FIRM INTERNATIONALIZATION IN CEE COUNTRIES: EXPLORING THE MAIN DETERMINANTS

DOCTORAL THESIS

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FIRM INTERNATIONALIZATION IN CEE COUNTRIES: EXPLORING THE MAIN DETERMINANTS

ABSTRACT

The aim of this thesis is to indentify and estimate the impact of firm-specific variables in export propensity and export performance in small and medium enterpises (SMEs) of Central and Eastern European countries, including within this group also the six Western Balkan countries. Therefore, in total this work studies 17 countries of this region. SMEs constuct the majority of the firms in the region, and they are the backbone of these economies; yet, they are the least represented in international trade. The increase of their internationalizaiton in international trade will contribute to the economic growth and development of the region. However, compared to large firms, they lack resources and capabilities and face many barriers that hinder their internationalization. This work indentifies the importance of SMEs in the studied economies and explores the main factors, such as innovaiton capacity, foreign ownership, networks, imports, and so on in export propensity and export performance.

Previous studies conducted in this region investigate specific countries. On the contrary, this work conducts a compehensive study, focusing on the whole region and uses the latest survey data of Business Environment and Enterprise Performance Survey of World Bank before the COVID-19 pandemic. The data used for the empirical analysis are cross-sectional data of 2003, 2009 and 2019. The empirical analysis uses an OLS, probit and tobit model and the factor analysis. The probit model is used to measure the impact of firm-specific factors on the probability of SMEs to become exporters. The tobit model measures the impact of these factors on the export performance of SMEs that are already operating in foreign markets through exporting. The conclusion derived from the implemented models demonstrate that firm-characteristics such as firm size, foreign ownership, and labor

productivity are significant indicators that increase the probability of a certain SME to become an exporting firm/entity the innovation capacity of SMEs creates competitive advantages for SMEs and makes them more likely to enter foreign markets through exporting or increase their exporting performance. Indicators of labor capital such as average labor cost or industry experience of top managers also have a significant impact on export propensity and export performance. Imports are another form of internationalization, and they create opportunities for SMEs to network and gain knowledge about foreign markets. This increases their probability to become exporting SMEs. Networks and collaborations at national and international level compensate for the lack of resources and capabilities in SMEs and enable them to gather information regarding foreign markets. This reduces uncertainty and increases the probability for an SME to become an exporting firm/entity; it also increases their exporting performance; in case they are already operating in foreign markets. These findings fill the gap and extend the literature in relation to this specific field of CEE countries. They contribute, helping managers and policy makers in realizing on the importance of SME internationalization and identifying the factors that make them more likely to export or increase their exporting performance.

Key words: SME, SME internationalization, exports, CEE countries, probit, tobit

INTERNACIONALIZIMI I FIRMAVE NË VENDET E CEE: PËRCAKTIMI I FAKTORËVE KRYESOR

ABSTRAKT

Qëllimi i këtij punimi është të identifikojë dhe vlerësojë ndikimin e faktorëve të brëndëshëm të firmës në prirjen për eksport dhe performancën e eksporteve në ndërmarrjet e vogla dhe të mesme (NVM) të vendeve të Evropës Qendrore dhe Lindore, duke përfshirë brenda këtij grupi edhe gjashtë vendet e Ballkanit Perëndimor. Në këtë mënyrë ky punim merr në studim 17 vende të këtij rajoni. NVM-të përbëjnë shumicën e firmave në rajon dhe ato janë shtylla kryesore e ekonomive të këtyre vendeve; megjithatë, prania e tyre në tregjet ndëkombëtare është e ulët. Rritja e internacionalizimit të tyre në tregtinë ndërkombëtare do të kontribuojë në rritjen dhe zhvillimin ekonomik të rajonit. Megjithatë, në krahasim me firmat e mëdha, këto ndërmarrje kanë mungesë të resurseve dhe aftësive të cilat bëjnë që të përballen me shumë barriera që pengojnë internacionalizimin e tyre. Ky studim identifikon rëndësinë e NVM-ve në ekonomitë e studiuara dhe zbulon faktorët kryesorë, si kapaciteti inovativ, pronësia e huaj, lidhjet ose networku, importet, etj. në prirjen për eksport dhe performancën në eksporte për firmat që operojnë në tregjet e huaja përmes eksporteve.

Punimet e mëparshme të kryera në këtë rajon studiojnë vende specifike. Ky punim kryen një studim gjithëpërfshirës, duke u fokusuar në të gjithë rajonin dhe duke përdorur të dhënat më të fundit të pyetësorit të Bankës Botërore mbi mjedisin e biznesit dhe performancën e ndërmarrjeve, përpara periudhës së pandemisë COVID-19. Të dhënat e përdorura për analizën empirike janë të dhëna cross-sectional të viteve 2003, 2009 dhe 2019. Analiza empirike përdor një model OLS, probit dhe tobit dhe analizën faktoriale. Modeli probit përdoret për të matur ndikimin e faktorëve të brëndëshëm të firmës në probabilitetin e NVM-ve për të eksportuar. Modeli tobit mat ndikimin e këtyre faktorëve në performancën e eksporteve të NVM-ve që tashmë operojnë në tregjet e huaja përmes eksporteve.

Përfundimet e nxjerra nga modelet empirike të aplikuara tregojnë se karakteristikat e firmës si madhësia e firmës, pronësia e huaj dhe produktiviteti i punës janë tregues domethënës që rrisin probabilitetin e një NVM-je të caktuar për t'u bërë një firmë/entitet eksportues. Kapaciteti inovativ i NVM-ve krijon avantazhe konkurruese për NVM-të dhe i bën ato më të prirura për të hyrë në tregjet e huaja nëpërmjet eksporteve ose për të rritur performancën e tyre eksportuese. Treguesit e kapitalit human, si kostoja mesatare e punës ose përvoja në industri e menaxherëve të nivelit të lartë, gjithashtu kanë një ndikim të rëndësishëm në prirjen për eksport dhe performancën në eksporte. Importet janë një formë tjetër e internacionalizimit, dhe ato krijojnë mundësi që NVM-të të krijojnë network dhe të fitojnë njohuri mbi tregjet e huaja. Kjo rrit mundësinë e tyre për t'u bërë NVM eksportuese. Networku dhe bashkëpunimet në nivel kombëtar dhe ndërkombëtar kompensojnë mungesën e burimeve dhe aftësive në NVM-të dhe u mundësojnë atyre të mbledhin informacion në lidhje me tregjet e huaja. Kjo redukton pasigurinë dhe rrit probabilitetin që një NVM të bëhet një firmë/entitet eksportues; gjithashtu rrit performancën e tyre eksportuese; në rast se këto firma operojnë në tregjet e huaja përmes eksporteve. Këto gjetje mbushin boshllëkun dhe zgjerojnë literaturën në këtë fushë. Ato kontribuojnë, duke ndihmuar menaxherët dhe politikëbërësit për të kuptuar rëndësinë e internacionalizimit të NVM-ve dhe identifikimin e faktorëve që i bëjnë ato më të prirura për të eksportuar ose rritur performancën e tyre eksportuese.

Fjalët kyçe: NMV, internacionalizimi i NVM-ve, exportet, vendet CEE, probit, tobit

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Writing a doctoral thesis is long and difficult journey that requires hard work and persistence. This process can be very challenging but at the same time very rewarding. The process of writing a doctoral thesis is by no means independent work, it requires the support and assistance of many people throughout the journey. Therefore, by completion of this thesis, I would like to thank those that have believed and supported me during these years of writing my doctoral thesis. I would have not been able to progress through this journey without their help.

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DEDICATION

This thesis is dedicated to my family, for their endless love, support and encouragement.

DECLARATION

I hereby declare that this Doctoral thesis, titled “Firm internationalization in CEE countries: exploring the main determinants”, is based on my original work except quotations and citations which have been duly acknowledged. I also declare that this thesis has not been previously or concurrently submitted for the award of any degree, at Epoka University, any other university or institution.

Arjona Çela

Date: January 2023

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABREVIATONS

BAFTA	Baltic Free Trade Area
BEEPS	Business Environment and Enterprise Performance Survey
CEEC	Central and Eastern European Countries
CEFTA	Central European Free Trade Area
CIS	Commonwealth of Independent States
EBRD	European Bank for Reconstruction and Development
EC	European Commission
EFTA	European Free Trade Association
EIB	European Investment Bank
EU	European Union
FDI	Foreign Direct invetments
MNE	Multinational Enterprises
OECD	Organization for Economic Co-operation and Development
PCFA	Principal component factor analysis
R&D	Research and development
SME	Small and Medium Enterprises
WB	World Bank
WBC	Western Balkan Countries

1. INTRODUCTION

This chapter gives the background of the study by providing the motivation why this study is conducted, the research problem, the objectives and the two main research questions. In the end a summary of the chapters is provided, which gives an overview of structurer of the study and information included in each chapter.

1.1 Motivation

"International trade is key engine for growth and welfare" (Abel-Koch, Acevedo, Bruno, Bufalo, Ehmer, Gazaniol, Horwood, Kasmi, Melini, Pérez, & Thornary, 2018). International trade is recognized as an engine for economic growth and poverty reduction. Although there is a discussion among economists about the impact of trade in economic development, there is a consensus among them that trade openness allows countries to benefit from specialization and efficient resource allocation (Zahonogo, 2017). Openness to international trade contributes to increased efficiency in the markets, to increased productivity also enabling firms benefit from foreign knowledge and technology. Therefore, also inspired by these words, the main motivation of this work is to understand the main firm-specific factors that motivate small and medium enterprises (SMEs) in this region to internationalize despite their many difficulties faced. Compared to large firms, SMEs are relatively underrepresented in international trade but they make most of the firms in our economies. Therefore, their involvement in international trade becomes extremely important for our economies.

Internationalization is a very broad and complex term and involves imports, exports, foreign direct investments (FDI), joint venture and other business relationships of SMEs with foreign partners, but this study, we concentrate only in firms' direct and indirect exporting as measures of it, since exporting is the most common mode of entering foreign markets. Therefore, this study explores the main firm-specific factors that motivate SMEs from

Central and Eastern European Countries (CEEs) to export. According to the OECD (2019), SMEs count for 95% of all firms in most of the OECD countries and also almost two-thirds of their total employment. However, their contribution to overall exporting is relatively low, especially when compared to their overall activity, which reaches around 20% to 40%. However, stronger participation of SMEs in foreign markets is extremely important because it accelerates innovation; it increases opportunities for these SMEs to learn and benefit from new technologies coming from abroad**.** Furthermore, it is also expected to increase productivity and lead to the growth of these firms, enabling them to create more employment and economic growth, which, in the long-run, leads to sustainable development.

Studying the factors that lead to the internationalization of a certain firm is very important, especially for the firms of countries in transitional periods and emerging ones. However, firm internationalization for countries in transition, as the CEEs are, is not profoundly explored, although emerging and transition economies play an increasingly important role in the global economy. They differ in social, political and economic context from developed economies. Therefore, transition and emerging countries put to test and challenge some of the main theories that are mainly developed for advanced economies (Xu & Meyer, 2012). Transition and emerging countries are characterized by inefficient markets, high uncertainty and underdeveloped institutions, which imply that the basis, main internationalization theories are constructed, are less appropriate do describe firm's motives and behavior for internationalization.

Internationalization is an opportunity for firms to grow, learn, and explore international markets. Therefore, is also one of the main pillars of firm and economic growth? There is already a large body of literature that highlights the importance of exports in firm productivity as well as the economic growth for many countries (Silaghi, 2009). Exporting firms, according to Hagsten & Kotnik (2017) and Wagner (2007), are more productive compared to non-exporters, and the reason for this is the self-selection mechanism of the most productive firms into international markets; this happens because less productive firms might not be able to bear the costs of expansion. Multiple costs are associated with exporting such as transportation costs, distribution and marketing costs, production costs or the cost of having personnel capable of operating in international markets. These costs create a self-selection mechanism where the most successful and productive firms are the ones that engage in exporting. And the second reason is the learning-by-exporting, which means that

firms that participate in international markets face a high competition and are forced to learn and improve quicker in order to survive. Loecker (2007) by studying a sample of Slovenian firms finds that exporting enterprises become more productive once they have started exporting. Learning by exporting drives productivity through new knowledge and new technologies (Alvarez & Lopez, 2005). Exporting firms are exposed to foreign knowledge and technology and to highly competitive markets, they also become obligated to invest in technologies and innovation, in order to cope with the competition (Sharma, 2017). According to Sharma (2016), firms rely more on foreign technology compared to in-house technology development to support firm productivity and growth. An explanation to this can be the fact that for emerging and transitional country-based firms, the cost of conducting research and development (R&D) is high and exists a lack of support from the public sector. According to Wagner (2007), exporting firms distinguish from non-exporters because they are larger, pay higher-wages and capital intensive. Sharma (2017) results show that exporters are more productive, more innovative, they are large and use their capacity more efficiently. Exporting firms are also more likely to invest in advanced technology to increase their absorptive capacity (Baldwin & Gu, 2003).

Recently, literature that studies the exporting impact on firm performance based on export destinations has been developed. The main reasons behind these researchers are that developed economies offer better learning opportunities and advanced technologies. A study conducted by Damijan, Polanec, & Prasnikar (2004) shows that exporting has a positive effect on firm productivity, but it is required for the firms to be exporting to developed economies. In addition, Fabling & Sanderson (2009) finds that exporting in high income countries leads to stronger impact in firm performance. Exporting in developed economies has also an impact on the future productivity of firms. In a study of Taiwanese electronics industry Aw, Roberts & Winston (2007) conclude that exporting firms have significantly higher productivity and that this productivity is driven by technology transfer from developed economies. This increase in productivity encourages firms to invest in R&D, to be able to absorb foreign technology and knowledge.

There are also studies that find a link between exporting and firm survival. Exporting firms are able to diversify their risk by selling products in different economies that have different business cycles. Exporting orientation of SMEs has been shown to increase the probability

for survival because it increases productivity and competitiveness (Nguyen, Ghatak & Daly, 2006; Wagner, 2014).

Consequently, there is also literature that supports the idea that exporting enhance productivity and performance (Hu & Tan, 2016) . In overall, there is evidence that exporting firms and firms that engage in any other type of international activity are more productive, larger and pay higher wages. Therefore, these firms also contribute positively to economic growth and living standards of their countries. According to Nguyen et al (2006), the potential benefits of exporting are: 1) increase sales and profits thus enhancing chances of survival; 2) reduce dependence on existing markets; 3) stabilize seasonal market fluctuations; 3) utilize excess production capacity; 4) improve productivity 5) enhance domestic competitiveness; 4) extend the sales potential of existing products 5) gain information about foreign competition, etc.

However, the literature regarding firm exporting impact on firm productivity and performance is controversial because there are also studies that find little evidence for the learning-by-exporting hypothesis (Aw, Chung & Roberts, 2000; Foster-Mcgregor et al., 2014; Haidar, 2012). According to Singh (2010), studies that support self-selection hypothesis outnumber studies that support exporting-by-learning hypothesis which provide more evidence of productivity causing exporting than exporting causing productivity growth. Nevertheless, researcher agree on large scale on the positive effect of exporting and other forms of internationalization in firm and economic growth.

This issue is particularly important for CEE countries because they are small open economies and the degree of participation in international markets have been increasing. Consequently, there is an interest in studding the external or environmental and internal or firm characteristics that motivate firms to export or engage in other forms of internationalization. The majority of firms in European Union (EU)-27, in non-financial business sector, around 99.8% are SME and they provide 65% of the employment. Of this total, 93% were micro SMEs. Furthermore, 53% of the total value added produced by the EU27 and 65% of total EU-27 employment was generated by EU-27 SMEs in 2020 (European Commission, 2021). This makes this study mostly concentrate on the internationalization of SMEs in developing countries. In addition, SME are smaller in size and lack resources and capabilities to expand in international markets, but despite this fact, they have managed to internationalize. This

has drawn attention and research studies that analyze factors motivating and facilitating their international expansion have been conducted. The majority of these studies concentrate on advanced economies, but there is a gap regarding firms form transition and emerging countries. To the best of our knowledge, there is no other study that analyzes the impact of firm-level factors in internationalization of firms in such a scale, taking into consideration enterprises from 17 CEE countries. The majority of researches study countries individually, while this work takes into consideration a large number of firms from seventeen countries.

1.2 Research problem

The list of Central and Eastern European Countries included in this study is compliant with the definition of Organization for Economic Co-operation and Development (OECD). According to OECD, CEE is a term used for the group of countries including Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania. To this list of countries for research reason, the five (5) other Western Balkan countries - Serbia, Bosnia and Herzegovina and North Macedonia, Kosovo and Montenegro- have been added. whenever this study uses the term CEE countries, it includes the group of 17 countries. Internationalization mostly has been studied in developed countries, and, recently, there is a growing literature in the emerging countries as well. However, there seems to be a gap in the literature regarding the emerging and transition countries (Thai & Turkina, 2014).

Those countries, which have experienced a transition of the economic system from centrally planned to a market economy are considered transition countries. The process of internationalization is seen as a major dimension for growth and development. In general, CEE countries have small domestic markets. Therefore, internationalization is seen an options to offer larger opportunities for firms in these countries to grow and this might be crucial for them (Jorgji, 2016). In this area of international competition, going international is inevitable for sustainable growth and development.

With increasing international competition, the process of internationalization has become increasingly significant not only for large firms but also for SMEs. Especially SMEs, due to their size and because they are relatively new - as most of them were born after 1990s after the fall of communism regime-, they lack resources and skills which make any form of

internationalization for them difficult. In addition, they also face challenges related to transition countries environment. Nevertheless, these firms represent most of the firms in Europe and their growth is translated into economic growth. Consequently, this makes their internationalization extremely important as internationalization offers a way for sustainable development. Therefore, this makes this research, hence, the exploring the main firm-specific factors that enable internationalization of these SMEs originating form CEE countries very important. Investigation of the determinants factors for expansion in external markets has turned into the main interest of researchers and policy makers, because government are trying to implement export promotion programs to stimulate export and economic growth. According to Kriauciunas, Mockaitis, & Bahl (2010), it is important for government in emerging markets to determine how their firm can be competitive in international markets and support firms in this direction.

1.3 Objectives and aims

CEE countries were considered a "*fascinating research laboratory*" by Meyer & Peng (2005) in their study. Most of the countries of this region nowadays are part of the EU, but there still exist differences between these countries and the developed economies of EU. One of the biggest question that remain still unanswered is whether CEE countries will ever catch up with Western Europe (Ipsmiller & Dikova, 2021)?.

The aim of this study is to see the impact of firm-level variables in internationalization of SMEs in Central and Eastern European Countries or, more specifically, to see the impact of firm-level factors in the propensity and export performance. The goal is to have a better understanding of SME exporting in CEE countries and contribute to the body of literature by filling the gap and extending the literature and on CEE region. It is important to see what are the firm-specific factors that make SMEs exporters, and what is their impact in SME exporting if these firms have already entered foreign markets. This study has identified these factors and their impact and provided policy recommendation. It is crucial that the CEE countries support SMEs' internationalization, because their international activity is correlated with high turnover growth. According to European Commission (2015b), there is a high correlation between being internationally active and reporting high turnover growth for European SMEs. Growth of SMEs will contribute to economic development of the CEE countries.

These objectives are achieved by investigating the literature, identifying the main theories and variables that correspond to these theories and that have been used in empirical literature and by incorporating them in the empirical models relied upon in this thesis. For empirical analysis, the study uses survey data of Business Environment and Enterprise Performance Survey (BEEPS). This survey is a joint initiative of the European Bank for Reconstruction and Development (EBRD) and the World Bank (WB). The data used are cross sectional data from three samples: the samples of 2009, 2013 and 2019. Each of these samples includes firm level data for 17 countries of this region.

The empirical models used are an OLS model, a probit model and a tobit model. The probit model identifies the factors that make SMEs exporters. In other words, the probit model measures the impact of firm specific factors in export propensity or the probability of SMEs to export. The dependent variable of the probit model is a dummy variable the takes values 1 if the firm is an exporter and 0 if not. The tobit model measures the impact of firm-specific factors in export performance. In other words, it investigates whether these factors increase or decrease the export performance of exporting SMES. The type of models is suggested in the literature to be used when the dependent variable has a large amount of zeros, which is true in the studies cases, as many SMEs do not have exports.

Achieving these objectives by using the sample of data and the methodology, are considered as the innovative aspect of this thesis. Therefore, the innovativeness of this thesis is:

- Filling and expanding the literature gap in CEE countries
- Exploring firm specific factors that make SMEs exporters and measuring their impact in export performance of SMEs that have already entered foreign markets by including a spam of three years and the latest data before pandemic.
- Using 3 econometrical models such OLS, probit and tobit to obtain robust results and have a better picture /confirmation of the raised hypotheses.

1.4 Research questions

The two main research questions that are raised in this study are:

- What are the main firm-specific determinants and what is their impact in SMEs' export propensity?
- What are the main firm-specific determinants and what is their impact in SMEs' export performance?

Since internationalization of SMEs consist mostly on importing and exporting, this study concentrates on exporting activity of the SMEs, which include direct and indirect exporting.

1.5 Chapters' summary

There are seven chapters in this thesis. After the introduction, the second chapter gives a general overview of firm internationalization; how does firm internationalization impact firm performance, and what are the risks and benefits of it and more specifically export in CEE countries. The third chapter focuses on the theory foundations and literature review. It starts with a summary of the main theories of the field such as stage theory of internationalization, resource based view, institution-based view theory, network theory, rapidly and early internationalizing firms and eclectic paradigm. This chapter, then, provides literature regarding main firm-specific determinants that are identified. Chapter four is the methodology and provides information regarding the source of the data used, the variables and their measurement and models used. Chapter five provides the results of the models, while chapter six are the conclusion. Chapter seven provides the theoretical contributions and policy recommendations for SMEs.

2. GENERAL OVERVIEW

This chapter provides a general overview regarding firm internationalization concept, it's meaning, complexity and broadness, reasons why firms internationalize, what is the impact of this process in firm performance and what are the internationalization risks for firms. It also provides some insight regarding internationalization of firms in CEE countries and more specifically exporting of SMEs in this region. In addition, it also highlights a gap of literature in this region and the needs for more research that analyzes internationalization of SMEs from CEE countries.

2.1 What is firm internationalization?

Internationalization is a very broad and complex concept and includes a range of activities, such as importing and exporting of products, FDI investment in foreign countries, merges and acquisition, outsourcing, marketing, research and development, etc. (Zander, 2015). Firm internationalization studied from Singla & George (2013) in emerging market context, is captured by two indicators, export and FDI. However, as previously mentioned, internationalization modes are more complex and broader than this. There are various modes of internationalization, such as indirect exports (exporting through an intermediary located in a foreign country), direct exports, outsourcing of manufacturing, service FDI affiliates, or manufacturing FDI affiliates. Firms can engage in one type of these modes or they can use alternated forms (Békés & Muraközy, 2016). What type of foreign market entry modes firm chose to follow depends on many factors. For instance, one of them is the institutional distance between countries. Lack of property rights in some countries might force some firms entering in that market either by arm's length or by fully owing a subsidy in that market, but not by choosing an intermediate type of ownership.

Nowadays, as countries get more economically integrated with each other, the amount of trade and investment between them gets larger. Living in the age of international

competition, it has become increasingly important for firms to adapt to this relatively new environment and expand their operations beyond their place of origin. Therefore, there is an incredible amount of interest in the foreign activities of firms. Recently, this trend of firm internationalization has been also facilitated by factors such as internet, or other sources of technological communication. These factors have changed the way companies do business nowadays. Firms, in order to survive in the increased competition, has searched for ways to expand their operations and profit from this expansion in pursuit of competitive advantages.

Firm internationalization is defined as phenomena and as a process. The definition of internationalization as a process is the traditional way of defining it. According to Johanson & Vahlne, (1977) "*Internationalization is a product of a series of incremental decisions*". This is an early definition of this phenomenon and has its roots in the Uppsala model of internationalization. The most widely used definition of it is the Welch & Luostarinen, (1988) definition, according to which "*internationalization is a strategic process of increasing involvement in international operations*" and it tends to be used commonly to describe the outward activity of firms. While a broader definition of it would include both type of firm activity, outwards and inwards. A broad definition of it is also necessary because of the complexity and diversity of international firm operation.

Exporting for most firms, and especially for SMEs, is seen as the first step towards internationalization, because is less costly and less risky compared to other forms. It is less risky because is straightforward and firms does not have to deal with the complexities of other forms of internationalization. Particularly, indirect exporting or exporting through intermediaries is one form of internationalization that is widely from SMEs because it bares less risks. According to Sousa & Martínez-lópez (2008), exporting is the most frequently used market entry modes as it offers high flexibility to the firm. Cassiman & Golovko (2011) states exporting is particularly important for SMEs, as they look for ways in internationalization that requires relatively low levels of commitment.

In some cases, firms are uncertain of whether to internationalize or not, and this uncertainty is related with the fact that they do not know the environment, regulation and legal requirements of the foreign countries they intend to enter. Therefore, they follow an incremental internationalization by, first, exploring those markets via exporting and deciding, in later stages, whether to invest or not depending on the profitability of the

markets. Conconi & Zanardi (2015) show that in 90 % of the cases in their study, firm internationalization has started via exporting and afterwards proceeded into FDI investment. According to their findings, firms are uncertain of whether they will gain profit in a foreign market and through exporting they find as a way to discover these foreign markets and increase they profit through investment. According to Sousa & Martínez-lópez (2008), exporting is the most frequently used market entry modes as it offers high flexibility to the firms.

2.2 Why do firms internationalize? What are the reasons and benefits of internationalization?

The answer to this question might look evident but over the past century, reasons for firm internationalization have changed. Firms internationalize for various reasons and among them, it can be mentioned exploring economies of scale, market expansion, diversification of risk, competitiveness within the domestic market etc. Early in the beginning, firms used to internationalize for supply of resources for raw materials or inputs. Later on after the World War II their most dominant motive for expanding abroad was market-seeking behavior or the desire to grow large and increase sales volume (Zander, 2015). In the market-seeking behavior, one of the most important drives were firm-specific advantages. Firms that possessed any kind of unique product or service that would give to these firms cost and performance advantages would also give to them confidence to expand abroad. However, later on, instead of internationalizing for motives such as those of gaining from their existing firm-specific advantages started to internationalize to explore new advantages, and this was called assets-seeking investment. Firms started to internationalize in order to gain new advantages, absorb new knowledge, technologies or management and marketing practices, especially the internationalization of firms from developing or emerging countries to developed countries. In general, international expansion, according to Lu & Beamish (2004), offer exploration and exploitation opportunities, diversifies incoming revenues in different countries and increases firm market power.

Through internationalization, firms by reaching new markets also access new knowledge and gain new capabilities. This knowledge and capabilities make them more creative and, in turn, this affects positively their competitiveness. Existing knowledge within a firm reaches a limit at a certain point; firms cannot produce new ideas, and this harms their

competitiveness. Expanding firm activity in different countries and gaining knowledge from different context leads to new ideas and can contribute to technological innovation. Riviere & Bass (2018) see internationalization as a multidimensional phenomenon, which is very complex and measures the effect that have different dimension, such as depth, breadth and speed within the multinational enterprises (MNE) and among them in renewal capabilities of a firms. The renewal capability of a firm is defined as the ability of firm to replace existing products, markets, resources or relationship with new ones. Jiang , Branzei & Xia (2016) argue that although internationalization transactions are very important because they allow firm to increase their capabilities, yet it is crucial to know what form internationalization is followed. In emerging countries context, forms of internationalization such as foreign equity or exports affect the moderating effect of internal and external knowledge on indigenous innovation. Their findings suggest that export orientation of firms strengthen the positive impact that internal knowledge has on indigenous innovation. Therefore, although internationalization in general has a positive impact on increasing capabilities of firms and innovation through knowledge, it is very important for policy makers to identify which of its modes is beneficial for their countries, observing the stages of development and design polices that support it. A firm can learn from exporting into other countries new practices of leadership and management, technology or marketing. However, it is very important also to distinguish the export strategy firms are following, which means what are the motivation behind their exporting behaviors.

The main motivation for firm exporting is increasing growth or increasing revenues from foreign sales and gaining access to new markets. Access to international markets through exporting, according to Lejárraga, Rizzo, Oberhofer, & Stone (2014), stimulates output expansion and diversification. The idea of firm growth through exporting has been studied largely by researchers , and there is evidence that exporting has positive effect on sales and the employment growth of firms (Lu & Beamish, 2006). In addition, exporting brings other benefits to enterprises, such as knowledge about international markets, new technology, managerial expertise, innovation etc.

2.3 Firm internationalization and performance

From a theoretical perspective view, there is a well-defined statement that firm internationalization is associated with higher productivity and firms that explore

international markets reflect higher productivity levels. Internationalization confronts firms with a more competitive environment and forces them to use resources in a more productive way. Internationalization can offer firms new markets for their product and services can help them to get better access to cheap raw materials, skilled labor, new technologies, and capital markets. Internationalization can also provide higher returns to firms because it gives them new possibilities and such possibilities can create higher returns for them. Therefore, many authors suggest that internationalization has a positive impact on firm performance.

According to Chen & Hsu (2010), internationalization plays a significant role in firm' level performance. In their study of the Taiwanese firms, authors suggest that an important factor that has an impact on internationalization is resource allocation. It is very important for firms to increase their investment in value appropriation, which is advertising additionally to value creation or R&D. The positive outcomes due to internationalization are also in accordance with "*learning by exporting hypothesis*", which indicates that firms learn from their clients while conducting exporting and this increases their productivity. Exporting firms, according to Crespi, Criscuolo & Haskel (2008), can learn from their clients. However, the reverse relationship does not happen; past learning is not necessarily associated with more exporting. Nevertheless, past learning from buyers leads to higher productivity and this is how the mechanism works.

Another theory in literature, as Merino (2012) argues, is the *"self-selection"* mechanism. According to this theory, only the most productive firms will internationalize. Firms that internationalize will have to deal with fixed and variable fixed costs associated with internationalization. Capolupo, Amendolagine, Capolupo, Amendolagine, & Serlenga (2017) examined the ordering of productivity distribution of firms that perform modes of internationalization such as FDI, foreign sourcing (outsourced manufacturing + FDI affiliates), exporting and those that were purely domestic. They conclude that performance of firms conducting foreign investment and foreign sourcing are the same while exporters outperform firms that were purely domestic. Merino (2012) also observes productivity differences between domestic, exporters and multinational firms. While the productivity of large exporter is lower than that of multinational firms, small exporter shows similar productivity evolution as domestic firms.

Initially, authors such as Grant (1987) find that a positive linear relationship between internationalization and performance. Later on, the inconclusive results drawn from these studies made researchers think about a non-linear relationship. Capar & Kotabe (2003), Ruigrok & Wagner (2003) proposed a U shape, and Gomes & Ramaswam (1999) an inverted U shape. Further research into this issue brought another approach that proposed the sigmoid or horizontal *S* shape, which explains the above relationships as different stages of firm internationalization process (Lu & Beamish, 2001). In addition to these authors, there are also authors that found no relationship at all for these two indicators. According to the sigmoid shape relationship, companies at initial stages of internationalization, due to its high costs, receive a negative impact in performance. In the initial phase, firms face liabilities of foreignness and liabilities of newness. The liabilities of foreignness and newness are associated with costs that outweigh revenue benefits. In the second stage, because firms get familiar with the international markets, the costs of the liabilities of foreignness and newness decrease and the firms experience positive performance. In the third stage, according to this model, firms become larger as their network of subsidiaries grow. Therefore, they experience rising costs in governance and coordination activities that exceed their benefits. In this stage internationalization has negative impact in performance (Lu & Beamish, 2004).

2.4 Internationalization and risks

Besides its benefits, internationalization can bear risk and costs for firms and this can harm their future. Risks faced by firms that operated in different countries are of different types, starting from risk of trust and miscommunication, which lead to increase in transaction costs, political risk and exchange rate volatility. SMEs face risks such as lack of knowledge about foreign markets, which is associated with uncertainty or different economic environment and legislation, exchange rate volatility, and so on. According to Stremţan, Mihalache & Pioraş (2009), risks of the internationalization process can be divided into two categories: the risks caused by underestimating the costs and the risks arising from uncontrollable international environment. Kubíčková & Toulová (2013) argue that one of the commons causes of failure of SMEs in international markets is the poorly predicted risks of entering foreign markets. Therefore, it is highly important, especially for SMEs, that risk is rightly predicted and evaluated.

SMEs face costs associated with doing business abroad. Firms that enter foreign markets face costs that are not experienced by domestic firms. 'Liabilities of foreignness' is an expression well-known by researchers and which defines the social cost of doing business in host countries. However, there is a confusion between the expressions of "cost of doing business abroad (CDBA)" and "liabilities of foreignness (LOF). The cost of doing business refers to economic and social cost, whether liabilities of foreignness is primarily associated with social costs of doing business abroad. According to Eden & Miller (2004), the LOF is a component of CDBA, but is mostly concerned with the social costs of doing business in the host country. In addition, these type of costs appears to be more important compared to economic costs, since economic costs in general are measurable and become less important with time, but LOF can persist over time. Eden & Miller (2004) argue that LOF is composed of three types of costs: unfamiliarity, discrimination and relational hazards. Costs of unfamiliarity came with the lack of information and experience, while costs of discriminatory hazards happen when foreign firms receive a discriminatory treatment by governments, consumers or the public. Relational hazards, on the other hand, are related to internal and external organization costs.

That is why rapid internationalization is beneficial for firms, due to what they call first mover advantages and asset erosion. Asset erosion means that knowledge can become obsolete, therefore firms that internationalize quickly benefit from it before it depreciates. However, in a rapid internationalization process the quality of management and internal linkage of the firms is essential. Without the internal linkages of the firm, which comes due to good management of capabilities, rapid internationalization might harm the firms because of the difficulty of knowledge sharing between its subsidies. Therefore, internal linkage capabilities can facilitate knowledge spreading and moderate the relationship between internationalization speed and performance. Jain, Celo, & Kumar (2019) also studied the level of internationalization speed in the software industry of India. Internationalization speed is the amount of international activities for a certain period. Exporting, among different forms of internationalization, is considered the least costly. The main costs associated with exporting are transportation costs, distribution and marketing costs. Some of the costs associated with exporting are fixed cost and some of them change depending on the volume exporting.

