insights for exporters, banks and policy makers.

---

[1]According to the Federation of Enterprises in Belgium, the share of SMEs in exports is about 50%.

This article contributes to existing research in several ways. This study is the first to investigate in depth the relationship between internationalization and corporate financial decision-making in an SME setting. In spite of the importance of private, smaller-sized businesses to economic growth and development, the extant literature on internationalization and financing policy is confined to large, traded firms. Since smaller-sized private firms and large traded firms differ substantially with respect to their bank relationships and access to financing, the available empirical evidence on MNC financing policy may not be generalizable to an SME setting. The lack of research on private SMEs is largely attributable to limitations in the availability of data on import and export flows at the firm-level. This study, however, draws on a large-scale database comprising detailed information on the international trading behavior of Belgian firms, including SMEs. In particular, the foreign trade database of the National Bank of Belgium (NBB) records both export and import flows of Belgian firms by country of destination and origin.[2] The international trade data is merged with key financial and ownership information. Under Belgian Accounting Law, both large publicly quoted corporations and small unlisted firms are required to publish detailed financial statements, ensuring a wide coverage of this database. Moreover, since our dataset consists of SMEs that, because of their size, confine their international activity to exporting (importing) activities and, contrary to large firms, do not often engage in foreign direct investment (FDI) activities, our sample avoids problems created by the interaction between FDI, international trade and corporate financing decisions.

We show that exporters have significantly higher financial leverage than comparable non-exporting firms, which stems from a greater use of short-term debt financing within exporting firms. As such, contrary to the literature on the corporate financing decisions of large multinationals, we find no evidence in support of a trade-off mechanism between debt maturities in a setting of exporting SMEs. This higher reliance of exporting firms on short-term debt financing is a direct result of the nature of their business models, since international trade transactions increase the cash conversion cycle, and thus the working capital needs, of the firm. Apart from having a higher need for working capital financing, it also seems that exporting firms are better able to access short-term debt financing than their non-exporting peers, on the basis of the short-term assets that can be used as collateral to secure loans. In particular, we show that the linkage between short-term assets (i.e. working capital) that can be used as securitization and short-term debt levels is tighter for exporting firms. Since the challenges and opportunities associated with exporting vary considerably across ex-

---

[2]Considering its position as a trade-oriented, open European economy, Belgium represents an interesting research setting since about 85% of Belgian GDP originates from the exports of goods and services (Belgian Foreign Trade Agency, 2015). In addition, Belgian SMEs account for approximately two thirds of total employment and 57.6% of value added (European Commission, 2013 SBA Fact Sheet).

port destinations, we also explore how export (destination) characteristics, such as political risk, exchange exposure, and cultural and geographic distance, affect SME financing policy. We show that the positive association between short-term pledgeable assets and short-term debt levels is prevalent for firms that show high export commitment and that serve distant and risky export destinations. What our findings suggest is that the development of tools that facilitate the pledging of assets to obtain short-term lines of credit is likely to help exporting SMEs considerably in acquiring the necessary financing for their export activities.

The remainder of this paper is organized as follows: the next section provides a short overview of the current literature on the effects of internationalization on (large firm) financial decision-making and evaluates to what extent these insights may carry over to exporting SMEs, while taking into account the specific nature of SMEs and the risks and opportunities associated with international trade. Section 1.3 describes the sample selection process, followed by descriptive statistics and univariate tests in Section 1.4. Sections 1.5 and 1.6 report the results of the multivariate tests and robustness checks. Finally, Section 1.7 offers concluding remarks and directions for future research.

1.2   Financing of SME Export Activities

Within the realm of static trade-off theory, a significant body of research has examined the impact of internationalization on the capital structure of listed firms, and the factors that may explain the capital structure differential between domestic corporations (DCs) and multinational corporations (MNCs). Empirical evidence shows that MNCs have lower long-term debt ratios than comparable DCs (Fatemi, 1988; Burgman, 1996; Chen, Cheng, He, and Kim, 1997). In addition, Fatemi (1988) and Doukas and Pantzalis (2003) find that MNCs exhibit higher short-term debt ratios than DCs. The prevailing view in the literature on multinational capital structure is that any of the positive effects from geographic sales diversification on (long-term) leverage and loan maturity are offset by increases in risk and agency problems. As such, empirical evidence points towards the existence of a trade-off mechanism between long-term and short-term debt financing for MNCs: external creditors shorten loan maturities to mitigate the problems associated with MNCs' riskier borrower profile.

Although scholars agree that the principles underlying the capital structure and debt maturity choice of large traded firms also apply to small and private businesses (Van der Wijst and Thurik, 1993; Michaelas, Chittenden, and Poutziouris, 1999; Degryse, de Goeij, and Kappert, 2012), the specific nature of smaller-sized private firms and the risks and opportunities associated with international trade suggest that the impact of certain capital structure determinants may be different in a setting of exporting SMEs. Since smaller-sized

private firms differ markedly from large firms regarding their banking relationships and access to external credit, and since they cannot substitute short-term and long-term debt financing as easily as large companies can, the available empirical evidence on the financing policy of large MNCs may not be generalizable to our setting of private, smaller-sized exporters.

Access to external financing to support firm growth is of importance to all firms, and in particular to firms selling abroad. Due to longer shipment periods and the administrative burden associated with cross-border transactions (Hummels and Schaur, 2013), the time lapse between landing the sales contract and collecting payment from the buyer is considerably longer in international sales transactions. As such, the prefinancing of these orders causes exporters to be particularly reliant on working capital financing as compared to non-exporting firms (Ahn, Amiti, and Weinstein, 2011). Furthermore, conventional wisdom also suggests that long-term assets (e.g. PPE) ought to be financed with long-term funds (e.g. long-term debt), while short-term funds (e.g. lines of credit) are to be used to finance short-term assets (e.g. receivables, inventory) (Chung, 1993). On the basis of the above arguments, we hypothesize that:

H1: Exporters carry relatively more short-term debt than their non-exporting peers.

Apart from having a higher need for working capital financing, exporters may also have enhanced access to short-term debt financing thanks to the availability and the nature of their pledgeable short-term assets. In fact, there are a number of channels through which export activities may affect the linkage between short-term debt financing and short-term assets. *First*, Berger and Udell (1990) find a positive association between borrower risk and collateral, suggesting that risky firms tend to borrow on a secured basis. Similarly, more recent empirical studies show that the availability of pledgeable assets to obtain external financing is of greater importance to SME borrowers with a risky and more opaque profile (Boot, Thakor, and Udell, 1991; Berger and Udell, 1995, 2006). Consequently, since cross-border transactions are generally considered to be riskier in nature than domestic sales transactions, the relationship between available short-term assets that may serve as collateral and corporate financing policy might be tighter for exporting firms. *Second*, given the risky nature of international trade transactions and the pressure of export activities on working capital needs, Ahn, Amiti, and Weinstein (2011) state that exporters are much more reliant on trade financing instruments than domestic players. As such, the higher

usage of trade financing instruments, such as letters of credit (L/C[3]) and trade credit insurance, in cross-border transactions may also result in a tighter linkage between short-term debt financing and short-term assets for exporters. By using such instruments, exporters can mitigate the risks associated with international sales and in turn improve on their capacity for short-term borrowing (Jones, 2010; Grath, 2011; Ferrando and Mulier, 2013).[4] *Third*, geographic sales diversification may also reduce the exporting firm's operating risk, decreasing the cost of debt financing and in turn easing access to external debt financing. *Finally*, due to the high sunk costs associated with international trade, conducting export activities might signal borrower quality to external creditors, which may also facilitate the financing of (international) sales orders. On the basis of the above arguments, we hypothesize that:

H2: The relationship between short-term pledgeable assets and short-term debt is stronger for exporters than for their non-exporting peers.

It is not improbable that the ties between short-term assets and short-term debt vary by the level of export commitment and exposure to various export risks as well. Considering export risks first, it can be argued that cross-border transactions are riskier due to exposure to unforeseen political events, adverse currency movements and geographic and cultural barriers between the exporter and the foreign buyer. Moreover, in order to secure financing for their operations, the higher riskiness of the export transactions to distant and risky destinations may pressure SMEs into using trade financing and insurance instruments even more

---

[3]An L/C is a contractual agreement by the importer's bank on behalf of the foreign buyer that payment will be made by the bank to the exporter upon the complying presentation of the documents as stipulated in the L/C (Grath, 2011). The L/C protects the exporter from non-payment by replacing the creditworthiness of the buyer with that of the bank issuing the letter. Upon the submission of documents complying with the L/C, the issuing bank promises to reimburse the exporter. When trading with risky countries, a confirmed L/C is typically used, where the exporter's bank adds its engagement to pay to that of the foreign issuing bank, protecting the exporter against both political and default risk.

[4]To the best of our knowledge, (firm-level) data on trade finance is not available, except for the International Trade Register of the International Chamber of Commerce (ICC). Because of the utter lack of information, the regulatory committee that developed Basel III asked the ICC to develop a trade register whereby banks would supply information on trade finance transactions to develop estimates of default and recovery rates which could be used in determining risk weights. This trade register, in which 23 banks worldwide participate, only contains information on a limited number of trade finance products that were purchased at one of the participating banks (ICC, 2015). Hence, it does not contain an overview of all (export) transactions by client firms; nor does it contain information about the use of credit insurance provided by specialized insurers. To improve our understanding on the information contained in our data in this regard, we interviewed practitioners between the summer and early fall of 2016. Specifically, we were able to conduct a short (either face-to-face or email) interview with the Belgian insurers that, besides credit insurance for domestic sales transactions, offer (trade) credit insurance services to Belgian exporters. Similarly, we conducted a short interview with specialists from within the major Belgian banks that engage in trade finance activities. For different reasons, interviewees did not offer any concrete data and we were obliged to focus on the main tendencies in our questions. Nevertheless, we obtained useful insights into the ways Belgian exporters typically use trade finance instruments and trade credit insurance to obtain financing for their export activities. The information offered, and validated later, by the interviewees is attached in Appendix A.

intensively. Furthermore, in line with the reasoning for hypothesis H2, it is also possible that exporting to distant countries adds to geographical sales diversification, making external borrowing easier. We therefore hypothesize that:

H3: The relationship between short-term pledgeable assets and short-term debt is stronger for firms with higher export commitment and exposure to export risks.

1.3   Sample Selection and Variables

1.3.1   Sample Selection

The dataset consists of private Belgian SMEs[5] filing unconsolidated complete financial statements[6,7] between 1998 and 2013. Our dataset combines firm-level information from several databases. Financial information is obtained from the annual accounts database from the Central Balance Sheet Office of the National Bank of Belgium. The financial data are subsequently merged with a highly confidential database from the Bank, which covers detailed information on the international trading behavior of Belgian firms. This foreign trade database comprises of export and import flows by country of destination and country of origin above a certain threshold.[8] Based on time-varying ownership information from Belfirst (Bureau van Dijk EP), firms conducting foreign direct investment activities (ownership $\geq 10\%$) are excluded, as these firms may enjoy financing options which may be unavailable to domestic firms and to firms that confine their international activities to exporting. For similar reasons, listed firms are not included. Following customary practice, non-profit organizations, services providers (e.g. financial institutions), firm-years with zero sales, or extremely high levels of leverage ($> 100\%$ of total assets) and absolute total assets growth

---

[5]In line with the European Commission Recommendation (Art. 2.1 Recommendation 2003/361/EC), SMEs are defined as firms having fewer than 250 employees (in FTE) and as, either having maximum sales of 50 million euros or a balance sheet total of less than 43 million euros.

[6]Under Belgian Accounting Law, companies are bound to file complete (unconsolidated) accounts if they meet at least two of the following criteria: total assets exceed 3.65 million euros; operating revenue exceeds 7.3 million euros; more than 50 full time equivalent employees. Companies with more than 100 full time equivalent employees always have to file complete accounts. All other firms may file abbreviated statements, which contain less detailed information.

[7]We limit the analysis to firms filing complete financial statements for a number of reasons. First, confining the analysis to firms filing complete annual accounts reduces concern regarding the wrongful classification of smaller-sized, intra-EU exporters that do not trespass the Instrat threshold as non-exporting firms. Second, abbreviated annual accounts are less detailed and do not (always) contain information that is relevant to our research question (e.g. turnover).

[8]Until 2006, firms had to report their intra-EU trade through the Intrastat inquiry if their export flows surpassed 250,000 euros per year. As of 2006, a reporting threshold of one million euros per year applies to intra-EU trade transactions. Data on extra-EU trade is collected by customs agents as of a transaction value of 1,000 euros or as of a weight of one metric ton.

rates exceeding 100% are also discarded.[9] We define the sector of activity on the basis of the main NACE industry code. Finally, as exporting firms are not a random subsample of firm population (Bernard and Jensen, 1999), we control for sample selection bias by matching each exporter with a comparable non-exporter in terms of size (total assets), industry classification (2-digit level) and year.[10,11] The resulting matched sample consists of 8,501 SMEs and comprises of 53,894 firm-year observations, of which 40,470 (75.09%) belong to the subsample of exporters.

1.3.2 Variables

Dependent Variables

Export activities may affect corporate financing policy in two ways. First, export activities could affect the levels of long-term and short-term debt financing. Second, these activities may alter the mix of long-term and short-term debt financing. Accordingly, we measure total leverage as total financial debt over total assets (*TOT*), long-term leverage as long-term financial debt over total assets (LT), and short-term leverage as short-term financial debt over total assets (*ST*) (Demirgüç-Kunt and Maksimovic, 1999; Michaelas, Chittenden, and Poutziouris, 1999). Debt maturity is defined as long-term financial debt over total financial debt (*MAT*) (Fan, Titman, and Twite, 2012).

---

[9]To guarantee time-consistency between the different datasets, annual accounts information has been annualized. Flows are adjusted by taking a weighted average of t and t+1 flows. Stocks are adjusted by adding to the current year stock the weighted stock variation between the current and next year. The procedure attributes a missing value when there is not enough information to recover the entire year, for example when information about the first months or the last months of a given year are missing. This does not apply for the last year during which the firm is observed or for flows of the first year the firm is covered.

[10]Every year each exporter is matched with a non-exporting firm that is active in the same industry (at the 2-digit NACE-BEL level) and that is of comparable size (measured in total assets, and a maximum deviation of 30% is allowed). The one-to-one matching is performed with replacement so that a non-exporting firm can be the matching partner of several exporters in a particular year. Since a non-exporter can serve as a match multiple times in a single year, and since exporters and non-exporters differ substantially in size and industry affiliation prior to matching, the size of the subsample of non-exporters reduces considerably after matching. Using the initial, unmatched sample of exporters and non-exporters, however, would lead to important differences in firm size and industry distribution. For instance, before matching, the median exporter is about 1.67 times the size of the median non-exporting firm (measured in total assets).

[11]Since the subsamples of exporters and non-exporting firms may differ on dimensions other than industry affiliation and size, we additionally apply propensity score matching. Repeating the analysis on this smaller, propensity score matched sample does not alter the results in a qualitative manner. Furthermore, repeating the analysis on the initial, unmatched dataset of exporters and non-exporters does not alter the main conclusions of our analysis either, which indicates that the matching procedure does not affect our results. More details about the applied alternative matching procedures can be found in the robustness section.

Variables of Interest

Since the risks and opportunities associated with international trade vary considerably across export destinations, we define several firm-year level measures for the scale and scope of export activities conducted by the firm. *Export Status* is a dummy variable that equals unity if foreign sales are reported for a particular firm-year observation. If not, the observation belongs to the subsample of non-exporting firms. *Export Intensity* is defined as the ratio of export sales to total sales (Cavusgil, 1984; Bianchi and Wickramasekera, 2016). To measure *Export Diversity*, we define six regional markets which are homogenous in terms of economic development, political condition and geography: 1) Belgium; 2) the neighboring countries of Belgium, including the UK; 3) other EU countries; 4) non-EU countries, geographically located within Europe; 5) Canada and the US; and 6) all other countries (De Clercq, Sapienza, and Crijns, 2005). Following Hirsch and Lev (1971), we define our entropy measure of export diversity as the negative sum of the products of the percentage of sales generated in each regional market k and the natural logarithm of that percentage (i.e. export diversity=$-\sum X_k * \ln(X_k)$) where X_k is the fraction of total sales generated in region k). Thus, exporters generating an equal fraction of their sales in all of the six regional markets will have the highest score on the export diversity measure, while exporters serving a single region only have zero export diversity. As an alternative rougher measure of export diversity, we use the natural logarithm of the *Number of Export Destination Countries*. Next, we proxy export distance in terms of the *Cultural and Geographic Distance* between the Belgian home market and the export destination markets. To measure national culture, we use data from the World Values Survey (WVS)[12] and follow the approach of Ahern, Daminelli, and Fracassi (2012) in order to construct a country-level cultural index. After rescaling the original survey answers to values between zero and one, a composite country-specific cultural distance index is constructed yearly on the basis of the squared deviations of each export destination country from Belgium along three dimensions of national culture: i.e. trust, individualism and hierarchy (Morosini, Shane, and Singh, 1998). Cultural distance at the level of the firm thus equals the sum of the weighted country-level cultural distance indices, where the weights equal the proportion of sales generated in each country to total sales. Geographic distance is measured as the weighted average great circle distance (in km) between the most populous cities of Belgium and the export destination countries (Coval and Moskowitz, 1999). Geographic distances between cities are taken from CEPII[13]. Thus, exporters generating a larger fraction of their sales in markets that are geographically and culturally distant from Belgium will have higher scores on the geographic and cultural indices. To measure

---

[12]See http://www.worldvaluessurvey.org/.

[13]Centre d'Etudes Prospectives et d'Informations Internationales, http://www.cepii.fr

Political Risk, we employ the country-specific Worldwide Governance Indicators (Kaufmann, Kraay, and Mastruzzi, 2011). We consider four time-varying political risk dimensions, namely government effectiveness, regulatory quality, rule of law, and control of corruption, with higher scores assigned to politically stable economies. For ease of interpretation, we rescale the political risk scores so that higher scores indicate higher political risk. The average correlation between each possible pair of these political dimensions is about 90%, which would raise concern on multicollinearity when regressing leverage and debt maturity on the different legality measures simultaneously. We therefore summarize these political risk measures into a single country-specific index through principal components analysis, applied on a yearly basis (Berkowitz, Pistor, and Richard, 2003). The resulting index is the first principal component, which summarizes on average 84.7% of the total variance. To construct an overall measure of exposure to political risk at the firm level, we take the sum of the weighted country-level political risk indices, where the weights equal the proportion of sales generated in the respective countries to total sales (Chkir and Cosset, 2001). As a result, exporters with a larger fraction of their sales originating in politically unstable economies should have a higher score on this measure. Finally, *Exchange Exposure* is defined as a function of the correlations of the national currencies of the export countries, for all currency combinations (Markowitz, 1952). The portfolio weights are defined as the difference between export flows directed towards and import flows originating from a particular country, scaled by total sales minus cost of goods sold. Thus, firms exporting largely to foreign countries whose national currencies are strongly positively correlated amongst each other will have higher exchange exposure. Monthly exchange rates are collected from Thomson Reuters Datastream.

Control Variables

Following the literature on capital structure, several firm-specific characteristics are selected as control variables. *Size* equals the natural logarithm of total assets (Titman and Wessels, 1988; Degryse, de Goeij, and Kappert, 2012). Larger firms are typically more diversified and thus less volatile, which results in a higher borrowing capacity under trade-off theory. *Growth* is defined as the average annual change in sales over the three preceding years (Dewaelheyns and Van Hulle, 2012). Growth opportunities are difficult to collateralize and do not generate current taxable income, which suggests a negative association between growth and leverage. Myers (1977), by contrast, contends that managers underinvest if interest payments are high. Shortening loan maturities could, however, overcome this underinvestment problem. As such, growth opportunities and short-term leverage are expected to show a positive correlation. SME studies, however, generally find evidence in favor of a positive association between growth opporttu-

nities and (long-term) leverage. Degryse, de Goeij, and Kappert (2012) report a positive effect of growth on long-term leverage, while Sogorb-Mira (2005) reports a stronger positive (negative) effect on long-term (short-term) debt. *Profitability* equals EBIT scaled by total assets (Sogorb-Mira, 2005). Following the free cash flow theory of Jensen (1986), debt and profitability are positively related. High leverage forces managers to use profits to make interest payments and reimburse loans, which prevents them from investing in suboptimal projects. Trade-off theory also predicts a positive association between leverage and profitability: profitable firms have a higher borrowing capacity. Empirical studies generally find that profits are used to pay down debt, however: this supports the existence of a pecking order of financing sources. Van der Wijst and Thurik (1993) and Sogorb-Mira (2005) find that SMEs use profits to pay down short-term debt first. *Volatility* is defined as the standard deviation of EBIT scaled by total assets over the three preceding years (Dewaelheyns and Van Hulle, 2012). Following static trade-off theory, a firm's optimal debt level is a decreasing function of the volatility of its earnings (Titman and Wessels, 1988). *LT Collateral* measures the availability of long-term pledgeable assets and equals the ratio of tangible fixed assets to total assets (Van der Wijst and Thurik, 1993; Degryse, de Goeij, and Kappert, 2012). Firms with a high level of tangible fixed assets should have higher borrowing capacity. Also, in accordance with the maturity matching principle, long-term asset tangibility should be especially important for long-term leverage as tangible fixed assets may also require more long-term financing. *ST Collateral* is defined as the ratio of inventory and accounts receivable net of accounts payable to total assets, and measures the need for working capital financing. In line with the maturity matching principle, we expect this variable to be positively (negatively) associated with short-term leverage (debt maturity). As access to internal capital markets may influence debt policy (Dewaelheyns and Van Hulle, 2012), a *Group* dummy is included that equals unity if the firm is part of a business group, and zero if the firm is a standalone. A firm is considered to be an affiliate if at least 50% of the firm's shares or votes are, indirectly or directly, held by another firm. Finally, *year* and *industry* dummies (2-digit level) are added to control for macroeconomic shocks and industry heterogeneity. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. A detailed overview of the definition of all the variables used in the subsequent analyses is provided in Table B.1 in Appendix B.

1.4   Descriptive Statistics and Univariate Tests

Table 1.1 presents the descriptive statistics for the full matched sample, and for the subsamples of exporters and matched non-exporters separately. In addition,

it compares the average and median values of a range of firm characteristics of exporters and matched non-exporting firms using Student's t-tests (equality of means) and Wilcoxon rank sum z-tests (equality of medians). Although these univariate tests do not control for firm differences between exporters and non-exporters, they do provide preliminary insights into the effect of exporting on capital structure and debt maturity. The average SME has a long-term financial debt ratio of 8.0% and a short-term financial debt ratio of 10.7%, which is in line with earlier studies covering the capital structure of Belgian firms (Demirgüç-Kunt and Maksimovic, 1999; De Jong, Kabir, and Nguyen, 2008). For the average exporter (non-exporter), these ratios equal 7.8% (8.7%) and 11.4% (8.4%), respectively. Table 1.1 further shows that exporters have significantly higher leverage than comparable non-exporting firms, a result driven by a greater use of short-term debt by exporters. We find only weak statistical evidence that exporters and non-exporters differ in their reliance on long-term debt financing. As a result, exporters and non-exporters also differ substantially in their loan maturities: the average portion of long-term debt in total debt of an exporter equals 39.1%, while for a non-exporter 44.9% of total financial debt is long-term in nature.

With respect to firm size, we find that exporters are significantly larger than non-exporting firms. In addition, exporters show a higher earnings volatility as compared to non-exporters. Furthermore, exporters have fewer long-term assets. In line with expectations, exporters have more short-term assets (i.e. accounts receivable and inventory (net of accounts payable)) on their balance sheets than non-exporters. The average (median) SME is profitable, and exporters are more profitable than their non-exporting peers. We find that growth in sales is lower for exporters than for non-exporting firms. For the average exporter, export intensity equals 0.261, which implies that on average 26.1% of total sales originate in sales to foreign markets. An exporter serves about 6 countries, but this number varies strongly across exporters. Export diversity, which is bounded between 0 (no diversification) and 1.791 (perfect diversification), equals 0.477 on average, indicating that Belgian SMEs export to a relatively limited number of different geographic regions.[14,15]

1.5   Multivariate Results

As univariate tests cannot be conclusive, this section explores the capital structure and debt maturity choices of exporters and comparable non-exporters in more detail using multivariate techniques. The different measures of leverage

---

[14]For illustration purposes, Figure B.1 in Appendix B visualizes the importance in trade volume of the various destinations to which Belgian goods are exported between 1998 and 2013.

[15]Table 1.2 presents the Pearson correlations between the continuous variables for the full matched sample of firms.

Table 1.1: Descriptive Statistics for the Full Sample, and by Export Status

		Full				Exporters				Non-Exporters			Equality of Means		Equality of Medians	
	N	Mean	Median	Sd	N	Mean	Median	Sd	N	Mean	Median	Sd	t-test	p-value	z-test	p-value
TOT	53,894	0.188	0.137	0.192	40,470	0.194	0.148	0.192	13,424	0.173	0.102	0.192	-10.862	0.000	-13.239	0.000
LT	53,894	0.080	0.018	0.118	40,470	0.078	0.019	0.114	13,424	0.087	0.017	0.130	7.923	0.000	-0.308	0.758
ST	53,894	0.107	0.047	0.135	40,470	0.114	0.054	0.140	13,424	0.084	0.032	0.117	-22.488	0.000	-19.978	0.000
MAT	41,026	0.405	0.395	0.329	31,346	0.391	0.368	0.327	9,680	0.449	0.482	0.331	15.226	0.000	14.356	0.000
Size	53,894	15.725	15.685	0.784	40,470	15.810	15.767	0.764	13,424	15.470	15.438	0.791	-44.330	0.000	-42.710	0.000
Volatility	46,561	0.042	0.030	0.041	35,200	0.042	0.030	0.041	11,361	0.041	0.028	0.043	-2.182	0.029	-6.890	0.000
LT Collateral	53,894	0.198	0.153	0.173	40,470	0.191	0.151	0.163	13,424	0.219	0.161	0.200	16.041	0.000	7.182	0.000
ST Collateral	53,644	0.286	0.281	0.218	40,346	0.303	0.299	0.212	13,298	0.233	0.222	0.230	-32.195	0.000	-31.740	0.000
Profitability	53,894	0.068	0.051	0.104	40,470	0.069	0.052	0.105	13,424	0.066	0.048	0.100	-2.200	0.028	-4.034	0.000
Growth	47,200	0.064	0.038	0.218	35,675	0.061	0.037	0.209	11,525	0.074	0.039	0.244	5.560	0.000	2.636	0.008
Export Intensity	53,894	0.196	0.043	0.278	40,470	0.261	0.128	0.293	13,424	0.000	0.000	0.000				
Political Risk	53,870	0.225	0.030	0.399	40,446	0.300	0.093	0.436	13,424	0.000	0.000	0.000				
Cultural Distance	51,542	0.063	0.009	0.107	38,118	0.085	0.031	0.116	13,424	0.000	0.000	0.000				
Geographic Distance	53,846	1.173	0.248	1.707	40,422	1.563	0.728	1.809	13,424	0.000	0.000	0.000				
Export Diversity	53,894	0.358	0.184	0.417	40,470	0.477	0.401	0.418	13,424	0.000	0.000	0.000				
No. of Destinations	53,894	1.470	1.386	1.159	40,470	1.957	1.946	0.914	13,424	0.000	0.000	0.000				
Exchange Exposure	33,111	0.017	0.002	0.046	28,571	0.019	0.003	0.048	4,540	0.006	0.000	0.024				

Note: Descriptive statistics on the full matched sample and the subsamples of exporters and matched non-exporting firms are presented. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. t-test statistics and corresponding p-values (equality of means) and z-test statistics and corresponding p-values (equality of medians) have been added.

Table 1.2: Pearson Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. TOT	1.00																
2. LT	0.70***	1.00															
3. ST	0.78***	0.11***	1.00														
4. MAT	0.10***	0.67***	-0.48***	1.00													
5. Size	0.09***	0.06***	0.07***	0.02***	1.00												
6. Volatility	-0.14***	-0.10***	-0.11***	-0.05***	-0.18***	1.00											
7. LT Collateral	0.39***	0.50***	0.10***	0.34***	0.02***	-0.05***	1.00										
8. ST Collateral	0.12***	-0.12***	0.27***	-0.27***	-0.08***	-0.02***	-0.30***	1.00									
9. Profitability	-0.24***	-0.14***	-0.21***	0.03***	-0.02***	0.06***	-0.15***	0.07***	1.00								
10. Growth	0.05***	0.07***	0.00	0.06***	0.04***	0.00	0.03***	-0.04***	0.12***	1.00							
11. Export Intensity	0.08***	0.02***	0.09***	-0.03***	0.18***	0.06***	0.05***	0.08***	0.00	-0.00	1.00						
12. Political Risk	0.04***	-0.01*	0.07***	-0.04***	0.17***	0.06***	0.01**	0.08***	0.00	0.01	0.85***	1.00					
13. Cultural Distance	0.06***	0.02***	0.06***	-0.01**	0.12***	0.05***	0.04***	0.06***	-0.00	-0.01*	0.75***	0.54***	1.00				
14. Geographic Distance	0.07***	0.02***	0.09***	-0.03***	0.18***	0.06***	0.04***	0.08***	0.01	0.00	0.99***	0.90***	0.74***	1.00			
15. Export Diversity	0.08***	0.01***	0.11***	-0.05***	0.21***	0.05***	0.02***	0.12***	0.00	-0.01**	0.88***	0.80***	0.69***	0.89***	1.00		
16. Exchange Exposure	0.07***	-0.05***	0.13***	-0.10***	0.10***	0.02***	-0.12***	0.08***	-0.07***	0.00	0.27***	0.31***	0.20***	0.29***	0.27***	1.00	
17. No. of Export Dest.	0.07***	-0.03***	0.12***	-0.08***	0.29***	0.02***	-0.06***	0.17***	0.02***	-0.01***	0.70***	0.66***	0.53***	0.71***	0.83***	0.24***	1.00
N	53,894																

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

(TOT, LT and ST) and debt maturity (MAT) are regressed on the one-period lags of a range of firm characteristics, as visualized in eq. (1.1):

$$Y_{i,t} = \alpha + \beta_1 X_{i,t-1} + \gamma_1 Export_{i,t-1} + \eta_i + \tau_t + \epsilon_{i,t} \tag{1.1}$$

Vector $X_{i,t-1}$ contains firm-specific characteristics of capital structure and debt maturity (i.e. firm size, sales growth, group affiliation, asset tangibility, earnings volatility and profitability). All regressions include year (τ_t) and industry dummies (2-digit level, η_i) to control for macroeconomic shocks and industry heterogeneity. Our first coefficient of interest belongs to the export dummy variable ($Export_{i,t-1}$), which captures differences in leverage and debt maturity between exporters and their non-exporting peers. The pooled OLS regression coefficients of the different leverage and maturity equations on the full matched sample, and on the subsamples of exporters and matched non-exporting firms are depicted in Table 1.3.[16] Reported standard errors are in parentheses and robust to firm-level clustering (Petersen, 2009).

While controlling for firm and industry characteristics and macroeconomic shocks, we find a positive and statistically significant association between export status and total and short-term debt ratios. The total debt ratio of an exporter is significantly higher than that of a non-exporter. In support of our first hypothesis (H1), this results entirely from a higher reliance on short-term debt financing by exporters. Consequently, this finding contrasts with the MNC literature (Burgman, 1996; Chen, Cheng, He, and Kim, 1997; Doukas and Pantzalis, 2003) since we do not find statistical evidence in favor of a trade-off mechanism

---

[16]Due to lagging and the presence of missing values for some of our variables, the number of observations used to estimate our regression coefficients deviates from the actual sample size.

between long-term and short-term debt for exporting firms.[17]

Turning to the control variables, we find that the relationships with the leverage and maturity measures are qualitatively highly similar for the full matched sample and for the subsamples of exporters and non-exporters and that they are in line with (SME) capital structure literature. Looking first at the main variables of interest, we find a positive association between long-term assets and both short-term and long-term debt. Short-term assets (i.e. working capital) are positively (negatively) associated with short-term leverage (debt maturity) and this seems to be the case especially for exporters. To further evaluate this linkage, we add an interaction term between the export dummy and the variable ST collateral to equation (1.1). The coefficient estimates of this interaction model on the full, matched sample are depicted under the column heading *Full (interaction)*. In support of our second hypothesis (H2), we find that the interaction term between the export dummy and ST collateral is significantly positively (negatively) associated with total and short-term debt (debt maturity). This finding suggests that the financing policy of exporters is highly sensitive to changes in the availability of short-term pledgeable assets.[18] Volatility is negatively related to both short-term and long-term leverage. Earnings volatility increases bankruptcy risk and therefore reduces the optimal level of debt. In line with Diamond (1991) and Ortiz-Molina and Penas (2008), we also find that a riskier borrower profile results in shorter loan maturities. Profitability is negatively related to both short-term and long-term debt ratios, which is in line with pecking order behavior. Firms also seem to use internally generated funds to pay down short-term debt first, which results in longer maturities for profitable firms (Van der Wijst and Thurik, 1993; Sogorb-Mira, 2005). In line with expectations, we find a positive association between firm size and leverage. Larger firms carry higher leverage because they are generally more diversified and have more collateral available. Average sales growth, proxying growth opportunities, is positively related with both leverage and maturity. It seems that firms with high growth opportunities are more likely to raise new funds than firms with fewer growth opportunities, which is commensurate with earlier evidence on SMEs (Michaelas, Chittenden, and Poutziouris, 1999; Sogorb-Mira, 2005; Degryse, de Goeij, and Kappert, 2012). In line with the internal capital markets argument, we find

---

[17]Note that the positive and statistically significant association between the export status variable and the short-term debt ratio indicates that exporters carry more short-term debt than non-exporting firms because of factors other than differences in the control variables, such as working capital needs. This is indeed what one would expect if hypothesis H2 and/or hypothesis H3 hold true.

[18]Since trade financing instruments may comprise the pre-financing of both inventories and accounts receivable, we also ran regressions in which we included these items as separate variables. Both inventory and receivables show a positive and statistically significant association with short-term debt, while the linkage between both variables and short-term debt is strongest for exporting firms. These results are not reported, but are available from the authors.

that group affiliation negatively affects leverage and debt maturity.[19]

We also tested whether the impact of some of the other control variables differs significantly between exporters and non-exporters.[20] We find that the negative association between earnings volatility and short-term debt levels and debt maturity is more important for exporting firms than for non-exporters, indicating that the debt financing of the former is more vulnerable to circumstances that increase their riskiness (e.g. economic shocks). In the same vein, we also find that the (negative) impact of profitability on capital structure and debt maturity differs substantially between exporters and matched non-exporting firms. It turns out that the (short-term) debt position and debt maturity of exporters is most sensitive to shocks in profitability. Since (access to) short-term debt financing is essential for the ongoing funding of the working capital needs of the exporting firm, it does not come as a surprise that internally generated resources are an important tool to repay debt timely and to keep debt levels under control.

To assess the implications of the scale and scope of export activities for corporate capital structure and debt maturity, we subsequently run regressions of the different measures of leverage and debt maturity on the same set of control variables employed earlier and variables measuring export commitment and exposure to export risks (Table 1.4, Models 1 to 8). Given the high levels of correlation between the export (destination) characteristics, these variables were included separately into the leverage and maturity equations.[21] To test our third hypothesis (H3), we are interested in the sign and the signifance of the coefficient belonging to the interaction terms between our measure for the availability of short-term assets and our continuous measures for the scale and scope of export activities conducted by the firm. The full sample of exporters and matched non-exporting firms is again employed. Again, all models contain industry and year dummies. The relationships between the control variables and our measures of leverage and maturity are as expected and qualitatively similar to what was found earlier.

Model 1 in Table 1.4 presents the coefficient estimates of the leverage and debt maturity equations containing export intensity. To evaluate whether the impact of the availability of short-term assets on financing policy depends upon the level of export commitment, we also include an interaction term between export intensity and our measure for the availability of short-term assets. We

---

[19]Given that our dependent variables are bounded between zero and one (e.g. considering total leverage, about 24% of the observations equal zero, no single observation equals 1.), we additionally ran pooled Tobit regressions for total, long-term and short-term debt levels. For debt maturity, we ran a Fractional Response model. The results are qualitatively similar. In the interest of conserving space, these estimates are not reported, but are available from the authors.

[20]The results from these interaction models are not reported, but are available from the authors upon request.

[21]The Pearson correlations between the continuous variables for the full matched sample of firms are presented in Table 1.2.

Table 1.3: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status)

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.009**	-0.008***	-0.002	-0.034***	-0.007*	-0.006***	-0.002	-0.033***	-0.013*	-0.012***	-0.001	-0.034**	-0.009**	-0.008***	-0.002	-0.034***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.007)	(0.004)	(0.005)	(0.016)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.370***	-0.154***	-0.221***	-0.360***	-0.407***	-0.166***	-0.246***	-0.350***	-0.228***	-0.098**	-0.133***	-0.380*	-0.371***	-0.154***	-0.221***	-0.356***
	(0.036)	(0.022)	(0.028)	(0.093)	(0.041)	(0.024)	(0.032)	(0.102)	(0.067)	(0.043)	(0.045)	(0.198)	(0.036)	(0.022)	(0.028)	(0.093)
Profitability	-0.361***	-0.084***	-0.272***	0.276***	-0.376***	-0.083***	-0.288***	0.296***	-0.303***	-0.092***	-0.208***	0.178*	-0.362***	-0.084***	-0.273***	0.277***
	(0.015)	(0.008)	(0.013)	(0.046)	(0.016)	(0.009)	(0.013)	(0.046)	(0.027)	(0.016)	(0.019)	(0.098)	(0.015)	(0.008)	(0.011)	(0.042)
LT Collateral	0.454***	0.300***	0.153***	0.486***	0.445***	0.293***	0.151***	0.493***	0.486***	0.323***	0.160***	0.477***	0.453***	0.300***	0.152***	0.488***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.016)	(0.011)	(0.011)	(0.031)	(0.022)	(0.018)	(0.015)	(0.047)	(0.014)	(0.010)	(0.010)	(0.028)
ST Collateral	0.221***	0.019***	0.200***	-0.242***	0.242***	0.019***	0.220***	-0.268***	0.145***	0.020**	0.126***	-0.129***	0.143***	0.015*	0.130***	-0.132***
	(0.010)	(0.005)	(0.008)	(0.021)	(0.011)	(0.005)	(0.009)	(0.023)	(0.015)	(0.008)	(0.012)	(0.039)	(0.015)	(0.008)	(0.012)	(0.036)
Size	0.022***	0.008***	0.014***	0.004	0.022***	0.006***	0.015***	0.002	0.028***	0.016***	0.011***	0.016	0.023***	0.008***	0.014***	0.004
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)	(0.005)	(0.003)	(0.004)	(0.013)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.060***	0.033***	0.027***	0.056***	0.058***	0.029***	0.029***	0.053***	0.061***	0.042***	0.018*	0.071**	0.060***	0.033***	0.026***	0.057***
	(0.007)	(0.005)	(0.006)	(0.017)	(0.009)	(0.005)	(0.006)	(0.019)	(0.013)	(0.010)	(0.010)	(0.033)	(0.007)	(0.005)	(0.006)	(0.017)
Export	0.010**	-0.004	0.014***	-0.012									-0.015***	-0.005	-0.009***	0.024*
	(0.004)	(0.002)	(0.003)	(0.009)									(0.006)	(0.004)	(0.004)	(0.014)
Export x ST Collateral													0.098***	0.005	0.088***	-0.136***
													(0.017)	(0.009)	(0.014)	(0.039)
Constant	-0.266***	-0.092***	-0.161***	0.275***	-0.245***	-0.068***	-0.165***	0.302***	-0.344***	-0.212***	-0.117**	0.099	-0.247***	-0.091***	-0.144***	0.243**
	(0.043)	(0.024)	(0.034)	(0.098)	(0.048)	(0.026)	(0.039)	(0.109)	(0.077)	(0.050)	(0.056)	(0.199)	(0.042)	(0.024)	(0.033)	(0.098)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	30,253	30,253	30,253	22,406	24,784	24,784	24,784	18,587	5,469	5,469	5,469	3,819	30,253	30,253	30,253	22,406
No. of Firms	5,994	5,994	5,994	5,113	4,904	4,904	4,904	4,219	2,257	2,257	2,257	1,753	5,994	5,994	5,994	51,13
F	72.183	41.654	40.369	24.376	58.973	34.457	34.673	22.001	28.092	16.490	13.428	7.869	70.885	40.754	39.934	24.126
Adjusted R^2	0.262	0.242	0.177	0.131	0.257	0.231	0.182	0.133	0.302	0.287	0.150	0.121	0.264	0.242	0.180	0.132

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the full matched sample and for the subsamples of exporters and matched non-exporting firms separately. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at the 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table 1.4: Leverage Ratios for Exporting and Non-Exporting Firms

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.008**	-0.008***	-0.001	-0.035***	-0.008**	-0.008***	-0.001	-0.035***	-0.008**	-0.008***	-0.001	-0.035***	-0.009**	-0.008***	-0.002	-0.034***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.385***	-0.157***	-0.232***	-0.345***	-0.386***	-0.158***	-0.232***	-0.344***	-0.389***	-0.158***	-0.235***	-0.341***	-0.378***	-0.154***	-0.228***	-0.344***
	(0.036)	(0.022)	(0.028)	(0.093)	(0.036)	(0.022)	(0.028)	(0.093)	(0.036)	(0.022)	(0.028)	(0.093)	(0.036)	(0.022)	(0.028)	(0.093)
Profitability	-0.363***	-0.084***	-0.274***	0.279***	-0.362***	-0.084***	-0.273***	0.279***	-0.361***	-0.084***	-0.271***	0.278***	-0.364***	-0.084***	-0.274***	0.281***
	(0.015)	(0.008)	(0.011)	(0.043)	(0.015)	(0.008)	(0.011)	(0.043)	(0.015)	(0.008)	(0.011)	(0.043)	(0.015)	(0.008)	(0.011)	(0.042)
LT Collateral	0.454***	0.300***	0.152***	0.486***	0.455***	0.300***	0.153***	0.485***	0.455***	0.300***	0.153***	0.485***	0.454***	0.300***	0.153***	0.487***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)
Size	0.021***	0.007***	0.013***	0.005	0.020***	0.007***	0.012***	0.006	0.020***	0.007***	0.012***	0.006	0.021***	0.008***	0.012***	0.007
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.059***	0.033***	0.026***	0.057***	0.060***	0.033***	0.026***	0.057***	0.060***	0.033***	0.027***	0.056***	0.060***	0.033***	0.026***	0.057***
	(0.007)	(0.005)	(0.006)	(0.017)	(0.007)	(0.005)	(0.006)	(0.017)	(0.007)	(0.005)	(0.006)	(0.017)	(0.007)	(0.005)	(0.006)	(0.017)
ST Collateral	0.198***	0.017***	0.180***	-0.222***	0.187***	0.020***	0.167***	-0.197***	0.175***	0.021***	0.154***	-0.183***	0.160***	0.021***	0.140***	-0.143***
	(0.011)	(0.005)	(0.009)	(0.024)	(0.012)	(0.006)	(0.010)	(0.026)	(0.013)	(0.006)	(0.010)	(0.029)	(0.014)	(0.007)	(0.011)	(0.032)
Export Intensity	0.002	-0.000	0.004	0.002												
	(0.012)	(0.007)	(0.008)	(0.026)												
Export Intensity x ST Coll	0.114***	0.004	0.104***	-0.098												
	(0.036)	(0.017)	(0.030)	(0.062)												
Export Diversity					0.003	0.004	0.000	0.016	0.038*	0.020	0.019	0.012				
					(0.008)	(0.005)	(0.006)	(0.018)	(0.022)	(0.014)	(0.015)	(0.050)				
Export Diversity x ST Coll					0.084***	-0.005	0.085***	-0.114***	0.169***	-0.028	0.189***	-0.226*				
					(0.023)	(0.011)	(0.019)	(0.042)	(0.065)	(0.032)	(0.054)	(0.125)				
Export Diversity sq									-0.031*	-0.014	-0.016	0.003				
									(0.018)	(0.011)	(0.013)	(0.042)				
Export Diversity sq x ST Coll									-0.071	0.021	-0.090**	0.097				
									(0.054)	(0.027)	(0.045)	(0.104)				
No. of Destinations													-0.005**	-0.001	-0.004**	0.012*
													(0.003)	(0.002)	(0.004)	(0.006)
No. of Destinations x ST Coll													0.037***	-0.001	0.037***	-0.060***
													(0.008)	(0.004)	(0.006)	(0.015)
Constant	-0.237***	-0.088***	-0.137***	0.253**	-0.222***	-0.087***	-0.123***	0.235**	-0.219***	-0.088***	-0.120***	0.232**	-0.220***	-0.095***	-0.112***	0.208**
	(0.043)	(0.024)	(0.034)	(0.099)	(0.043)	(0.024)	(0.033)	(0.099)	(0.043)	(0.024)	(0.033)	(0.099)	(0.043)	(0.024)	(0.034)	(0.100)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	30,253	30,253	30,253	22,406	30,253	30,253	30,253	22,406	30,253	30,253	30,253	22,406	30,253	30,253	30,253	22,406
No. of Firms	5,994	5,994	5,994	5,113	5,994	5,994	5,994	5,113	5,994	5,994	5,994	5,113	5,994	5,994	5,994	5,113
F	71.102	40.733	39.945	24.442	71.546	40.890	40.284	24.786	69.908	39.353	39.551	23.970	71.370	41.050	40.461	24.768
Adjusted R^2	0.265	0.241	0.182	0.132	0.266	0.241	0.184	0.132	0.268	0.242	0.187	0.133	0.265	0.241	0.183	0.133

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the full matched sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. All independent variables are one-period lagged ones. Industry (at the 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table 1.4: Continued: Leverage Ratios for Exporting and Non-Exporting Firms

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.010**	-0.008***	-0.002	-0.034***	-0.008**	-0.008***	-0.001	-0.035***	-0.008**	-0.008***	-0.001	-0.035***	-0.008*	-0.007***	-0.002	-0.030***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.009)
Volatility	-0.374***	-0.158***	-0.221***	-0.358***	-0.384***	-0.156***	-0.232***	-0.345***	-0.376***	-0.155***	-0.226***	-0.350***	-0.419***	-0.159***	-0.261***	-0.319***
	(0.037)	(0.022)	(0.028)	(0.094)	(0.036)	(0.022)	(0.028)	(0.093)	(0.036)	(0.022)	(0.028)	(0.094)	(0.043)	(0.026)	(0.033)	(0.111)
Profitability	-0.363***	-0.084***	-0.274***	0.290***	-0.363***	-0.084***	-0.273***	0.279***	-0.361***	-0.084***	-0.272***	0.277***	-0.349***	-0.080***	-0.264***	0.305***
	(0.015)	(0.008)	(0.011)	(0.043)	(0.015)	(0.008)	(0.011)	(0.043)	(0.015)	(0.008)	(0.011)	(0.043)	(0.017)	(0.010)	(0.013)	(0.052)
LT Collateral	0.452***	0.300***	0.151***	0.486***	0.455***	0.300***	0.153***	0.485***	0.455***	0.300***	0.153***	0.485***	0.447***	0.290***	0.155***	0.483***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.016)	(0.011)	(0.011)	(0.033)
Size	0.022***	0.007***	0.014***	0.003	0.021***	0.007***	0.013***	0.005	0.022***	0.008***	0.014***	0.005	0.018***	0.007***	0.010***	0.008
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.008)
Growth	0.061***	0.033***	0.027***	0.055***	0.059***	0.033***	0.026***	0.057***	0.059***	0.032***	0.026***	0.057***	0.052***	0.028***	0.024***	0.052**
	(0.008)	(0.005)	(0.006)	(0.017)	(0.007)	(0.005)	(0.006)	(0.017)	(0.007)	(0.005)	(0.006)	(0.017)	(0.009)	(0.006)	(0.007)	(0.021)
ST Collateral	0.217***	0.022***	0.194***	-0.226***	0.199***	0.017***	0.181***	-0.225***	0.205***	0.016***	0.188***	-0.230***	0.194***	0.018***	0.175***	-0.228***
	(0.010)	(0.005)	(0.009)	(0.022)	(0.011)	(0.005)	(0.009)	(0.024)	(0.010)	(0.005)	(0.009)	(0.023)	(0.012)	(0.006)	(0.009)	(0.027)
Cultural Distance	0.051**	0.028*	0.023	0.052												
	(0.025)	(0.016)	(0.018)	(0.061)												
Cultural Distance x ST Coll	0.081	-0.064*	0.138**	-0.301**												
	(0.077)	(0.037)	(0.065)	(0.147)												
Geographic Distance					-0.000	-0.000	0.000	0.000								
					(0.002)	(0.001)	(0.001)	(0.004)								
Geographic Distance x ST Coll					0.019***	0.001	0.017***	-0.014								
					(0.006)	(0.003)	(0.005)	(0.010)								
Political Risk									-0.012	-0.007*	-0.003	0.003				
									(0.008)	(0.005)	(0.005)	(0.017)				
Political Risk x ST Coll									0.081***	0.014	0.062***	-0.058				
									(0.024)	(0.012)	(0.019)	(0.043)				
Exchange Exposure													-0.035	0.011	-0.044	-0.016
													(0.073)	(0.048)	(0.052)	(0.176)
Exchange Exposure x ST Coll													1.028***	0.008	0.980***	-0.611*
													(0.177)	(0.098)	(0.148)	(0.332)
Constant	-0.247***	-0.083***	-0.152***	0.275***	-0.238***	-0.089***	-0.137***	0.253**	-0.250***	-0.091***	-0.147***	0.260***	-0.229***	-0.101***	-0.116***	0.231*
	(0.043)	(0.024)	(0.034)	(0.099)	(0.043)	(0.024)	(0.034)	(0.099)	(0.043)	(0.024)	(0.034)	(0.099)	(0.052)	(0.030)	(0.040)	(0.125)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	29,020	29,020	29,020	21,512	30,229	30,229	30,229	22,391	30,240	30,240	30,240	22,396	20,545	20,545	20,545	15,039
No. of Firms	5,908	5,908	5,908	5,037	5,994	5,994	5,994	5,113	5,994	5,994	5,994	5,113	4,708	4,708	4,708	3,953
F	70.132	39.967	39.537	24.159	70.872	40.672	39.821	24.345	70.430	40.701	39.617	24.381	54.129	30.002	34.098	18.794
Adjusted R^2	0.262	0.241	0.179	0.133	0.265	0.241	0.181	0.132	0.263	0.241	0.179	0.132	0.262	0.224	0.191	0.128

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the full matched sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. All independent variables are one-period lagged ones. Industry (at the 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

find that both the direct effect of short-term assets and the interaction effect on total and short-term debt are significantly positive. As such, the availability of (pledgeable) short-term assets is a more important driver of the short-term debt ratios of firms that export more intensively. In addition, export intensity seems to be of importance only to the corporate financing decisions of firms with substantial levels of short-term assets.

Model 2 (and 3) summarizes the coefficient estimates of the leverage and debt maturity equations containing export diversity (and its square) and an interaction term between that variable (and its square) and short-term assets. As expected, we find that the positive (negative) effect of short-term assets on total and short-term debt (debt maturity) is more pronounced for firms that export to diverse geographical regions. However, since the coefficient belonging to the interaction term between short-term assets and the square term of export diversity is negative and significant, the marginal impact of export diversity on short-term debt ratios through the availability of short-term assets is decreasing in the level of export diversity.

Model 4 contains the coefficient estimates of the leverage and debt maturity equations containing the natural logarithm of the number of export destinations and an interaction term between that variable and short-term assets. Similar to the models including export intensity and export diversity, we find that the interaction term is significantly positively (negatively) related to total and short-term debt ratios (debt maturity), while also the direct effect of short-term assets is significantly positively (negatively) related to total and short-term leverage (debt maturity). As such, the positive (negative) effect of short-term assets on short-term debt (debt maturity) is more pronounced for firms that serve a higher number of export markets.