Table 2.1

Some of the advantages and risks of SME internationalization

Advantages	Risks
• More learning opportunities	• Liabilities of foreignness
• Higher firm productivity	• Liabilities of newness
• Leaning management opportunities	• Different economic environment
• Advanced technologies	• Different legislations
• International expertise	• Inflation risks
• Increased innovation	• Exchange rate volatility
• Brings intangible resources such as global knowledge and expertise.	• The risk of withdrawal of foreign customer from the contract
• International expertise	•
• Organizational learning	•
• Diversified risk	•
• More selling opportunities	•

(Calvelli & Cannavale, 2019; Kubíčková & Toulová, 2013; Marinova, Child, & Marinov, 2015)

2.5 Internationalization in CEE countries

Firm internationalization in transition countries started with the first multinational companies that were founded during the 1990s, which corresponds with the period of the communist regime fall in these countries. Before this period, very few firms were allowed to have activity in foreign markets and the only model of activity in foreign markets was the so called "foreign-trade monopoly", in which exporting was done though a few foreign trade organizations (Ferencikova & Hluskova, 2015). During the 1990, a group of countries in Central and Eastern Europe started to move their economics from a centrally planned economic system toward a free market economy. These countries, together with their economic system, changed their political system. Therefore, they were called transition countries due to their continuous progress towards transforming the economy and political system (Thai & Turkina, 2014, p. 3).

There are three dimensions to these countries' transition: the economic transition, which is the change form planned to free market economy; the democratic transition, which is the change from an authoritarian regime to a democratic political system; and the broader societal transition, which are the changes from a communist society towards a more modern

Western-type of society. These countries have come a long way since the 1990s in their progress to complete the transition process through conducting structural reforms, and the aspiration to join EU has helped them. However, some of them lag behind compared to others. According to Turk (2014), Slovenia lags behind countries such as Slovakia, Poland and the Czech Republic. This happened because Slovenia did not conduct radical reforms in the 1990s, but followed a gradual transition process, and this allowed the old elite to continue to hold power (Adam, 2009). Moreover, besides economic freedom, media freedom, political competition and independent juridical system are very important indicators of a successful transition process. Otherwise, the wealth and power will be distributed only to the single elite. The Southeast Europe and particularly the Western Balkan Countries seems to be the ones that have struggled the most with conducting the economic and structural reforms and are lagging behind in terms of economic development and their integration to EU, compared to other CEE countries (Uvalic, 2012).

Progress towards market economy

After the opening of economies in the 1990s, new private enterprises started to form, and existing state-owned enterprises began to be privatized. Therefore, during this period the dissolution of the large stated owned firms and the emergence of new and restructured SMEs is also seen. The new formed democratic governments lifted the restrictions in international trade and stated to build an institutional system that supported international trade (Ciszewska-Mlinarič, Wójcik & Obłój, 2017). During this period, the governments introduced a set of reforms to facilitate business and trade, and these countries become part of international trade agreements such as European Free Trade Association (EFTA), e Baltic Free Trade Area (BAFTA) and Central European Free Trade Area (CEFTA). The EU played a large role in motivating and supporting trade liberalization in the CEE countries. The aim was to enhance their economic development and prepare for EU membership (Cieślik & Hagemejer, 2014; Śliwiński, 2012). Entering EU in 2004 for countries such as Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, Bulgaria and Romania in 2007 and Croatia in 2013 was a huge motivation for firms of these countries because it offered them the opportunity to sell their products in a large market.

However, firm international exposure changes among countries of CEE due to the different transition path they have followed. Home country institution conditions are an important

factor that shape the firm's foreign expansion strategy and performance (Wu & Chen, 2014). The underdeveloped and constantly changing institutions create an uncertain environment, which makes it very difficult for firms to predict and respond to those changes. This situation is mostly seen in transitional countries, where the macroeconomic and institutional transformations happening during the process of transition have significantly affected firms (Mockaitis, Vaiginiene, & Giedraitis, 2006). According to Stoian, Rialp, Rialp, & Jarvis (2016), Romanian SME internationalization was highly impacted by uncertainty of the demand in the domestic market caused by institutional void, especially in the 1990s. Therefore, the international market, at the time, was seen by firms as a safer secure and more promising option. Lamotte & Colovic (2015) also highlights the importance of institutions in identifying entrepreneurial opportunities, especially with respect to internationalization. They argue that in transition countries less developed institutions creates institutional voids, which are spaces due to inefficient institutions. Institutional ineffectiveness is related to the unavailability of resources, which are critical for survival, and growth in international markets, such as financial resources. Nonetheless, Sekliuckiene (2017) argues that there has been a lot of improvement in the institutional environment for countries that have become member of EU.

The structural changes that happened in the economic and political environment have influenced the organizational structure and behavior, entrepreneurship and internationalization of firms. Entrepreneurship was almost inexistence in the old regime and private ownership was not allowed. Therefore, after the fall of the communism, people needed to adapt to changes fast. The traditional enterprises of the communist system were large industrial complexes. After the fall of the system, these enterprises started to dissolve and new SMEs emerged.

The changes that took place in the economic and political environment also affected the management and structure of existing enterprises, as they were privatized. The privatized firms were the ones that turned faster into multinational companies, compared to the new enterprises. In the face of a new environment and competition not experienced before, the newly privatized firms and new enterprises had to adapt very quickly. For some of these firms this process was successful, and for others not.

Internationalization modes

After companies decide to sell their products in international markets, they have to select an appropriate mode of entering the market. Regarding the form of internationalization followed by firms in CEE countries, exports appears to be the dominant type (Masso & Vahter, 2014). Firms in these countries face different constraints and have limited capabilities, and internationalization is a risky firm strategy, especially considering the costs that are associated with it. Therefore, firms begin expanding via less expensive forms of internationalization that do not bare high risks for them. According to Śliwiński (2012), the primarily form of internationalization chosen by Polish firms is exports through a distributor followed by joint-ventures, setting up sales subsidiaries in foreign countries and building up production facilities. The reason why these companies mostly chose exports as their mode of internationalization is due to low costs and risks, lack of foreign market knowledge, and lack of capital resources to invest in foreign countries. For them, exporting is an easy way that does not bear many costs and risks, even though this way they did not have a direct access to markets.

Stoian et al (2016) argues that domestic and international social and business networks are very important for firm internationalization in CEE countries. They conclude that the Romanian firms, taken as case study in their paper, relay heavily in these networks. Through joint ventures with other firms, they create their business networks, learn about foreign markets and support their international activities when they lack resources and capabilities. These firms are able to exploit business opportunities with business partners they encounter by gaining access to their networks. Therefore, joint ventures are another form of market entry mode followed by these firms. This type of foreign partnership provides greater value for SMEs in transition countries that are trying to expand in international markets because it provides access to relevant knowledge. According to Śliwiński (2012), for the main reasons Polish fast growing enterprises chose join-ventures as their entry mode in international markets are the production facilities and relationship networks of the partner which will enable this firms to expand in international market by eliminating the risk and uncertainties and costs. Another important reason for choosing this type of partnership according to Inkpen (2000) is organizational learning and access to knowledge and technologies of partners. This is particularly important for SMEs from transition countries since they lack knowledge and resources.

Internationalization through foreign direct investment is riskier for firms compared to other entry modes in international markets. It requires higher commitment, more founds and organizational capabilities compared to exporting. This type of international market entry mode is particularly difficult for SMEs originating from CEE countries because they lack the experience and resources need for investing abroad. Svetličič, Jaklič, & Burger (2007) distinguish between two type of barriers faced when investing abroad; internal barriers and external barriers. Internal barriers include financial resources, knowledge, and skilled labor force while external barriers included home and host country barriers.

Host Country selection

According to Thai & Turkina (2014, p. 68), the host country selection is driven by the strength of relationship between the partners and by the amount of risk connected to the market entry choice. In transition countries, SMEs are less likely to follow the Stage model where firms in their initial stage select countries that are similar to their own and later expand to distant markets. These firms are more likely to select countries in a strategic way depending on the relationship with foreign partner and type of market entry modes. In addition to that, SME show different behavior compared to large firms. Therefore, studding them under the umbrella of stage theory is not very useful in understanding the factor that motivate them to internationalize and their behavior. Ferencikova & Hluskova (2015) also find that the IT sector internationalization in Slovakia is explained better with the RBV and INV theory. Stronger relationship with foreign partners generally makes CEE-based SMEs more likely to internationalize in developed countries. Relationships with foreign partners are source of social capital and this social capital helps these firms to overcome liabilities of foreignness. Since emerging countries possess similar characteristics transition countries entry to these markets is less risky for CEE-based SMEs. Therefore, the strong relationships with foreign partners appear to be more necessary and useful when entering developed countries. This shows that the strength of relationship is an important predictor of the country that firms will internationalize. The market entry modes also have an impact in the country choice. Higher-risk entry modes that require more capital participation such as joint ventures, sales subsidiaries or wholly owned manufacturing subsidiary make SMEs from transition countries diversify the risk by internationalizing both in developing and emerging countries.

The importance of internationalization

Internationalization for firms of these countries is an opportunity for growth as their domestic markets are relatively small. In addition, the region has a potential for growth as it shares geographic borders with the large and developed economies in the Europe. This facilitates the internationalization, due to geographical proximity to large European markets. For such countries with small domestic markets, internationalization, especially the expanding of SMEs in international markets, helps them to learn and grow as they experiment in larger and more competitive markets. In addition, it also gives them recognition and credibility in domestic markets. Internationalization, by helping them to expand and grow, contributes to economic development of the countries of origin, since SMEs constitute up to 99% of the European businesses and contribute for the 85 % of the jobs (European Commission, 2015a). The most common destination of EU SMEs is the EU with 81% of their exports followed by the Middle East and North Africa (15%), Eastern Europe, Caucasus and the Balkans (14%), and the USA (13%).

Internationalization of SMEs, considered by European Commission as "*all the activities that put SMEs into a meaningful business relationship with a foreign partner: exports, imports, FDI, international subcontracting and international technical cooperation, which can take place at cross-border level, at transnational level inside the EU or at international level beyond the EU*" are encouraged in all forms as they bring competitive gains and eventually contribute to economic growth of countries and EU as a region (European Commission, 2014). According to Kowalik, Danik, & Francioni (2020) the Central and Eastern Europe deserves more attention and research regarding SMES internationalization. His research on Polish SMEs indicates that among polish exporting firm 92 percent of the are SMEs which means they are succeeding in international markets. SMEs in Europe constitute the majority of firms operating in the market and are an important driver of the economic growth. Through internationalization, they are searching more opportunities to survive and grow. However, they also face multiple challenges. These challenges are related to the external environment they operate in their home countries, challenges they face in host country, as well as internal challenges related to management difficulties and scarcity of qualified labor force., Despite of these challenges, they have managed to internationalize and some of them very early and rapidly, since they possess various advantages mentioned above, such as flexibility, adaptability and networking. This internationalization has given them the

opportunity to grow, and, through growing, they are contributing to the economic growth and development of their countries. As mentioned earlier, they contribute to European economy by providing 85% of the new jobs, which represent a highly significant contribution.

2.6 Literature gap in CEE countries

The region of CEE countries was considered a "*fascinating research laboratory*" from Meyer & Peng (2005) and a region where scholars can test the predicting power of existing theories. Nowadays, many of the countries of this region are part of EU, except for the WBC. However, many questions remain unanswered, including; will the CEE countries catch-up with the Western Europe or not? Will these countries guarantee the same standard of living or economic development as Western Europe? Will they guarantee institutional development and human rights as Western Europe? Will their SMEs internationalize with the same rate and move these countries towards a sustainable development? Will some of these countries ever be part of EU and fuel their sustainable economic development by supporting the SMEs as Western Europe (Ipsmiller & Dikova, 2021). Therefore, focusing on the internationalization of SMEs in the CEE countries will make a considerable contribution to the body of research for this region, and this topic will also provide new insight into the challenges and the opportunities of SMEs internationalization.

The existence of differences in the institutional context between CEE economies and emerging and developed countries create difference in the internationalization patterns of firms (Ciszewska-Mlinarič, Wójcik & Obłój, 2019; Cuervo-Cazurra, 2012). Therefore, conducting studies in this region can reveal hidden characteristics of internationalization of firms and put to test existing theories in this field. According to Caputo et al (2016), the topic of firm internationalization in the CEE countries appears to be under-researched compared to developed economies and emerging countries literature. Cieślik, Michałek, Michałek, & Mycielski (2015) also highlights that there is not enough research on firm-level evidence on export performance for CEE countries. In a study that provide a comparison of two groups of countries, the Baltics and Central Europe the author find no distinguishable differences between the two groups when investigating determinants of firm export performance. Lately, the majority of the studies in the area belong to Asian countries, such as China, India or Latin

America. However, the increased research in emerging countries do not account for transition countries of CEE because of the differences in their phase of economic development as well as institutional context. Institutional context has an impact on entrepreneurship behavior and entrepreneurship behavior is one of the main factors that leads these firm to internationalize (Manolova, Eunni, & Gyoshev, 2008).

Literature for the CEE countries has started to grow only recently (Nowiński & Rialp, 2013). However, most of this literature studies internationalization of firms for one specific country. Countries such as Poland, Slovenia, Hungary, Estonia and Czech Republic are the most-commonly researched (Ipsmiller & Dikova, 2021).Yet, other countries of the region remain under-researched. In addition, these studies are also very specific, as they concentrate only in one industry. Therefore, there is lack of more comprehensive studies that include all countries and analyze the whole region. This study provides an analysis of the whole region.

Adding research for firm internationalization in the context of these countries helps in better understanding foreign expansion of firms' form transition countries. For instance, Nowiński & Rialp (2013) find that INV from CEE transition economies in the beginning of their internationalization rely more in domestic networks compared to international networks as is the case for developed economies. INV from these countries lack financial resources, international business experience and international social capital. However, they try to compensate for these resources by using less costly alternatives, such as internet and domestic ties. Despite the many constraints that SMEs face in these countries, some of them have managed to internationalize very early and rapidly. In spite of the of the resource scarcity they face, they are highly competitive. They derive competitive advantages from their unique resource and organization capabilities, which are gained due to their knowledge-intensive products or services (Nowiński & Rialp, 2013).

Table 2.2

Difficulties and advantages of SMEs in CEE countries.

Difficulties	Advantages
• long tradition of planned economy • lack of financial resources • lack of international business experience • lack of international social capital • weak institutional support • insufficient innovation capacity • insufficient relevant information and knowledge	• Flexibility • Adaptability • Networking • Low cost capabilities • Management attitudes and experience • Tactic knowledge

(Hoskisson, Eden, Lau, & Wright, 2000; Meyer & Peng, 2005; Uhlenbruck, Meyer, & Hitt, 2003)

2.7 SME exporting in CEE countries

Exports are considered as the first step for firms to enter foreign markets and is the most used for of internationalization by SMEs. SMEs generally tend to enter foreign markets by exporting products and services. This first step serves firms to seek markets in order to, later on, exploit other advantages such alternative resources, low labor costs etc. Exporting also allows firms to reach economics of scale (Elango, 1998). Firms reach economies of scales due to increased revenues as more and more services and products are being sold in foreign markets. For transition and emerging economies, which compared to developed countries, offer less favorable condition for firms to grow and expand in home countries, exporting is seen as a way to escape from constraints they are exposed in home country. Wang & Ma (2018) identify two types of behavior of firms, "*expansion-oriented exporters"* and "*escape-oriented exporters"*. Expansion oriented exporters are those firms whose main motivation for exporting is to grow, and which utilize their firm-specific advantages to expand outside their country of origin. In this way, these firms intend to increase their export intensity, enhance their scale and grow larger. These types of firms generally operate in developing countries and exhibit large-scale specific advantages that allow to create profit from these advantages also in foreign countries. While escape-oriented exporter are those firms, whose main motivation for exporting is to escape the environment of their home countries, because

they do not have those firm-specific advantages and are not able to survive in their home country environment, so they search for other environment to continue their activity. The second type of firms have fewer characteristics that give firms competitive advantages and generally, their home country environment has an unstable, unclear, changing institutional environment. Generally, these type of firms operate in emerging or transition countries, and it is well-know that transition and emerging countries do not have very reliable institutions that enhance and facilitate operation of these firms. They do not have the necessary competences to competitive their rivals in their home country. Therefore, they chose to escape their unfavorable domestic institutional environment and search for oversea market, which offer better chances of survival. In addition, these type of firms can also export more, compared to expansion-oriented firms, because expansion oriented firms do not rely only on export. It is important to distinguish between these two types of firm behaviors in order to identify the determinants of export sales.

Elements such as changing institutional environment, political instability, underdeveloped capital market constraint the ability of firms to grow and succeed in transition countries. Exports can help firms to access bigger markets; diversify revenues, to benefit from economies of scales and to bring home new learning and technologies (Krammer, Strange & Lashitew, 2018). besides stimulating learning in firms, exports also enable firms to select what type of external information or knowledge is appropriate for them. By reaching different markets, firms learn multiple ways of doing something; they are able to access large amount of information and to process it by using different combinations.

According to Cernat, Jakubiak, & Preillon (2021) report on EU SMEs, the number of EU exporting SMEs has grown over time. They report that in 2017, more than 700,000 EU27 enterprises sold goods outside of the EU. From these enterprises, around 615,000 were SMEs. The export value of these SMEs was worth 476 billion euro, which represented 28% of the total value of extra-EU exports or exports outside the territory of EU in that year. In addition, according to this report in many economic sectors such as furniture, textiles, printing and media, agricultural products, wood products, EU SMEs contribute for more than 50% of the total value of EU exports. More than half of the EU27 SMEs exports came from SMEs of the four member states: France, Italy, Spain and Germany. For other smaller member states such as Estonia, Cyprus, Latvia, Hungary, and Portugal, SMEs generate a share of their total export that is above the 28% EU average.

Being part of a trade such as the Euro, definitely, has a positive impact on internationalization, since there are less trade regulation and more opportunities for SMEs from countries that are members of the trade union. Baldwin & Di Nino (2006) finds that being part of the Euro has a positive effect on trade and the magnitude of this impact is between 5% to 10%. In addition to the eliminated trade costs, being part of one currency such as Euro contributes also to eliminating exchange rate volatility. In another study, Baldwin, & Di Nino (2005) find that being part of Euro not only increases trade but also stimulates the export of new products, being member of EU provides many facilities in terms of trade, even for countries that are not part of one currency. According to Abel-Koch et al., (2018), being part of the European Single Market offers several opportunities for SMEs, since it allows the free movement of goods and relatively to a smaller extend services and capital. According to European Commission (2014) more than 50% of SMEs that invest in foreign markets or in international subcontracting experienced an increase in their turnover. In addition, SMEs that engage in international activities reported higher employment growth, exporters' employment growth reported as 7% and non-exporters' 3%, importers' employment growth reported as 8% compared to non-importers' of 2%, for SMEs that both import and export the employment growth reported as 10% compared to other SMEs and for SMEs that conducted FDI the employment growth was 16% compared to others. This indicates the importance and benefits of doing business abroad for SMEs.

3. THEORY FOUNDATIONS AND LITERATURE REVIEW

Chapter of theory foundations and literature review starts with summary of the main theories that seek to explain firm internationalization. The summary of theories provides a comparison of the main theories, by highlighting the differences and the similarities between them. The chapter continuous by explaining these theories individually and by giving more details and information regarding each of them.

3.1 Summary of theories

There are several theories that seek to explain how firms export and internationalize. Uppsala theory of increasing international commitment (Johanson & Vahlne, 1977) is the earliest theory to explain the internationalization process of "small" firms from relatively small open economies of Scandinavian countries compared to US, Britain and Japan. This theory was developed approximately at the same time as the theories of multinational enterprises (MNE) (Buckley & Casson, 1976). The international theory of MNE seeks to explain the internationalization of MNEs concentrating in their international activity in the form of FDI. Compared to MNEs, SMEs seek to get involved in international activity through exporting and other non-equity modes, due to the low costs associated with them. This does not necessarily mean that MNEs do not value trade but they rely on their competitive advantages while SME gain advantages through flexibility, adaptability or innovation (Gassmann & Keupp, 2007; Nakos & Brouthers, 2002). Uppsala theory of internationalization explained it as a process in which firms start their international activity with low commitment in the geographically close markets and, as their knowledge about foreign markets increases, they advance in more physically distant market and engage in sophisticated modes. This theory has been updated several times by its authors, after its first publication in 1977. In another publication Johanson&Vahlne (1990) explain the mechanism of internationalization theory and the importance of experiential knowledge in this process. The engagement in a specific

market is according to an establishment chain. In the beginning, enterprises start with sporadic exporting, later with sales subsidiaries and manufacturing units established in that market. Later this model is revised again in a publication of Johanson & Vahlne (2009, 2011) and Hadley & Wilson (2003) in which markets are seen as networks of relationship.

With the development in the business environment, due to advances in technology that facilitated activity in the international markets, the process of internationalization, as an increasing incremental commitment has decreased for the same firms. Small and medium firms, despite their size and many other obstacles, have managed to internationalize very shortly, after their inception and very rapidly. This has brought to light new theories that try to explain the behavior of these enterprises. Oviatt (1994), in his study, explains how the stages of the Uppsala theory are unable to explain the internationalization of these firms, due to development in technology and changes in capabilities of firms. He identified the increasing number of international new ventures (INV) in international markets and defined them as "*as a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries*". Rennie (1993) introduces another term for firms that internationalized very early, the "born global" (BG). Born global firms are also start-ups that internationalize very early after their inception. There is no accepted definition regarding these type of firms among researchers. However, some studies, such as Knight, 1997; Cavusgil & Knight, 2015; Choquette, Rask, Sala, & Schröder, 2017; Clavel San Emeterio, Juaneda-Ayensa, & Fernández-Ortiz, 2020; Nummela, Saarenketo, Jokela, & Loane, 2014) use the threshold of 25% of sales generated from exporting within three years after inception. Yet this definition does not take into account the number of countries these firms have entered. Literature in this respect is very fragmented, especially empirical literature no commonly accepted definition of BG and INV is found (Madsen, 2013). A common definition used by Ciszewska-Mlinarič et al. (2019) for both NV and BG is "rapidly internationalizing ventures" (RIV), that is, enterprises that internationalize early and rapidly.

With the increased number of RIVs and the need to explain their expansion in international markets, but also due to the fact that these markets are more integrated with each other, researchers started to pay more attention to network theory. In the 1990s, researchers such as Welch, Welch, Young, & Wilkinson (1998) started to analyze the effect of networks and alliances in firms' international expansion. However, during 2000s more research were

conducted in this area (Knight & Liesch, 2015). The Uppsala theory was updated by including networking. Internationalization, according to network theory, is considered as a network phenomenon. Networking enables firms to gain knowledge about foreign markets and explore new opportunities. Firms face liabilities of foreign, newness and smallness use these networks to make up for their missing resources, capabilities and knowledge to expand in international markets. In this way, networks and relationships become a valuable resource that help them gain competitive advantages.

The theory of resource-based view (RBV) is used in studying firm internationalization, by looking from a perspective of resources those firms own. This theory highlights that ownership of unique, inimitable or irreplaceable resources enable enterprises to create competitive advantages. These resources, in general terms, can be classified into tangible and intangible resources. In particular, intangible resources are the most important in creating competitive advantages to expand in international markets. These type of resources do not deteriorate with use and can be beneficial for long periods. Rua (2018) studies their impact in export performance and based on Morgan, Vorhies, & Schlegelmilch (2006) identifies six types, which are reputational resources, financial resources, human resources, cultural resources, relational resources and informational resources. Therefore, this theory in business international expansion emphasizes having and using resource that create competitive advantages or differences and give these firms the confidence to expand abroad.

Institution- based view theory emphasizes the role of formal and informal institutions in shaping firm's behavior and performance. Where the formal institutions are considered rules, laws and regulation, while informal institutions are culture, norms and values (North, 1990). They are the rules of the game in a society and, according to institution based view theory, they are the reason for creation of competitive advantage. Garrido, Gomez, Maicas, & Orcos (2014) state that this theory has its roots in institutional economics and sociological institutional theory and seek to explain competitive advantage based on institutional framework differences. This theory came as response to theories such as RBV, highlighting their negligence of external environment in firm behavior and performance. Recently, there is an increase of usage of institution –based view theory in international business literature, especially in emerging and transition economies (Peng, 2002). Emerging and transition economies are characterized by a different institutional framework compared to developed economies and this has inspired new studies.

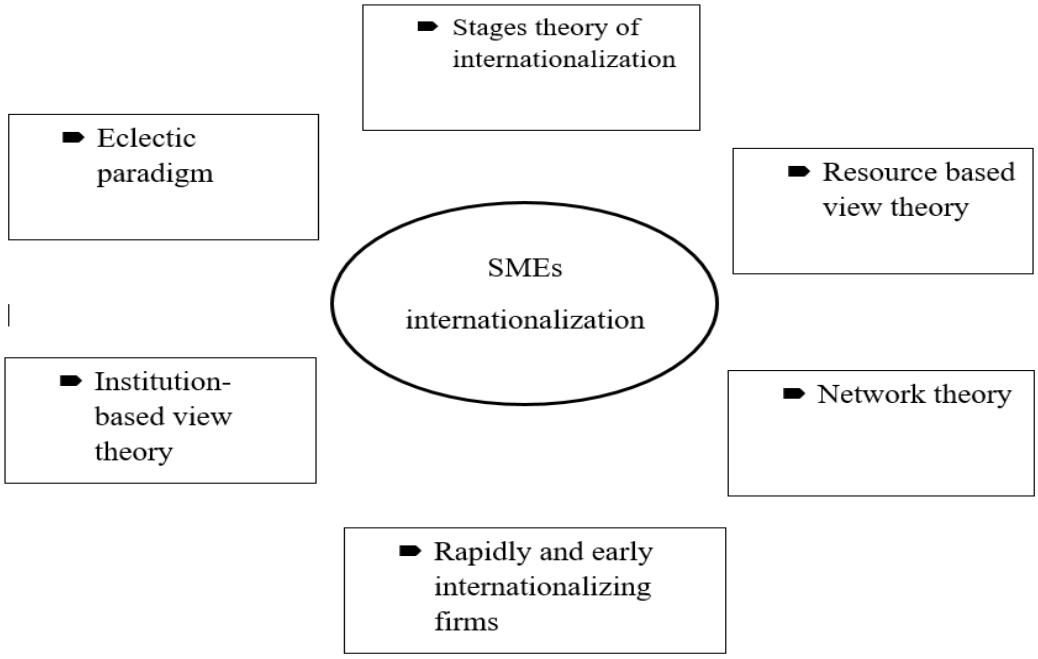

Figure 3.1 Theoretical framework

Table 3.1

A critical analysis of the main theories.

Name of the theory	Sources of firm internationalization	Theory advantages	Theory drawbacks
Stages theory of internationalization	The main idea of this theory is that firms follow an incremental internationalization process. In this theory, firms start small and increase their activity as they learn more about foreign markets through their activities. Therefore, the source of internationalization according to this theory is experience and learning and increasing international	This theory place in the main position international experience and learning ability. These are two main important factors which explain many firms' internationalization process and their sustainability in the foreign markets.	This theory has been questioned regarding its ability to explain the internationalization process since many young firms have entered foreign markets very shortly after their inception and have expanded very rapidly by skipping the stages described in this theory. Another drawback of this theory is ignoring how firms start their internationalization and focusing mostly

	activity step by step.		in the process when it has already started. This theory also does not take into consideration the advances in information and communication technologies in today's way of doing business. This theory is the oldest, the most cited in the literature and the most criticized.
Resource based view	According to this theory firms internationalize if the possess a bundle of unique tangible and intangible resources that make them confident enough to take steps of entering foreign markets. These tangible and intangible resources create competitive advantages and firms can benefit from these advantages in international markets.	Resource based view theory highlights the importance of internal resources of firms. Therefore, is a useful theoretical framework that explains the internationalization of SMEs and their specific resources that create competitive advantages, which leads them to explore international markets.	Many SMEs do not have the resources or capabilities compared to large firms. Therefore, they are restricted in terms of unique tangible or intangible resources they possess. Despite this fact more and more SMEs have been exploring international markets nowadays.

Institution-based view theory	According to this theory firms' behavior is shaped by home and host countries' formal and informal institutions. Therefore, firms take their strategic decisions in the context of these institutions.	This theory main advantage is considering the impact of formal and informal institutions of origin and host countries, that are ignored by other theories such as RBV or Uppsala theory of incremental internationalization	This theory main disadvantage is its explanatory power of firms' internationalization. Formal and informal institutions are important, however SMEs of developing and emerging countries have shown early and rapid internationalization despite many the non-favorable institution framework.
Network theory	According to this theory, the main source of internationalization is networking. By using networks firms can gain information about international markets, opportunities that exist in these markets. Through networks firms can overcome their lack of resources. Indeed, firms operate in markets and industries that are interconnected to each other and this why they can only be studied as part of these networks.	Network theory emphasizes the role of relationship and networks and gives a more dynamic view. This theory aims to explain the missing points of other theories such as Stages theory and RBV. SMEs are the firms that tend to used networks to identify opportunities in foreign markets. These firms might lack resources but they use their networks to overcome this.	The main drawback of this theory can be considered the neglecting of same main internal and external factors that are essential as motivator of firm internationalization. Despite the information taken and opportunities learned using networks there are important internal factors that should been taken into consideration when studying firm internationalization.

3.2 Firm internationalization theories

3.2.1 Stages theory of internationalization

The internationalization process theory has its roots in the Scandinavian school of research in this field, with some of the most cited works from author such as (Johanson & Vahlne, 2018, 1990, 2009, 2011). These two authors, Johanson and Vahlne (1977), developed the Uppsala theory. According to this model, the process of internationalization of firms is an incremental process. In this model, firms tend to increase their internationalization and their commitment towards foreign markets as their experience increases. The international process prescribed by this theory starts with small steps. In the beginning, firms chose markets that are near in physical distance, which is in line with Gravity model. This theory includes two main stages of internationalization: First is the enterprises' selection of new overseas destinations for expansions based on their physical proximity to the host country and, later, firms expand farther to markets that are more distant once they gain experience in each host country. Therefore, according to this theory, firms start their international activity by a low commitment in the markets that are physically close and increase their activity gradually. Uppsala theory of firm internationalization was developed by observing the Swedish firms' internationalization, and these firms were located in small open economies but this theory was theorizing for large MNEs. In addition, also the external environment firms are operating nowadays are different, when to the period this theory was first born. With facilities such as internet or other information technology advantages, this incremental process has developed and shortened. Therefore, later on changes and updates of this theory occurred. (Johanson & Vahlne, 2009) revised this theory by including also networks of relationship. This theory afterwards was challenged by the internationalization process of those that were called by literature in this area "*born globals*", that are firms which have expanded internationally not long after their founding. The pattern of internationalization of these firms was not in accordance with the Uppsala model of internationalization (Knight & Liesch, 2015).

3.2.2 Resource based view theory

Resource based view theory predicts that the success of a firm in foreign markets depends on its ability to develop distinguishing characteristics compared to other firms. According to

this theory, a firm's tangible and intangible resources create competitive advantages for it (Hoskisson et al., 1999). Resource based view theory highlights that the competitive advantages a firm has, can generate profit above normal (Barney, 2001). Resource based view theory has its roots in strategic management (Hoskisson et al., 1999), specifically in the work of Barney (1991). In his view, firm resources include "*all assets capabilities, organizational processes, firm attributes, information, knowledge*" that a firm owns. A firm need to have sustainable competitive advantages, which is associated with resources that are valuable, rare, inimitable or irreplaceable. Resources that are distinctive compared to other firms create the sustainable competitive advantage for firms. Researchers using this theory to explain firm internationalization stress that firm requires unique resources that give them competitive advantages to internationalize and during the process of internationalization, they seek for more unique resources.

Westhead, Wright, & Ucbasaran (1997) studied SME internationalization from the perspective of RBV theory and confirm that enterprises with more resources, contact networks and managerial know-how are more likely to become exporters. Yaprak, Yosun, & Cetindamar (2018) based on Institutional based view theory identify that firm-specific advantages (FSA) and country-specific advantages (CSA) form an institutional context as the main factors driving firm to expand abroad. Firm-specific advantages are defined as tangible or intangible assets, which might be proprietary technology or knowledge that allow firms to gain special benefits due to this unique products or services. While country specific advantages are defined as advantages specific to their home country, which represents economic and institutional environment. Ferencikova & Hluskova (2015) classifies these resources into three categories: physical, intangible and financial resources. On the other hand, according to Bakar & Ahmad (2010) firm resources can be classified as physical, reputational, organizational, financial, human intellectual and technological. Both tangible and intangible resources that firms possess can be converted into valuable assets.

The intangible resources are considered the most easily converted to strategic assets because they are very rare and difficult to imitate especially in the short run. Therefore, the intangible resources are considered as the ones that have the most significant impact on a firm's success in internationalization. Therefore, there is an increasing number of studies that focus on intangible assets impact on enterprises success (Monteiro, Soares, & Rua, 2019).

3.2.3 Institution-based view theory

This theory places in its center the role of informal and formal institutions in shaping the behavior of internationalizing firms. This theory, coming from economics literature, explains that institutions of home country and host country are responsible for firm behavior in international market. The institutional based theory states that firms are shaped or influenced by their home-country institutions as well as host- country institutions. These institution shape the behavior of these firms (Peng, Wang, & Jiang, 2008). According to this theory, previous theories, such as resource-based view theory, although very insightful, neglect formal and informal institutions. Institutions, according to (Geoffrey M. Hodgson, 2006) are structure and activities that structure social interaction. As Peng et al. (2008) argues, although industry and resources-based view value "environment" as an influence, they focus mostly on a "*market-based*" institutional framework. However, this kind of approach is insufficient to gain insight, especially in emerging and transition countries. Institution- based view theory treats institution as a factor influencing strategic choices, which, according to this theory, are not driven only by firm or industry -specific characteristics. This theory explains how institution framework can help firms create competitive advantages. Theories of organizational economics such as transaction cost theory and agency theory or resource based-view theory according to (Meyer & Peng, 2005) might not have the same predictive power in transition countries, due to the fact that these theories are designed in the context of developed economies.