Models 5 and 6 present the coefficient estimates of the leverage and debt maturity equations containing our measure for cultural and geographic distance and an interaction term between cultural and geographic distance and short-term assets. We find that the positive (negative) effect of short-term assets on short-term debt (debt maturity) is more pronounced for firms that serve export markets that are distant to them from a cultural and geographic point of view. Again, the direct effects of cultural and geographic distance are mostly insignificant, which implies that distance matters only to firms with substantial levels of short-term assets.

Model 7 contains the coefficient estimates of the leverage and debt maturity equations containing our measure for political risk and an interaction term between that variable and short-term assets. We find that the positive effect of short-term assets on total and short-term debt ratios is more pronounced for firms that export to politically unstable countries.

Finally, Model 8 presents the coefficient estimates of the leverage and debt maturity equations containing our measure for exchange rate exposure and an interaction term between that variable and short-term assets. Again, we find that short-term assets have a more pronounced positive (negative) impact on the total and short-term debt ratios (debt maturity) of firms that experience high exposure to currency fluctuations. Overall, we find that the positive association between short-term assets and short-term debt levels is more pronounced for export-intensive firms and for firms that export to destinations that are distant to them from a cultural, geographic and economic perspective, which supports our third hypothesis (H3).

1.6   Robustness Checks

1.6.1   Variations in Sample Composition

Our results are robust to a wide variety of changes in sample specification. For instance, firms that are part of a business group generally have better access to both internal and external capital markets than their standalone peers (Dewaelheyns and Van Hulle, 2012). As a robustness check, we therefore confine our analysis to standalone firms. This results in qualitatively similar findings (Tables B.3 to B.4 in Appendix B).

The international trade database only concerns trade in goods. Cross-border service provisions are not registered which may result in the misclassification of exporting service providers as non-exporting firms in our dataset. In addition, goods represent the majority of export flows, but they are often exported by intermediate traders (e.g. wholesalers and retailers), while trade interme-

diation is known to be more prevalent in export markets with high sunk entry costs, a weak contracting environment, high risk of expropriation and that are geographically and culturally distant from the home market (Bernard, Grazzi, and Tomasi, 2015). In addition, these trade intermediaries are smaller on average (Bernard, Jensen, Redding, and Schott, 2010), have fewer collateral and may consequently face substantial difficulties in accessing external finance. We therefore repeat the analysis for manufacturing firms only. The results prove robust (Tables B.5 to B.6 in Appendix B).

Until 2006, firms had to report their intra-EU trade through the Intrastat inquiry if their export flows surpassed 250,000 euros per year. As of 2006, a reporting threshold of one million euros per year applies to intra-EU trade transactions. Data on extra-EU trade is collected by customs agents as of a transaction value of 1,000 euros or as of a weight of one metric ton. To correct for this inconsistency in the reporting of intra-EU trade flows during the research period, we repeat our analysis after imposing a constant reporting threshold of one million euros on intra-EU export flows, while keeping the definition of the EU constant over the research period (EU27). The results are again robust (Tables B.7 to B.8 in Appendix B).

Our research period ends in 2013, which might raise concern that the recent financial crisis is affecting our results. During this tumultuous period of time, global trade collapsed due to a decrease in global demand for goods, but as well due to a lack of trade finance to support such transactions (Ahn, Amiti, and Weinstein, 2011; Amiti and Weinstein, 2011; Chor and Manova, 2012). In addition, prior literature has shown that the collateral channel (i.e. the association between leverage and asset tangibility) might be affected by credit frictions (Campello and Giambona, 2013; Norden and van Kampen, 2013). Confining our dataset to observations pertaining to pre-crisis years leads to qualitatively similar results (Tables B.9 to B.10 in Appendix B).

Finally, we apply different matching procedures. In the base scenario, we match each exporting firm with a non-exporting firm active in the same sector (2-digit level) and of comparable size (in terms of total assets) to control for self-selection bias. As an alternative, we matched on the basis of firm size (in terms of employees) and industry affiliation. This results in qualitatively similar findings (Tables B.11 to B.12 in Appendix B). A drawback of these bivariate matching procedures, however, is that the export variable might still capture other characteristics since non-exporters and exporters differ from non-exporters on many other, both observable and unobservable dimensions. As a robustness check, we therefore additionally apply propensity score matching (PSM). At each point in time, we match each exporter with a non-exporting firm on the basis of a range of (lagged) firm characteristics, including total factor productivity (TFP), firm size (total assets), firm age, group affiliation, sales growth and profitability. Matching

occurs within sectors as the impact of various variables on the decision to export might differ across sectors (Javalgi, White, and Lee, 2000) and is done with replacement. So, at each point in time and within each sector, a non-exporting firm, which is closest in terms of its propensity score to an exporting firm, is selected as a match for the former, using the nearest-neighbor matching method. Using propensity score matching instead of bivariate matching does not alter the results in a qualitative manner (Tables B.13 to B.14 in Appendix B). Repeating the analysis on the initial, unmatched dataset of exporters and non-exporters does not alter the main conclusions of our analysis either, which indicates that the matching procedure does not affect our results to a large extent (Tables B.15 to B.16 in Appendix B).

1.6.2   Quasi-Natural Experiments

To deepen our understanding on the causal impact of export dynamics on SME financing policy and to minimize concerns about reverse causality, we supplement our analysis by examining two specific scenarios using a difference-in-difference (DID) methodology following Heckman, Ichimura, Smith, and Todd (1998).

Export Entry

To study the impact of export entry on corporate financing policy, we construct two samples. The first sample contains all firms that start exporting during the research period. Export entrants are firms that did not report export sales in the two years preceding entry into export markets, but do report export sales in the two years following export entry (Pär and Nan, 2004). When a firm enters export markets more than once during the research horizon, only the first entry is included. 530 firms entered export markets during the sample period. The control sample of non-exporters contains all firms that did not report export sales between 1996 and 2010. The impact of export entry on corporate financing policy y_i can be modelled as $y^1_{i,t+1}$ - $y^0_{i,t+1}$, where $y^1_{i,t+1}$ measures post-export entry leverage or debt maturity of the export entrant i at time $t+1$ and the counterfactual $y^0_{i,t+1}$ stands for post-entry leverage or debt maturity of the entrant i at time $t+1$ in case the firm would not have decided to start exporting at time t. The counterfactual situation is by definition unobservable, meaning that a valid control group must be identified to measure this variable. Randomly assigning continuous non-exporters to export entrants would not be a good idea for they are likely to differ considerably with respect to some pre-export entry characteristics, causing potential sample selection bias. Therefore, at each point in time t and for each firm i that enters foreign markets, a non-exporter j is selected, similar with respect to a range of pre-export entry firm characteristics. The probability of export

market entry is modelled as a function of pre-export entry total factor productivity, group affiliation, firm size (total assets), firm age, sales growth, profitability, and short-term and long-term debt ratios. We match each export entrant with its closest non-exporting firm in terms of their propensity scores.

A DID estimator on the matched export entrants and continuous non-exporters is then employed to examine the causal effect of export entry on capital structure and debt maturity. The DID regression model on the matched sample is specified as follows:

$$Y_{i,t} = \alpha + \beta_1 X_{i,t-1} + \beta_2 Post_{i,t} + \beta_3 ExportEntrant_i +$$
$$\beta_4 Post_{i,t} * ExportEntrant_i + \eta_i + \tau_t + \epsilon_{i,t} \qquad (1.2)$$

where *Export Entrant*$_i$ is a dummy variable that equals unity for all export entrants and zero for all continuous non-exporters. This variable controls for any permanent differences between export entrants and non-exporters. *Post*$_{i,t}$ is a dummy variable equal to one in the post-export entry period and controls for common trends between export entrants and their matched non-exporters. $X_{i,t-1}$ represents a vector of lagged firm-specific control variables (i.e. earnings volatility, group affiliation, profitability, firm size, sales growth and both short-term and long-term asset tangibility). The inclusion of time-varying firm characteristics ensures that the DID estimates are unaffected by shocks in these determinants. The coefficient of interest belongs to the interaction term between the *Export Entrant* and *Post* dummies (β_4) as it indicates the impact of export entry on financing policy. Time (τ_t) and industry or firm fixed effects (η_i) are also added.

Table 1.5 presents the coefficient estimates for the DID analysis on the matched sample of export entrants and continuous non-exporters. Under both pooled OLS (first four columns) and firm fixed effects (next four columns), we find that the coefficient belonging to the interaction term between the dummies *Post* and *Export Entrant* is positive and significant in the short-term debt equation, which indicates that the average short-term financial debt ratio increases significantly following export entry. The coefficients belonging to this interaction term in our total and long-term debt equation are not significant.

A Shock to Political Risk

To model the impact of a shock to political risk on the corporate financing policy of exporters, we construct two samples. The first sample consists of all firms that

Table 1.5: Export Entry

	Pooled OLS				Firm FE			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Post	0.010	0.009*	0.001	0.029	0.009	0.007	0.002	-0.022
	(0.009)	(0.005)	(0.007)	(0.025)	(0.008)	(0.005)	(0.007)	(0.025)
Export Entrant	-0.020	0.005	-0.025**	0.036				
	(0.015)	(0.010)	(0.012)	(0.039)				
Post * Export Entrant	0.015	-0.003	0.018**	-0.034	0.008	-0.004	0.012*	-0.028
	(0.011)	(0.007)	(0.009)	(0.031)	(0.008)	(0.006)	(0.007)	(0.024)
Group	0.001	0.001	-0.001	-0.029	0.012	0.008	0.004	0.023
	(0.011)	(0.007)	(0.009)	(0.026)	(0.008)	(0.006)	(0.005)	(0.026)
Volatility	-0.351***	-0.137**	-0.214***	-0.212	0.015	0.033	-0.017	0.066
	(0.079)	(0.054)	(0.058)	(0.374)	(0.048)	(0.035)	(0.040)	(0.286)
Profitability	-0.279***	-0.055**	-0.224***	0.288**	-0.105**	-0.030	-0.075*	0.054
	(0.039)	(0.023)	(0.030)	(0.131)	(0.050)	(0.026)	(0.044)	(0.138)
LT Collateral	0.448***	0.296***	0.152***	0.495***	0.299***	0.185***	0.114**	0.281*
	(0.042)	(0.032)	(0.028)	(0.080)	(0.063)	(0.046)	(0.048)	(0.154)
ST Collateral	0.169***	0.021	0.148***	-0.209***	0.037	-0.029*	0.065*	-0.031
	(0.026)	(0.013)	(0.021)	(0.061)	(0.044)	(0.016)	(0.037)	(0.072)
Size	0.036***	0.017***	0.019***	0.005	0.072***	0.036***	0.036**	0.048
	(0.008)	(0.005)	(0.007)	(0.018)	(0.018)	(0.010)	(0.014)	(0.048)
Growth	-0.001***	-0.000**	-0.001***	0.000	0.000***	0.000***	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	-0.572***	-0.277***	-0.294***	0.322	-0.983***	-0.497***	-0.487**	-0.412
	(0.129)	(0.088)	(0.106)	(0.302)	(0.284)	(0.162)	(0.221)	(0.776)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	No	No	No	No
Firm-Years	2,153	2,153	2,153	1,500	2,153	2,153	2,153	1,500
No. of Firms	622	622	622	494	622	622	622	494
F	19.788	14.302	7.760	6.623	6.014	14.389	1.246	1.134
Adjusted R^2	0.286	0.227	0.173	0.114	0.105	0.077	0.047	0.018

Note: This table analyzes the impact of entry into export markets on capital structure and debt maturity in a difference-in-difference (DID) set-up on a propensity score matched sample of export entrants and continuous non-exporters. The dependent variables of the DID specifications are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). Post is a dummy variable that equals one in the period following export market entry. Export Entrant is a dummy variable that equals one when the firm entered export markets during the sample period and zero when the firm is a continuous non-exporter. The interaction term between both dummy variables is of main interest as it captures the causal impact of export entry on leverage and debt maturity. Industry or firm fixed effects and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

exported to the six main Arab countries involved in the Arab Spring[22] both prior to and after its outbreak (2009 - 2013). The second sample consists of all firms that reported export activities during this period, but that were not engaged in trading with these six countries. Since firms exporting to Arab Spring countries and those that do not may differ substantially on a range of observable and unobservable characteristics, we again apply a propensity score matching procedure. For each firm i that exports to at least one of the six Arab Spring countries, a non-Arab Spring country exporter j is selected, similar with respect to a range of observable firm characteristics (from 2010).[23] We apply the following DID set-up on the matched sample of Arab and non-Arab Spring country exporters during

2009-2012:

$$Y_{i,t} = \alpha + \beta_1 X_{i,t-1} + \beta_2 Post_t + \beta_3 ArabSpring_i +$$
$$\beta_4 Post_t * STCollateral_{i,t} + \beta_5 Post_t * ArabSpring_i +$$
$$\beta_6 ArabSpring_i * STCollateral_{i,t} +$$
$$\beta_7 Post_t * ArabSpring_i * STCollateral_{i,t} + \eta_i + \epsilon_{i,t} \qquad (1.3)$$

where *Arab Spring*$_i$ is a dummy variable that equals unity for all exporters that conduct trade with at least one of the six Arab Spring countries in 2009 - 2013 and zero for exporters that did not trade with Arab Spring countries during this period, and *Post*$_t$ is a dummy variable that equals one after the start of the Arab Spring (i.e. as of January 2011 until the end of 2012). $X_{i,t-1}$ represents the usual vector of lagged determinants of corporate capital structure. The coefficient of interest belongs to the interaction term between the dummies *Arab Spring* and *Post*, and the continuous variable *ST Collateral* (β_7) as it reflects the impact of a change in the political climate on the relationship between pledgeable short-term assets and financing policy for Arab Spring country exporters. Industry (firm) fixed effects (η_i) are also added to control for unobserved industry (firm) heterogeneity.

Table 1.6 summarizes the DID coefficient estimates. In line with expectations, we find that the coefficients of the interaction terms between the dummies *Post* and *Arab Spring* and the *ST Collateral* variable are positive and statistically significant for the short-term debt equations. Again, the stronger linkage between short-term debt levels and short-term pledgeable assets for Arab Spring country exporters after the outbreak of the Arab Spring could be attributable to a number of factors, such as a more intense use of trade finance instruments by these exporters to cope with a worsening political climate.

1.7   Conclusions

Empirical evidence on the impact of multinationality on large firm capital structure shows that internationalization results in a lower level of long-term and a higher level of short-term debt for multinational corporations (MNCs) than for comparable domestic corporations (DCs) (Fatemi, 1988; Burgman, 1996; Doukas and Pantzalis, 2003). So far, SMEs have not received much attention in this context, which is largely attributable to limitations in data availability on the

---

[22]The Arab Spring was named after a long series of demonstrations, protests and civil wars in the Arab world that began in December 2010 in Tunisia, but spread throughout many other Arab countries in the months after. Initially, the largest protests and demonstrations took place in Tunisia, Egypt, Libya, Yemen, Syria and Bahrain.

[23]As before, we include total factor productivity, group affiliation, firm size (total assets), firm age, sales growth, profitability, and short-term and long-term debt ratios in the probit equation.

Table 1.6: A Shock to Political Risk

	Pooled OLS				Firm FE			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Post	-0.003	-0.003	-0.001	0.178	-0.008	-0.008	-0.002	0.013
	(0.031)	(0.017)	(0.021)	(0.119)	(0.021)	(0.011)	(0.016)	(0.052)
ST Collateral	0.122	-0.093*	0.202	-0.038	-0.002	-0.093*	0.080	-0.188
	(0.158)	(0.049)	(0.130)	(0.387)	(0.074)	(0.048)	(0.067)	(0.328)
Post * ST Collateral	0.028	0.026	0.015	-0.496	-0.013	0.017	-0.017	-0.145
	(0.094)	(0.039)	(0.070)	(0.355)	(0.042)	(0.026)	(0.026)	(0.188)
Arab Spring	-0.039	-0.026	-0.015	0.121				
	(0.060)	(0.036)	(0.043)	(0.180)				
Post * Arab Spring	-0.054	0.004	-0.056*	-0.111	-0.054*	-0.012	-0.039*	-0.015
	(0.046)	(0.029)	(0.032)	(0.169)	(0.030)	(0.022)	(0.020)	(0.116)
Arab Spring * ST Coll	0.013	0.087	-0.062	-0.057	-0.209*	-0.017	-0.181**	0.729
	(0.185)	(0.087)	(0.153)	(0.501)	(0.108)	(0.091)	(0.085)	(0.595)
Post * Arab Spring * ST Coll	0.221	-0.012	0.220**	0.062	0.226**	0.055	0.158***	-0.001
	(0.136)	(0.077)	(0.099)	(0.454)	(0.093)	(0.064)	(0.055)	(0.283)
Group	-0.009	-0.003	-0.006	-0.080	-0.023	-0.001	-0.022	0.013
	(0.025)	(0.013)	(0.019)	(0.065)	(0.018)	(0.004)	(0.018)	(0.064)
Volatility	0.138	0.022	0.117	-0.877	0.039	0.225**	-0.187	0.813
	(0.278)	(0.136)	(0.250)	(0.831)	(0.152)	(0.108)	(0.150)	(0.788)
Profitability	-0.383***	-0.130***	-0.253***	0.017	-0.031	-0.027	-0.003	-0.020
	(0.093)	(0.045)	(0.073)	(0.283)	(0.052)	(0.035)	(0.047)	(0.289)
LT Collateral	0.434***	0.286***	0.149***	0.285	-0.073	0.125*	-0.199	0.296
	(0.073)	(0.045)	(0.048)	(0.199)	(0.151)	(0.068)	(0.142)	(0.186)
Size	0.004	-0.017*	0.020	-0.027	0.037	0.027	0.010	0.077
	(0.021)	(0.009)	(0.017)	(0.050)	(0.025)	(0.019)	(0.022)	(0.059)
Growth	0.138*	0.068**	0.070	-0.014	-0.019	-0.030*	0.010	-0.252*
	(0.074)	(0.033)	(0.060)	(0.167)	(0.033)	(0.016)	(0.031)	(0.139)
Constant	-0.002	0.312**	-0.311	0.861	-0.383	-0.384	-0.008	-1.001
	(0.354)	(0.155)	(0.289)	(0.818)	(0.415)	(0.321)	(0.361)	(0.940)
Industry FE	Yes	Yes	Yes	Yes	No	No	No	No
Firm FE	No	No	No	No	Yes	Yes	Yes	Yes
Firm-Years	402	402	402	279	402	402	402	279
No. of Firms	159	159	159	120	159	159	159	120
F	7.777	5.909	5.867	3.910	1.544	1.557	1.302	1.751
Adjusted R^2	0.277	0.307	0.202	0.117	0.055	0.063	0.060	0.071

Note: This table analyzes the impact of the outbreak of the Arab Spring at the end of 2010 on capital structure and debt maturity in a difference-in-difference (DID) set-up on a propensity score matched sample of Arab Spring-country and non-Arab Spring country exporters during 2009-2012. The dependent variables of the DID specifications are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). Post is a dummy variable that equals one in the period following the outbreak of the revolution. Arab Spring is a dummy variable that equals one when the firm continuously exported to Arab Spring countries during 2009-2013 and zero otherwise. The interaction term between both dummy variables and the continous variable ST Collateral is of main interest as it captures the actual impact of a shock to political risk on leverage and debt maturity. Industry or firm fixed effects and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are reported in parentheses. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

export and import flows of smaller-sized, private businesses. Using a confidential dataset, assembled by the National Bank of Belgium, that merges corporate annual accounts and firm-level information on international trade transactions, this paper aims to advance the literature by providing an in-depth analysis of the impact of exporting on SME financing policy.

We document that exporting SMEs carry more financial leverage than their non-exporting peers, and that this is entirely attributable to their greater use of short-term debt financing. As such, contrary to the literature on corporate financing decisions of large multinationals, we find no evidence in favor of a trade-off mechanism between debt maturities for exporting SMEs. The higher reliance of exporters on short-term debt financing is a direct result of their higher working capital needs. Since international trade transactions take much longer to complete than domestic sales transactions, exporters face longer cash conversion cycles. In line with the maturity matching principle, exporters resolve their higher need for working capital financing by carrying more short-term debt on their balances. We also show that a tighter linkage between short-term assets and the amount of short-term debt exists for exporting firms. In particular, we show that the positive association between short-term assets and short-term debt is most pronounced for export-intensive firms and firms that serve distant and risky export destinations. As such, apart from having a higher need for working capital financing due to the nature of their business models, exporters also seem better able to access such financing than their non-exporting peers on the basis of the available pledgeable short-term assets. Finally, we supplement our analysis with two (quasi-)natural experiments, modelling the impact of export entry and an exogenous shock to political risk on capital structure and debt maturity. In line with our main findings, we find that firms have substantially higher short-term financial leverage after entering export markets. In addition, we show that the outbreak of the Arab Spring, which worsened the political climate in the region, intensified the linkage between short-term assets and short-term debt financing for firms exporting to those Arab countries involved in the Arab Spring as compared to non-Arab Spring country exporters. Again, long-term debt financing does not seem to be affected.

There are several possible channels through which export activities may affect the ties between short-term assets and short-term debt financing. First, given the riskiness of cross-border transactions, the availability of pledgeable short-term assets to obtain financing may be of higher importance for exporters. In addition, the use of trade financing instruments presumably allows exporters to enhance lenders' confidence in the quality of their working capital components as pledgeable assets, while the close bank monitoring of sales transactions associated with trade finance products tends to reduce information asymmetries between the lender and the exporter/borrower, strengthening their borrowing capacity.

This study provides new insights into the implications of exporting for SME financing decisions to both practitioners and policy makers, who devote substantial effort and resources to facilitate SMEs' access to financing and to stimulate export development. Particularly worrisome is that, in spite of their contribution

to employment, trade and economic growth, SMEs still face substantial difficulties in accessing affordable external financing (WTO, 2016). In this respect, our findings suggest that the development of tools that facilitate the use of assets for collateral purposes at an affordable cost is likely to stimulate SME export activities by easing access to external financing and thus overcoming capital constraints. Furthermore, the importance of short-term asset-backed funding to prefinance SME export activities may serve as an explanation for a trade collapse during credit crunches or in periods of low profitability. Negative bank credit shocks are shown to reduce export activities considerably (Ahn, Amiti, and Weinstein, 2011; Amiti and Weinstein, 2011; Paravisini, Rappoport, Schnabl, and Wolfenzon, 2015), and especially so for firms active in sectors that exhibit high financial dependence. Therefore, any policy aiming at overcoming the capital constraints faced by (exporting) SMEs and avoiding spillovers from the financial system to the real economy should be highly encouraged.

Our results may also shed some additional light on how capital constraints affect SME export behavior. In particular, financial dependence might affect export volumes by limiting the range of potential importers one can sell to. Exporters that are highly dependent upon bank- or insurer-intermediated trade finance might be able to sell to the most creditworthy foreign customers only, since banks and insurers are likely to provide payment guarantees and credit insurance on receivables related to this type of firm only. Financially independent firms, by contrast, which are less reliant upon external funding to finance their export activities, may be able to sell to a wider variety of importers. Simultaneously, since such financially independent SMEs do not have to rely upon the credit standing of their importing customers to obtain financing, they are also likely to be in a stronger bargaining position, relative to these customers. Future research would benefit from the availability and exploitation of granular information on the use of bank and insurer-intermediated trade finance by firms.

Appendix A: Financing Habits of (Belgian) Exporters

Financing Export Activities: General Information

The importance of globalization for economic development and growth has encouraged governments and (financial) institutions worldwide to design policies and financial instruments to support cross-border transactions. Several studies have confirmed the importance of these initiatives in stimulating international trade (Egger and Url, 2006; Jones, 2010; Amiti and Weinstein, 2011; Felbermayr and Yalcin, 2013; Van der Veer, 2015). The International Monetary Fund (IMF) estimates that about half of global exports employ (public or private) export credit insurance and/or bank-provided trade finance (Asmundson, Dorsey, Khachatryan, Niculcea, and Saito, 2011; Van der Veer, 2015). A recent study by the World Trade Organization (WTO, 2016), in turn, states that about 80 percent of all global trade transactions rely on some form of bank or insurer-intermediated trade finance.

Trade finance comprises of the bank and insurance products that are linked to international sales transactions. In essence, financial institutions and insurers facilitate trade transactions by providing products to their clients that help them mitigate trade risks (e.g. providing payment guarantees or trade credit insurance) and that ease access to credit to support these sales transactions (Grath, 2011; WTO, 2016). Given the risky nature of international trade transactions and the pressure of export activities on working capital needs, exporters tend to be much heavier users of trade financing products than their non-exporting peers (Ahn, Amiti, and Weinstein, 2011; Ahn, 2011). Common trade financing instruments, such as letters of credit, guarantees and trade credit insurance, all work in a similar fashion in the sense that they facilitate access to external (debt) financing by replacing the creditworthiness of either the exporter/borrower or the importer with that of a more creditworthy entity, such as an export credit insurer or a commercial bank. Because of the protection offered by such instruments against various trade risks (e.g. commercial risk, political risk), external creditors are generally more keen to accept short-term assets, such as accounts receivable and inventory, as collateral to secure (short-term) bank loans. Furthermore, since the use of these instruments strengthens the collateral value of the pledged receivables and inventory, commercial lenders may be willing to extend relatively more working capital financing to firms that insure their receivables against trade risks. In sum, the more intense use of trade financing instruments by exporters widens exporters' borrowing capacity and their access to (short-term) bank financing. Since the provision of trade finance is backed by strong collateral and loan documentation, short-term trade finance products are generally considered to be low-risk in nature (WTO, 2016).

To the best of our knowledge, firm-level information on the use of trade financ-

ing products by Belgian exporters and non-exporting firms is not available. To exemplify the lack of information on cross-border sales transactions and the use of trade financing instruments: while writing Basel III, the Committee did not have access to information concerning default risk in cross-border sales transactions when setting capital requirements for banks. To overcome this lack of data on the products and their risk characteristics in trade and export finance, the International Chamber of Commerce (ICC) has initiated the development of a trade register which contains data as from 2007 onwards on credit risk in trade and export finance, provided by 23 participating banks worldwide (ICC, 2015). This trade register is undergoing continuous improvement. So far, the scope of the register is limited with respect to the set of products purchased at one of the participating banks and by the risk types covered (ICC, 2015). Consequently, it does not contain an overview of all trade transactions by client firms and all products purchased, nor does it contain information on the use of trade credit insurance purchased from trade insurers.

Belgian Practice

In response to the lack of firm-level data on insurer or bank-intermediated trade finance, we conducted a small survey in the summer and fall of 2016 amongst the insurers active on the Belgian market that provide trade credit insurance in both domestic and international sales transactions and amongst the main Belgian banks that have a trade finance department. For various reasons, the interviewees could not offer any granular or aggregate data on the use of trade financing products they provide to firms. They did, however, offer useful general insights into the financing habits of Belgian exporters versus non-exporting firms.

The responses of the interviewees were in line with the general information that we obtained from sources such as the World Trade Organization (WTO, 2016) and the previously mentioned academic literature on the subject (Jones, 2010; Ahn, 2011; Amiti and Weinstein, 2011; Grath, 2011). Extending payment terms under open account terms (i.e. payment after delivery) is advantageous to the importer in terms of cash flow and cost, since payment is due only after the goods have been shipped and delivered. However, it causes exporters to be particularly vulnerable to commercial risks (e.g. default risk, resiliation risk), adverse changes in exchange rates and the occurrence of unforeseen political events (e.g. transfer risk, currency controls). As a result, to credibly offer payment after delivery terms, the use of trade finance and insurance products is highly recommended for firms serving politically unstable markets and dealing with foreign buyers whose creditworthiness is low or difficult to assess. The use of trade finance and insurance products allows exporters to simultaneously mitigate the risks associated with international sales and improve on their capacity for short-term borrowing by increasing the collateral strength of foreign receivables and

inventory used to secure working capital loans.

The interviewed insurance companies active in (trade) credit insurance on the Belgian market uniformly confirmed that the vast majority of credit insurance contracts cover export activities rather than domestic sales transactions and that export-intensive firms (i.e. firms that generate a large part of their turnover in foreign markets) are more likely to insure their foreign receivables against trade risks. In addition, export credit insurance typically covers sales transactions outside the European Union, or a mix thereof. The interviewed banks affirmed that both letters of credit (L/C) and trade credit insurance are most intensively used to insure cross-border transactions. When applying for bank financing for trade transactions with near and less risky countries, exporters tend to use credit insurance, while (confirmed) letters of credit are mostly used when exporting to faraway and risky export destinations. The L/C enables the exporter to prefinance its export activities through discounting or securing working capital loans on the basis of the security provided by L/Cs which are usually offered in pawn to the lending bank. Under a confirmed L/C, the exporter's bank adds its engagement to pay to that of the issuing bank, protecting the exporter against both political and default risk. L/Cs are custom-made for each sales transaction, typically cover 100% of the export sales value and are more costly than trade credit insurance and bank guarantees. Also, under an L/C, the export transaction is monitored closely from start to end by the exporter's bank, which reduces information asymmetries between the exporter and the bank. Banks agree that this monitoring is helpful in widening the exporters' borrowing capacity. Under *trade credit insurance*, the exporter is reimbursed by the insurer in accordance with the terms of the insurance policy when the foreign buyer is insolvent or unable to fulfill its obligations under the sales contract because of unforeseen political events. The insurance policy is purchased by and for the benefit of the exporter and typically covers only a portion of the export sales value. Using trade credit insurance avoids exceptional losses on foreign receivables and thus improves on their collateral value. By insuring their receivables and inventory, exporters can enhance their short-term borrowing capacity and obtain working capital financing more easily. *Payment guarantees or payment bonds* are mostly used when trading with relatively more trustworthy or familiar foreign buyers and/or when there is confidence in the stability of the importing country and the creditworthiness of the guarantor. In order for the exporter to be willing to offer payment terms under open account terms to the foreign buyer, the importer may be obliged to arrange for a bank guarantee that ensures that the seller will receive payment on the agreed date. In case the importer is unable to pay at the agreed date, the exporter can draw against the bank guarantee. These guarantees can be custom-made at the individual transaction-level as well as cover a number of transactions with a single foreign buyer. Alternatively, export insurers, such as Credimundi, may offer *loan guarantees* in which they promise to reimburse the

(bank) lender for the guaranteed portion (typically $< 50\%$) of the working capital loan in case the borrowing exporter defaults on the loan. As a result of this risk-sharing participation, banks are generally more keen to provide the necessary funds to prefinance international sales orders to exporters who applied for export credit guarantees.

Appendix B: Additional Tables and Figures

Table B.1: Variables Definition

Variables	*Definition*
DEPENDENT VARIABLES	
$ST_{i,t}$, $LT_{i,t}$, $TOT_{i,t}$	short-term, long-term and total financial debt over total assets
$MAT_{i,t}$	long-term financial debt over total financial debt
CONTROL VARIABLES	
$Size_{i,t}$	ln of total assets
$Volatility_{i,t}$	standard deviation of three-year ebit over total assets
$Growth_{i,t}$	average annual change in sales over the three preceding years
$Group_{i,t}$	1 if the firm is controlled for at least 50% directly or indirectly, by a parent firm, 0 otherwise
$Profitability_{i,t}$	ebit over total assets
$LT\ Collateral_{i,t}$	tangible fixed assets over total assets
$ST\ Collateral_{i,t}$	inventories and accounts receivable minus accounts payable over total assets
EXPORT CHARACTERISTICS	
$Export\ Status_{i,t}$	1 if the firm reported export sales, 0 otherwise
$Export\ Intensity_{i,t}$	export sales over total sales
$Export\ Diversity_{i,t}$	the negative sum of the products of the percentage of sales generated in each region k and the ln of that percentage. Six homogenous regions are defined: 1) Belgium; 2) neighboring countries of Belgium; 3) other EU members; 4) non-EU countries, geographically located within Europe; 5) Canada and US and 6) all other countries.
$No.\ of\ Destinations_{i,t}$	ln of 1+number of export destination countries
$Political\ Risk_{i,t}$	weighted average of the country-specific political risk indices of the export destination countries from performing a yearly principal components analysis on four legality measures from Kaufmann, Kraay, and Mastruzzi (2011): government effectiveness, regulatory quality, rule of law, and control of corruption. Weights equal the proportion of sales generated in a particular country to total sales.
$Cultural\ Distance_{i,t}$	a composite single-country cultural distance index is constructed yearly on the basis of the squared deviations of each export destination country from Belgium along the three World Values Survey (WVS) dimensions of national culture (i.e. trust, individualism and hierarchy). Cultural distance at the level of the firm then equals the weighted average of these country-specific indices, where the weights equal the proportion of sales generated in that particular country to total sales.
$Geographic\ Distance_{i,t}$	weighted average of the ln of the great-circle distance in km between the most important capitals in terms of population of Belgium and the export destination countries. Geographic distances are taken from CEPII. Weights equal the proportion of sales generated in a particular country to total sales.
$Exchange\ Exposure_{i,t}$	Markowitz (1952) portfolio variance, in which the portfolio assets are the national currencies of the export destination countries and the portfolio weights are defined as the difference between export and import flows directed towards and originating from a particular country, scaled by total turnover minus costs of goods sold.

Table B.2: Sample Composition

Year	Total	Exporters	Non-Exporters
1998	3,338	2,624	714
1999	3,475	2,695	780
2000	3,526	2,738	788
2001	3,440	2,677	763
2002	3,596	2,792	804
2003	3,503	2,716	787
2004	3,514	2,715	799
2005	3,484	2,687	797
2006	3,268	2,402	866
2007	3,240	2,375	865
2008	3,375	2,453	922
2009	3,408	2,498	910
2010	3,338	2,403	935
2011	3,289	2,366	923
2012	3,183	2,260	923
2013	2,917	2,069	848
Total	53,894	40,470	13,424

Note: This table presents a breakdown of our sample by year and by export status.

Table B.3: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - Standalone Firms Only

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Volatility	-0.371***	-0.145***	-0.237***	-0.359**	-0.389***	-0.138***	-0.266***	-0.336*	-0.331***	-0.154**	-0.175**	-0.355	-0.372***	-0.145***	-0.238***	-0.352**
	(0.069)	(0.042)	(0.055)	(0.175)	(0.080)	(0.049)	(0.064)	(0.201)	(0.113)	(0.071)	(0.074)	(0.316)	(0.069)	(0.042)	(0.055)	(0.175)
Profitability	-0.412***	-0.091***	-0.314***	0.290***	-0.431***	-0.093***	-0.331***	0.301***	-0.325***	-0.084***	-0.239***	0.244	-0.413***	-0.091***	-0.315***	0.292***
	(0.026)	(0.014)	(0.021)	(0.083)	(0.029)	(0.015)	(0.023)	(0.090)	(0.049)	(0.032)	(0.038)	(0.167)	(0.026)	(0.014)	(0.021)	(0.083)
LT Collateral	0.535***	0.363***	0.171***	0.549***	0.523***	0.359***	0.165***	0.553***	0.561***	0.369***	0.184***	0.551***	0.533***	0.363***	0.169***	0.555***
	(0.023)	(0.014)	(0.016)	(0.041)	(0.027)	(0.015)	(0.019)	(0.046)	(0.037)	(0.028)	(0.022)	(0.075)	(0.023)	(0.014)	(0.016)	(0.041)
ST Collateral	0.237***	0.014**	0.219***	-0.276***	0.259***	0.011	0.243***	-0.323***	0.155***	0.024*	0.132***	-0.088	0.155***	0.020	0.136***	-0.103**
	(0.015)	(0.007)	(0.013)	(0.032)	(0.018)	(0.007)	(0.015)	(0.035)	(0.024)	(0.014)	(0.017)	(0.058)	(0.023)	(0.014)	(0.017)	(0.052)
Size	0.028***	0.006***	0.022***	-0.010	0.028***	0.005*	0.023***	-0.010	0.028***	0.012**	0.016***	-0.005	0.028***	0.006***	0.021***	-0.009
	(0.005)	(0.002)	(0.004)	(0.010)	(0.006)	(0.002)	(0.005)	(0.011)	(0.008)	(0.005)	(0.005)	(0.019)	(0.005)	(0.002)	(0.004)	(0.010)
Growth	0.083***	0.037***	0.046***	0.066*	0.092***	0.038***	0.054***	0.060	0.051**	0.033*	0.017	0.080	0.084***	0.037***	0.046***	0.063*
	(0.016)	(0.008)	(0.013)	(0.034)	(0.018)	(0.009)	(0.015)	(0.038)	(0.026)	(0.018)	(0.018)	(0.071)	(0.016)	(0.008)	(0.013)	(0.034)
Export	0.006	-0.007*	0.013***	-0.012									-0.023**	-0.004	-0.016***	0.049**
	(0.006)	(0.004)	(0.004)	(0.013)									(0.009)	(0.006)	(0.006)	(0.020)
Export * ST Collateral													0.104***	-0.007	0.105***	-0.215***
													(0.027)	(0.015)	(0.021)	(0.055)
Constant	-0.376***	-0.072**	-0.290***	0.508***	-0.367***	-0.055	-0.297***	0.508***	-0.362***	-0.165**	-0.189**	0.370	-0.349***	-0.074**	-0.263***	0.443***
	(0.077)	(0.035)	(0.064)	(0.164)	(0.088)	(0.039)	(0.075)	(0.184)	(0.128)	(0.077)	(0.083)	(0.295)	(0.076)	(0.036)	(0.062)	(0.162)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	10,816	10,816	10,816	8,407	8,674	8,674	8,674	6,770	2,142	2,142	2,142	1,637	10,816	10,816	10,816	8,407
No. of Firms	3,107	3,107	3,107	2,619	2,515	2,515	2,515	2,121	1,020	1,020	1,020	830	3,107	3,107	3,107	2,619
F	46.937	35.858	24.939	18.453	37.670	29.593	21.695	17.395	20.711	12.333	8.990	5.448	45.723	34.877	24.447	18.520
Adjusted R^2	0.291	0.315	0.196	0.153	0.281	0.305	0.202	0.160	0.348	0.344	0.170	0.123	0.293	0.315	0.200	0.156

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.4: Leverage Ratios for Exporting and Non-Exporting Firms - Standalone Firms Only

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Volatility	-0.386***	-0.145***	-0.252***	-0.327*	-0.387***	-0.146***	-0.252***	-0.319*	-0.393***	-0.147***	-0.257***	-0.315*	-0.377***	-0.144***	-0.245***	-0.329*
	(0.068)	(0.042)	(0.054)	(0.175)	(0.069)	(0.043)	(0.054)	(0.174)	(0.068)	(0.043)	(0.053)	(0.174)	(0.069)	(0.042)	(0.054)	(0.175)
Profitability	-0.414***	-0.091***	-0.317***	0.299***	-0.413***	-0.091***	-0.315***	0.298***	-0.411***	-0.091***	-0.314***	0.298***	-0.413***	-0.091***	-0.316***	0.299***
	(0.026)	(0.014)	(0.021)	(0.083)	(0.026)	(0.014)	(0.021)	(0.083)	(0.026)	(0.014)	(0.021)	(0.083)	(0.026)	(0.014)	(0.021)	(0.083)
LT Collateral	0.535***	0.364***	0.170***	0.550***	0.534***	0.363***	0.169***	0.551***	0.534***	0.364***	0.169***	0.551***	0.534***	0.363***	0.170***	0.552***
	(0.023)	(0.014)	(0.016)	(0.041)	(0.023)	(0.014)	(0.016)	(0.041)	(0.022)	(0.014)	(0.016)	(0.041)	(0.023)	(0.014)	(0.016)	(0.041)
Size	0.027***	0.006**	0.020***	-0.008	0.025***	0.006***	0.018***	-0.005	0.025***	0.006***	0.018***	-0.005	0.026***	0.007***	0.019***	-0.005
	(0.005)	(0.002)	(0.004)	(0.010)	(0.005)	(0.002)	(0.004)	(0.010)	(0.005)	(0.002)	(0.004)	(0.010)	(0.005)	(0.002)	(0.004)	(0.010)
Growth	0.084***	0.038***	0.046***	0.065*	0.084***	0.038***	0.046***	0.064*	0.086***	0.038***	0.048***	0.060*	0.084***	0.037***	0.046***	0.062*
	(0.015)	(0.009)	(0.012)	(0.034)	(0.015)	(0.009)	(0.012)	(0.034)	(0.015)	(0.009)	(0.012)	(0.034)	(0.016)	(0.009)	(0.012)	(0.034)
ST Collateral	0.204***	0.015*	0.188***	-0.242***	0.190***	0.019**	0.171***	-0.207***	0.176***	0.024**	0.153***	-0.161***	0.175***	0.029***	0.146***	-0.128***
	(0.017)	(0.008)	(0.015)	(0.038)	(0.018)	(0.009)	(0.015)	(0.040)	(0.020)	(0.010)	(0.016)	(0.043)	(0.022)	(0.011)	(0.017)	(0.048)
Export Intensity	-0.022	-0.004	-0.013	0.008												
	(0.020)	(0.012)	(0.014)	(0.041)												
Export Intensity * ST Coll	0.173***	-0.009	0.165***	-0.170*												
	(0.060)	(0.027)	(0.050)	(0.096)												
Export Diversity					-0.013	0.001	-0.011	0.015	0.014	0.021	-0.005	0.079				
					(0.013)	(0.008)	(0.009)	(0.027)	(0.034)	(0.021)	(0.024)	(0.076)				
Export Diversity * ST Coll					0.124***	-0.017	0.130***	-0.176***	0.245**	-0.067	0.299***	-0.613***				
					(0.038)	(0.017)	(0.032)	(0.063)	(0.107)	(0.047)	(0.089)	(0.184)				
Export Diversity sq									-0.024	-0.019	-0.005	-0.061				
									(0.030)	(0.018)	(0.021)	(0.063)				
Export Diversity sq * ST Coll									-0.107	0.047	-0.153*	0.399***				
									(0.094)	(0.042)	(0.079)	(0.152)				
No. of Destinations													-0.008*	0.001	-0.008**	0.020**
													(0.004)	(0.003)	(0.003)	(0.009)
No. of Destinations * ST Coll													0.040***	-0.010*	0.046***	-0.093***
													(0.013)	(0.006)	(0.011)	(0.022)
Constant	-0.339***	-0.074**	-0.254***	0.462***	-0.314***	-0.077**	-0.226***	0.408**	-0.315***	-0.079**	-0.225***	0.401***	-0.328***	-0.087**	-0.229***	0.387***
	(0.076)	(0.036)	(0.062)	(0.164)	(0.075)	(0.036)	(0.060)	(0.162)	(0.075)	(0.036)	(0.060)	(0.161)	(0.077)	(0.036)	(0.061)	(0.164)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	10,816	10,816	10,816	8,407	10,816	10,816	10,816	8,407	10,816	10,816	10,816	8,407	10,816	10,816	10,816	8,407
No. of Firms	3,107	3,107	3,107	2,619	3,107	3,107	3,107	2,619	3,107	3,107	3,107	2,619	3,107	3,107	3,107	2,619
F	46.482	35.118	24.926	18.445	46.492	34.826	25.205	18.900	44.836	33.090	24.687	18.617	45.918	35.185	24.844	19.277
Adjusted R^2	0.295	0.315	0.203	0.154	0.297	0.315	0.207	0.157	0.299	0.315	0.212	0.160	0.294	0.316	0.203	0.160

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.4: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - Standalone Firms Only

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Volatility	-0.395***	-0.154***	-0.251***	-0.331*	-0.388***	-0.145***	-0.254***	-0.325*	-0.379***	-0.142***	-0.249***	-0.326*	-0.434***	-0.122**	-0.323***	-0.283
	(0.069)	(0.043)	(0.054)	(0.177)	(0.069)	(0.043)	(0.054)	(0.175)	(0.069)	(0.043)	(0.054)	(0.176)	(0.082)	(0.054)	(0.062)	(0.220)
Profitability	-0.415***	-0.092***	-0.317***	0.311***	-0.412***	-0.091***	-0.315***	0.297***	-0.410***	-0.091***	-0.313***	0.295***	-0.373***	-0.078***	-0.289***	0.379***
	(0.026)	(0.014)	(0.021)	(0.083)	(0.027)	(0.014)	(0.021)	(0.083)	(0.026)	(0.014)	(0.021)	(0.083)	(0.029)	(0.016)	(0.023)	(0.102)
LT Collateral	0.535***	0.364***	0.169***	0.554***	0.535***	0.364***	0.170***	0.550***	0.536***	0.364***	0.171***	0.550***	0.537***	0.361***	0.176***	0.557***
	(0.023)	(0.014)	(0.017)	(0.041)	(0.023)	(0.014)	(0.016)	(0.041)	(0.023)	(0.014)	(0.016)	(0.041)	(0.027)	(0.016)	(0.019)	(0.050)
Size	0.027***	0.005**	0.021***	-0.010	0.027***	0.006**	0.020***	-0.008	0.028***	0.006***	0.021***	-0.008	0.021***	0.003	0.017***	-0.015
	(0.005)	(0.002)	(0.004)	(0.010)	(0.005)	(0.002)	(0.004)	(0.010)	(0.005)	(0.002)	(0.004)	(0.010)	(0.006)	(0.003)	(0.005)	(0.013)
Growth	0.083***	0.039***	0.044***	0.063*	0.084***	0.038***	0.046***	0.066*	0.083***	0.038***	0.045***	0.069**	0.078***	0.028***	0.050***	0.034
	(0.016)	(0.009)	(0.013)	(0.035)	(0.015)	(0.009)	(0.012)	(0.034)	(0.016)	(0.009)	(0.012)	(0.034)	(0.019)	(0.010)	(0.015)	(0.043)
ST Collateral	0.231***	0.019***	0.209***	-0.248***	0.204***	0.014*	0.189***	-0.246***	0.216***	0.012	0.202***	-0.264***	0.192***	0.007	0.185***	-0.274***
	(0.016)	(0.007)	(0.014)	(0.034)	(0.017)	(0.008)	(0.014)	(0.038)	(0.016)	(0.007)	(0.014)	(0.036)	(0.018)	(0.008)	(0.015)	(0.043)
Cultural Distance	0.042	0.028	0.018	0.096												
	(0.045)	(0.027)	(0.034)	(0.108)												
Cultural Distance * ST Coll	0.117	-0.113**	0.210*	-0.524**												
	(0.133)	(0.055)	(0.112)	(0.242)												
Geographic Distance					-0.004	-0.001	-0.002	0.001								
					(0.003)	(0.002)	(0.002)	(0.007)								
Geographic Distance * ST Coll					0.029***	-0.001	0.027***	-0.025								
					(0.010)	(0.004)	(0.008)	(0.016)								
Political Risk									-0.020	-0.011	-0.006	-0.019				
									(0.013)	(0.008)	(0.010)	(0.027)				
Political Risk * ST Coll									0.107***	0.009	0.088***	-0.050				
									(0.041)	(0.017)	(0.034)	(0.064)				
Exchange Exposure													0.009	0.022	0.006	-0.159
													(0.073)	(0.054)	(0.065)	(0.256)
Exchange Exposure * ST Coll													1.120***	0.103	0.912***	-0.270
													(0.203)	(0.119)	(0.182)	(0.463)
Constant	-0.345***	-0.059	-0.274***	0.484***	-0.339***	-0.074**	-0.254***	0.463***	-0.352***	-0.076**	-0.264***	0.465***	-0.302***	-0.042	-0.251***	0.609***
	(0.077)	(0.036)	(0.064)	(0.164)	(0.076)	(0.036)	(0.062)	(0.164)	(0.076)	(0.036)	(0.062)	(0.164)	(0.092)	(0.044)	(0.074)	(0.211)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	10,336	10,336	10,336	8,037	10,804	10,804	10,804	8,400	10,800	10,800	10,800	8,394	7,160	7,160	7,160	5,491
No. of Firms	3,040	3,040	3,040	2,562	3,107	3,107	3,107	2,619	3,106	3,106	3,106	2,617	2,396	2,396	2,396	1,986
F	45.571	34.107	24.609	18.285	46.347	35.095	24.817	18.304	45.996	35.308	24.463	18.236	38.349	26.394	22.224	13.684
Adjusted R^2	0.294	0.314	0.201	0.157	0.295	0.315	0.203	0.154	0.294	0.316	0.199	0.154	0.300	0.305	0.216	0.150

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.5: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - Manufacturing Firms Only

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.009	-0.012***	0.002	-0.032***	-0.002	-0.009**	0.006	-0.035***	-0.042***	-0.028***	-0.015*	-0.012	-0.009	-0.012***	0.002	-0.031***
	(0.007)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.013)	(0.012)	(0.008)	(0.008)	(0.028)	(0.006)	(0.004)	(0.005)	(0.012)
Volatility	-0.426***	-0.239***	-0.197***	-0.399***	-0.441***	-0.244***	-0.208***	-0.372***	-0.339***	-0.238***	-0.106	-0.568*	-0.424***	-0.239***	-0.194***	-0.401***
	(0.061)	(0.037)	(0.044)	(0.129)	(0.066)	(0.040)	(0.049)	(0.138)	(0.124)	(0.084)	(0.076)	(0.319)	(0.060)	(0.037)	(0.044)	(0.129)
Profitability	-0.354***	-0.090***	-0.259***	0.376***	-0.367***	-0.086***	-0.275***	0.400***	-0.290***	-0.106***	-0.184***	0.255	-0.355***	-0.090***	-0.260***	0.375***
	(0.025)	(0.015)	(0.018)	(0.058)	(0.027)	(0.016)	(0.019)	(0.059)	(0.052)	(0.034)	(0.035)	(0.169)	(0.025)	(0.015)	(0.018)	(0.057)
LT Collateral	0.435***	0.286***	0.146***	0.369***	0.426***	0.284***	0.139***	0.384***	0.462***	0.300***	0.158***	0.332***	0.432***	0.287***	0.142***	0.374***
	(0.020)	(0.014)	(0.014)	(0.040)	(0.023)	(0.016)	(0.016)	(0.045)	(0.033)	(0.027)	(0.022)	(0.069)	(0.020)	(0.014)	(0.014)	(0.040)
ST Collateral	0.163***	0.011	0.151***	-0.224***	0.189***	0.010	0.177***	-0.263***	0.072***	0.010	0.062***	-0.078	0.087***	0.014	0.073***	-0.069
	(0.019)	(0.010)	(0.014)	(0.035)	(0.022)	(0.011)	(0.017)	(0.039)	(0.028)	(0.017)	(0.018)	(0.069)	(0.027)	(0.017)	(0.018)	(0.064)
Size	0.011**	0.010***	0.001	0.024***	0.010*	0.007**	0.002	0.019*	0.020**	0.017***	0.002	0.041**	0.012**	0.010***	0.002	0.024**
	(0.005)	(0.003)	(0.003)	(0.009)	(0.005)	(0.003)	(0.004)	(0.010)	(0.008)	(0.006)	(0.005)	(0.020)	(0.005)	(0.003)	(0.003)	(0.009)
Growth	0.082***	0.042***	0.038***	0.044*	0.074***	0.033***	0.040***	0.036	0.099***	0.068***	0.030*	0.074	0.082***	0.042***	0.039***	0.043*
	(0.013)	(0.009)	(0.009)	(0.025)	(0.015)	(0.010)	(0.010)	(0.027)	(0.021)	(0.019)	(0.017)	(0.051)	(0.013)	(0.009)	(0.009)	(0.025)
Export	0.031***	0.001	0.030***	-0.015									0.006	0.002	0.004	0.033
	(0.007)	(0.005)	(0.005)	(0.015)									(0.011)	(0.008)	(0.007)	(0.023)
Export x ST Collateral													0.098***	-0.003	0.100***	-0.191***
													(0.032)	(0.019)	(0.030)	(0.069)
Constant	-0.109	-0.114***	0.013	0.032	-0.061	-0.078	0.022	0.104	-0.222*	-0.231**	0.026	-0.233	-0.095	-0.114***	0.026	0.000
	(0.074)	(0.043)	(0.055)	(0.147)	(0.086)	(0.048)	(0.064)	(0.163)	(0.128)	(0.092)	(0.085)	(0.319)	(0.074)	(0.044)	(0.054)	(0.147)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	11,537	11,537	11,537	9,048	9,600	9,600	9,600	7,640	1,937	1,937	1,937	1,408	11,537	11,537	11,537	9,048
No. of Firms	2,289	2,289	2,289	2,034	1,922	1,922	1,922	1,711	671	671	671	560	2,289	2,289	2,289	2,034
F	30.124	19.843	15.985	10.663	25.077	17.374	14.978	10.855	12.925	8.346	4.766	3.391	29.539	19.326	15.710	10.815
Adjusted R^2	0.230	0.221	0.124	0.102	0.218	0.206	0.128	0.107	0.314	0.286	0.119	0.091	0.232	0.221	0.128	0.104