However, the uncertainty, volatility and complexity of the environment in emerging and transition countries challenges the explanatory power of these theories and reveals hidden characteristics or assumptions. These countries offer a place to experiment and test these theories. Among all emerging countries, CEE represent an interesting environment to test these theories due to their transition from centrally planned to market economy.

For instance, the exporting behavior of firms is influenced by the institutional environment of home country. If institutional environment changes, the firm export strategy changes. This is very important, especially for emerging and transition countries which are experiencing a changing institutional environment. Even improvements in the institution environment can lead to changes in firm export strategy. According to Scott (1995, p33) institutions are "cognitive, normative and regulative structures and activities that provide stability and

meaning to social behavior". All these three elements are important for firm internationalization and cognitive, normative and regulative institutional distance between countries have an effect in liabilities of foreign. Liabilities of foreign will affect the ownership structure companies chose to enter the foreign market.

3.2.4 Network theory

According to Calabrese & Manello (2018), there are four approaches in literature that analyzes firm's internationalization, stage approach, network approach and international entrepreneurship approach. Firm's network is important because it help firms gain knowledge about foreign markets. Knowledge about foreign markets is one of the main drivers of firm internationalization. Types of networks studied in literature are personal and ethic ties (social networks), buyer-supplier linkage (supply chain), geographical proximity (industrial districts), and organizational integration (joint ventures and alliances*).* Especially for early and rapidly internationalizing firms which lack resources necessary in the expansion and growth after entering foreign markets, networks are sources to gain new resources as a substitute for their lack of resources (Bembom & Schwens, 2018). Networks, during the period of pre-internationalization enable firms to financially found their entry into foreign markets. Networks also provide knowledge about international markets. Early internationalizing firms lack knowledge on foreign markets and obtaining this knowledge through market research is also costly. Therefore, these firms rely on their networks to gain knowledge and information but also to search and identify opportunities. According to Musteen, Francis, & Datta (2010), small and medium firms rely more on networks compared to multinational companies, during their process of internationalization. For instance, early internationalization can have its benefits for small and medium firms, such as fast adaptation and development of organizational skills but also risks for young firms that have not yet developed their capabilities. Therefore, it is very difficult for these type of firms to overcome liabilities of newness and smallness without networks and relationships that help (Phillips McDougall, Shane, & Oviatt, 1994). While in literature the network theory is used to explain the internationalization of "born global" or new ventures, this theory is also used by Uppsala school. Johanson & Vahlne (2009) review their theory of gradualist internationalization model by adding networks. Markets, according to them, are networks of relationship where firms are linked together. According to Clavel San Emeterio et al. (2020) "born global" and traditional Uppsala theory are not in opposition with each other but complimentary.

Networks are as much important for the "born global" model as they are for Uppsala model of firm internationalization.

The main idea of this theory is that companies' internationalization is not only a result of their own efforts but also their environment, which means that their relationship and networks have considerable impact in the success of internationalization. They can learn about foreign markets, costumers, needs and resources through their interactions with clients, national or international competitors. Through networks not only, can they learn market-specific knowledge but also general information (Wu, Lu, Zhou, Chen, & Xu, 2016).

3.2.5 Rapidly and early internationalizing firms

Firm internationalization earliness is a concept that came to existence when a large number of firms started to internationalize very early and rapidly after their inception. According to Zhou & Wu (2014), learning advantages of newness (LAN) are among the most investigated reasons why firms are successful at internationalizing early. Young firms are less constrained by their past and more likely to learn fasters. The concept of firm internationalization earliness has to do with how early firms make their first move in international market from the time they have been founded. This concept also changes from speed of internationalization, which has more to do with how rapidly firms are increasing their foreign activities. According to Autio, Sapienza, & Almeida (2000), researchers have to distinguish between the concepts of earliness which is the "$time\ lag = t_{first\ international\ sales} - t_{founding}$ " and speed which means how rapidly firms are increasing their international sales once they have made their first entry in the international markets.

Earliness is a factor that the very same researchers believe to have a positive impact on increasing international commitment, once the firm has made it first move to international market, due to what the researcher call first-mover advantages. Moving early and rapidly in international markets enable these firms to create or obtain resources that are difficult for firms coming later to imitate (Mohr & Batsakis, 2017). However, firm internationalization earliness might also have a negative effect on the international performance of firms. In the early internationalizing firms the lack of resources, since in general these firms tend to be small in size, makes it difficult for them to overcome their liabilities of newness, smallness

and foreignness (Jiang, Kotabe, Zhang, Hao, Paul, & Wang, 2020).This will it make very difficult for them to survive and grow. Sapienza, Autio, George, & Zahra (2006) argue that early internationalization might decrease the survival probabilities of firms and, therefore, in this case, it poses a threat these young firms. The main argument behind this is that internationalization is a process that requires investment and a lot of resources. Therefore, it will drain many resources and make the firms' survival difficult, especially their managerial resources. However, on contrast early internationalization can increase firm growth, because it pushes them to new environments and exposes them to risk and uncertainties; this leads these firm to learn to adapt faster and have the organizational flexibility to pursue opportunities for growth.

The born global firms and new ventures (NV) are considered to be small and medium firms that internationalize right after their inception or near it. These firms have challenged the traditional stage theory of internationalization in which firms internationalize following the same stages. This new approach defines a set of companies that do not follow the conventional models of internationalization, such as the Uppsala model, but follow a global strategy (Braunerhjelm & Halldin, 2019). Ciszewska-Mlinarič et al. (2019) mention a definition that includes both the BG and NV, called rapidly internationalizing ventures (RIV) which is a broader definition referring to firms that have an early and rapid internationalization. In literature there is no accepted definition about what can be considered "born globals". However, different authors such as Choquette et al. (2017), Nummela et al.(2014) and Servais, Madsen, & Rasmussen (2010) use the threshold of 25 percent of export ratio within the first three years after inception. In other words, if the firm's 25 percent of total sales within three years after inception are exports, then the firm is considered a born global. The existence of several definitions on born global firms hints that there is no consensus in literature about what can be called a "born global". the new ventures are considered to be start-up firms that follow a slower internationalization process compared to BG. There are some reasons that make these firms follow a global strategy. Braunerhjelm & Halldin (2019) mention, among them, advances in technology facilitating production and transportation, increased specialization fostering niche markets, advanced in communication technology, the flexibility and adaptability of small and medium firms and liberalization of trade in general.

3.2.6 Eclectic paradigm

This theory was established by Dunning (1977) and is differently known as the OLI paradigm. OLI stands for ownership (O), location (L) and internationalization (I), which represent the three sub-paradigms that explain firm internationalization. The first sub-paradigm ownership indicates firm's competitive advantage of owning tangible assets such as machinery, technology or intangible assets such as brand name, managerial capabilities. Therefore, the greater their competitive advantages to other firms in this aspect, especially compared to the firms of host country, the more likely are firms to increases foreign production. Location advantage indicates the characteristics of host country location, such as natural resources, economic stability, political stability, government benefits for foreign investors and so on. Therefore, the more these characteristics are to be found in one foreign country, the more are firms willing to invest or expand their investment in that country. The third sub-paradigms, the internationalization advantage (I) is related to the fact that firms can benefit more from the ownership advantages if they engage in foreign production themselves, rather than through other firms in those location that are attractive for them. In other words, firms are more likely to engage in production if the benefits of internationalization are higher (Dunning, 2000; Ribau, Moreira, & Raposo, 2015). Therefore, this theory explains the internationalization of MNE, based on these three sub-paradigms interaction.

3.3 Determinant of exporting in CEE countries and a critical analysis of previous studies

Firm internationalization is a very complicated process, which is influenced by many factors, not only factors inside the firm or firm specific characteristic but also outside the firm. It is very important to know what drives firms to go abroad and what the competitive advantages that they explore by internationalizing are. Therefore, with the increasing international business competition, it has become highly important to know what the main determinants of enterprises exporting performance are. Literature distinguishes between internal or firm-specific factors and external factors (Sousa & Martínez-lópez, 2008). According to Cieślik et al. (2015) firm internationalization and firm success in international markets depends on many factors, not only in its resources and capabilities but also its ability to constantly

change and adjust to international uncertainties. This indicate that is important for firms to learn, integrate, build and constantly change in international markets.

This study concentrating in firm-specific factors and studies factor such as foreign ownership, firm performance, firm size, firm age, innovation activities, labor productivity, networking, intangible resources, international experience and industry. It is very important for policy-makers and researchers to have insight on factors that influence exporting behavior of firms both in terms of propensity (the choice of whether to export or not) as well as export performance. Understanding factors that influence firm internationalization is particularly important in the case of SMEs, because this will enable policymakers to design appropriate programs that support and promote their international expansion. Entering international markets through exporting can be conducted through direct and indirect exporting. Indirect is exporting through an intermediary. According to McCann (2012), there are difference in productivity between the firms that export directly and those that export through an intermediary. Less productive firms in CEE countries export through an intermediary while the most productive firms export directly. This leads to the idea that high productive firm select themselves in export markets. Literature in this aspect focuses mainly on two theories: the RBV theory, which justifies the internal drivers of exporting, and the contingency paradigm that supports the external determinants.

Table A.1 in A.1 in the appendixes also provides and critical review of the main empirical literature. It provides information regarding authors' name and year of study, used empirical method, main results, dependent and independent variables, data sampling and time period. This table gives an overview of the empirical findings from these stream of work suggesting important points that need to be considered. Firstly, this table provides evidence that the empirical work on SME internationalization uses survey data analysis and the range of variables included in empirical models varies largely by the type of survey and the focus of the analysis. Firm internationalization is a complicated process affected by many internal and external factors. Secondly mostly used empirical models are tobit, probit, and logit. Essential is also to highlight that there are very few studies that incorporate the whole region of CEE countries and this create a literature gap that needs to be researched further.

3.4 Summary of exporting determinants and their impact

Table 3.2

Summary of exporting determinants and their impact.

Factors	Literature	Average impact
Foreign ownership	Lejárraga et al., 2014; Singla, George, & Veliyath, 2017; Agnihotri & Bhattacharya, 2019	+
Firm performance	Grant, 1987; Tallman & Li, 1996; Collins, 1989; Capar & Kotabe, 2003; Ruigrok & Wagner, 2003; Ruigrok, Amann, & Wagner, 2007; Jung & Bansal, 2009; Tihanyi, Ellstrand, Daily & Dalton, 2000; Gaur & Kumar, 2015; Dabic & Lamotte, 2017	+
Firm size	Wagner, 1995; Wagner, 2001; Majocchi, Bacchiocchi, & Mayrhofer, 2005; Lejárraga et al., 2014	+/-
Firm age	Carr, Haggard, & Hmieleski, 2010	+/
Innovation capacity	Soltanisehat & Alizadeh, 2019; Oura, Zilber, & Lopes, 2015; Cieślik, Michałek, & Szczygielski, 2016; Siedschlag & Zhang, 2015; Love & Roper, 2015; Wang, Hsu & Fang, 2008; Cassiman & Golovko, 2011; Shearmur, Doloreux & Laperrie, 2014; Sekliuckiene, 2017	+
Family management	Zahra, 2003; D'Angelo, Buck, Majocchi & Zucchella, 2013; Kano, Ciravegna, & Rattalino, 2021; Segaro, 2012	-
Networks	Johanson & Vahlne, 2009; Cavusgil & Knight, 2015	+
Human capital	Evald & Klyver, 2011; Stucki, 2016; Bužavaitė & Korsakienė, 2018	+
Industry	Lejárraga et al., 2014; Andersson, 2004; Reis, 2016; Javalgi, White, & Lee, 2000; Love & Roper, 2015; Bleaney & Wakelin, 2002	+/-

3.4.1 Firm size

Firm size can affect firms' ability to entry international markets. The internationalization of large multinational firms has been studies for a while, whereas the internationalization of small and medium firms is relatively new, although there is growing number of studies conducted on BGs and INVs. In a cross-country study of developing countries Lejárraga et al (2014) finds that larger firms in service sector rely more on international market compared to smaller firms. In addition, according to their findings, smaller firms rely more on indirect exporting compared to larger firms. Smaller firms might be less productive and, therefore, they look for intermediaries to enter international markets with less cost. Certainly, these findings are not surprising, as larger firms have the resources and capabilities to expand in international markets. Therefore, size can have a positive effect on exporting (Wagner, 1995). Majocchi et al. (2005) study the effect of firm size and business experience in exporting performance and finds that size has positive effect in export intensity and this effect was highly significant. However, as mentioned before, small and medium firms have advantages of earliness, learning advantages of newness or flexibility because of their size. Size obviously is not the only factor that affect the ability of firms to export, and, according to Wagner (2001), this can change depending on the country and industry. However, to him, *"largeness is neither necessary nor sufficient for exporting.*" In addition, the relationship between size and export performance can also change based on whether firms are engaged in direct or indirect exporting. Direct exporting requires fixed cost; thus there might be a positive relationship between size and direct exporting. In contrast, indirect exporting, does not requires as much fixed costs as direct exporting and the effect of size might not be the same. That is why the measures of exporting – in which both direct and indirect exporting are included - should be treated carefully. Overall, whether size can have a positive or a negative effect on firm internationalization can be ambiguous and there are different views regarding its effect on firm internationalization in general and exporting in particular.

3.4.2 Firm age

Time is an important element in firm internationalization, and it is found in the core of every internationalization theory, such as Uppsala theory and Born Globals. The Uppsala theory puts forth that firms follow a slow process of internationalization step by step, which increases with time as their experience and knowledge about foreign markets expands. There

are different views regarding the impact of age on firm internationalization. According to Uppsala theory, firms follow an incremental process during their internationalization. A successful internationalization is influenced by capabilities and resources. Capabilities and resources are elements that are closely connected to age, with young firms having limited access to resources and less capabilities compared to older firms (Carr et al., 2010). From this perspective, it is the case of liabilities of newness. According to liabilities of newness, young firms tend to have higher rates of failure because they possess less resources, capabilities and recognition in the market. On contrast, new venture can adapt and learn faster. They tend to have smaller size, and this gives them the possibility to adapt to new environment, to learn faster and to make quicker decision about their internationalization. They can also experiment and try new methods to survive and grow. These new experiments allow them to discover new opportunities. Therefore, nowadays there is a growing literature that studies internationalization of new ventures. However, there is the problem of resources for these firms; it might hamper their process of internationalization. With time, they can gain more resources, become experienced and better established in the domestic market and this can help to withstand the difficulties of international markets. In contrast, older firms tend to be larger, more complex from an organizational perspective and less flexible. This means they are prone to liabilities of aging, which is the inability to adapt quickly to changes. Therefore, the literature regarding age impact on export performance is divided between those that have found age to have a positive effect on export performance such as Majocchi et al. (2005) those authors, such as Love, Roper & Zhou (2016) that find a negative effect and those such as D'Angelo et al. (2013) that do not find a significant effect. Firms from CEE countries do not have a long history in operating in foreign markets. They are relatively young, with a large amount coming to existence after the 1990s. Even for firms that have longer history their process of internationalization started with the fall of communism system. Therefore, age is expected to positively affect firm internationalization in these countries.

3.4.3 Foreign Ownership

Singla et al (2017) studied the ownership structure and its impact on internationalization. According to their findings, foreign corporate ownership and foreign institutional ownership are positively related to internationalization while family, domestic corporate and institutional ownership are negatively related to internationalization. This study uses as its

main theoretical background the principal-principal (PP) agency problem theory and resource-based view (RBV) theory. PP predicts that differences and interactions in the identity of the firm's owner have an impact on their motivation for strategic decisions such as internationalization, while RBV studies the impact resource endowment have on the capability of firm to internationalize. According to RBV theory, different types of owners can provide access to different resources for the firm and therefore impact the capability of it to internationalize. Both theories explain how the motivation of owners, which represent the motivation of firm and capabilities, influences internationalization. Ownership of foreign individuals, corporates or institution has been found to have a positive impact on firm internationalization. Foreign ownership can help these firms overcome their liabilities of foreignness, through their relationships and knowledge about foreign markets. Foreign investors monitor manager's activity and influence governance and strategic decision making (Agnihotri & Bhattacharya, 2019). Through their networks and knowledge for foreign markets, they can also provide more resources for these firms. According to Lejárraga et al (2014), in a cross-section dataset of developing countries foreign ownership has positive impact on firm performance and this impact is larger for smaller firms. Hobdari, Gregoric & Sinani (2011) investigates the impact of different types of ownership in two CEE countries such as Estonia and Slovenia. Different types of ownership according to this study have different attitudes towards the degree of internationalization through exporting. The authors suggest that different types of owners can have different agendas other than profitability and this can constraint internationalization through exporting. This study concludes that foreign ownership positively impacts the internationalization efforts.

3.4.4 Firm performance

The relationship between performance and internationalization is one of the most discussed topics in this field. In literature, numerous studies that have explored this relationship have reached contradictory results. There are three different relationships identified in the literature. Some studies have reached the conclusion that there is a positive relationship between internationalization and performance (Grant, 1987; Tallman & Li, 1996). Other studies, such as Collins (1989), conclude that this relationship is negative. Later studies, such as Capar & Kotabe (2003), Ruigrok & Wagner (2003), conclude for an U-shaped relationship and S shaped relationship Lu & Beamish (2006), Ruigrok et al. (2007). Literature on this topic has mostly concentrated in multinational firms from developed

countries. Therefore, there is a gap in exploring this relationship in emerging and transition countries. The firm Performance firm is very important; firms need to be profitable enough in the domestic market to be able to move to international markets. Most of the literature mentioned above studies the impact of internationalization in firm performance. There are only a few studies that analyze the impact of performance in firm internationalization. Jung & Bansal (2009) explore the impact of performance in internationalization looking from a behavioral perspective. Internationalization is risky; firm's managers when looking at firm performance might not only consider absolute performance but also relative performance, which is performance relative to past or other competitors.

Considering from a resource- based perspective, performance has a positive impact on firm internationalization. Firm with a positive performance possess the intangible and tangible resources to engage in international markets activities. Nevertheless, there is also a counterargument, which argues that highly profitable companies are less likely to engage in risky behaviors such as internationalization. Therefore, the impact of performance in internationalization might be negative. Literature in this aspect is not in the same line. Poor performance might affect strategic decision in a company by pushing them to look for new ways in an international environment, in order to improve their condition. In contrast, insufficient resources because of poorer performance will hinder firms from engaging in international markets (Tihanyi et al., 2000).

Firm operating in emerging and transition countries might be in search of international markets to diversify the risks of their home country environment. These types of firms tend to be in the initial stages of internationalization. Firm in CEE countries do not have a long history of operating in international markets. Therefore, considering these arguments it is expected that increase in their performances would provide these firms with more resources to engage and diversify their risk from home countries in international markets. Motives of internationalization of firms from emerging and transition countries differ from firms of developed economies. Gaur & Kumar (2015) argue that the motives of internationalization for firms of emerging economies differ from those founded in developed economies. Although, there is an increasing interest of scholars in the internationalization of emerging and transition economies, there are only a few studies analyzing firms from CEE countries (Dabic & Lamotte, 2017).

3.4.5 Innovation capacity

Innovation is one of the most important factors, that has an impact on firm and economic growth. Innovation and internationalization can be considered as two of the most important elements that have an impact in business success nowadays. Innovation capabilities of firms equip them with unique and valuable resources. In order to reach higher profitability, these firms tend to expand and transfer these resources abroad. In contrast, firms with international activities are also more likely to invest in innovation and have a higher probability to be successful in innovation output (Siedschlag & Zhang, 2015). According to Love, & Roper, (2015) innovative SMEs are more likely to export and be more successful at exporting compared to non-innovative firms. Innovation gives firms more opportunities and confidence to expand in international market (Wang et al., 2008). Cassiman & Golovko (2011) find empirical evidence that product innovation, both directly and indirectly positively affects a firm's decision to start exporting. According to them, there are two ways through which innovation impact decision to start exporting; the first is through the increase in the firm's productivity, what indirectly leads to exporting, and the second is the direct impact; firms will search for an increasing demand in foreign markets to sell their new products. In general, firms that have higher productivity in the home market are the ones that survive and start exporting in foreign markets. Therefore, there is a self-selection of firm with higher productivity to start exporting. The main sources of productivity growth in firms is innovation and R&D investment (Soltanisehat & Alizadeh, 2019). However, innovation does not solely mean product innovation, but process, management, and marketing innovation. Cintio, Ghosh & Grassi (2017) groups empirical studies that examine innovation and export of SMEs into studies that search innovation effort, which is R&D expenditure and innovation product measured and process and product innovation. According to Shearmur et al. (2014) innovation is an open process in which external knowledge and feedback is as much important as internal knowledge. Sekliuckiene (2017) argues that human resources, intensity of knowledge assimilation and technology create unique products in Lithuanian firms operating in software industry. to him, innovation is the driver of high-tech industry, and technology drives accelerated firm internationalization. Cieślik et al (2016) studies the impact of innovation in Polish export performance and concludes that the probability of exporting is positively correlated with product and process innovation, firm size, and the share of university graduates in employment. Moreover, Kowalik, Danik, & Sikora. (2017) when studding the entrepreneurial characteristics of INV originating in

Poland found that INVs are characterized by higher innovativeness and risk-propensity than gradual exporters.

Studies have also found a significant relationship between R&D activity and exporting (Carboni & Medda, 2018; Máñez, Rochina-Barrachina, & Sanchis-Llopis, 2015). R&D activity contributes to innovation because it increases the probability for new invention, new products, or services and this contributes to the increase of firms' competitive advantages. There is also an idea in the literature that there is a self-selection mechanism of firms performing R&D activity in international markets. According to Carboni & Medda (2018) there is an increase in the propensity to export up to 40% for those firms that engage in R&D activity.

There is a smaller amount of studies that investigate the relationship between R&D activity and exporting in SMEs. Falk & de Lemos (2019) investigates the relationship between R&D activity, productivity and export behavior and concludes that both export participation and export intensity depend significantly on R&D activity and labor productivity. In addition, they also find that labor productivity strengthens the relationship between R&D activity and export behavior.

3.4.6 Human capital

For CEE-based SMEs, internationalization appears to be more difficult due to scarcity of resources, know-how or state support. Therefore, it is important for these companies to find some competitive advantages that will allow them to internationalize and be sustainable in it. Human resources are particularly important because they are among the main assets for creating unique and high-quality products that help these firms overcome the lack of finance or lack of foreign market knowledge and create competitive advantages. In international entrepreneurial literature, human resources are considered to be very important for the internationalization of SMEs. Several studies analyze human capital impact on firm internationalization. According to Stucki (2016), human capital has a significant impact in export propensity. Bužavaitė & Korsakienė (2018) find that highly skilled employees are the determiner of SME internationalization in every economic sector. A study on forty-five countries, which was conducted by Evald & Klyver (2011) demonstrated that human capital measured by education level has significant impact on the intended level of export. Mulliqi,

Adnett & Hisarciklilar (2019) studies the impact of human capital in CEE countries and concludes that a more qualified workforce has a positive statistically significant effect in export intensity. Human capital has an impact on firm exporting through the labor productivity. Qualified labor force leads to higher levels of productivity, which increases the chances for firms to export and increase its exporting intensity. In addition, qualified labor force has specific skills, such as foreign languages, working experience in international markets, which increase the probability of exporting and facilitate it. There is a considerable research that studies the impact of managers' skills and productivity in firm internationalization and exporting. Skills such as international experience, foreign language are very important in firm internationalization. According to Rodríguez, & Orellana (2020), human capital is recognized as an organizational resource of firms that can create competitive advantages by enhancing firm's innovative capacity. He studies the impact of specific and general human capital by defining it as the "*stock of knowledge and skills that a firm's employee gains through education, training and experience*". Human capital is also used as a measure of firm's absorptive capacity.

3.4.7 Family management

The majority of SMEs tend to be family owned and managed firms (D'Angelo et al., 2013), Therefore it is important to see the impact of family management in their internationalization. Studies in this aspect are divided between researchers that find a positive effect (Zahra, 2003) of family influence in firm internationalization and researchers that find a negative effect (Kano et al., 2021) of family influence in firm internationalization. Studies that find evidence of a positive effect of family influence in firms' internationalization build upon stewardship perspective and believe that managers and owners will pursue internationalization in order to maximize their family's wealth. This perspective highlight factors such as flexibility, long-term orientation and stewardship of family firms (Lin, 2012). Family SMEs are not only concerned about short-term profit but they are also concerned about the longevity of their business. Family members are not their only concern, but they also have responsibility towards other non-family member employees (Segaro, 2012).

The other perspective that views family influence as a negative impact on firms' internationalization is based on arguments that sometimes family members lack management

skills and professionalism to grow beyond domestic markets. In addition, family members in key management positions can be risk-averse, this means that they are less likely to engage in risky activities that harm their family income and internationalization is a risky activity for SMEs. Therefore, risk aversion, restricted finance and limited managerial capabilities can have a negative impact on family SME internationalization (Marinova & Marino, 2017). Studies in family business internationalization have used family ownership and management as proxies for family influence in firm internationalization.

3.4.8 Importing

Importing can help SMEs and other firms to have a variety of inputs that can be used in production. Importing can enable SMEs to have connections in foreign countries and this will help these firms to export. Bas & Strauss-Kahn (2014) finds a positive impact of imported inputs in firm productivity and export scope. Their findings show that more varieties of inputs increase firms' productivity and higher productivity is associated with more exports. Also more varieties of inputs impacts exporting directly through lower input prices and reduced costs. In a more recent study, Castellani & Fassio (2019) find that importing new inputs can actually increase the propensity of adding more new products in markets. Importing new inputs can help firms to benefit from the technology that embodied in them, and firms can also access knowledge that will facilitated their entry in these foreign markets through exporting. According to Gibson & Graciano (2011), firms' importing decisions are decisions for technology adoption and the inputs that are imported bring with them also the technology embodied within. Chen, Zhang & Zheng (2017) conclude that imports stimulate a firms' innovation, especially if these imported materials are from technologically advanced economies. Supporting empirical evidence that importing has a positive effect in exporting comes also form a study of Aristei, Castellani & Franco (2013) focusing on 27 Eastern European and Central Asian countries. This study also concludes that importing can positively affect exporting through the channels of productivity and innovation.

3.4.9 Networks

Johanson & Vahlne (2009) revised the model of stage internationalization and included in their model networks. Adding networks to this model was done to explain the

internationalization of BG firms and other new start-ups. These firms despite their young age and lack of market knowledge are internationalizing faster, ignoring the stages of internationalization described in the Uppsala model. With the introduction of networks was lying the idea that firm internationalization cannot be understood only by studying firms as a separate unit and evaluating the impact of internal characteristics of them as the RBV theory suggested but also considering the networks and relationships with other firms. despite their lack of resources, experience and market knowledge, networks enabled these firms to learn faster and close these gaps through their network relationships (Cavusgil & Knight, 2015; Pinho & Prange, 2016).

The importance of networking seems to be more essential in the early stages of internationalization of small and medium firms, when the firms lack resources and market knowledge and networks help these firms to overcome these obstacles enabling them to internationalize from inception (Belso-Martínez, 2014; Tang, 2011). Resource limitation is the main reason young SMEs are unable to develop and expand internationally as the RBV theory predicts. The expansion of this theory by adding external resources obtained from networks explain why these firms internationalized within a short period from inception. Networking also helps these firms to overcome liabilities of newness, foreignness and smallness and to accelerate their expansion in the international markets. According to (Pinho & Prange, 2016), social networks help firms develop dynamic capabilities, which, in turn, are essential in enabling firms to internationalize. Chetty & Wilson (2003) argue that, besides the relationships with customers, suppliers and distributors firms also collaborate with their domestic competitors to gain information and resources to access international markets. Although they compete in domestic markets, they collaborate in international markets.

Literature distinguishes between informal and formal networks or social relationship and inter-organizational networks as well as domestic and international networks. All these types of networks appear to be important in firm internationalization. Andersson, Evers, & Griot (2013) claim that local and international networks have different as well as complimentary impact in firm internationalization. According to Nowiński & Rialp (2013), Polis INV as in the beginning do not have a well-established international social capital and domestic networks appear to be more helpful in internationalization, while international networks are developed as a firm increases its presence in international markets. In an early study, Sharma & Blomstermo (2003) argue that born global firms have home connection before they start

expanding in international markets. Therefore, these connections act as a starter for internationalization of firms.

For firms originating from transition economies such as CEE countries, this is particularly important because of the lack of resources and capabilities, when compared to firm originating from developed economies. They also face an underdeveloped institutional environment. Therefore, through networks they tend to find a way to fill the gaps and overcome their obstacles. According to Manolova, Manev, & Gyoshev (2010), these networks are the sources of many of their competitive advantages in these countries. Especially domestic inter-personal and inter-firm networks in transition countries enable SMEs to access resources and knowledge, gain information about business opportunities, lower transaction costs and increase efficiencies. Therefore, they compensate for their lack of resources by keeping close relationships with other businesses or customers. According to Svetličič at al. (2007) due to their size and limited resources, when internationalizing, SMEs rely more on specialization, adaptation and close network relationships in comparison to large firms. In a study of internationalization of SMEs from a CEE country such as Chez Republic Musteen, Datta, & Butts (2014) highlights that there is been little emphasize on the importance of networks for SMEs of transition countries. According to the author SMEs from transition countries benefit largely from networks as they can increase knowledge about foreign markets.

3.4.10 Absorptive capacity

Absorptive capacity is one of the most important factors for SMEs that want to enter foreign markets. Cohen & Levinthal (1990) defines absorptive capacity as " *the ability of firms to recognized the value of new, external information, assimilate it and apply to commercial ends*". Absorptive capacity requires for a business to evaluate, assimilate and apply knowledge from external sources. Recognition, assimilation and application of external knowledge create innovation and competitiveness advantages for SMEs. This competitiveness advantage helps SMEs enter foreign markets or increase their export performance. Ahimbisibwe, Nkundabanyanga, Nkurunziza & Nyamuyonjo (2016) argue that knowledge absorptive capacity is a dynamic capability that can be a source of sustainable competitive advantages. In order to be able to enter and perform well in foreign markets, SMEs in international business need to absorb new knowledge. Agustí,

Encarnación Ramos-Hidalgo, & Moreno-Menéndez (2021) also highlights the importance of firms' absorptive capacity which influences firms' ability to use knowledge to create other organizational capabilities. In their study, it is maintained that absorptive capacity moderates the relationship between knowledge acquisitions and internationalization. It is important for firms to acquire knowledge but the process of learning is more complex. It requires the firm to internalize and have the capacity to absorb it.

Although many empirical studies that use absorptive capacity have been conducted in literature, there is no agreed measure of it. The most frequently used measures in literature are proxies of R&D expenditures, innovation or patents. For instance, Belderbos, Carree, Diederen, Lokshin & Veugelers (2004) uses R&D intensity in their study. Vinding (2006) measures absorptive capacity using measures such as human capital, innovation and external knowledge. Human capital is measured using proxies, such as the percentage of employees with an academic degree or the work experience of the top management. However, other studies, such as Flatten, Engelen, Zahra, & Brettel (2011) and Ma, Khan, Khan & XiangYun (2021), criticize the measurement of absorptive capacity using single dimensional measures and suggest the use of multidimensional measures. These studies emphasize that absorptive capacity is complex and multidimensional and single dimensional measures do not capture its complexity

3.4.11 Internet

Nowadays the internet and other information technologies have transformed the operation of international business. Internet has provided SMEs with more opportunities to participate in international markets and with an increasing number of international costumers (Meltzer, 2015). The E-commerce platforms such Amazon or eBay highlight the potential of internet to grow trade and increase exporting. Sun (2021) studies the impact of internet in the share of SMEs in total exports and finds that as the internet develops, SMEs account for a larger share in the total export. In an earlier study, Freund & Weinhold (2004) finds that internet has a significant impact in trade. Internet has the potential to reduce the fixed costs of entry into foreign markets because sellers have the opportunity to find information more easily and also to advertise more easily to a large base of customers.

Jean & Kim (2020) find that web capabilities of SMEs are positively related to export performance. They also highlight that there aren't enough studies in emerging and developing countries in this aspect. Web capabilities refer to SMEs capabilities to use their websites to support their exporting. Websites can make advertising more affordable for SMEs and extend their reach. Saban & Rau (2005) conclude that SMEs use their websites as marketing channel as their primary marketing channel for exporting. However, according to their findings SMEs have few resources and this limits SMEs to develop and fully use these websites.

3.4.12 Industry

The type of industry the firm operates in has an undeniable impact on its internationalization. Different industries have different characteristics, and the environment these industries create for their firms, influences a firm's strategy and approach towards internationalization. Industry classifies firm based on common activity and characteristics. (Andersson, 2004) shows that firms operating in different industries have different internationalization patterns. Javalgi at al. (2000) conclude that the characteristics of a firm's impact and significance export propensity varies according to the industry.

Reis (2016) argues that external characteristics, mostly represented by industry characteristics influence a firm behavior and export intensity. Firms are influenced by exporting behavior of other firms in the industry and tend to follow them. In addition, other exporting firm can create information spillover. Firm operating in different industries also have different product characteristics and therefore different probabilities to engage in international activities. For instance, firms operating in manufacturing are more likely to export that firms operating in service sector. According to Lejárraga et al (2014), SMEs operating in the manufacturing sector have an export intensity two to four times greater than firms operating in service sector. In addition, service firms rely more on indirect exporting compared to direct exporting.

Innovation and technology in the industry are also important factors that differentiates firms. Innovation gives firms competitive advantages and increases their survival in the international markets. Love & Roper (2015) argue innovative small and medium firms are

more likely to export than non-innovative firms. In addition, Bleaney & Wakelin (2002) conclude that firms that operate in sector with high level of R&D expenditure are more likely to export.

3.4.13 External characteristics/ Barriers to exporting

Export barriers also affect SMEs exporting and internationalization, but their impact is negative. Leonidou (2004) defines these barriers to exporting as "*constraints that hinder the firm's ability to initiate, to develop, or to sustain business operations in overseas markets*" and classifies them into internal barriers and external barriers. Internal barriers are more related to internal weakness of the firms. for instance, human capital shortages are related to the external environment such as unfamiliar exporting procedures, not very favorable domestic rules and regulation, political instability in foreign countries, and so on. Moreover, the barriers that firms face come from domestic environment as well as foreign countries. Chandra & Wilkinson (2017) identifies the main internationalization barriers for SMEs in developing countries and also groups them into two categories, internal and external barriers. Among the external barriers, they identify human capital barriers, resource property, product quality and managerial capabilities. Among external barriers they identify currency risk and transactional barriers, government barriers or home and host country regulations together with underdeveloped institutions, socio-cultural barriers and market conditions.

Exporting is not considered as a highly risky foreign market entry mode, since it does not require large capital investment, compared to other forms of internationalization, such as FDI, but many SMEs from developing and transition countries do not take into consideration. Narayanan (2015), in an earlier study, also identifies internal and external export barriers that SMEs face. The internal barriers he mentions are informational barriers, human resources, finance and marketing barriers. To him, external barriers are procedural barriers, governmental barriers, and external environmental barriers or issues related to the economic, political-legal and socio-cultural environment. As discussed, the internationalization of SMEs is extremely important for the economies of countries since they made up most of the firms in these economies. Understanding these obstacles can help the government, policymakers, and researchers to develop the right policies and give the needed help to these firms.

3.5 Conceptual framework

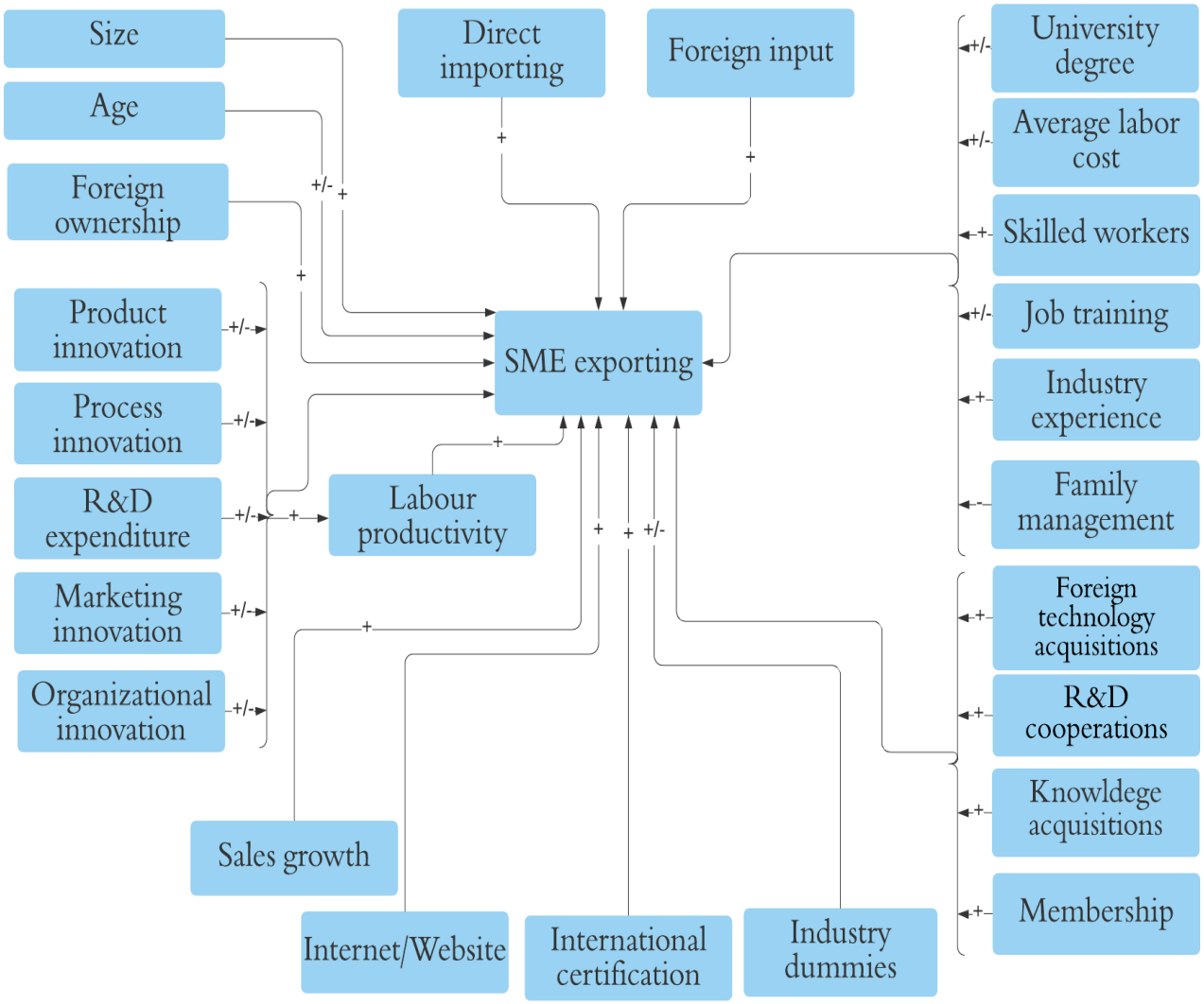

Figure 3.2 Conceptual framework

4. METHODOLOGY

This chapter starts by explaining the sources and type of data used in this study and continues by explaining the dependent and independent variables. Variables that might impact exporting are based on economic theory and the empirical studies. Often different variables are found to be significant in different studies. This study focus mainly on firm-specific factors and draws results in the contexts of CEE countries. In the end this chapter continuous with the statistical analysis of the data and the three main empirical models used, OLS, probit and tobit.

4.1 Data source

Data was obtained only for SMES that are operating in one of the CEE countries. The data belong to the group of countries of Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia, and the three Baltic States: Estonia, Latvia and Lithuania. This data is obtained from BEEPS (Business Environment and Enterprises Performance survey). This survey is jointly conducted by the World Bank Group, the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the European Commission (EC). The latest data published from this survey belong to year 2019. This survey is a firm-level survey, representing firms from the private sectors in this region. It collects information regarding firms' characteristics and business environment from top managers and owners[1]. This dataset provides information on export and has variables that are related to firm- level characteristics of firms. In the survey, firms are divided into those that have direct exports, those that have indirect exports and domestic firms. The majority of the firms included in the survey are SMEs.

[1]https://login.enterprisesurveys.org/content/sites/financeandprivatesector/en/signin.html?deliveryName=DM109481

4.2 Dependent variable

There are three types of models conducted in this part of the analysis. First, an OLS estimator to measure the impact of explanatory variables in increasing exporting is used. Then a probability model to see how the independent variables affect the likelihood to export is conducted. The third model is Tobit model, which is used widely in the literature to track the problem of selection biasness. Therefore, two depended variables are used; the first is a dummy variable *dummy export, which* takes value 1 if the firm sales products in the international market or exports and 0 if the firm does not have any exports. In the BEEPS survey, firm owners or top managers are asked about the percentage of their sales generated from national sales, direct exports and indirect exports. The question directed to firms' owners or top managers was: "*Looking back to the last fiscal year, what percentage of the establishment's sales were: national sales, indirect exports and direct exports*". Those firms that have zero direct and indirect export are considered as non-exporting firms. Indirect exports in this survey are defined as the sales sold domestically to third parties that export products.

By taking the sum of direct and indirect exports percentage and multiplying it with the amount of sales the amount of export sales in local currency is obtained and converted into euro. By taking the natural logarithm of this variable, the continuous dependent variable (*export performance)* for the OLS and Tobit model is created. However, more the half of the SMEs in the sample have zero exports and the natural logarithm of zero is undefined. Removing these firms from the sample leads to selection biasness; that is why these firms are not removed from the sample. In that case the depended variable, *export performance,* which is based on previous studies such as Bertrand (2011), European Commission (2021), and (Yan, Tsinopoulos & Xiong, 2021) is calculated as :

$$Export\ performance = ln\ (1 + export\ sales)$$

Adding 1 to each observation will eliminate the problem of logarithm of zero which is undefined.

4.3 Independent variables

The variable of *small, medium and large* are dummy variable generated based on the number of full-time employees of a firm. According to European Commission definition of size, small firm are those firms that have less than or equal to 50 employees, while medium firms are those firms that have equal or less than 250 employees. However, since the countries taken into consideration are relatively small countries, small firms were considered those that have equal or less than 30 employees. Based on this definition of firm size, dummy variables that represent the size of the firm were created. *Small* takes value 1, if the firms have 30 or less employees, *medium* take value 1 if the firms have between 31 and 250 employees and, otherwise 0, *large* is a dummy variable that takes value 1 if the firms have more than 250 employees and otherwise 0. *Age* is represented by the number of years of operation since inception.

Foreign ownership

Foreign ownership variable is one of the main variables used in most of the studies that investigate internationalization of firms. Gashi, Hashi & Pugh (2014) studies the export behavior of firms in transition countries using a panel data of 2002, 2005 and 2009. They measure foreign ownership as percentage share of the firm's assets owned by foreign shareholder and conclude that foreign ownership has a positive effect in export propensity and export intensity. Ye, Zhang & Zhang (2021) also studies the effect of foreign ownership in export, in emerging economy and finds it to have positive effect .

Performance variable

In order to create the variable of *labor productivity* the variable of total sales, which represents the amount of total annual sales for all products and services during the last fiscal year, was necessary. However, the total sale figures were registered in local currency. To convert the firms' total sales into euro, the average exchange rate of that year were taken into consideration. In cases in which the country had a fixed exchange rate regime, fixed exchange rate was used. In those years these countries accepted euro as their official currency the total sales were converted into euro. Variable of labor productivity is a very

important variable included in almost every work that is found to have an essential impact in export performance or export propensity.

The variable of *sales growth* was created for each period and included in each model. This variable was created by subtracting sales three years ago from sales of the period taken into consideration and dividing them by the sales of three years ago. Sales growth is expected to positively impact export performance and export propensity. An increase in sales growth means more profits and therefore more resources for SMEs.

Innovation variables

Process innovation is a dummy variable that takes value 1, if the firm, during the last three years, has introduced any new or improved processes. These processes include method of manufacturing products or offering services, logistics, delivery, or distribution methods for inputs, products or services, or other supporting activities for processes (Cintio et al., 2017). *Product innovation* is also a dummy variable that takes value 1 if the firm during the last three years has introduced any improved product or services. In 2013 are included more variables of innovation such as *marketing innovation and organizational innovation*. *Marketing innovation* is defined as a new or significantly improved marketing method and *organizational innovation* is defined as a new or significantly improved organizational or management practices or structures. These dummy variables of innovation are widely referred to, among many research articles and studies, such as Cassiman & Golovko (2011), Ganotakis & Love (2011), Gkypali, Love & Roper (2021), etc. In addition to the dummy variables, spending on research and development (R&D) are also included. R&D expenditure variable, is largely used in the literature to capture the efforts of firms for innovation (Cintio et al., 2017).

Human capital variables

Human capital at firm level, is measured using three proxies based on the studies of Mulliqi et al. (2019), and Rodríguez & Orellana (2020).The first proxy variable *education* is a measure of workforce education and measures the percentage of full-time employees with a university degree. Education is an important factor that increases labor productivity. Transition countries have experienced significant changes in their education system together

with the political and economic system. Some of these countries such as the Balkan countries still remain behind in their level of education quality. The changes in the education system after the fall of communism were very essential, especially because changes from a centrally planned economy to a market economy required a new set of skills for the workforce. The second proxy for human capital used a dummy variable *job training* that takes value one if the firms have conducted any training program in the last fiscal year for their full- time employees. The third proxy used is the variable *skilled workers*, which shows the percentage of skilled workers to total full time employees. In addition to these three variables, it added also the variable of *average labor cost* which represent the average cost for unit of labor. According to Mulliqi et al (2019), this variable represent the quality of human capital, since, in the competitive markets, higher wages are associated with skilled workers. In addition, in this category of variables the *industry experience* of the owner or the top manager is also taken into account.

Family management

Family management variables, measures the percentage family members engaged in key management positons of the SMEs. The variable of family management includes the aim to capture the impact of family member in key strategic decisions. Top management positions influence a firm's strategic decisions and exporting is a strategic decision that involves risks. In general SMEs that have a high percentage of family members involved in top management positions tend to be mostly family owned firms, and these SMEs have limited resources to grow and expand in international markets. In addition, family members tend to have less knowledge about international markets and are less likely to take risk. Therefore, with reference to these argument, this variable is expected to negatively impact export performance and export propensity (Dou, Jacoby, Li, Su, & Wu, 2019).

Import variables

In addition, in order to measure the impact of international linkages, variables such as *foreign input* and *direct importing* are included. The former measures the percentage of material inputs or supplies of foreign origin, used also by Aristei et al. (2013) in his study, and the second is a dummy variable which takes value 1, if the firm has direct importing from abroad. These variables tend to capture any international linkage that will help these firms to increase

their international participation or became more likely to participate in international markets through exporting.

Bas & Strauss-Kahn (2014) provide empirical evidence that imported inputs increase exporting. Imported inputs have a positive effect on firm productivity through two channels: the technology channel, which means that there is a technology transfer through this imported inputs; and the second channel, is through getting greater complementary of inputs. Higher productivity can lead firms to exporting. In addition, there are also indirect channels through which imported inputs can shape export performance such as low price imported inputs that can increase export revenue. The study expects that these variables will have a positive effect on exporting propensity and performance. Importing inputs from foreign markets, using foreign technology or foreign ownership can create a differential impact for SMEs and their internationalization because it offers resources and opportunities exploration.

Networking variables

To measure the impact of networking in enabling firms to export, variables that captures networking in domestic and international markets, such as *knowledge acquisitions*, *R&D collaborations*, *foreign technology acquisitions and membership,* are also included (Mulliqi et al., 2019; Rehman, 2015). *Foreign technology acquisitions* is a dummy variable showing if the firms have technology licensed from a foreign-owned company. Wang, Cao, Zhou & Ning (2013) identifies expenditures for external technology purchase, R&D expenditures for external collaborations or the number of licensed patents to operationalize external technology acquisition as measures of foreign technology acquisition. According to Fletcher & Harris (2012), technological knowledge help firms to develop and adapt product to the new markets according to these markets' needs. In addition, it provides SMEs with the opportunity to create advantages using this technological knowledge they can't acquire in their own country. SMEs in transition and developing countries can gain technological knowledge and the capabilities they need through networking with foreign firms. Technological knowledge from abroad can give them the technical support needed to create products with the same quality as other firms in foreign markets (Zakery & Saremi, 2021). In addition, technology accelerated innovation through new products and processes and

creates competitive advantages for SMEs. This enables them to enter foreign markets and increase their performance in these markets.

R&D collaborations or alliances is another dummy variable used as proxy for networking. According to Rehman (2015), through R&D alliances SMEs can increase their competitiveness and performance, since internal R&D are not enough to cope with higher costs of innovation. R&D collaborations' main purpose is to develop new products and processes, but spending in R&D is expensive and risky for SMEs. Therefore, collaborating in R&D is a way to share risk and costs and benefit from several advantages the R&D activities provide. According to Teirlinck & Spithoven (2013), R&D cooperation and outsourcing are very important activities for innovation with low risk and cost, in case of failure in SMEs.

In addition to the three variables explained above as proxies of for SMEs' networks, other variables included are *knowledge acquisition* which is a dummy variable that takes value 1 if the firms have spent in the acquisition of external knowledge that can be the purchase or licensing of patents and non-patented inventions, know-how or other types of knowledge. As mentioned before, as well, SMEs lack resource; therefore, they tend to rely very often on external knowledge and resources. One of the most common ways SMEs use to acquire this knowledge is though knowledge acquisitions from other business or organization (Ferreras-Méndez et al., 2019). Knowledge acquired from other business or organization can provide an easier and quicker way to access knowledge and accelerate the process of innovation since it will provide firms with new ideas, know-how or other types of knowledge.

SMEs collaboration with customers, suppliers and/or other organizations that can help them gain more information is also very important. To account for this, two more variables are included in this analysis, *membership* which is a dummy variable if firms are part of any business organization, trade association or any other business support group.

Exporting obstacles variables.

Several variables have been used to see whether factors such as access to finance, trade regulation, transport, labor regulation, inadequately educated workforce, etc. are an obstacle to firm operation and what is their impact in export propensity or export performance. In the

survey firms were asked to what degree these factors were seen as an obstacle to firms' operation and the answer ranges from 0, no obstacle, to 4, very severe obstacle.

Human capital is among the most important factors that provides firms with competitive advantages. SMEs firms tend to struggle with the lack of human resources. These firms have difficulty to attract, hire, train and maintain human capital due to their small size. Moreover, in developing and some transition countries, in general, there is a lack of skilled and educated human capital, which makes it more difficult for SMEs in these countries (Mendy & Rahman, 2019). This obstacle of human capital can have a negative impact on SMEs exporting, since exporting and other forms of internationalization require human capital that have the knowledge and skills to carry out these activities. Especially in managerial level, SMEs require individuals who have international experience, foreign language skills and have positive perception towards exporting and internationalization (Kotorri & Krasniqi, 2018; Suárez-Ortega & Álamo-Vera, 2005). This obstacle is an important obstacle for firms that haven't yet internationalized and are planning to do so as well as for the firms that have already entered foreign markets through exporting. Therefore, the variable of *inadequately educated workforce* is used to capture this aspect.

Access to finance can also be considered one of the main obstacles that firms in developing counties encounter. Some of the countries included in this study that are already part of the EU have improved in this aspect, but some of the countries still do not provide enough opportunities for SMEs. However, lack of finance limits the ability of firms to internationalize. According to European Commission (2015b), one of the greatest barriers to firms that haven't started yet to internationalize is the high cost of internationalization. Financial barriers are related to firms' size and SMEs are in disadvantage compared to large firms, as it is more difficult for them to access loans from banks and other financial institutions. Therefore, the variable of *access to finance* is used to see the impact of access to finances as an obstacle to exporting.

Obstacles such as *customs and trade regulations, labor regulations, tax rates, tax administration, business licensing and permits* are all related to home and host country regulation. In related literature, they are classified under governmental barriers (Chandra & Wilkinson, 2017; Leonidou, 2004; Narayanan, 2015). Governmental barriers mentioned in literature are actually larger than the ones identified in this study, but this study is also

restricted by the variables in the database available. Governmental barriers are defined as "*the barriers associated with the action or inaction by the home and foreign government in relation to its indigenous companies and exporters*" [2]

Obstacles of *political instability, courts and transport* are classified under external environmental obstacles. Especially for SMEs that have not yet entered foreign markets, these obstacles are quite significant. Environmental obstacles are also related to the environment of host countries.

Table 4.1

Measurement of variables and Hypothesis

Variables	*Description*	*Hypothesis*
Export performance	Natural logarithm of volume of export sales in Euro.	*Dependent*
Export propensity	1 if the firm is conducting direct and indirect exporting.	*Dependent*
Age	Number of years of operation since inception	+
Size	*Number of employees* *Small <=30 employees* *Medium 30<,>=250 employees* *Large >250 employees*	+
Foreign ownership	% of firm owned by private foreign individuals, companies and organizations	+
Performance		
Labor productivity	Natural logarithm of total volume of sales in Euro divided by number of employee	+
Sales growth	Sales 2019, 2013 or 2009 - sales three years ago/sales three years ago	+
Innovation		
Process innovation	1 if the establishment has introduced any improved process during the last three years.	+

[2] Glossary for Barriers to SME Access to International Markets: https://www.oecd.org/cfe/smes/glossaryforbarrierstosmeaccesstointernationalmarkets.htm#Informational_Barriers

Product innovation	1 if the establishment has produced new or improved products or services during the last three years	+
R&D expenditure	Cost of research and development activities either in-house or contracted with other companies.	+
Marketing innovation	1 if the establishment introduced new or significantly improved organizational or management practices or structures.	+
Organizational innovation	1 if the establishment introduced new or significantly improved marketing methods during the last three years	+
Human capital		
University degree	% of full-time employees with a university degree.	+
Job training	1 if the establishment over the last fiscal year had any training programs for its permanent, full-time employees.	+
Skilled workers	% of highly skilled jobs, which is professionals whose tasks require extensive theoretical and technical knowledge to total full-time employees.	+
Ln average labor cost	Natural logarithm of the total cost of labor divided by the number of full-time employees.	+
Industry experience	Number of years of experience working in the sector the Top Manager have.	+
Family management	% of family members in key management positions	-
Importing		
Direct importing	1 if any of the material inputs or supplies purchased in fiscal year was imported directly.	+
Foreign input	% of material inputs or supplies of foreign origin	+
Networking		
Foreign technology acquisitions.	1 if the establishment uses technology licensed from a foreign-owned company, excluding office software.	+
R&D collaboration	1 if over the last three years, the establishment spend on research and development activities contracted with other companies.	+

Knowledge acquisitions	1 if the establishment spend on the acquisition of external knowledge? This includes the purchase or licensing of patents and non-patented inventions, know-how, and other types of knowledge from other businesses or organizations.	+
Membership	1 if the firm is part of a business membership organization, trade association, guild, chamber of commerce, or other business support group.	+
Internet/Website	1 if the firm has have its own website.	+
International quality certification.	1 if the establishment have an internationally recognized quality certification.	+
Industry dummies	1 of the firm is affiliated to a certain industry.	+
External characteristics/ Exporting obstacles		
Inadequately educated workforce	To what degree is inadequately educated workforce an obstacle to the current operations of this establishment?	-
Access to finance	To what degree is access to finance an obstacle to the current operations of this establishment?	-
Customs and trade regulations	To what degree are customs and trade regulations obstacles to the current operations of this establishment?	-
Labor regulations	To what degree are labor regulations an obstacle to the current operations of this establishment?	-
Practices of informal competition	To what degree are practices of informal competition an obstacle to the current operations of this establishment?	-
Tax rates	To what degree are tax rates an obstacle to the current operations of this establishment?	-
Tax administration	To what degree is tax administration an obstacle to the current operations of this establishment?	-
Business licensing and permits	To what degree are business licensing and permits obstacles to the current operations of this establishment?	-

Transport	To what degree is transport an obstacle to the current operations of this establishment?	-
Political instability	To what degree is political instability an obstacle to the current operations of this establishment?	-
Courts	To what degree are courts an obstacle to the current operations of this establishment?	-

4.4 Descriptive analysis

Table number 4.2, gives some descriptive statistics regarding the total sample of data available for years 2009, 2013 and 2019. Companies that had a number of 30 or less full time employees were considered small firms. Firms with a number of full-time employees between 31 and 250 were considered medium size. Firms with a number of full-time employees higher than 250 were considered large firms. Data was collected for three main industries, the manufacturing industry, retail and other services. The other services include wholesales, IT, hotel and restaurants, construction, transport or other services of motor vehicles, post and telecommunication. The 17 countries that are taken into consideration, the survey has collected the data for a total number of 4956 companies for year 2009. According to the above classification, 2,695 or 54.23% of the companies in this sample are small companies. Still in compliance with the provided classification 1,847, or 37.16%, are medium firms and 414, or 8.33%, are large companies. In 2013, the sample includes 4545 firms in these 17 countries**,** from which 4010, or 73.52%, are small firms and 1228, or 22.52%, are medium firms, and 195, or 3.58 %, are large firms. In 2019, the sample shows 9891 firms, from which 5825, or 58.89 %, are small firms, 3337, or 33.74%, are medium firms and 688, or 6.96%, are large firms. The majority of the firms for each sample in 2009, 2013 and 2019 are small firms, followed by medium firms. Over 90% of the firms for each sample are small and medium firms. These statistics are also supported by the European Commission report on SMEs (2021), according to which 99.8% of enterprises in EU-27 in the non-financial business sectors are SMEs. This table also specified the percentage of enterprises that did not report the number of employees, therefore they are unknown whether they are small, medium or large.

Table 4.2

Descriptive statistics of the total sample

	2009		2013		2019	
Variables	Number of firms	Percentage	Number of firms	Percentage	Number of firms	Percentage
Small	2,695	54.23	4,010	73.52	5,825	58.89
Medium	1,847	37.16	1,228	22.52	3,337	33.74
Large	414	8.33	195	3.58	688	6.96
Not reported	14	0.28	21	0.38	41	0.41
Total	**4956**	**100%**	**4545**	**100%**	**9891**	**100%**

The table 4.3 presents the number and percentage of SMEs that conduct direct and indirect exporting and those that do not export. According to the data for 2009, the number of SMEs conducting direct exporting is 1209, or 26.54%, and 500 of SMEs, or 10.98 %, are indirect exporters. In total, 37.52% of SMEs from the sample in 2009 were engaged in international markets in the form of direct exporting, indirect exporting or both. The majority of these SMEs, or 68.65%, are non-exporters. In 2013, the percentage of SMEs that conducted direct exporting is slightly lower compared to 2009, 25.33% or 1332 SMEs were engaged in direct exporting and 615, or 11.70% of SMEs, were engaged in indirect exporting. In total the percentage of SME enterprises that conducted direct exporting, indirect exporting or both was 37.03%. Again the majority of SMEs, around 69.64% were non-exporters. In 2019, the percentage of direct and indirect exporters has increased slightly compared to 2009 and 2013. 33.07% of SMEs, or 3043 enterprises, were direct exporters; 15.43%, or 1420 SMEs, were engaged in indirect exporting. In total 48.5 % of SMEs were engaged in direct exporting, indirect exporting or both and 60.56% are non-exporters.

In addition, table 4.3 provides more information regarding the data and some of the variables. It presents the number of SMEs that conduct product innovation for each sample. In 2009, 55.89% of the SMEs reported to have had product innovation; in 2013, 30.41% reported to have had product innovation, and, in 2019, 32.95 % reported to have had product innovation. Regarding the process innovation, in 2009, there are 71.66% of SMEs that reported they had process innovation. This number decreases in 2013 with 21.38% and 20.90% of SMEs reporting they had process innovation. The percentage of SMEs that reported to have had marketing innovation in 2013 is 25.84%, and the percentage of firms that reported organizational innovation is 23.55%. 8.04% of the SMES, in 2009, had R&D expenditures.

1.88% of SMEs, in 2013, reported to have had R&D expenditures, and 8.29% of SMEs, in 2019, reported to have had R&D expenditures. 61.08% of firms in 2009 had a website. This percentage increased to 67.67% in 2013 and 71.25 % in 2019. It is interesting to observe that, although nowadays the internet has become an important part of the business world, there is relatively high percentage of SMEs that don't have a website. Moreover, 28.98% of SMEs in 2009, 30.42 % in 2013 and 31.25% in 2019 had an international recognized certificate.

Table 4.3

Important statistics for SMEs

	2009		2013		2019	
Variables	Number of firms	Percentage	Number of firms	Percentage	Number of firms	Percentage
Direct exporters	1,209	26.54	1,332	25.33	3,043	33.07
Indirect exporters	500	10.98	615	11.70	1,420	15.43
Non-exporters	3,114	68.65	3,611	69.64	5,513	60.56
Direct importers	649	14.25	755	14.36	3,546	38.54
Product innovation	2,546	55.89	1,599	30.41	3,032	32.95
Process innovation	3,264	71.66	1,124	21.38	1,923	20.90
Marketing innovation	-	-	1,354	25.84	-	-
Organizational innovation	-	-	1,234	23.55	-	-
R&D	366	8.04	99	1.88	855	9.29
Website	2,757	61.08	3,550	67.67	6,550	71.25
International certificate	1,302	28.98	1,558	30.42	2,815	31.25

Figure 4.1 provides a graphical presentation of the percentage of SMEs that are direct exporters, indirect exporters, and non-exporters. The percentage of SMEs engaging in direct and indirect exporting has increased with time, and the percentage of SMEs not engaging in exporting has decreased. Obviously, over the years, SMEs have become more aware of the

benefits of entering the international markets and more eager to engage in direct or indirect exporting. Exporting, as mentioned earlier in the literature review, is a less risky entry mode in international markets, since it requires little capital. Through exporting SMEs can also gather information regarding these markets, what, in turn, will help them to decide whether they should engage in other forms, such as FDI activities. In addition, improvements in technology have also helped SMEs to be more aware of these markets and facilitated international trade. Internet and the increase of online shopping have reduced the cost of exporting and have led to new opportunities for SMEs. Additionally, it has given SMEs the opportunity to reach distant foreign markets without high costs. For instance, nowadays having a website or social media account is a must for SMEs. They can promote their products and sell their products through social media and reach consumers all over the world. These facilities have provided SMEs with the opportunity to reach the same number of customers as large firms.

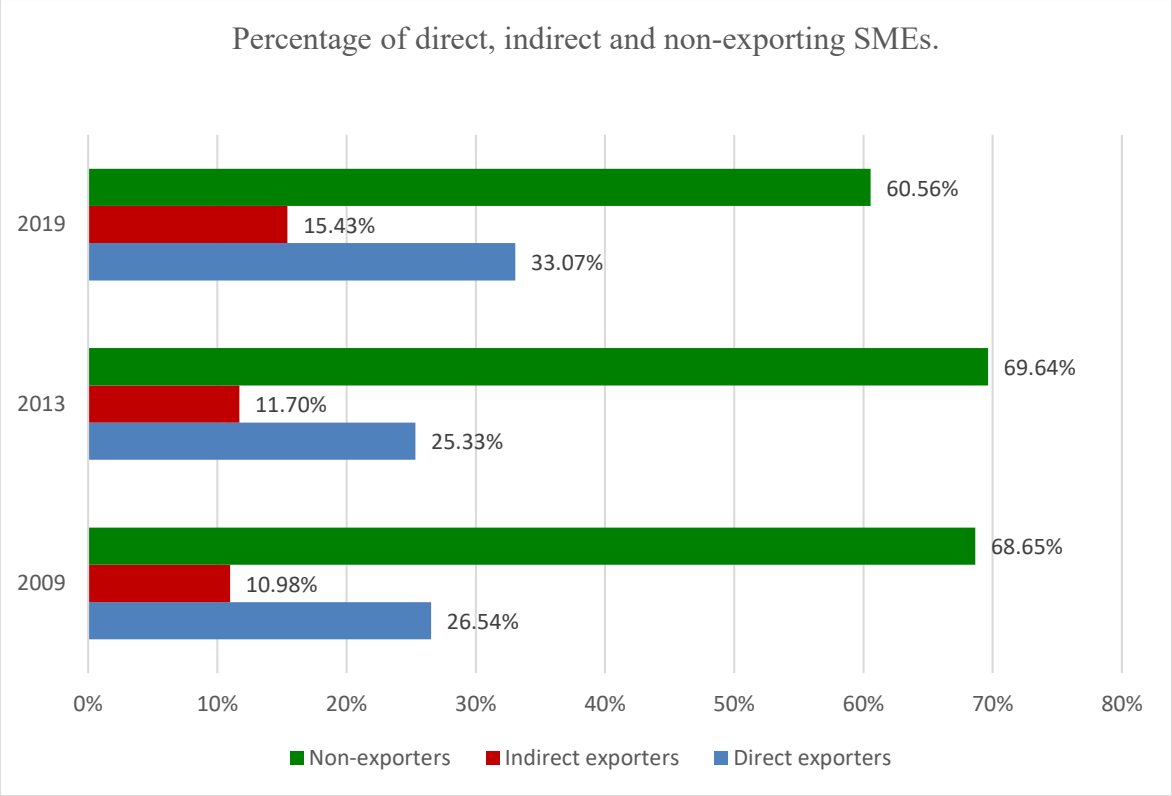

Figure 4.1 International market engagement of SMEs for 2009, 2013, 2019

Figure 4.2 and table 4.4 illustrates the percentage of firms that are engaged in direct or indirect exporting in years 2009, 2013, and 2019, according to the industry they operate and firm size. Figure 4.3 shows clearly that manufacturing is the industry with the highest percentage of firms that have entered foreign markets through direct and indirect exporting. Regarding firm size, in this industry it observed that large firms have the highest percentage of direct and indirect exporting compared to small and medium firms. Large firms in general have the resources and capabilities to enter foreign markets through direct and indirect exporting, including FDI and other entry modes. The trend of large firms that export directly or indirectly has not changed, while for medium firms an increase of around 7% is seen in 2013, and, then, a 6% decrease in 2019 is noticed. The participation of small firms in foreign markets has also increased from 2009 to 2013 and remained the same in 2019, according to the data of the available samples. According to these findings, firms in the retail sector have the lowest participation rate in foreign markets, either through direct and indirect exporting for each year. Also the trend for these firms has not changed much through time. The industry with the second highest participation rate in foreign markets is other services, in which as stated earlier, wholesales, IT, hotel and restaurants, construction, transport or other services of motor vehicles, post and telecommunication sector are included. Regarding this industry, there is an increase of medium and large firms' participation in foreign markets through time, but not much change regarding small firms is to be noticed. Overall, in these three industries, large firms have the highest participation percentage followed by medium firms and small firms.