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.6: Leverage Ratios for Exporting and Non-Exporting Firms - Manufacturing Firms Only

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.010	-0.012***	0.001	-0.032***	-0.010	-0.012***	0.001	-0.031***	-0.010	-0.012***	0.001	-0.031***	-0.010	-0.012***	0.001	-0.031***
	(0.007)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.012)	(0.006)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.012)
Volatility	-0.423***	-0.232***	-0.199***	-0.351***	-0.419***	-0.238***	-0.191***	-0.384***	-0.431***	-0.242***	-0.199***	-0.384***	-0.420***	-0.238***	-0.191***	-0.392***
	(0.060)	(0.036)	(0.044)	(0.130)	(0.060)	(0.037)	(0.044)	(0.129)	(0.060)	(0.037)	(0.043)	(0.129)	(0.060)	(0.037)	(0.044)	(0.129)
Profitability	-0.357***	-0.089***	-0.263***	0.384***	-0.357***	-0.089***	-0.263***	0.384***	-0.354***	-0.088***	-0.261***	0.383***	-0.359***	-0.089***	-0.264***	0.384***
	(0.025)	(0.015)	(0.018)	(0.058)	(0.025)	(0.015)	(0.018)	(0.058)	(0.025)	(0.015)	(0.018)	(0.058)	(0.025)	(0.015)	(0.018)	(0.057)
LT Collateral	0.431***	0.287***	0.142***	0.371***	0.432***	0.287***	0.142***	0.374***	0.434***	0.288***	0.143***	0.374***	0.432***	0.287***	0.142***	0.375***
	(0.020)	(0.014)	(0.014)	(0.040)	(0.020)	(0.014)	(0.014)	(0.040)	(0.020)	(0.014)	(0.014)	(0.040)	(0.020)	(0.014)	(0.014)	(0.040)
Size	0.012**	0.010***	0.002	0.027***	0.012**	0.010***	0.002	0.026***	0.011**	0.010***	0.001	0.026***	0.011**	0.010***	0.001	0.025***
	(0.005)	(0.003)	(0.004)	(0.010)	(0.005)	(0.003)	(0.004)	(0.010)	(0.005)	(0.003)	(0.004)	(0.010)	(0.005)	(0.003)	(0.004)	(0.010)
Growth	0.080***	0.042***	0.038***	0.041	0.081***	0.042***	0.038***	0.041	0.081***	0.042***	0.038***	0.041	0.081***	0.042***	0.038***	0.042*
	(0.013)	(0.009)	(0.009)	(0.025)	(0.013)	(0.009)	(0.009)	(0.025)	(0.013)	(0.009)	(0.009)	(0.025)	(0.013)	(0.009)	(0.009)	(0.025)
ST Collateral	0.149***	0.019	0.130***	-0.156***	0.148***	0.028**	0.120***	-0.107**	0.137***	0.031**	0.105***	-0.101*	0.132***	0.026*	0.106***	-0.085
	(0.024)	(0.013)	(0.017)	(0.044)	(0.025)	(0.014)	(0.017)	(0.049)	(0.026)	(0.015)	(0.018)	(0.054)	(0.027)	(0.015)	(0.019)	(0.055)
Export Intensity	0.006	0.001	0.006	0.007												
	(0.018)	(0.012)	(0.011)	(0.034)												
Export Intensity x ST Coll	0.055	-0.023	0.075*	-0.201**												
	(0.052)	(0.028)	(0.038)	(0.092)												
Export Diversity					0.008	0.008	0.000	0.039	0.086**	0.042*	0.043*	0.043				
					(0.012)	(0.008)	(0.008)	(0.024)	(0.036)	(0.024)	(0.023)	(0.067)				
Export Diversity x ST Coll					0.031	-0.031	0.060**	-0.208***	0.050	-0.075	0.124	-0.247				
					(0.035)	(0.019)	(0.026)	(0.065)	(0.105)	(0.057)	(0.079)	(0.186)				
Export Diversity sq									-0.068**	-0.029	-0.037**	-0.004				
									(0.028)	(0.018)	(0.018)	(0.053)				
Export Diversity sq x ST Coll									0.003	0.042	-0.040	0.031				
									(0.081)	(0.045)	(0.060)	(0.143)				
No. of Destinations													0.002	0.002	-0.000	0.017*
													(0.005)	(0.003)	(0.003)	(0.009)
No. of Destinations x ST Coll													0.018	-0.008	0.025***	-0.077***
													(0.013)	(0.007)	(0.009)	(0.025)
Constant	-0.102	-0.122***	0.027	-0.029	-0.095	-0.119***	0.031	-0.021	-0.100	-0.121***	0.029	-0.022	-0.082	-0.116***	0.043	-0.014
	(0.076)	(0.044)	(0.056)	(0.149)	(0.076)	(0.044)	(0.056)	(0.148)	(0.076)	(0.044)	(0.056)	(0.148)	(0.077)	(0.045)	(0.056)	(0.150)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	11,537	11,537	11,537	9,048	11,537	11,537	11,537	9,048	11,537	11,537	11,537	9,048	11,537	11,537	11,537	9,048
No. of Firms	2,289	2,289	2,289	2,034	2,289	2,289	2,289	2,034	2,289	2,289	2,289	2,034	2,289	2,289	2,289	2,034
F	29.037	19.071	14.949	10.704	29.210	19.304	14.981	11.070	28.994	18.565	15.130	10.528	29.147	19.380	15.033	11.082
Adjusted R^2	0.228	0.221	0.122	0.105	0.228	0.221	0.122	0.106	0.233	0.222	0.127	0.105	0.229	0.221	0.123	0.105

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.6: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - Manufacturing Firms Only

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.010	-0.012***	0.001	-0.031***	-0.010	-0.012***	0.001	-0.032***	-0.011*	-0.012***	0.001	-0.032***	-0.010	-0.010**	-0.000	-0.021
	(0.007)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.012)	(0.007)	(0.004)	(0.005)	(0.014)
Volatility	-0.415***	-0.237***	-0.187***	-0.397***	-0.419***	-0.231***	-0.197***	-0.352***	-0.401***	-0.227***	-0.183***	-0.361***	-0.483***	-0.279***	-0.212***	-0.521***
	(0.060)	(0.037)	(0.044)	(0.130)	(0.060)	(0.036)	(0.044)	(0.130)	(0.060)	(0.036)	(0.044)	(0.131)	(0.071)	(0.044)	(0.050)	(0.151)
Profitability	-0.357***	-0.089***	-0.263***	0.385***	-0.357***	-0.089***	-0.263***	0.384***	-0.353***	-0.089***	-0.260***	0.378***	-0.364***	-0.091***	-0.266***	0.421***
	(0.025)	(0.015)	(0.018)	(0.058)	(0.025)	(0.015)	(0.018)	(0.058)	(0.025)	(0.015)	(0.018)	(0.057)	(0.030)	(0.017)	(0.021)	(0.068)
LT Collateral	0.430***	0.287***	0.140***	0.376***	0.431***	0.286***	0.142***	0.370***	0.431***	0.285***	0.143***	0.367***	0.413***	0.269***	0.142***	0.356***
	(0.020)	(0.014)	(0.014)	(0.041)	(0.020)	(0.014)	(0.014)	(0.040)	(0.020)	(0.014)	(0.014)	(0.040)	(0.023)	(0.016)	(0.015)	(0.048)
Size	0.012***	0.009***	0.003	0.025***	0.013***	0.010***	0.002	0.027***	0.014***	0.011***	0.003	0.026***	0.010*	0.011***	-0.002	0.033***
	(0.005)	(0.003)	(0.003)	(0.009)	(0.005)	(0.003)	(0.004)	(0.010)	(0.005)	(0.003)	(0.004)	(0.010)	(0.006)	(0.003)	(0.004)	(0.011)
Growth	0.081***	0.042***	0.037***	0.043*	0.080***	0.042***	0.037***	0.041	0.080***	0.042***	0.036***	0.044*	0.072***	0.044***	0.029***	0.065**
	(0.013)	(0.009)	(0.009)	(0.025)	(0.013)	(0.009)	(0.009)	(0.025)	(0.013)	(0.009)	(0.009)	(0.025)	(0.016)	(0.011)	(0.010)	(0.031)
ST Collateral	0.162***	0.021*	0.141***	-0.184***	0.152***	0.019	0.133***	-0.161***	0.156***	0.014	0.141***	-0.185***	0.164***	0.019	0.145***	-0.187***
	(0.022)	(0.011)	(0.016)	(0.039)	(0.024)	(0.013)	(0.017)	(0.044)	(0.022)	(0.012)	(0.016)	(0.040)	(0.023)	(0.013)	(0.016)	(0.047)
Cultural Distance	0.053	0.035	0.019	0.066												
	(0.035)	(0.025)	(0.024)	(0.075)												
Cultural Distance x ST Coll	0.050	-0.098	0.139*	-0.395**												
	(0.107)	(0.062)	(0.082)	(0.197)												
Geographic Distance					0.001	-0.000	0.001	0.001								
					(0.003)	(0.002)	(0.002)	(0.006)								
Geographic Distance x ST Coll					0.008	-0.003	0.011*	-0.031**								
					(0.008)	(0.004)	(0.006)	(0.015)								
Political Risk									-0.013	-0.008	-0.004	0.001				
									(0.010)	(0.006)	(0.007)	(0.022)				
Political Risk x ST Coll									0.039	-0.001	0.038*	-0.098*				
									(0.028)	(0.014)	(0.020)	(0.050)				
Exchange Exposure													-0.196	-0.122	-0.087	0.068
													(0.224)	(0.111)	(0.149)	(0.381)
Exchange Exposure x ST Coll													0.960*	-0.058	1.053**	-1.617**
													(0.559)	(0.235)	(0.431)	(0.772)
Constant	-0.108	-0.114***	0.014	0.009	-0.106	-0.124***	0.026	-0.030	-0.127*	-0.129***	0.009	-0.014	-0.101	-0.144***	0.054	-0.093
	(0.075)	(0.044)	(0.055)	(0.148)	(0.076)	(0.044)	(0.056)	(0.149)	(0.076)	(0.044)	(0.056)	(0.149)	(0.092)	(0.055)	(0.067)	(0.182)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	11,445	11,445	11,445	8,984	11,535	11,535	11,535	9,046	11,535	11,535	11,535	9,046	7,661	7,661	7,661	6,002
No. of Firms	2,283	2,283	2,283	2,029	2,289	2,289	2,289	2,034	2,289	2,289	2,289	2,034	1,796	1,796	1,796	1,567
F	29.074	18.953	14.857	10.542	28.906	19.065	14.902	10.703	28.747	19.133	14.833	10.937	21.222	15.664	13.153	9.745
Adjusted R^2	0.227	0.220	0.120	0.104	0.228	0.221	0.121	0.105	0.227	0.222	0.118	0.105	0.218	0.200	0.130	0.106

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.7: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - Threshold Correction

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.007*	-0.007***	-0.001	-0.032***	-0.006	-0.005**	-0.001	-0.032***	-0.008	-0.010***	0.002	-0.033**	-0.007*	-0.007***	-0.001	-0.032***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.004)	(0.009)	(0.006)	(0.004)	(0.005)	(0.015)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.360***	-0.159***	-0.206***	-0.404***	-0.398***	-0.167***	-0.236***	-0.359***	-0.233***	-0.125***	-0.112**	-0.570***	-0.361***	-0.159***	-0.207***	-0.400***
	(0.038)	(0.022)	(0.029)	(0.096)	(0.043)	(0.025)	(0.034)	(0.105)	(0.065)	(0.041)	(0.046)	(0.200)	(0.037)	(0.022)	(0.029)	(0.096)
Profitability	-0.368***	-0.085***	-0.278***	0.293***	-0.385***	-0.086***	-0.293***	0.304***	-0.311***	-0.077***	-0.230***	0.255***	-0.369***	-0.084***	-0.279***	0.293***
	(0.015)	(0.008)	(0.012)	(0.044)	(0.017)	(0.009)	(0.013)	(0.048)	(0.026)	(0.015)	(0.020)	(0.092)	(0.015)	(0.008)	(0.012)	(0.044)
LT Collateral	0.451***	0.301***	0.148***	0.490***	0.446***	0.294***	0.151***	0.489***	0.468***	0.322***	0.142***	0.497***	0.450***	0.301***	0.147***	0.492***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.017)	(0.011)	(0.012)	(0.032)	(0.022)	(0.016)	(0.015)	(0.044)	(0.014)	(0.010)	(0.010)	(0.028)
ST Collateral	0.222***	0.018***	0.202***	-0.244***	0.240***	0.016***	0.221***	-0.274***	0.166***	0.026***	0.140***	-0.131***	0.162***	0.019**	0.143***	-0.137***
	(0.010)	(0.005)	(0.008)	(0.021)	(0.012)	(0.006)	(0.010)	(0.024)	(0.016)	(0.008)	(0.012)	(0.035)	(0.015)	(0.008)	(0.012)	(0.034)
Size	0.022***	0.008***	0.013***	0.006	0.020***	0.006***	0.014***	0.002	0.028***	0.016***	0.011***	0.020*	0.022***	0.008***	0.013***	0.006
	(0.003)	(0.002)	(0.003)	(0.006)	(0.003)	(0.002)	(0.003)	(0.007)	(0.005)	(0.003)	(0.003)	(0.012)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.058***	0.031***	0.026***	0.052***	0.058***	0.028***	0.029***	0.051***	0.056***	0.040***	0.015	0.059*	0.058***	0.031***	0.026***	0.052***
	(0.008)	(0.005)	(0.006)	(0.017)	(0.009)	(0.005)	(0.007)	(0.019)	(0.014)	(0.010)	(0.010)	(0.033)	(0.008)	(0.005)	(0.006)	(0.017)
Export	0.012***	-0.002	0.014***	-0.014*									-0.008	-0.001	-0.006	0.023*
	(0.004)	(0.002)	(0.003)	(0.009)									(0.006)	(0.004)	(0.004)	(0.014)
Export * ST Collateral													0.077***	-0.002	0.076***	-0.135***
													(0.018)	(0.009)	(0.014)	(0.037)
Constant	-0.254***	-0.099***	-0.144***	0.245**	-0.223***	-0.064**	-0.149***	0.294***	-0.350***	-0.229***	-0.103*	0.010	-0.240***	-0.099***	-0.130***	0.215**
	(0.044)	(0.025)	(0.035)	(0.101)	(0.051)	(0.028)	(0.041)	(0.113)	(0.075)	(0.046)	(0.053)	(0.186)	(0.044)	(0.025)	(0.035)	(0.101)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	28,159	28,159	28,159	20,929	22,379	22,379	22,379	16,903	5,780	5,780	5,780	4,026	28,159	28,159	28,159	20,929
No. of Firms	5,797	5,797	5,797	4,905	4,556	4,556	4,556	3,895	2,448	2,448	2,448	1,892	5,797	5,797	5,797	4,905
F	70.144	40.150	39.818	25.550	55.691	31.462	33.683	22.191	29.077	18.013	13.836	8.870	68.792	39.250	39.307	25.170
Adjusted R^2	0.259	0.241	0.176	0.133	0.253	0.228	0.181	0.134	0.292	0.290	0.149	0.127	0.260	0.241	0.179	0.134

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.8: Leverage Ratios for Exporting and Non-Exporting Firms - Threshold Correction

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.006	-0.007***	0.000	-0.033***	-0.006	-0.007***	0.000	-0.033***	-0.006	-0.006***	0.000	-0.033***	-0.007*	-0.007***	-0.001	-0.032***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.374***	-0.161***	-0.217***	-0.392***	-0.374***	-0.162***	-0.217***	-0.391***	-0.378***	-0.162***	-0.220***	-0.388***	-0.367***	-0.158***	-0.213***	-0.390***
	(0.037)	(0.022)	(0.029)	(0.096)	(0.037)	(0.023)	(0.029)	(0.096)	(0.037)	(0.023)	(0.029)	(0.096)	(0.037)	(0.022)	(0.029)	(0.096)
Profitability	-0.371***	-0.085***	-0.281***	0.296***	-0.370***	-0.085***	-0.280***	0.296***	-0.368***	-0.084***	-0.278***	0.294***	-0.371***	-0.084***	-0.281***	0.297***
	(0.015)	(0.008)	(0.012)	(0.044)	(0.015)	(0.008)	(0.012)	(0.044)	(0.015)	(0.008)	(0.012)	(0.044)	(0.015)	(0.008)	(0.012)	(0.044)
LT Collateral	0.451***	0.301***	0.147***	0.491***	0.452***	0.301***	0.148***	0.490***	0.453***	0.301***	0.149***	0.490***	0.451***	0.301***	0.148***	0.491***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)
Size	0.021***	0.008***	0.012***	0.006	0.020***	0.008***	0.011***	0.007	0.019***	0.007***	0.011***	0.007	0.020***	0.008***	0.011***	0.008
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.058***	0.031***	0.026***	0.052***	0.058***	0.032***	0.026***	0.052***	0.058***	0.032***	0.026***	0.052***	0.058***	0.031***	0.026***	0.052***
	(0.008)	(0.005)	(0.006)	(0.017)	(0.008)	(0.005)	(0.006)	(0.017)	(0.008)	(0.005)	(0.006)	(0.017)	(0.008)	(0.005)	(0.006)	(0.017)
ST Collateral	0.199***	0.016***	0.182***	-0.224***	0.189***	0.019***	0.169***	-0.197***	0.178***	0.022***	0.155***	-0.180***	0.167***	0.021***	0.146***	-0.151***
	(0.012)	(0.006)	(0.010)	(0.026)	(0.012)	(0.006)	(0.010)	(0.028)	(0.013)	(0.006)	(0.010)	(0.029)	(0.014)	(0.007)	(0.011)	(0.032)
Export Intensity	0.005	0.001	0.006	0.003												
	(0.012)	(0.007)	(0.008)	(0.025)												
Export Intensity * ST Coll	0.106***	0.004	0.096***	-0.095												
	(0.035)	(0.017)	(0.029)	(0.063)												
Export Diversity					0.005	0.005	0.001	0.016	0.039*	0.025*	0.014	0.020				
					(0.008)	(0.005)	(0.006)	(0.018)	(0.021)	(0.013)	(0.015)	(0.048)				
Export Diversity * ST Coll					0.077***	-0.007	0.080***	-0.113***	0.152**	-0.044	0.190***	-0.250**				
					(0.023)	(0.011)	(0.019)	(0.043)	(0.064)	(0.032)	(0.053)	(0.122)				
Export Diversity sq									-0.030*	-0.019*	-0.011	-0.004				
									(0.018)	(0.011)	(0.013)	(0.040)				
Export Diversity sq * ST Coll									-0.062	0.035	-0.095**	0.119				
									(0.053)	(0.027)	(0.043)	(0.101)				
No. of Destinations													-0.004	0.000	-0.003*	0.011*
													(0.003)	(0.002)	(0.002)	(0.006)
No. of Destinations * ST Coll													0.033***	-0.002	0.033***	-0.055***
													(0.008)	(0.004)	(0.006)	(0.015)
Constant	-0.230***	-0.096***	-0.123***	0.229**	-0.214***	-0.094***	-0.108***	0.209**	-0.207***	-0.095***	-0.101***	0.203**	-0.213***	-0.101***	-0.100***	0.185*
	(0.044)	(0.025)	(0.035)	(0.102)	(0.044)	(0.025)	(0.035)	(0.101)	(0.044)	(0.025)	(0.035)	(0.101)	(0.045)	(0.025)	(0.035)	(0.102)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	28,159	28,159	28,159	20,929	28,159	28,159	28,159	20,929	28,159	28,159	28,159	20,929	28,159	28,159	28,159	20,929
No. of Firms	5797	5,797	5,797	4,905	5,797	5,797	5,797	4,905	5,797	5,797	5,797	4,905	5,797	5,797	5,797	4,905
F	68.842	39.106	39.359	25.536	69.184	39.199	39.620	25.876	67.489	37.773	38.834	25.007	69.138	39.365	39.656	25.712
Adjusted R^2	0.262	0.241	0.181	0.133	0.263	0.241	0.182	0.134	0.265	0.241	0.186	0.134	0.261	0.241	0.181	0.135

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.8: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - Threshold Correction

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.008*	-0.007***	-0.001	-0.031***	-0.006	-0.007***	0.000	-0.033***	-0.007*	-0.007***	-0.000	-0.032***	-0.008*	-0.006***	-0.002	-0.028***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.009)
Volatility	-0.362***	-0.162***	-0.205***	-0.405***	-0.373***	-0.161***	-0.217***	-0.392***	-0.364***	-0.158***	-0.210***	-0.399***	-0.405***	-0.160***	-0.248***	-0.350***
	(0.038)	(0.023)	(0.030)	(0.096)	(0.037)	(0.022)	(0.029)	(0.096)	(0.037)	(0.022)	(0.029)	(0.096)	(0.043)	(0.026)	(0.033)	(0.112)
Profitability	-0.370***	-0.083***	-0.281***	0.306***	-0.371***	-0.085***	-0.281***	0.295***	-0.368***	-0.084***	-0.278***	0.293***	-0.356***	-0.081***	-0.270***	0.321***
	(0.015)	(0.008)	(0.012)	(0.044)	(0.015)	(0.008)	(0.012)	(0.044)	(0.015)	(0.008)	(0.012)	(0.044)	(0.017)	(0.010)	(0.013)	(0.053)
LT Collateral	0.449***	0.301***	0.146***	0.492***	0.451***	0.301***	0.148***	0.490***	0.451***	0.301***	0.148***	0.490***	0.447***	0.292***	0.153***	0.483***
	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.014)	(0.010)	(0.010)	(0.028)	(0.016)	(0.011)	(0.011)	(0.033)
Size	0.021***	0.007***	0.013***	0.004	0.021***	0.008***	0.012***	0.006	0.022***	0.008***	0.013***	0.006	0.018***	0.008***	0.009***	0.009
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.003)	(0.008)
Growth	0.059***	0.032***	0.027***	0.051***	0.058***	0.031***	0.026***	0.052***	0.057***	0.031***	0.026***	0.052***	0.046***	0.024***	0.022***	0.043**
	(0.008)	(0.005)	(0.006)	(0.017)	(0.008)	(0.005)	(0.006)	(0.017)	(0.008)	(0.005)	(0.006)	(0.017)	(0.009)	(0.006)	(0.007)	(0.021)
ST Collateral	0.220***	0.022***	0.196***	-0.224***	0.199***	0.015***	0.183***	-0.227***	0.205***	0.014**	0.190***	-0.233***	0.193***	0.016***	0.176***	-0.227***
	(0.011)	(0.005)	(0.009)	(0.023)	(0.012)	(0.006)	(0.010)	(0.025)	(0.011)	(0.006)	(0.009)	(0.024)	(0.012)	(0.006)	(0.010)	(0.027)
Cultural Distance	0.056**	0.033**	0.023	0.068												
	(0.025)	(0.016)	(0.018)	(0.060)												
Cultural Distance * ST Coll	0.059	-0.075**	0.129**	-0.334**												
	(0.075)	(0.037)	(0.063)	(0.145)												
Geographic Distance					0.000	-0.000	0.001	0.000								
					(0.002)	(0.001)	(0.001)	(0.004)								
Geographic Distance * ST Coll					0.018***	0.001	0.015***	-0.013								
					(0.006)	(0.003)	(0.005)	(0.010)								
Political Risk									-0.010	-0.007	-0.001	0.001				
									(0.007)	(0.004)	(0.005)	(0.017)				
Political Risk * ST Coll									0.075***	0.015	0.055***	-0.050				
									(0.023)	(0.012)	(0.018)	(0.043)				
Exchange Exposure													-0.013	0.019	-0.031	0.002
													(0.072)	(0.047)	(0.051)	(0.169)
Exchange Exposure * ST Coll													0.970***	-0.007	0.938***	-0.662**
													(0.175)	(0.096)	(0.147)	(0.319)
Constant	-0.241***	-0.091***	-0.139***	0.249**	-0.230***	-0.096***	-0.124***	0.230**	-0.242***	-0.098***	-0.134***	0.237**	-0.226***	-0.106***	-0.109***	0.221*
	(0.045)	(0.025)	(0.035)	(0.102)	(0.044)	(0.025)	(0.035)	(0.102)	(0.044)	(0.025)	(0.035)	(0.102)	(0.053)	(0.031)	(0.041)	(0.127)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	26,980	26,980	26,980	20,080	28,139	28,139	28,139	20,917	28,131	28,131	28,131	20,905	19,556	19,556	19,556	14,351
No. of Firms	5,700	5,700	5,700	4,821	5,796	5,796	5,796	4,904	5,795	5,795	5,795	4,903	4,579	4,579	4,579	3,823
F	67.355	38.325	38.857	25.275	68.625	39.063	39.225	25.424	68.207	39.231	38.968	25.373	54.032	29.395	34.264	19.580
Adjusted R^2	0.259	0.240	0.177	0.135	0.262	0.241	0.180	0.133	0.260	0.240	0.178	0.133	0.261	0.227	0.191	0.130

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.9: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - No Crisis Years

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.003	-0.005**	0.001	-0.033***	-0.002	-0.004	0.002	-0.032***	-0.010	-0.009	-0.001	-0.037**	-0.004	-0.005**	0.001	-0.032***
	(0.005)	(0.003)	(0.004)	(0.009)	(0.005)	(0.003)	(0.004)	(0.010)	(0.009)	(0.005)	(0.006)	(0.019)	(0.005)	(0.003)	(0.003)	(0.009)
Volatility	-0.421***	-0.168***	-0.257***	-0.310***	-0.465***	-0.177***	-0.291***	-0.277**	-0.229**	-0.124**	-0.110*	-0.505*	-0.421***	-0.168***	-0.256***	-0.308***
	(0.045)	(0.028)	(0.034)	(0.118)	(0.050)	(0.031)	(0.038)	(0.128)	(0.093)	(0.061)	(0.060)	(0.268)	(0.045)	(0.028)	(0.034)	(0.118)
Profitability	-0.372***	-0.095***	-0.271***	0.233***	-0.387***	-0.094***	-0.287***	0.243***	-0.312***	-0.097***	-0.211***	0.199	-0.373***	-0.095***	-0.272***	0.234***
	(0.018)	(0.010)	(0.014)	(0.049)	(0.020)	(0.011)	(0.016)	(0.053)	(0.036)	(0.023)	(0.026)	(0.120)	(0.018)	(0.010)	(0.014)	(0.049)
LT Collateral	0.469***	0.305***	0.162***	0.469***	0.463***	0.296***	0.165***	0.455***	0.491***	0.335***	0.153***	0.525***	0.468***	0.305***	0.161***	0.471***
	(0.017)	(0.012)	(0.012)	(0.033)	(0.019)	(0.013)	(0.014)	(0.037)	(0.028)	(0.021)	(0.018)	(0.056)	(0.017)	(0.012)	(0.012)	(0.032)
ST Collateral	0.222***	0.022***	0.198***	-0.226***	0.246***	0.023***	0.220***	-0.258***	0.139***	0.024**	0.117***	-0.089*	0.138***	0.013	0.127***	-0.112***
	(0.012)	(0.006)	(0.009)	(0.024)	(0.013)	(0.007)	(0.011)	(0.026)	(0.019)	(0.010)	(0.014)	(0.048)	(0.018)	(0.010)	(0.014)	(0.043)
Size	0.023***	0.007***	0.016***	-0.001	0.024***	0.005**	0.017***	-0.003	0.024***	0.014***	0.010**	0.012	0.023***	0.007***	0.016***	-0.001
	(0.003)	(0.002)	(0.003)	(0.007)	(0.004)	(0.002)	(0.003)	(0.008)	(0.006)	(0.004)	(0.004)	(0.016)	(0.003)	(0.002)	(0.003)	(0.007)
Growth	0.076***	0.038***	0.037***	0.058***	0.076***	0.032***	0.043***	0.055**	0.071***	0.053***	0.016	0.073*	0.075***	0.038***	0.036***	0.060***
	(0.010)	(0.006)	(0.007)	(0.021)	(0.011)	(0.007)	(0.009)	(0.024)	(0.016)	(0.013)	(0.012)	(0.040)	(0.009)	(0.006)	(0.007)	(0.021)
Export	0.016***	-0.002	0.019***	-0.011									-0.012*	-0.005	-0.005	0.025
	(0.005)	(0.003)	(0.004)	(0.011)									(0.007)	(0.005)	(0.005)	(0.016)
Export * ST Collateral													0.106***	0.011	0.089***	-0.138***
													(0.021)	(0.011)	(0.017)	(0.046)
Constant	-0.287***	-0.077***	-0.196***	0.357***	-0.279***	-0.057*	-0.208***	0.388***	-0.286***	-0.188***	-0.082	0.135	-0.265***	-0.075**	-0.177***	0.323***
	(0.051)	(0.029)	(0.041)	(0.115)	(0.057)	(0.032)	(0.046)	(0.125)	(0.096)	(0.060)	(0.070)	(0.245)	(0.051)	(0.029)	(0.040)	(0.115)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	18,218	18,218	18,218	13,997	15,121	15,121	15,121	11,774	3,097	3,097	3,097	2,223	18,218	18,218	18,218	13,997
No. of Firms	4,517	4,517	4,517	3,882	3,780	3,780	3,780	3,268	1,433	1,433	1,433	1,130	4,517	4,517	4,517	3,882
F	58.444	31.598	31.784	18.220	48.274	26.008	27.752	15.216	20.568	14.415	9.067	8.394	57.222	30.850	31.391	17.831
Adjusted R^2	0.259	0.243	0.168	0.122	0.256	0.228	0.175	0.119	0.296	0.307	0.129	0.139	0.261	0.243	0.172	0.123

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.10: Leverage Ratios for Exporting and Non-Exporting Firms - No Crisis Years

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.002	-0.005**	0.002	-0.034***	-0.002	-0.005**	0.002	-0.034***	-0.002	-0.005**	0.002	-0.034***	-0.003	-0.005**	0.001	-0.033***
	(0.005)	(0.003)	(0.003)	(0.009)	(0.005)	(0.003)	(0.003)	(0.009)	(0.004)	(0.003)	(0.003)	(0.009)	(0.005)	(0.003)	(0.004)	(0.009)
Volatility	-0.435***	-0.169***	-0.269***	-0.280**	-0.438***	-0.171***	-0.270***	-0.281**	-0.440***	-0.171***	-0.272***	-0.279**	-0.427***	-0.169***	-0.262***	-0.295**
	(0.045)	(0.028)	(0.034)	(0.118)	(0.045)	(0.028)	(0.034)	(0.118)	(0.045)	(0.028)	(0.034)	(0.118)	(0.045)	(0.028)	(0.034)	(0.118)
Profitability	-0.374***	-0.095***	-0.273***	0.238***	-0.373***	-0.095***	-0.272***	0.237***	-0.372***	-0.095***	-0.271***	0.237***	-0.374***	-0.095***	-0.274***	0.240***
	(0.018)	(0.010)	(0.014)	(0.049)	(0.018)	(0.010)	(0.014)	(0.049)	(0.018)	(0.010)	(0.014)	(0.049)	(0.018)	(0.010)	(0.014)	(0.049)
LT Collateral	0.469***	0.305***	0.162***	0.467***	0.471***	0.305***	0.163***	0.466***	0.471***	0.306***	0.164***	0.466***	0.469***	0.305***	0.162***	0.470***
	(0.017)	(0.012)	(0.012)	(0.032)	(0.016)	(0.012)	(0.012)	(0.032)	(0.016)	(0.012)	(0.012)	(0.032)	(0.017)	(0.012)	(0.012)	(0.032)
Size	0.022***	0.007***	0.015***	0.001	0.021***	0.006***	0.014***	0.002	0.021***	0.006***	0.014***	0.002	0.021***	0.007***	0.013***	0.002
	(0.003)	(0.002)	(0.003)	(0.007)	(0.003)	(0.002)	(0.003)	(0.007)	(0.003)	(0.002)	(0.003)	(0.007)	(0.003)	(0.002)	(0.003)	(0.007)
Growth	0.074***	0.038***	0.035***	0.059***	0.075***	0.038***	0.035***	0.059***	0.077***	0.039***	0.037***	0.058***	0.075***	0.038***	0.036***	0.059***
	(0.009)	(0.006)	(0.007)	(0.021)	(0.009)	(0.006)	(0.007)	(0.021)	(0.009)	(0.006)	(0.007)	(0.021)	(0.009)	(0.006)	(0.007)	(0.021)
ST Collateral	0.198***	0.022***	0.175***	-0.198***	0.183***	0.024***	0.158***	-0.168***	0.174***	0.026***	0.148***	-0.155***	0.156***	0.026***	0.130***	-0.112***
	(0.013)	(0.007)	(0.011)	(0.029)	(0.014)	(0.007)	(0.011)	(0.031)	(0.015)	(0.008)	(0.012)	(0.034)	(0.017)	(0.009)	(0.013)	(0.038)
Export Intensity	0.011	0.000	0.012	-0.012												
	(0.014)	(0.009)	(0.011)	(0.030)												
Export Intensity * ST Coll	0.124***	-0.002	0.120***	-0.128*												
	(0.044)	(0.021)	(0.037)	(0.075)												
Export Diversity					0.008	0.005	0.005	0.007	0.061**	0.025	0.038**	-0.002				
					(0.010)	(0.006)	(0.007)	(0.021)	(0.026)	(0.017)	(0.018)	(0.057)				
Export Diversity * ST Coll					0.098***	-0.009	0.102***	-0.139***	0.149*	-0.036	0.176***	-0.236				
					(0.029)	(0.014)	(0.024)	(0.050)	(0.077)	(0.040)	(0.063)	(0.149)				
Export Diversity sq									-0.047**	-0.018	-0.029*	0.008				
									(0.022)	(0.014)	(0.016)	(0.048)				
Export Diversity sq * ST Coll									-0.040	0.026	-0.063	0.084				
									(0.066)	(0.034)	(0.055)	(0.124)				
No. of Destinations													-0.003	0.000	-0.003	0.013*
													(0.003)	(0.002)	(0.003)	(0.007)
No. of Destinations * ST Coll													0.041***	-0.003	0.042***	-0.069***
													(0.010)	(0.005)	(0.008)	(0.019)
Constant	-0.255***	-0.076***	-0.166***	0.315***	-0.237***	-0.074***	-0.151***	0.296**	-0.241***	-0.075**	-0.153***	0.298**	-0.227***	-0.079***	-0.134***	0.277***
	(0.051)	(0.029)	(0.040)	(0.116)	(0.051)	(0.029)	(0.040)	(0.116)	(0.051)	(0.029)	(0.040)	(0.116)	(0.052)	(0.029)	(0.041)	(0.117)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	18,218	18,218	18,218	13,997	18,218	18,218	18,218	13,997	18,218	18,218	18,218	13,997	18,218	18,218	18,218	13,997
No. of Firms	4,517	4,517	4,517	3,882	4,517	4,517	4,517	3,882	4,517	4,517	4,517	3,882	4,517	4,517	4,517	3,882
F	58.098	30.802	31.714	18.290	58.585	30.840	32.203	18.627	56.835	29.503	31.459	17.872	57.983	30.926	32.189	18.279
Adjusted R^2	0.263	0.243	0.176	0.124	0.266	0.243	0.179	0.125	0.268	0.243	0.182	0.125	0.263	0.243	0.176	0.125

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.11: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - Matching on Employment

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.008**	-0.007***	-0.002	-0.032***	-0.006	-0.006**	-0.002	-0.031***	-0.010*	-0.008*	-0.003	-0.023	-0.008**	-0.007***	-0.002	-0.031***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.006)	(0.004)	(0.005)	(0.015)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.370***	-0.161***	-0.213***	-0.381***	-0.398***	-0.167***	-0.235***	-0.364***	-0.287***	-0.133***	-0.155***	-0.411**	-0.370***	-0.161***	-0.213***	-0.382***
	(0.035)	(0.021)	(0.027)	(0.092)	(0.040)	(0.024)	(0.032)	(0.101)	(0.060)	(0.041)	(0.040)	(0.193)	(0.035)	(0.021)	(0.027)	(0.092)
Profitability	-0.352***	-0.082***	-0.264***	0.260***	-0.372***	-0.081***	-0.285***	0.284***	-0.270***	-0.086***	-0.182***	0.154*	-0.353***	-0.082***	-0.266***	0.261***
	(0.014)	(0.008)	(0.011)	(0.041)	(0.016)	(0.009)	(0.012)	(0.045)	(0.025)	(0.017)	(0.017)	(0.088)	(0.014)	(0.008)	(0.011)	(0.041)
LT Collateral	0.437***	0.289***	0.147***	0.482***	0.433***	0.286***	0.147***	0.482***	0.449***	0.302***	0.144***	0.498***	0.435***	0.289***	0.145***	0.486***
	(0.014)	(0.009)	(0.011)	(0.026)	(0.016)	(0.011)	(0.011)	(0.030)	(0.022)	(0.017)	(0.013)	(0.045)	(0.014)	(0.009)	(0.011)	(0.026)
ST Collateral	0.213***	0.016***	0.195***	-0.234***	0.237***	0.017***	0.218***	-0.260***	0.128***	0.012	0.115***	-0.125***	0.136***	0.012	0.125***	-0.129***
	(0.009)	(0.005)	(0.008)	(0.021)	(0.011)	(0.005)	(0.009)	(0.023)	(0.014)	(0.008)	(0.011)	(0.038)	(0.014)	(0.008)	(0.011)	(0.035)
Size	0.025***	0.010***	0.015***	0.010*	0.025***	0.008***	0.016***	0.002	0.029***	0.018***	0.010***	0.040***	0.026***	0.010***	0.015***	0.010*
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.004)	(0.003)	(0.003)	(0.011)	(0.003)	(0.001)	(0.002)	(0.006)
Growth	0.049***	0.026***	0.023***	0.041***	0.055***	0.027***	0.028***	0.042**	0.033***	0.025***	0.006	0.041	0.049***	0.026***	0.022***	0.042***
	(0.007)	(0.004)	(0.005)	(0.016)	(0.008)	(0.005)	(0.006)	(0.017)	(0.012)	(0.009)	(0.009)	(0.032)	(0.007)	(0.004)	(0.005)	(0.016)
Export	0.017***	-0.001	0.018***	-0.015									-0.010*	-0.003	-0.006*	0.021
	(0.004)	(0.002)	(0.003)	(0.009)									(0.006)	(0.004)	(0.004)	(0.014)
Export x ST Collateral													0.098***	0.005	0.090***	-0.129***
													(0.017)	(0.009)	(0.013)	(0.037)
Constant	-0.317***	-0.126***	-0.178***	0.195**	-0.297***	-0.094***	-0.187***	0.297***	-0.349***	-0.243***	-0.101**	-0.266	-0.298***	-0.125***	-0.161***	0.166*
	(0.040)	(0.023)	(0.031)	(0.091)	(0.047)	(0.026)	(0.037)	(0.103)	(0.060)	(0.040)	(0.044)	(0.170)	(0.039)	(0.023)	(0.031)	(0.091)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	31,792	31,792	31,792	23,426	26,001	26,001	26,001	19,477	5,791	5,791	5,791	3,949	31,792	31,792	31,792	23,426
No. of Firms	6,170	6,170	6,170	5,223	5,026	5,026	5,026	4,319	2,343	2,343	2,343	1,769	6,170	6,170	6,170	5,223
F	66.362	39.114	37.320	25.062	54.418	32.227	32.585	21.918	23.169	14.964	10.994	8.675	65.268	38.296	37.007	24.610
Adjusted R^2	0.255	0.234	0.173	0.130	0.252	0.227	0.179	0.131	0.282	0.276	0.135	0.131	0.257	0.234	0.176	0.131

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.12: Leverage Ratios for Exporting and Non-Exporting Firms - Matching on Employment

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.007*	-0.006***	-0.001	-0.032***	-0.007*	-0.006***	-0.001	-0.032***	-0.007	-0.006***	-0.001	-0.032***	-0.008**	-0.007***	-0.002	-0.032***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.385***	-0.164***	-0.224***	-0.370***	-0.385***	-0.165***	-0.223***	-0.371***	-0.389***	-0.165***	-0.227***	-0.365***	-0.377***	-0.162***	-0.220***	-0.369***
	(0.035)	(0.021)	(0.027)	(0.093)	(0.035)	(0.021)	(0.027)	(0.092)	(0.035)	(0.021)	(0.027)	(0.092)	(0.035)	(0.021)	(0.027)	(0.092)
Profitability	-0.355***	-0.082***	-0.267***	0.263***	-0.354***	-0.082***	-0.266***	0.263***	-0.352***	-0.082***	-0.265***	0.261***	-0.355***	-0.082***	-0.267***	0.265***
	(0.014)	(0.008)	(0.011)	(0.041)	(0.014)	(0.008)	(0.011)	(0.041)	(0.014)	(0.008)	(0.011)	(0.041)	(0.014)	(0.008)	(0.011)	(0.041)
LT Collateral	0.437***	0.289***	0.146***	0.483***	0.437***	0.289***	0.147***	0.483***	0.438***	0.290***	0.147***	0.483***	0.436***	0.289***	0.146***	0.485***
	(0.014)	(0.009)	(0.010)	(0.026)	(0.014)	(0.009)	(0.010)	(0.026)	(0.014)	(0.009)	(0.010)	(0.026)	(0.014)	(0.009)	(0.010)	(0.027)
Size	0.025***	0.009***	0.015***	0.009	0.024***	0.009***	0.014***	0.010*	0.023***	0.009***	0.013***	0.011*	0.024***	0.010***	0.013***	0.011*
	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.001)	(0.002)	(0.006)
Growth	0.048***	0.027***	0.022***	0.042***	0.049***	0.027***	0.022***	0.042***	0.050***	0.027***	0.023***	0.041***	0.049***	0.026***	0.022***	0.042***
	(0.007)	(0.004)	(0.005)	(0.015)	(0.007)	(0.004)	(0.005)	(0.016)	(0.007)	(0.004)	(0.005)	(0.015)	(0.007)	(0.004)	(0.005)	(0.016)
ST Collateral	0.195***	0.015***	0.179***	-0.222***	0.185***	0.017***	0.166***	-0.199***	0.172***	0.020***	0.151***	-0.177***	0.156***	0.018**	0.137***	-0.142***
	(0.011)	(0.005)	(0.009)	(0.024)	(0.011)	(0.006)	(0.009)	(0.026)	(0.012)	(0.006)	(0.010)	(0.028)	(0.013)	(0.007)	(0.011)	(0.032)
Export Intensity	0.015	0.004	0.012	-0.007												
	(0.012)	(0.007)	(0.008)	(0.026)												
Export Intensity x ST Coll	0.091***	0.003	0.085***	-0.059												
	(0.034)	(0.018)	(0.029)	(0.066)												
Export Diversity					0.010	0.007	0.004	0.010	0.043**	0.021	0.023	-0.002				
					(0.008)	(0.005)	(0.006)	(0.018)	(0.021)	(0.014)	(0.015)	(0.049)				
Export Diversity x ST Coll					0.070***	-0.007	0.074***	-0.086*	0.167***	-0.039	0.203***	-0.259**				
					(0.022)	(0.012)	(0.019)	(0.046)	(0.062)	(0.035)	(0.052)	(0.132)				
Export Diversity sq									-0.029	-0.013	-0.016	0.010				
									(0.018)	(0.012)	(0.012)	(0.042)				
Export Diversity sq x ST Coll									-0.082	0.029	-0.110**	0.148				
									(0.052)	(0.032)	(0.043)	(0.118)				
No. of Destinations													-0.003	0.000	-0.003	0.010
													(0.003)	(0.002)	(0.003)	(0.006)
No. of Destinations x ST Coll													0.035***	-0.001	0.036***	-0.054***
													(0.007)	(0.004)	(0.006)	(0.016)
Constant	-0.295***	-0.120***	-0.163***	0.185**	-0.279***	-0.117***	-0.149***	0.171*	-0.272***	-0.118***	-0.141***	0.164*	-0.273***	-0.126***	-0.133***	0.136
	(0.040)	(0.023)	(0.031)	(0.091)	(0.040)	(0.023)	(0.031)	(0.091)	(0.040)	(0.023)	(0.030)	(0.091)	(0.041)	(0.023)	(0.031)	(0.092)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	3,1792	31,792	31,792	23,426	31,792	31,792	31,792	23,426	31,792	31,792	31,792	23,426	31,792	31,792	31,792	23,426
No. of Firms	6,170	6,170	6,170	5,223	6,170	6,170	6,170	5,223	6,170	6,170	6,170	5,223	6,170	6,70	6,170	5,223
F	65.473	38.197	36.707	24.654	65.981	38.423	37.010	24.701	64.575	37.066	36.656	24.748	65.997	38.547	37.324	24.821
Adjusted R^2	0.258	0.234	0.176	0.130	0.259	0.234	0.178	0.130	0.261	0.235	0.183	0.131	0.258	0.234	0.178	0.131

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.12: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - Matching on Employment

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.009**	-0.007***	-0.002	-0.031***	-0.007*	-0.006***	-0.001	-0.032***	-0.008**	-0.007***	-0.002	-0.032***	-0.007*	-0.006**	-0.002	-0.027***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.009)
Volatility	-0.370***	-0.163***	-0.211***	-0.382***	-0.384***	-0.164***	-0.223***	-0.372***	-0.376***	-0.162***	-0.218***	-0.375***	-0.402***	-0.148***	-0.256***	-0.319***
	(0.035)	(0.022)	(0.027)	(0.093)	(0.035)	(0.021)	(0.027)	(0.093)	(0.035)	(0.021)	(0.027)	(0.093)	(0.042)	(0.025)	(0.032)	(0.109)
Profitability	-0.353***	-0.082***	-0.266***	0.271***	-0.354***	-0.082***	-0.266***	0.262***	-0.351***	-0.082***	-0.264***	0.260***	-0.340***	-0.075***	-0.259***	0.310***
	(0.014)	(0.008)	(0.011)	(0.042)	(0.014)	(0.008)	(0.011)	(0.041)	(0.014)	(0.008)	(0.011)	(0.041)	(0.017)	(0.009)	(0.013)	(0.050)
LT Collateral	0.435***	0.289***	0.144***	0.485***	0.437***	0.289***	0.146***	0.483***	0.437***	0.289***	0.147***	0.483***	0.434***	0.286***	0.147***	0.494***
	(0.014)	(0.010)	(0.010)	(0.027)	(0.014)	(0.009)	(0.010)	(0.026)	(0.014)	(0.009)	(0.010)	(0.026)	(0.016)	(0.011)	(0.011)	(0.031)
Size	0.026***	0.009***	0.016***	0.008	0.025***	0.010***	0.015***	0.009	0.026***	0.010***	0.015***	0.009	0.021***	0.009***	0.012***	0.009
	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.001)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)
Growth	0.050***	0.027***	0.023***	0.040**	0.048***	0.027***	0.021***	0.042***	0.048***	0.026***	0.021***	0.042***	0.045***	0.023***	0.023***	0.038**
	(0.007)	(0.005)	(0.005)	(0.016)	(0.007)	(0.004)	(0.005)	(0.016)	(0.007)	(0.004)	(0.005)	(0.016)	(0.009)	(0.005)	(0.006)	(0.019)
ST Collateral	0.211***	0.019***	0.191***	-0.219***	0.195***	0.014**	0.180***	-0.225***	0.200***	0.013**	0.186***	-0.227***	0.187***	0.016***	0.170***	-0.217***
	(0.010)	(0.005)	(0.008)	(0.022)	(0.011)	(0.005)	(0.009)	(0.024)	(0.010)	(0.005)	(0.009)	(0.023)	(0.011)	(0.006)	(0.009)	(0.026)
Cultural Distance	0.065***	0.031*	0.031*	0.048												
	(0.025)	(0.016)	(0.018)	(0.061)												
Cultural Distance x ST Coll	0.055	-0.058	0.114*	-0.249												
	(0.074)	(0.040)	(0.063)	(0.157)												
Geographic Distance					0.002	0.000	0.002	-0.001								
					(0.002)	(0.001)	(0.001)	(0.004)								
Geographic Distance x ST Coll					0.015***	0.001	0.013***	-0.008								
					(0.006)	(0.003)	(0.005)	(0.011)								
Political Risk									-0.003	-0.004	0.002	-0.002				
									(0.007)	(0.005)	(0.005)	(0.018)				
Political Risk x ST Coll									0.064***	0.013	0.049***	-0.032				
									(0.022)	(0.013)	(0.018)	(0.047)				
Exchange Exposure													-0.051	-0.007	-0.042	-0.074
													(0.072)	(0.045)	(0.052)	(0.168)
Exchange Exposure x ST Coll													1.026***	0.038	0.953***	-0.517
													(0.172)	(0.093)	(0.145)	(0.322)
Constant	-0.312***	-0.119***	-0.179***	0.196**	-0.296***	-0.120***	-0.164***	0.187**	-0.312***	-0.124***	-0.175***	0.192**	-0.289***	-0.130***	-0.146***	0.211*
	(0.040)	(0.023)	(0.031)	(0.091)	(0.040)	(0.023)	(0.031)	(0.091)	(0.040)	(0.022)	(0.031)	(0.091)	(0.050)	(0.029)	(0.038)	(0.117)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	30,536	30,536	30,536	22,519	31,772	31,772	31,772	23,416	31,780	31780	31,780	23,417	21,401	21,401	21,401	15,617
No. of Firms	6,090	6,090	6,090	5,151	6,170	6,170	6,170	5,223	6,170	6170	6,170	5,222	4,843	4,843	4,843	4,036
F	64.243	37.424	36.248	24.291	65.265	38.150	36.561	24.574	64.560	38.027	36.296	24.505	51.080	28.986	31.655	19.056
Adjusted R^2	0.255	0.234	0.173	0.131	0.257	0.234	0.176	0.130	0.255	0.234	0.173	0.129	0.256	0.224	0.184	0.128

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.13: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - Propensity Score Matching

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.006	-0.007***	0.001	-0.036***	-0.004	-0.006**	0.001	-0.033***	-0.012	-0.013***	0.000	-0.045***	-0.006	-0.007***	0.000	-0.035***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.004)	(0.009)	(0.007)	(0.005)	(0.005)	(0.016)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.464***	-0.200***	-0.264***	-0.429***	-0.463***	-0.188***	-0.276***	-0.397***	-0.459***	-0.242***	-0.211***	-0.571***	-0.463***	-0.200***	-0.262***	-0.432***
	(0.039)	(0.023)	(0.030)	(0.100)	(0.043)	(0.025)	(0.034)	(0.110)	(0.076)	(0.045)	(0.054)	(0.201)	(0.039)	(0.023)	(0.030)	(0.099)
Profitability	-0.369***	-0.085***	-0.279***	0.260***	-0.376***	-0.082***	-0.289***	0.288***	-0.342***	-0.095***	-0.245***	0.138	-0.371***	-0.085***	-0.280***	0.263***
	(0.016)	(0.009)	(0.012)	(0.044)	(0.017)	(0.009)	(0.013)	(0.046)	(0.032)	(0.020)	(0.022)	(0.104)	(0.016)	(0.009)	(0.012)	(0.044)
LT Collateral	0.429***	0.274***	0.154***	0.463***	0.428***	0.269***	0.157***	0.458***	0.443***	0.295***	0.147***	0.493***	0.428***	0.274***	0.153***	0.465***
	(0.015)	(0.011)	(0.011)	(0.030)	(0.017)	(0.012)	(0.012)	(0.030)	(0.025)	(0.019)	(0.018)	(0.049)	(0.015)	(0.011)	(0.011)	(0.030)
ST Collateral	0.204***	0.015***	0.187***	-0.221***	0.227***	0.014**	0.210***	-0.263***	0.133***	0.019***	0.114***	-0.068*	0.134***	0.016*	0.118***	-0.081**
	(0.010)	(0.005)	(0.008)	(0.022)	(0.012)	(0.006)	(0.010)	(0.025)	(0.017)	(0.009)	(0.013)	(0.039)	(0.016)	(0.009)	(0.013)	(0.037)
Size	0.023***	0.008***	0.014***	0.006	0.021***	0.006***	0.014***	0.001	0.030***	0.017***	0.012***	0.028**	0.023***	0.008***	0.014***	0.006
	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)	(0.006)	(0.004)	(0.004)	(0.014)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.062***	0.032***	0.030***	0.081***	0.061***	0.030***	0.032***	0.080***	0.069***	0.042***	0.027*	0.086**	0.062***	0.032***	0.031***	0.080***
	(0.009)	(0.005)	(0.007)	(0.020)	(0.010)	(0.006)	(0.008)	(0.022)	(0.021)	(0.014)	(0.015)	(0.044)	(0.009)	(0.005)	(0.007)	(0.020)
Export	0.007	-0.004	0.011***	-0.003									-0.017***	-0.003	-0.012***	0.045***
	(0.004)	(0.003)	(0.003)	(0.010)									(0.006)	(0.004)	(0.004)	(0.015)
Export * ST Collateral													0.091***	-0.001	0.089***	-0.177***
													(0.019)	(0.010)	(0.015)	(0.040)
Constant	-0.308***	-0.104***	-0.187***	0.277***	-0.291***	-0.077***	-0.198***	0.356***	-0.388***	-0.245***	-0.123*	-0.105	-0.295***	-0.105***	-0.175***	0.244**
	(0.046)	(0.027)	(0.036)	(0.106)	(0.051)	(0.028)	(0.041)	(0.116)	(0.094)	(0.062)	(0.066)	(0.222)	(0.046)	(0.027)	(0.036)	(0.106)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27,548	27,548	27,548	20,181	22,258	22,258	22,258	16,446	5,290	5,290	5,290	3,735	27,548	27,548	27,548	20,181
No. of Firms	5,367	5,367	5,367	4,547	4,446	4,446	4,446	3,786	2,013	2,013	2,013	1,544	5,367	5,367	5,367	4,547
F	62.095	34.269	36.000	21.693	53.987	29.520	33.089	18.731	20.772	13.030	12.811	7.542	60.960	33.617	35.478	21.473
Adjusted R^2	0.248	0.219	0.169	0.123	0.249	0.212	0.178	0.125	0.270	0.252	0.136	0.125	0.250	0.219	0.173	0.125

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and matched non-exporting firms separately and for the full (propensity score matched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.14: Leverage Ratios for Exporting and Non-Exporting Firms - Propensity Score Matching

	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.005	-0.007***	0.001	-0.036***	-0.005	-0.007***	0.001	-0.036***	-0.005	-0.007***	0.001	-0.036***	-0.006	-0.007***	0.001	-0.035***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.479***	-0.203***	-0.275***	-0.410***	-0.480***	-0.206***	-0.274***	-0.415***	-0.483***	-0.206***	-0.278***	-0.408***	-0.471***	-0.201***	-0.269***	-0.419***
	(0.039)	(0.023)	(0.030)	(0.101)	(0.039)	(0.023)	(0.030)	(0.100)	(0.039)	(0.023)	(0.030)	(0.100)	(0.039)	(0.023)	(0.030)	(0.100)
Profitability	-0.372***	-0.085***	-0.281***	0.264***	-0.371***	-0.085***	-0.281***	0.265***	-0.370***	-0.085***	-0.279***	0.263***	-0.372***	-0.085***	-0.282***	0.268***
	(0.016)	(0.009)	(0.012)	(0.044)	(0.016)	(0.009)	(0.012)	(0.044)	(0.016)	(0.009)	(0.012)	(0.044)	(0.016)	(0.009)	(0.012)	(0.044)
LT Collateral	0.429***	0.274***	0.153***	0.462***	0.430***	0.274***	0.154***	0.462***	0.430***	0.274***	0.154***	0.462***	0.429***	0.274***	0.153***	0.464***
	(0.015)	(0.011)	(0.011)	(0.030)	(0.015)	(0.011)	(0.011)	(0.030)	(0.015)	(0.011)	(0.011)	(0.030)	(0.015)	(0.011)	(0.011)	(0.030)
Size	0.022***	0.008***	0.013***	0.007	0.021***	0.007***	0.012***	0.007	0.021***	0.008***	0.012***	0.007	0.021***	0.008***	0.012***	0.007
	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)
Growth	0.061***	0.032***	0.030***	0.082***	0.062***	0.032***	0.030***	0.081***	0.062***	0.032***	0.030***	0.080***	0.062***	0.032***	0.030***	0.079***
	(0.009)	(0.005)	(0.007)	(0.020)	(0.009)	(0.005)	(0.007)	(0.020)	(0.009)	(0.005)	(0.007)	(0.020)	(0.009)	(0.005)	(0.007)	(0.020)
ST Collateral	0.185***	0.014**	0.169***	-0.196***	0.173***	0.017***	0.155***	-0.163***	0.163***	0.021***	0.141***	-0.134***	0.145***	0.019**	0.126***	-0.103***
	(0.012)	(0.006)	(0.009)	(0.026)	(0.012)	(0.006)	(0.010)	(0.028)	(0.013)	(0.007)	(0.011)	(0.030)	(0.015)	(0.008)	(0.012)	(0.034)
Export Intensity	0.006	0.001	0.006	0.010												
	(0.012)	(0.008)	(0.009)	(0.028)												
Export Intensity * ST Coll	0.087**	-0.002	0.085***	-0.111												
	(0.036)	(0.019)	(0.030)	(0.072)												
Export Diversity					0.003	0.006	-0.002	0.033*	0.025	0.014	0.012	0.039				
					(0.008)	(0.006)	(0.006)	(0.019)	(0.023)	(0.015)	(0.016)	(0.053)				
Export Diversity * ST Coll					0.073***	-0.010	0.080***	-0.145***	0.159***	-0.050	0.204***	-0.392***				
					(0.023)	(0.013)	(0.020)	(0.049)	(0.067)	(0.037)	(0.055)	(0.143)				
Export Diversity sq									-0.020	-0.008	-0.012	-0.007				
									(0.019)	(0.013)	(0.013)	(0.046)				
Export Diversity sq * ST Coll									-0.073	0.036	-0.107**	0.215*				
									(0.055)	(0.034)	(0.046)	(0.130)				
No. of Destinations													-0.006**	0.000	-0.005**	0.019***
													(0.003)	(0.002)	(0.003)	(0.007)
No. of Destinations * ST Coll													0.037***	-0.003	0.038***	-0.073***
													(0.008)	(0.004)	(0.008)	(0.017)
Constant	-0.282***	-0.103***	-0.164***	0.255**	-0.271***	-0.100***	-0.155***	0.244**	-0.272***	-0.101***	-0.155***	0.244**	-0.270***	-0.108***	-0.146***	0.226**
	(0.047)	(0.027)	(0.036)	(0.107)	(0.047)	(0.027)	(0.036)	(0.106)	(0.047)	(0.027)	(0.036)	(0.106)	(0.047)	(0.027)	(0.036)	(0.107)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27,548	27,548	27,548	20,181	27,548	27,548	27,548	20,181	27,548	27,548	27,548	20,181	27,548	27,548	27,548	20,181
No. of Firms	5,367	5,367	5,367	4,547	5,367	5,367	5,367	4,547	5,367	5,367	5,367	4,547	5,367	5,367	5,367	4,547
F	61.348	33.683	35.550	21.533	61.660	33.879	35.720	21.697	59.824	32.612	35.001	21.710	61.695	34.072	35.997	21.888
Adjusted R^2	0.251	0.219	0.173	0.124	0.252	0.219	0.175	0.125	0.254	0.219	0.179	0.126	0.251	0.219	0.175	0.126

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (propensity score matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.14: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - Propensity Score Matching

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.007*	-0.008***	0.000	-0.036***	-0.005	-0.007***	0.001	-0.036***	-0.006	-0.007***	0.001	-0.036***	-0.003	-0.006**	0.001	-0.032***
	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.008)	(0.004)	(0.002)	(0.003)	(0.009)
Volatility	-0.466***	-0.203***	-0.263***	-0.414***	-0.478***	-0.203***	-0.274***	-0.413***	-0.469***	-0.201***	-0.268***	-0.418***	-0.476***	-0.195***	-0.280***	-0.441***
	(0.040)	(0.023)	(0.030)	(0.101)	(0.039)	(0.023)	(0.030)	(0.101)	(0.039)	(0.023)	(0.030)	(0.101)	(0.045)	(0.027)	(0.034)	(0.114)
Profitability	-0.371***	-0.085***	-0.280***	0.266***	-0.371***	-0.085***	-0.281***	0.263***	-0.369***	-0.085***	-0.279***	0.261***	-0.351***	-0.080***	-0.266***	0.284***
	(0.016)	(0.009)	(0.012)	(0.044)	(0.016)	(0.009)	(0.012)	(0.044)	(0.016)	(0.009)	(0.012)	(0.044)	(0.017)	(0.010)	(0.013)	(0.050)
LT Collateral	0.426***	0.273***	0.152***	0.462***	0.430***	0.274***	0.154***	0.462***	0.430***	0.274***	0.154***	0.461***	0.436***	0.271***	0.163***	0.462***
	(0.015)	(0.011)	(0.011)	(0.031)	(0.015)	(0.011)	(0.011)	(0.030)	(0.015)	(0.011)	(0.011)	(0.030)	(0.017)	(0.012)	(0.012)	(0.035)
Size	0.022***	0.007***	0.014***	0.006	0.022***	0.008***	0.013***	0.007	0.022***	0.008***	0.013***	0.006	0.018***	0.008***	0.009***	0.011
	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)
Growth	0.065***	0.034***	0.032***	0.082***	0.061***	0.032***	0.030***	0.082***	0.061***	0.033***	0.029***	0.082***	0.049***	0.028***	0.022***	0.086***
	(0.009)	(0.005)	(0.007)	(0.020)	(0.009)	(0.005)	(0.007)	(0.020)	(0.009)	(0.005)	(0.007)	(0.020)	(0.010)	(0.006)	(0.008)	(0.023)
ST Collateral	0.200***	0.017***	0.180***	-0.199***	0.185***	0.013**	0.171***	-0.200***	0.189***	0.012**	0.176***	-0.207***	0.176***	0.014**	0.162***	-0.208***
	(0.011)	(0.005)	(0.009)	(0.024)	(0.011)	(0.006)	(0.009)	(0.026)	(0.011)	(0.006)	(0.009)	(0.025)	(0.012)	(0.006)	(0.009)	(0.027)
Cultural Distance	0.052*	0.029	0.022	0.080												
	(0.028)	(0.018)	(0.020)	(0.069)												
Cultural Distance * ST Coll	0.060	-0.060	0.120*	-0.347*												
	(0.082)	(0.043)	(0.070)	(0.179)												
Geographic Distance					0.001	-0.000	0.001	0.001								
					(0.002)	(0.001)	(0.001)	(0.005)								
Geographic Distance * ST Coll					0.015**	0.001	0.013***	-0.016								
					(0.006)	(0.003)	(0.005)	(0.012)								
Political Risk									-0.008	-0.005	-0.001	0.007				
									(0.008)	(0.005)	(0.006)	(0.020)				
Political Risk * ST Coll									0.065***	0.011	0.051***	-0.054				
									(0.024)	(0.014)	(0.019)	(0.053)				
Exchange Exposure													-0.026	0.025	-0.054	0.027
													(0.091)	(0.063)	(0.057)	(0.194)
Exchange Exposure * ST Coll													1.057***	-0.029	1.049***	-0.828**
													(0.201)	(0.123)	(0.156)	(0.363)
Constant	-0.290***	-0.097***	-0.177***	0.271**	-0.283***	-0.102***	-0.165***	0.257**	-0.293***	-0.104***	-0.173***	0.264**	-0.230***	-0.105***	-0.111***	0.184
	(0.047)	(0.027)	(0.037)	(0.107)	(0.047)	(0.027)	(0.036)	(0.106)	(0.047)	(0.027)	(0.036)	(0.106)	(0.053)	(0.031)	(0.040)	(0.123)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,523	26,523	26,523	19,443	27,529	27,529	27,529	20,169	27,518	27,518	27,518	20,155	20,080	20,080	20,080	14,649
No. of Firms	5,304	5,304	5,304	4,483	5,367	5,367	5,367	4,547	5,367	5,367	5,367	4,547	4,465	4,465	4,465	3,759
F	60.233	32.935	35.229	20.982	61.202	33.617	35.431	21.383	60.772	33.553	35.284	21.286	50.840	26.638	34.987	18.448
Adjusted R^2	0.249	0.218	0.170	0.125	0.251	0.219	0.173	0.124	0.249	0.219	0.171	0.123	0.252	0.211	0.183	0.126

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (propensity score matched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.15: Leverage Ratios for Exporting and Non-Exporting Firms (Export Status) - No Matching

	Full				Exporters				Non-Exporters				Full(interaction)			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.011***	-0.008***	-0.004	-0.029***	-0.006	-0.006***	-0.001	-0.031***	-0.018***	-0.011***	-0.007**	-0.021**	-0.011***	-0.008***	-0.004	-0.029***
	(0.003)	(0.002)	(0.002)	(0.006)	(0.004)	(0.002)	(0.003)	(0.008)	(0.005)	(0.003)	(0.003)	(0.010)	(0.003)	(0.002)	(0.002)	(0.006)
Volatility	-0.332***	-0.164***	-0.172***	-0.414***	-0.406***	-0.178***	-0.233***	-0.398***	-0.228***	-0.135***	-0.096***	-0.397***	-0.331***	-0.164***	-0.171***	-0.415***
	(0.029)	(0.018)	(0.021)	(0.074)	(0.037)	(0.022)	(0.029)	(0.093)	(0.040)	(0.026)	(0.026)	(0.109)	(0.028)	(0.018)	(0.021)	(0.074)
Profitability	-0.324***	-0.083***	-0.236***	0.233***	-0.370***	-0.081***	-0.283***	0.291***	-0.254***	-0.085***	-0.167***	0.130**	-0.325***	-0.083***	-0.237***	0.233***
	(0.012)	(0.007)	(0.009)	(0.035)	(0.015)	(0.008)	(0.011)	(0.042)	(0.017)	(0.011)	(0.011)	(0.055)	(0.012)	(0.007)	(0.009)	(0.035)
LT Collateral	0.430***	0.283***	0.145***	0.461***	0.429***	0.278***	0.150***	0.459***	0.432***	0.290***	0.140***	0.469***	0.429***	0.283***	0.144***	0.462***
	(0.012)	(0.008)	(0.009)	(0.022)	(0.015)	(0.010)	(0.011)	(0.030)	(0.016)	(0.012)	(0.009)	(0.030)	(0.012)	(0.008)	(0.009)	(0.022)
ST Collateral	0.182***	0.017***	0.164***	-0.197***	0.228***	0.017***	0.209***	-0.258***	0.121***	0.019***	0.102***	-0.102***	0.125***	0.018***	0.107***	-0.110***
	(0.008)	(0.004)	(0.006)	(0.017)	(0.010)	(0.005)	(0.009)	(0.022)	(0.010)	(0.006)	(0.008)	(0.024)	(0.010)	(0.006)	(0.008)	(0.023)
Size	0.026***	0.011***	0.014***	0.012**	0.023***	0.007***	0.015***	0.001	0.031***	0.017***	0.014***	0.028***	0.026***	0.011***	0.014***	0.012**
	(0.002)	(0.001)	(0.002)	(0.005)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.007)	(0.002)	(0.001)	(0.002)	(0.005)
Growth	0.041***	0.024***	0.017***	0.041***	0.054***	0.027***	0.027***	0.050***	0.026***	0.021***	0.005	0.030	0.041***	0.024***	0.017***	0.041***
	(0.006)	(0.004)	(0.004)	(0.012)	(0.008)	(0.005)	(0.006)	(0.016)	(0.008)	(0.005)	(0.005)	(0.019)	(0.006)	(0.004)	(0.004)	(0.012)
Export	0.011***	-0.003	0.014***	-0.013*									-0.015***	-0.002	-0.012***	0.026**
	(0.003)	(0.002)	(0.002)	(0.007)									(0.005)	(0.003)	(0.003)	(0.011)
Export x ST Collateral													0.098***	-0.002	0.097***	-0.142***
													(0.013)	(0.007)	(0.011)	(0.028)
Constant	-0.315***	-0.143***	-0.159***	0.154**	-0.267***	-0.083***	-0.169***	0.313***	-0.375***	-0.218***	-0.146***	-0.079	-0.302***	-0.143***	-0.147***	0.133*
	(0.033)	(0.019)	(0.024)	(0.074)	(0.043)	(0.024)	(0.034)	(0.096)	(0.047)	(0.030)	(0.031)	(0.109)	(0.033)	(0.020)	(0.024)	(0.074)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	47,509	47,509	47,509	34,303	29,350	29,350	29,350	21,998	18,159	18,159	18,159	12,305	47,509	47,509	47,509	34,303
No. of Firms	7,730	7,730	7,730	6,602	5,495	5,495	5,495	4,729	4,168	4,168	4,168	3,323	7,730	7,730	7,730	6,602
F	84.989	49.869	46.895	29.173	60.130	33.255	35.581	21.873	39.627	27.830	20.572	14.082	84.038	48.887	47.024	29.237
Adjusted R^2	0.257	0.237	0.166	0.125	0.249	0.218	0.175	0.126	0.281	0.269	0.139	0.123	0.261	0.237	0.172	0.127

Note: This table contains the results for pooled OLS regressions of the determinants of the capital structure and debt maturity for the subsamples of exporters and non-exporting firms separately and for the full (unmatched) sample. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.16: Leverage Ratios for Exporting and Non-Exporting Firms - No Matching

|	Model1				Model2				Model3				Model4			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.011***	-0.008***	-0.003	-0.030***	-0.011***	-0.008***	-0.003	-0.029***	-0.011***	-0.008***	-0.003	-0.030***	-0.011***	-0.008***	-0.004	-0.029***
	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)	(0.003)	(0.002)	(0.002)	(0.006)
Volatility	-0.342***	-0.166***	-0.179***	-0.405***	-0.342***	-0.167***	-0.179***	-0.406***	-0.345***	-0.167***	-0.181***	-0.403***	-0.337***	-0.164***	-0.178***	-0.403***
	(0.028)	(0.018)	(0.021)	(0.074)	(0.028)	(0.018)	(0.021)	(0.074)	(0.028)	(0.018)	(0.021)	(0.074)	(0.028)	(0.018)	(0.021)	(0.074)
Profitability	-0.327***	-0.083***	-0.239***	0.236***	-0.326***	-0.083***	-0.238***	0.236***	-0.325***	-0.083***	-0.237***	0.234***	-0.327***	-0.083***	-0.239***	0.237***
	(0.012)	(0.007)	(0.009)	(0.035)	(0.012)	(0.007)	(0.009)	(0.035)	(0.012)	(0.007)	(0.009)	(0.035)	(0.012)	(0.007)	(0.009)	(0.035)
LT Collateral	0.430***	0.283***	0.145***	0.461***	0.430***	0.283***	0.145***	0.461***	0.430***	0.283***	0.145***	0.461***	0.429***	0.283***	0.145***	0.461***
	(0.012)	(0.008)	(0.008)	(0.022)	(0.012)	(0.008)	(0.008)	(0.022)	(0.012)	(0.008)	(0.008)	(0.022)	(0.012)	(0.008)	(0.008)	(0.022)
Size	0.026***	0.011***	0.014***	0.012**	0.025***	0.011***	0.013***	0.012**	0.024***	0.011***	0.013***	0.013**	0.025***	0.011***	0.013***	0.014***
	(0.002)	(0.001)	(0.002)	(0.005)	(0.002)	(0.001)	(0.002)	(0.005)	(0.002)	(0.001)	(0.002)	(0.005)	(0.002)	(0.001)	(0.002)	(0.005)
Growth	0.040***	0.024***	0.016***	0.042***	0.041***	0.024***	0.017***	0.042***	0.041***	0.024***	0.017***	0.041***	0.041***	0.024***	0.017***	0.041***
	(0.006)	(0.004)	(0.004)	(0.012)	(0.006)	(0.004)	(0.004)	(0.012)	(0.006)	(0.004)	(0.004)	(0.012)	(0.006)	(0.004)	(0.004)	(0.012)
ST Collateral	0.164***	0.017***	0.146***	-0.174***	0.155***	0.018***	0.136***	-0.155***	0.145***	0.020***	0.124***	-0.137***	0.134***	0.020***	0.114***	-0.117***
	(0.009)	(0.004)	(0.007)	(0.019)	(0.009)	(0.005)	(0.007)	(0.021)	(0.009)	(0.005)	(0.007)	(0.021)	(0.010)	(0.005)	(0.008)	(0.023)
Export Intensity	-0.001	0.001	-0.001	0.019												
	(0.011)	(0.007)	(0.008)	(0.024)												
Export Intensity x ST Coll	0.125***	-0.002	0.123***	-0.149**												
	(0.031)	(0.017)	(0.025)	(0.059)												
Export Diversity					-0.002	0.005	-0.005	0.026	0.011	0.012	0.000	0.037				
					(0.007)	(0.005)	(0.005)	(0.016)	(0.020)	(0.013)	(0.013)	(0.044)				
Export Diversity x ST Coll					0.095***	-0.009	0.101***	-0.141***	0.218***	-0.038	0.250***	-0.364***				
					(0.020)	(0.011)	(0.016)	(0.040)	(0.057)	(0.031)	(0.046)	(0.116)				
Export Diversity sq									-0.010	-0.007	-0.003	-0.013				
									(0.017)	(0.011)	(0.012)	(0.039)				
Export Diversity sq x ST Coll									-0.112**	0.028	-0.137***	0.203*				
									(0.049)	(0.029)	(0.040)	(0.107)				
No. of Destinations													-0.006**	-0.000	-0.005***	0.012**
													(0.002)	(0.002)	(0.002)	(0.005)
No. of Destinations x ST Coll													0.041***	-0.002	0.042***	-0.063***
													(0.006)	(0.003)	(0.005)	(0.013)
Constant	-0.300***	-0.138***	-0.151***	0.147**	-0.288***	-0.136***	-0.140***	0.136*	-0.281***	-0.137***	-0.132***	0.128*	-0.286***	-0.145***	-0.128***	0.110
	(0.033)	(0.019)	(0.024)	(0.075)	(0.033)	(0.019)	(0.024)	(0.074)	(0.033)	(0.020)	(0.024)	(0.074)	(0.034)	(0.020)	(0.024)	(0.075)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	47,509	47,509	47,509	34,303	47,509	47,509	47,509	34,303	47,509	47,509	47,509	34,303	47,509	47,509	47,509	34,303
No. of Firms	7,730	7,730	7,730	6,602	7,730	7,730	7,730	6,602	7,730	7,730	7,730	6,602	7,730	7,730	7,730	6,602
F	84.116	48.879	46.512	29.120	84.632	49.048	46.891	29.371	82.127	47.362	46.054	29.258	84.766	49.168	47.485	29.581
Adjusted R^2	0.260	0.237	0.170	0.126	0.261	0.237	0.173	0.127	0.263	0.237	0.176	0.128	0.261	0.237	0.174	0.128

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (unmatched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table B.16: Continued: Leverage Ratios for Exporting and Non-Exporting Firms - No Matching

	Model5				Model6				Model7				Model8			
	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT	TOT	LT	ST	MAT
Group	-0.012***	-0.009***	-0.004*	-0.029***	-0.011***	-0.008***	-0.003	-0.030***	-0.011***	-0.008***	-0.004	-0.029***	-0.007*	-0.006***	-0.001	-0.032***
	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.007)	(0.003)	(0.002)	(0.002)	(0.007)	(0.004)	(0.002)	(0.003)	(0.008)
Volatility	-0.332***	-0.166***	-0.169***	-0.413***	-0.341***	-0.166***	-0.179***	-0.406***	-0.335***	-0.165***	-0.174***	-0.411***	-0.382***	-0.152***	-0.231***	-0.348***
	(0.029)	(0.018)	(0.021)	(0.074)	(0.028)	(0.018)	(0.021)	(0.074)	(0.028)	(0.018)	(0.021)	(0.074)	(0.037)	(0.023)	(0.028)	(0.096)
Profitability	-0.326***	-0.083***	-0.238***	0.243***	-0.327***	-0.083***	-0.238***	0.235***	-0.325***	-0.083***	-0.237***	0.234***	-0.328***	-0.073***	-0.249***	0.304***
	(0.012)	(0.007)	(0.009)	(0.035)	(0.012)	(0.007)	(0.009)	(0.035)	(0.012)	(0.007)	(0.009)	(0.035)	(0.015)	(0.009)	(0.011)	(0.045)
LT Collateral	0.428***	0.283***	0.143***	0.463***	0.430***	0.283***	0.145***	0.461***	0.430***	0.283***	0.145***	0.461***	0.441***	0.285***	0.155***	0.471***
	(0.012)	(0.008)	(0.008)	(0.023)	(0.012)	(0.008)	(0.008)	(0.022)	(0.012)	(0.008)	(0.008)	(0.022)	(0.015)	(0.011)	(0.010)	(0.029)
Size	0.026***	0.011***	0.015***	0.010**	0.026***	0.011***	0.014***	0.012**	0.027***	0.011***	0.015***	0.011**	0.021***	0.009***	0.010***	0.012***
	(0.002)	(0.001)	(0.002)	(0.005)	(0.002)	(0.001)	(0.002)	(0.005)	(0.002)	(0.001)	(0.002)	(0.005)	(0.003)	(0.002)	(0.002)	(0.006)
Growth	0.042***	0.024***	0.017***	0.040***	0.040***	0.024***	0.016***	0.042***	0.040***	0.023***	0.016***	0.042***	0.040***	0.022***	0.018***	0.044***
	(0.006)	(0.004)	(0.004)	(0.012)	(0.006)	(0.004)	(0.004)	(0.012)	(0.006)	(0.004)	(0.004)	(0.012)	(0.008)	(0.005)	(0.005)	(0.016)
ST Collateral	0.176***	0.019***	0.155***	-0.178***	0.165***	0.016***	0.147***	-0.177***	0.169***	0.015***	0.153***	-0.183***	0.175***	0.016***	0.159***	-0.196***
	(0.008)	(0.004)	(0.007)	(0.018)	(0.009)	(0.004)	(0.007)	(0.019)	(0.008)	(0.004)	(0.007)	(0.019)	(0.010)	(0.005)	(0.008)	(0.024)
Cultural Distance	0.034	0.029*	0.003	0.092												
	(0.024)	(0.016)	(0.017)	(0.058)												
Cultural Distance x ST Coll	0.155**	-0.065*	0.220***	-0.429***												
	(0.072)	(0.038)	(0.060)	(0.147)												
Geographic Distance					-0.001	0.000	-0.000	0.003								
					(0.002)	(0.001)	(0.001)	(0.004)								
Geographic Distance x ST Coll					0.021***	0.000	0.020***	-0.022**								
					(0.005)	(0.003)	(0.004)	(0.010)								
Political Risk									-0.012*	-0.005	-0.007	0.014				
									(0.007)	(0.005)	(0.005)	(0.017)				
Political Risk x ST Coll									0.088***	0.009	0.077***	-0.087**				
									(0.021)	(0.013)	(0.017)	(0.044)				
Exchange Exposure													-0.054	-0.003	-0.050	-0.044
													(0.076)	(0.052)	(0.048)	(0.175)
Exchange Exposure x ST Coll													1.080***	0.012	1.031***	-0.743**
													(0.175)	(0.101)	(0.139)	(0.330)
Constant	-0.310***	-0.134***	-0.164***	0.164**	-0.302***	-0.138***	-0.152***	0.148**	-0.314***	-0.140***	-0.161***	0.156**	-0.271***	-0.131***	-0.126***	0.172*
	(0.033)	(0.019)	(0.024)	(0.074)	(0.033)	(0.019)	(0.024)	(0.075)	(0.033)	(0.019)	(0.024)	(0.074)	(0.044)	(0.026)	(0.033)	(0.104)
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	45,960	45,960	45,960	33,173	47,477	47,477	47,477	34,283	47,492	47,492	47,492	34,289	26,992	26,992	2,6992	19,638
No. of Firms	7,682	7,682	7,682	6,550	7,729	7,729	7,729	6,601	7,730	7,730	7,730	6,602	5,601	5,601	5,601	4,717
F	83.369	48.262	46.205	28.883	83.883	48.816	46.349	28.942	83.232	48.622	46.037	28.808	59.080	30.867	36.186	21.117
Adjusted R^2	0.259	0.237	0.167	0.127	0.260	0.237	0.170	0.126	0.259	0.237	0.168	0.126	0.255	0.220	0.180	0.124

Note: This table contains the results for pooled OLS regressions of the determinants of capital structure and debt maturity for the full (unmatched) sample of exporters and non-exporters. The dependent variables are TOT (total financial debt/total assets), LT (long-term financial debt/total assets), ST (short-term financial debt/total assets) and MAT (long-term financial debt/total financial debt). All independent variables are one-period lagged ones. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all regressions. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Figure B.1: Belgian Worldwide Export Destinations (1998-2013)
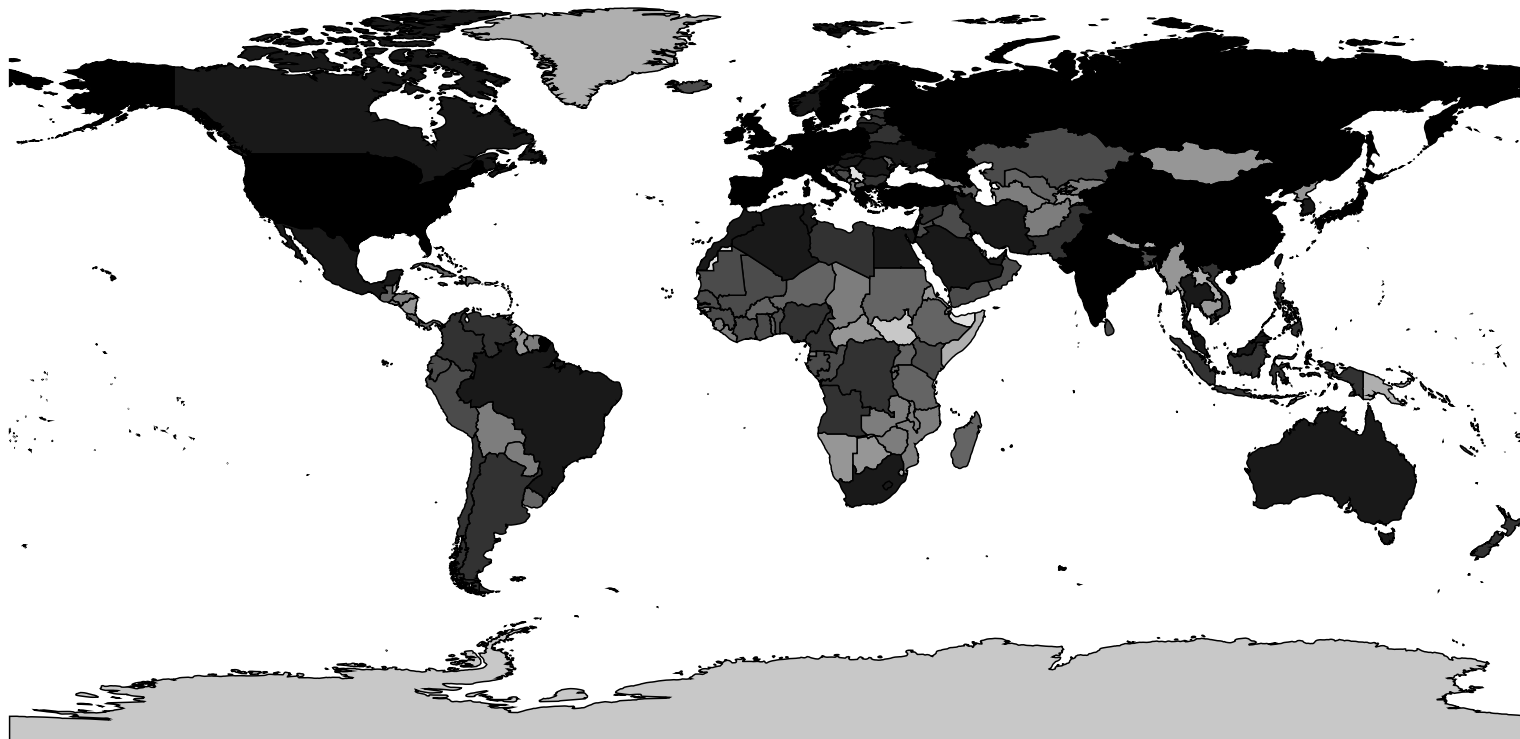
Note: Different tones of grey are used to visualize the importance of each country as a trading partner during the period 1998-2013; that is, the darker colored the country, the larger its share in Belgian exports.

Chapter 2

On the Adjustment of Capital Structure: Exporting vs. Non-Exporting Firms

Abstract - Using a longitudinal dataset containing firm-level financial and exporting data from private Belgian firms between 1999 and 2013, this paper examines the impact of export activities on corporate financial flexibility. Private firms are generally assumed to have restricted access to financing, even though financial flexibility is an important driver behind export participation and success. We approach financial flexibility as the ability of the firm to adjust its debt position, and rely on the framework offered by dynamic capital structure theory. We find evidence in support of targeting behavior in corporate financing decisions: both exporters and non-exporting firms rebalance their capital structures towards the optimal leverage level. In addition, we show that exporters are more likely to alter their capital structures both upwards and downwards as compared to their non-exporting peers. While exporters seem to be able to alter their debt positions more frequently, their superior financial flexibility is at least partly rooted in their higher reliance on short-term debt financing due to higher working capital needs.

2.1   Introduction

Besides one-time significant sunk costs, such as the costs associated with foreign market research and setting up distribution networks, exporting increases the cash conversion cycle of the firm due to longer transportation periods and the administrative paperwork that comes along with international trade (Djankov, Freund, and Pham, 2010; Hummels and Schaur, 2013). While private, smaller-sized firms take up a significant share of economic growth and development, their access to financial resources that support their (export) activities remains a key concern (WTO, 2016). This lack of easy access is a direct result of the greater amount of financial obstacles faced by smaller-sized companies, relative to large publicly quoted firms (Beck, Demirgüç-Kunt, Laeven, and Maksimovic, 2006; Brav, 2009). Since financial frictions are often proclaimed to be severe impediments to the success of the international strategy of the firm (Greenaway, Guariglia, and Kneller, 2007; Chaney, 2016), and since the activities of smaller-sized private firms may suffer greater hindrance from such constraints, we aim to provide more insight into this phenomenon by examining the impact of export activities on corporate financial flexibility. Relying on the framework offered by dynamic capital structure theory (Marsh, 1982; Hovakimian, Opler, and Titman, 2001; Ozkan, 2001; Flannery and Rangan, 2006; Huang and Ritter, 2009), we define financial flexibility as the ease with which firms can adjust their debt positions upwards and downwards when the need arises. Costly leverage adjustments are a sign of capital constraints that is commonly accepted in the literature: firms that experience substantial leverage adjustment costs rebalance their capital structures less frequently, and consequently have lower financial flexibility (Hovakimian, Opler, and Titman, 2001; Dewaelheyns and Van Hulle, 2012). In this paper, we aim to evaluate to what extent firm and export characteristics play a role in the capital structure dynamics of exporters by comparing the leverage adjustment behavior of exporters with that of their non-exporting peers.

To date, empirical evidence on financial flexibility is mostly confined to large, publicly quoted firms (Ozkan, 2001; Hovakimian, Hovakimian, and Tehranian, 2004; Leary and Roberts, 2005; Öztekin and Flannery, 2012). McMillan and Camara (2012) and Park, Suh, and Yeung (2013) are among the few studies that investigate financial flexibility in a multinational context by comparing the leverage adjustment process of multinational and domestic corporations. We aim to add to this scarce evidence by studying financial flexibility applied to a setting of private exporting firms. For this purpose, we rely on insights from dynamic capital structure theory, which assumes that firms have an optimal leverage ratio in mind that weighs the costs of debt financing against its benefits. In the absence of capital market frictions, a firm adjusts its capital structure immediately when it deviates from its target. Market imperfections, however, cause corporate

capital structures to temporarily deviate off-target since firms may experience difficulties in adjusting their capital structures towards that target following a shock. In particular, market imperfections hinder the process of adjusting leverage by affecting both leverage adjustment costs and the costs associated with deviating from the optimal leverage ratio (Ozkan, 2001).

Private smaller-sized firms are generally considered to be more financially constrained than large publicly quoted firms. Consequently, these firms bear much higher leverage adjustment costs than large publicly traded firms, resulting in slower or less active leverage adjustment (Brav, 2009; Goyal, Nova, and Zanetti, 2011). However, private exporters might in fact be more financially flexible than their non-exporting peers. In particular, the benefits associated with serving more than one geographical region might allow exporters to get around capital market imperfections and to alter their capital structure more frequently. In addition to several opportunities, their presence in foreign markets entails a number of challenges, so that only the largest and most productive firms can enter export markets (Bernard and Jensen, 1999; Greenaway, Guariglia, and Kneller, 2007). As such, the simple act of conducting export activities might be considered as a signal of borrower quality, reducing financial constraints.

We draw on a large-scale proprietary panel dataset from the National Bank of Belgium (NBB) that combines key firm-year level financial information on Belgian firms, including privately held ones[1], and information regarding their export and import transactions by country of destination and country of origin. This comprehensive dataset provides a unique opportunity to examine the financial flexibility of exporting and non-exporting private firms. Our results show that both exporters and non-exporting firms have a target leverage ratio to which they evolve over time. Furthermore, we find that exporters are more likely to adjust their leverage ratios upwards and downwards. Our results suggest that exporting firms rely more heavily on short-term debt financing, which is likely to contribute to lower leverage adjustment costs: it is easier to obtain short-term than long-term debt, whereas leverage naturally adjusts downwards at the moment debt matures. In addition, although serving multiple geographical regions does not lead to a lower earnings volatility for our sample firms, the mere act of exporting might signal borrower quality to external creditors, which facilitates access to financing and in turn reduces the costs associated with adjusting leverage. In fact, besides having significantly more collateral than their non-exporting peers[2], exporters' total factor productivity is also considerably higher. According to the trade literature, total factor productivity is an indicator of supe-

---

[1]In Belgium, both listed and small, unlisted firms are bound to file financial statements, ensuring a wide coverage of this database.

[2]Our descriptive statistics show that exporters have substantially more short-term collateral, and significantly less long-term collateral than their non-exporting peers. When turning to overall collateral, exporters have significantly more pledgeable assets on their balance.

rior firm quality. Overall, our findings suggest that exporters experience superior corporate financial flexibility. However, their focus on short-term debt financing may come at the cost of a higher financial vulnerability in negative economic circumstances. Our findings are robust to a wide variety of sample compositions, variable definitions and methodologies, including an instrumental variables approach.

The remainder of this paper is structured as follows: the next section provides a comprehensive overview of the literature on capital structure dynamics. In particular, we briefly focus on the (scant) empirical evidence on leverage adjustments in a multinational setting, from which we derive hypotheses for the leverage adjustment behavior of exporters versus non-exporting firms. Section 2.3 contains an introduction on the methodology used to investigate leverage adjustments in a setting of private firms. Section 2.4 describes the sample selection procedure, followed by descriptive statistics and univariate tests. Section 2.5 and 2.6 comprise of the results of the multivariate tests and robustness tests, in which we also discuss some of the biases inherent to our empirical set-up and the manner in which they are addressed. Finally, Section 2.7 offers concluding remarks and avenues for future research.

2.2   Literature Review and Hypotheses

2.2.1   Dynamic Capital Structure Theory

Over the past decades, a number of theories have been put forward to explain corporate capital structures, among which the static trade-off theory and the pecking order theory are the most frequently cited. Following *static trade-off theory*, firms have an optimal debt-to-equity structure in the sense that the marginal costs associated with an increase in leverage (e.g. increased bankruptcy costs and agency costs arising between owners and financial creditors) are balanced against the marginal benefits of such an increase (e.g. interest tax advantages and the disciplinary role of debt) (Modigliani and Miller, 1963; Brennan and Schwartz, 1978; DeAngelo and Masulis, 1980; Bradley, Jarrell, and Kim, 1984; Myers, 1977). As long as the benefits of an additional unit of leverage outweigh the related costs, it is optimal to increase leverage. Static trade-off theory assumes that following a shock in leverage, firms will rebalance their capital structures towards the equilibrium level immediately. This assumption, however, is realistic only when no market imperfections exist and when firms do not incur transactions costs (Titman and Wessels, 1988; Rajan and Zingales, 1995; Aybar-Arias, Casino-Martínez, and López-Gracia, 2012). In contrast to static trade-off theory, *pecking order theory* does not assume the existence of a target leverage ratio. Instead, capital structure is to be regarded as the result of historical prof-

itability and investment opportunities. According to Donaldson (1961), firms become less leveraged when profits are high, and accumulate leverage in periods of weak earnings. Since no optimal leverage level is assumed, firms are not inclined to reverse leverage increases and decreases. In a first instance, investments are financed with internal funds due to information asymmetries between insiders and outsiders of the firm. If internally generated funds appear insufficient, external liabilities are used as a second-best source of financing. Finally, when internal resources and debt financing prove insufficient, equity financing is used as a last resort.

Dynamic capital structure models reconcile insights from both the static trade-off theory and pecking order theory. Following the *theory of dynamic capital structure*, firms have an optimal or target leverage ratio, which managers keep in mind when making financing decisions (Marsh, 1982; Hovakimian, Opler, and Titman, 2001; De Miguel and Pindado, 2001; Ozkan, 2001; Hovakimian, Hovakimian, and Tehranian, 2004; Flannery and Rangan, 2006; Huang and Ritter, 2009; Aybar-Arias, Casino-Martínez, and López-Gracia, 2012; Elsas and Florysiak, 2015). Market imperfections increase the costs of adjusting leverage and consequently explain temporary deviations from the target leverage ratio. In essence, a firm will only rebalance its capital structure towards the equilibrium when the costs associated with suboptimal leverage exceed rebalancing costs (Flannery and Rangan, 2006). As long as the deviation from the target is too small to justify a costly leverage adjustment, firms show pecking order behavior in the sense that they adjust their leverage ratios downwards (upwards) when they are profitable (unprofitable) (Donaldson, 1961; Hovakimian, Opler, and Titman, 2001; Hovakimian, Hovakimian, and Tehranian, 2004; Kayhan and Titman, 2007). In the literature, costly leverage adjustments are an accepted indication of capital constraints: firms that experience substantial leverage adjustment costs rebalance their capital structure less frequently and consequently have lower financial flexibility.

2.2.2   Leverage Adjustments in a Multinational Context

To date only a scant number of studies have examined capital structure dynamics in a multinational setting (McMillan and Camara, 2012; Park, Suh, and Yeung, 2013) by comparing large traded multinational corporations (MNCs) and large domestic corporations (DCs). These authors present a number of arguments that suggest that MNCs may rebalance their capital structures faster and more frequently than DCs do. Because of their multicountry operations, MNCs have better access to international capital markets, which enables them to alter their capital structures more easily by exploiting capital market imperfections and by issuing securities internationally (Park, Suh, and Yeung, 2013). Furthermore,

expanding into non-perfectly correlated markets increases earnings stability and reduces bankruptcy risk (Hirsch and Lev, 1971; Rugman, 1976; Shapiro, 1978), which may imply faster convergence towards the target leverage ratio since diversified firms can access external financing more easily. Furthermore, evidence in Doukas and Pantzalis (2003) suggests that MNCs finance a relatively larger fraction of their debt short-term. As it is less costly to adjust this type of debt as compared to long-term debt commitments, this could be another argument as to why MNCs adjust their capital structures faster.

On the other hand, MNCs may also adjust their leverage ratios more slowly or less frequently than DCs do. MNCs have more growth opportunities and are more informationally opaque due to their operational complexity, which intensifies agency conflicts of debt and causes leverage adjustments to be relatively more expensive. Finally, Park, Suh, and Yeung (2013) argue that in today's global marketplace, DCs and MNCs might as well be equally capable of exploiting capital market imperfections since they are of comparable size. As such, the leverage adjustment process of MNCs and DCs may not differ at all. Park, Suh, and Yeung (2013) indeed find only limited evidence that US MNCs converge to the equilibrium leverage level faster than DCs do.

Export and Leverage Adjustments

Generally, it is assumed that smaller-sized, private firms face higher leverage adjustment costs than large listed firms due to their restricted access to external financing (Brav, 2009; Goyal, Nova, and Zanetti, 2011). As a consequence, the former type of firm adjusts its capital structure less frequently and at a slower speed in response to a shock in leverage. However, an important subset of private firms - the exporters - might be more financially flexible than their non-exporting peers for a number of reasons.

First, expanding into non-perfectly correlated economies reduces cash flow volatility and bankruptcy risk (Hirsch and Lev, 1971; Rugman, 1976; Shapiro, 1978). One might therefore expect exporters to be better able to access financing and be more likely to adjust their capital structures. *Second*, the development of export activities entails substantial fixed sunk costs (Chor and Manova, 2012). Since only the most productive firms can expand activities across national borders (Bernard and Jensen, 1999; Greenaway, Guariglia, and Kneller, 2007), conducting export activities may be considered as a signal of borrower quality, facilitating access to financing for exporting firms and in turn reducing the costs of adjusting leverage. *Third*, if, as is the case in MNCs, exporters carry relatively more short-term debt in their capital structures than non-exporting firms do, they may be able to adjust their leverage more easily, as it is less costly to adjust this type of debt, as compared to long-term commitments. Since export ac-

tivities involve a longer cash conversion cycle than domestic sales transactions, and hence a larger investment in working capital (Ahn, Amiti, and Weinstein, 2011), exporters are likely to use relatively more short-term debt if they match financing sources with financing needs. Furthermore, given the various risks associated with exporting that are of less relevance in a domestic selling context, exporters are typically much more reliant on trade financing instruments, such as letters of credit or export credit insurance, than are domestic players (Ahn, Amiti, and Weinstein, 2011; Ahn, 2011).[3] Close monitoring by the exporter's bank of the sales transaction under a letter of credit might reduce information asymmetries between the exporter and its creditors. Overall, these instruments typically improve the collateral value of short-term assets. Since agency costs of debt are mitigated, exporters may be able to alter their capital structures at relatively lower cost. On the basis of the above arguments, it is hypothesized that:

H1: Exporters adjust their capital structure more frequently than their non-exporting peers.

Since the challenges and opportunities associated with trading cross-borders vary considerably across export destinations, the scale and scope of the export activities conducted by the firm may also have implications for corporate leverage adjustments. The ability to export to a range of destinations, some of which are distant and risky, may further strengthen the borrower's perceived quality and add to sales diversification, which enhances access to financing. In addition, the most export-intensive firms are also likely to have the lengthiest cash conversion cycle, and hence the highest short-term financing needs. Consequently, leverage may be adjusted more frequently, since - as argued above - it is less costly to adjust short-term than long-term debt. Finally, since the close monitoring by the bank of foreign sales transactions that are covered by a letter of credit can reduce agency costs of debt, export-intensive firms and firms exporting to risky and distant markets (which are typically more reliant on trade finance instruments) might be able to rebalance their capital structures more easily. On the basis of the above arguments, it is hypothesized that:

H2: As the scale and scope of export activities increase, firms adjust their capital structure more frequently.

---

[3]Unfortunately we do not have access to information on the use of trade financing instruments by Belgian exporters and non-exporting firms at the corporate level. Therefore, in the summer and fall of 2016, we contacted Belgian trade credit insurers and the main banks with a trade finance department and conducted an inquiry into the use of such instruments by Belgian firms. The majority of credit insurance contracts and letters of credit cover international trade transactions rather than domestic ones and export-intensive firms are more likely to insure their foreign receivables against trade risks. Furthermore, for sales transactions with nearby and less risky countries, firms are more likely to use trade credit insurance, while (confirmed) letters of credit tend to be most intensively used when trading with faraway and risky foreign markets. Banks agree that the close monitoring of the sales transaction under a letter of credit is helpful in widening the exporters' borrowing capacity (Maes, Dewaelheyns, Fuss, and Van Hulle, 2016).

2.3   Methodology

2.3.1   *Multinomial Logistic Regression Models*

To investigate leverage adjustments, we employ an adapted version of the two-step debt-equity choice estimation technique of Hovakimian, Opler, and Titman (2001) and Hovakimian, Hovakimian, and Tehranian (2004) that is applicable to our setting of private firms (Dewaelheyns and Van Hulle, 2012; Dewaelheyns, Van Hulle, and Van Landuyt, 2017). In the presence of market imperfections, the optimal or equilibrium leverage ratio is by definition unobservable. We therefore estimate target leverage ratios in a first-stage target debt equation, by regressing the actual leverage ratio on a vector of firm characteristics that according to trade-off theory drive target ratios. Based on the fitted values of this first-stage equation, we examine the likelihood of substantial changes in the financing policy (i.e. leverage increases and decreases) of exporting versus non-exporting firms in second-stage multinomial logistic regression models. The two stages of our procedure are defined as follows:

$$TOT_{i,t} = \alpha_1 + \beta_1 X_{i,t-1} + \gamma_1 Export_{i,t-1} + \tau_t + \eta_i + \epsilon_{i,t} \tag{2.1}$$

$$A_{i,t} = \alpha_2 + \beta_2 Z_{i,t-1} + \gamma_2 Export_{i,t-1} + \delta_2 (TOT^*_{i,t} - TOT_{i,t-1}) + \tau_t + \eta_i + \upsilon_{i,t} \tag{2.2}$$

The dependent variable in the first-stage equation (eq. (2.1)) is the actual or observed leverage ratio ($TOT_{it,t}$), which is defined as total liabilities over total assets. Since short-term liabilities are an important element of the capital structure of Belgian firms, we use an overall leverage proxy, comprising both short-term (i.e. including trade credit) and long-term liabilities (Titman and Wessels, 1988; Dewaelheyns and Van Hulle, 2012). The vector $X_{i,t-1}$ in the target leverage equation covers a range of firm characteristics that are typically associated with optimal capital structure. *Size* equals the natural logarithm of total assets (Titman and Wessels, 1988; Hall, Hutchinson, and Michaelas, 2004; Degryse, de Goeij, and Kappert, 2012). Larger firms are typically more diversified and are less informationally opaque. Consequently, earnings are less volatile, which results in a higher borrowing capacity. However, size may also be negatively related to leverage, since larger firms may have easier access to alternative financing sources, such as equity (Rajan and Zingales, 1995). *Growth* is defined as the average annual change in sales over the three preceding years (Hall, Hutchinson, and Michaelas, 2004; Schoubben and Van Hulle, 2011; Dewaelheyns and Van Hulle, 2012). Growth opportunities make for poor collateral, suggesting a negative association between firm growth and corporate leverage. In addition, growing firms may have lower leverage to reduce agency conflicts. Since the pro-

ceeds of the project will not accrue to the shareholders but will instead benefit debtholders, managers of highly levered firms may decide to forego projects with a positive net present value. Furthermore, firms with a high level of assets that can be pledged as collateral should have higher borrowing capacity. We define *LT Collateral* as the ratio of tangible fixed assets to total assets (Van der Wijst and Thurik, 1993; Cassar and Holmes, 2003; Hall, Hutchinson, and Michaelas, 2004; Degryse, de Goeij, and Kappert, 2012) and *ST Collateral* as the ratio of inventories and accounts receivable to total assets. *Volatility* is defined as the standard deviation of net earnings scaled by lagged total assets over the three preceding years (Dewaelheyns and Van Hulle, 2012). Following trade-off theory, firms with more volatile earnings have a lower optimal leverage ratio (Titman and Wessels, 1988). As access to internal capital markets may also influence corporate financing decisions (Verschueren and Deloof, 2006; Dewaelheyns and Van Hulle, 2012), a *Group* dummy is included that equals unity if the firm is part of a business group, and zero if the firm is a standalone. A firm is considered to be a standalone if the firm does not have an incorporated shareholder that controls more than 20%, directly or indirectly, of the sample firm. In case there is no ownership information available for the sample firm, we classify it as a standalone if it does not use intra-group financing. A firm is considered to be a business group affiliate if it is controlled by a parent firm, for at least 50%, directly or indirectly.