Table 4.2

Percentage of firms that conduct direct and indirect exporting

	Manufacturing			Retail			Other services		
	Direct and indirect exporter			Direct and indirect exporter			Direct and indirect exporter		
	2009	2013	2019	2009	2013	2019	2009	2013	2019
Small	32.46 %	39.67%	39.37%	11.44%	11.75%	14.29%	26.71%	24.94%	26.71%
Medium	69.58 %	76.75%	70.74%	24.94%	19.30%	23.93%	30.46%	33.22%	44.10%
Large	89.82%	88.00%	88.29%	26.37%	22.22 %	29.75%	35.90%	54.76%	51.22%

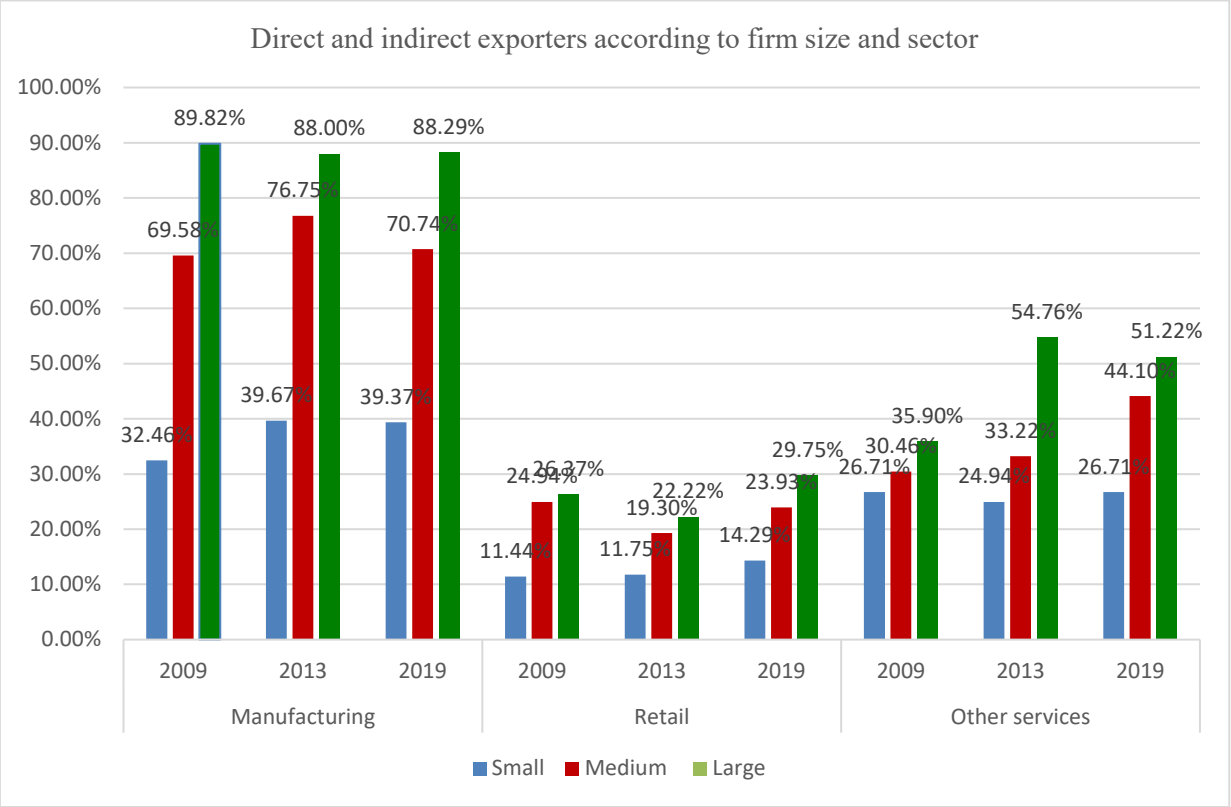

Figure 4.2 Percentage of firms that conduct direct or indirect exporting or both according to firm size and industry

Figure 4.3 also provides a similar picture for SME export activity with regard to industry presented in figure 4.2. This figure provides information regarding average export sales per employee, according to industry and year. In 2009, the manufacturing industry had the highest average export sales per employee, followed by other services sector and retail sector. In 2009, the average export sale per employee, in the manufacturing industry, is 15075.7 euro, in other services it is 9330.48 euro and in retail 3522.95 euro. The same trend is also noticed in 2013 and 2019. In 2013, the average export sale per employee in manufacturing industry is 15356 euro, in other services 9505.12 euro and in retail 3076.92 euro. In 2019, a slight increase in seen in each of the industries. In manufacturing, the average export sales per employee is 20360.7 euro, in other services 13827.4 euro and in retail 4294.2 euro.

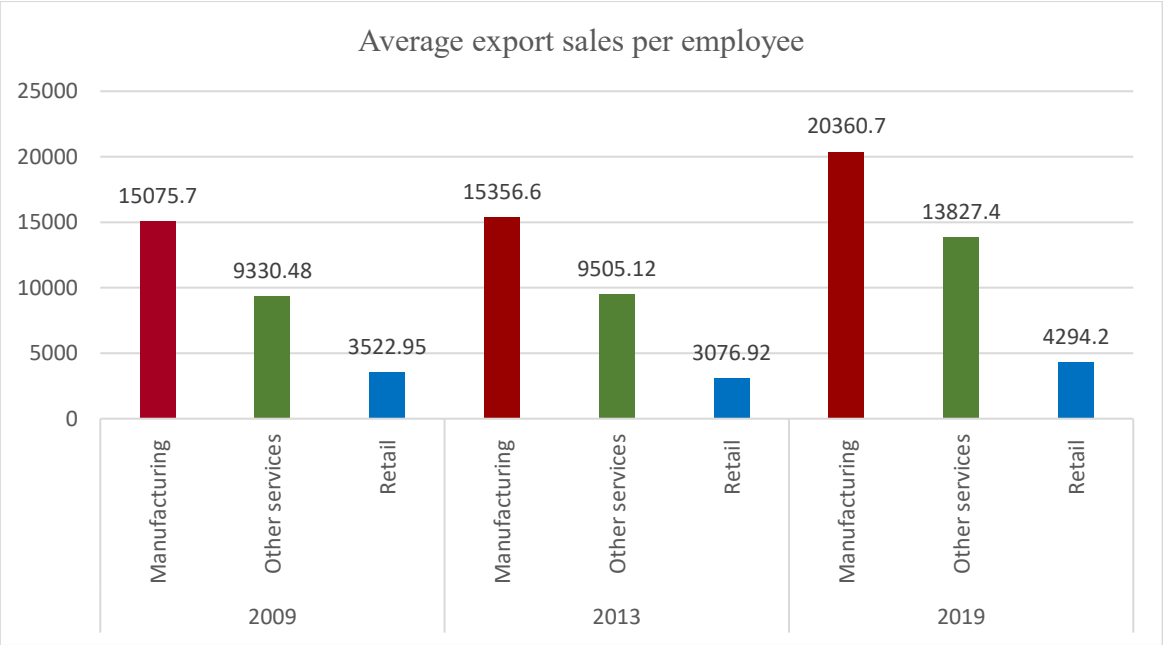

Figure 4.3 Mean of export sales per employee according to industry for SMEs

Figure 4.4 illustrates the average labor cost for each industry in each analyzed year. In 2009, the manufacturing industry has the lowest yearly average labor cost with a value of 7136.39 euro. Manufacturing industry is followed by retail and other services, with respectively 9053.11 euro and 15667.9 euro. It is observed that, in 2013, the lowest average labor cost belongs to the retail sector, 6777.6 euro, followed by manufacturing and other services sector with respectively 7482.44 and 9695.82 euro. In contrast with 2013, in 2019, the manufacturing sector has the lowest average labor cost with a value of 11954.9 euro, followed by other services and retail sector with a value of 13683.3 and 15789.6 euro, respectively. By observing this graph, a link between the average export sales per employee and average labor cost can be created. The Manufacturing sector, which has the highest average export sales per employee, also has the lowest average labor cost, and the retail sector, which has the lowest average export sales per employee, also has high labor cost, although the highest labor cost is seen in other service sectors.

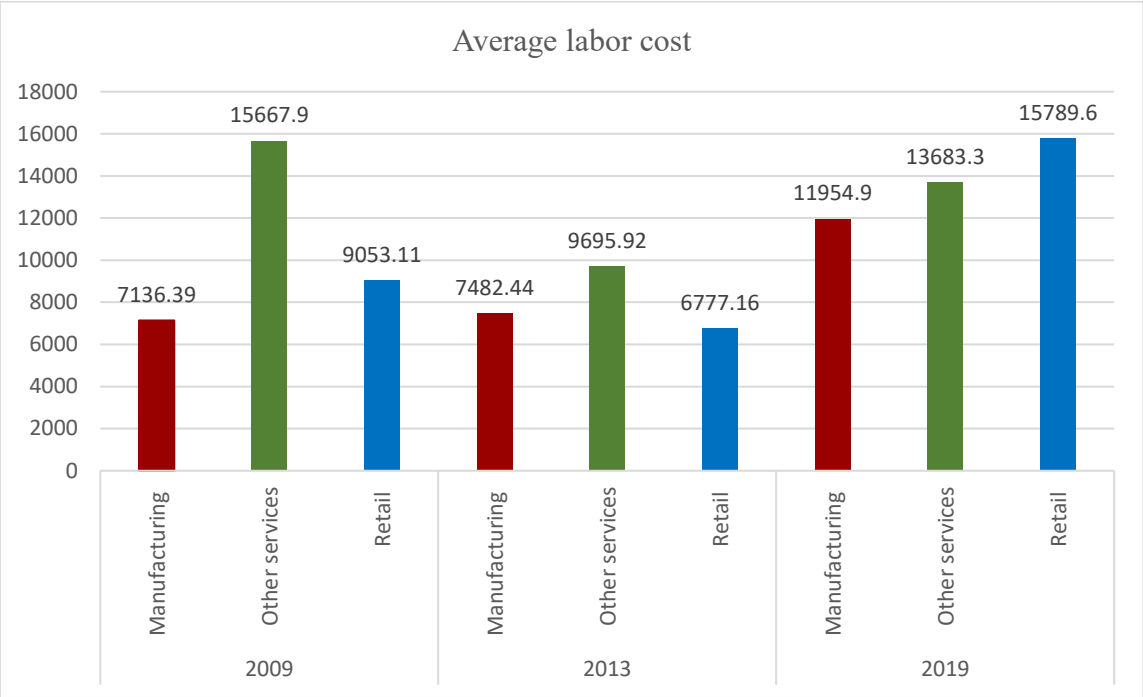

Figure 4.4 Average labor cost according to industry of SMEs

Figure 4.5 illustrates the average number of employees for each industry in each studied year. The average number of employees is higher in manufacturing industry, indicating the higher activity of this industry compared to the others.

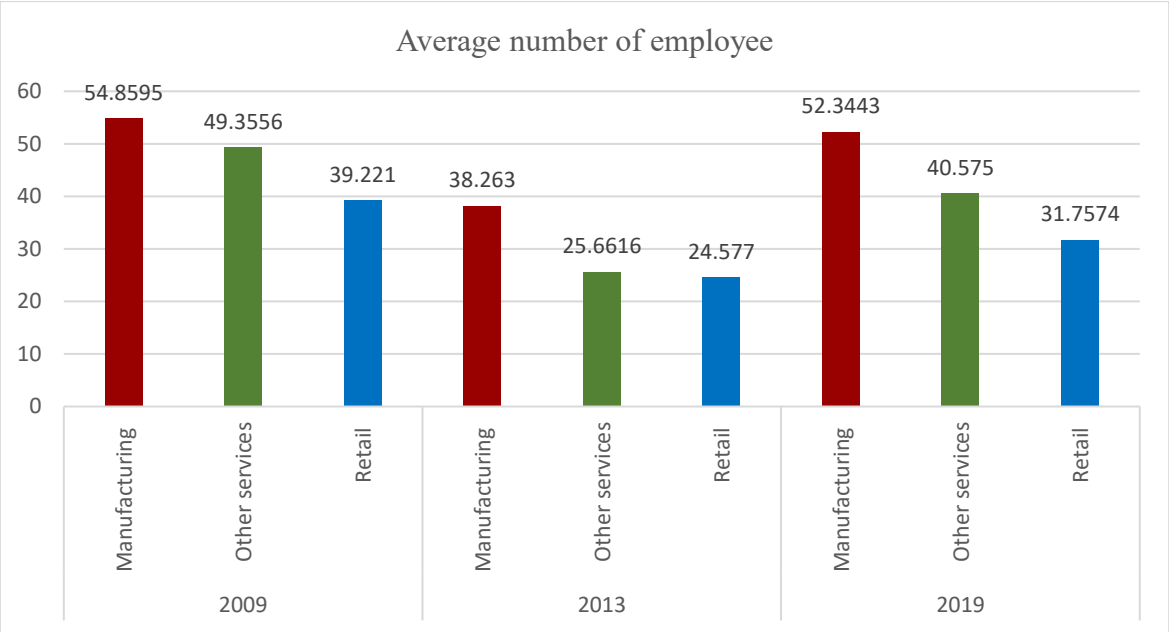

Figure 4.5 Average number of employees of SMEs according to industry

Recently the literature that studies SMEs that internationalize very early after their inception and do not follow the incremental internationalization strategy but follow a global strategy is expanding. Some of these firms are called BG and some INV, depending on the exact definition in the available literature. Therefore, this statistical analysis continues by analysing the timeframe of internationalization after inception of SMEs, in this region. The question asked to firms in the survey was "*In which year did this establishment first export directly or indirectly?"*. Subtracting the inception year from this variable gives the number of years after inception that firms have started to export directly or indirectly. In order to see how the average number of years' firms need to enter foreign markets in each industry, an average of this variable of each industry was considered.

Graphs 4.6, 4.7 and 4.8 below show the average number of years of entering in foreign markets after inception of SMEs in each industry for years 2009, 2013 and 2019. The graphs illustrate that firms operating in other services industry have a lower number of average years of entering foreign markets after inception through direct and indirect exporting for 2009, 2013 and 2019. In 2009, the average years of entering foreign markets for SMEs operating in other service is approximately 3.83 years after inception; for firms operating in the retail sector 5.65 years; and firms operating in manufacturing industry start exporting directly or indirectly on average 6.81 years after inception. In 2013, the average years SMEs start exporting directly or indirectly after inception in other services industry is 4.59; in the manufacturing industry it is approximately 5.65 years and, in the retail sector, it is approximately 6.81 years. From the database of 2019 for SMEs operating in other services industry it takes on average of 5.29 years to start exporting, for SMEs that operate in the manufacturing industry 6.63 years, and, for SMEs operating in the retail sector, 6.83 years.

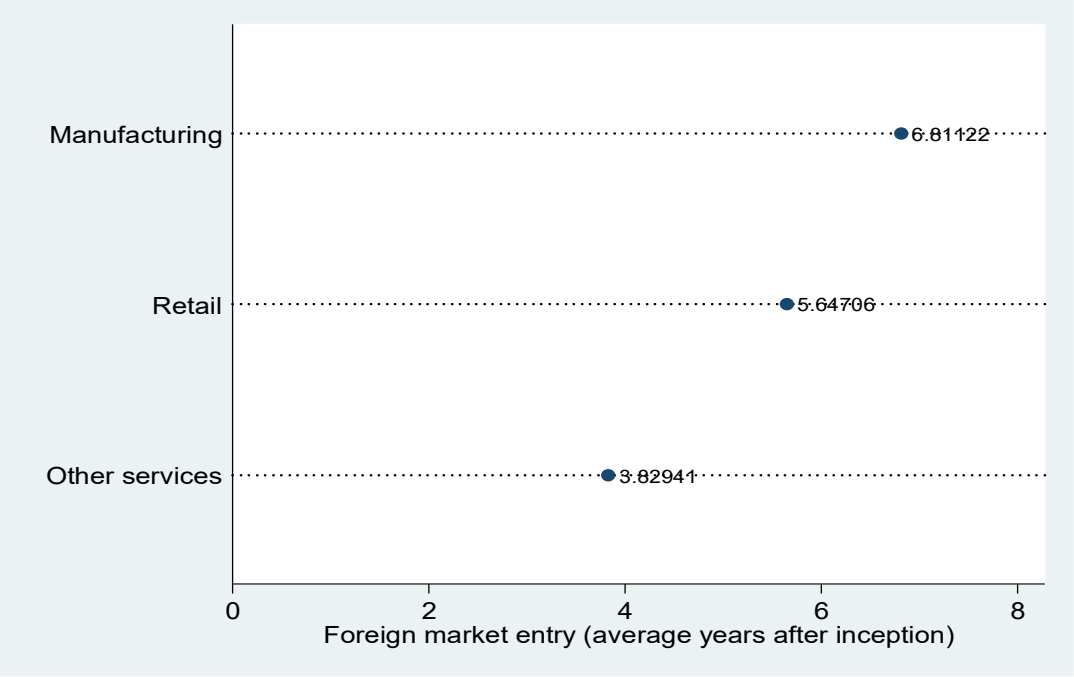

Figure 4.6 Foreign market entry of SMEs in 2009

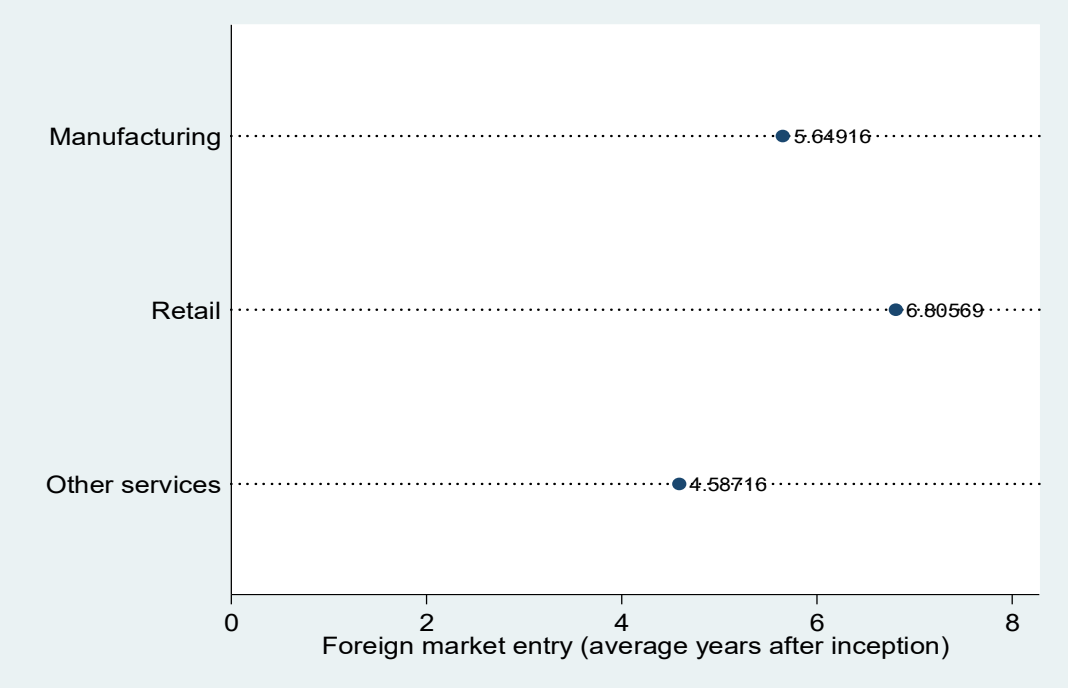

Figure 4.7 Foreign market entry of SMEs in 2013

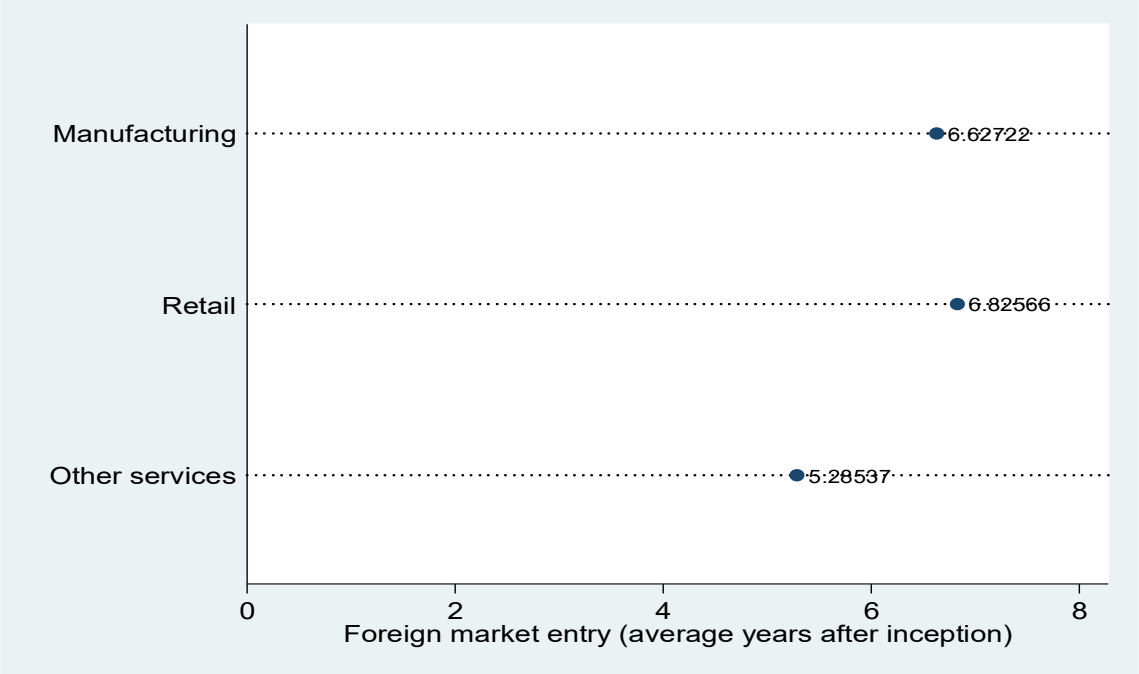

Figure 4.8 Foreign market entry of SMEs in 2019

Another factor that was analyzed is the time span that SMEs have, on average, in foreign markets through exporting or exporting experience. International experience is an important factor to be considered, when studying the internationalization of firms. This variable has been considered to have immense importance from the early studies in international business literature (Eriksson et al., 1997; Johanson &Vahlne, 1977). A firm's history in international markets creates valuable resources and enables the gathering of knowledge to further identify more opportunities. Experience and knowledge are interconnected with each other. Papadopoulos (2010) define international experience as the sum of experiential knowledge from activities in international markets over time and it is affected by both time and the diversity of operations. Early studies highlight the importance of experiential knowledge in the process of internationalization and argue that experiential market knowledge is very important and can be a main obstacle, if absent, in the process of firm internationalization. Especially for young international new ventures, the absence of stock of foreign knowledge and established organizational routines affects negatively their absorptive capacity of new knowledge (Zahra et al., 2000). International experience can affect export performance of firms. Oura at al. (2015) study the impact of international experience in export performance in emerging economies and conclude that international experience has a positive significant impact in export performance of SMEs in Brazil and this impact of international experience was greater than innovation capacity. However, there are also studies that find no evidence

of a significant impact international experience in export performance (Abdul-Talib, Salleh, Mohd-Shamsudin, & Ashari, 2011)

Based on the study of Love et al. (2016), international experience is considered as the period of time firm has been doing business in foreign markets and was derived by subtracting the year firms started to enter foreign markets through direct and indirect exporting from the year data were collected, more specifically 2009, 2013 and 2019. The figures 4.7, 4.8 and 4.9 below show the average number of years' firm have been operating in foreign markets since inception, still according to three main industries, manufacturing, retail and other services. In 2009, on average manufacturing SMEs have been operating the longest in international markets. SMEs in manufacturing industry in 2009 have been operating in foreign markets on average 11.57 years since inception, followed by other services and retail industry. The SMEs in other services industry have been operating in foreign markets on average 11.47 years, and SMEs in retail industry for 9.06 years. A similar situation is also observed in 2013, when SMEs from manufacturing industry on average have been operating the longest in international markets through direct and indirect exporting and SME in retail industry the shortest. Manufacturing SMEs have been in foreign markets on average around 12.39 years; other services SMEs around 11.2 years and retail SMEs around 9.67 years. In 2019, manufacturing SMEs have an average of around 15.87 years, other services SMEs around 14.08, and retail SMEs around 11.74 years.

The Analysis of the variable of earliness in international market and international market experience highlighted that retail sector SMEs are the ones that enter foreign markets the latest and obviously have the shortest time period in foreign markets. In contrast, manufacturing firms are the ones that have the longest time period in foreign markets through exporting and internationalize earlier, compared to firms in other sectors.

Figure 4.9 International experience of SMEs in 2009

Figure 4.10 International experience of SMEs in 2013

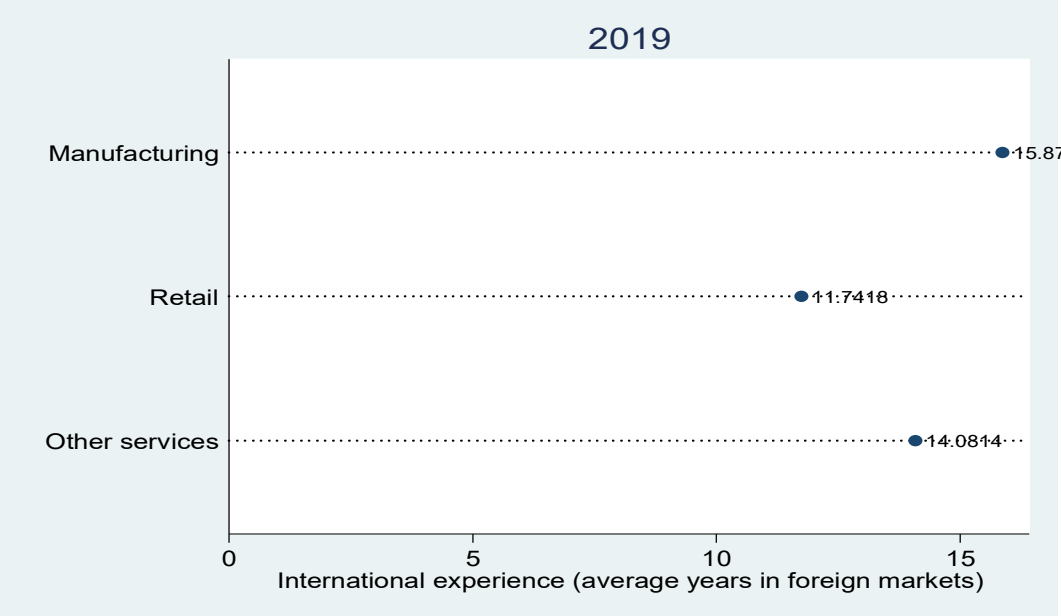

Figure 4.11 International experience of SMEs in 2019

There are many drives for SMEs internationalization that are discussed in the available literature in the field, and one of the most important is their innovation capacity. Innovation impacts firms directly, by increasing exports thanks to the new products or services firms develop or by impacting their productivity. Innovation increases firm productivity, which, in turn, encourages firms to enter foreign markets. It is well-established in the literature that exporting firms are more productive than non-exporters. The most productive firms are the one that self-select into exporting and foreign market. And through exporting firms become even more productive through the experience and knowledge they get in foreign markets (Gkypali et al., 2021). Therefore, this statistical analysis continues thought exploring these relationships between innovation and exporting, innovation and productivity and productivity and exporting.

This thesis measures productivity through the continuous variable of labor productivity calculated as the firm's total sales divided by the number of full-time employees. First it was checked if the variable of labor productivity in hand has a normal distribution by looking at the histogram of the variable. The variable of labor productivity did not have a normal distribution; therefore, the natural logarithm of the variable is considered. To explore if there is a relationship between product and process innovation with labor productivity, a point-biserial correlation coefficient was derived from Stata. The correlation coefficient shows

positive but relatively weak relationship of 0.1180 between product and process innovation and labor productivity in 2009. This relationship is statistically significant at 1% level of significance. A quantile-quantile plot gives visual information regarding this relationship between the two variables and it can be seen from the graph that there is a positive relationship between them in 2009. This relationship is similar for 2013 and 2019. In 2013, the correlation between the variables is positive but smaller than in 2009, - 0.0604 - and it is significant at 1% level of significance. In 2019, the correlation coefficient is 0.0883 and statistically significant at 1% level, which indicated a weak positive relationship between the variables. The graphs below also show that SMEs that have product and process innovation have higher productivity. The three graphs below show that data of SMEs answering positively to product and process innovation rely higher compared to SMEs that reported to not have had product and process innovation.

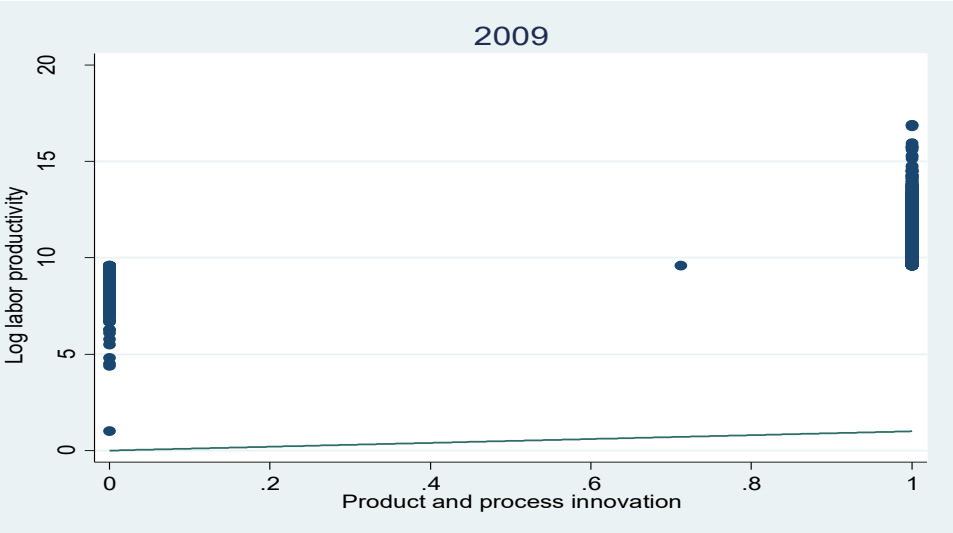

Figure 4.12 Point-biserial correlation of labor productivity and innovation, 2009

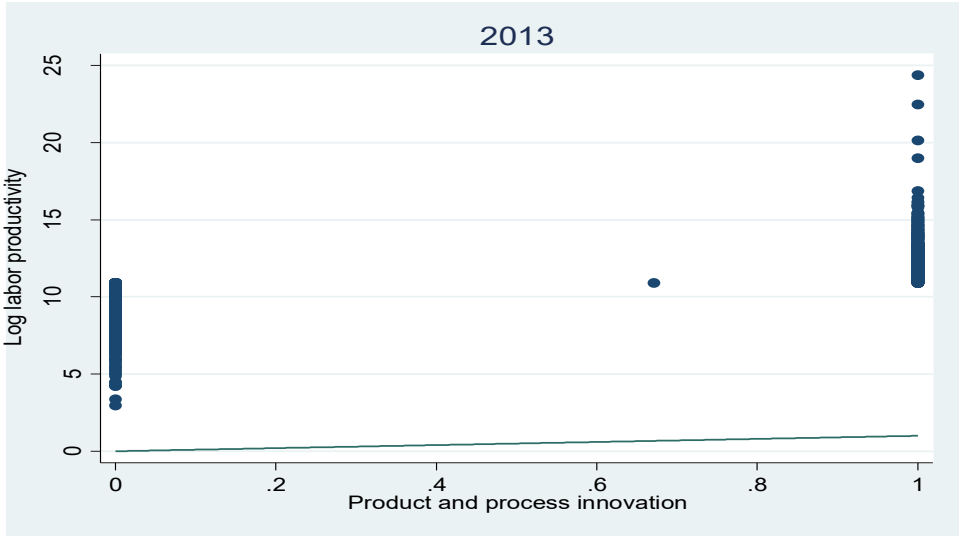

Figure 4.13 Point-biserial correlation of labor productivity and innovation, 2013

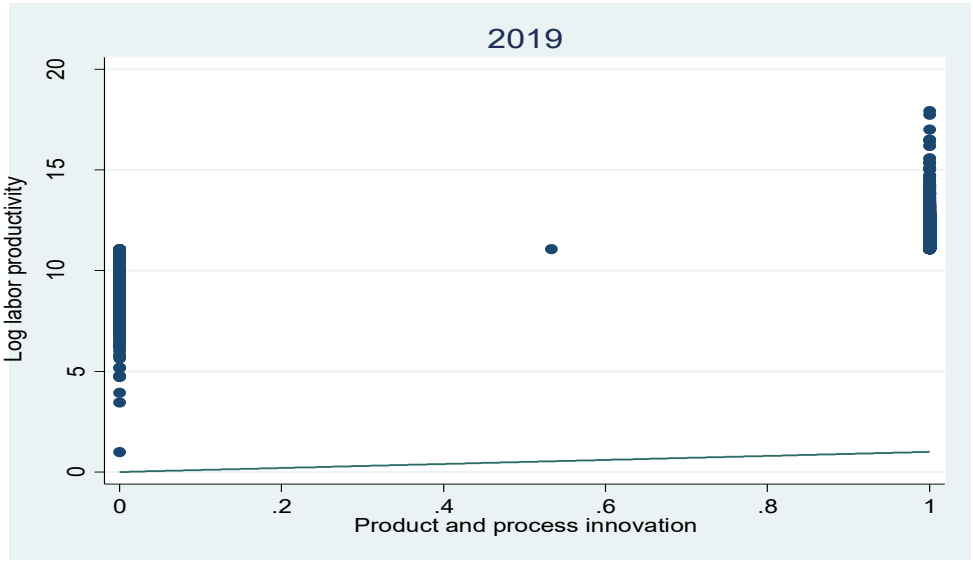

Figure 4.14 Point-biserial correlation of labor productivity and innovation, 2019

Innovation activities are largely seen as drivers of exporting, and R&D activities are a very necessary condition to generate product and process innovation because they increase the likelihood for discoveries and new products. Therefore, the relationship between R&D activity and exporting in SMEs was also investigated. R&D activity in the survey is defined as cost of research and development activities, either in-house or contracted with other companies. Through the analysis of the three graphs below, it can be stated that firms, which over the last three years have spent on research and development activities, either in-house

or contracted with other companies, on average have higher export intensity compared to firms that did not conduct research and development activity. In addition, a positive relationship between R&D activity and export intensity during 2009, 2013 and 2019 is noticed, as well.