The fitted values from the first stage, $TOT^*_{i,t}$, are subsequently incorporated into a second-stage equation (eq. (2.2)), which models by means of multinomial logistic regressions, the probability of a substantial increase or decrease in the leverage ratio against the probability of no substantial change.[4,5] The dependent in the leverage adjustment equation, $A_{i,t}$, is a categorical variable that equals 0 if leverage levels do not change substantially between years *t* and *t-1*, 1 if leverage levels decrease and 2 if leverage levels increase substantially.[6] $TOT_{i,t-1}$ represents the previous year's actual leverage ratio. The difference between $TOT^*_{i,t}$ and $TOT_{i,t-1}$ indicates whether the leverage ratio of firm *i* in the previous year exceeds or falls short of the current target leverage level. If the variables used in

---

[4]Since the target leverage ratios *TOT** that are used in the second-stage equation are the fitted values from the first-stage equation, coefficient estimates may be inconsistent due to measurement error. Following the reasoning of Hovakimian, Opler, and Titman (2001), the main inferences are still valid when the standard errors of the first-stage equation are relatively small compared to the coefficient estimates. In the robustness section, we deal with this potential errors-in-variables problem explicitly, and find that our results prove robust.

[5]We differentiate between substantial increases and decreases in leverage because of the asymmetric impact of the deviation from the target and firm profitability on the likelihood of leverage increases and decreases. For instance, profitable firms are more likely to decrease their leverage rather than to not adjust their debt position, while such firms are less likely to increase their debt position.

[6]A leverage increase (decrease) is considered to be substantial when the leverage ratio increases (decreases) by more than 5% over a one-year period (Hovakimian, Opler, and Titman, 2001; Leary and Roberts, 2005; Dewaelheyns and Van Hulle, 2012). As a robustness check, we also apply a 3 and 7% cut-off level.

the first-stage equation do proxy for important determinants of optimal leverage ratios, we would expect that firms that are overlevered (i.e. $TOT_{i,t-1} > TOT^*_{i,t}$) are more likely to adjust their leverage ratios downwards in the subsequent year. Firms for which the observed leverage level is below the target are currently underlevered (i.e. $TOT_{i,t-1} < TOT^*_{i,t}$) and are expected to adjust their leverage upwards in the subsequent year. $Z_{i,t-1}$ represents a vector of control variables that, according to pecking order theory, explain temporary deviations from the optimal leverage ratio. One of these control variables is *Profitability*, which is measured as the ratio of net earnings to lagged total assets. Empirical studies generally find that profits are used to pay down liabilities: profitable firms use their earnings to reduce their leverage, while unprofitable firms accumulate leverage. Alternatively, due to accumulated historical profits, profitable firms might be underlevered, suggesting that profitable firms are more likely to adjust their leverage levels upwards (Hovakimian, Opler, and Titman, 2001). Changes in growth opportunities may also result in leverage adjustments. *Change in Growth* is defined as the one-year change in sales growth, where we employ the definition for sales growth used in the first-stage equation. *Group* affiliation is defined as before.

Our main interest, however, lies with the impact of export activities on target leverage and on the likelihood of leverage adjustments. *Export Status* is a dummy variable that equals unity when export sales are reported by firm i in year t, and 0 otherwise. If our first hypothesis (H1) holds that exporters adjust their leverage more frequently than their non-exporting peers, the γ_2 coefficient belonging to the export variable is expected to be positive and statistically significant. To test our second hypothesis (H2), we replace our export dummy indicator with continuous measures for the scale and scope of the export activities conducted by the firm. *Export Intensity* is defined as the ratio of foreign sales to total sales. *Export Diversity* is an entropy measure of diversification and is defined as the negative sum of the products of the portion of sales generated in each out of six regional markets and the natural logarithm of that percentage (Hirsch and Lev, 1971). Six regional markets are considered: (1) Belgium; (2) the neighboring countries of Belgium, including the UK; (3) other EU countries; (4) non-EU countries, geographically located within Europe; (5) Canada and the US; and (6) all other countries (De Clercq, Sapienza, and Crijns, 2005). *Political Risk* is a weighted average political risk score, in which the weights equal the fraction of sales generated in a particular foreign country to total sales. Country-specific political risk indices of the export destination countries are gathered from Kaufmann, Kraay, and Mastruzzi (2011). *Exchange Exposure* is a function of the covariances of the national currencies of the export countries, for all currency combinations (Markowitz, 1952). Exchange rates are gathered from Datastream (Thomson Reuters). *Cultural and Geographic Distance* are defined as the weighted average distance between the Belgian home market

and the export destination countries in terms of national culture and geographic distance (Kogut and Singh, 1988; Morosini, Shane, and Singh, 1998; Coval and Moskowitz, 1999; Chakrabarti, Gupta-Mukherjee, and Jayaraman, 2009). The weights again equal the proportion of sales generated in a particular country to total sales. To measure cultural distance, we use three dimensions of national culture from the World Values Survey (WVS): i.e. trust, individualism and hierarchy. Geographic distances are taken from Centre d'Etudes Prospectives et d'Informations Internationals (CEPII). Finally, η_i and τ_t control for industry heterogeneity (at the NACE-BEL 2-digit level) and macroeconomic shocks, and are included in all regression specifications. The continuous variables in the target leverage and leverage adjustment equations have been winsorized at the top and bottom 1% to reduce the influence of outliers. A detailed overview of the definition of all the variables used in the subsequent analyses is provided in Table C.1 in Appendix C.

2.4 Sample Selection and Descriptive Statistics

2.4.1 Sample Selection

The sample comprises data on private Belgian firms that file unconsolidated complete financial statements[7] between 1999 and 2013. Firm-level information was gathered from several databases and merged through the unique value added tax (VAT) number of the firm. Key financial information was obtained from the annual accounts database of the Central Balance Sheet Office, and subsequently merged with firm-year level information on international trading activities. The foreign trade database, assembled by the National Bank of Belgium, covers detailed firm-level information on export and import flows of Belgian corporations, by country of destination and country of origin, above a certain threshold.[8] Time-varying ownership information was collected from Belfirst (Bureau Van Dijk EP). Following customary practice, non-profit organizations, services providers (e.g. financial institutions), micro-enterprises[9], firm-years with zero sales, extreme

---

[7]We limit the analysis to firms filing complete financial statements for a number of reasons. First, confining the analysis to firms filing complete annual accounts reduces concern regarding the wrongful classification of smaller-sized, intra-EU exporters that do not trespass the Instrat threshold as non-exporting firms. Second, abbreviated annual accounts are less detailed and do not (always) contain information that is relevant to our research question (e.g. turnover, intra-group financing information).

[8]Until 2006, firms had to report their intra-EU trade through the Intrastat inquiry if their export flows surpassed 250,000 euros per year. As of 2006, a reporting threshold of one million euros per year applies to intra-EU trade transactions. Data on extra-EU trade is collected by customs agents as of a transaction value of 1,000 euros or as of a weight of one metric ton.

[9]Firms with less than 10 employees in FTE have been excluded from the sample because these firms are typically less structured (Molly, Laveren, and Deloof, 2010). In addition, due to the reporting thresholds that apply to international trade transactions, the inclusion of micro-enterprises might result in the wrongful classification of exporting micro-enterprises as non-exporting firms.

leverage ratios (> 1) and total assets growth rates ($> |100\%|$) are also discarded.[10] Finally, we control for firms self-selecting into export markets by matching each exporter with a non-exporter that is comparable in terms of size (total assets) and industry classification (at NACE-BEL 2-digit level) at each point in time (Chen, Cheng, He, and Kim, 1997; Dewaelheyns and Van Hulle, 2012).[11,12] The resulting matched sample consists of 4,808 firms and comprises of 28,401 firm-year observations, of which 21,704 (76.4%) belong to the subsample of exporters.

2.4.2 Descriptive Statistics and Univariate Tests

Table 2.1 contains the descriptive statistics for the full matched sample of exporters and non-exporting firms, and for the subsamples separately. Student's t-tests (equality of means) and Wilcoxon rank sum z-tests (equality of medians) are used to compare exporters and non-exporters on a range of firm characteristics. The average firm has a total leverage ratio of 58.7%, while exporting firms exhibit substantially higher total leverage than their size and industry-matched non-exporting peers (59.0% vs. 57.9% on average). In line with expectations, we also find preliminary indications that exporters and non-exporters differ in their degree of change in their capital structure. The median one-year absolute change in leverage differs substantially between exporters and non-exporting firms. In line with general consensus, we find that exporters are significantly larger than their size and industry-matched non-exporting peers. The average firm grows (4.6%), but exporters and non-exporters do not seem to differ in their growth rates. Furthermore, exporters have more volatile earnings, at least in

---

[10]To guarantee time-consistency between the different datasets, annual accounts information has been annualized. Flows are adjusted by taking a weighted average of t and t+1 flows. Stocks are adjusted by adding to the current year stock the weighted stock variation between the current and next year. The procedure attributes a missing value when there is not enough information to recover the entire year, for example when information about the first months or the last months of a given year are missing. This does not apply for the last year during which the firm is observed or for flows of the first year the firm is covered.

[11]Every year each exporter is matched with a non-exporting firm that is active in the same industry (at the 2-digit NACE-BEL level) and that is of comparable size (measured in total assets, and a maximum deviation of 30% is allowed). The one-to-one matching is performed with replacement so that a non-exporting firm can be the matching partner of several exporters in a particular year. Since a non-exporter can serve as a match multiple times in a single year, and since exporters and non-exporters differ substantially in size and industry affiliation prior to matching, the size of the subsample of non-exporters reduces considerably after matching. Using the initial, unmatched sample of exporters and non-exporters, however, would lead to important differences in firm size and industry distribution. For instance, before matching, the median exporter is about 1.67 times the size of the median non-exporting firm (measured in total assets).

[12]Since the subsamples of exporters and non-exporting firms may differ on dimensions other than industry affiliation and size, we additionally apply propensity score matching. By means of a probit equation, the probability of being an exporter is modelled as a function of firm size and age, total factor productivity, profitability, sales growth and group affiliation. Matching occurs within sectors and years. Each exporter is matched with its closest non-exporting firm in terms of their propensity scores. The matching is done with replacement, so that each non-exporting firm can be assigned as a matching partner to multiple exporters. Using this alternative matching procedure does not affect our results in a qualitative manner (Tables C.3 to C.4 in Appendix C).

Table 2.1: Descriptive Statistics for the Full Sample, and by Export Status

| | | Full | | | | Non-Exporters | | | | Exporters | | | Equality of Means | | Equality of Medians | |
	N	Mean	Median	Sd	N	Mean	Median	Sd	N	Mean	Median	Sd	t-test	p	z-test	p
TOT	28,401	0.587	0.616	0.223	6,697	0.579	0.608	0.236	21,704	0.590	0.618	0.219	-3.444	0.001	-2.064	0.039
ST/TOT	28,401	0.872	0.965	0.183	6,697	0.855	0.961	0.205	21,704	0.877	0.967	0.175	-8.877	0.000	-3.199	0.001
Abs. 1 YR $\triangle$ TOT	27,192	0.057	0.037	0.064	6,290	0.057	0.035	0.066	20,902	0.058	0.037	0.063	-0.943	0.346	-3.248	0.001
1 YR $\triangle$ TOT	27,192	-0.011	-0.009	0.081	6,290	-0.011	-0.009	0.081	20,902	-0.011	-0.009	0.081	0.666	0.506	0.240	0.811
Size	28,401	16.121	15.953	1.013	6,697	15.788	15.639	0.973	21,704	16.224	16.058	1.003	-31.280	0.000	-32.749	0.000
Volatility	25,282	0.038	0.024	0.045	5,683	0.038	0.022	0.046	19,599	0.039	0.024	0.044	-1.164	0.244	-4.174	0.000
LT Collateral	28,401	0.184	0.139	0.166	6,697	0.206	0.148	0.193	21,704	0.177	0.136	0.156	12.490	0.000	5.727	0.000
ST Collateral	28,312	0.540	0.558	0.226	6,666	0.479	0.490	0.250	21,646	0.559	0.575	0.215	-25.284	0.000	-22.410	0.000
Profitability	27,435	0.047	0.034	0.080	6,356	0.050	0.034	0.078	21,079	0.047	0.034	0.080	2.663	0.008	2.066	0.039
TFP	28,047	11.474	11.420	0.570	6,563	11.344	11.279	0.539	21,484	11.513	11.470	0.573	-21.219	0.000	-21.837	0.000
Growth	26,407	0.046	0.037	0.149	6,029	0.047	0.038	0.151	20,378	0.046	0.036	0.148	0.386	0.699	1.030	0.303
$\triangle$ Growth	25,253	-0.021	-0.010	0.143	5,665	-0.021	-0.009	0.143	19,588	-0.021	-0.010	0.143	-0.088	0.930	0.548	0.584
Export Intensity	28,401	0.212	0.048	0.291	6,697	0.000	0.000	0.000	21,704	0.277	0.138	0.304				
Political Risk	28,378	0.270	0.036	0.458	6,697	0.000	0.000	0.000	21,681	0.353	0.112	0.495				
Cultural Distance	27,186	0.064	0.010	0.104	6,697	0.000	0.000	0.000	20,489	0.085	0.032	0.112				
Geographic Distance	28,370	1.288	0.276	1.818	6,697	0.000	0.000	0.000	21,673	1.685	0.793	1.913				
Export Diversity	28,401	0.387	0.200	0.446	6,697	0.000	0.000	0.000	21,704	0.506	0.423	0.447				
Exchange Exposure	20,109	0.021	0.002	0.059	2,771	0.005	0.000	0.025	17,338	0.024	0.003	0.062				

Note: Descriptive statistics on the full matched sample and the subsamples of exporters and matched non-exporting firms are presented. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. t-test statistics and corresponding p-values (equality of means) and z-test statistics and corresponding p-values (equality of medians) have been added.

Table 2.2: Industry Composition

	Full	Exporters	Non-Exporters
Agriculture	131	87	44
Construction	689	391	298
Manufacturing	9,709	7,803	1,906
Wholesale and Retail	16,871	12,861	4,010
Transport	755	419	336
Total	28,401	21,704	6,697

Note: This table presents an overview of the industry composition of the dataset for the full matched sample and by export status.

Table 2.3: Pearson Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. TOT	1.00																	
2. ST/TOT	-0.22***	1.00																
3. 1 YR Δ TOT	0.22***	-0.01	1.00															
4. Abs.1 YR Δ TOT	-0.13***	0.06***	-0.15***	1.00														
5. Size	-0.02***	-0.05***	0.02***	-0.05***	1.00													
6. Volatility	-0.08***	0.03***	-0.04***	0.27***	-0.01	1.00												
7. LT Collateral	0.07***	-0.42***	0.01	-0.02***	-0.10***	-0.05***	1.00											
8. ST Collateral	0.31***	0.27***	0.02***	-0.07***	-0.17***	-0.13***	-0.40***	1.00										
9. Profitability	-0.28***	0.13***	-0.19***	0.10***	-0.01	0.10***	-0.12***	-0.08***	1.00									
10. TFP	-0.12***	0.17***	-0.08***	0.07***	0.50***	0.04***	-0.34***	0.01	0.39***	1.00								
11. Growth	0.11***	-0.01**	0.03***	-0.00	0.07***	0.04***	0.01*	0.08***	0.17***	0.13***	1.00							
12. Δ Growth	-0.00	0.02***	0.10***	-0.03***	-0.00	-0.05***	-0.00	0.04***	0.10***	0.02***	0.43***	1.00						
13. Export Intensity	-0.05***	-0.03***	-0.00	0.01*	0.17***	0.05***	0.02***	0.03***	0.01	0.04***	0.01	0.01	1.00					
14. Political Risk	-0.04***	-0.01	-0.00	0.02***	0.16***	0.05***	-0.02***	0.04***	0.01*	0.06***	0.02***	0.00	0.86***	1.00				
15. Cultural Distance	-0.06***	-0.03***	0.00	0.03***	0.12***	0.06***	0.02***	0.01**	-0.00	0.04***	-0.02***	-0.01*	0.77***	0.61***	1.00			
16. Geographic Distance	-0.05***	-0.03***	-0.00	0.02***	0.17***	0.05***	0.01*	0.03***	0.01*	0.05***	0.01*	0.01	0.99***	0.91***	0.76***	1.00		
17. Export Diversity	-0.04***	-0.03***	0.00	0.01**	0.20***	0.05***	-0.01	0.08***	-0.00	0.08***	0.01	0.01	0.89***	0.82***	0.72***	0.90***	1.00	
18. Exchange Exposure	0.07***	0.05***	0.01**	-0.00	0.12***	0.00	-0.13***	0.12***	-0.07***	0.08***	0.00	-0.04***	0.25***	0.30***	0.17***	0.27***	0.25***	1.00
N	28,401																	

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

median terms but not on average. Conducting export activities puts huge pressure on the working capital needs of the firm, reflected in a substantially higher level of short-term collateral (i.e. receivables and inventories) on exporters' balance. By contrast, exporters have somewhat less long-term collateral, such as plants and machinery. Consistent with the matching idea, we also find that the share of short-term debt as a percentage of total debt is considerably higher for exporters. For reasons of comparability with the literature and for later use in robustness tests, we also examine differences in total factor productivity between exporters and non-exporting firms. According to trade literature, exporters typically are better quality firms as measured by their total factor productivity. This is also the case in our dataset, although exporters experience lower earnings than their non-exporting peers. The average exporter in our sample generates about 27.7% of its total sales in foreign markets and serves about seven countries (Table 2.1 reports the log-transformed variable used in subsequent regressions). Since our measure of export diversity is bounded between 0 (no diversification) and 1.792 (ln(6), perfect diversification), the average exporter serves a relatively small number of different geographic regions.

An overview of the industry composition of our sample is provided in Table 2.2. Table 2.3 depicts the Pearson correlations between the continuous variables for the full matched sample of firms. Since our six continuous measures for the scale and scope of export activities conducted are highly correlated, simultaneous inclusion in the target leverage and leverage adjustment equations would raise concern on multicollinearity. We therefore apply Principal Components Analysis on a yearly basis to summarize these export characteristics into fewer dimensions. Based on a number of stopping rules, we only retain the first

component, which summarizes about 70% of the total variance.[13] The correlations for the other variables are much lower, indicating that there is little reason for concern regarding multicollinearity.

Table 2.4: Leverage Adjustments

	TOT		
	Δ Lev>0	Δ Lev<0	Δ Lev=0
3% Threshold			
Exporters	4,760	7,206	8,936
	0.228	0.345	0.428
Non-Exporters	1,378	2,121	2,791
	0.219	0.337	0.444
z-test	-1.439	-1.106	2.275
p-value	0.150	0.269	0.023
5% Threshold			
Exporters	3,239	4,958	12,705
	0.155	0.237	0.608
Non-Exporters	905	1,403	3,982
	0.144	0.223	0.633
z-test	-2.144	-2.324	3.603
p-value	0.032	0.020	0.000
7% Threshold			
Exporters	2,246	3,526	15,130
	0.107	0.169	0.724
Non-Exporters	650	986	4,654
	0.103	0.157	0.740
z-test	-0.928	-2.231	2.507
p-value	0.354	0.026	0.012

Note: This table contains the number and the proportions of observations for the subsamples of exporting and non-exporting firms for which total leverage ratios underwent a substantial increase ($\Delta TOT > 0$), decrease ($\Delta TOT < 0$) or no substantial change ($\Delta TOT = 0$) between one year and the next. Total leverage ratio (TOT) is defined as long-term liabilities plus short-term liabilities over total assets. A firm-year observation is classified as a substantial leverage increase (decrease) if the leverage ratio increased (decreased) by more than a certain percentage of total assets since the previous year. Different thresholds (3%, 5% and 7%) are used to classify a firm-year observation as a leverage increase or decrease. z-test statistics and p-values (equality of proportions) have been added.

Table 2.4 provides some more evidence on the leverage adjustment behavior of exporters versus non-exporting firms. In accordance with Leary and Roberts (2005) and Hovakimian and Li (2011), a firm-year observation is defined as a substantial one-year leverage increase (decrease) if the leverage ratio increased (decreased) by more than a certain percentage of total assets since the previous year. We examine three different cut-off values (3, 5 and 7%). In line with Table 2.1, exporters seem to adjust their debt levels more frequently (or in larger

---

[13]First, we apply the Bartlett test of sphericity to ensure that at least two export measures share common variation and thus whether Principal Component Analysis would make sense (Bartlett, 1950). The null stating that variables are not intercorrelated was rejected (p-value of 0.000). Thereafter, we rely on a number of stopping rules to determine the number of principal components to retain (Peres-Neto, Jackson, and Somers, 2005). Despite being widely criticized, the most commonly used stopping rule is the Kaiser-Guttman rule which states that only principal components with eigenvalues above one should be retained (Guttman, 1954). In our sample, only the eigenvalue belonging to the first component is above one. The eigenvalue of the second component is considerably smaller, and just under one. In addition, we apply Parallel Analysis (Horn, 1965). In essence, a correlation matrix is computed from a random subset of the original dataset that has the same number of variables and observations. The number of non-trivial components to retain equals the number of times the eigenvalues from the Principal Components Analysis exceed those obtained under the Parallel Analysis; the components under the latter approach to be largely random noise. Both stopping rules suggest the retention of one single principal component, indicating that the various export measures can be largely captured in one general dimension.

steps) as compared to their size and industry-matched non-exporting peers at all three levels.

2.5   Multivariate Results

Table 2.5 depicts the pooled OLS coefficient estimates of the target leverage models, for the full matched sample and for the subsamples of matched exporters and non-exporters separately. All regressions include industry (at the NACE-BEL 2-digit level) and year dummies to control for industry heterogeneity and macroeconomic shocks, and standard errors are clustered at the firm level (Petersen, 2009).[14] In the first column, total leverage (TOT) is regressed on the determinants of optimal capital structure and the export dummy. All variables are one-period lagged to avoid simultaneity bias. In contrast to the univariate findings, exporters have significantly lower overall target leverage ratios than their non-exporting peers, although the significance is marginal. The target leverage of an exporter is about 1.8% lower than that of its non-exporting peer, suggesting that the economic significance is limited. Since export activities across firms may vary considerably with respect to their scale and scope, we subsequently redo our entire analysis while replacing our export dummy with continuous measures for export (destination) characteristics. As explained in the previous section, since these measures are highly correlated amongst one another, we apply Principal Components Analysis and retain the first principal component. We fail to find ev-

---

[14]Due to lagging and the presence of missing values for some of our variables, the number of observations used to estimate our regression coefficients deviates from the actual sample size.

idence that this export summary variable affects optimal leverage ratios.[15] The relationships between the control variables and leverage ratios are in line with capital structure literature and are qualitatively highly similar across the different models and subsamples. Group members have substantially higher total leverage. The negative association between earnings volatility and leverage levels indicates that firms with more volatile earnings have a lower optimal leverage ratio. The relationships between long-term and short-term asset tangibility and leverage levels are positive and significant, indicating that firms that have assets available that can be pledged as collateral have higher borrowing capacity. Growth in sales is positively and significantly correlated with leverage levels. Since growth opportunities increase the need for external financing, this result is in line with expectations.

Table 2.6 separately presents the coefficient estimates of the second-stage multinomial logistic regressions for the full matched sample and for the subsamples of exporters and matched non-exporting firms. These regressions model the probability of year-to-year leverage increases and decreases versus the probability of no (substantial) changes in leverage. A substantial leverage increase

---

[15]To further mitigate concern on the potential endogeneity of export status, we apply a three-stage instrumental variables procedure, similar to the one employed by Adams, Almeida, and Ferreira (2009). In the first stage, we estimate a probit equation of the determinants of export status, including instruments and some other controls X. Vector X contains all variables that are typically associated with optimal capital structure (i.e. group affiliation, volatility, LT and ST collateral, size and growth, and industry and year dummies). In the second stage, we regress export status on the fitted values derived from the first stage and the same control variables X (excluding the instruments). In the third stage, we regress observed leverage ratios on the fitted values from the second stage and control variables X. The fitted values from this third stage equation proxy target leverage. Since the literature does not provide good examples of valid instruments for export status and because they are hard to find in practice, we rely on semi-endogenous instruments. An instrument is considered to be semi-endogenous when it is highly correlated with the original endogenous regressor while only being partially endogenous (i.e. the semi-endogenous instrument is still correlated with the error term, but less so than the original endogenous variable). Larcker and Rusticus (2010) reason that semi-endogenous instruments should be preferred when the correlation between the original endogenous variable and the selected instrument is sufficiently high, and when a proper reasoning can be provided why the chosen instrument is more exogenous than the original endogenous variable. The instruments used in the first-stage probit equation are import propensity and export cluster distance. Westhead (1995) finds that non-exporting firms are more likely to purchase from local suppliers, whereas exporting firms are more likely to source from foreign markets. This aptitude for conducting international business justifies the use of *Import Status*, as our first instrumental variable, which is a dummy variable equal to unity if the firm reports imports in a particular year. Our second instrument is *Export Cluster Distance*. Firms might be more likely to start exporting when located near a cluster of exporting industry peers. Exporters closely located in geographic terms are grouped on the basis of their geographic coordinates. The obtained cluster centroids are used to calculate the physical distance (in km) between each sample firm and its nearest export cluster, by relying on the great circle formula. Cluster analysis on a yearly basis is employed to calculate the physical distance between the location of registration of a particular firm and the centroid of the nearest cluster of exporting firms, active in the same sector (at 2-digit NACE-BEL level). To select the optimal number of clusters, the Duda and Hart (1973) ratio criterion is applied. For this clustering algorithm, larger values indicate more distinct clustering. After factoring out the impact of capital structure on export propensity, we again identify a negative causal effect of export status on target leverage. When we instrument the continuous export summary variable, we also find a negative and statistically significant causal effect of export on target leverage. The IV estimates are summarized in Table C.2 in Appendix C.

Table 2.5: Target Leverage Models

	Full		Non-Exporters	Exporters
Group	0.039***	0.038***	0.050**	0.035***
	(0.013)	(0.013)	(0.024)	(0.011)
Volatility	-0.262***	-0.268***	-0.297**	-0.241***
	(0.075)	(0.075)	(0.142)	(0.073)
LT Collateral	0.326***	0.325***	0.358***	0.316***
	(0.033)	(0.034)	(0.061)	(0.027)
ST Collateral	0.398***	0.394***	0.399***	0.391***
	(0.025)	(0.025)	(0.043)	(0.023)
Size	0.027***	0.027***	0.034***	0.023***
	(0.004)	(0.004)	(0.008)	(0.004)
Growth	0.095***	0.096***	0.101**	0.091***
	(0.025)	(0.025)	(0.050)	(0.021)
Export	-0.018*			
	(0.010)			
Export Summary Variable		-0.003		
		(0.002)		
Constant	-0.116	-0.124	-0.216	-0.066
	(0.074)	(0.076)	(0.137)	(0.069)
Time and Industry FE	Yes	Yes	Yes	Yes
Firm-Years	18,168	18,168	3,176	14,992
No. of Firms	3,464	3,464	1,190	2,922
F	16.185	15.990	8.735	19.310
Adjusted R^2	0.203	0.202	0.257	0.174

Note: This table contains the pooled OLS coefficient estimates of the determinants of target leverage for the subsamples of exporters and matched non-exporting firms separately, and for the full matched sample. The dependent variable TOT is defined as total liabilities over total assets. All independent variables are one-period lagged ones. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

(decrease) is defined as a one-year increase (decrease) in leverage by 5% or more (Hovakimian, Opler, and Titman, 2001; Leary and Roberts, 2005). The target leverage ratios for the full sample and for the subsamples of exporters and non-exporters are the predicted values from the target regression models obtained from Table 2.5. Industry (at 2-digit NACE-BEL level) and year dummies have been included in all specifications, and standard errors are robust to firm-level clustering. Consistent with pecking order behavior, we find that profitable firms are more likely to decrease their debt levels, whereas leverage is increased in periods of weak earnings. Commensurate with the internal capital markets argument and the reputational benefits associated with group affiliation (Dewaelheyns and Van Hulle, 2012), we find that business group affiliates tend to alter their capital structure more frequently. In line with earlier studies on capital structure dynamics, the impact of a change in growth opportunities on leverage adjustment behavior is less strong. As expected, the deviation from target leverage is also an important driver of the leverage adjustment decisions of both

exporting and non-exporting firms, which is in line with Marsh (1982) and Hov-akimian, Opler, and Titman (2001) amongst others. We find that underlevered firms (i.e. target leverage exceeds actual leverage) are more likely to increase their debt levels, while overlevered firms (i.e. target leverage is below actual leverage) are more inclined to decrease their debt levels in the current period. This finding is in line with trade-off theory in that firms have a target debt ratio in mind when making financing decisions. More importantly for the purposes of this paper, we find that export status is significantly positively related to the probability of a leverage increase and decrease, which confirms hypothesis H1. Exporters are more likely to both increase and decrease their leverage ratios following a shock. In particular, we find that the odds of a leverage increase (decrease) rather than no substantial change in leverage is 1.23 (1.22) times higher for exporters than for non-exporting firms. When looking at marginal effects, an exporting firm has a 1.87% (2.77%) higher probability of increasing (decreasing) its leverage ratio, setting the other explanatory variables at their mean values.[16] Furthermore, when replacing the export dummy variable with our continuous export summary measure, we find that firms that are highly committed towards exporting, in terms of scale and scope, adjust their capital structure more frequently or in larger steps, which confirms hypothesis H2.[17] The odds of a leverage increase (decrease) rather than no substantial change in leverage increases with 4.0% (4.6%) when our export summary variable increases by one unit.

Interestingly, when we add to our second-stage equations a measure for the share of short-term debt in total debt, we find that the positive association between the likelihood of leverage adjustments and the share of short-term debt is more pronounced for exporting firms, which may be explained by the fact that exporters are much more reliant on trade finance instruments. These instruments improve the collateral value of short-term assets and reduce agency costs of debt and information asymmetries between exporters and their creditors, suggesting that exporters can adjust their capital structures at lower cost. We also find that total factor productivity and profitability behave quite similarly in terms of their contribution to financial flexibility. This suggests that the significantly higher level of total factor productivity of exporters gives them an advantage over non-exporting firms regarding the capacity to adjust their financial structure.

---

[16]When including in our second-stage equations the fitted values from a first-stage target debt equation using a firm fixed effects approach (excluding export status and group affiliation), our findings do not qualitatively change. These results are not reported, but are available from the authors.

[17]In support of the notion that exporters adjust to their target debt levels faster than non-exporting firms do, we find that exporters are significantly closer to their target debt levels than their size and industry-matched non-exporting peers when comparing the absolute deviation from the target of our sample exporters and non-exporters, on a univariate basis. These descriptives are not reported in the interest of conserving space, but are available from the authors.

2.6   Robustness Checks

To prove the robustness of our findings, we changed the sample composition and variable definitions previously used in the multinomial logistic regressions. As such, we account for the flaws and biases associated with this kind of methodological set-up as stipulated in the literature. In the first three columns of Table 2.7, we model the likelihood of leverage adjustments while varying the thresholds used to define a substantial change in leverage. In particular, we adapt the thresholds to a 3 and 7% cut-off. The results for the 5%-threshold presented in Table 2.6 are repeated for reasons of comparison. In the fourth column, we apply a three-year rolling window to estimate target leverage ratios. Following Hovakimian and Li (2011), evidence based on discrete choice models in which the (unobservable) target leverage ratio is estimated on full-sample regressions using a range of observable capital structure determinants may be flawed, as future information is used to estimate the current target debt level. The resulting look-ahead bias can be substantially reduced by applying rolling regressions. In particular, we re-estimate the target models by applying a three-year rolling window to construct out-of-sample target leverage ratios (Marsh, 1982; Jalilvand and Harris, 1984; Dewaelheyns and Van Hulle, 2012). That is, to estimate target leverage levels in 2002, we use data from 1999, 2000 and 2001; to estimate 2003 target levels, we use data from 2000 until 2002 and so forth. Until now, we employed the fitted values from first-stage target leverage equations to construct target leverage deviations, which may raise concerns over the potential inconsistency of the coefficient estimates in the second-stage equation. To mitigate these concerns over error-in-variables bias, we use the historical average leverage ratio over the past five years (Marsh, 1982; De Jong, Verbeek, and Verwijmeren, 2011) as a proxy for target leverage in the fifth column. This is a very rough proxy, since it assumes that target leverage is stable over time and that actual leverage ratios fluctuate around it. In accordance with Hovakimian, Opler, and Titman (2001) and Gaud, Hoesli, and Bender (2007), we also replace estimated target levels by the year-average industry leverage ratio (at the NACE-BEL 2-digit level, excluding the focal firm). These are summarized in the last column of Table 2.7. The findings are qualitatively highly similar across the different regression specifications. Most importantly for our research question is that exporters are more inclined to both increase and decrease their leverage ratios. The relative probability of a leverage increase (decrease) rather than no substantial change in leverage is between 1.12 and 1.26 (1.15 and 1.24) times higher for exporting than for non-exporting firms, across the different model specifications. The results of the multinomial logistic regressions with the (continuous) export summary measure are summarized in Table 2.8 and again prove robust across the different regression specifications. Overall, the general consensus is that as the scale and scope of export activities increase, firms are more likely to alter their capital

Table 2.6: Determinants of Changes in Leverage

	Full				Exporters	Non-Exporters
1						
Group	0.232***	0.240***	0.219**	0.180*	0.326***	0.075
	(0.089)	(0.090)	(0.089)	(0.092)	(0.085)	(0.183)
Δ Growth	-0.118	-0.111	-0.125	-0.082	-0.108	-0.201
	(0.212)	(0.212)	(0.211)	(0.211)	(0.219)	(0.463)
Profitability	2.747***	2.709***	2.651***	2.191***	2.523***	3.348***
	(0.389)	(0.389)	(0.393)	(0.435)	(0.380)	(0.896)
TOT*-TOT	-1.018***	-1.002***	-1.107***	-0.990***	-0.764***	-1.514***
	(0.160)	(0.162)	(0.169)	(0.161)	(0.157)	(0.322)
Export	0.199***					
	(0.074)					
Export Summary Variable		0.045***				
		(0.015)				
ST/TOT * Export			0.509***			
			(0.188)			
ST/TOT * (1-Export)			0.303			
			(0.200)			
TFP * Export				0.223***		
				(0.076)		
TFP * (1-Export)				0.206***		
				(0.077)		
Constant	-1.390***	-1.229***	-1.646***	-3.753***	-1.364***	-1.105***
	(0.175)	(0.152)	(0.213)	(0.884)	(0.138)	(0.336)
2						
Group	0.460***	0.470***	0.437***	0.484***	0.481***	0.459**
	(0.096)	(0.096)	(0.096)	(0.100)	(0.088)	(0.207)
Δ Growth	0.028	0.029	0.027	0.027	-0.061	0.196
	(0.218)	(0.219)	(0.217)	(0.221)	(0.207)	(0.541)
Profitability	-0.999*	-1.044*	-1.118**	-0.777	-1.908***	1.170
	(0.574)	(0.577)	(0.566)	(0.618)	(0.479)	(1.398)
TOT*-TOT	1.946***	1.954***	1.812***	1.949***	2.296***	1.411***
	(0.190)	(0.192)	(0.194)	(0.192)	(0.172)	(0.386)
Export	0.209**					
	(0.091)					
Export Summary Variable		0.039**				
		(0.017)				
ST/TOT * Export			0.752***			
			(0.226)			
ST/TOT * (1-Export)			0.572**			
			(0.252)			
TFP * Export				-0.094		
				(0.091)		
TFP * (1-Export)				-0.113		
				(0.093)		
Constant	-2.118***	-1.953***	-2.583***	-0.820	-2.031***	-1.969***
	(0.182)	(0.168)	(0.264)	(1.075)	(0.162)	(0.348)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	18,156	18,156	18,156	17,986	14,984	3,172
No. of Firms	3,463	3,463	3,463	3,422	2,921	1,190
Chi^2 Test	534.952	541.041	532.161	517.679	568.740	268.123
Pseudo R^2	0.030	0.029	0.031	0.030	0.028	0.050
Dep=0 (No Change)	11,252	11,252	11,252	11,162	9,205	2,047
Dep=1 (Decrease)	4,125	4,125	4,125	4,073	3,447	678
Dep=2 (Increase)	2,779	2,779	2,779	2,751	2,332	447

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments, for the full sample and the subsamples of exporters and non-exporters separately. The dependent variable is a categorical variable that equals 1 if the leverage ratio decreases by 5% or more, 2 if the leverage ratio increases by 5% or more and 0 otherwise. Leverage (TOT) is defined as total liabilities over total assets. (TOT*-TOT) measures the deviation between the actual, observed leverage ratio and the target leverage ratio TOT*. The target leverage ratios for the full sample and for the subsamples of exporters and non-exporters are the predicted values from the target regression model for the full sample, from the target regression model for the exporters' sample and from the target regression model for the non-exporters' sample (obtained from Table 2.5), respectively. The export summary variable is the first component of a PCA, summarizing the continuous export measures. All independent variables are one-period lagged ones. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table 2.7: Determinants of Changes in Leverage (Export Status)

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.228***	0.232***	0.343***	0.228**	0.257***	0.220**
	(0.085)	(0.089)	(0.097)	(0.089)	(0.093)	(0.090)
Export	0.138**	0.199***	0.172**	0.196***	0.210***	0.193***
	(0.068)	(0.074)	(0.081)	(0.074)	(0.077)	(0.073)
Δ Growth	0.054	-0.118	-0.132	-0.123	-0.198	-0.184
	(0.205)	(0.212)	(0.260)	(0.212)	(0.242)	(0.212)
Profitability	2.298***	2.747***	3.005***	2.756***	2.270***	2.710***
	(0.375)	(0.389)	(0.412)	(0.390)	(0.432)	(0.402)
TOT*-TOT	-0.529***	-1.018***	-1.359***	-1.030***	-1.063***	-0.736***
	(0.159)	(0.160)	(0.171)	(0.163)	(0.394)	(0.153)
Constant	-0.545***	-1.390***	-2.003***	-1.380***	-1.406***	-1.348***
	(0.149)	(0.175)	(0.212)	(0.176)	(0.184)	(0.174)
2						
Group	0.374***	0.460***	0.694***	0.468***	0.442***	0.507***
	(0.090)	(0.096)	(0.110)	(0.097)	(0.095)	(0.098)
Export	0.114	0.209**	0.120	0.215**	0.180**	0.233**
	(0.081)	(0.091)	(0.103)	(0.091)	(0.091)	(0.091)
Δ Growth	0.037	0.028	0.078	0.037	0.329	0.156
	(0.216)	(0.218)	(0.249)	(0.219)	(0.224)	(0.219)
Profitability	-0.824	-0.999*	-0.599	-1.095*	-0.252	-1.372**
	(0.544)	(0.574)	(0.690)	(0.573)	(0.565)	(0.552)
TOT*-TOT	1.696***	1.946***	2.293***	2.084***	2.637***	1.935***
	(0.189)	(0.190)	(0.209)	(0.194)	(0.440)	(0.170)
Constant	-1.210***	-2.118***	-2.763***	-2.143***	-2.107***	-2.189***
	(0.155)	(0.182)	(0.202)	(0.181)	(0.193)	(0.184)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	18,156	18,156	18,156	18,156	16,861	18,195
No. of Firms	3,463	3,463	3,463	3,463	3,230	3,470
Chi^2 Test	469.258	534.952	556.730	552.395	304.071	525.880
Pseudo R^2	0.024	0.030	0.036	0.031	0.020	0.030
Dep=0 (No Change)	7,904	11,252	13,296	11,252	10,527	11,273
Dep=1 (Decrease)	6,120	4,125	2,922	4,125	3,727	4,137
Dep=2 (Increase)	4,132	2,779	1,938	2,779	2,607	2,785

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample obtained from Table 2.5. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table 2.8: Determinants of Changes in Leverage (Export Summary Variable)

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.235***	0.240***	0.349***	0.237***	0.267***	0.228**
	(0.085)	(0.090)	(0.097)	(0.089)	(0.093)	(0.090)
Export Summary Variable	0.030**	0.045***	0.055***	0.044***	0.041***	0.042***
	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Δ Growth	0.058	-0.111	-0.122	-0.115	-0.195	-0.178
	(0.205)	(0.212)	(0.260)	(0.212)	(0.242)	(0.212)
Profitability	2.270***	2.709***	2.978***	2.728***	2.232***	2.681***
	(0.375)	(0.389)	(0.410)	(0.389)	(0.431)	(0.402)
TOT*-TOT	-0.518***	-1.002***	-1.349***	-1.030***	-1.051***	-0.733***
	(0.160)	(0.162)	(0.172)	(0.164)	(0.394)	(0.154)
Constant	-0.435***	-1.229***	-1.852***	-1.230***	-1.240***	-1.193***
	(0.132)	(0.152)	(0.184)	(0.152)	(0.161)	(0.152)
2						
Group	0.379***	0.470***	0.700***	0.478***	0.450***	0.518***
	(0.090)	(0.096)	(0.110)	(0.097)	(0.095)	(0.098)
Export Summary Variable	0.030*	0.039**	0.016	0.042**	0.037**	0.047***
	(0.017)	(0.017)	(0.019)	(0.017)	(0.017)	(0.017)
Δ Growth	0.038	0.029	0.079	0.040	0.328	0.158
	(0.216)	(0.219)	(0.249)	(0.219)	(0.225)	(0.220)
Profitability	-0.845	-1.044*	-0.621	-1.128*	-0.290	-1.421**
	(0.546)	(0.577)	(0.697)	(0.577)	(0.567)	(0.555)
TOT*-TOT	1.701***	1.954***	2.297***	2.082***	2.646***	1.931***
	(0.189)	(0.192)	(0.210)	(0.196)	(0.439)	(0.172)
Constant	-1.116***	-1.953***	-2.675***	-1.956***	-1.962***	-2.001***
	(0.143)	(0.168)	(0.189)	(0.167)	(0.179)	(0.170)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	18,156	18,156	18,156	18,156	16,861	18,195
No. of Firms	3,463	3,463	3,463	3,463	3,230	3,470
Chi^2 Test	476.669	541.041	576.781	556.021	309.691	534.552
Pseudo R^2	0.024	0.029	0.036	0.031	0.020	0.030
Dep=0 (No Change)	7,904	11,252	13,296	11,252	10,527	11,273
Dep=1 (Decrease)	6,120	4,125	2,922	4,125	3,727	4,137
Dep=2 (Increase)	4,132	2,779	1,938	2,779	2,607	2,785

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target leverage ratio TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample obtained from Table 2.5. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. Export Summary is the first component of a PCA, summarizing the continuous export measures. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables are winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

structures. Firms that are highly committed towards exporting and that serve faraway and risky export destinations have a significantly higher probability of a leverage increase and decrease, versus no change in leverage.

Empirical studies on target adjustment behavior seem to indicate that corporate debt levels revert to their mean, where the mean is considered to be the target debt ratio. Due to the fractional nature of debt ratios, this mean reversion of debt levels might, however, be largely mechanical in nature. Leverage ratios of highly levered firms tend to go down in subsequent periods, while the leverage ratio tends to go up for firms with low leverage levels. One way to migitate concerns that mechanical mean reversion might bias our results, is to discard observations with extremely high debt ratios (Hovakimian and Li, 2011). As an additional robustness check, we therefore confine our analysis to firm-year observations for which debt ratios are below 90%.[18] Our findings remain qualitatively unchanged (Tables C.5 to C.6 in Appendix C).

2.7   Conclusions

This paper examines the financial flexibility of Belgian private exporting versus non-exporting firms. Based on the framework offered by dynamical capital structure theory, we approach financial flexibility as the ease with which firms can alter their capital structure when the need arises. To date, only a scant number of studies have investigated capital structure dynamics within a multinational context; in addition, the available empirical evidence is confined to large listed firms (McMillan and Camara, 2012; Park, Suh, and Yeung, 2013). This lack of research on the impact of exporting on financial flexibility within private firms is attributable to limitations in the availability of data on export and import transactions of this type of firm. Drawing on a large-scale confidential dataset, assembled by the National Bank of Belgium, which covers information on corporate financials and international trade transactions at the firm-level, this paper has shed new light on the leverage adjustment behavior of exporting and non-exporting private firms.

We find that both exporting and non-exporting firms have a target leverage ratio in mind to which they gradually evolve. In keeping with earlier empirical evidence, we find that firms rebalance their capital structures towards a target leverage level: underlevered firms tend to increase their leverage ratios whereas overlevered firms tend to decrease it, which is consistent with trade-off theory. Furthermore, we show that exporters adjust their capital structures

---

[18]An alternative argument to discard firm-year observations with close-to-one leverage levels - oftentimes a sign of imminent bankruptcy -, is that it allows us to effectively distinguish between strategic and non-strategic changes in leverage; the latter being mechanical in nature. An increase in the leverage ratio is most likely caused by shrinking firm size, rather than by an increase in liabilities.

more frequently or in larger steps than non-exporting firms do. We attribute this differential in adjustment behavior between exporters and non-exporting firms to the stronger focus on short-term debt financing by the former. Due to longer cash conversion cycles and a higher need for working capital financing, exporters carry substantially more short-term debt than their non-exporting peers. Since short-term debt positions can be altered more easily and at lower cost, exporters may possess superior financial flexibility. The higher borrower quality of exporters as perceived by external creditors may also play a role. Besides having significantly more collateral available, our exporting firms also show significantly higher total factor productivity, which is typically interpreted as a signal of borrower quality in trade literature. Finally, the close monitoring by the bank of sales transactions under trade finance instruments, such as the letter of credit, presumably reduces information asymmetries between the firm and its bank. Since exporters are much heavier users of such instruments (Ahn, Amiti, and Weinstein, 2011; Ahn, 2011), they may be able to afford rebalancing their debt positions at relatively lower cost.

This study aims to provide new insights into the capital structure dynamics within private exporting firms. Despite initiatives by practitioners and policy makers, smaller-sized private firms continue to face substantial difficulties in accessing affordable external financing (WTO, 2016), even though financial constraints are an important impediment to the success of the international strategy of a firm. What we show is that exporters seem to be able to circumvent capital market imperfections more easily, and to alter their capital structures more frequently than their non-exporting peers do. While exporting adds to corporate financial flexibility by easing access to financial resources and allowing for more frequent leverage adjustments, the superior financial flexibility of exporters is partly rooted in their higher reliance on short-term debt financing. Furthermore, the higher financial flexibility of our exporting firms vis-à-vis non-exporters is also presumably attributable to the former's higher use of trade finance instruments. However, this reliance causes them to be particularly sensitive to shocks in credit supply, profitability, as well as the availability of bank or insurer-intermediated trade finance. As such, increased financial flexibility comes at a cost. Future research would therefore benefit from the availability and exploitation of granular information on the use of bank and insurance-intermediated trade finance by firms. From a policy perspective, the development of tools that facilitate the pledging of long-term assets might be beneficial, since it would allow for more frequent changes in the long-term debt position of firms without being subject to the vulnerabilities associated with relying on short-term debt financing.

Appendix C: Additional Tables and Figures

Table C.1: Variables Definition

Variables	Definition
$TOT_{i,t}$	total liabilities over total assets
$A_{i,t}$	1 if leverage decreases, 2 if leverage increases, 0 if no substantial change in leverage
$ST/TOT_{i,t}$	short-term liabilities over total liabilities
$Size_{i,t}$	ln of total assets
$Volatility_{i,t}$	standard deviation of three-year net earnings over lagged total assets
$Growth_{i,t}$	average annual change in sales over the three preceding years
$\Delta\ Growth_{i,t}$	$Growth_{i,t}$ - $Growth_{i,t-1}$
$Group_{i,t}$	1 if the firm is controlled for at least 50% directly or indirectly, by a parent firm, and 0 if the largest incorporated shareholder does not control more than 20% of the sample company, directly or indirectly, or if no intragroup financing is reported
$TFP_{i,t}$	total factor productivity, based on estimating production function coefficients using the Levinsohn and Petrin (2003) methodology
$Profitability_{i,t}$	net earnings over lagged total assets
$LT\ Collateral_{i,t}$	tangible fixed assets over total assets
$ST\ Collateral_{i,t}$	inventories and accounts receivable over total assets
$Export\ Status_{i,t}$	1 if the firm reports export sales, 0 otherwise
$Export\ Intensity_{i,t}$	export sales over total sales
$Export\ Diversity_{i,t}$	the negative sum of the products of the percentage of sales generated in each region k and the ln of that percentage. Six homogenous regions are defined: 1) Belgium; 2) neighboring countries of Belgium; 3) other EU members; 4) non-EU countries, geographically located within Europe; 5) Canada and US and 6) all other countries.
$Political\ Risk_{i,t}$	weighted average of the country-specific political risk indices of the export destination countries from performing a yearly Principal Components Analysis on four legality measures from Kaufmann, Kraay, and Mastruzzi (2011): government effectiveness, regulatory quality, rule of law, and control of corruption. Weights equal the proportion of sales generated in a particular country to total sales.
$Cultural\ Distance_{i,t}$	a composite single-country cultural distance index is constructed yearly on the basis of the squared deviations of each export destination country from Belgium along the three World Values Survey (WVS) dimensions of national culture (i.e. trust, individualism and hierarchy) (Kogut and Singh, 1988; Morosini, Shane, and Singh, 1998; Chakrabarti, Gupta-Mukherjee, and Jayaraman, 2009). Cultural distance at the level of the firm then equals the weighted average of these country-specific indices, where the weights equal the proportion of sales generated in that particular country to total sales.
$Geographic\ Distance_{i,t}$	weighted average of the ln of the great-circle distance in km between the most important capitals in terms of population of Belgium and the export destination countries. Geographic distances are taken from CEPII (Centre d'Etudes Prospectives et d'Informations Internationales). Weights equal the proportion of sales generated in a particular country to total sales.
$Exchange\ Exposure_{i,t}$	Markowitz (1952) portfolio variance, in which the portfolio assets are the national currencies of the export destination countries and the portfolio weights are defined as the difference between export and import flows directed towards and originating from a particular country, scaled by total turnover minus costs of goods sold.
$Cluster\ Distance_{i,t}$	exporters closely located in geographic terms are grouped in clusters on the basis of their geographic coordinates. The obtained cluster centroids are used to calculate the physical distance (in km) between each sample firm and its nearest export cluster, by relying on the great circle formula. Cluster analysis on a yearly basis is employed to calculate the physical distance between the location of registration of a particular firm and the centroid of the nearest cluster of exporting firms, active in the same sector (at 2-digit NACE-BEL level). To select the optimal number of clusters, the Duda and Hart (1973) ratio criterion is applied.
$Import\ Status_{i,t}$	1 if the firm reports imports, 0 otherwise

Table C.2: Target Leverage Models (IV Approach)

	Full	
Group	0.031***	0.031***
	(0.008)	(0.008)
Volatility	-0.028	0.023
	(0.041)	(0.046)
LT Collateral	0.289***	0.283***
	(0.018)	(0.019)
ST Collateral	0.389***	0.404***
	(0.015)	(0.017)
Size	0.032***	0.037***
	(0.003)	(0.004)
Growth	0.093***	0.094***
	(0.010)	(0.010)
Export (Fitted)	-0.072***	
	(0.019)	
Export Summary Variable (Fitted)		-0.039***
		(0.010)
Constant	-0.130***	-0.292***
	(0.047)	(0.078)
Time and Industry FE	Yes	Yes
Firm-Years	37,592	37,592
No. of Firms	5,221	5,221
F	39.727	
Wald Chi^2		1,658.957
Adjusted R^2	0.174	0.105

Note: This table contains the IV estimates of the determinants of target leverage for the full (un-matched) sample. The dependent variable TOT is defined as total liabilities over total assets. In the first column, we deal with the potential endogeneity of export status by applying a three-stage IV approach, based on Adams, Almeida, and Ferreira (2009). In the second column, we instrument our continuous export summary variable, which is the first component of a Principal Component Analysis. Instruments used are import status and export cluster distance (at 2-digit NACE-BEL level). The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table C.3: Determinants of Changes in Leverage (Export Status) - Propensity Score Matching

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.189**	0.204**	0.249**	0.212**	0.169	0.192*
	(0.090)	(0.098)	(0.110)	(0.098)	(0.104)	(0.098)
Δ Growth	-0.112	-0.289	-0.406	-0.284	-0.482	-0.338
	(0.263)	(0.301)	(0.316)	(0.303)	(0.333)	(0.305)
Profitability	2.506***	2.453***	2.463***	2.537***	2.097***	2.521***
	(0.430)	(0.458)	(0.533)	(0.463)	(0.528)	(0.480)
TOT*-TOT	-0.729***	-1.098***	-1.537***	-1.142***	-1.205**	-0.754***
	(0.189)	(0.203)	(0.225)	(0.206)	(0.491)	(0.198)
Export	0.113	0.102	0.014	0.087	0.088	0.082
	(0.082)	(0.089)	(0.095)	(0.090)	(0.094)	(0.090)
Constant	-0.873***	-1.523***	-2.170***	-1.525***	-1.476***	-1.497***
	(0.148)	(0.156)	(0.170)	(0.156)	(0.164)	(0.158)
2						
Group	0.359***	0.376***	0.432***	0.367***	0.338***	0.428***
	(0.097)	(0.100)	(0.123)	(0.100)	(0.103)	(0.101)
Δ Growth	-0.296	-0.610**	-0.645**	-0.616**	-0.535*	-0.480*
	(0.255)	(0.273)	(0.319)	(0.270)	(0.282)	(0.265)
Profitability	-0.264	-1.128*	-0.847	-1.309**	-0.305	-1.524***
	(0.736)	(0.594)	(0.687)	(0.598)	(0.564)	(0.581)
TOT*-TOT	1.343***	2.056***	2.293***	2.187***	1.613***	1.988***
	(0.247)	(0.209)	(0.229)	(0.211)	(0.392)	(0.199)
Export	0.246**	0.290***	0.144	0.326***	0.288***	0.368***
	(0.107)	(0.108)	(0.120)	(0.108)	(0.107)	(0.107)
Constant	-1.422***	-2.097***	-2.560***	-2.111***	-2.079***	-2.190***
	(0.152)	(0.153)	(0.184)	(0.154)	(0.157)	(0.153)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	21,868	21,868	21,868	21,868	20,656	21,937
No. of Firms	3,662	3,662	3,662	3,662	3,463	3,673
Chi^2 Test	421.439	497.446	473.943	532.239	225.082	523.598
Pseudo R^2	0.027	0.035	0.041	0.036	0.021	0.034
Dep=0 (No Change)	9,473	13,435	15,885	13,435	12,746	13,476
Dep=1 (Decrease)	7,347	5,007	3,578	5,007	4,647	5,024
Dep=2 (Increase)	5,048	3,426	2,405	3,426	3,263	3,437

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table C.4: Determinants of Changes in Leverage (Export Summary Variable) - Propensity Score Matching

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.186**	0.201**	0.245**	0.210**	0.168	0.190*
	(0.091)	(0.098)	(0.111)	(0.098)	(0.104)	(0.099)
△ Growth	-0.114	-0.290	-0.407	-0.285	-0.482	-0.339
	(0.264)	(0.302)	(0.318)	(0.304)	(0.334)	(0.306)
Profitability	2.485***	2.433***	2.469***	2.521***	2.074***	2.502***
	(0.429)	(0.456)	(0.523)	(0.460)	(0.527)	(0.477)
TOT*-TOT	-0.727***	-1.096***	-1.539***	-1.143***	-1.193**	-0.750***
	(0.189)	(0.204)	(0.225)	(0.207)	(0.490)	(0.198)
Export Summary Variable	0.039**	0.034*	0.025	0.028	0.023	0.028
	(0.019)	(0.020)	(0.022)	(0.020)	(0.021)	(0.020)
Constant	-0.763***	-1.425***	-2.137***	-1.442***	-1.397***	-1.418***
	(0.134)	(0.141)	(0.178)	(0.141)	(0.148)	(0.142)
2						
Group	0.357***	0.373***	0.430***	0.363***	0.333***	0.425***
	(0.097)	(0.100)	(0.123)	(0.100)	(0.104)	(0.102)
△ Growth	-0.299	-0.615**	-0.646**	-0.620**	-0.540*	-0.484*
	(0.255)	(0.270)	(0.318)	(0.267)	(0.281)	(0.261)
Profitability	-0.321	-1.188**	-0.875	-1.363**	-0.374	-1.594***
	(0.738)	(0.589)	(0.683)	(0.593)	(0.559)	(0.576)
TOT*-TOT	1.347***	2.060***	2.294***	2.178***	1.652***	1.985***
	(0.247)	(0.208)	(0.228)	(0.209)	(0.392)	(0.196)
Export Summary Variable	0.053**	0.076***	0.047**	0.089***	0.077***	0.095***
	(0.022)	(0.020)	(0.021)	(0.020)	(0.020)	(0.019)
Constant	-1.208***	-1.834***	-2.423***	-1.813***	-1.817***	-1.858***
	(0.162)	(0.148)	(0.180)	(0.149)	(0.150)	(0.149)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	21,868	21,868	21,868	21,868	20,656	21,937
No. of Firms	3,662	3,662	3,662	3,662	3,463	3,673
Chi^2 Test	416.024	508.519	481.701	545.978	241.115	529.661
Pseudo R^2	0.027	0.035	0.042	0.036	0.021	0.034
Dep=0 (No Change)	9,473	13,435	15,885	13,435	12,746	13,476
Dep=1 (Decrease)	7,347	5,007	3,578	5,007	4,647	5,024
Dep=2 (Increase)	5,048	3,426	2,405	3,426	3,263	3,437

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target leverage ratio TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. Export Summary is the first component of a PCA, summarizing the continuous export measures. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table C.5: Determinants of Changes in Leverage (Export Status) - Mechanical Mean Reversion

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.196**	0.231***	0.350***	0.224**	0.245***	0.207**
	(0.088)	(0.089)	(0.098)	(0.089)	(0.093)	(0.089)
Δ Growth	-0.024	-0.107	-0.186	-0.115	-0.220	-0.192
	(0.218)	(0.237)	(0.294)	(0.237)	(0.268)	(0.240)
Profitability	2.428***	3.068***	3.500***	3.067***	2.477***	3.126***
	(0.389)	(0.397)	(0.417)	(0.397)	(0.445)	(0.409)
TOT*-TOT	-0.782***	-1.235***	-1.531***	-1.243***	-1.070**	-0.941***
	(0.175)	(0.167)	(0.185)	(0.171)	(0.416)	(0.160)
Export	0.140**	0.233***	0.208**	0.229***	0.246***	0.221***
	(0.071)	(0.075)	(0.082)	(0.075)	(0.078)	(0.075)
Constant	-0.526***	-1.410***	-2.064***	-1.397***	-1.422***	-1.327***
	(0.153)	(0.175)	(0.212)	(0.177)	(0.183)	(0.175)
2						
Group	0.299***	0.440***	0.623***	0.455***	0.422***	0.508***
	(0.093)	(0.095)	(0.113)	(0.096)	(0.096)	(0.097)
Δ Growth	-0.017	0.019	-0.015	0.032	0.366	0.176
	(0.232)	(0.240)	(0.277)	(0.240)	(0.236)	(0.235)
Profitability	-0.654	-0.700	-0.387	-0.779	-0.061	-1.060**
	(0.550)	(0.560)	(0.681)	(0.560)	(0.542)	(0.540)
TOT*-TOT	1.722***	2.101***	2.512***	2.264***	2.782***	2.020***
	(0.206)	(0.200)	(0.221)	(0.206)	(0.428)	(0.182)
Export	0.117	0.239**	0.107	0.246***	0.217**	0.279***
	(0.083)	(0.094)	(0.105)	(0.095)	(0.093)	(0.093)
Constant	-1.143***	-2.159***	-2.707***	-2.186***	-2.169***	-2.310***
	(0.161)	(0.186)	(0.206)	(0.184)	(0.197)	(0.187)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	16,888	16,888	16,888	16,888	15,816	16,928
No. of Firms	3,304	3,304	3,304	3,304	3,104	3,312
Chi^2 Test	452.825	610.791	614.837	633.032	325.706	580.917
Pseudo R^2	0.024	0.033	0.039	0.035	0.022	0.033
Dep=0 (No Change)	7,227	10,392	12,338	10,392	9,803	10,413
Dep=1 (Decrease)	5,785	3,898	2,744	3,898	3,557	3,911
Dep=2 (Increase)	3,876	2,598	1,806	2,598	2,456	2,604

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Table C.6: Determinants of Changes in Leverage (Export Summary Variable) - Mechanical Mean Reversion

	Threshold 3%	Threshold 5%	Threshold 7%	3-Year Rolling Window	Historical Target	Industry Average
1						
Group	0.202**	0.241***	0.359***	0.234***	0.256***	0.216**
	(0.088)	(0.089)	(0.098)	(0.089)	(0.094)	(0.090)
Δ Growth	-0.014	-0.090	-0.167	-0.098	-0.209	-0.178
	(0.219)	(0.238)	(0.295)	(0.239)	(0.269)	(0.241)
Profitability	2.399***	3.021***	3.463***	3.029***	2.423***	3.091***
	(0.388)	(0.396)	(0.415)	(0.396)	(0.445)	(0.409)
TOT*-TOT	-0.774***	-1.221***	-1.523***	-1.247***	-1.061**	-0.943***
	(0.175)	(0.169)	(0.184)	(0.172)	(0.417)	(0.160)
Export Summary Variable	0.034**	0.051***	0.065***	0.050***	0.047***	0.047***
	(0.015)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Constant	-0.411***	-1.221***	-1.881***	-1.223***	-1.226***	-1.149***
	(0.137)	(0.153)	(0.184)	(0.153)	(0.161)	(0.153)
2						
Group	0.304***	0.451***	0.628***	0.465***	0.431***	0.519***
	(0.093)	(0.095)	(0.113)	(0.096)	(0.095)	(0.097)
Δ Growth	-0.011	0.027	-0.012	0.041	0.372	0.188
	(0.232)	(0.240)	(0.278)	(0.240)	(0.237)	(0.236)
Profitability	-0.677	-0.753	-0.404	-0.827	-0.112	-1.116**
	(0.550)	(0.562)	(0.685)	(0.563)	(0.544)	(0.542)
TOT*-TOT	1.725***	2.104***	2.514***	2.262***	2.790***	2.001***
	(0.207)	(0.203)	(0.222)	(0.209)	(0.429)	(0.185)
Export Summary Variable	0.031*	0.037**	0.015	0.040**	0.036**	0.046***
	(0.017)	(0.018)	(0.020)	(0.018)	(0.018)	(0.018)
Constant	-1.045***	-1.974***	-2.627***	-1.974***	-1.998***	-2.088***
	(0.149)	(0.171)	(0.192)	(0.171)	(0.183)	(0.174)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Years	16,888	16,888	16,888	16,888	15,816	16,928
No. of Firms	3,304	3,304	3,304	3,304	3,104	3,312
Chi^2 Test	461.952	607.008	639.575	624.708	322.684	570.530
Pseudo R^2	0.024	0.033	0.039	0.034	0.021	0.032
Dep=0 (No Change)	7,227	10,392	12,338	10,392	9,803	10,413
Dep=1 (Decrease)	5,785	3,898	2,744	3,898	3,557	3,911
Dep=2 (Increase)	3,876	2,598	1,806	2,598	2,456	2,604

Note: This table contains the results for the multinomial logistic regressions modelling the likelihood of leverage adjustments. (TOT*-TOT) measures the deviation between the year t-1 observed leverage ratio and the current year's target leverage ratio TOT*. In the first three columns, the dependent variable equals 1 if the leverage ratio decreases by 3, 5 or 7% or more, 2 if the leverage ratio increases by 3, 5 or 7% or more and 0 otherwise. The target leverage ratios are the predicted values from the target regression model for the full sample. In the fourth column, we apply a three-year rolling window to estimate target ratios. A 5%- threshold is used to define the dependent dichotomous variable. The fifth column presents the results while applying a 5-year average historical debt ratio as the target. The dependent is again defined at the 5%-threshold. The last column contains the estimates when the target equals the year-average industry debt ratio, excluding the focal firm. Export Summary is the first component of a PCA, summarizing the continuous export measures. All independent variables are one-period lagged. The (unreported) coefficients are available upon request. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. Standard errors clustered at firm-level are reported in parentheses. *** denotes significance at 1%, ** denotes significance at 5% and * denotes significance at 10%.

Chapter 3

Labor Flexibility and Firm Export Performance

Abstract - Using a longitudinal dataset containing financial and exporting data from private Belgian manufacturers between 1999 and 2013, this paper examines how labor force flexibility affects export participation and performance. A firm is assumed to be flexible when it can adjust its labor force without delay and at relatively low adjustment cost when the need arises. In contrast to earlier studies that exploit cross-country variation, we rely on firm-level measures for labor force flexibility. We find that firms with higher levels of blue-collar workers, who can be hired and dismissed more easily and at lower cost than white-collar workers, are more likely to start exporting, and generate a larger part of their sales in export markets. These firms also export to a more diverse range of geographical regions. Although labor force flexibility enhances export participation and performance, this occurs at diminishing rates. Overall, our findings suggest that labor flexibility enables the efficient allocation of human capital throughout the firm, which enhances its international competitiveness, both at the intensive and the extensive margin of international trade.

3.1   Introduction

The literature on labor flexibility and international trade is grounded in the resource-based view of the firm, which argues that the availability of scarce, non-substitutable and inimitable resources constitutes a competitive advantage for the firm, both in the home market and overseas (Westhead, Wright, and Ucbasaran, 2001; Dhanaraj and Beamish, 2003). In an effort to explain the success of the international strategy of the firm, existing empirical evidence typically focuses on managerial (Manolova, Brush, Edelman, and Greene, 2002; Ganotakis and Love, 2012; Robson, Akuetteh, Westhead, and Wright, 2012), financial (Greenaway, Guariglia, and Kneller, 2007; Bellone, Musso, Nesta, and Schiavo, 2010) and technological resources (Karagozoglu and Lindell, 1998; Dhanaraj and Beamish, 2003). Employee human capital, another scarce resource that requires careful allocation within the firm, has received considerably less attention. We aim to fill this gap in the literature by studying the role of labor force flexibility as a source of competitive advantage in international trade. In particular, we examine its impact on the export participation and subsequent export performance of private firms. Because of their smaller scale, their lower degree of diversification and their higher resource constraints relative to large publicly quoted firms, the availability of a flexibly employable workforce may be of particular importance to enhance the strategic flexibility of smaller-sized firms.

In this paper, we define a firm as flexible regarding its labor input when it can adapt its workforce easily and at relatively low adjustment cost in response to demand fluctuations and technological changes. In contrast to earlier studies, which mostly investigate the implications of country differences in labor market rigidities on firms, we are able to exploit within-country variation in labor force flexibility by relying on firm-level measures of the flexibility of the workforce. Although employee protection regulations[1], which hinder labor force adjustments, are set at the national level, firms can still achieve labor flexibility by deciding upon the composition of their workforce and the types of contracts they offer to their employees, which differ in terms of the employment protection rules that apply to each one of them.

A first strand of literature on labor flexibility has focused on the implications of employment protection legislation (EPL) for labor market outcomes such as productivity (Nickell and Layard, 1999), labor force participation (Acemoglu and Angrist, 2001; Botero, Djankov, La Porta, Lopez-de Silanes, and Shleifer, 2004)

---

[1]Employment protection legislation (EPL) is an all-encompassing term referring to a broad set of employment protection measures, based on legislation, court rulings, collectively bargained conditions or customary practice, concerning both hiring and firing regulations. These regulations cover trial and notice periods, as well as rules concerning absenteeism, amongst others. Firms that are subject to less strict employment protection regulations incur lower hiring and firing costs, and can therefore adapt their workforce more easily and at relatively lower cost in response to changing business conditions. Consequently, these firms experience superior labor flexibility.

and wages (Autor, Donohue III, and Schwab, 2006). In more recent years, scholars have started to examine the impact of EPL on corporate outcomes, such as firm size (Almeida and Carneiro, 2009), performance (Besley and Burgess, 2004; Autor, Kerr, and Kugler, 2007; Bassanini, Nunziata, and Venn, 2009; Bird and Knopf, 2009; Van Landuyt, Dewaelheyns, and Van Hulle, 2017), corporate investments (Javorcik and Spatareanu, 2005; Dewit, Görg, and Montagna, 2009; Cingano, Leonardi, Messina, and Pica, 2010) and takeover activity (Dessaint, Golubov, and Volpin, 2017), capital structure (Simintzi, Vig, and Volpin, 2014) and innovation (Tang, 2012; Acharya, Baghai, and Subramanian, 2013). We aim to add to this literature by examining the impact of labor flexibility on the export participation and performance of private firms.

The expected effect of a flexible workforce on export behavior at the corporate level is not clear a priori. On the one hand, besides financial, technological and managerial factors, a sound business climate is required to stimulate export activities. For a sample of developing economies, Dollar, Hallward-Driemeier, and Mengistae (2006) find that export participation is higher when the business climate is better. Bureaucracy, corruption, weak infrastructure and the lack of a sound financial system hinder expansion into foreign markets by increasing the sunk costs associated with exporting. In a similar vein, rigidities in the labor market, which cause labor force adjustments to be more costly, may considerably reduce participation in foreign markets (Seker, 2012). Since inflexibilities in the labor market, such as employee protection regulations, hinder job flows by raising the costs of hiring and firing employees, firm competitiveness and firm participation in export markets are expected to be substantially reduced. As such, the ability of the firm to easily adapt its workforce to changing business conditions is expected to be a source of competitive advantage in international trade.

On the other hand, weak worker protection may also have an adverse effect on firm export participation and performance through reduced employee motivation and job satisfaction (Greenhalgh and Rosenblatt, 1984). Even though firm-specific skills are a necessity to deal with the complexities of international trade, job insecurity due to a higher risk of dismissal causes employees to be less willing to invest in such skills. Tang (2012), for instance, finds that countries with stricter labor laws tend to specialize in and export in sectors that require certain firm- and industry-specific skills. Low employee motivation may also reduce creativity and thus innovative activity. Furthermore, if labor protection is weak, employees may leave the firm after a short period of notice, taking their acquired skills along. Since the literature provides contrasting predictions about the implications of labor force flexibility for firm export behavior, it is therefore an empirical question as to which view is more relevant; that is, does the availability of a flexibly employable workforce enhance or decrease export participation and

performance?

Belgium is an interesting setting to analyze labor flexibility in a context of private exporting firms for a number of reasons. First, prior studies that investigate the implications of employment protection legislation mostly exploit cross-country variation due to data availability issues at the firm level (Atanassov and Kim, 2009; Olney, 2013; Dessaint, Golubov, and Volpin, 2017). These studies consequently implicitly assume that firms cannot decide upon their exposure to employment protection legislation since these regulations are set at the national level. In contrast to earlier studies, we acknowledge that firms are able to influence their exposure to employment protection legislation to some extent, by employing their personnel under different types of labor contracts. Under Belgian Accounting Law, all limited liability firms (including private ones) are bound to file financial statements of which the social balance sheet is an integral part. This section consists of highly detailed information related to the composition of the workforce, which allows us to construct firm-level measures of workforce flexibility.[2]

Second, thanks to the unique properties of our dataset, we are able to distinguish between two dimensions of (contractual) labor flexibility. *Contractual flexibility* relates to EPL and entails regulations concerning trial periods, notice periods and on absenteeism, amongst others. Employee protection is typically found to hinder workforce adjustments, by discouraging job creation and reducing job destruction. Firms that are subject to less stringent employee protection are hampered less by hiring and firing costs, and are therefore considered to be more flexible since they can adjust their workforce without delay and at relatively lower cost. Labor contracts, however, differ markedly regarding the degrees of worker protection they offer. In comparison to permanent contracts, temporary contracts offer more flexibility to the employer because at the end of the contract term, the firm is legally bound to neither renew nor replace the contract, and no severance payments are to be paid out. Most studies that examine the effect of employee protection at the firm level limit themselves to the legal differences between temporary and permanent labor contracts (Valverde, Tregaskis, and Brewster, 2000; Cappellari, Dell'Aringa, and Leonardi, 2012; Kuzmina, 2013). In contrast, we are also able to distinguish between blue-collar and white-collar contracts. During our sample period, white-collar contracts are substantially more protective than blue-collar contracts under Belgian Labor Law. As a consequence, it is much less expensive to hire and dismiss blue-collar workers.

Third, unlike earlier work on the association between labor flexibility and in-

---

[2]The social balance sheet of our sample firms consists of 174 items, which is among the most extensive data on workforce-related aspects within Europe at the corporate level. Items covered are related to the educational background and gender of the workforce, and the contract types offered, amongst other dimensions. In an international context, this type of information is generally only available for large and publicly quoted firms.

ternational trade at the country or industry level (Saint-Paul, 1997; Kucera and Sarna, 2006; Uzagalieva and Cukrowski, 2006; Pagés-Serra and Micco, 2008; Helpman and Itskhoki, 2010; Cuñat and Melitz, 2012; Seker, 2012; Tang, 2012), we are able to match our highly detailed employee-employer related data with international trade data at the corporate level, by relying on a proprietary dataset compiled by the National Bank of Belgium (NBB). This trade database consists of firm-year level information regarding the export and import flows of Belgian firms by country of destination and origin. Belgium provides an interesting setting to examine export activities since internationalization is generally a necessity due to the country's limited domestic market size.

Our study makes three contributions to the current literature. First, our dataset allows us to focus on private and smaller-sized firms, whose access to resources to support their (export) activities is particularly constrained, in spite of their share in economic growth and development[3]. Because of their relatively smaller scale, their lower degree of diversification and their higher resource constraints, labor flexibility may be of utmost importance to enhance the strategic flexibility of these types of firms. In particular, due to their smaller scale, workers can be less easily assigned to other uses within the firm in response to altering business conditions. Consequently, hiring and firing costs may matter more for smaller-sized, private firms. Second, by studying firm-level dimensions of contractual labor flexibility, we acknowledge that firms are able to influence their labor flexibility to some extent. Prior studies investigating the impact of worker protection on firm outcomes suffer from omitted variable bias by exploiting country-variation only. Finally, most of prior research on human resources and firm performance has focused on the characteristics of the top management or the owner. The educational background, the international experience and skills of the management or the owner have long been argued to be the key drivers for the success of the international strategy of the firm. However, it is likely that the characteristics of the entire workforce may constitute a competitive advantage for the firm, since it is the employees that are ultimately involved in the actual execution of the firm's strategy. We add to the current literature by investigating the manner in which a flexibly employable workforce affects export participation and subsequent export performance.

Using a panel dataset pertaining to private Belgian manufacturers during the period 1999-2013, our results show that firms that incur lower hiring and firing costs, and that are therefore able to adjust their workforce swiftly and at relatively lower cost, are more likely to start exporting and experience better export performance. In particular, firms that employ more blue-collar workers, who can be hired and dismissed more easily in response to changing circumstances,

---

[3]Belgian SMEs account for approximately two thirds of total employment and 57.6% of value added (European Commission, 2013 SBA Fact Sheet). In addition, according to the Federation of Enterprises in Belgium, the share of SMEs in exports is about 50%.

have a higher probability of exporting and generate a larger part of their sales in foreign markets. These firms also export to a wider range of geographic regions. Probably due to the negligible share of temporary workers, who can be dismissed more easily than permanent workers, within our sample firms, we find only weak evidence that temporary labor positively affects export performance. Although labor flexibility stimulates export participation and performance, this occurs at diminishing rates, which suggests the existence of a saturation point of labor flexibility. Overall, it seems that labor flexibility enables the efficient allocation of human capital throughout the firm, which enhances its international performance, both in terms of the intensive and extensive margin of trade. Our results prove robust to various sample and model specifications.

The remainder of this paper is organized as follows: the next section provides a brief introduction to Belgian Labor Law and an overview of the current literature on labor flexibility, international trade and firm performance, from which we derive hypotheses. In later sections, we discuss our sample selection procedure and the methodology applied. Descriptive statistics and univariate test statistics are provided, followed by a discussion of our multivariate results and robustness checks. The last section offers concluding remarks and directions for future research.

3.2   Labor Flexibility and Export Performance

3.2.1   Institutional Setting: Belgian Labor Law

The Belgian Law on labor contracts[4] distinguishes between a number of contract types, which differ with respect to the set of employment protection rules that apply. Employment protection legislation (EPL) is an all-encompassing term referring to a broad set of employment protection measures, concerning both hiring and firing regulations. These regulations cover trial periods, terms of notice, as well as rules concerning absenteeism, amongst others. Firms that are subject to less strict employment protection regulations incur lower hiring and firing costs, and can therefore adapt their workforce more easily and at relatively lower cost in response to changing business conditions. Consequently, these firms experience superior labor flexibility.

Most studies that examine the effect of employee protection at the firm level limit themselves to the legal differences between temporary and permanent labor contracts (Valverde, Tregaskis, and Brewster, 2000; Cappellari, Dell'Aringa, and Leonardi, 2012; Kuzmina, 2013). In contrast, our dataset also allows us to distinguish between blue-collar and white-collar contracts. During our sam-

---

[4]Act of July 3th, 1978 and Act of July 24th, 1987.

ple period, white-collar *(bediende/employé)* contracts are much more protective than blue-collar *(arbeider/ouvrier)* contracts because regulations on trial and notice periods and absenteeism, for instance, are more favorable to white-collar workers. Not only do white collars benefit from substantially longer trial periods and terms of notice; suspension of their contracts due to adverse weather conditions and technical disturbances, and for economic reasons is not possible. For instance, the trial period of a blue-collar worker lasts between 7 and 14 days, while this runs from one month to one year for white-collar workers, depending on their annual salary. During this trial period both parties can terminate the contract without notice for blue collars, and with a short notice for white collars (Blanpain, 2010).

Another distinction in employee protection between blue and white collars relates to the length of the period of notice to be respected by the employer in case he wants to terminate the contract. The term of notice for a blue-collar worker is 28 (56) days if the employee has been working for the firm for less (more) than 20 years, while the minimum length to be respected by the employer for white-collar workers is at least three months for employees with less than 5 years of seniority. Since employers can hire and fire blue-collar workers more easily and at lower cost, firms employing relatively more blue-collar workers are considered to be more flexible in their labor input. In spite of ongoing attempts to reduce the differences in worker protection between white- and blue-collar contracts, these contracts continue to differ markedly.

In theory, the firm cannot freely decide upon which type of contract to use; it is the nature of the job that determines the contract type applicable. A white-collar contract is offered to employees performing intellectual work, whereas blue collars conduct manual labor (Blanpain, 2010). Offering a blue-collar contract to a worker that is performing purely intellectual work is not possible, given that it is highly unprobable for this type of labor contract to be upheld in court. Over time, the criterion used to distinguish between blue-collar and white-collar workers has come under increased scrutiny, as technological evolution has made the distinction between manual and intellectual labor blurry and unclear. As a consequence, the range of activities that may be performed by the employee under a certain labor contract has broadened. In addition, in practice, employers do have some discretionary power regarding the type of labor contract they offer to their employees, which allows them to influence their labor flexibility. For instance, it is possible to offer a white-collar contract to a worker with a blue-collar job content as an incentive or as a reward after a number of years of seniority (Engels, 2002), or in firms with only a limited number of manual workers (Blanpain, 2010).

Belgian Law also distinguishes between permanent and temporary contracts, whereby the latter category consists of fixed-term and fixed-job contracts. In com-

parison to permanent contracts, temporary contracts offer more flexibility since at the end of the contract term, the firm is legally bound to neither renew nor replace the contract. In addition, no severance payments are to be paid out. Since the costs associated with firing temporary workers are smaller as compared to the dismissal costs of permanent workers, firms are more flexible if they employ relatively more temporary workers (Goux, Maurin, and Pauchet, 2001).[5]

3.2.2   Contractual Labor Flexibility and Export Behavior

Firms are generally encouraged to enter foreign markets as exporting is believed to trigger economic development and boost productivity. Scholars such as Edmunds and Khoury (1986) and D'Souza and McDougall (1989) believe exporting to be essential for a small firm's long-run survival and growth. However, the significant sunk costs from developing export activities may constitute an insuperable deterrent to the internationalization of smaller-sized firms, especially in rigid labor markets. Due to high fixed start-up costs, it is generally the larger and more productive firms that can afford to develop export activities (Bernard and Wagner, 1997; Bernard, Eaton, Jensen, and Kortum, 2003; Bernard and Jensen, 2004; Greenaway, Guariglia, and Kneller, 2007). The changes in firm characteristics prior to exporting point to a self-selection process, which, however, may be severely hindered by labor rigidities, even to the extent that firms are discouraged from starting to export (Seker, 2012).

Strict labor regulations make it costly for the firm to adjust employment levels (Pagés-Serra and Micco, 2008) and reduce profitability by the allocation of future cash flows to wages. Firms subject to restrictive labor protection legislation are also less productive than firms operating in a weak employee protection regime, since it is more expensive to lay off non-productive workers in such an environment (Besley and Burgess, 2004; Autor, Kerr, and Kugler, 2007; Kleinknecht, Oostendorp, Pradhan, and Naastepad, 2006). In addition, due to a lower risk of dismissal when worker protection is strong, employees have a higher incentive to shirk, which is detrimental to firm productivity (Cingano, Leonardi, Messina, and Pica, 2010). Almeida and Carneiro (2009) show that stricter enforcement of labor regulation curbs firm size. Since stricter labor regulations increase labor costs, firms may scale down their operations in response. Moro, Maresch, Ferrando, and Udell (2017) find that employment protection reduces the probability that firms obtain external credit to support their activities, while a lack of finance generally constitutes an important impediment to the

---

[5]Under Belgian Law, also part-time and full-time contracts are allowed. Part-time contracts are not a separate category of labor contracts: they can be temporary or permanent in nature, and may cover white-collar or blue-collar labor (Blanpain, 2010). Unlike many other countries, there is no difference in employee protection between part-time and full-time contracts in Belgium: wages, fringe benefits and social security rights are distributed pro rata.

success of the firm's international strategy. As a result of labor rigidities, a decreasing number of firms can overcome the hurdles and costs associated with developing export activities. Seker (2012) therefore argues that a good investment climate, reflected in flexible labor regulations, could decrease the sunk costs of exporting and thus lead to higher export participation. Furthermore, Seker (2010) reasons that exporters engage less intensively in foreign markets when they are subject to stricter labor regulations at home. Given the adverse consequences of strict labor regulations on labor costs, firm productivity and workforce adjustment costs, firms will experience difficulties in facing the competition in international markets. The decrease in cost competitiveness due to labor rigidities hinders the expansion of firms into foreign markets and therefore adversely affects the share of revenues from exports.

In contrast, there are some counter-arguments that suggest that flexible labor protection may hamper export participation and performance through reduced employee motivation and job satisfaction (Greenhalgh and Rosenblatt, 1984). When worker protection is weak, job insecurity causes employees to be less willing to invest in firm- and industry-specific skills (Wasmer, 2006), which are highly needed to succeed in foreign markets. Low employee motivation will also reduce creativity and innovative activity (Tang, 2012; Acharya, Baghai, and Subramanian, 2013). Furthermore, if labor regulation is flexible, employees may leave the firm after a short period of notice, taking their acquired skills along. Since replacing these skills is difficult and costly for the firm, employers may opt for long-term (and thus less flexible) labor contracts to ensure the availability of specialized skills (Collins and Krippner, 1999). Alternatively, firms operating in a flexible employee protection regime will have to offer higher wages to attract and retain sufficient skilled employees to compensate for their higher risk of dismissal, which inevitably drives down firm profitability (Autor, Donohue III, and Schwab, 2006; Bassanini, Nunziata, and Venn, 2009) and competitiveness.

The prevailing literature mostly underlines the detrimental effect of employee protection on export participation and performance. Flexible labor regulations allow firms to smoothly adapt employment levels to fluctuations in demand and technological changes and to curtail wage expenditures, which enhances (international) competitiveness. Firms subject to strong employee protection regulations, in contrast, face costly hiring and firing procedures and contract regulations, limiting flexibility in their decision-making and reducing their speed of labor adjustment. On the basis of the above arguments, we conjecture that firms that employ relatively more employees with flexible labor contracts are more likely to successfully engage in international activities.

H1: Firms that use relatively more blue-collar contracts, which are less protective and thus more flexible than white-collar contracts, are more likely to successfully engage in international activities, as reflected in a higher export propensity and

subsequent export performance.

H2: Firms that use relatively more temporary contracts, which are less protective and thus more flexible than permanent contracts, are more likely to successfully engage in international activities, as reflected in a higher export propensity and subsequent export performance.

3.3   Sample Selection, Methodology and Variables Definition

3.3.1   Sample Selection

The sample comprises data on private Belgian firms that filed unconsolidated complete financial statements[6],[7] between 1999 and 2013[8]. Data are gathered from several databases and subsequently merged through the unique value added tax (VAT) number of the firm. Financial information at the corporate level is obtained from the annual accounts database from the Central Balance Sheet Office of the National Bank of Belgium. The social balance sheet, which is an integral part of the annual accounts, contains highly detailed information on the composition of the labor force by type of labor contract, amongst other dimensions. The financial and social balance sheet data are subsequently merged with a highly confidential database from the Bank, which covers detailed information on the international trading behavior of Belgian firms. This foreign trade database comprises of export and import flows by country of destination and

---

[6]Under Belgian Accounting Law, companies are bound to file complete (unconsolidated) accounts if they meet at least two of the following criteria: total assets exceed 3.65 million euros; operating revenue exceeds 7.3 million euros; more than 50 full time equivalent employees. Companies with more than 100 full time equivalent employees always have to file complete accounts. All other firms may file abbreviated statements, which contain less detailed information. Both the full and the abbreviated model include a social balance sheet section, which contains detailed information on the number of staff employed by the firm, on the type of contracts offered and on the proportion of skilled labor, amongst others. In an international context, this type of information is generally only available for large and publicly quoted firms, not for smaller-sized, private firms.

[7]We limit the analysis to firms filing complete financial statements for a number of reasons. First, it reduces concern regarding the wrongful classification of smaller-sized, intra-EU exporters that do not trespass the Instrat threshold as non-exporting firms. Second, abbreviated annual accounts are less detailed and do not (always) contain information that is relevant to our research question (e.g. turnover).

[8]On January 1st, 2012 a new law, published on April 28th, 2011 in the Belgian Official Gazette, introduced new redundancy rules to the Act of July 3th, 1978 on employment contracts. The new regulation will be applicable to contracts for both white- and blue-collar workers. For contracts concluded prior to January 1st the previous regulations of the Act of July 3th will remain valid. For blue-collar contracts concluded after 2011, the length of the notice period given by the employer to the employee on his dismissal was extended. For white-collar workers, regulations concerning pre-notification periods were reformed considerably as well. More recently, the Act of December 26th, 2013 was enacted which aims to address the differences in regulations between white-collar and blue-collar contracts with respect to trial and notice periods, amongst others. Despite these attempts to reduce legal differences between white-collar and blue-collar workers, not all distinctions have disappeared. In additional tests, we redo the analysis while excluding the last year of our research period. Our results prove robust.

country of origin above a certain threshold.[9] Time-varying ownership informa-
tion is obtained from Belfirst (Bureau Van Dijk EP). We only retain manufactur-
ing firms (NACE-BEL 2-digit codes: 10-33), which are considered to be the main
goods-exporting firms.[10] Following customary practice, non-profit organizations,
firm-years with zero sales, or with extremely high levels of debt ($> 100\%$ of total
assets) and absolute total assets growth rates exceeding 100% are discarded.[11]
We also exclude micro-enterprises (< 10 in FTE)[12] and firms that are five years
old or younger[13]. The final sample consists of 1,790 firms and 13,555 firm-year
observations.

3.3.2   Methodology and Variables

We are interested in how a range of variables affect export propensity and ex-
port performance. In the course of modeling export performance, we need to take
into account the possibility that exporters are not a random subsample of the
entire firm population. Exporters may differ substantially from non-exporting
firms with respect to certain firm characteristics that may affect both their ex-
port decision and their export performance. Although our measures for export

---

[9]Until 2006, firms had to report their intra-EU trade through the Intrastat inquiry if their export
flows surpassed 250,000 euros per year. As of 2006, a reporting threshold of one million euros per
year applies to intra-EU trade transactions. Data on extra-EU trade is collected by customs agents
as of a transaction value of 1,000 euros or as of a weight of one metric ton.

[10]Focusing on the manufacturing sector also increases homogeneity in the definition of exporting
(Seker, 2010; Decramer, Fuss, and Konings, 2016). In particular, labor flexibility may be less relevant
in explaining the export performance of intermediaries in trade, which do not produce goods them-
selves. To this end, Bernard, Blanchard, Van Beveren, and Vandenbussche (2017), however, show
that a large part of Belgian exported goods are not produced by the exporting manufacturer (so-
called carry-along trade (CAT)): multi-product manufacturers also export multiple products, while
more than 90% of Belgian manufacturers carry along at least one product from an intermediary
manufacturer to a foreign market and about 30% of Belgian export value is not produced by the
exporter-manufacturer itself. Unfortunately, our dataset does not allow us to distinguish between
CAT exporters and regular producer-exporters. However, the presence of CAT in Belgian exports is
likely to introduce noise and would probably work against finding an association between labor force
flexibility and export behavior within our sample firms.

[11]To guarantee time-consistency between the different datasets, annual accounts information has
been annualized. Flows are adjusted by taking a weighted average of t and t+1 flows. Stocks are
adjusted by adding to the current year stock the weighted stock variation between the current and
next year. The procedure attributes a missing value when there is not enough information to recover
the entire year, for example when information about the first months or the last months of a given
year are missing. This does not apply for the last year during which the firm is observed or for flows
of the first year the firm is covered.

[12]Firms with less than 10 employees in FTE have been excluded from the sample for several rea-
sons. First, micro-enterprises are typically less structured (Molly, Laveren, and Deloof, 2010). In
addition, due to the reporting thresholds that apply to international trade transactions, the inclu-
sion of micro-enterprises might result in the wrongful classification of very small exporters as non-
exporting firms. Finally, observations belonging to micro-enterprises suffer from small denominator
problems when constructing the labor flexibility measures. Since, however, these micro-enterprises
may be more constrained in adjusting their labor as compared to larger firms, we repeated our anal-
yses while including these firms. Our findings remain qualitatively unchanged (Tables D.2 to D.3 in
Appendix D).

[13]Since the export decision and the decision about labor policy might be taken simultaneously
within (young) born-global firms, we discard the youngest firms.

performance - export intensity and export diversity - are zero for non-exporters, simply erasing these observations may lead to biased, inconsistent estimates. The Heckman two-step selection model is generally used as a tool to control for this issue (Heckman, 1979; Ganotakis and Love, 2012; Robson, Akuetteh, Westhead, and Wright, 2012) and consists of two equations.[14]

$$Y_{i,t} = \alpha_1 + \beta_1 X_{i,t-1} + \gamma_{1a} Flex_{i,t-1} + \gamma_{1b} Flex^2_{i,t-1} +$$
$$\delta_1 Instrument_{i,t-1} + \tau_t + \eta_i + \epsilon_{i,t} \qquad (3.1)$$

$$Z_{i,t} = \alpha_2 + \beta_2 X_{i,t-1} + \gamma_{2a} Flex_{i,t-1} + \gamma_{2b} Flex^2_{i,t-1} + \tau_t + \eta_i + \upsilon_{i,t} \qquad (3.2)$$

The first-stage selection equation models the firm's decision to export by means of a probit equation (eq. (3.1)). The dependent variable *Export Status* equals unity if the firm reports foreign sales in a particular year, and 0 otherwise. The independent variables of interest measure different dimensions of contractual labor flexibility ($Flex_{i,t-1}$). These proxies measure the percentages of blue-collar and temporary workers employed within the firm. Under Belgian Labor Law, firms that have higher levels of blue-collar and temporary workers incur lower hiring and firing costs and are therefore more flexible regarding their labor input. *Blue-Collar Workers* is measured as the ratio of the number of blue collars to total employment (in FTE) (Van Landuyt, Dewaelheyns, and Van Hulle, 2017), and *Temporary Workers* refers to the number of employees with a fixed-job or fixed-term contract as a fraction of total employment (in FTE) (Valverde, Tregaskis, and Brewster, 2000).[15] If labor flexibility increases the probability of exporting, the coefficient belonging to our flexibility measures (γ_{1a}) should be positive and significant. Since a potential positive impact of labor flexibility on export participation may not endure indefinitely, we also add the squared terms of our labor flexibility measures. All labor flexibility measures are also expressed as percentages relative to industry peers. For instance, to obtain a

---

[14]The advantage of the two-stage Heckman selection model is that it allows the signs of the coefficients of the explanatory variables to differ for the probability of being an exporter and for export performance. Ganotakis and Love (2012), for instance, find that the set of human capital skills required to enter export markets differs markedly from the set of skills needed to succeed in those markets. Although the two-stage Heckman procedure is frequently used within the international trade literature, it is subject to a number of flaws and biases. In the robustness section, we aim to address these issues.

[15]Our measures for labor force flexibility might capture labor force rigidities imperfectly. To provide some external validity that our measures do capture labor flexibility, we compared the trends of the EPL indicator for OECD countries with the year-averages of our firm-specific labor flexibility measures. During our research period, the EPL index and the share of blue-collar workers in our sample firms show similar trends: both decreased over time. This is exactly what one would expect: if EPL in general decreases, this would probably induce firms to shy away from one of the most flexible forms of labor (e.g. blue-collar contracts) towards other forms, such as white-collar contracts.

year-industry-average adjusted version of the variable *Blue-Collar Workers*, the average percentage of blue-collar workers in the firm's industrial sector (at 2-digit NACE-BEL level, excluding the focal firm) in a particular year is subtracted from the percentage of blue collars in that particular firm.[16] A positive value for any of the industry-average adjusted labor flexibility variables indicates that the firm is more flexible than its average industry peer in a particular year.

A number of additional variables are included to control for other firm characteristics that may influence export participation or labor flexibility. *Age* is expressed as the natural logarithm of firm age, measured since the year of incorporation. *Size* equals the natural logarithm of the total number of employees (in FTE) (Ganotakis and Love, 2012). *Sales growth*, measuring growth opportunities, equals the average annual change in sales over the three preceding years.[17] *Profitability* is defined as earnings before interest, taxes and depreciation, scaled by total assets. In line with Greenaway, Guariglia, and Kneller (2007) and more recent literature (Bellone, Musso, Nesta, and Schiavo, 2010; Fauceglia, 2015), we also add two financial factors. *Total Debt Ratio* is defined as the ratio of total debt to total assets and *Liquidity Ratio* is defined as current assets net of current liabilities over total assets. *TFP* represents total factor productivity, computed by estimating production function coefficients using the Levinsohn and Petrin (2003) methodology. Since annual wages and the percentage of blue-collar workers are correlated, and to avoid the concern that the cost of labor is driving our results (Decramer, Fuss, and Konings, 2016), we also include the variable *Wages*. This variable is defined as the natural logarithm of the annual wage per employee (in FTE), expressed in real terms (base year = 2013). Following Greenaway, Guariglia, and Kneller (2007), we also control for the ownership structure of the sample firm. *Foreign Subsidiary* equals unity if the firm has at least one foreign affiliate in a particular year (i.e. equity stake should exceed 10%), and 0 otherwise. *Foreign Parent* equals unity if the sample firm has a dominant incorporated foreign shareholder that owns at least 50% of the firm's shares or votes, directly or indirectly. Industry (at 2-digit NACE-BEL level, η_i)[18] and year dummies (τ_t) are added to control for industry heterogeneity and economy-wide shocks. Finally, we need at least one additional instrument in the selection equation that is not driving export performance. Westhead (1995) finds that non-exporting firms are more likely to purchase from local suppliers, whereas exporting firms are more inclined to source from foreign markets. More recent studies demonstrate that exporting manufacturers use imported inter-

---

[16]Firm-year observations that belong to a sector for which fewer than 20 firms in a particular year are available in our sample are discarded for the composition of these industry-adjusted variables. As can be derived from Table 3.1, this was the case for a very minor fraction of our sample.

[17]Using the intangible assets ratio (i.e. intangibles over total assets) as an alternative proxy for growth opportunities, results in qualitatively similar findings.

[18]Since our main variables of interest - measures for labor flexibility - are very time-persistent, we cannot apply a firm fixed effects approach.

mediated products in their production processes or carry along imported goods
(Damijan, Konings, and Polanec, 2013; Bernard, Blanchard, Van Beveren, and
Vandenbussche, 2017). *Import Status* equals unity if the firm reports imports in
a particular year and 0 otherwise.[19]

In the second stage (eq. (3.2)), our measure of export performance is regressed
on the inverse Mills ratio, which is derived from the first stage to account for sam-
ple selection bias, and the set of labor flexibility measures and control variables
employed in the first stage. In line with common practice, we use as a dependent
variable *Export Intensity*, which equals the percentage of total sales that is gen-
erated in foreign markets, as a proxy for export performance (Westhead, 1995;
Dhanaraj and Beamish, 2003). Besides export intensity, the extensive margin
of trade might be another important dimension of export performance. *Export
Diversity* equals the negative sum of the products of the percentage of sales gen-
erated in each region k and the natural logarithm of that percentage. Consistent
with Hirsch and Lev (1971) and De Clercq, Sapienza, and Crijns (2005), regions
are defined on the basis of geographic proximity and economic development. We
define six homogenous regions: Belgium's neighboring countries (i.e. France,
Germany, Luxemburg, the Netherlands and the United Kingdom); other coun-
tries within the European Union; other European countries; North America and
Canada; and lastly other countries, not yet incorporated in the previous four re-
gions. Belgium is regarded as a separate region. Again, we are mostly interested
in the signs and significance of the coefficients belonging to our labor flexibility
measures: if labor flexibility stimulates export performance (albeit at diminish-
ing rates), γ_{2a} (γ_{2b}) should be positive (negative) and significant.

Since (patterns of) international trade may as well affect certain key vari-
ables, there is a potential reverse causality issue.[20] In line with previous litera-
ture, the explanatory variables employed under both stages are therefore lagged
by one firm-year (Bernard and Jensen, 1999; Greenaway, Guariglia, and Kneller,
2007). A detailed description of all the variables used in the subsequent analy-
ses is provided in Table D.1 in Appendix D. All continuous variables have been
winsorized at the top and bottom 1% to reduce the influence of outliers.

---

[19]We acknowledge that import status is a semi-endogenous instrument at best. Amiti and Kon-
ings (2007), Bas and Strauss-Kahn (2014) and Halpern, Koren, and Szeidl (2015), amongst others,
have shown that imported intermediates may enhance firm productivity and may thus boost export
revenue. Unfortunately, the literature does not provide good examples of valid instruments for ex-
port status, and they are hard to find in practice. As a robustness check, we dropped import status as
an instrument from the selection equation. This does not qualitatively alter our findings (Tables D.4
to D.5 in Appendix D).

[20]There is the possibility of an endogenous relationship between firm productivity and exporting,
since they tend to be mutually reinforcing (cf. the learning-by-exporting hypothesis vs. the self-
selection of exporting hypothesis) (Ganotakis and Love, 2012). In addition, export performance might
as well affect labor flexibility outcomes.

3.4   Descriptive Statistics and Univariate Tests

Table 3.1 presents the descriptive statistics of our key variables for the full sample of exporters and non-exporting firms, and for the subsamples separately. Student's t-tests (equality of means) and Wilcoxon rank sum z-tests (equality of medians) are used to compare exporters and non-exporting firms on a range of firm-specific characteristics. About 83% of our firm-year observations relate to exporters, and the average exporter generates about 47.3% of its total sales in foreign markets. Export diversity, which is bounded between 0 (no diversification) and 1.792 (perfect diversification), equals 0.803 on average, which indicates that exporters target a limited number of different geographic regions.

The univariate tests further show that there are large differences in the workforce characteristics of exporters and non-exporting firms. In our sample firms, about 66% of the employees have a blue-collar contract, and exporters employ substantially fewer blue-collar workers than their non-exporting peers do (64.0% vs. 74.2%). Contrary to our expectations, this would suggest that exporters are less flexible considering that employee regulations are stricter for white-collar workers during our sample period. Although their share in the workforce is very minor, on average 2.6% of the employees perform temporary labor. At least 50% of our sample firms do not employ a single temporary worker, and exporters and non-exporters differ somewhat in terms of the share of temporary labor in their workforces. Given the negligible share of temporary workers in the workforce of our sample firms, however, it is natural to expect that legal differences in employee protection between blue-collar and white-collar labor agreements matter more for export participation and performance than differences between temporary and permanent labor do. Furthermore, there is considerable dispersion amongst industry peers regarding the composition of their workforces. Firms in the same subindustry vary markedly in their use of the different labor contracts. For instance, the industry-adjusted variable for the percentage of blue-collar workers employed within the firm is substantially lower (and negative) for exporting firms, indicating that an exporter has to pay more hiring and firing costs and is thus less flexible than its industry average as compared to a non-exporter. However, exporters are somewhat more flexible than non-exporters in terms of temporary labor, adjusted for industry averages (at least in median terms).