Figure 4.15 Point-biserial correlation of export intensity and R&D 2009

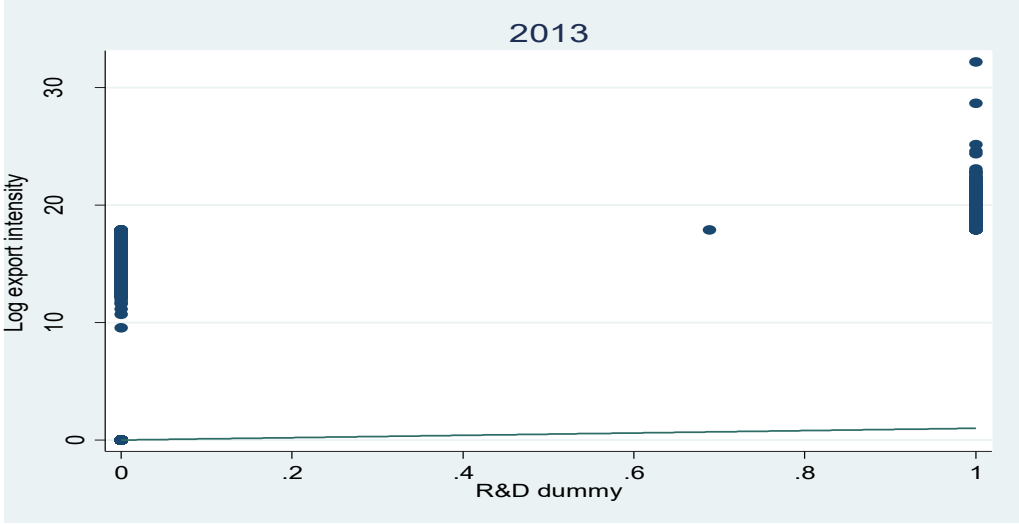

Figure 4.16 Point-biserial correlation of export intensity and R&D 2013

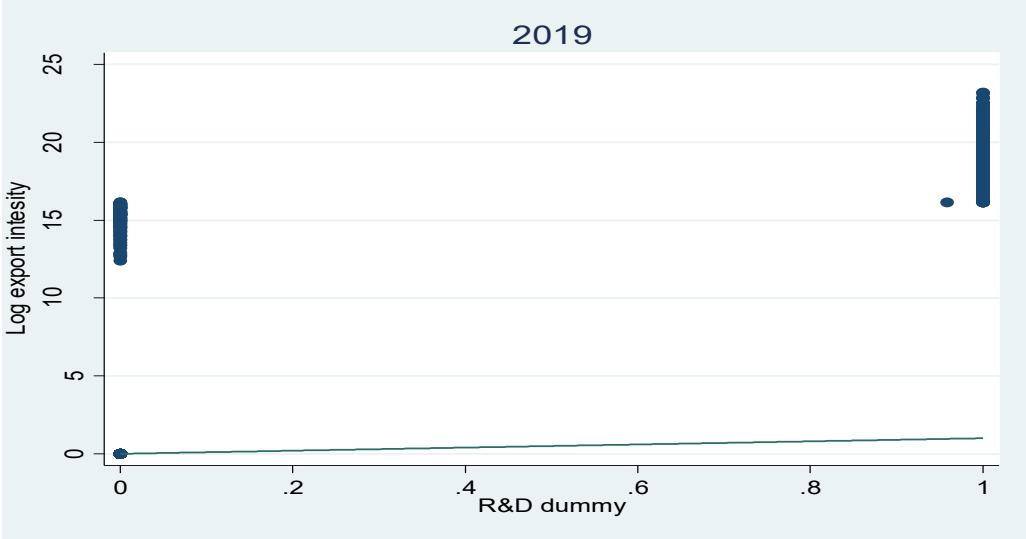

Figure 4.17 Point-biserial correlation of export intensity and R&D 2019

After that, the relationship between productivity and exporting in SMEs was analysed. Firstly, in order to see the type of the relationship, a correlation coefficient was drawn from the Stata. In 2009, the correlation coefficient between the variable of *labour productivity* for SMEs and *export intensity* is 0.4536 and statistically significant at 1% level of significance, which shows positive relationship between labour productivity and export intensity. In 2013, the correlation coefficient is 0.5627 and statistically significant at 1% level of significance, which again shows a positive relationship between labour productivity and export intensity. In 2019, this relationship is slightly weaker than in 2013; nevertheless, it is again positive and statistically significant at 1% level of significance. The scatter plots for the two variables drawn from Stata show clearly a positive relationships and this relationship is also statistically significant. Falk & de Lemos (2019) find that both export participation and export share or export ratio to total sales for SMEs depend significantly and positively on labour productivity and R&D expenditure. Labour productivity is key element for both export participation and export intensity.

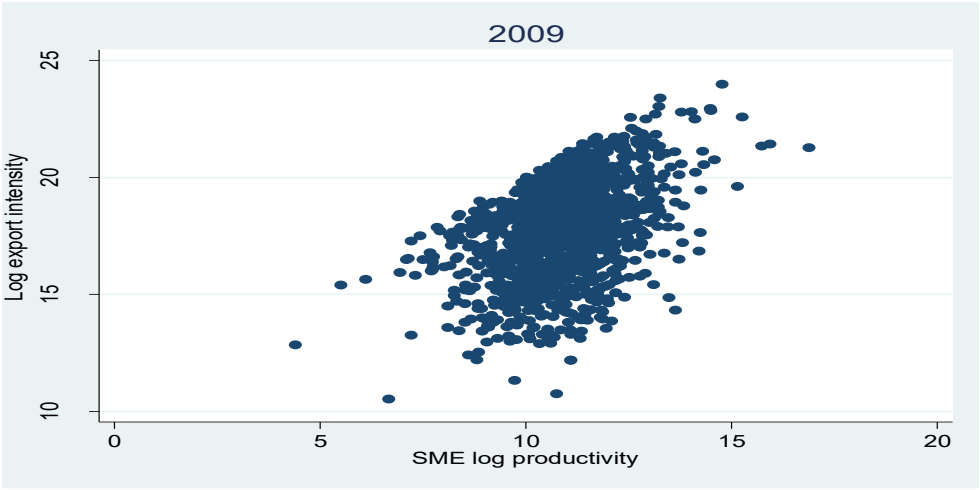

Figure 4.18 Scatter plot of export intensity and labor productivity 2009

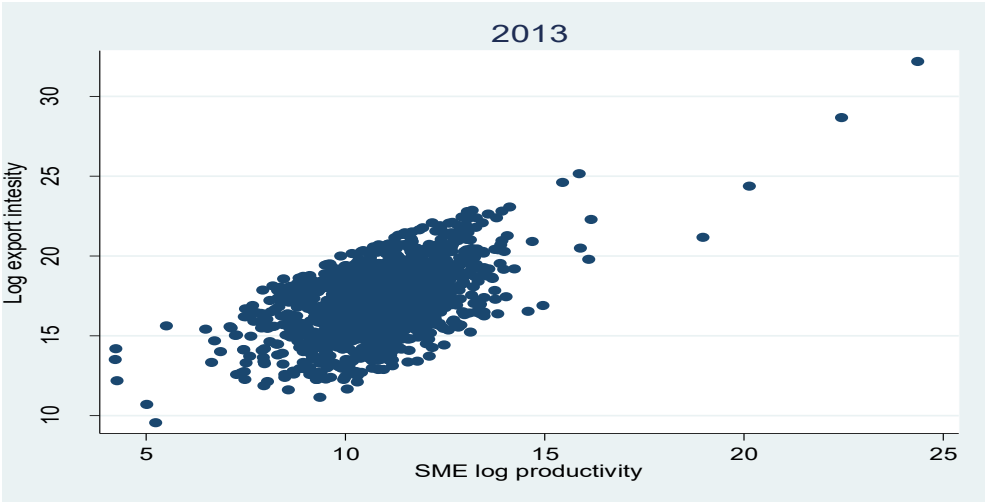

Figure 4.19 Scatter plot of export intensity and labor productivity 2013

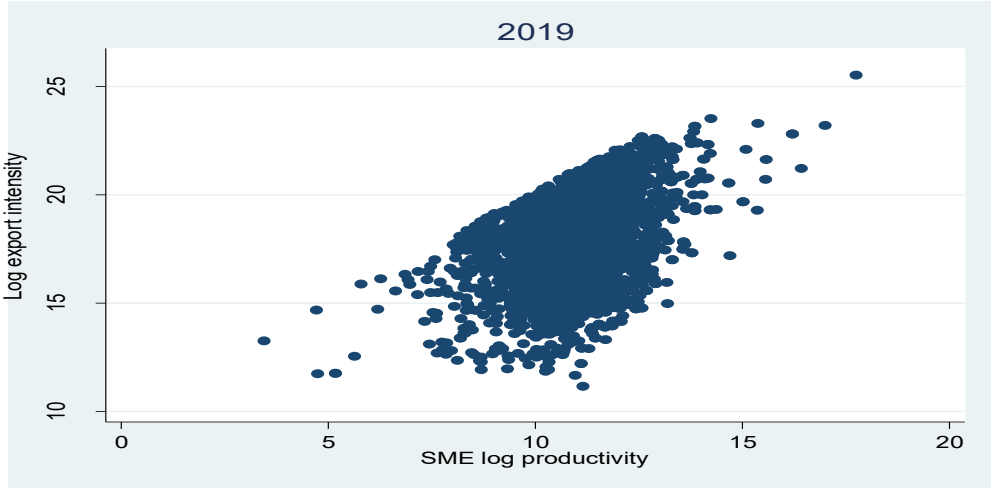

Figure 4.20 Scatter plot of export intensity and labor productivity 2019

4.5 Empirical model with cross-sectional data

4.5.1 OLS regression model

The first econometric model used is a linear regression model, in which the depended variable is a continuous variable. The model takes the form as follow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_2 \dots\dots\dots + \beta_k X_k + u$$

in this, *Y* is the dependent variable or the natural logarithm or export sales and *X* stands for the explanatory variables. The estimator used in this case is an ordinary-least-square (OLS) estimator. The OLS is the most-widely used estimator in cross-sectional data. This estimator works best with this kind of data and is the best linear unbiased estimator BLUE, if the five Gauss-Markov assumptions are fulfilled. These assumptions are as given below:

1) The linearity of parameters β_0, β_1.. β_k
2) Random sampling
3) Sample variation in the explanatory variables
4) Zero conditional mean
5) Homoscedasticity of the variance of the errors

4.5.2 Probit regression model

The second econometric model used is a probability model in which the depended variable is a dummy variable or the propensity to export. Logit and probit models are the two main standard binary outcome models. Both models use the maximum likelihood estimator (MLE). The difference between these model is that the logit model uses the logistic cumulative distribution function while probit model uses the standard normal cumulative distribution function. Therefore, the model used to adequately approach the available data takes the form as follows:

$$\Pr(Export\ propensity = 1) = \Phi(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_2 \dots\dots\dots + \beta_3 X_2)$$

$Export\ propensity$ takes values: 1 if the SMEs are exporting

0 if SMEs are not exporting

Φ is the standard normal cumulative distribution function and *Pr.* is the probability that $Export\ propensity$ will take value 1. The vce (robust) option is used in order to obtain robust standard errors, which account for the problem of heteroscedasticity (Cameron & Trivedi, 2009).

Before running the regressions, a correlation matrix of all the variables is undertaken for each analyzed year, to account for any problem of multicolinearity. To see whether the models are correctly specified and that it is not the case of omitted variables, a *linktest* is run for each model. Except for the base models, model 1, the tests in general show that the models are correctly specified and there are no omitted variables. The linktest is a model specification test, in which the null hypothesis is that the model has no omitted variables. The linktest creates a variable of the prediction squared and runs a regression of depended variable on the prediction and prediction squared. In this test the prediction squared should not have any explanatory power. The probit[3] model has also a latent variable explanation where the latent variable Y^* is equal to:

$$Y^* = x'\beta + \varepsilon_i$$

and it is observed

$$Y_i = \begin{cases} 1\ if\ Y^* > 0 \\ 0\ if\ Y^* < 0 \end{cases}$$

And, given the latent variable, the probability is equal to:

$$\Pr(Y = 1) = \Pr(x'\beta + \varepsilon_i > 0)$$

$$\Pr(Y = 1) = \Pr(-\varepsilon_i > x'\beta)$$

$$\Pr(Y = 1) = \mathrm{F}(x'\beta)$$ (Cameron & Trivedi, 2009)

4.5.3 Tobit regression model

There is a considerable number of SMEs that do not have any exporting activities in the total sample of firms. Therefore, these firms have reported zero exporting. However, removing

[3] The probit model has been estimated using the *probit* Stata command.

these firms from the sample and conducting a regression model only for firms that are exporting will lead to selection biasness. In these cases, one of the models that is widely used in the available literature is the Tobit model[4] (Gashi et al., 2014; Kotorri & Krasniqi, 2018; Mulliqi et al., 2019; Reis, 2016). Tobit model is used when the depended variable is observed only for a certain interval of the variable. The tobit model, also known as the censored regression model, is applied when the depended variable is right or left censored. Zeros of the depended variable in this study are considered censored observation, and, in this case, the latent variable Y^* , is observed when $Y^* > ll(0)$, $ll(0)$ is the lower limit zero. In other words, Y^* is observed when it takes positive values. In this case, the depended variable is left-censored. Therefore, the model tried to fit the data at hand takes the form as follows:

$$Y^* = \exp(X_i\beta + \varepsilon_i) \qquad \varepsilon_i \sim N(0, \sigma^2)$$

The latent variable Y^* is related to the observed variable Y_i as below:

$$Y_i = \begin{cases} Y^* \; if \; \ln Y^* > 0 \\ 0 \; if \; \ln Y^* \leq 0 \end{cases}$$

This model uses the maximum likelihood estimator (MLE) (Cameron & Trivedi, 2009).

A tobit model using an MLE is consistent under two important assumptions: the first is that the errors need to have a normal distribution and be homoscedastic. The tobit model is very sensitive to these two assumptions and can be inconsistent, if the errors are not normally distributed and if they are heteroskedastic. In this case, the dependent variable of export sales is skewed and does not have a normal distribution. This characteristic of the dependent variable could lead to the possibility that tobit MLE estimator is an inconsistent estimator. In this condition, a better model would be to take the natural logarithm of the depended variable, as this can regulate the distribution of the depended variable. However, a lognormal depended variable demonstrates two main complications; the first is that the natural logarithm of zeros is undefined, and if the logarithm of zero is considered, it would lead to a nonzero threshold. To account for this problem, the natural logarithm of (*export sales+1*) is taken. Adding 1 to zeros and taking their natural logarithm will give zero and this will enable to fit the tobit model to our data and setting the lower limit zero. Also in this model, robust standard errors for the problem of heterorskedasticity are used. Tobit model is very sensitive to the assumptions of normality and heteroscedasticity, therefore to see if the

[4] The Stata command used was *tobit.*

model's results are robust for each year, they are compared to the OLS and probit model. Observing the results of these three models, it can be concluded that they are robust and do not change from model to model and from year to year.

5. RESULTS

This chapter provide the results of three empirical models used, the OLS, probit and tobit for the three rounds of periods, 2009, 2013 and 2019. In the end it also provides a comparison of these results giving more insight regarding their robustness and interpretation.

Tables 9, 11, and 13 gives descriptive statistics regarding the variables used in the models of 2009, 2013 and 2019. The descriptive statistics provides information regarding the number of observation, the mean, standard derivation, the minimum value and the maximum value of the variables. Before running the regressions, a correlation matrix is obtained for the explanatory variables for each period. The correlation matrix shows no signs of problems of multicollinearity for each year. Tables 10, 12 and 14 present the correlation matrix for 2019,2013 and 2009.

Table 5.1 gives information regarding descriptive statistics for the sample of year 2009 regarding all the continuous variables that are used in the 5 models. It shows the number of observation, mean, standard deviation, the minimum value and the maximum values.

Table 5.1

Descriptive statistics of variables in 2009

	Obs.	Mean	Std. Dev	Min	Max
Ln age	4,493	2.563834	0.645062	0	5.204007
Ln size	4,555	3.174108	1.241117	0	5.521461
Foreign ownership	4,510	8.68071	26.60524	0	100
Ln productivity	3,761	10.59351	1.324627	1.019515	16.88956
Sales growth	3,226	31.44234	157.7503	-0.9995659	2756.035
Ln R&D	366	9.92098	1.752459	4.273854	15.51231
Foreign input	1,467	40.63463	39.13385	0	100
University degree	4,395	15.07918	20.91487	0	100
Skilled workers	1,481	56.32656	25.39427	0	100
Ln average labour cost	3,879	8.418969	1.147479	1.354936	15.182
Industry experience	4,413	17.23725	9.58342	1	53

Table 5.2 shows a correlation matrix for the sample of year 2009. The correlation matrix is used to identify if there is a problem of multicollinarity among the independent variables. The tables show no problem of multicollinarity among the independent variables in these samples, as all the variables have a correlation that is lower than 0.4.

Table 5.2

Correlation matrix of variables in 2009.

	1	2	3	4	5	6	7	8	9	10	11
Ln age	1.00										
Ln size	0.27	1.00									
Foreign ownership	-0.02	0.28	1.00								
Ln productivity	0.01	0.07	0.20	1.00							
Sales growth	0.20	0.10	0.05	0.20	1.00						
Ln R&D	0.13	0.45	0.25	0.29	0.18	1.00					
Foreign input	-0.03	-0.08	0.06	0.11	0.00	0.08	1.00				
University degree	0.00	-0.03	0.08	0.08	0.00	0.05	0.15	1.00			
Skilled workers	-0.19	-0.18	-0.02	-0.09	-0.10	-0.10	0.08	0.06	1.00		
Ln average labour cost	0.12	0.18	0.23	0.32	0.30	0.23	0.09	0.10	-0.04	1.00	
Industry experience	0.14	-0.09	-0.11	0.05	0.00	0.04	-0.04	0.03	0.07	0.12	1.00

Table 5.3 also shows the descriptive statistics for the sample of year 2013. It gives information regarding the number of observation for each of the variables in the first column, the mean, the standard deviation, the minimum value and the maximum value.

Table 5.3

Descriptive statistics of variables in 2013

	Obs.	Mean	Std. Dev.	Min	Max
Ln age	5,212	2.612599	0.637935	0	4.882802
Ln size	5,258	2.739657	1.065312	0	5.521461
Foreign ownership	5,206	7.256627	24.59114	0	100
Ln productivity	4,445	10.47821	1.455503	2.966347	24.36785
Sales growth	3,686	4.384115	52.74143	-1	1472.355
Ln R&D	99	10.14477	1.533723	6.679238	14.60397
Foreign input	1,687	42.57795	38.7981	0	100
University degree	5,036	20.12153	25.21358	0	100

Skilled workers	1,644	58.9576	24.65159	0	110
Ln average labour cost	3,773	7.878978	2.374676	0	13.41005
Industry experience	5,115	18.60547	9.728961	1	100

Table 5.4 provides information correlation for variables used in this sample. The correlation matrix shows that there is no sign of multicollinarity problem in the independent variables used in this sample. The correlation among independent variables is below 0.7.

Table 5.4

Correlation matrix of variables in 2013

	1	2	3	4	5	6	7	8	9	10	11
Ln age	1.00										
Ln size	0.31	1.00									
Foreign ownership	-0.23	0.25	1.00								
Ln productivity	-0.06	0.05	0.57	1.00							
Sales growth	-0.07	0.08	0.34	0.01	1.00						
Ln R&D	0.48	0.64	0.07	0.01	0.05	1.00					
Foreign input	-0.09	-0.29	0.06	0.20	-0.24	-0.42	1.00				
University degree	-0.18	-0.47	0.12	0.28	-0.08	-0.18	0.43	1.00			
Skilled workers	0.10	-0.07	-0.38	-0.26	0.17	-0.06	0.02	-0.15	1.00		
Ln average labour cost	-0.30	0.10	0.25	-0.18	-0.03	-0.35	0.11	0.01	-0.28	1.00	
Industry experience	-0.09	-0.08	-0.18	-0.21	-0.14	-0.02	-0.12	-0.10	0.16	-0.03	1.00

Table 5.5 provides a correlation of the same descriptive information regarding the dependent variables of sample 2019.

Table 5.5

Descriptive statistics of variables in 2019

	Obs.	Mean	Std. Dev.	Min	Max
Ln age	9,159	2.821831	0.6310712	0.6931472	5.32301
Ln size	9,202	3.11721	1.16448	0	5.521461
Foreign ownership	9,119	8.011734	26.04351	0	100
Ln productivity	8,154	10.76027	1.165937	0.9919306	17.93646
Sales growth	7,269	0.6066218	8.787469	-0.9	383.9133
Ln R&D	855	10.06892	1.907833	1.170259	16.1181
Foreign input	8,791	35.91275	37.02441	0	100

University degree	3,417	19.03366	22.02699	0	100
Skilled workers	3,936	24.2517	25.16292	0	150
Ln average labour cost	7,356	8.917665	1.162604	-4.686381	15.20983
Industry experience	8,989	20.83513	10.22932	1	60
Management family	5,913	75.299	36.795	0	100

Table 5.6 provides information correlation for variables used in this sample. The correlation matrix shows that there is no sign of multicollinarity problem in the independent variables used in this sample. The correlation among the independent variables is below 0.7.

Table 5.6

Correlation matrix of variables in 2019

	1	2	3	4	5	6	7	8	9	10	11	12
Ln age	1.00											
Ln size	0.25	1.00										
Foreign ownership	-0.08	0.09	1.00									
Ln productivity	0.01	0.15	0.30	1.00								
Sales growth	-0.18	-0.19	0.00	0.06	1.00							
Ln R&D	0.15	0.27	0.19	0.45	0.08	1.00						
Foreign input	0.00	0.04	0.11	-0.02	-0.05	-0.02	1.00					
University degree	-0.05	0.08	0.09	0.04	-0.20	0.23	0.07	1.00				
Skilled workers	-0.06	-0.18	0.07	-0.10	-0.14	-0.09	-0.03	0.08	1.00			
Ln average labour cost	0.05	0.29	0.31	0.64	-0.04	0.40	-0.11	-0.02	-0.16	1.00		
Industry experience	0.13	-0.19	-0.39	-0.02	0.01	-0.13	-0.17	-0.17	-0.18	0.02	1.00	
Management family	-0.20	-0.36	-0.22	-0.24	0.15	-0.23	-0.10	-0.14	-0.06	-0.22	0.16	1.00

5.1 OLS regression results

5.1.1 Regression results 2009

Table 15 presents the OLS regression results for year 2009. The results of OLS regression are obtained to compare them with tobit and probit models and see their robustness. The first model considers only the main variables, which are *age* of SMEs, *size*, the percentage of *foreign ownership*, *labor productivity* and *sales growth*. In order to came as much close to the normal distribution as possible variables of *age*, *size* and *labor productivity* are included

in the models in the natural logarithm form. The natural logarithm form helps to regulate variables that have a skewed distribution. The skewness of the distribution of variables can be very problematic, especially in the case of Tobit model, since this type of model is very sensitive to skewed distribution of variables. *Sales growth* variable is included in the model as a growth rate. In the first model the variables of *age* and *size* impact on firm performance is positive. However, *age* appears to be statistically insignificant and *size* is statistically at 1% level of significance. The size variable according to OLS model shows that as the firm gets larger, the impact this has on SME's performance is positive and these results regarding this variable are consistent for the five models built. This study finds no statistically significant effect of age on export performance for 2009 data. *Foreign ownership* is statistically significant and its impact is positive in all five models. Foreign owners have connections and networks and can help SMEs to overcome their liabilities of foreignness, newness and smallness. The results of these variables are as expected, in accordance with the hypothesis. *Labor productivity* also has a positive and statistically significant effect in all five models for the data of 2009. This variable is statistically significant at 1% and 5% level of significance for the five models. The same results are also obtained from *sales growth* variables. Also this variable is statistically significant at 1%. These two variables are measures of firm's performance and they show that the higher the firm performance measured by *sales growth* and *labor productivity* the higher their export performance.

The second model, in addition to the first model, includes the variables of innovation. Innovation in 2009 is measured with the variables of *product innovation*, *process innovation* and the natural logarithm of *R&D expenditure*. Product innovation has a negative impact but this impact is insignificant. Process innovation has a positive sign and is significant at 10% level of significance. R&D expenditure have a positive impact and significant at 5% level of significance. The number of observation drops from 3181 in the first model to 308 in the second model and this happens because of the R&D expenditure. R&D expenditure tend to be very expensive for SMEs and not many of them have financial resources. However, nowadays there is an increasing number of SMEs that conduct R&D. The results regarding this variable are in line with what was hypothesized, based on the previous literature. In the third model the variables of *foreign input* and *direct importing* are included These two variables measure the impact of imports on export performance and they both, as expected, have a positive sign. The impact of *direct importing* is statistically significant at 1% level of significance, while the variable of *foreign input* is statistically insignificant.

The fourth model includes variables of human capital, which are *university degree, job, skilled workers, ln average labor cost* and *industry experience*. All these variables have a positive impact in export performance, but this impact is statistically insignificant in the case of OLS model for 2009 data.

The fifth model included variables of *foreign technology acquisitions*, *website* and *international certificate.* The three variables have positive impact on export performance. The impact of *foreign technology acquisitions* and *international certificate* variables is highly significant, while website is statistically insignificant. The signs of these variables are in line with what was hypothesized in the previous section.

In addition, in the five models built, two dummy variables of industries, - a dummy variable for manufacturing industry and a dummy variable for the category of other services – are included, keeping outside of the model the dummy for retail sector. The impact of these variables is significant in the first model but insignificant in the other models.

Table 5.7

OLS regression results 2009

VARIABLES	(1) Export performance	(2) Export performance	(3) Export performance	(4) Export performance	(5) Export performance
Ln age	0.147	-0.460	-0.323	-0.0818	-0.0504
	(0.180)	(0.450)	(0.335)	(0.302)	(0.292)
Ln size	1.282***	2.347***	2.558***	2.524***	2.254***
	(0.0838)	(0.332)	(0.192)	(0.166)	(0.173)
Foreign ownership	0.0241***	0.0107	0.0136**	0.0304***	0.0270***
	(0.00446)	(0.0102)	(0.00614)	(0.00599)	(0.00619)
Ln labor productivity	0.896***	0.724**	0.911***	0.990***	0.944***
	(0.0816)	(0.318)	(0.181)	(0.190)	(0.160)
Sales growth	0.00335***	0.00353**	0.00441***	0.00701***	0.00751***
	(0.000751)	(0.00138)	(0.00139)	(0.00168)	(0.00170)
Product innovation		-0.138			
		(0.892)			
Process innovation		2.424*			
		(1.413)			

Ln R&D		0.467**			
		(0.215)			
Manufacturing	4.671***	2.183	1.471	0.123	-0.150
	(0.245)	(2.365)	(1.538)	(1.554)	(1.428)
Other services	0.864***	1.979	-0.146	-1.207	-1.436
	(0.229)	(2.776)	(1.973)	(1.884)	(1.733)
Direct importing			2.255***		
			(0.495)		
Foreign input			0.00946		
			(0.00610)		
University degree				0.00705	
				(0.0121)	
Job training				0.213	
				(0.389)	
Skilled workers				0.0120	
				(0.00742)	
Ln average labor cost				0.133	
				(0.209)	
Industry experience				0.0164	
				(0.0186)	
Foreign technology					1.121***
					(0.425)
Website					0.569
					(0.411)
International certificate					0.906**
					(0.425)
Constant	-11.87***	-14.70***	-12.85***	-14.16***	-11.27***
	(0.952)	(4.094)	(2.387)	(2.411)	(2.093)
Observations	3,181	308	708	973	1,044
R-squared	0.256	0.321	0.368	0.333	0.333
F	F(7, 3173)=179.79	F(10, 297)= 18.26	F(9, 698)= 61.50	F(12, 960) =57.04	F(10, 1033)= 76.78
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.1.2 Regression results 2013

Table 16 presents the results of OLS regression for the data belonging to 2013. The first model includes variables of *age, size, foreign ownership, labor productivity*, *sales growth* and two dummies for industries. The impact of age is negative, and this result is consistent for the five models. Variables of *size, foreign ownership, labor productivity* and *sales growth* have a positive effect and are highly significant in the first model. Their impact is in line with the hypothesis raised. In the second model the variables of innovation are included. In 2013, innovation is measured using the variables of *product innovation, process innovation, marketing innovation* and *organizational innovation*. Variable of *R&D expenditure* is not included in this model. The reason for not including *R&D expenditure* is the very low number of SMEs having R&D in this sample. In the third model variables of *direct importing* and *foreign input* are included Both variables have a positive impact, as it is hypothesized but only direct importing is statistically significant in this model. The fourth model included variables of human capital, such as *university degree*, *job training, skilled workers, average labor cost,* and *industry experience*. The impact of *university degree, job training, average labor cost* is negative, while variables of *skilled workers* and *industry experience* have a positive impact. It was expected for the variables of *university degree*, *job training* and *average labor* cost to have a positive impact, but these variables are not as hypothesized. From the variables of human capital, only average labor cost and industry experience are statistically significant for the sample of 2013. The last model included variables such as *foreign technology*, *website* and *international certificate*. These variables' impact on the OLS models for 2013 is positive and highly statistically significant, exactly as hypothesized.

Table 5.8

OLS regression results 2013

VARIABLES	(1) Export performance	(2) Export performance	(3) Export performance	(4) Export performance	(5) Export performance
Ln age	-0.0526	-0.0385	-0.367	-0.592*	-0.0904
	(0.167)	(0.167)	(0.312)	(0.323)	(0.168)
Log size	1.298***	1.226***	2.233***	2.508***	1.047***
	(0.0881)	(0.0891)	(0.176)	(0.170)	(0.0944)
Foreign	0.0348***	0.0348***	0.0239***	0.0347***	0.0341***

ownership					
	(0.00416)	(0.00417)	(0.00585)	(0.00581)	(0.00428)
Ln productivity	0.615***	0.596***	1.004***	1.111***	0.519***
	(0.0663)	(0.0667)	(0.155)	(0.162)	(0.0688)
Sales growth	0.00366***	0.00367***	0.00539*	0.00578*	0.00381**
	(0.00142)	(0.00134)	(0.00314)	(0.00306)	(0.00160)
Product innovation		0.711***			
		(0.225)			
Process innovation		0.543**			
		(0.260)			
Marketing innovation		-0.445*			
		(0.236)			
Organizational innovation		0.567**			
		(0.258)			
Manufacturing	4.709***	4.473***	0.227	0.741	4.381***
	(0.212)	(0.217)	(1.068)	(1.046)	(0.219)
Other services	1.627***	1.520***	0.851	1.560	1.313***
	(0.199)	(0.198)	(1.432)	(1.466)	(0.205)
Direct importing			1.941***		
			(0.438)		
Foreign input			0.00822		
			(0.00574)		
University degree				-0.0145	
				(0.00967)	
Formal training				-0.243	
				(0.377)	
Skilled workers				0.00690	
				(0.00763)	
Ln average labor cost				-0.187**	
				(0.0741)	
Industry experience				0.0281*	
				(0.0169)	
Foreign technology					0.757***
					(0.267)
Website					1.130***
					(0.182)
International certificate					0.778***
					(0.218)
Constant	-8.417***	-8.325***	-10.61***	-10.75***	-7.518***
	(0.804)	(0.806)	(2.082)	(2.285)	(0.821)

Observations	3,630	3,604	876	999	3,528
R-squared	0.250	0.256	0.306	0.286	0.266
F	F(7, 3622)= 191.05	F(11, 3592)= 125.57	F(9, 866)= 65.04	F(12, 986)= 55.49	F(10, 3517)= 147.17
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.1.3 Regression results 2019

The sample of 2019 is a richer sample in terms of sample size and types of variables included in the models. Table 17 shows the results of 5 OLS models for 2019 sample. The first model included variables of *age, size, foreign ownership and labor productivity and sales growth.* These variables' signs are positive, and they are all statistically significant, except for sales growth which is statistically insignificant. The second model included variables of innovation such as *product innovation*, *process innovation* and *R&D expenditures.* Their impact is positive but *product innovation* is statistically insignificant, while *process innovation* and *R&D expenditure* are statistically insignificant. The third model includes variables of *direct importing* and *foreign input*, which are both statistically significant and their impact is positive as hypothesized. the fourth model included variables of human capital, which are *university degree, job training, skilled workers, average labor cost* and *industry experience* of the top managers or the owners of the SMEs. this model included one more variable and that is the variable of *family management.* This variable, which represents the percentage of family member in the key management positions, has a negative and highly significant impact, as it was expected and predicted from the available literature. This variable is very important for SMEs firms. SMEs tend to be family firms and this impacts their management style and their strategic decisions. The last model includes variables of networking such as *foreign technology acquisitions*, *R&D collaboration*, *knowledge acquisitions*, *membership* and variables of *website* and *international certificate*. All these variables have a positive impact, and they are highly significant at 1% and 5% level of significance, as hypothesized.

Table 5.9

OLS regression results 2019

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Export performance	Export performance	Export performance	Export performance	Export performance
Ln age	0.263**	0.280	0.108	-0.246	0.128
	(0.123)	(0.311)	(0.148)	(0.420)	(0.124)
Ln size	1.664***	1.380***	1.560***	2.139***	1.339***
	(0.0636)	(0.207)	(0.0780)	(0.213)	(0.0691)
Foreign ownership	0.0309***	0.0140***	0.0168***	0.0291***	0.0310***
	(0.00267)	(0.00498)	(0.00283)	(0.00580)	(0.00276)
Ln productivity	1.216***	1.380***	1.107***	0.627**	0.976***
	(0.0623)	(0.211)	(0.0752)	(0.262)	(0.0652)
Sales growth	0.00611	0.0259	0.0128***	0.0389***	0.00449
	(0.00735)	(0.0439)	(0.00457)	(0.0116)	(0.00755)
University degree				0.0131	
				(0.0122)	
Job training				0.384	
				(0.440)	
Skilled workers				0.00923	
				(0.00804)	
Ln average labor cost				0.906***	
				(0.237)	
Industry experience				0.0316	
				(0.0204)	
Management family				-0.0236***	
				(0.00580)	
Manufacturing	5.056***	5.447***	5.983***	3.941***	4.557***
	(0.167)	(0.847)	(0.209)	(1.054)	(0.175)
Other services	2.109***	2.794***	2.281***	5.992***	1.828***
	(0.174)	(0.911)	(0.224)	(1.373)	(0.178)
Product innovation		0.612			
		(0.452)			
Process innovation		0.864**			
		(0.398)			
Ln R&D		0.366***			
		(0.125)			
Direct importing			2.388***		
			(0.177)		

Foreign input			0.0109***		
			(0.00255)		
Foreign technology					0.408**
					(0.196)
Knowledge acquisition					1.277***
					(0.219)
R&D collaboration					1.598***
					(0.254)
Membership					0.644***
					(0.144)
Website					0.933***
					(0.149)
International certificate					0.819***
					(0.170)
Constant	-16.86***	-19.82***	-16.46***	-16.99***	-14.17***
	(0.731)	(2.382)	(0.888)	(3.077)	(0.769)
Observations	7,230	761	4,690	702	7,018
R-squared	0.292	0.325	0.372	0.367	0.317
F	F(7, 7222)=	F(10, 750)=	F(9, 4680)=	F(13, 688)=	F(13, 7004)=
	552.30	48.33	486.83	53.29	342.30
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.2 Probit regression results

5.2.1 Regression results 2009

Table 18 presents the probit regressions' marginal effects for the sample of year 2009. The probit model uses a maximum likelihood estimator and the depended variable is a dummy variable that takes values 1 and 0. In our case the dependent variable is export propensity. In the probit regression shows the marginal effect of the regression that need to be interpreted. Therefore, the coefficients need to be transformed into marginal propensity to export or dy/dx. Average marginal effects (AME) are used in this work (Uberti, 2017)[5].

[5] Only the marginal effect of dummy variables is interpreted in percentages. The Stata command used is *margins.* However, this command for variables measured in natural logarithm does not measure the marginal effect of the variables, nor is it used for interpretation.

The variable of *age* in the probit models for the sample of 2009 is statistically insignificant. The variable of *size* has a positive impact and is highly significant in all five models. Size increases the probability of SMEs to engage in exporting in all five models. Foreign ownership also increases the probability of SMEs of the studied region to engage in exporting activity. According to Rodríguez & Orellana (2020) findings, size, foreign ownership, R&D intensity and age have a positive impact in export propensity and export intensity. Moreover, according to the results of probit models for 2009, an increase in labor productivity and sales growth makes SMEs of this region more likely to engage in exporting activity. SMEs that have process innovation are 14.7 % more likely to export in foreign markets. Another important variable is also R&D expenditure, and the results show that an increase in R&D expenditure makes SMEs more likely to export. In addition, being a direct importer of intermediary inputs increases the probability to export by around 13.9 %; being in manufacturing industry increases the probability to export by 31.9%; and being in one of the other service sectors increases the probability to export by 6.9%. Using technology licensed from a foreign-owned company increases the probability to export for SMEs with 9.9%. Having a website increases the propensity to export by 6.5% and having an internationally recognized certificate increases the propensity to export by 5.7%.

Table 5.10

Marginal effect of probit regression for 2009

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Export propensity	Export propensity	Export propensity	Export propensity	Export propensity
Ln age	0.00943	-0.0263	-0.0106	0.0109	0.00860
	(0.0132)	(0.0362)	(0.0267)	(0.0247)	(0.0235)
Ln size	0.0761***	0.109***	0.132***	0.140***	0.121***
	(0.00611)	(0.0219)	(0.0128)	(0.0114)	(0.0122)
Foreign ownership	0.00122***	0.00121	0.00111*	0.00245***	0.00204***
	(0.000283)	(0.00142)	(0.000642)	(0.000654)	(0.000614)
Ln productivity	0.0566***	0.00778	0.0308**	0.0421***	0.0393***
	(0.00606)	(0.0213)	(0.0128)	(0.0136)	(0.0115)
Sales growth	0.000231***	0.000512*	0.000503**	0.000897***	0.000920***
	(6.05e-05)	(0.000302)	(0.000200)	(0.000239)	(0.000239)
Product innovation		0.00752			
		(0.0600)			
Process innovation		0.147*			

		(0.0830)			
Ln R&D		0.0345**			
		(0.0158)			
Manufacturing	0.319***	0.0978	0.0669	-0.0265	-0.0303
	(0.0173)	(0.129)	(0.103)	(0.106)	(0.0967)
Other services	0.0699***	0.0754	-0.0201	-0.103	-0.117
	(0.0199)	(0.163)	(0.132)	(0.131)	(0.121)
Direct importing			0.139***		
			(0.0320)		
Foreign input			0.000441		
			(0.000473)		
University degree				0.00103	
				(0.000942)	
Formal training				0.0217	
				(0.0297)	
Skilled workers				0.000617	
				(0.000565)	
Ln average labor cost				0.000521	
				(0.0155)	
Industry experience				0.000973	
				(0.00145)	
Foreign technology					0.0990***
					(0.0345)
Website					0.0649**
					(0.0300)
International certificate					0.0572*
					(0.0310)
Observations	3,181	308	708	973	1,044
LR χ^2	LR χ^2 (2)=605.90	LR χ^2 (2)=43.90	LR χ^2(2)= 183.76	LR χ^2(2)= 244.75	LR χ^2(2)= 273.45
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-1685.2838	-148.91185	-362.18566	-544.68003	-580.18061
Pseudo R^2	0.1712	0.1793	0.2023	0.1826	0.1903
Linktest H_0:Omitted variables	0.134	0.119	0.819	0.212	0.354

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.2.2 Regression results 2013

Table 19 presents the probit regressions' marginal effects for the sample of 2013. Variable of age has a negative impact in the propensity to export but it is statistically insignificant. Size has a positive impact in all five models and is statistically significant. Foreign ownership also increases the propensity to export in all five models. Two variables that measure firm performance labor productivity and sales growth also increase the propensity of SMEs to become exporters. Having product innovation increases the propensity to export by 6.3%; having process innovation increases the propensity to export by 3.8%; and having organizational innovation increases the propensity to export by 4.6%. These results indicate that innovative SMEs have a higher likelihood to become exporter compared to non-innovative firms. Marketing innovation has negative impact in propensity to export, but it is statistically insignificant. Saridakis, Idris, Hansen & Dana (2019) also finds that firms that introduce goods, service and process innovation have a higher likelihood to export in foreign markets. According to their results, being an innovative SME increases the likelihood of internationalization through exporting by 8.6 percentage points. Being a direct importer of inputs increases propensity of SMEs to become an export by 16.9%. Moreover, average labor cost decreases the probability to become an exporter and industry experience increases the probability to become an exporter for these SMEs. Using technology from a foreign company increases propensity by 5.2%. Having a website increases propensity to export by 13.6%. Having an internationally recognized certificate increases propensity to export by 4.2%.

Table 5.11

Marginal effect of probit regression for 2013

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Export propensity	Export propensity	Export propensity	Export propensity	Export propensity
Ln age	-0.00484	-0.00437	-0.0219	-0.0485*	-0.0118
	(0.0133)	(0.0132)	(0.0254)	(0.0270)	(0.0133)
Ln size	0.0764***	0.0700***	0.111***	0.147***	0.0559***
	(0.00627)	(0.00637)	(0.0135)	(0.0128)	(0.00679)
Foreign ownership	0.00212***	0.00209***	0.00208***	0.00297***	0.00204***
	(0.000282)	(0.000282)	(0.000736)	(0.000686)	(0.000284)
Ln productivity	0.0332***	0.0315***	0.0334***	0.0521***	0.0235***
	(0.00539)	(0.00537)	(0.0129)	(0.0133)	(0.00548)

Sales growth	0.000170	0.000183*	0.0162***	0.00359	0.000170
	(0.000107)	(0.000108)	(0.00390)	(0.00222)	(0.000107)
Product innovation		0.0623***			
		(0.0168)			
Process innovation		0.0384**			
		(0.0190)			
Marketing innovation		-0.0166			
		(0.0184)			
Organizational innovation		0.0459**			
		(0.0193)			
Manufacturing	0.348***	0.330***	0.0140	0.0608	0.323***
	(0.0157)	(0.0161)	(0.0813)	(0.0788)	(0.0162)
Other services	0.152***	0.144***	0.0712	0.141	0.129***
	(0.0186)	(0.0185)	(0.114)	(0.114)	(0.0188)
Direct importing			0.169***		
			(0.0296)		
Foreign input			0.000479		
			(0.000451)		
University degree				-0.000683	
				(0.000824)	
Formal training				-0.0169	
				(0.0301)	
Skilled workers				0.000252	
				(0.000610)	
Ln average labor cost				-0.0152**	
				(0.00627)	
Industry experience				0.00277*	
				(0.00145)	
Foreign technology					0.0521***
					(0.0190)
Website					0.136***
					(0.0164)
International certificate					0.0416***
					(0.0155)
Observations	3,630	3,604	876	999	3,528
LR χ^2	LR χ^2 (2)=757.60	LR χ^2 (2)= 790.25	LR χ^2 (2)=195.12	LR χ^2 (2)= 192.99	LR χ^2 (2)=832.49
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-1913.0313	-1875.8964	-476.44778	-591.7685	-1805.0734

Pseudo R^2	0.1646	0.1740	0.1698	0.1398	0.1874
Linktest H_0:Omitted variables	0.052	0.669	0.000	0.009	0.945

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2.3 Regression results 2019

Table 20 presents the marginal effects of probit regression for the sample of year 2019. The variables of size, foreign ownership, labor productivity and sales growth have the same results as in the sample of 2009 and 2013. They have a positive impact and increase the probability of SMEs to become exporters. In addition, innovation variables, such as process innovation, product innovation and R&D expenditure, also have positive effect in propensity to export for the SMEs in this sample. Average labor cost, in contrast to the results of 2013, has a positive effect in export propensity and industry experience. Family management has a highly significant negative effect in export propensity. Therefore, the higher the percentage of family members in key management position the lower the probability for SMEs to engage in exporting. Direct importing and percentage of inputs with foreign origin also have a positive and significant impact in export propensity. Using technology from a foreign owned company has an increase in the propensity to export by 3.08%. Spending on the acquisition of external knowledge has an increase in the propensity to export by 9.3%. Having R&D collaboration increases the propensity to export by 1%. In addition, being part of a business membership organization has a 5.4% increase in propensity to export; having a website has a 1.01% increase in propensity to export; and having an international certificate has a 3.9% increase in propensity to export.

Table 5.12

Marginal effect of probit regression for 2019

VARIABLES	(1) Export propensity	(2) Export propensity	(3) Export propensity	(4) Export propensity	(5) Export propensity
Ln age	0.0195**	0.0302	0.0103	-0.0241	0.00814
	(0.00967)	(0.0243)	(0.0116)	(0.0342)	(0.00971)
Ln size	0.0894***	0.0422***	0.0719***	0.0974***	0.0658***

	(0.00441)	(0.0140)	(0.00552)	(0.0144)	(0.00483)
Foreign ownership	0.00185***	0.00116**	0.000998***	0.00280***	0.00184***
	(0.000207)	(0.000591)	(0.000229)	(0.000959)	(0.000212)
Ln productivity	0.0725***	0.0529***	0.0540***	0.0129	0.0529***
	(0.00494)	(0.0144)	(0.00590)	(0.0186)	(0.00511)
Sales growth	0.000434	0.000494	0.00208*	0.0123	0.000287
	(0.000508)	(0.00289)	(0.00119)	(0.0177)	(0.000492)
University degree				0.000680	
				(0.000845)	
Formal training				0.0436	
				(0.0327)	
Skilled workers				0.000787	
				(0.000639)	
Ln average labor cost				0.0545***	
				(0.0157)	
Industry experience				0.00292*	
				(0.00165)	
Management family				-0.00185***	
				(0.000435)	
manufacturing	0.358***	0.284***	0.388***	0.265***	0.322***
	(0.0131)	(0.0442)	(0.0138)	(0.0790)	(0.0138)
Other services	0.160***	0.138***	0.153***	0.432***	0.137***
	(0.0152)	(0.0490)	(0.0170)	(0.111)	(0.0154)
Product innovation		0.0554*			
		(0.0301)			
Process innovation		0.0615**			
		(0.0285)			
Ln R&D		0.0243***			
		(0.00903)			
Direct importing			0.187***		
			(0.0122)		
Foreign input			0.000685***		
			(0.000197)		
Foreign technology					0.0308**
					(0.0145)
Knowledge acquisition					0.0983***
					(0.0160)
R&D collaborations					0.100***
					(0.0189)
Membership					0.0543***

					(0.0106)
Website					0.101***
					(0.0123)
International certificate					0.0391***
					(0.0118)
Observations	7,230	761	4,690	702	7,018
LR χ^2	LR χ^2 (2)= 1712.41	LR χ^2 (2)= 160.85	LR χ^2 (2)= 1527.71	LR χ^2 (2)= 197.69	LR χ^2 (2)= 1913.94
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-4064.2612	-349.26411	-2488.9679	-356.73534	-3814.113
Pseudo R^2	0.1734	0.1791	0.2341	0.2154	0.2005
Linktest H_0:Omitted variables	0.006	0.005	0.015	0.191	0.288

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

5.2.4 Comparison of results

By looking at the results from the three samples of years 2009, 2013 and 2019, it is observed that they are quite similar. The impact of the variables is the same for the three samples, except for the variable of age, which is insignificant, and the average labor cost. Average labor cost variable's impact appears to be negative in 2013 and positive in 2009 and 2019. Based on the results found in the literature (Mulliqi et al., 2019), it was expected for this variable to have a positive impact on export propensity, and the impact is positive as hypothesized for 2009 and 2019. The negative results of 2013 are explained by the impact of the 2009 financial crisis on the SMEs of the studied region. The impact of the crisis was seen later on in the CEE region and affected SMEs negatively. This made it difficult for SMEs to bear the cost of labor. The impact of industry experience appears to be positive in all samples, as hypothesized. Regarding the other variables of human capital, no statistically significant empirical evidence is found in any of the three samples.

Variables of innovation such as product innovation, process innovation, organizational innovation and R&D expenditure have positive effect in propensity to export in all three samples, supporting in this way the hypotheses regarding different types of innovation. The

same results are to be found in the studies regarding product innovation, process innovation, marketing innovation and R&D expenditure (Cassiman, Golovko & Martínez-Ros, 2010; Falahat, Ramayah, Soto-Acosta & Lee, 2020; Filatotchev, Liu, Buck & Wright, 2009; Saridakis et al., 2019; Tavassoli, 2018)

Variables of size, foreign ownership, labor productivity and sales growth have a positive effect in propensity to export in all three samples, indicating the robustness of the results of this work and supporting, in this way, the hypothesis regarding these factors. The results regarding these variables are also supported by the available literature in the field. (Gashi et al., 2014; Lejárraga et al., 2014; Monreal-Pérez et al., 2012). Variables of foreign input and direct importing both have positive effects in all three samples, but foreign input appears to be insignificant in 2009 and 2013. Receiving the same impact in all three samples indicates the robustness for the results and supports the hypothesis regarding these variables. These results are also supported by the available literature in the field (Gashi et al., 2014; Lejárraga et al., 2014).

The impact of having a website is positive and the same in all the three samples. This supports the hypothesis regarding this variable, and the same results are also found by Gkypali et al (2021). The variable of international certificate impact is also as hypothesized and the same results are to be found in all three samples. The same results regarding this variable are found by Bangwayo-Skeete & Moore (2015), as well. Moreover, membership in business organization has a positive impact as hypothesized and results are consistent in all three samples. The same results regarding these variables are also found by Mulliqi (2019).

Variable of foreign technology acquisition, knowledge acquisition and R&D collaboration impact is in support of this study's hypotheses. The results are the same in all three samples, emphasizing their robustness. The impact of family management is also as hypothesized. Pascucci, Domenichelli, Peruffo & Gregori (2021) find that family ownership and family managers have a negative impact in export intensity, too.

5.3 Tobit regression results

5.3.1 Regression results 2009

Table 21 shows the coefficients of Tobit regression model for the sample of 2009. In this model the dependent variable is export performance. Tobit model is used when the sample of data contains a large number of (0) s, which is true for the three samples used in this study. Also in this model, age shows no significant effect in export performance. The size variable has a positive and statistically significant effect in export performance. Therefore, an increase in size increases export performance and the results are consistent in all three models. Foreign ownership also has a positive effect in export performance, which means an increase in foreign ownership increases export performance. The variables of labor productivity and sales growth for the sample of 2009 appear to be highly significant. The impact is positive and consistent in all three models. In other words, an increase in firm performance also increases export performance. Variables of process and product innovation show no significant results for this sample but R&D expenditure is statistically significant and its impact is positive. In addition, having material inputs or supplies imported directly increases export performance. Also foreign technology acquisition increases export performance. Moreover, having a website and an international recognized certificate increases export performance. Two variables related to industry also show positive impact in export performance. Therefore, being in manufacturing and on the other service industries increases export performance.

Table 5.13

Regression results of Tobit model for 2009

VARIABLES	(1) Export performance	(2) Export performance	(3) Export performance	(4) Export performance	(5) Export performance
Ln age	0.159	-0.590	-0.528	-0.105	-0.163
	(0.479)	(0.590)	(0.481)	(0.499)	(0.492)
Ln size	3.380***	3.060***	3.643***	4.083***	3.702***
	(0.242)	(0.460)	(0.304)	(0.294)	(0.308)
Foreign ownership	0.0424***	0.00962	0.0141*	0.0385***	0.0347***

	(0.00911)	(0.0125)	(0.00810)	(0.00868)	(0.00896)
Ln productivity	2.557***	0.814*	1.223***	1.606***	1.531***
	(0.230)	(0.441)	(0.274)	(0.319)	(0.281)
Sales growth	0.00700***	0.00420**	0.00561***	0.00983***	0.0103***
	(0.00141)	(0.00180)	(0.00198)	(0.00272)	(0.00266)
Product innovation		0.0789			
		(1.289)			
Process innovation		3.419			
		(2.117)			
Ln R&D		0.636**			
		(0.288)			
Manufacturing	12.57***	2.672	1.954	-0.529	-0.862
	(0.730)	(3.519)	(2.573)	(2.586)	(2.357)
Other services	3.149***	2.271	-0.208	-2.774	-3.300
	(0.833)	(3.987)	(3.137)	(3.203)	(2.961)
Direct importing			3.415***		
			(0.776)		
Foreign input			0.0128		
			(0.00919)		
University degree				0.0176	
				(0.0223)	
Job training				0.445	
				(0.662)	
Skilled workers				0.0186	
				(0.0131)	
Ln average labor cost				0.108	
				(0.339)	
Industry experience				0.0221	
				(0.0321)	
Foreign technology					1.938***
					(0.688)
Website					1.523**
					(0.770)
International certificate					1.155*
					(0.691)
Constant	-49.36***	-22.43***	-22.75***	-28.91***	-25.54***
	(2.843)	(5.964)	(3.924)	(4.240)	(3.729)
Sigma	12.69***	6.884***	7.452***	8.895***	8.949***
	(0.222)	(0.435)	(0.303)	(0.282)	(0.274)
Observations	3,181	308	708	973	1,044

Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-5255.2246	-831.15785	-1808.8727	-2295.561	-2443.1594
Pseudo R^2	0.0706	0.0601	0.0737	0.0673	0.0689
Censored observations	2,108	85	241	424	461
Uncensored observations	1,073	223	467	549	583

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.3.2 Regression results 2013

Table 22 shows the coefficients of Tobit regression model for the sample of 2013. The same results obtained by the sample of 2009 are also observed in this sample. The variables of size, foreign ownership, labor productivity and sales growth have statistically significant impact in export performance. Therefore, an increase in these variables increases export performance. Variables of innovation also show statistically significant effect in export performance. Having product, process and organizational innovation increases export performance for SMEs of the studied region. In contrast, marketing innovation has a negative impact, but it appears to be statistically insignificant in the second model. The fourth model included variables of human capital, and from this set of variables it results that average labor cost and industry experience appears to be statistically significant. The impact of average labor cost is negative, whereas the impact of industry experience of the owner or top manager is positive. The variables of foreign technology, website and international certificate used in the fifth model are statistically significant and they have a positive impact in export performance. Having foreign technology acquisitions, having a website and/or international certificate increases export performance. In addition, also the two variables used as dummies for industries have a positive impact in export performance.

Table 5.14

Regression results of Tobit model for 2013

VARIABLES	(1) Export performance	(2) Export performance	(3) Export performance	(4) Export performance	(5) Export performance
Ln age	-0.238	-0.237	-0.671	-1.167**	-0.523
	(0.481)	(0.481)	(0.481)	(0.577)	(0.490)
Ln size	3.257***	3.051***	3.047***	4.020***	2.543***
	(0.235)	(0.239)	(0.264)	(0.291)	(0.256)

Foreign ownership	0.0685***	0.0681***	0.0278***	0.0453***	0.0668***
	(0.00841)	(0.00844)	(0.00792)	(0.00890)	(0.00860)
Ln productivity	1.660***	1.603***	1.334***	1.717***	1.300***
	(0.201)	(0.202)	(0.238)	(0.284)	(0.208)
Sales growth	0.00440**	0.00430**	0.00557	0.00591	0.00518**
	(0.00214)	(0.00201)	(0.00440)	(0.00481)	(0.00253)
Product innovation		2.278***			
		(0.619)			
Process innovation		1.302*			
		(0.682)			
Marketing innovation		-0.601			
		(0.674)			
Organizational innovation		1.628**			
		(0.700)			
Manufacturing	13.83***	13.24***	0.520	1.372	13.00***
	(0.679)	(0.690)	(1.693)	(1.932)	(0.697)
Other services	6.490***	6.203***	1.566	2.936	5.682***
	(0.773)	(0.770)	(2.204)	(2.590)	(0.788)
Direct importing			3.359***		
			(0.707)		
Foreign input			0.0138		
			(0.00902)		
University degree				-0.0229	
				(0.0193)	
Job training				-0.502	
				(0.665)	
Skilled workers				0.00969	
				(0.0136)	
Ln average labor cost				-0.292**	
				(0.122)	
Industry experience				0.0513*	
				(0.0300)	
Foreign technology					1.878***
					(0.660)
Website					5.203***
					(0.660)
International certificate					1.577***
					(0.578)
Constant	-38.80***	-38.68***	-19.31***	-23.52***	-36.17***

	(2.541)	(2.549)	(3.338)	(4.165)	(2.593)
Sigma	12.39***	12.31***	7.838***	9.153***	12.19***
	(0.204)	(0.205)	(0.264)	(0.271)	(0.208)
Observations	3,630	3,604	876	999	3,528
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-5791.0234	-5716.284	-2216.4167	-2327.6749	-5557.2668
Pseudo R^2	0.0694	0.0726	0.0567	0.0537	0.0779
Censored observations	2,449	2,435	318	452	2,386
Uncensored observations	1,181	1,169	558	547	1,142

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.3.3 Regression results 2019

Table 23 shows the coefficients of Tobit regression model for the sample of year 2019. An increase in size, foreign ownership increases export performance. These results are consistent for all the five models that are presented in table 23. Hence, a positive effect of these variables is noticed also in this sample. The variable of labor productivity is also highly significant in all five models. In other words, an increase in labor productivity increases export performance of SMEs in this region. Sales growth is statistically significant in model 3 and 4 and it has a positive impact in export performance. The variables of process innovation and R&D expenditure included in model 2 are statistically significant and have positive impact in export performance. An increase in average labor force also increase export performance. The variable of family management, which measures the percentage of family members in key management positions, included in model 5, has a negative impact in export performance. An increase in percentage of family members in key management positions decreases export performance. Being a direct importer SME increases export performance, and an increase in the percentage of foreign inputs increases export performance, as well.

The variables of foreign technology acquisitions, knowledge acquisition, R&D collaboration, membership in business organizations, website and international certification are highly significant and they increase export performance.

Table 5.15

Regression results of Tobit model for 2019

VARIABLES	(1) Export performance	(2) Export performance	(3) Export performance	(4) Export performance	(5) Export performance
Ln age	0.397	0.335	0.0294	-0.538	0.0417
	(0.287)	(0.411)	(0.283)	(0.626)	(0.289)
Ln size	3.323***	1.638***	2.515***	2.955***	2.678***
	(0.140)	(0.278)	(0.145)	(0.329)	(0.152)
Foreign ownership	0.0462***	0.0148**	0.0205***	0.0328***	0.0483***
	(0.00468)	(0.00610)	(0.00451)	(0.00771)	(0.00486)
Ln productivity	2.662***	1.715***	1.908***	0.817*	2.055***
	(0.150)	(0.294)	(0.146)	(0.419)	(0.157)
Sales growth	0.0116	0.0259	0.0170**	0.0562***	0.00848
	(0.0121)	(0.0594)	(0.00724)	(0.0191)	(0.0119)
University degree				0.0209	
				(0.0189)	
Job training				0.658	
				(0.654)	
Skilled workers				0.0121	
				(0.0130)	
Ln average labor cost				1.283***	
				(0.401)	
Industry experience				0.0493	
				(0.0302)	
Management family				-0.0336***	
				(0.00832)	
Manufacturing	12.17***	7.207***	11.47***	7.667***	11.12***
	(0.486)	(1.255)	(0.476)	(2.413)	(0.509)
Other services	5.990***	3.895***	5.231***	10.79***	5.334***
	(0.538)	(1.333)	(0.535)	(2.695)	(0.547)
Product innovation		0.912			
		(0.605)			
Process innovation		1.117**			
		(0.519)			
Ln R&D		0.442***			
		(0.166)			
Direct importing			5.143***		
			(0.362)		
Foreign input			0.0195***		
			(0.00491)		

Foreign technology					0.858**
					(0.396)
Knowledge acquisition					2.689***
					(0.423)
R&D collaborations					2.528***
					(0.455)
membership					1.618***
					(0.324)
Website					3.289***
					(0.409)
International certificate					1.005***
					(0.358)
Constant	-49.11***	-28.10***	-37.91***	-30.20***	-43.02***
	(1.837)	(3.505)	(1.824)	(5.175)	(1.913)
Sigma	11.19***	6.582***	9.234***	7.832***	10.95***
	(0.129)	(0.262)	(0.139)	(0.300)	(0.130)
Observations	7,230	761	4,690	702	7,018
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-14005.293	-2091.258	-10184.305	-1795.4199	-13452.876
Pseudo R^2	0.0701	0.0597	0.0874	0.0723	0.0785
Censored observations	4,199	188	2,297	246	4,082
Uncensored observations	3,031	573	2,393	456	2,936

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5.3.4 Comparison of results

From the results obtained from all three samples it is observed they are the same in all samples except for the variable of average labor cost which shows a negative impact in 2013. This might have been due to the effect of the financial crisis of 2008 that were felt later on in CEE countries and impacted SMEs.

An increase in size of SMEs increases export performance and these results are the same for the samples of years 2009, 2013 and 2019. This is in line with the hypothesis and is also supported by the literature of the field of study. Foreign ownership also has a positive impact

in export performance. The results regarding this variable are the same for all three samples and are in line with the hypothesis. Regarding the size and foreign ownership, the same results are obtained from Gajewski & Tchorek (2017) in a study on Polish firms. Sales growth and labor productivity also have a positive impact in all three samples. The results regarding these variables are in line with the hypothesis. Rehman (2017) finds that productivity significantly improves export sales in a study of Eurasia and Central and Eastern European countries.

The Variables of product innovation and process innovation have positive impact on export performance. These results are in line with the hypothesis. However, product innovation appears to be insignificant in the sample of year 2009 and year 2019, just like the variable of process innovation in year 2009. That is, the effect of these variables appears to be positive but do not affect export performance notably. The variables of organizational innovation and R&D expenditure have a positive and significant effect in export performance. The variable of family management has a negative effect, and this is in line with the hypothesis. The variable of direct importing has a positive effect, too. A positive effect is obtained in all three samples also for the dummies of manufacturing and other services.

The variable of foreign technology acquisition impact is in support of the hypothesis. The same results, regarding this factor, are found by Wang et al. (2013), as well. This thesis obtained the same results also for knowledge acquisition, R&D collaboration, membership, website and international certificate.

5.4 Factor analysis

Factor analysis is conducted in order to see the impact of perceived home country barriers in export propensity and export performance. the questions reported in the end of each section of the survey were used for the factor analysis. The asked questions were “Using the response option in the card; to what degree is an obstacle to the current operations of this establishment”. The answers were coded from 0 to 4, with 0 meaning no obstacle at all and 4 referring to very severe obstacles. Initially, these variables were measured in scales and showed high correlation. for this, reason, in order to reduce the number of variables and transform them into few variables, the principal component factor analysis (PCFA) was used. The scales of variables have not been changed and, therefore, existing scales of

measurement have been used. It is required that the scales of measurement of variables in factor analysis, remain the same. The varimax or orthogonal rotation is applied to original factor loadings, in order to minimize the correlation between two factors. As a selection criterion for the number of factors the minimum eigenvalue is used and factors with an eigenvalue equal or bigger than 1 are taken into consideration. The factors obtained from factor analysis are included in probit and tobit regression models, in which the dependent variable is export propensity and export performance. The results are shown in the tables below.

The tables below show the regression coefficients of probit and tobit regression with the dependent variable export propensity and export performance respectively for each of the samples. The variables included are the basic regression model variables and the factors obtained from factor analysis. The appendixes also providetables of rotated factor loadings of PCFA. The results of probit and tobit regressions for year 2009, shown in tables 5.16 and 5.17, demonstrate that all three factors obtained from factor analysis are statistically significant. Factor 1 (F1) has a negative effect and factors 2 and 3 (F2, F3) a positive effect on export propensity. The factor loadings included in the appendixes point out that F1 represents obstacles, such as access to finance, tax rates, tax administration, business licensing and political instability. All these perceived obstacles in home country in 2009 have negative effect in export propensity and export performance for SMEs. There are two factors included in year 2013. Both of them have positive effect in export propensity and export performance. The results of 2013 can be explained by the fact that most of SMEs have not perceived these factors as obstacles and have answered with 0 to the question to what degree the following is an obstacle to the current operations of this establishment. In the interpretation of results, it is important to consider the fact that these obstacles are the perception of owners or top managers. In 2019, F1 has a negative effect, and F2 has a positive effect, but F2 is not significant. The analysis of the factor loadings in the appendix show that obstacles, such as inadequately educated labor force, labor regulation, tax rate, tax administration, business licensing and political instability, are loaded on F1 and that they have a negative effect in export propensity and export performance.

Table 5.16

Coefficients of probit model including home country barriers

VARIABLES	2009 Export propensity	2013 Export propensity	2019 Export propensity
Ln age	0.00202	0.0232	0.0800***
	(0.0415)	(0.0377)	(0.0290)
Ln size	0.229***	0.246***	0.290***
	(0.0239)	(0.0221)	(0.0158)
Foreign ownership	0.00321***	0.00657***	0.00547***
	(0.000968)	(0.000931)	(0.000688)
Ln productivity	0.161***	0.107***	0.173***
	(0.0208)	(0.0170)	(0.0165)
Other services	0.274***	0.527***	0.423***
	(0.0699)	(0.0632)	(0.0514)
Manufacturing	1.087***	1.201***	1.039***
	(0.0692)	(0.0615)	(0.0489)
F1	-0.0555**	0.0416*	-0.0868***
	(0.0265)	(0.0232)	(0.0174)
F2	0.129***	0.0578**	0.0344*
	(0.0269)	(0.0231)	(0.0179)
F3	0.0809***		
	(0.0267)		
Constant	-3.399***	-3.064***	-3.896***
	(0.259)	(0.211)	(0.201)
Observations	2,733	3,743	6,448
LR χ^2			
Prob>χ^2	0.0000	0.0000	0.0000
Log likelihood	-1507.9022	-1952.3545	-3649.9898
Pseudo R^2			
Linktest H_0:Omitted variables	0.458	0.003	0.361

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5.17

Coefficients of tobit model including home country barriers

VARIABLES	2009 Export performance	2013 Export performance	2019 Export performance
Ln age	-0.104	0.171	0.596**
	(0.437)	(0.412)	(0.279)
Ln size	3.042***	3.136***	3.429***
	(0.259)	(0.235)	(0.147)

Foreign ownership	0.0334***	0.0641***	0.0432***
	(0.00932)	(0.00830)	(0.00492)
Ln productivity	2.203***	1.645***	2.132***
	(0.226)	(0.184)	(0.154)
Other services	3.588***	6.617***	5.038***
	(0.854)	(0.764)	(0.564)
Manufacturing	12.55***	14.19***	11.16***
	(0.749)	(0.668)	(0.508)
F1	-0.604**	0.428*	-0.809***
	(0.288)	(0.255)	(0.167)
F2	1.415***	0.643**	0.341**
	(0.287)	(0.251)	(0.170)
F3	0.859***		
	(0.290)		
Constant	-42.73***	-39.54***	-43.24***
	(2.765)	(2.270)	(1.849)
sigma	12.39***	12.35***	11.11***
	(0.229)	(0.203)	(0.136)
Observations	2,733	3,743	6,448
Prob> χ^2	0.0000	0.0000	0.0000
Log likelihood	-4786.7683	-5906.144	-12636.641
Pseudo R^2	0.0642	0.0723	0.0688
Censored observations	1,743	2,538	3,704
Uncensored observations	990	1,205	2,744

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6. CONCLUSIONS AND DISCUSSIONS

In the chapter of methodology are introduced databases and variables included in the empirical models based on the literature reviewed and in chapter five are presented the results of empirical models. In this chapter conclusion are generated from those results and presented in order to give an answer to research questions raised in introduction which are identification of the main firm-specific determinants and their impact in SMEs' export propensity and export performance.

The Size of SMEs is a very important factor that explains export propensity and export performance. Size is related to the resources and capabilities of SMEs. Relatively larger SMEs have more resources and capabilities. Therefore, relatively larger SMEs are more likely to enter foreign markets through exporting. In addition, size has a positive and statistically significant effect in SMEs' export performance. Based on this result, it is concluded that larger SMEs are more likely to enter and perform better in foreign markets. Larger SMEs have more specialized resources such as human, organizational, financial resources, and so on. Larger SMEs attract more qualified human resources what, in turn, contributes considerably to creating competitive advantages for these firms. RBV theory highlights the importance of human capital as a resource with the potential to create competitive advantages.