When comparing other firm-level characteristics of exporting and non-exporting firms, our findings are mostly in accordance with the stylized facts documented in international trade literature (Greenaway, Guariglia, and Kneller, 2007; Muûls and Pisu, 2009; Ganotakis and Love, 2012; Damijan, Konings, and Polanec, 2013; Paeleman, Fuss, and Vanacker, 2013; Bernard, Blanchard, Van Beveren, and Vandenbussche, 2017). The total debt ratio of the average

Table 3.1: Descriptive Statistics for the Full Sample, and by Export Status

		Full				Non-Exporters				Exporters			Equality of Means		Equality of Medians	
	N	Mean	median	Sd	N	Mean	Median	Sd	N	Mean	Median	Sd	t-test	p	z-test	p
Export Intensity	13,555	0.394	0.363	0.336	2,262	0.000	0.000	0.000	11,293	0.473	0.490	0.314				
Export Diversity	13,555	0.669	0.692	0.504	2,262	0.000	0.000	0.000	11,293	0.803	0.807	0.444				
Blue-Collar Workers (ind. adj)	12,914	-0.000	0.037	0.196	2,199	0.048	0.086	0.193	10,715	-0.010	0.028	0.195	12.687	0.000	15.993	0.000
Blue-Collar Workers	13,552	0.657	0.719	0.232	2,262	0.742	0.795	0.211	11,290	0.640	0.703	0.232	19.545	0.000	23.164	0.000
Temporary Workers (ind. adj.)	12,916	0.000	-0.017	0.056	2,199	0.001	-0.020	0.074	10,717	-0.000	-0.017	0.052	0.687	0.492	-6.327	0.000
Temporary Workers	13,555	0.026	0.000	0.048	2,262	0.025	0.000	0.053	11,293	0.026	0.000	0.047	-1.367	0.172	-10.259	0.000
Total Debt Ratio	13,555	0.544	0.570	0.230	2,262	0.522	0.546	0.235	11,293	0.549	0.575	0.229	-5.089	0.000	-4.926	0.000
Liquidity	13,555	0.233	0.222	0.268	2,262	0.251	0.238	0.285	11,293	0.229	0.220	0.264	3.479	0.001	3.544	0.000
TFP	13,452	11.407	11.332	0.645	2,236	11.077	11.023	0.479	11,216	11.473	11.411	0.654	-27.218	0.000	-29.836	0.000
Size (Employees)	13,555	4.406	4.250	1.123	2,262	3.736	3.676	0.886	11,293	4.540	4.389	1.117	-32.270	0.000	-32.902	0.000
Age	13,555	3.217	3.219	0.581	2,262	3.134	3.136	0.554	11,293	3.233	3.258	0.585	-7.442	0.000	-7.425	0.000
Profitability	13,555	0.118	0.104	0.101	2,262	0.120	0.108	0.103	11,293	0.117	0.103	0.101	1.333	0.183	1.372	0.170
Growth	12,433	0.043	0.033	0.144	1,992	0.039	0.034	0.149	10,441	0.043	0.033	0.143	-1.112	0.266	-0.077	0.939
Wages (ind. adj.)	12,916	-0.029	-0.041	0.243	2,199	-0.099	-0.108	0.240	10,717	-0.015	-0.023	0.242	-15.010	0.000	-16.770	0.000
Wages	13,555	10.919	10.886	0.289	2,262	10.805	10.796	0.271	11,293	10.942	10.914	0.287	-21.015	0.000	-22.286	0.000
Import Status	13,555	0.913	1.000	0.282	2,262	0.640	1.000	0.480	11,293	0.968	1.000	0.177	-55.959	0.000	-50.437	0.000

Note: Descriptive statistics on the sample of exporters and non-exporting firms are presented. In addition, to test the difference in mean and median value between both subsamples, Student's t-tests and Wilcoxon rank sum z-tests have been used. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers.

Table 3.2: Pearson Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Export Intensity	1.00														
2. Export Diversity	0.86***	1.00													
3. Blue-Collar Workers (ind.adj)	0.01	-0.06***	1.00												
4. Blue-Collar Workers	-0.01	-0.12***	0.87***	1.00											
5. Temporary Workers (ind. adj.)	0.05***	0.02***	0.10***	0.08***	1.00										
6. Temporary Workers	0.06***	0.04***	0.10***	0.06***	0.93***	1.00									
7. Total Debt Ratio	-0.01	0.01	-0.01	0.01	0.04***	0.04***	1.00								
8. Liquidity	0.01	0.01	-0.05***	-0.03***	-0.05***	-0.07***	-0.70***	1.00							
9. TFP	0.17***	0.25***	-0.22***	-0.44***	-0.00	0.05***	-0.12***	0.03***	1.00						
10. Size	0.22***	0.27***	0.04***	-0.04***	0.11***	0.16***	0.04***	-0.20***	0.51***	1.00					
11. Age	0.06***	0.09***	-0.06***	-0.09***	-0.04***	-0.03***	-0.15***	0.07***	0.11***	0.17***	1.00				
12. Profitability	0.01	-0.02**	0.07***	0.06***	0.03***	0.04***	-0.15***	0.10***	0.23***	-0.08***	-0.09***	1.00			
13. Growth	0.01	0.01	-0.01	-0.03***	0.07***	0.11***	0.12***	-0.07***	0.11***	-0.00	-0.08***	0.20***	1.00		
14. Wages (ind.adj.)	0.06***	0.11***	-0.57***	-0.48***	-0.10***	-0.08***	-0.06***	-0.00	0.41***	0.22***	0.05***	-0.04***	0.07***	1.00	
15. Wages	0.07***	0.15***	-0.50***	-0.64***	-0.08***	-0.04***	-0.06***	-0.03***	0.58***	0.28***	0.09***	-0.03***	0.09***	0.85***	1.00
N	13,555														

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

Table 3.3: Industry Composition

	No. of Obs.	Percentage of Obs.
10. Manufacture of Food Products	2,324	17.14
11. Manufacture of Beverages	4	0.03
12. Manufacture of Tobacco Products	74	0.55
13. Manufacture of Textiles	763	5.63
14. Manufacture of Wearing Apparel	126	0.93
15. Manufacture of Leather and Related Products	29	0.21
16. Manufacture of Wood and of Products of Wood and Cork, Except Furniture; Manufacture of Articles of Straw and Plaiting Materials	409	3.02
17. Manufacture of Paper and Paper Products	528	3.90
18. Printing and Reproduction of Recorded Media	603	4.45
19. Manufacture of Coke and Refined Petroleum Products	33	0.24
20. Manufacture of Chemicals and Chemical Products	1,151	8.49
21. Manufacture of Basic Pharmaceutical Products and Pharmaceutical Preparations	223	1.65
22. Manufacture of Rubber and Plastic Products	936	6.91
23. Manufacture of Other Non-Metallic Mineral Products	1,181	8.71
24. Manufacture of Basic Metals	401	2.96
25. Manufacture of Fabricated Metal Products, Except Machinery and Equipment	1,885	13.91
26. Manufacture of Computer, Electronic and Optical Products	326	2.41
27. Manufacture of Electrical Equipment	406	3.00
28. Manufacture of Machinery and Equipment	1,023	7.55
29. Manufacture of Motor Vehicles, Trailers and Semi-Trailers	378	2.79
30. Manufacture of Other Transport Equipment	51	0.38
31. Manufacture of Furniture	590	4.35
32. Other Manufacturing	52	0.38
33. Repair and Installation of Machinery and Equipment	59	0.44
Total	13,555	100.00

Note: This table presents an overview of the industry composition of our sample firms, by 2-digit NACE-BEL code.

manufacturer is 54.4% and is substantially higher for exporting firms than for non-exporting firms (54.9% vs. 52.2%). Exporters also have lower liquidity ratios. At first, these findings might seem at odds with the traditional viewpoint that financial constraints are higher for highly levered and illiquid firms, and that such constraints should hinder expansion into foreign markets. However, exporters presumably carry more debt and are less liquid than non-exporters due to the incurrence of sunk costs when entering foreign markets (Greenaway, Guariglia, and Kneller, 2007). We also find that exporters are more productive (in terms of their TFP) and larger (in terms of employees). Our sample firms employ on average 82 full-time equivalent (FTE) employees: 94 for exporters vs. 42 for non-exporting firms (Table 3.1 reports log-transformed values). The average manufacturer is mature, and exporters are on average older than their non-exporting peers (25 vs. 23 years). Our sample firms are profitable on average (11.8%), and exporters and non-exporters do not seem to differ in their earnings. Exporters and non-exporters also do not differ in terms of sales growth. Not surprisingly, we also find that the annual wage per employee is the highest within exporting firms. This export wage premium can be explained by differences in the workforce composition and the productivity level across exporters and non-exporters, as documented earlier. Finally, import and export status are highly correlated, as visualized in the fraction of exporters simultaneously conducting import activities.[21]

Table 3.2 depicts the Pearson correlations between the continuous variables for the full sample of firms. Overall, the correlations between our explanatory variables are modest, so that there is little reason for concern on multicollinearity. An overview of the industry composition of all sample firms, by their 2-digit

---

[21]The correlation coefficient between export and import status equals 0.74 in our sample.

NACE-BEL classification, is presented in Table 3.3. Manufacturing firms are active in a wide range of subindustries. The highest percentages of firms can be found in the manufacturing of food products (17.1%) and the manufacturing of fabricated metal products (except machinery and equipment) (13.9%).

To deepen our understanding of the relationship between export performance and labor flexibility, Table 3.4 compares the export intensity and export diversity of exporters that are in the top and bottom quartile as to the share of blue-collar and temporary labor in their workforce. Exporters that have the highest percentages of blue-collar and temporary workers export more intensively, which suggests that labor flexibility enhances export intensity. As for export diversity, the opposite holds: exporters with the highest shares of blue-collar and temporary workers are less diverse in terms of their export markets.

Table 3.4: Export Intensity and Export Diversity by Labor Flexibility

	Means			Medians		
	Highest Q	Lowest Q	Equality of Means	Highest Q	Lowest Q	Equality of Medians
Export Intensity						
Blue-Collar Workers	0.466	0.430	-4.251	0.476	0.423	-4.349
			0.000			0.000
Temporary Workers	0.509	0.459	-6.918	0.559	0.462	-6.923
			0.000			0.000
Export Diversity						
Blue-Collar Workers	0.727	0.831	8.589	0.712	0.893	8.959
			0.000			0.000
Temporary Workers	0.846	0.773	-7.248	0.881	0.753	-7.723
			0.000			0.000

Note: This table compares the export intensity and export diversity of exporters that are in the top and bottom quartile in terms of the share of blue-collar and temporary workers in their workforce. All continuous variables have been winsorized at the top and bottom 1% to reduce the influence of outliers. t-test statistics and corresponding p-values (equality of means) and z-test statistics and corresponding p-values (equality of medians) have been added.

3.5 Multivariate Results

Table 3.5 contains the first and second-stage coefficient estimates of the Heckman two-step procedure, which models a firm's decision to export and its subsequent export intensity, while controlling for that decision. Five different models are specified. The first model (*Base*) only includes control variables. In subsequent models, we add (combinations of) our labor flexibility measures. In accordance with the literature on human capital resources and firm performance, we conjecture the existence of a saturation point of labor flexibility, since it is unlikely that a potential positive impact of labor flexibility on export participation and export intensity will endure indefinitely. To capture such potential non-monotone relationships, we include squares of our labor flexibility measures in both equations (Ganotakis and Love, 2012; Paeleman and Vanacker, 2015; Onkelinx, Manolova, and Edelman, 2016; Vanacker, Collewaert, and Zahra, 2017). All

Table 3.5: Determinants of Export Propensity and Export Intensity

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.384***	1.326***	1.385***	1.326***
					(0.132)	(0.132)	(0.132)	(0.131)
Wages	-0.148***	0.024	-0.137***	0.031	0.274	0.114	0.255	0.097
	(0.045)	(0.052)	(0.044)	(0.051)	(0.233)	(0.269)	(0.235)	(0.271)
Growth	0.087**	0.070*	0.071*	0.056	-0.084	-0.062	-0.063	-0.044
	(0.038)	(0.039)	(0.038)	(0.039)	(0.198)	(0.195)	(0.199)	(0.196)
Profitability	0.228***	0.175**	0.217**	0.165**	0.416	0.330	0.424	0.338
	(0.087)	(0.084)	(0.087)	(0.083)	(0.430)	(0.430)	(0.432)	(0.432)
Age	0.003	0.006	0.004	0.007	0.098	0.074	0.094	0.071
	(0.015)	(0.015)	(0.015)	(0.015)	(0.077)	(0.077)	(0.077)	(0.077)
Size	0.012	-0.009	0.007	-0.014	0.237***	0.248***	0.246***	0.257***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.064)	(0.067)	(0.066)	(0.068)
TFP	-0.039*	-0.013	-0.038*	-0.012	0.221*	0.239**	0.217*	0.235**
	(0.021)	(0.021)	(0.021)	(0.021)	(0.114)	(0.114)	(0.114)	(0.114)
Foreign Subsidiaries	0.148***	0.152***	0.149***	0.152***	0.730***	0.681***	0.728***	0.680***
	(0.020)	(0.019)	(0.019)	(0.018)	(0.128)	(0.125)	(0.128)	(0.126)
Foreign Parent	0.082***	0.083***	0.077***	0.078***	0.186*	0.171	0.196*	0.180*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.107)	(0.107)	(0.109)	(0.108)
Debt Ratio	-0.060	-0.027	-0.059	-0.026	0.763***	0.703***	0.756***	0.696**
	(0.050)	(0.048)	(0.050)	(0.049)	(0.270)	(0.273)	(0.268)	(0.271)
Liquidity Ratio	0.030	0.048	0.031	0.049	0.392*	0.398*	0.382*	0.387*
	(0.041)	(0.039)	(0.041)	(0.039)	(0.226)	(0.228)	(0.225)	(0.227)
Blue-Collar Workers		0.588***		0.581***		1.698***		1.696***
		(0.130)		(0.130)		(0.649)		(0.646)
Blue-Collar Workers sq		-0.256**		-0.252**		-1.896***		-1.896***
		(0.129)		(0.128)		(0.612)		(0.610)
Temporary Workers			0.743**	0.743**			-1.186	-1.378
			(0.360)	(0.348)			(1.892)	(1.893)
Temporary Workers sq			-1.626	-1.877			2.219	3.617
			(1.802)	(1.755)			(8.509)	(8.478)
Constant	2.360***	0.001	2.236***	-0.084	-7.473***	-5.971**	-7.224***	-5.729*
	(0.424)	(0.540)	(0.422)	(0.539)	(2.360)	(2.940)	(2.380)	(2.949)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	237.990	352.209	254.605	366.926				
Firm-Years	7,076	7,076	7,076	7,076	8,331	8,331	8,331	8,331

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table 3.6: Determinants of Export Propensity and Export Diversity

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.345***	1.324***	1.347***	1.324***
					(0.154)	(0.132)	(0.153)	(0.131)
Wages	-0.095	0.038	-0.091	0.041	0.276	0.115	0.257	0.097
	(0.066)	(0.077)	(0.067)	(0.077)	(0.231)	(0.274)	(0.233)	(0.275)
Growth	0.099*	0.081	0.090*	0.073	-0.101	-0.066	-0.081	-0.050
	(0.054)	(0.054)	(0.054)	(0.054)	(0.197)	(0.195)	(0.198)	(0.195)
Profitability	0.140	0.088	0.128	0.077	0.375	0.337	0.385	0.346
	(0.124)	(0.120)	(0.124)	(0.120)	(0.453)	(0.435)	(0.453)	(0.437)
Age	0.031	0.033	0.032	0.034	0.098	0.076	0.094	0.072
	(0.021)	(0.021)	(0.021)	(0.021)	(0.076)	(0.077)	(0.076)	(0.077)
Size	0.015	0.002	0.009	-0.004	0.248***	0.252***	0.257***	0.261***
	(0.016)	(0.017)	(0.017)	(0.017)	(0.065)	(0.071)	(0.066)	(0.072)
TFP	-0.010	0.022	-0.006	0.025	0.209*	0.228**	0.205*	0.223*
	(0.029)	(0.029)	(0.028)	(0.029)	(0.111)	(0.115)	(0.112)	(0.116)
Foreign Subsidiaries	0.213***	0.224***	0.214***	0.224***	0.666***	0.670***	0.666***	0.668***
	(0.033)	(0.031)	(0.034)	(0.031)	(0.160)	(0.137)	(0.162)	(0.138)
Foreign Parent	0.021	0.022	0.016	0.018	0.168	0.163	0.179*	0.173
	(0.031)	(0.030)	(0.031)	(0.030)	(0.107)	(0.107)	(0.108)	(0.109)
Debt Ratio	0.022	0.065	0.025	0.068	0.714***	0.680**	0.707***	0.673**
	(0.074)	(0.072)	(0.074)	(0.073)	(0.273)	(0.274)	(0.272)	(0.272)
Liquidity Ratio	0.137**	0.167***	0.139**	0.169***	0.400*	0.391*	0.390*	0.382*
	(0.062)	(0.060)	(0.062)	(0.060)	(0.222)	(0.228)	(0.221)	(0.227)
Blue-Collar Workers		0.913***		0.900***		1.586**		1.582**
		(0.224)		(0.224)		(0.719)		(0.713)
Blue-Collar Workers sq		-0.656***		-0.643***		-1.777***		-1.779***
		(0.215)		(0.215)		(0.650)		(0.646)
Temporary Workers			1.134**	1.049**			-1.524	-1.419
			(0.510)	(0.501)			(1.901)	(1.928)
Temporary Workers sq			-4.415*	-4.178*			3.849	3.850
			(2.508)	(2.493)			(8.460)	(8.609)
Constant	1.655**	-0.415	1.580**	-0.470	-7.344***	-5.845*	-7.090***	-5.590*
	(0.703)	(0.854)	(0.705)	(0.854)	(2.348)	(3.056)	(2.369)	(3.061)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	232.901	274.629	244.604	285.671				
Firm-Years	7,076	7,076	7,076	7,076	8,331	8,331	8,331	8,331

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

models contain industry and year dummies, and standard errors are robust to firm-level clustering (Petersen, 2009).[22]

The right-side panel of Table 3.5 depicts the coefficient estimates for the first-stage selection equation, modelling the decision to export. The relationships between our control variables and the probability of exporting are are expected and mostly in line with the literature on the export behavior of firms. In accordance with the stylized facts from the international trade literature (Westhead, 1995; Bernard and Jensen, 2004; Greenaway, Guariglia, and Kneller, 2007; Muûls and Pisu, 2009; Paeleman, Fuss, and Vanacker, 2013; Paeleman and Vanacker, 2015), we find that firms that import, that are larger, more liquid and more productive, and that have a higher debt ratio are more likely to export. Group structure also seems to matter: firms that have a dominant foreign parent or that have foreign subsidiaries have a higher probability to export, which is in line with Greenaway, Guariglia, and Kneller (2007), amongst others. When controlling for workforce and other firm characteristics, exporters do no longer pay the highest wages, which is in line with Muûls and Pisu (2009).

More importantly for the purposes of this paper, the coefficient belonging to our variable that captures the share of blue-collar workers is positive and significant, while the coefficient for the squared term is negative and significant across all models. In support of our first hypothesis (H1), we find that firms that employ relatively more blue-collar workers, and that consequently face lower hiring and firing costs, are more likely to export, and the effect is non-monotonic. We fail to find evidence in support of our second hypothesis (H2) that temporary labor affects export participation once we control for other firm characteristics, but this lack of significance might result from the negligible use of temporary labor within our sample firms.

The left-side panel of Table 3.5 presents the pooled OLS estimates for export intensity, while controlling for the decision to export. The (unreported) coefficient belonging to the inverse Mills ratio is significant across all model specifications, indicating that correction for selection bias is necessary in our sample. In line with our first hypothesis (H1), firms that employ relatively more blue-collar workers experience higher export performance, as measured by the share of foreign sales in total turnover, albeit at diminishing rates. In addition, in line with our second hypothesis (H2), firms that employ relatively more temporary workers show higher export intensity. With respect to our control variables, we find that firms with a dominant foreign parent, that own foreign affiliates or that were more profitable in the previous year experience a higher level of export intensity. As expected, higher wages and higher debt ratios negatively affect export intensity.

---

[22]Due to lagging and the presence of missing values for some of our variables, the number of observations used to estimate our regression coefficients deviates from the actual sample size.

Not suprisingly, the main conclusions remain valid when we replace export intensity by a measure capturing the diversity of export markets targeted by the firm (Table 3.6). Again, we find that firms that employ relatively more blue-collar workers export to a more diverse range of geographic regions, albeit at diminishing rates. We fail to find evidence that the share of temporary labor within the workforce affects export diversity. Overall, we find that firms that are hampered to a lesser extent by workforce adjustment costs (i.e. hiring and firing costs), and that consequently can adapt their workforce without delay and at relatively lower cost in response to changing business conditions, perform better in international markets, in terms of export participation, as well as in terms of their intensive and extensive margins of trade.

3.6   Robustness Checks

A variety of additional tests was performed to ensure that the documented effects of labor flexibility on export participation and export performance are robust to the construction of our sample. *First*, to ensure that our results are not affected by changes in employment protection legislation by the Act of December 26th, 2013, which aims to address legal differences in worker protection between white-collar and blue-collar contracts, we excluded observations pertaining to the last sample year. Our results prove robust (Tables D.6 and D.7 in Appendix D).

Under Belgian Accounting Law, severance payments are treated as a wage item in the annual accounts. Since firms that are in financial distress are more likely to downsize their employee base, we excluded the 10% least creditworthy firms on the basis of their Altman z-score. Our results remain qualitatively unchanged (Tables D.8 and D.9 in Appendix D).

For firms entering and exiting export markets multiple times during our research period, labor flexibility may be less relevant since these firms can rely on their historical export experience when re-entering foreign markets (cf. learning-by-exporting hypothesis). As a consequence, these firms may experience a lower need for workforce restructuring. As a robustness test, we therefore discarded those firms that enter export markets more than once during our research period. This results in qualitatively similar findings (Tables D.10 and D.11 in Appendix D).

Finally, our two-step Heckman selection procedure, although frequently applied in international trade literature (Ganotakis and Love, 2012; Robson, Akuetteh, Westhead, and Wright, 2012), is subject to a number of flaws and biases. In particular, it does not take into account hysteresis in trade (Roberts and Tybout,

1997; Bernard and Jensen, 1999)[23], nor does it control for unobserved firm het-
erogeneity and the initial conditions problem[24]. Therefore, we applied a dynamic
panel random-effects Probit model controlling for initial conditions, following the
approach proposed by Wooldridge (2005). This procedure boils down to a stan-
dard random effects Probit model, in which export status is regressed on the
one-period lagged export status, initial export status, one-period lagged labor
flexibility and the control variables, time-averages of all time-varying explana-
tory variables, and industry and year dummies, as in Greenaway, Guariglia, and
Kneller (2007) and Muûls and Pisu (2009). The results remain qualitatively un-
changed (Table D.12 in Appendix D).

3.7 Conclusions

To date, considerable research has been conducted on the determinants of export-
ing, mostly focusing on the availability of financial resources, firm productivity
and size, and the international orientation and aspirations of the management.
Far less attention has been directed towards employee human capital and, in
particular, the flexibility of the workforce. Contractual labor flexibility allows
firms to adapt the composition of their workforce to changing environmental
circumstances, by hiring and firing employees easily and at relatively low ad-
justment cost. The ability to adapt the workforce swiftly when the need arises
is a source of competitive advantage in international trade. To the best of our
knowledge, this paper is the first to examine the impact of workforce flexibil-
ity on export participation and performance at the firm level. To that end, we
rely on proprietary datasets from the National Bank of Belgium that combine
employee-employer data with international trade data and financial data at the
corporate level for Belgian manufacturing firms. The resulting comprehensive
dataset provides a unique opportunity to investigate the impact of the availabil-
ity of a flexibly employable workforce on the export participation and success of
privately held firms.

Our empirical results show that labor flexibility enhances export participa-
tion and subsequent export performance. In particular, we find that contractual
flexibility is an important driver of both export participation and performance.
Firms with higher shares of blue-collar workers, who can be hired and dismissed
more easily in response to changing business needs, have a higher probability
of engaging in export activities and generate a larger part of their sales in for-

---

[23]Hysteresis in trade arises because firms are locked in or out of export markets due to the signif-
icant sunk costs associated with entering export markets.

[24]To obtain consistent estimates in dynamic models estimated through maximum likelihood, we
should be able to observe the exporting process from its inception. Since the first appearance of
each firm in our dataset is unlikely to coincide with the firm's first entry into export markets, this
assumption is invalidated.

eign markets. They also export to a wider range of geographical regions. We fail to find strong evidence that the legal distinction between permanent and temporary labor contracts affects export participation and performance. This is most likely due to the negligible share of temporary labor in the workforce of our sample firms. Although labor flexibility stimulates export participation and performance, this occurs at diminishing rates, which points towards the existence of a saturation point of labor flexibility.

In order to remain cost competitive and to stay ahead of the competition in international markets, a flexible workforce at home is indispensable. Since the efficient allocation of employee human capital throughout the firm enhances its productivity and thus competitiveness, the modification of labor markets will have strong implications for firm participation and performance in export markets. Our results are of interest to policy makers aiming to understand how labor market rigidities prevent resources from being efficiently allocated within the firm, being most detrimental for the export performance of smaller-sized firms. Because of their smaller scale, their lower degree of diversification and their higher resource constraints, employee human capital is of particular importance to the performance and survival of these types of firms, both at home and overseas. Since the reallocation of labor inputs to alternative uses within the firm may be more difficult for smaller-sized firms, the presence of labor market rigidities may have a more pronounced impact on the export participation and performance of such firms.

Recently, the Belgian Law of December 26th, 2013 addresses some of the discrepancies in employee protection regulations between contract types. In particular, the law aims to diminish some of the legal differences that subsist between white and blue collars with respect to trial and notice periods, amongst other issues, for labor contracts entered into force after January 1st, 2014. In spite of the enactment of this new law, we are convinced that our results remain valid after 2013. The new law does not cover legal distinctions between permanent and temporary contracts and does not affect existing labor contracts to a large extent. In addition, the legislator has allowed for a lengthy period of transition during which the old rules will still be applicable. Future empirical research, however, would benefit from exploiting this change in the legal environment in a natural experiment setting. To safeguard their labor flexibility, the exogenous shock to labor contract flexibility is likely to induce firms to shy away from permanent and blue-collar contracts, and shift their labor policies towards hiring more temporary workers (Hijzen, Mondauto, and Scarpetta, 2017).

Appendix D: Additional Tables and Figures

Table D.1: Variables Definition

Variables	*Definition*
DEPENDENT VARIABLES	
Export Status$_{i,t}$	1 if the firm reports export sales, 0 otherwise
Export Intensity$_{i,t}$	export sales over total sales
Export Diversity$_{i,t}$	the negative sum of the products of the percentage of sales generated in each region k and the ln of that percentage. Six homogenous regions are defined: 1) Belgium; 2) neighboring countries of Belgium; 3) other EU members; 4) non-EU countries, geographically located within Europe; 5) Canada and US and 6) all other countries.
CONTROL VARIABLES	
Size$_{i,t}$	ln of year-average number of employees (in FTE)
Age$_{i,t}$	ln of firm age, since the year of incorporation
Profitability$_{i,t}$	ebitda over total assets
Growth$_{i,t}$	average annual change in sales over the three preceding years
Total Debt Ratio$_{i,t}$	short-term and long-term debt to total assets
Liquidity Ratio$_{i,t}$	current assets minus current liabilities over total assets
TFP$_{i,t}$	total factor productivity, based on estimating production function coefficients using the Levinsohn and Petrin (2003) methodology.
Wages$_{i,t}$	ln of the average wage per employee, with wages expressed in real terms (base = December 2013)
Wages (ind. adj.)$_{i,t}$	ln of the average wage per employee, with wages expressed in real terms - ln of the average wage per employee in the industry of firm i in year t (excl. the focal firm) (base = December 2013)
Foreign Subsidiary$_{i,t}$	1 if the firm has at least one foreign affiliate (equity stake > 10%), 0 otherwise
Foreign Parent$_{i,t}$	1 if the firm has a foreign dominant incorporated shareholder that owns at least 50% of the firm's shares or votes, directly or indirectly, 0 otherwise
Import Status$_{i,t}$	1 if the firm reports imports, 0 otherwise
LABOR FLEXIBILITY MEASURES	
Blue-Collar Workers$_{i,t}$	percentage of blue-collar workers (in FTE)
Blue-Collar Workers (ind. adj.)$_{i,t}$	percentage of blue-collar workers - average percentage of blue-collar workers in the industry of firm i in year t (in FTE) (excl. the focal firm)
Temporary Workers$_{i,t}$	percentage of temporary workers (in FTE)
Temporary Workers (ind. adj.)$_{i,t}$	percentage of temporary workers - average percentage of temporary workers in the industry of firm i in year t (in FTE) (excl. the focal firm)

Table D.2: Determinants of Export Propensity and Export Intensity - Including Micro-Enterprises

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.389***	1.329***	1.389***	1.329***
					(0.132)	(0.131)	(0.131)	(0.131)
Wages	-0.148***	0.025	-0.137***	0.032	0.265	0.103	0.246	0.086
	(0.045)	(0.052)	(0.044)	(0.051)	(0.227)	(0.262)	(0.230)	(0.263)
Growth	0.085**	0.068*	0.070*	0.055	-0.083	-0.061	-0.062	-0.044
	(0.038)	(0.039)	(0.038)	(0.039)	(0.197)	(0.194)	(0.198)	(0.195)
Profitability	0.227***	0.174**	0.216**	0.164**	0.446	0.357	0.453	0.365
	(0.087)	(0.084)	(0.087)	(0.083)	(0.429)	(0.429)	(0.431)	(0.431)
Age	0.003	0.006	0.004	0.007	0.095	0.071	0.092	0.068
	(0.015)	(0.015)	(0.015)	(0.015)	(0.077)	(0.078)	(0.077)	(0.077)
Size	0.012	-0.009	0.007	-0.014	0.243***	0.253***	0.251***	0.262***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.064)	(0.067)	(0.066)	(0.068)
TFP	-0.039*	-0.013	-0.038*	-0.012	0.215*	0.234**	0.211*	0.229**
	(0.021)	(0.021)	(0.021)	(0.021)	(0.113)	(0.113)	(0.114)	(0.113)
Foreign Subsidiaries	0.149***	0.152***	0.149***	0.152***	0.732***	0.682***	0.730***	0.680***
	(0.020)	(0.019)	(0.019)	(0.018)	(0.128)	(0.125)	(0.128)	(0.126)
Foreign Parent	0.082***	0.083***	0.077***	0.078***	0.188*	0.172	0.198*	0.181*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.107)	(0.107)	(0.109)	(0.108)
Debt Ratio	-0.060	-0.027	-0.059	-0.026	0.770***	0.708***	0.762***	0.700***
	(0.050)	(0.048)	(0.050)	(0.049)	(0.269)	(0.272)	(0.268)	(0.271)
Liquidity Ratio	0.030	0.049	0.031	0.050	0.392*	0.397*	0.382*	0.387*
	(0.041)	(0.039)	(0.041)	(0.039)	(0.226)	(0.228)	(0.225)	(0.226)
Blue-Collar Workers		0.589***		0.581***		1.707***		1.705***
		(0.130)		(0.130)		(0.647)		(0.645)
Blue-Collar Workers sq		-0.255**		-0.251*		-1.914***		-1.915***
		(0.129)		(0.128)		(0.612)		(0.611)
Temporary Workers			0.737**	0.737**			-1.234	-1.433
			(0.358)	(0.346)			(1.880)	(1.881)
Temporary Workers sq			-1.598	-1.847			2.416	3.845
			(1.782)	(1.736)			(8.411)	(8.380)
Constant	2.358***	-0.007	2.234***	-0.092	-7.333***	-5.806**	-7.086***	-5.566*
	(0.423)	(0.540)	(0.422)	(0.538)	(2.320)	(2.868)	(2.339)	(2.876)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	237.065	351.838	253.626	366.505				
Firm-Years	7,078	7,078	7,078	7,078	8,341	8,341	8,341	8,341

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.3: Determinants of Export Propensity and Export Diversity - Including Micro-Enterprises

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.352***	1.328***	1.354***	1.328***
					(0.152)	(0.131)	(0.151)	(0.131)
Wages	-0.094	0.039	-0.091	0.042	0.266	0.104	0.247	0.087
	(0.066)	(0.077)	(0.067)	(0.077)	(0.226)	(0.265)	(0.228)	(0.267)
Growth	0.097*	0.078	0.087	0.070	-0.100	-0.065	-0.080	-0.049
	(0.054)	(0.054)	(0.054)	(0.054)	(0.197)	(0.194)	(0.198)	(0.195)
Profitability	0.139	0.086	0.127	0.076	0.407	0.365	0.417	0.374
	(0.124)	(0.120)	(0.124)	(0.120)	(0.451)	(0.434)	(0.452)	(0.436)
Age	0.031	0.033	0.033	0.034	0.095	0.073	0.091	0.069
	(0.021)	(0.021)	(0.021)	(0.021)	(0.076)	(0.077)	(0.076)	(0.077)
Size	0.016	0.002	0.010	-0.004	0.253***	0.257***	0.263***	0.266***
	(0.016)	(0.017)	(0.017)	(0.017)	(0.065)	(0.070)	(0.066)	(0.072)
TFP	-0.009	0.022	-0.006	0.025	0.204*	0.222*	0.200*	0.217*
	(0.029)	(0.029)	(0.028)	(0.029)	(0.111)	(0.115)	(0.112)	(0.115)
Foreign Subsidiaries	0.214***	0.224***	0.215***	0.224***	0.671***	0.671***	0.671***	0.669***
	(0.033)	(0.031)	(0.033)	(0.031)	(0.159)	(0.137)	(0.160)	(0.137)
Foreign Parent	0.021	0.022	0.016	0.018	0.170	0.164	0.181*	0.174
	(0.031)	(0.030)	(0.031)	(0.030)	(0.107)	(0.107)	(0.108)	(0.109)
Debt Ratio	0.022	0.065	0.025	0.067	0.722***	0.685**	0.714***	0.677**
	(0.074)	(0.072)	(0.074)	(0.073)	(0.273)	(0.274)	(0.272)	(0.272)
Liquidity Ratio	0.137**	0.167***	0.139**	0.169***	0.399*	0.390*	0.389*	0.381*
	(0.062)	(0.059)	(0.062)	(0.060)	(0.222)	(0.228)	(0.221)	(0.227)
Blue-Collar Workers		0.914***		0.901***		1.596**		1.592**
		(0.223)		(0.223)		(0.713)		(0.707)
Blue-Collar Workers sq		-0.656***		-0.643***		-1.797***		-1.799***
		(0.214)		(0.214)		(0.648)		(0.645)
Temporary Workers			1.118**	1.031**			-1.558	-1.472
			(0.507)	(0.498)			(1.891)	(1.913)
Temporary Workers sq			-4.321*	-4.077*			3.978	4.073
			(2.478)	(2.464)			(8.377)	(8.500)
Constant	1.643**	-0.430	1.568**	-0.484	-7.210***	-5.685*	-6.958***	-5.432*
	(0.701)	(0.851)	(0.704)	(0.851)	(2.311)	(2.972)	(2.331)	(2.978)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	232.656	275.472	244.309	286.311				
Firm-Years	7,078	7,078	7,078	7,078	8,341	8,341	8,341	8,341

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.4: Determinants of Export Propensity and Export Intensity - Without Instrumentation

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Wages	-0.143***	0.027	-0.133***	0.034	0.412	0.129	0.398	0.115
	(0.045)	(0.052)	(0.045)	(0.051)	(0.277)	(0.296)	(0.278)	(0.297)
Growth	0.085**	0.068*	0.070*	0.055	0.003	0.035	0.019	0.047
	(0.038)	(0.039)	(0.038)	(0.039)	(0.199)	(0.195)	(0.200)	(0.196)
Profitability	0.238***	0.182**	0.226***	0.172**	0.247	0.163	0.254	0.170
	(0.088)	(0.084)	(0.087)	(0.084)	(0.483)	(0.476)	(0.485)	(0.477)
Age	0.004	0.006	0.005	0.007	0.146*	0.111	0.142*	0.106
	(0.015)	(0.015)	(0.015)	(0.015)	(0.079)	(0.079)	(0.079)	(0.079)
Size	0.015	-0.007	0.009	-0.012	0.304***	0.321***	0.312***	0.331***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.068)	(0.072)	(0.069)	(0.072)
TFP	-0.037*	-0.011	-0.036*	-0.010	0.284**	0.300**	0.280**	0.294**
	(0.021)	(0.021)	(0.021)	(0.021)	(0.125)	(0.124)	(0.125)	(0.124)
Foreign Subsidiaries	0.158***	0.158***	0.158***	0.158***	0.786***	0.703***	0.783***	0.701***
	(0.020)	(0.019)	(0.020)	(0.019)	(0.132)	(0.132)	(0.132)	(0.132)
Foreign Parent	0.086***	0.085***	0.080***	0.080***	0.166	0.142	0.176	0.152
	(0.021)	(0.021)	(0.021)	(0.021)	(0.109)	(0.108)	(0.109)	(0.109)
Debt Ratio	-0.051	-0.021	-0.051	-0.020	0.739***	0.644**	0.733***	0.635**
	(0.051)	(0.049)	(0.051)	(0.049)	(0.286)	(0.287)	(0.284)	(0.285)
Liquidity Ratio	0.036	0.053	0.036	0.054	0.396*	0.404*	0.387*	0.392*
	(0.041)	(0.039)	(0.041)	(0.039)	(0.235)	(0.236)	(0.234)	(0.235)
Blue-Collar Workers		0.609***		0.601***		2.206***		2.206***
		(0.133)		(0.133)		(0.693)		(0.690)
Blue-Collar Workers sq		-0.278**		-0.273**		-2.609***		-2.613***
		(0.133)		(0.133)		(0.641)		(0.640)
Temporary Workers			0.738**	0.736**			-1.335	-1.706
			(0.360)	(0.349)			(1.895)	(1.878)
Temporary Workers sq			-1.635	-1.857			3.536	5.725
			(1.796)	(1.753)			(8.565)	(8.441)
Constant	2.242***	-0.075	2.128***	-0.157	-8.755***	-5.879*	-8.552***	-5.656*
	(0.436)	(0.542)	(0.432)	(0.540)	(2.758)	(3.162)	(2.758)	(3.166)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	249.075	367.294	265.457	382.676				
Observations	7,076	7,076	7,076	7,076	8,331	8,331	8,331	8,331

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.5: Determinants of Export Propensity and Export Diversity - Without Instrumentation

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Wages	-0.070	0.040	-0.068	0.043	0.405	0.151	0.391	0.138
	(0.067)	(0.078)	(0.067)	(0.078)	(0.274)	(0.292)	(0.275)	(0.293)
Growth	0.095*	0.079	0.087	0.071	0.012	0.043	0.027	0.055
	(0.054)	(0.054)	(0.054)	(0.054)	(0.196)	(0.191)	(0.197)	(0.192)
Profitability	0.182	0.114	0.169	0.103	0.245	0.144	0.254	0.154
	(0.125)	(0.123)	(0.124)	(0.122)	(0.479)	(0.469)	(0.481)	(0.470)
Age	0.037*	0.035	0.038*	0.036*	0.146*	0.108	0.142*	0.103
	(0.022)	(0.021)	(0.022)	(0.021)	(0.079)	(0.078)	(0.079)	(0.078)
Size	0.031*	0.015	0.024	0.010	0.295***	0.305***	0.303***	0.314***
	(0.016)	(0.016)	(0.016)	(0.017)	(0.068)	(0.070)	(0.070)	(0.071)
TFP	0.004	0.032	0.007	0.035	0.282**	0.306**	0.278**	0.300**
	(0.029)	(0.029)	(0.029)	(0.029)	(0.125)	(0.125)	(0.126)	(0.125)
Foreign Subsidiaries	0.262***	0.256***	0.261***	0.256***	0.796***	0.719***	0.793***	0.715***
	(0.032)	(0.029)	(0.032)	(0.029)	(0.131)	(0.130)	(0.131)	(0.130)
Foreign Parent	0.037	0.032	0.032	0.028	0.176	0.151	0.184*	0.160
	(0.031)	(0.031)	(0.031)	(0.031)	(0.109)	(0.107)	(0.109)	(0.108)
Debt Ratio	0.071	0.101	0.072	0.103	0.708**	0.597**	0.702**	0.588**
	(0.075)	(0.073)	(0.075)	(0.073)	(0.283)	(0.284)	(0.282)	(0.283)
Liquidity Ratio	0.167***	0.194***	0.168***	0.195***	0.362	0.358	0.350	0.341
	(0.063)	(0.060)	(0.063)	(0.060)	(0.235)	(0.235)	(0.235)	(0.234)
Blue-Collar Workers		1.047***		1.034***		2.320***		2.318***
		(0.218)		(0.219)		(0.689)		(0.688)
Blue-Collar Workers sq		-0.821***		-0.808***		-2.692***		-2.695***
		(0.211)		(0.212)		(0.642)		(0.642)
Temporary Workers			1.088**	0.967*			-1.109	-1.513
			(0.516)	(0.513)			(1.913)	(1.875)
Temporary Workers sq			-4.398*	-3.882			2.372	4.554
			(2.527)	(2.542)			(8.685)	(8.435)
Constant	1.035	-0.712	0.993	-0.757	-8.611***	-6.137**	-8.417***	-5.910*
	(0.719)	(0.843)	(0.721)	(0.844)	(2.688)	(3.087)	(2.693)	(3.089)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	272.927	333.581	281.556	342.837				
Observations	7,076	7,076	7,076	7,076	8,331	8,331	8,331	8,331

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.6: Determinants of Export Propensity and Export Intensity - Excluding Final Sample Year

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.386***	1.321***	1.385***	1.320***
					(0.138)	(0.138)	(0.138)	(0.138)
Wages	-0.149***	0.027	-0.138***	0.034	0.274	0.104	0.256	0.087
	(0.045)	(0.053)	(0.045)	(0.052)	(0.240)	(0.276)	(0.242)	(0.278)
Growth	0.081**	0.064	0.066*	0.051	-0.098	-0.070	-0.076	-0.052
	(0.039)	(0.040)	(0.039)	(0.040)	(0.207)	(0.204)	(0.208)	(0.205)
Profitability	0.230**	0.178**	0.220**	0.169**	0.569	0.471	0.575	0.477
	(0.090)	(0.087)	(0.089)	(0.086)	(0.447)	(0.448)	(0.448)	(0.450)
Age	0.003	0.006	0.004	0.006	0.087	0.060	0.083	0.056
	(0.015)	(0.015)	(0.015)	(0.015)	(0.080)	(0.080)	(0.080)	(0.080)
Size	0.012	-0.009	0.008	-0.013	0.252***	0.262***	0.262***	0.273***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.067)	(0.069)	(0.068)	(0.071)
TFP	-0.039*	-0.012	-0.038*	-0.011	0.207*	0.229*	0.203*	0.224*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.119)	(0.118)	(0.119)	(0.118)
Foreign Subsidiaries	0.150***	0.154***	0.150***	0.154***	0.693***	0.642***	0.692***	0.641***
	(0.020)	(0.019)	(0.020)	(0.019)	(0.131)	(0.129)	(0.132)	(0.129)
Foreign Parent	0.084***	0.085***	0.079***	0.080***	0.175	0.159	0.186*	0.169
	(0.021)	(0.021)	(0.021)	(0.021)	(0.109)	(0.109)	(0.111)	(0.110)
Debt Ratio	-0.064	-0.032	-0.063	-0.031	0.804***	0.742***	0.795***	0.733***
	(0.051)	(0.050)	(0.051)	(0.050)	(0.276)	(0.279)	(0.274)	(0.277)
Liquidity Ratio	0.031	0.050	0.032	0.051	0.373	0.383	0.362	0.371
	(0.042)	(0.040)	(0.042)	(0.040)	(0.234)	(0.237)	(0.233)	(0.236)
Blue-Collar Workers		0.554***		0.549***		1.870***		1.869***
		(0.137)		(0.136)		(0.661)		(0.659)
Blue-Collar Workers sq		-0.212		-0.210		-2.085***		-2.087***
		(0.134)		(0.134)		(0.625)		(0.624)
Temporary Workers			0.625*	0.662*			-1.459	-1.652
			(0.363)	(0.350)			(1.901)	(1.898)
Temporary Workers sq			-1.058	-1.515			3.542	4.973
			(1.810)	(1.757)			(8.541)	(8.478)
Constant	2.368***	-0.031	2.246***	-0.114	-7.409***	-5.825*	-7.155***	-5.585*
	(0.432)	(0.551)	(0.431)	(0.549)	(2.425)	(2.985)	(2.443)	(2.994)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	233.168	339.712	247.292	351.420				
Firm-Years	6,423	6,423	6,423	6,423	7,504	7,504	7,504	7,504

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.7: Determinants of Export Propensity and Export Diversity - Excluding Final Sample Year

	Base	Blue-collar	Temporary	EPL	Base	Blue-collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.338***	1.319***	1.337***	1.317***
					(0.139)	(0.162)	(0.139)
Wages	-0.099	0.037	-0.095	0.040	0.261	0.104	0.243	0.086
	(0.067)	(0.078)	(0.067)	(0.078)	(0.238)	(0.282)	(0.240)	(0.283)
Growth	0.099*	0.081	0.091	0.074	-0.114	-0.077	-0.093	-0.061
	(0.055)	(0.055)	(0.055)	(0.055)	(0.207)	(0.204)	(0.208)	(0.205)
Profitability	0.134	0.089	0.123	0.079	0.518	0.476	0.525	0.483
	(0.127)	(0.124)	(0.127)	(0.124)	(0.475)	(0.455)	(0.475)	(0.457)
Age	0.031	0.032	0.032	0.033	0.086	0.062	0.081	0.058
	(0.021)	(0.021)	(0.021)	(0.021)	(0.080)	(0.078)	(0.078)	(0.080)
Size	0.017	0.003	0.011	-0.002	0.263***	0.266***	0.275***	0.277***
	(0.017)	(0.018)	(0.017)	(0.018)	(0.067)	(0.074)	(0.068)	(0.076)
TFP	-0.010	0.021	-0.007	0.023	0.194*	0.216*	0.189	0.210*
	(0.029)	(0.030)	(0.029)	(0.030)	(0.117)	(0.121)	(0.117)	(0.121)
Foreign Subsidiaries	0.216***	0.227***	0.215***	0.226***	0.628***	0.632***	0.626***	0.630***
	(0.032)	(0.032)	(0.032)	(0.032)	(0.161)	(0.143)	(0.162)	(0.144)
Foreign Parent	0.021	0.024	0.017	0.020 t	0.160	0.154	0.172	0.164
	(0.031)	(0.031)	(0.031)	(0.031)	(0.108)	(0.109)	(0.110)	(0.111)
Debt Ratio	0.013	0.056	0.016	0.058	0.746***	0.717**	0.737***	0.708**
	(0.075)	(0.075)	(0.075)	(0.075)	(0.282)	(0.281)	(0.280)	(0.279)
Liquidity Ratio	0.141**	0.171***	0.143**	0.172***	0.383*	0.377	0.373	0.367
	(0.062)	(0.061)	(0.062)	(0.061)	(0.229)	(0.238)	(0.228)	(0.237)
Blue-Collar Workers		0.850***		0.839***		1.754**		1.747**
		(0.241)		(0.241)		(0.751)		(0.747)
Blue-Collar Workers sq		-0.587**		-0.574**		-1.955***		-1.954***
		(0.233)		(0.232)		(0.682)		(0.678)
Temporary Workers			1.047**	0.998*			-1.889	-1.725
			(0.519)	(0.510)			(1.903)	(1.964)
Temporary Workers sq			-4.048	-4.016			5.551	5.334
			(2.547)	(2.533)			(8.461)	(8.753)
Constant	1.701**	-0.384	1.637**	-0.433	-7.089***	-5.675*	-6.826***	-5.409*
	(0.705)	(0.869)	(0.707)	(0.868)	(2.413)	(3.139)	(2.431)	(3.152)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	230.403	264.396	240.395	272.799				
Firm-Years	6,423	6,423	6,423	6,423	7,504	7,504	7,504	7,504

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.8: Determinants of Export Propensity and Export Intensity - Excluding Q10 With Lowest Altman Z-Score

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.425***	1.364***	1.425***	1.364***
					(0.133)	(0.132)	(0.132)	(0.132)
Wages	-0.143***	0.027	-0.132***	0.035	0.216	0.057	0.199	0.044
	(0.046)	(0.053)	(0.046)	(0.052)	(0.239)	(0.275)	(0.242)	(0.278)
Growth	0.098**	0.079**	0.084**	0.066*	-0.128	-0.110	-0.110	-0.096
	(0.039)	(0.040)	(0.039)	(0.040)	(0.208)	(0.206)	(0.209)	(0.207)
Profitability	0.215**	0.159*	0.206**	0.151*	0.462	0.376	0.465	0.379
	(0.089)	(0.085)	(0.089)	(0.085)	(0.441)	(0.441)	(0.442)	(0.443)
Age	0.002	0.005	0.003	0.005	0.087	0.061	0.085	0.059
	(0.016)	(0.015)	(0.015)	(0.015)	(0.080)	(0.080)	(0.080)	(0.080)
Size	0.010	-0.011	0.005	-0.015	0.225***	0.235***	0.229***	0.240***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.066)	(0.068)	(0.067)	(0.069)
TFP	-0.036	-0.007	-0.035	-0.007	0.225*	0.246**	0.224*	0.244**
	(0.022)	(0.022)	(0.022)	(0.022)	(0.118)	(0.119)	(0.119)	(0.119)
Foreign Subsidiaries	0.147***	0.151***	0.147***	0.151***	0.719***	0.664***	0.718***	0.664***
	(0.020)	(0.019)	(0.020)	(0.019)	(0.129)	(0.128)	(0.129)	(0.128)
Foreign Parent	0.089***	0.089***	0.084***	0.084***	0.238**	0.223**	0.245**	0.229**
	(0.021)	(0.021)	(0.022)	(0.021)	(0.109)	(0.108)	(0.110)	(0.110)
Debt Ratio	-0.045	-0.011	-0.045	-0.011	0.878***	0.818***	0.873***	0.813***
	(0.053)	(0.051)	(0.053)	(0.051)	(0.277)	(0.280)	(0.275)	(0.278)
Liquidity Ratio	0.035	0.052	0.036	0.053	0.427*	0.430*	0.420*	0.424*
	(0.043)	(0.041)	(0.043)	(0.041)	(0.235)	(0.237)	(0.233)	(0.235)
Blue-Collar Workers		0.602***		0.595***		1.733***		1.731***
		(0.133)		(0.133)		(0.663)		(0.661)
Blue-Collar Workers sq		-0.268**		-0.263**		-1.933***		-1.932***
		(0.131)		(0.131)		(0.623)		(0.622)
Temporary Workers			0.692*	0.696*			-0.554	-0.717
			(0.370)	(0.358)			(1.904)	(1.902)
Temporary Workers sq			-1.576	-1.851			0.024	1.298
			(1.836)	(1.790)			(8.461)	(8.427)
Constant	2.271***	-0.101	2.149***	-0.186	-6.924***	-5.449*	-6.731***	-5.284*
	(0.435)	(0.554)	(0.433)	(0.552)	(2.411)	(3.010)	(2.433)	(3.021)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi²	237.805	345.131	252.721	358.222				
Firm-Years	6,604	6,604	6,604	6,604	7,789	7,789	7,789	7,789

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.9: Determinants of Export Propensity and Export Diversity - Excluding Q10 With Lowest Altman Z-Score

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.396***	1.363***	1.399***	1.363***
					(0.152)	(0.132)	(0.151)	(0.132)
Wages	-0.075	0.049	-0.072	0.052	0.220	0.063	0.203	0.050
	(0.067)	(0.078)	(0.067)	(0.078)	(0.238)	(0.277)	(0.240)	(0.279)
Growth	0.114**	0.094*	0.107*	0.088	-0.129	-0.107	-0.113	-0.094
	(0.056)	(0.056)	(0.056)	(0.056)	(0.208)	(0.205)	(0.208)	(0.205)
Profitability	0.131	0.076	0.122	0.067	0.441	0.382	0.447	0.387
	(0.126)	(0.122)	(0.126)	(0.122)	(0.459)	(0.445)	(0.459)	(0.446)
Age	0.028	0.028	0.029	0.029	0.088	0.063	0.085	0.061
	(0.021)	(0.021)	(0.021)	(0.021)	(0.079)	(0.080)	(0.079)	(0.080)
Size	0.013	0.000	0.008	-0.005	0.235***	0.238***	0.240***	0.242***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.067)	(0.071)	(0.069)	(0.072)
TFP	-0.005	0.028	-0.002	0.031	0.211*	0.235*	0.210*	0.233*
	(0.030)	(0.030)	(0.030)	(0.030)	(0.117)	(0.121)	(0.118)	(0.121)
Foreign Subsidiaries	0.212***	0.223***	0.213***	0.223***	0.674***	0.659***	0.676***	0.659***
	(0.035)	(0.030)	(0.036)	(0.029)	(0.159)	(0.133)	(0.159)	(0.133)
Foreign Parent	0.033	0.034	0.028	0.030	0.219**	0.217**	0.228**	0.223**
	(0.032)	(0.031)	(0.032)	(0.031)	(0.110)	(0.109)	(0.112)	(0.110)
Debt Ratio	0.041	0.087	0.044	0.089	0.832***	0.798***	0.828***	0.794***
	(0.080)	(0.076)	(0.080)	(0.076)	(0.284)	(0.282)	(0.283)	(0.280)
Liquidity Ratio	0.142**	0.173***	0.145**	0.174***	0.431*	0.424*	0.424*	0.418*
	(0.065)	(0.062)	(0.066)	(0.062)	(0.232)	(0.237)	(0.231)	(0.236)
Blue-Collar Workers		0.910***		0.898***		1.656**		1.654**
		(0.223)		(0.223)		(0.709)		(0.703)
Blue-Collar Workers sq		-0.663***		-0.650***		-1.844***		-1.845***
		(0.211)		(0.211)		(0.648)		(0.645)
Temporary Workers			1.082**	1.012**			-0.855	-0.722
			(0.520)	(0.512)			(1.954)	(1.930)
Temporary Workers sq			-4.469*	-4.292*			1.449	1.337
			(2.554)	(2.547)			(8.590)	(8.534)
Constant	1.387*	-0.599	1.319*	-0.651	-6.807***	-5.395*	-6.606***	-5.223*
	(0.726)	(0.864)	(0.733)	(0.866)	(2.404)	(3.072)	(2.428)	(3.079)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	228.936	273.689	239.234	283.556				
Firm-Years	6,604	6,604	6,604	6,604	7,789	7,789	7,789	7,789

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.10: Determinants of Export Propensity and Export Intensity - Export Re-Entrants Excluded

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.527***	1.470***	1.533***	1.475***
					(0.155)	(0.154)	(0.154)	(0.153)
Wages	-0.146***	0.040	-0.137***	0.046	0.394	0.391	0.369	0.369
	(0.046)	(0.053)	(0.046)	(0.053)	(0.292)	(0.328)	(0.294)	(0.330)
Growth	0.106***	0.088**	0.091**	0.075*	0.074	0.072	0.114	0.102
	(0.041)	(0.041)	(0.041)	(0.041)	(0.235)	(0.231)	(0.235)	(0.231)
Profitability	0.193**	0.134	0.183**	0.125	0.225	0.016	0.230	0.025
	(0.089)	(0.084)	(0.088)	(0.084)	(0.512)	(0.514)	(0.513)	(0.516)
Age	0.005	0.008	0.006	0.009	0.131	0.106	0.126	0.101
	(0.015)	(0.015)	(0.015)	(0.015)	(0.098)	(0.099)	(0.098)	(0.098)
Size	0.006	-0.016	0.001	-0.021*	0.338***	0.325***	0.351***	0.338***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.085)	(0.087)	(0.085)	(0.088)
TFP	-0.044**	-0.015	-0.043**	-0.013	0.195	0.250*	0.190	0.244*
	(0.021)	(0.021)	(0.021)	(0.021)	(0.141)	(0.141)	(0.140)	(0.140)
Foreign Subsidiaries	0.137***	0.141***	0.138***	0.142***	0.723***	0.677***	0.719***	0.674***
	(0.020)	(0.019)	(0.020)	(0.019)	(0.166)	(0.161)	(0.166)	(0.161)
Foreign Parent	0.088***	0.087***	0.084***	0.083***	0.172	0.156	0.188	0.170
	(0.021)	(0.021)	(0.022)	(0.021)	(0.128)	(0.127)	(0.131)	(0.129)
Debt Ratio	-0.072	-0.037	-0.072	-0.037	0.817**	0.816**	0.805**	0.804**
	(0.052)	(0.050)	(0.052)	(0.050)	(0.337)	(0.339)	(0.335)	(0.337)
Liquidity Ratio	0.019	0.036	0.019	0.037	0.317	0.350	0.304	0.337
	(0.042)	(0.040)	(0.042)	(0.040)	(0.281)	(0.282)	(0.279)	(0.281)
Blue-Collar Workers		0.595***		0.590***		2.538***		2.517***
		(0.139)		(0.139)		(0.777)		(0.771)
Blue-Collar Workers sq		-0.233*		-0.231*		-2.370***		-2.357***
		(0.137)		(0.137)		(0.723)		(0.719)
Temporary Workers			0.635*	0.654*			-1.721	-1.825
			(0.372)	(0.357)			(2.164)	(2.168)
Temporary Workers sq			-1.347	-1.744			3.315	4.942
			(1.873)	(1.810)			(9.625)	(9.569)
Constant	2.437***	-0.123	2.335***	-0.189	-9.016***	-9.876***	-8.695***	-9.570***
	(0.442)	(0.559)	(0.439)	(0.558)	(2.927)	(3.445)	(2.945)	(3.462)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	220.308	333.063	234.316	345.076				
Firm-Years	6,645	6,645	6,645	6,645	7,579	7,579	7,579	7,579

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export intensity (i.e. the ratio of foreign sales to total sales). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.11: Determinants of Export Propensity and Export Diversity - Export Re-Entrants Excluded

	Base	Blue-Collar	Temporary	EPL	Base	Blue-Collar	Temporary	EPL
2nd Stage					**1st Stage**			
Import Status					1.435***	1.471***	1.442***	1.475***
					(0.187)	(0.155)	(0.187)	(0.153)
Wages	-0.098	0.053	-0.096	0.055	0.393	0.402	0.371	0.381
	(0.068)	(0.080)	(0.068)	(0.080)	(0.286)	(0.334)	(0.288)	(0.335)
Growth	0.109*	0.092	0.100*	0.085	0.009	0.068	0.043	0.096
	(0.056)	(0.056)	(0.056)	(0.056)	(0.235)	(0.234)	(0.236)	(0.235)
Profitability	0.080	0.024	0.071	0.015	0.183	0.049	0.192	0.059
	(0.125)	(0.121)	(0.124)	(0.120)	(0.529)	(0.515)	(0.530)	(0.517)
Age	0.035	0.037*	0.036*	0.038*	0.134	0.107	0.129	0.102
	(0.022)	(0.021)	(0.022)	(0.021)	(0.094)	(0.099)	(0.094)	(0.099)
Size	0.005	-0.005	0.000	-0.010	0.341***	0.324***	0.354***	0.336***
	(0.017)	(0.019)	(0.017)	(0.020)	(0.085)	(0.093)	(0.085)	(0.094)
TFP	-0.015	0.021	-0.012	0.023	0.182	0.245*	0.178	0.238
	(0.029)	(0.030)	(0.029)	(0.030)	(0.135)	(0.145)	(0.135)	(0.145)
Foreign Subsidiaries	0.196***	0.214***	0.196***	0.214***	0.608***	0.679***	0.607***	0.676***
	(0.029)	(0.032)	(0.029)	(0.032)	(0.187)	(0.179)	(0.189)	(0.178)
Foreign Parent	0.028	0.030	0.024	0.026	0.148	0.158	0.164	0.172
	(0.031)	(0.031)	(0.031)	(0.031)	(0.127)	(0.129)	(0.130)	(0.131)
Debt Ratio	0.002	0.061	0.005	0.063	0.777**	0.799**	0.767**	0.788**
	(0.076)	(0.078)	(0.076)	(0.078)	(0.325)	(0.340)	(0.323)	(0.338)
Liquidity Ratio	0.123**	0.158**	0.125**	0.159***	0.347	0.331	0.338	0.319
	(0.063)	(0.061)	(0.063)	(0.062)	(0.265)	(0.287)	(0.265)	(0.288)
Blue-Collar Workers		0.966***		0.955***		2.518***		2.495***
		(0.256)		(0.256)		(0.896)		(0.886)
Blue-Collar Workers sq		-0.686***		-0.675***		-2.311***		-2.298***
		(0.247)		(0.247)		(0.802)		(0.794)
Temporary Workers			0.978*	0.874*			-1.922	-1.760
			(0.527)	(0.516)			(2.128)	(2.214)
Temporary Workers sq			-3.934	-3.703			4.983	4.742
			(2.610)	(2.589)			(9.405)	(9.847)
Constant	1.826***	-0.556	1.770**	-0.593	-8.784***	-9.937***	-8.511***	-9.632***
	(0.693)	(0.934)	(0.695)	(0.931)	(2.837)	(3.558)	(2.859)	(3.564)
Time and Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mills Ratio	Yes	Yes	Yes	Yes				
Wald Chi^2	220.380	250.765	230.251	260.130				
Firm-Years	6,645	6,645	6,645	6,645	7,579	7,579	7,579	7,579

Note: This table contains the estimates of the Heckman two-step procedure, which models a firm's decision to export and its export performance. The dependent of the first-stage equation is a dummy that equals unity when the firm reports exports in a particular year. The dependent of the second-stage equation is export diversity (i.e. an entropy measure of diversification). The determinants used in both stages include a range of firm-specific control variables and labor flexibility measures. The instrument used in the first stage is import status, a dummy that equals unity when the firm reports imports in a particular year. All independent variables are one-period lagged ones. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

Table D.12: Dynamic Random-Effects Probit

	Base	Blue-Collar	Temporary	EPL
Export Status	1.710***	1.705***	1.714***	1.710***
	(0.161)	(0.162)	(0.162)	(0.162)
Initial Export Status	2.346***	2.305***	2.340***	2.298***
	(0.295)	(0.286)	(0.294)	(0.285)
Wages	-0.444	-0.493	-0.448	-0.499
	(0.410)	(0.416)	(0.410)	(0.416)
Growth	0.278	0.292	0.287	0.299
	(0.280)	(0.281)	(0.279)	(0.281)
Profitability	-0.526	-0.578	-0.522	-0.576
	(0.672)	(0.672)	(0.672)	(0.673)
Age	-0.234	-0.221	-0.273	-0.262
	(0.485)	(0.483)	(0.483)	(0.481)
Size	0.560***	0.520***	0.564***	0.525***
	(0.180)	(0.178)	(0.180)	(0.178)
TFP	0.316*	0.312	0.321*	0.319*
	(0.191)	(0.191)	(0.190)	(0.190)
Foreign Subsidiaries	0.560***	0.528***	0.550***	0.518***
	(0.163)	(0.162)	(0.162)	(0.161)
Foreign Parent	0.050	0.038	0.067	0.054
	(0.136)	(0.135)	(0.136)	(0.135)
Debt Ratio	-0.521	-0.528	-0.522	-0.529
	(0.465)	(0.468)	(0.468)	(0.472)
Liquidity Ratio	-0.146	-0.132	-0.165	-0.152
	(0.367)	(0.372)	(0.369)	(0.374)
Wages (mean)	0.611	0.655	0.579	0.626
	(0.549)	(0.557)	(0.551)	(0.558)
Growth (mean)	2.624***	2.648***	2.681***	2.706***
	(0.769)	(0.773)	(0.768)	(0.772)
Profitability (mean)	0.557	0.513	0.573	0.533
	(1.106)	(1.098)	(1.097)	(1.089)
Age (mean)	0.307	0.275	0.339	0.310
	(0.502)	(0.501)	(0.500)	(0.498)
Size (mean)	-0.214	-0.179	-0.204	-0.168
	(0.195)	(0.194)	(0.195)	(0.193)
TFP (mean)	0.085	0.124	0.065	0.100
	(0.270)	(0.267)	(0.269)	(0.266)
Debt Ratio (mean)	1.419**	1.368**	1.402**	1.349**
	(0.586)	(0.586)	(0.586)	(0.585)
Liquidity Ratio (mean)	0.738	0.737	0.737	0.734
	(0.502)	(0.501)	(0.503)	(0.501)
Blue-Collar Workers		1.987**		1.990**
		(0.780)		(0.776)
Blue-Collar Workers sq		-1.980***		-1.987***
		(0.749)		(0.744)
Temporary Workers			-2.376	-2.647
			(2.166)	(2.159)
Temporary Workers sq			5.403	6.885
			(10.967)	(10.805)
Constant	-10.298***	-10.816***	-9.730***	-10.233**
	(3.606)	(4.193)	(3.602)	(4.179)
Time FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Firm-Years	8,331	8,331	8,331	8,331
No. of Firms	1,270	1,270	1,270	1,270
Wald Chi^2	992.804	1,020.574	1,013.383	1,040.286

Note: This table contains the estimates from dynamic panel random-effects probit regressions, following the approach of Wooldridge (2005). The dependent is a dummy that equals unity when the firm reports exports in a particular year, and 0 otherwise. The explanatory variables included are initial export status, one-period lagged export status, our labor flexibility measures, a range of firm-level control variables and time-averages of all (time-varying) explanatory variables. Industry and year dummies have been included in all specifications. The (unreported) coefficients are available upon request. Robust standard errors (clustered at firm-level) are in parentheses. *** denotes significance at 1%, ** at 5% and * at 10%.

General Conclusion

This dissertation has pursued the link between export activities and corporate finance issues in a setting of smaller-sized, privately held firms in the course of three separate Chapters. The first two Chapters of this dissertation investigated the link between export activities and different aspects of the financing policy of smaller-sized, private firms. The third Chapter took a different stance and examined how workforce flexibility affects the export participation and subsequent export performance of this type of firm. Thanks to a cooperation with the National Bank of Belgium (NBB), we have been able to estimate our research on a proprietary dataset that matches highly detailed information from the financial statements with international trade data at the corporate level for privately held Belgian firms between 1998 and 2013. The resulting dataset provided a unique opportunity to examine the linkage between export activities and corporate capital structure, and financial and labor flexibility. As such, this dissertation connects with and contributes to a diverse set of research areas, including corporate finance, international trade, labor economics and law.

The first Chapter examines how export activities affect the capital structure and debt maturity of smaller-sized, private Belgian firms. We show that exporting firms carry substantially more financial debt than non-exporters do. This leverage differential between exporters and their non-exporting peers is at least partly attributable to the higher need for working capital financing within exporting firms: due to the nature of their activities, exporters face considerably longer cash conversion cycles. In line with the maturity matching principle, which states that the maturity of the uses of funds should match the maturity of the sources of funds, exporters resolve their higher need for working capital financing by carrying more short-term debt on their balances. The higher reliance on short-term debt financing by exporting firms may not only arise from a higher need for working capital financing within this type of firm; it may also result from exporters' enhanced access to credit following their superior borrower quality as perceived by external creditors. The higher reliance of exporters on (risk-mitigating) trade financing instruments, such as the letter of credit and trade credit insurance, presumably allows these firms to enhance the confidence of ex-

ternal financiers regarding the quality of their working capital components as pledgeable assets. In addition, the close monitoring by the bank under the letter of credit of the sales transaction reduces information asymmetries between the lender and the exporter/borrower. Both aspects may increase the borrowing capacity of exporting firms. Furthermore, geographic sales diversification reduces earnings volatility and hence a firm's operating risk. Consequently, the cost of debt financing decreases and the access to external debt financing might be expanded. In addition, due to the significant sunk costs associated with international trade, the simple act of conducting export activities might signal borrower quality since only the largest and most productive firms can overcome the hurdles associated with international trade. In accordance with one of the stylized facts in international trade literature, our sample exporters show significantly higher total factor productivity. The resulting higher perceived borrower quality of exporters may also facilitate their access to external financing. Finally, since cross-border transactions are generally riskier and more complex than domestic sales transactions, the availability of short-term assets that can be pledged when applying for external financing may be of higher importance to exporters. Consequently, the collateral channel (i.e. the relationship between leverage and asset tangibility) may be stronger for exporting firms.

In the second Chapter, we studied the impact of export activities on the financial flexibility of private Belgian firms. We defined financial flexibility as the ease with which firms can adjust their capital structures. Since leverage adjustments are costly, firms will only rebalance their debt positions when the costs associated with suboptimal leverage exceed leverage adjustment costs. Firms that experience lower leverage adjustment costs rebalance their debt positions more frequently, and therefore have superior financial flexibility. We show that exporters alter their debt positions more frequently or in larger steps than their non-exporting peers do. In particular, export-intensive firms and firms that serve distant and risky export destinations are most likely to adjust their capital structures both upwards and downwards. A number of channels might explain the superior financial flexibility of exporting firms. First, the mere act of exporting may signal borrower quality to external creditors, which facilitates access to financing and reduces the costs associated with adjusting leverage. Besides having more collateral on their balances, Belgian exporters also show significantly higher total factor productivity than their non-exporting peers, which is generally interpreted as a sign of superior borrower quality. In addition, given their business models, exporting firms carry substantially more short-term debt on their balances, which is also likely to contribute to lower leverage adjustment costs. Since short-term debt positions can be adjusted more easily and at lower cost, exporters may experience superior financial flexibility. Finally, exporters are much heavier users of trade finance instruments. The close monitoring by the bank of sales transactions covered by such instruments presumably reduces

information asymmetries and agency conflicts between the firm and its bank. Since agency costs of debt are reduced substantially, exporters may be able to afford rebalancing their capital structures at relatively lower cost.

The first two Chapters of this dissertation aim at providing new insights into the impact of exporting on the financing decisions of smaller-sized, private firms to both practitioners and policy makers, who devote substantial effort and resources to facilitate access to credit and to stimulate export development of this type of firm. It is particularly worrisome that, in spite of their contribution to employment, trade and economic growth, smaller-sized private firms still face substantial hurdles in accessing affordable financing to support their (export) activities. This is problematic because financing obstacles are important impediments to the success of a firm's international strategy. Overall, our findings suggest that the development and the availability of tools that facilitate the use of assets for collateral purposes (at an affordable cost) is likely to stimulate the export activities of smaller-sized firms by easing their access to external financing and thus increasing their ability to overcome capital constraints. We showed that Belgian exporters are heavily reliant on (asset-backed) short-term debt financing, which causes them to be particularly sensitive to shocks in credit supply and profitability. Furthermore, the high reliance on bank or insurer-intermediated trade finance within exporting firms might also affect the range of customers these firms can sell to. Firms that are highly dependent on trade finance instruments to access credit to prefinance their activities might be able to sell to the most creditworthy foreign customers only, since banks and insurers are presumably more willing to offer payment guarantees and credit insurance on receivables for this type of customer. The more financially independent firms, by contrast, may be able to serve a wider variety of foreign buyers. Since financially independent firms do not have to rely upon the creditworthiness of their importing customers to obtain credit, they are also likely to be in a stronger bargaining position, relative to these customers. To this end, future research would benefit from the availability and the exploitation of granular information on the use of bank and insurer-intermediated trade finance by firms.

The final Chapter studied the impact of labor force flexibility on the export participation and subsequent export performance of private Belgian manufacturers. A firm is assumed to be flexible regarding its labor input when it can easily adapt its workforce at relatively low adjustment cost. We examined contractual labor flexibility, which relates to employee protection rules and regulations. Firms that are subject to stricter employee protection are hindered more by hiring and firing costs, and are therefore considered to be less flexible. We showed that firms that are more flexible in their labor input are more successful in international trade, as reflected in a higher export participation and subsequent export performance. In particular, we find that firms with higher levels

of blue-collar workers, who can be hired and fired more easily and at lower cost than white-collar workers, are more likely to enter export markets. They also export more intensively and to a wider range of geographical regions. Although labor flexibility stimulates export participation and performance, this occurs at diminishing rates, which suggests the existence of a saturation point of labor flexibility.

In accordance with the resource-based view of the firm, our results support the notion that labor flexibility enables the efficient allocation of human capital throughout the firm, which enhances its international competitiveness, both at the intensive and extensive margin of trade. To remain cost competitive and to stay ahead of the competition in international markets, the availability of a flexibly employable workforce at home is indispensable. Our findings imply that the modification of labor markets might have strong implications for corporate labor flexibility, firm participation and success in foreign markets.

By means of the Act of December 26th, 2013 the Belgian government has aimed to address some of the discrepancies in employee protection regulations between contract types. In particular, the Act aims to diminish some of the legal differences that subsist between white and blue collars with respect to trial and notice periods, amongst other issues, for labor contracts entered into force after January 1st, 2014. Our research period ends in 2013; as such, our results were not yet affected by this new law. Moreover, we believe that our results remain valid after 2013, since the law does not cover legal distinctions between permanent and temporary contracts and does not affect existing labor contracts to a large extent. In addition, the legislator has allowed for a lengthy period of transition during which the old rules will still be applicable. Future empirical research, however, would benefit from exploiting this change in the legal environment. To safeguard their labor flexibility, the exogenous shock to labor contract flexibility is likely to induce firms to shy away from permanent and blue-collar contracts, and shift their labor policies towards hiring more temporary workers.

Bibliography

ACEMOGLU, D., AND J. D. ANGRIST (2001): "Consequences of Employment Protection? The Case of the Americans With Disabilities Act," *Journal of Political Economy*, 109(5), 915–957.

ACHARYA, V. V., R. P. BAGHAI, AND K. V. SUBRAMANIAN (2013): "Labor Laws and Innovation," *The Journal of Law and Economics*, 56(4), 997–1037.

ADAMS, R., H. ALMEIDA, AND D. FERREIRA (2009): "Understanding the Relationship Between Founder–CEOs and Firm Performance," *Journal of Empirical Finance*, 16(1), 136–150.

AHERN, K. R., D. DAMINELLI, AND C. FRACASSI (2012): "Lost in Translation? The Effect of Cultural Values on Mergers Around the World," *Journal of Financial Economics*, 117(1), 165–189.

AHN, J. (2011): "A Theory of Domestic and International Trade Finance," *IMF Working Papers*, (11/262), 1–35.

AHN, J., M. AMITI, AND D. E. WEINSTEIN (2011): "Trade Finance and the Great Trade Collapse," *The American Economic Review*, 101(3), 298–302.

ALMEIDA, R., AND P. CARNEIRO (2009): "Enforcement of Labor Regulation and Firm Size," *Journal of Comparative Economics*, 37(1), 28–46.

AMITI, M., AND J. KONINGS (2007): "Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia," *The American Economic Review*, 97(5), 1611–1638.

AMITI, M., AND D. E. WEINSTEIN (2011): "Exports and Financial Shocks," *Quarterly Journal of Economics*, 126, 1841–1877.

ASMUNDSON, I., T. W. DORSEY, A. KHACHATRYAN, I. NICULCEA, AND M. SAITO (2011): "Trade and Trade Finance in the 2008-2009 Financial Crisis," *IMF Working Papers*, 16, 1–65.

ATANASSOV, J., AND E. KIM (2009): "Labor and Corporate Governance: Interna-

tional Evidence From Restructuring Decisions," *The Journal of Finance*, 64(1), 341–374.

AUTOR, D. H., J. J. DONOHUE III, AND S. J. SCHWAB (2006): "The Costs of Wrongful-Discharge Laws," *The Review of Economics and Statistics*, 88(2), 211–231.

AUTOR, D. H., W. R. KERR, AND A. D. KUGLER (2007): "Does Employment Protection Reduce Productivity? Evidence From US States," *The Economic Journal*, 117(521), F189–F217.

AYBAR-ARIAS, C., A. CASINO-MARTÍNEZ, AND J. LÓPEZ-GRACIA (2012): "On the Adjustment Speed of SMEs to Their Optimal Capital Structure," *Small Business Economics*, 39(4), 977–996.

BARCLAY, M. J., AND C. W. SMITH (1995): "The Maturity Structure of Corporate Debt," *The Journal of Finance*, 50(2), 609–631.

BARTLETT, M. S. (1950): "Tests of Significance in Factor Analysis," *British Journal of Mathematical and Statistical Psychology*, 3(2), 77–85.

BAS, M., AND V. STRAUSS-KAHN (2014): "Does Importing More Inputs Raise Exports? Firm-Level Evidence From France," *Review of World Economics*, 150(2), 241–275.

BASSANINI, A., L. NUNZIATA, AND D. VENN (2009): "Job Protection Legislation and Productivity Growth in OECD Countries," *Economic Policy*, 24(58), 349–402.

BECK, T., A. DEMIRGÜÇ-KUNT, L. LAEVEN, AND V. MAKSIMOVIC (2006): "The Determinants of Financing Obstacles," *Journal of International Money and Finance*, 25(6), 932–952.

BELLONE, F., P. MUSSO, L. NESTA, AND S. SCHIAVO (2010): "Financial Constraints and Firm Export Behavior," *The World Economy*, 33(3), 347–373.

BERGER, A. N., AND G. F. UDELL (1990): "Collateral, Loan Quality and Bank Risk," *Journal of Monetary Economics*, 25(1), 21–42.

——— (1995): "Relationship Lending and Lines of Credit in Small Firm Finance," *Journal of Business*, 68(3), 351–381.

——— (2006): "A More Complete Conceptual Framework for SME Finance," *Journal of Banking & Finance*, 30(11), 2945–2966.

BERKOWITZ, D., K. PISTOR, AND J.-F. RICHARD (2003): "Economic Development, Legality, and the Transplant Effect," *European Economic Review*, 47(1), 165–195.

BERNARD, A. B., E. J. BLANCHARD, I. VAN BEVEREN, AND H. Y. VANDENBUSSCHE (2017): "Carry-Along Trade," *Review of Economic Studies (Forthcoming)*.

BERNARD, A. B., J. EATON, J. B. JENSEN, AND S. KORTUM (2003): "Plants and Productivity in International Trade," *The American Economic Review*, 93(4), 1268–1290.

BERNARD, A. B., M. GRAZZI, AND C. TOMASI (2015): "Intermediaries in International Trade: Products and Destinations," *Review of Economics and Statistics*, 97(4), 916–920.

BERNARD, A. B., AND J. B. JENSEN (1999): "Exceptional Exporter Performance: Cause, Effect, or Both?," *Journal of International Economics*, 47(1), 1–25.

——— (2004): "Why Some Firms Export," *Review of Economics and Statistics*, 86(2), 561–569.

BERNARD, A. B., J. B. JENSEN, S. J. REDDING, AND P. K. SCHOTT (2010): "Wholesalers and Retailers in US Trade," *The American Economic Review*, 100(2), 408–413.

BERNARD, A. B., AND J. WAGNER (1997): "Exports and Success in German Manufacturing," *Review of World Economics*, 133(1), 134–157.

BESLEY, T., AND R. BURGESS (2004): "Can Labor Regulation Hinder Economic Performance? Evidence From India," *The Quarterly Journal of Economics*, 119(1), 91–134.

BIANCHI, C., AND R. WICKRAMASEKERA (2016): "Antecedents of SME Export Intensity in a Latin American Market," *Journal of Business Research*, 69(10), 4368–4376.

BIRD, R. C., AND J. D. KNOPF (2009): "Do Wrongful-Discharge Laws Impair Firm Performance?," *The Journal of Law and Economics*, 52(2), 197–222.

BLANPAIN, R. (2010): *Labor Law in Belgium*. Kluwer Law International.

BOOT, A., A. V. THAKOR, AND G. F. UDELL (1991): "Secured Lending and Default Risk: Equilibrium Analysis, Policy Implications and Empirical Results," *The Economic Journal*, 101(406), 458–472.

BOTERO, J. C., S. DJANKOV, R. LA PORTA, F. LOPEZ-DE SILANES, AND A. SHLEIFER (2004): "The Regulation of Labor," *The Quarterly Journal of Economics*, 119(4), 1339–1382.

BRADLEY, M., G. A. JARRELL, AND E. KIM (1984): "On the Existence of an Optimal Capital Structure: Theory and Evidence," *The Journal of Finance*, 39(3), 857–878.

BRAV, O. (2009): "Access to Capital, Capital Structure, and the Funding of the Firm," *The Journal of Finance*, 64(1), 263–308.

BRENNAN, M. J., AND E. S. SCHWARTZ (1978): "Corporate Income Taxes, Valuation, and the Problem of Optimal Capital Structure," *Journal of Business*, 51(1), 103–114.

BURGMAN, T. A. (1996): "An Empirical Examination of Multinational Corporate Capital Structure," *Journal of International Business Studies*, 27(3), 553–570.

CAMPELLO, M., AND E. GIAMBONA (2013): "Real Assets and Capital Structure," *Journal of Financial and Quantitative Analysis*, 48(05), 1333–1370.

CAPPELLARI, L., C. DELL'ARINGA, AND M. LEONARDI (2012): "Temporary Employment, Job Flows and Productivity: A Tale of Two Reforms," *The Economic Journal*, 122(562), F188–F215.

CASSAR, G., AND S. HOLMES (2003): "Capital Structure and Financing of SMEs: Australian Evidence," *Accounting & Finance*, 43(2), 123–147.

CAVUSGIL, S. T. (1984): "Differences Among Exporting Firms Based on Their Degree of Internationalization," *Journal of Business Research*, 12(2), 195–208.

CHAKRABARTI, R., S. GUPTA-MUKHERJEE, AND N. JAYARAMAN (2009): "Mars–Venus Marriages: Culture and Cross-Border M&A," *Journal of International Business Studies*, 40(2), 216–236.

CHANEY, T. (2016): "Liquidity Constrained Exporters," *Journal of Economic Dynamics and Control*, 72, 141–154.

CHEN, C. J., C. A. CHENG, J. HE, AND J. KIM (1997): "An Investigation of the Relationship Between International Activities and Capital Structure," *Journal of International Business Studies*, 28(3), 563–577.

CHKIR, I. E., AND J.-C. COSSET (2001): "Diversification Strategy and Capital Structure of Multinational Corporations," *Journal of Multinational Financial Management*, 11(1), 17–37.

CHOR, D., AND K. MANOVA (2012): "Off the Cliff and Back? Credit Conditions and International Trade During the Global Financial Crisis," *Journal of International Economics*, 87(1), 117–133.

CHUNG, K. H. (1993): "Asset Characteristics and Corporate Debt Policy: An Empirical Test," *Journal of Business Finance & Accounting*, 20(1), 83–98.

CINGANO, F., M. LEONARDI, J. MESSINA, AND G. PICA (2010): "The Effects of Employment Protection Legislation and Financial Market Imperfections on Investment: Evidence From a Firm-Level Panel of EU Countries," *Economic Policy*, 25(61), 117–163.

COLLINS, J. L., AND G. R. KRIPPNER (1999): "Permanent Labor Contracts in Agriculture: Flexibility and Subordination in a New Export Crop," *Comparative Studies in Society and History*, 41(03), 510–534.

COVAL, J. D., AND T. J. MOSKOWITZ (1999): "Home Bias at Home: Local Equity Preference in Domestic Portfolios," *The Journal of Finance*, 54(6), 2045–2073.

CUÑAT, A., AND M. J. MELITZ (2012): "Volatility, Labor Market Flexibility, and the Pattern of Comparative Advantage," *Journal of the European Economic Association*, 10(2), 225–254.

DAMIJAN, J. P., J. KONINGS, AND S. POLANEC (2013): "Pass-On Trade: Why Do Firms Simultaneously Engage in Two-Way Trade in the Same Varieties?," *Review of World Economics*, 149(1), 85–111.

DE CLERCQ, D., H. J. SAPIENZA, AND H. CRIJNS (2005): "The Internationalization of Small and Medium-Sized Firms," *Small Business Economics*, 24(4), 409–419.

DE JONG, A., R. KABIR, AND T. T. NGUYEN (2008): "Capital Structure Around the World: The Roles of Firm- and Country-Specific Determinants," *Journal of Banking & Finance*, 32(9), 1954–1969.

DE JONG, A., M. VERBEEK, AND P. VERWIJMEREN (2011): "Firms' Debt–Equity Decisions When the Static Tradeoff Theory and the Pecking Order Theory Disagree," *Journal of Banking & Finance*, 35(5), 1303–1314.

DE MIGUEL, A., AND J. PINDADO (2001): "Determinants of Capital Structure: New Evidence From Spanish Panel Data," *Journal of Corporate Finance*, 7(1), 77–99.

DEANGELO, H., AND R. W. MASULIS (1980): "Optimal Capital Structure Under Corporate and Personal Taxation," *Journal of Financial Economics*, 8(1), 3–29.

DECRAMER, S., C. FUSS, AND J. KONINGS (2016): "How Do Exporters React to Changes in Cost Competitiveness?," *The World Economy*, 39(10), 1558–1583.

DEGRYSE, H., P. DE GOEIJ, AND P. KAPPERT (2012): "The Impact of Firm and Industry Characteristics on Small Firms' Capital Structure," *Small Business Economics*, 38(4), 431–447.

DEMIRGÜÇ-KUNT, A., AND V. MAKSIMOVIC (1999): "Institutions, Financial Markets, and Firm Debt Maturity," *Journal of Financial Economics*, 54(3), 295–336.

DESSAINT, O., A. GOLUBOV, AND P. VOLPIN (2017): "Employment Protection and Takeovers," *Journal of Financial Economics*, 125(2), 369–388.

DEWAELHEYNS, N., AND C. VAN HULLE (2012): "Capital Structure Adjustments

in Private Business Group Companies," *Applied Financial Economics*, 22(15), 1275–1288.

DEWAELHEYNS, N., C. VAN HULLE, AND Y. VAN LANDUYT (2017): "Employment Protection and SME Capital Structure Decisions," *Journal of Small Business Management*.

DEWIT, G., H. GÖRG, AND C. MONTAGNA (2009): "Should I Stay or Should I Go? Foreign Direct Investment, Employment Protection and Domestic Anchorage," *Review of World Economics*, 145(1), 93–110.

DHANARAJ, C., AND P. W. BEAMISH (2003): "A Resource-Based Approach to the Study of Export Performance," *Journal of Small Business Management*, 41(3), 242–261.

DIAMOND, D. W. (1991): "Debt Maturity Structure and Liquidity Risk," *The Quarterly Journal of Economics*, 106(3), 709–737.

DJANKOV, S., C. FREUND, AND C. PHAM (2010): "Trading on Time," *The Review of Economics and Statistics*, 92(1), 166–173.

DOLLAR, D., M. HALLWARD-DRIEMEIER, AND T. MENGISTAE (2006): "Investment Climate and International Integration," *World Development*, 34(9), 1498–1516.

DONALDSON, G. (1961): *Corporate Debt Capacity*. Harvard University.

DOUKAS, J. A., AND C. PANTZALIS (2003): "Geographic Diversification and Agency Costs of Debt of Multinational Firms," *Journal of Corporate Finance*, 9(1), 59–92.

D'SOUZA, D. E., AND P. P. MCDOUGALL (1989): "Third World Joint Venturing: A Strategic Option for the Smaller Firm," *Entrepreneurship Theory and Practice*, 13(4), 19–33.

DUDA, R. O., AND P. E. HART (1973): *Pattern Classification and Scene Analysis*, vol. 3. New York, Wiley.

EDMUNDS, S. E., AND S. J. KHOURY (1986): "Exports: A Necessary Ingredient in the Growth of Small Business Firms," *Journal of Small Business Management*, 24(4), 54–65.

EGGER, P., AND T. URL (2006): "Public Export Credit Guarantees and Foreign Trade Structure: Evidence From Austria," *The World Economy*, 29(4), 399–418.

ELSAS, R., AND D. FLORYSIAK (2015): "Dynamic Capital Structure Adjustment and the Impact of Fractional Dependent Variables," *Journal of Financial and Quantitative Analysis*, 50(05), 1105–1133.

ENGELS, C. (2002): *Does the Color of Your Collar Really Make a Difference? The Unconstitutional Discrimination Between White and Blue-Collar Workers*pp. 283–295. Labor Law, Human Rights and Social Justice. The Hague: Kluwer Law International.

FAN, J. P., S. TITMAN, AND G. TWITE (2012): "An International Comparison of Capital Structure and Debt Maturity Choices," *Journal of Financial and Quantitative Analysis*, 47(1), 23–56.

FATEMI, A. M. (1988): "The Effect of International Diversification on Corporate Financing Policy," *Journal of Business Research*, 16(1), 17–30.

FAUCEGLIA, D. (2015): "Credit Constraints, Firm Exports and Financial Development: Evidence From Developing Countries," *The Quarterly Review of Economics and Finance*, 55, 53–66.

FELBERMAYR, G. J., AND E. YALCIN (2013): "Export Credit Guarantees and Export Performance: An Empirical Analysis for Germany," *The World Economy*, 36(8), 967–999.

FERRANDO, A., AND K. MULIER (2013): "Do Firms Use the Trade Credit Channel to Manage Growth?," *Journal of Banking & Finance*, 37(8), 3035–3046.

FLANNERY, M. J., AND K. P. RANGAN (2006): "Partial Adjustment Toward Target Capital Structures," *Journal of Financial Economics*, 79(3), 469–506.

GANOTAKIS, P., AND J. H. LOVE (2012): "Export Propensity, Export Intensity and Firm Performance: The Role of the Entrepreneurial Founding Team," *Journal of International Business Studies*, 43(8), 693–718.

GAUD, P., M. HOESLI, AND A. BENDER (2007): "Debt-Equity Choice in Europe," *International Review of Financial Analysis*, 16(3), 201–222.

GOUX, D., E. MAURIN, AND M. PAUCHET (2001): "Fixed-Term Contracts and the Dynamics of Labor Demand," *European Economic Review*, 45(3), 533–552.

GOYAL, V. K., A. NOVA, AND L. ZANETTI (2011): "Capital Market Access and Financing of Private Firms," *International Review of Finance*, 11(2), 155–179.

GRATH, A. (2011): *The Handbook of International Trade and Finance: The Complete Guide to Risk Management, International Payments and Currency Management, Bonds and Guarantees, Credit Insurance and Trade Finance*. Great Britain: Kogan Page Publishers.

GREENAWAY, D., A. GUARIGLIA, AND R. KNELLER (2007): "Financial Factors and Exporting Decisions," *Journal of International Economics*, 73(2), 377–395.

GREENHALGH, L., AND Z. ROSENBLATT (1984): "Job Insecurity: Toward Conceptual Clarity," *Academy of Management Review*, 9(3), 438–448.

GUTTMAN, L. (1954): "Some Necessary Conditions for Common-Factor Analysis," *Psychometrika*, 19(2), 149–161.

HALL, G. C., P. J. HUTCHINSON, AND N. MICHAELAS (2004): "Determinants of the Capital Structures of European SMEs," *Journal of Business, Finance & Accounting*, 31(5-6), 711–728.

HALPERN, L., M. KOREN, AND A. SZEIDL (2015): "Imported Inputs and Productivity," *The American Economic Review*, 105(12), 3660–3703.

HECKMAN, J. (1979): "Sample Selection Bias as a Specification Error," *Econometrica*, 47, 153–161.

HECKMAN, J., H. ICHIMURA, J. SMITH, AND P. TODD (1998): "Characterizing Selection Bias Using Experimental Data," *Econometrica*, 66(5), 1017–1098.

HELPMAN, E., AND O. ITSKHOKI (2010): "Labor Market Rigidities, Trade and Unemployment," *The Review of Economic Studies*, 77(3), 1100–1137.

HIJZEN, A., L. MONDAUTO, AND S. SCARPETTA (2017): "The Impact of Employment Protection on Temporary Employment: Evidence From a Regression Discontinuity Design," *Labor Economics*, 46, 64–76.

HIRSCH, S., AND B. LEV (1971): "Sales Stabilization Through Export Diversification," *The Review of Economics and Statistics*, 53(3), 270–277.

HORN, J. L. (1965): "A Rationale and Test for the Number of Factors in Factor Analysis," *Psychometrika*, 30(2), 179–185.

HOVAKIMIAN, A., G. HOVAKIMIAN, AND H. TEHRANIAN (2004): "Determinants of Target Capital Structure: The Case of Dual Debt and Equity Issues," *Journal of Financial Economics*, 71(3), 517–540.

HOVAKIMIAN, A., AND G. LI (2011): "In Search of Conclusive Evidence: How to Test for Adjustment to Target Capital Structure," *Journal of Corporate Finance*, 17(1), 33–44.

HOVAKIMIAN, A., T. OPLER, AND S. TITMAN (2001): "The Debt-Equity Choice," *Journal of Financial and Quantitative Analysis*, 36(1), 1–24.

HUANG, R., AND J. R. RITTER (2009): "Testing Theories of Capital Structure and Estimating the Speed of Adjustment," *Journal of Financial and Quantitative Analysis*, 44(2), 237–271.

HUMMELS, D. L., AND G. SCHAUR (2013): "Time as a Trade Barrier," *The American Economic Review*, 103(7), 2935–2959.

ICC (2015): "Trade Register Report – Global Risks in Trade Finance," pp. 1–92.

JALILVAND, A., AND R. S. HARRIS (1984): "Corporate Behavior in Adjusting to Capital Structure and Dividend Targets: An Econometric Study," *The Journal of Finance*, 39(1), 127–145.

JAVALGI, R. G., D. S. WHITE, AND O. LEE (2000): "Firm Characteristics Influencing Export Propensity: An Empirical Investigation by Industry Type," *Journal of Business Research*, 47(3), 217–228.

JAVORCIK, B. S., AND M. SPATAREANU (2005): "Do Foreign Investors Care About Labor Market Regulations?," *Review of World Economics*, 141(3), 375–403.

JENSEN, M. C. (1986): "Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers," *The American Economic Review*, 76(2), 323–329.

JONES, P. M. (2010): "Trade Credit Insurance," *Primer Series on Insurance, Washington, DC: The World Bank*, 15.

KARAGOZOGLU, N., AND M. LINDELL (1998): "Internationalization of Small and Medium-Sized Technology-Based Firms: An Exploratory Study," *Journal of Small Business Management*, 36(1), 44–59.

KAUFMANN, D., A. KRAAY, AND M. MASTRUZZI (2011): "The Worldwide Governance Indicators: Methodology and Analytical Issues," *Hague Journal on the Rule of Law*, 3(2), 220–246.

KAYHAN, A., AND S. TITMAN (2007): "Firms' Histories and Their Capital Structures," *Journal of Financial Economics*, 83(1), 1–32.

KLEINKNECHT, A., R. M. OOSTENDORP, M. P. PRADHAN, AND C. NAASTEPAD (2006): "Flexible Labor, Firm Performance and the Dutch Job Creation Miracle," *International Review of Applied Economics*, 20(2), 171–187.

KOGUT, B., AND H. SINGH (1988): "The Effect of National Culture on the Choice of Entry Mode," *Journal of International Business Studies*, 19(3), 411–432.

KUCERA, D., AND R. SARNA (2006): "Trade Union Rights, Democracy, and Exports: A Gravity Model Approach," *Review of International Economics*, 14(5), 859–882.

KUZMINA, O. (2013): "Operating Flexibility and Capital Structure: Evidence From a Natural Experiment," *Columbia Business School Working Paper*.

LARCKER, D. F., AND T. O. RUSTICUS (2010): "On the Use of Instrumental Variables in Accounting Research," *Journal of Accounting and Economics*, 49(3), 186–205.

LEARY, M. T., AND M. R. ROBERTS (2005): "Do Firms Rebalance Their Capital Structures?," *The Journal of Finance*, 60(6), 2575–2619.

LEVINSOHN, J., AND A. PETRIN (2003): "Estimating Production Functions Using Inputs to Control for Unobservables," *The Review of Economic Studies*, 70(2), 317–341.

MAES, E., N. DEWAELHEYNS, C. FUSS, AND C. VAN HULLE (2016): "The Impact of Exporting on SME Capital Structure and Debt Maturity Choices," *National Bank of Belgium Working Paper Series*, (311), 1–43.

MANOLOVA, T. S., C. G. BRUSH, L. F. EDELMAN, AND P. G. GREENE (2002): "Internationalization of Small Firms Personal Factors Revisited," *International Small Business Journal*, 20(1), 9–31.

MARKOWITZ, H. (1952): "Portfolio Selection," *The Journal of Finance*, 7(1), 77–91.

MARSH, P. (1982): "The Choice Between Equity and Debt: An Empirical Study," *The Journal of Finance*, 37(1), 121–144.

McMILLAN, D. G., AND O. CAMARA (2012): "Dynamic Capital Structure Adjustment: US MNCs & DCs," *Journal of Multinational Financial Management*, 22(5), 278–301.

MICHAELAS, N., F. CHITTENDEN, AND P. POUTZIOURIS (1999): "Financial Policy and Capital Structure Choice in UK SMEs: Empirical Evidence From Company Panel Data," *Small Business Economics*, 12(2), 113–130.

MODIGLIANI, F., AND M. H. MILLER (1963): "Corporate Income Taxes and the Cost of Capital: A Correction," *The American Economic Review*, 53(3), 433–443.

MOLLY, V., E. LAVEREN, AND M. DELOOF (2010): "Family Business Succession and its Impact on Financial Structure and Performance," *Family Business Review*, 23(2), 131–147.

MORO, A., D. MARESCH, A. FERRANDO, AND G. F. UDELL (2017): "Does Employment Protection Legislation Affect Credit Access? Evidence From Europe," *European Central Bank Working Paper*, (2063), 1–56.

MOROSINI, P., S. SHANE, AND H. SINGH (1998): "National Cultural Distance and Cross-Border Acquisition Performance," *Journal of International Business Studies*, 29(1), 137–158.

MUÛLS, M., AND M. PISU (2009): "Imports and Exports at the Level of the Firm: Evidence from Belgium," *The World Economy*, 32(5), 692–734.

MYERS, S. C. (1977): "Determinants of Corporate Borrowing," *Journal of Financial Economics*, 5(2), 147–175.

NICKELL, S., AND R. LAYARD (1999): "Labor Market Institutions and Economic Performance," *Handbook of Labor Economics*, 3, 3029–3084.

NORDEN, L., AND S. VAN KAMPEN (2013): "Corporate Leverage and the Collateral Channel," *Journal of Banking & Finance*, 37(12), 5062–5072.

OLNEY, W. W. (2013): "A Race to the Bottom? Employment Protection and Foreign Direct Investment," *Journal of International Economics*, 91(2), 191–203.

ONKELINX, J., T. S. MANOLOVA, AND L. F. EDELMAN (2016): "Human Capital and SME Internationalization: Empirical Evidence From Belgium," *International Small Business Journal*, 34(6), 818–837.

ORTIZ-MOLINA, H., AND M. F. PENAS (2008): "Lending to Small Businesses: The Role of Loan Maturity in Addressing Information Problems," *Small Business Economics*, 30(4), 361–383.

OZKAN, A. (2001): "Determinants of Capital Structure and Adjustment to Long-Run Target: Evidence From UK Company Panel Data," *Journal of Business, Finance & Accounting*, 28(1-2), 175–198.

ÖZTEKIN, Ö., AND M. J. FLANNERY (2012): "Institutional Determinants of Capital Structure Adjustment Speeds," *Journal of Financial Economics*, 103(1), 88–112.

PAELEMAN, I., C. FUSS, AND T. R. VANACKER (2013): "The Relationship Between Slack Resources and Firms' Exporting Behavior," *National Bank of Belgium Working Paper Series*, (248), 1–38.

PAELEMAN, I., AND T. VANACKER (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.

PAGÉS-SERRA, C., AND A. MICCO (2008): "The Economic Effects of Employment Protection: Evidence From International Industry-Level Data," *Inter-American Development Bank, Research Department*.

PÄR, H., AND L. N. NAN (2004): "Exports as an Indicator on or Promoter of Successful Swedish Manufacturing Firms in the 1990s," *Review of World Economics*, 140(3), 415–445.

PARAVISINI, D., V. RAPPOPORT, P. SCHNABL, AND D. WOLFENZON (2015): "Dissecting the Effect of Credit Supply on Trade: Evidence From Matched Credit–Export Data," *The Review of Economic Studies*, 82(1), 333–359.

PARK, S. H., J. SUH, AND B. YEUNG (2013): "Do Multinational and Domestic Corporations Differ in Their Leverage Policies?," *Journal of Corporate Finance*, 20, 115–139.

PERES-NETO, P. R., D. A. JACKSON, AND K. M. SOMERS (2005): "How Many Principal Components? Stopping Rules for Determining the Number of Non-

Trivial Axes Revisited," *Computational Statistics & Data Analysis*, 49(4), 974–997.

PETERSEN, M. A. (2009): "Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches," *Review of Financial Studies*, 22(1), 435–480.

RAJAN, R. G., AND L. ZINGALES (1995): "What Do We Know About Capital Structure? Some Evidence From International Data," *The Journal of Finance*, 50(5), 1421–1460.

ROBERTS, M. J., AND J. R. TYBOUT (1997): "The Decision to Export in Colombia: An Empirical Model of Entry With Sunk Costs," *The American Economic Review*, 87(4), 545–564.

ROBSON, P. J., C. K. AKUETTEH, P. WESTHEAD, AND M. WRIGHT (2012): "Exporting Intensity, Human Capital and Business Ownership Experience," *International Small Business Journal*, 30(4), 367–387.

RUGMAN, A. M. (1976): "Risk Reduction by International Diversification," *Journal of International Business Studies*, 7(2), 75–80.

SAINT-PAUL, G. (1997): "Is Labor Rigidity Harming Europe's Competitiveness? The Effect of Job Protection on the Pattern of Trade and Welfare," *European Economic Review*, 41(3), 499–506.

SCHOUBBEN, F., AND C. VAN HULLE (2011): "Stock Listing and Financial Flexibility," *Journal of Business Research*, 64(5), 483–489.

SEKER, M. (2010): "Difficulties in Job Creation and Exporting," *Enterprise Note Series*, (12), 1–4.

——— (2012): "Rigidities in Employment Protection and Exporting," *World Development*, 40(2), 238–250.

SHAPIRO, A. C. (1978): "Financial Structure and Cost of Capital in the Multinational Corporation," *Journal of Financial and Quantitative Analysis*, 13(2), 211–226.

SIMINTZI, E., V. VIG, AND P. VOLPIN (2014): "Labor Protection and Leverage," *Review of Financial Studies*, 28(2), 561–591.

SOGORB-MIRA, F. (2005): "How SME Uniqueness Affects Capital Structure: Evidence From a 1994–1998 Spanish Data Panel," *Small Business Economics*, 25(5), 447–457.

TANG, H. (2012): "Labor Market Institutions, Firm-Specific Skills, and Trade Patterns," *Journal of International Economics*, 87(2), 337–351.

TITMAN, S., AND R. WESSELS (1988): "The Determinants of Capital Structure Choice," *The Journal of Finance*, 43(1), 1–19.

UZAGALIEVA, A., AND J. CUKROWSKI (2006): "Labor Market Flexibility, International Competitiveness and Patterns of Trade," *International Economics*, 59(2), 225–246.

VALVERDE, M., O. TREGASKIS, AND C. BREWSTER (2000): "Labor Flexibility and Firm Performance," *International Advances in Economic Research*, 6(4), 649–661.

VAN DER VEER, K. J. (2015): "The Private Export Credit Insurance Effect on Trade," *Journal of Risk and Insurance*, 82(3), 601–624.

VAN DER WIJST, N., AND R. THURIK (1993): "Determinants of Small Firm Debt Ratios: An Analysis of Retail Panel Data," *Small Business Economics*, 5(1), 55–65.

VAN LANDUYT, Y., N. DEWAELHEYNS, AND C. VAN HULLE (2017): "Employment Protection Legislation and SME Performance," *International Small Business Journal*, 35(3), 306–326.

VANACKER, T., V. COLLEWAERT, AND S. A. ZAHRA (2017): "Slack Resources, Firm Performance, and the Institutional Context: Evidence From Privately Held European Firms," *Strategic Management Journal*, 38(6), 1305–1326.

VERSCHUEREN, I., AND M. DELOOF (2006): "How Does Intragroup Financing Affect Leverage? Belgian Evidence," *Journal of Accounting, Auditing & Finance*, 21(1), 83–108.

WASMER, E. (2006): "General Versus Specific Skills in Labor Markets With Search Frictions and Firing Costs," *The American Economic Review*, 96(3), 811–831.

WESTHEAD, P. (1995): "Exporting and Non-Exporting Small Firms in Great Britain: A Matched Pairs Comparison," *International Journal of Entrepreneurial Behavior & Research*, 1(2), 6–36.

WESTHEAD, P., M. WRIGHT, AND D. UCBASARAN (2001): "The Internationalization of New and Small Firms: A Resource-Based View," *Journal of Business Venturing*, 16(4), 333–358.

WOOLDRIDGE, J. M. (2005): "Simple Solutions to the Initial Conditions Problem in Dynamic, Nonlinear Panel Data Models With Unobserved Heterogeneity," *Journal of Applied Econometrics*, 20(1), 39–54.

WTO (2016): "Trade Finance and SMEs: Bridging the Gaps in Provision," pp. 1–44.

Doctoral dissertations from the Faculty of Economics and Business, see:
http://www.kuleuven.ac.be/doctoraatsverdediging/archief.htm.