Relatively larger SMEs, at the same time, have more opportunities to secure external finance. They have higher opportunities of bank loans, which is one of the most common sources of external finance for SMEs. Financial intermediaries trust the ability of relatively larger SMEs to pay the loans more. Larger SMEs are also more exposed to information and knowledge regarding foreign markets. They can import inputs from foreign markets and with these they can create connections and networks or collaborations with foreign companies. They can also hire managers with international experience. Therefore, to conclude as SMEs

grow and reach a certain size in domestic markets they can expand in foreign markets, as well.

Firm performance

According to the results of this work, labour productivity has a positive and significant effect in export propensity and export performance. Therefore, it is concluded that labour productivity is one of the main factors that determine export propensity and export performance of SMEs in the region the study focused. Relatively more productive SMEs are more likely to engage in exporting activity. It is well- established in the literature that exporters are more productive than non-exporters. In this study, empirical evidence that productive SMEs self-select themselves into foreign markets is also to be found. In addition, it is also concluded that an increase in productivity also contributes to an increased export performance for SMEs that are already operating in foreign markets through exporting. Therefore, there is also empirical evidence of the learning-by- exporting effect. SMEs that expand in foreign markets through exporting learn during this experience and improve their productivity even further. These results are also supported by the empirical evidence of SMEs in Lithuania, which shows that exporters change significantly in terms of productivity compared to other firms (Ketterer, 2017).

The sales growth variable which measures firm performance compared to three years ago has a positive and significant impact in export propensity and export intensity. This indicates that SMEs in the region that have an increase in firm performance compared to three years ago, are also more likely to export. Therefore, firm performance is also identified as a determining factor for the participation and performance in export of an SME. This is a very insightful finding, as total sales include domestic sales and foreign sales. This leads to the conclusion that the performance in domestic markets of SMEs also augments their probability to enter foreign markets. Based on these findings, the importance of pre-entry performance improvement in domestic markets of these firms was emphasized. This conclusion is also supported by Fabling & Sanderson (2009), who finds evidence of better performing firms self-selecting into exporting. In addition, once the SMEs have entered foreign markets, their sales growth also have positive impact on export performance.

Innovation capacity

Innovation variables have a positive and highly significant impact in SMEs' internationalization. "*Innovativeness reflects a firm's tendency to engage in and support new ideas, novelty, experimentation and creative processes that may result in new products, services or technological processes*"(Lumpkin & Dess, 1996). Innovation and internationalization are activities that are closely related to each other and a successful internationalization of SMEs requires innovation. Based on the results of this work, product innovation has a positive and statistically significant impact on export propensity or the probability of SMEs to export; only in year 2009, the results showed that the impact is insignificant. Based on this, it is concluded that innovation of products increases the probability of SMEs to engage in exporting. The results also show that process innovation variable is positive and significant for the three samples of years 2009, 2013 and 2019. This leads to the conclusion that process innovation increases the probability of SMEs to engage in exporting. Therefore, both product and process innovation are identified as important determinants of export propensity. The results of Tobit regression show that product and process innovation have also a positive impact in export performance of SMEs for the three samples of years 2009, 2013 and 2019. This means that product and process innovation are also important after SMEs have entered foreign markets, as they contribute to the increase of performance in these foreign markets. Product and process innovation create competitive advantages for SMEs and give them the confidence to expand and increase their performance in foreign markets. Year 2013 also provides data on marketing innovation and organizational innovation. Based on the results of Probit and Tobit models, it is concluded that organization innovation is an important determinant and increases the probability and performance of exporting for SMEs. Regarding marketing innovation, this study finds no evidence of a statistically significant impact either on export propensity or export performance.

The study finds strong evidence that R&D increases export propensity and export performance for SMEs of CEE countries. R&D expenditures are used as a measure of absorptive capacity of firms or of their ability to find, assimilate and apply knowledge that can lead to potential innovation and higher productivity. It is concluded that an increase in R&D expenditure increases the probability of SMEs to export. In other words, it makes them more likely to enter foreign markets through exporting. Moreover, more investment in R&D by SMEs lead to higher export performance for SMEs that are already engaged in exporting.

Networks

According to the results of this work, foreign technology acquisitions, which refers to the use of technology licensed from a foreign-owned company increases the probability of SMEs to participate in exporting activity. Limited resources and high cost of internal R&D, makes SMEs attempt to gain knowledge and technology abroad, or from external sources. The use of technology of a foreign owned company also creates networks and connections for these SMEs with foreign firms. These networks and connections can help them to learn about foreign markets before taking strategic actions, such as exporting. Creating networks and connections and getting informed about foreign markets and opportunities in these foreign markets can lower the perceived risks related to exporting, and, thus, increase the probability to engage in exporting. Foreign technology acquisition has also a positive impact on export performance. This leads to the conclusion that using technology from a foreign owned firm company can lead to higher export performance for SMEs. This conclusion is supported by other studies such as Wang et al. (2013), who finds that exporting firms that acquire technology from foreign countries have higher exporting performance compared to those that rely on domestic technology. External technology can enable and facilitate innovation of new products and processes.

Knowledge acquisition which is a dummy taking value 1, in case the firms spend on the acquisition of external knowledge, is another important variable that has positive impact in export propensity and export performance. Therefore, it is concluded that knowledge acquisition increases the probability of SMEs to participate in export and also increase exporting performance. Knowledge acquisition is a process that generates knowledge; therefore, it increases knowledge assets of the organization and facilities innovation. Due to their lack of resources and capabilities SMEs rely on external knowledge from other business or organization. Therefore, purchasing or licensing of patents and non-patented inventions, know-how, and other types of knowledge from other businesses and/or organizations creates connections and networks between firms and provides them directly or indirectly with knowledge.

The results of this study show that R&D collaboration has a positive impact on export propensity and export performance. High cost of internal R&D activities for SMEs can lead to open innovation models, which give importance to R&D collaboration with other firms.

R&D collaborations' aim is to create innovation without bearing all the high costs of R&D activities. In developing countries, SMEs suffer from financial constraints and conducting in house R&D can be extremely costly and risky, therefore relying on R&D alliances is a good strategy for these firms. Innovation generated through these R&D alliances leads to competitive advantages for SMEs and increases their probability to engage in exporting activity as well as their exporting performance, in case these firms are already operating in international markets. R&D with other firms can also create connection and networks which enable and facilitate the process of internationalization.

Membership in different business organization, trade associations or other business supporting groups increases the probability of SMEs to engage in exporting and tends to improve their exporting performance, in case they are already part of foreign markets. Membership in different business organization, trade associations or other business supporting groups creates a web of networks, and support for SMEs. This enables SMEs to learn about different opportunities that exist in foreign markets.

A website increases the probability to engage in export activity for SMEs of the studied region. Having a website also increases export performance for SMEs that are already in foreign markets. Nowadays, internet and other communication and information technologies have facilitated entering in foreign markets. Having a website enables consumers around the world reach these SMEs products and this motivates them to enter foreign markets and increases their performance in these foreign markets. Having an internationally recognized certificate also increases the probability of participating in export as well as the export performance of SMEs that already operate in foreign markets through exporting. Internationally recognized certificates give credibility to products and provide competitive advantages for firms. These internationally recognized certificates are a signal of quality. This is important especially for firms that export from developing and emerging economies to developed economies. Firms from developing and emerging economies face discrimination in developed countries and internationally recognized certificates provide assurance regarding the quality of the product (Bangwayo-Skeete & Moore, 2015).

Human capital

The results of this study put forth that industry experience, the number of years operating in a certain industry the top manager or the owner of the firm has, are important determinants of participation in export and the export performance. The results indicate a positive impact of industry experience in export propensity and export performance. Therefore, the higher the industry experience of the top manager, the more likely is the firm to engage in export activity in foreign markets. Similarly, the higher the industry experience of the top manager, the higher the export performance of SMEs that are operating in foreign markets through exporting. The working experience in the industry of the top manager is similar to the international experience of the top managers; it is an indicator of opportunity identification, as well. In other words, alertness to new business opportunities is related to past industry experience. Managers with more extended experience in the industry are better informed about different opportunities that appear in domestic and foreign markets. In addition, they also have networks and connections and this can help in identifying business opportunities.

The result of the thesis put forth that average labour cost variable is significant. This variable's impact is positive, which indicates that an increase in average labour cost increases the probability for SMEs to engage in exporting as well as its exporting performance. Average labour cost is an indicator of the quality of human capital, as the level of compensation for employees, which is the labour cost tend to be related with their skills and abilities. Having a qualified workforce means higher productivity for the firms and can lead to higher probability for exporting as well as higher export performance for those firms that are exporting.

The results of this works show that the higher the percentage of family members in key management positions, the lower the probability of SMEs to engage in exporting activity in foreign markets. In addition, the higher the percentage of family members in key management positions the lower the exporting performance of SMEs that are already exporting. Based on these results, it is concluded that involvement of family member in key management position is an important factor that should be taken into consideration by SMEs, due to its significant negative impact in internationalization. The literature available in this field of study proposes two approaches regarding the relationship of family ownership and/or management and firm internationalization; those that find a positive impact of family

influence in firm internationalization and those that find a negative impact on it. The negative impact of family influence in firm internationalization is related to some constraining factors, such lack of human and managerial capabilities, risk avoidance and the conservative attitude. because of their strong attachment to the firms and their fear of losing profits for themselves and their families, family members tend to avoid risks and exporting is a strategic decision that involves risks. Those family members that try to avoid risk are more concerned about protecting their position in the markets they exist rather than focusing on international growth. In addition, family members might lack managerial capabilities and the necessary education, so their involvement in key management positions may lead to reluctance in the face of the right strategic decisions. In the studied region, one more element to consider is the legacy of centrally planned economic system on the older generation. If members of the older generation are in the key management position of the firms, they are less likely to be oriented towards international growth.

Import variables

The results of this works indicate that variable of direct importing, which is a dummy variable for directly imported supplies or inputs has a positive and significant impact in export propensity and export performance. Another proxy used to measure the impact of imports in export propensity and export performance is foreign inputs, which show the percentage of inputs with foreign origin. The impact of this variables is also positive, although not in all models statistically significant. Therefore, based on these results, it is concluded that direct importing of inputs increases the probability of SMEs to engage in exporting. In addition, direct importing increases export performance, as well. Moreover, the higher the percentage of inputs with foreign origin, the more likely are the SMEs to engage in exporting, also higher the export performance of SMEs that are already exporting is.

Imports increase firm productivity and, thus, the probability for firm to engage in exporting or increase export performance is increased, as well. Imported inputs might offer lower prices for the inputs and, thus, increase profits for the firms. In addition, through importing SMEs do not just import inputs, they also import the technology and know-how embodied in them and, thus, increase their own productivity. Through importing, firms can also create connections and networks and gain more information about foreign markets.

In every model in the results section, two dummy variables that control for the effect of industry have also been included. The results indicate that being part of the manufacturing industry increases the probability to export and export performance for the SMEs of the studied region. In addition, the results also show that being part of one of the service industries such as transport, construction, post and telecommunication, etc., also increases the probability to engage in exporting and export performance.

7. THEORETICAL AND PRACTICAL CONTRIBUTION

7.1 Theoretical contributions and future research

By focusing on SMEs, in transition and developing European countries this study makes a noteworthy contribution to the body of knowledge and fills a research gap that has been identified in the literature review. The study considers a group of 17 CEE countries. The previous studies conducted in this area, focused on specific countries such as Poland, Slovenia, Hungary, Estonia and the Czech Republic, which are also the countries of the region that have been the most extensively researched in this field. The empirical analysis of this thesis uses large datasets for three periods of time, years 2009, 2013 and 2019 and conducts a comprehensive study in this field in a considerable number of countries. In addition, this study uses several proxies to measures different factors that are identified as determinants of export propensity and export performance. For instance, it uses different types of innovation impact in export propensity and export performance in CEE countries, providing empirical evidence. Therefore, this thesis contributes to the literature of this field of study by extending the research regarding innovation and SME internationalization also in transition countries. It also uses several proxies to measure human capita, networks and other determinants of SMEs' export propensity and export performance.

For countries such as, studies in internationalization of SMEs are almost inexistent. Therefore, by taking into consideration this region this work fills a gap in this particular literature and serves as a first step for future studies that will be conducted focusing on this region. The whole CEE region, has a great potential for economic growth and SMEs and international trade is the main source of this potential growth. This makes our study extremely important and, hopefully, brings the issue into the attention of policymakers, governmental bodies and institutions. There are also limitations worth mentioning that were identified in the process of this study. One limitation of this study are the cross –sectional

types of data. A study with panel data would provide better results and give a more profound insight. For this reason, potential future researchers need to take this into consideration. However, due to lack of data such analysis can't be conducted at the present. Another identified limitation is the self-reported data. This kind of data can lead to potential biasness. Owners or top business managers can misinterpret many of the question and might not be very clear on the meaning of different concepts. However, this kind of data gathering is the best option available for researches willing to conduct this type of studies.

7.2 Practical implications and policy recommendations

The expansion of SMEs in international markets is a very important policy objective for the CEE countries as it benefits these economies, mostly built up of SMEs. The objective of expansion of the SMEs in international markets is part of the objectives of European Commission since 2008 (Cernat, Norman-Lopez, & Duch T-Figueras, 2014). Therefore, there is huge interest in SME internationalization in this region what makes this study highly important. There are several practical implications and policy recommendations that can be drawn from this work:

- Export-support programs of SMEs in CEE countries
- Support innovation to increase internationalization
- Support schemes for new entrepreneurs
- Offering and ensuring access to financial support
- Encourage and support e-commerce and digitalization
- Encourage SMEs participation in international markets by reducing barriers

Export- support programs of SMEs in CEE countries

SMEs and international trade are the engine of economic growth. The more internationalized SMEs of this region, the closer is this region to catch up with Western European economies. Governments national and international organizations alike need to create export-support programs for SMEs. SMEs are the ones that need the most support, but they are also the ones that don't get this support. Even if there are export support programs generated by governments, SMEs don't have access to these programs and are not aware of these

programs. According to Mota, Moreira & Alves (2021), participation in an Export Promotion Program has a positive effect in export performance of SMEs. In his study the authors highlight the importance of Export Promotion Programs as an external force that encourage export participation of SMEs. SMEs are encouraged by internal and external forces. Internal forces are firms' resources and capabilities and external forces include external stimuli such as Export Promotion Programs from government agencies, trade organizations or other organizations that intend to help SMEs overcome the obstacles of internationalization. SMEs do not fully benefit from foreign market opportunities due to lack of resources and their ability to obtain information about them. These Export Promotion Programs need to be designed according to the SMEs' needs and SMEs need help in their internationalization process, by being motivated, provided with the necessary information and aided with resources they need in order to explore foreign markets. These programs include activities such as seminars for potential exporters, grants, direct and indirect export subsidies, such as tax incentives, exception from value added taxes and so on.

Governments around the world offer support programs to help SMEs overcome their obstacles of internationalization. However, there is also a problem of knowledge and access to this support program by SMEs. Hence although these support programs do exist, there is a lack of knowledge and information, especially among micro firms. Micro firms face many barriers in local markets and their internationalization rate is very low compared to small and medium sized firms. These firms need to experience growth in their local markets in order to have the potential and confidence to internationalize. Also considering the results of this thesis, it is concluded that size is highly significant for the exporting of SMEs. CEE countries that are already part of the EU benefit from free trade agreements among its members. EU also actively engages with countries that are not part of the EU to negotiate trade agreements that will benefit both sides.

Support innovation to increase internationalisation

Economic growth and wealth creation of countries is closely related to innovation, and SMEs are the main source of this innovation. transition countries need to move towards a sustainable development and this requires continuous and systematic innovation. This study has demonstrated that innovation has a positive and significant impact on SME internationalization through two channels; indirectly, by increasing SMEs productivity and

directly, by making SMEs more likely to explore international markets or increase their international activity.

Supporting SMEs in terms of innovation and fostering a culture of innovation and entrepreneurship is one of the main policies that the governments of these countries should pursue. It is important to create an environment that hiders or promotes innovation and entrepreneurship. Innovation is promoted in cultures that reward productivity and are willing to invest in innovation (Kostis, 2021). This requires a close collaboration of government, universities, businesses and society. According to United Nations (2012), one of the main obstacles to innovation and commercialization is the lack of communication and collaboration between the academia or the scientific community and businesses. One way to reach this collaboration between the scientific community and business is through joint research projects. In addition, universities should include in their curricula courses of entrepreneurship and the business community should be more active and participate in designing these curricula.

Governments, on the other hand, need to provide support for innovation to SMEs, by offering financing and opportunities for new entrepreneurs. Governments also have an important role in regulating unclear property rights and ensuring the protection of property rights. Innovation and entrepreneurship flourish in a business environment where property rights are protected and where there are clear laws and regulation for them. Moreover, innovation and entrepreneurship flourish in a business environment with a fair juridical system, as a stable political environment and the absence of corruption provides efficient distribution of financial support and promotes a culture where hard work, productivity and innovation is rewarded.

Support schemes for new entrepreneurs

In the available literature in this field, it is well established that entrepreneurial activity is positively related to economic growth, and entrepreneurship and innovation are considered as the key drives of economic growth. Entrepreneurs come with innovative ideas or products, which give them the confidence to enter foreign markets. They use innovative and creative ideas and build multi-million dollar companies. According to Ahmad & Seymour (2008) " *entrepreneurs are those people who seek to generate value through the creation or*

expansion of economic activity, by identifying and exploiting new products processes and markets". Therefore, one of the main policies that is recommended is the supporting of new entrepreneurs and the helping of more people to move into entrepreneurship, especially women and people with disabilities. In addition, it is recommended that governments pay attention to administrative and regulatory frameworks, which include the simplification and evaluation of regulations the alleviation of administrative burdens on start-ups, the decreasing of the costs of starting a new business and of the cost of resolving insolvency (OECD, 2021a). Moreover, it is important to support the development of the entrepreneurial ecosystem and encourage stronger relationships among entrepreneurs.

Offering and ensuring access to financial support

SMEs are firms that face the largest difficulties in obtaining external financial support. Compared to large firms, SMEs struggle financially the most, especially in times of crisis. The Covid-19 crisis showed one more time the vulnerability and difficulties for survival for these firms. In times of crisis, especially banking lending, which is the source these firms rely heavily on can become more expensive and hard to access (OECD, 2021b).

Financial support is extremely important not only during times of crisis, but also during normal time, when these firms need to invest and grow. Lack of financing has a negative impact on business growth, innovation capacity and the productivity of SMEs. Numerous studies in literature have examined the impact of financial constraints and have highlighted the importance of access to finance in firm growth (Ullah, 2020; Ur Rehman et al., 2019). Ullah (2020) finds evidence of a negative effect of financial constraints in firms sales growth and employment growth in transition countries of Eastern Europe and Central Asia. Transition countries have underdeveloped financial institution and some of them almost inexistent financial markets. In some of these countries, such as the WBC, the banking sector is the main source for SME financing. Exporting is considered a type of investment associated with risks. Therefore, access to financial support for these firms will contribute to their growth and expansion in foreign markets, and this will lead to the creation of more jobs and economic development.

Considering these arguments, it is important to facilitate access to finances for SMEs in CEE countries. These countries have underdeveloped financial institutions due to a legacy of

central planning economic system. Therefore, the development of financial institutions benefits the most to SMEs, as they are severely impacted from lack of access to finance. In addition, the improving of the business environment, in general, is also important because businesses are effected by unstable political environment, inadequate judicial system, corruption or weak rule of law. Corruption, for instance, is a serious concern, as it can prevent the efficient allocation of savings to profitable investment from the financial intermediaries as well as the right allocation of financial aids of governments or international institutions.

Central and local government support is important in this aspect. Central and local governments need to recognize financing needs of different SMEs and offer support schemes. They need to ensure alternative financing channels and work with national and international organization on different project that will facilitate access to finance for SMEs (OECD, 2018). Moreover, they need to work towards improving the overall business environment, ensure a better legal and regulatory environment, ensure protection of property rights, ensure strong and fair court system and work toward reducing corruption (OECD, 2017).

Encourage and support e-commerce and digitalization of SMEs

Nowadays internet, communication and information technologies have created favourable condition for SMEs to reach new markets without facing high costs. In addition, online shopping is turning into a habitual behaviour of individuals, as a way that offers them more options from other countries and regions. E-commerce has a potential to help SMEs from developing countries to expand and outreach a larger base of consumers and markets that were difficult to reach in traditional ways. E-commerce refers "*to the trading of goods or services over computer networks such as the internet by methods specifically designed for the purpose of receiving or placing orders*"(Eurostat, 2021). Firms' websites and online platforms can help consumers search for products and prices and increase SMEs opportunities in new markets. Digital platforms are considered a better option in cases when the set-up and maintenance cost of an independent website is high for SMEs. During the pandemic of Covid-19, for many SMEs going digital was a matter of survival, and this period showed the importance of digitalization. Although, SMEs have been adapted to the digital economy, they lag behind larger firms. Therefore, policy recommendation regarding this

topic would be to support SMEs, so that they can strengthen their technological competencies through training activities, facilitate access to internet and invest in ICT infrastructure in rural areas. In addition, policymakers should provide SMEs with financial and human resources, in order for these firms to be able to implement these technologies. There should be collaboration between governmental agencies and businesses to encourage the adaption of e-commerce and digitalization of SMEs. Government should bring awareness about the benefits of e-commerce but also should decrease the difficulties associated with it.

Encourage SME participation in international markets by reducing barriers

SMEs trying to internationalize face barriers from home and host countries alike. They have limited resources and capabilities and are less able to engage in international markets compared to large firms. Therefore, one of the practical recommendations is the reducing of barriers, especially barriers that are related to education of labour force, access to finances. Furthermore, regulation practices, such as labour regulations and procedures for business licensing, tax rates, tax administration, and the general economic and politic environment are also among the barriers faced and that could be alleviated. This will reduce the burden on SMEs in home countries, increase their productivity and competitiveness, and encourage their participation in international markets. In addition, this will also make possible for the SMEs that are already internationalized to increase their performance and continue operating in foreign markets. For SMEs that have not yet been internationalized, barriers such access to finances, tax rates, long and complicated business licensing procedures, labour regulation are prone to hinder their growth in domestic markets and make them less confident to expand abroad.

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Appendix A: An overview of main empirical literature

Table A. 1

An overview of the main empirical literature

Authors (year)	Method	Main results	Dependent var.	Independent var.	Country/group	Data sampling and time period	Reference
Arta Mulliqi, Nick Adnett and Mehtap Hisarciklilar (2019)	Tobit, fractional logit	This work studies SMEs and large firms and conclude that having a more educated workforce has a positive effect on export intensity in transition countries.	Exports % Sales	-Percentage of full-time employees with university degree, formal training programs, the share of skilled production workers in a firm's total full-time workforce, average annual wage, spending on R&D, product innovation, process innovation, foreign ownership, state ownership etc.	CEECs and CIS	Panel data/ 2011-2014	Mulliqi, A., Adnett, N., & Hisarciklilar, M. (2019). Human capital and exports: A micro-level analysis of transition countries. *Journal of International Trade and Economic Development*, *28*(7), 775–800. https://doi.org/10.1080/09638199.2019.1603319
Petrit Gashi, Iraj Hashi, Geoff Pugh (2014)	Tobit, FE	This study highlights the importance of the human and technology-related factors to the export behavior of SMEs in transition countries.	Exports % Sales	Education of the workforce, job training, skilled workers, education of CEO, changes in the organizational structure, investment-sales ratio, R&D, product innovation, dummy for advanced technology, inputs, size, age, foreign ownership, state ownership, credit, business association etc.	EuroAsia and CEECs	2002,2005,2008 and 2009 cross-sectional and 2008/2009 panel.	Gashi, P., Hashi, I., & Pugh, G. (2014). Export behaviour of SMEs in transition countries. Small Business Economics, 42(2), 407–435. https://doi.org/10.1007/s11187-013-9487-7
Jurgita Sekliuckiene (2017)	Case study approach, qualitative and descriptive methodology.	The results reveal that essential factors leading to the early internationalization of INVs operating in Lithuania, a transition economy, are entrepreneurial factors.	Case study approach	firm–related determinants, entrepreneurial determinants, contextual determinants, networking	Lithuania	-	Sekliuckiene, J. (2017). Factors leading to early internationalization in emerging Central and Eastern European economies: Empirical evidence from new ventures in Lithuania. European Business Review, 29(2), 219–242. https://doi.org/10.1108/EBR-12-2015-0158

Paweł Gajewski & Grzegorz Tchorek (2017)	Huber–White sandwich estimator, OLS and cross-sectional fixed effect model	The results of this study reveal that firm performance in the east benefit from family ties, product innovation, non-competitiveness, size and foreign ownership.	Share of exports in total revenue (%)	Firm size, firm age, family ownership, product innovation, process innovation, firm's revenues, foreign ownership.	Poland	2008 cross-sectional data.	Gajewski, P., & Tchorek, G. (2017). What drives export performance of firms in Eastern and Western Poland? *European Planning Studies*, *25*(12), 2250–2271. https://doi.org/10.1080/09654313.2017.1355890
Mrika Kotorri, Besnik A. Krasniqi (2018)	Tobit, probit	The results support the key hypothesis that both subjective and objective managerial characteristics are crucial for export decisions.	Dummy of exports, Exports % Sales	Firms expected performance, managers' international exposure, managers' education, training and age , firm age, firm size, imports, quality standard, education of employees, professional management, firm legal structure, corruption, agglomeration	Kosovo	2013 cross-sectional data.	Kotorri, M., & Krasniqi, B. A. (2018). Managerial Characteristics and Export Performance - Empirical Evidence from Kosovo. South East European Journal of Economics and Business, 13(2), 32–48. https://doi.org/10.2478/jeb-2018-0008
Rehman, Naqeeb Ur (2016)	Probit, 2SLS	This study has supported the self-selection and learning-by-exporting hypotheses. Innovation and foreign ownership are important factors of firm exporting.	Dummy of exports, Exports % Sales	Product innovation, process innovation, organizational innovation, R&D, total factor productivity, foreign ownership, age, size, obstacles, sector	EuroAsia and Central and Eastern Europe	2012 cross-sectional data.	Rehman, N. U. (2017). Self-selection and learning-by-exporting hypotheses: micro-level evidence. *Eurasian Economic Review*, *7*(1), 133–160. https://doi.org/10.1007/s40822-016-0063-8
Tatiana S. Manolova, Ivan M. Manev, Bojidar S. Gyoshev (2009)	OLS	Main results show that internationalization is positively associated with new venture size and varies by industry, domestic personal networks have a positive effect on internationalization and firm age negatively moderates the effect of inter-firm networks in internationalization	Exports % Sales	Entrepreneurial characteristics (Age group, Gender, Level of education, Prior mngt experience, Personal networking), age of firms, size of firm, industry, inter-firm networking, cost leadership (measured as the perceived importance of reduction of costs) and differentiation (measured as the perceived importance of innovative marketing)	Bulgaria	2004 cross-sectional data	Manolova, T. S., Manev, I. M., & Gyoshev, B. S. (2010). In good company: The role of personal and inter-firm networks for new-venture internationalization in a transition economy. Journal of World Business, 45(3), 257–265. https://doi.org/10.1016/j.jwb.2009.09.00
Andrzej Cieślik, Jan Jakub Michałek and Krzysztof Szczygielski (2016)	Probit	Results indicate that the probability of exporting is positively related to product and process innovations, firm size, the share of university graduates in productive employment and foreign capital participation.	Dummy of exports	Firm size, firm age, product innovation, process innovation, education of employees, number of automatic product lines, applications for patents, technology variables, foreign capital etc.	Poland	2010 cross-sectional data	Cieślik, A., Michałek, J. J., & Szczygielski, K. (2016). Innovations and export performance: Firm-level evidence from Poland. Entrepreneurial Business and Economics Review, 4(4), 11–28. https://doi.org/10.15678/EBER.2016.040402
Martina Musteen , John Francis, Deepak K. Datta (2010)	OLS, Poisson regression	Networks have a positive impact on international performance, while personal ties negatively impact speed of internationalization and international performance.	Speed of internationalization (amount time (in years) between the year of firm	Firm size, international experience, frequency of interaction, firm strategy, technological sophistication, international network size, personal	Czech	2009 cross-sectional data	Musteen, M., Francis, J., & Datta, D. K. (2010). The influence of international networks on internationalization speed and performance: A study of Czech

			founding and the year of its first international venture), international (performance measured in likerd scale)	ties, common language, geographical diversity			SMEs. Journal of World Business, 45(3), 197–205. https://doi.org/10.1016/j.jwb.2009.12.003
Truc Le Nguyen and Subrata Ghatak and Vincent Daly (2006)	Logit	The results indicate that access to bank loans, knowledge of competing firms, a large share of the domestic market and preparedness for the accession of Poland to the EU, IT tools in distribution and marketing are important drivers of export propensity.	Dummy of export	Firm size, firm age, firm legal status, he manager's perception about the importance of acting with promptness, the extent of IT tools used in office work, willingness to invest abroad, number of competitors, access to bank loans etc.	Poland	2003 cross-sectional data	Nguyen, T. Le, Ghatak, S., & Daly, V. (2006). The Export Propensity of Polish SMEs. Economics Discussion Paper, July, 1–24.
Olivier Lamotte and Ana Colovic (2015)	Probit	Main results indicate that access to ICT infrastructure, being located in an EU country, industry competition, a better-educated workforce, networks in the home country and international networks have a positive effect in early internationalization.	Dummy of exports	Firm size, productivity, R&D, sector, broadband, insecurity, bribery, EU, competition, business association, foreign ownership, country	Transition countries of CEE and Central Asia	2002, 2005, 2007 and 2009 pooled data.	Lamotte, O., & Colovic, A. (2015.). Early Internationalization Of New Ventures From Emerging Countries: The Case of Transition Economies.
Sam Tavassoli (2017)	Probit, Tobit, GLS, Random effect	The authors find that the innovation output of firms (measured as sales due to innovative products) has a positive and significant effect on their subsequent export behavior, particularly on export intensity.	Dummy of exports, Exports % Sales	Innovation, Productivity, Size, Physical capital, Sector dummy, Year dummy	Sweden	2002-2004 and 2004-2006 panel data	Tavassoli, S. (2018). The role of product innovation on export behavior of firms: Is it innovation input or innovation output that matters? European Journal of Innovation Management, 21(2), 294–314. https://doi.org/10.1108/EJIM-12-2016-0124
Ji Yan , Christos Tsinopoulos, Yu Xiong (2018)	Tobit, OLS, GLM	Main results of the study show that both exploration (products or services innovation) and exploitation (incremental product innovation or process innovation) improve export performance.	ln(1+export sales)	Product and service innovation, incremental product or process innovation, log of investment in infrastructure, in- R&D, external R&D, Firms' turnover per employee, employment size band, regional dummy variable, Industry dummy variables, Time dummy variables	UK	2004-2016 panel data	Yan, J., Tsinopoulos, C., & Xiong, Y. (2021). Unpacking the impact of innovation ambidexterity on export performance: Microfoundations and infrastructure investment. International Business Review, 30(1), 101766. https://doi.org/10.1016/j.ibusrev.2020.101766

Zhiqiang Ye, Fangfang Zhang , Shunming Zhang (2021)	OLS, Heckman two-step	The robust results show that foreign ownership facilitates a company's exports significantly but only long-term foreign investors can enhance export performance.	Exports % Sales	Foreign Ownership, Size, Age, Book-to-Market, Leverage, liquidity, Productivity, Capital density, R&D,	China	2003-2016 panel data	Ye, Z., Zhang, F., & Zhang, S. (2021). Export effect and influence mechanism of foreign ownership. International Review of Economics and Finance, 76(June), 258–276. https://doi.org/10.1016/j.iref.2021.06.006
José López Rodríguez, Bill Serrano Orellana (2020)	Logit, Tobit	This study concludes that general human capital (education of the firm's employees) affects both export propensity and intensity, only some dimensions of specific human capital (employees' experience at the workplace) affects export propensity and intensity.	Dummy of exports, Exports % Sales	Percentage of employees with university degree, training, employee experience, size, dummy of business group, firm age, foreign ownership, R&D intensity	Spain	2014 cross-sectional data	Rodríguez, J. L., & Orellana, B. S. (2020). Human capital and export performance in the Spanish manufacturing firms. Baltic Journal of Management, 15(1), 99–119. https://doi.org/10.1108/BJM-04-2019-0143
Iza Lejárraga, Humberto López Rizzo, Harald Oberhofer,Susan Stone,Ben Shepherd (2014)	Ordered logit, fractional logit	Main results suggest that while firm size clearly influences the trade performance of SMEs in manufacturing, it is an ambiguous predictor of export performance in the case of small-sized services firms.	Exports % Sales, dummy for export	Firm size (log employee), Labour Productivity, Imports % Inputs, Imports * , Types of ownerships, ISO certificate, Obstacles, etc.	100 countries (OECD member or key partner country) and France	2010 cross-sectional data, 1998-2007 panel data for France	Lejárraga, I., Rizzo, H. L., Oberhofer, H., & Stone, S. (2014). Small and Medium-Sized Enterprises in Global Markets : A Differential Approach for Services ? In *OECD Trade Policy Papers*. OECD Publishing, Paris.
Bruno Cassiman , Elena Golovko & Ester Martínez-Ros (2010)	Kolmogorov–Smirnov equality-of-distributions test	Using a panel of Spanish manufacturing firms we find strong evidence that product innovation – and not process innovation – affects productivity and induces small non-exporting firms to enter the export market.	The authors compare the productivity of and innovation of exporting and non-exporting firms.	Product innovation, process innovation, total factor productivity	Spain	1990-1998 panel data	Cassiman, B., Golovko, E., & Martínez-Ros, E. (2010). Innovation, exports and productivity. *International Journal of Industrial Organization*, *28*(4), 372–376. https://doi.org/10.1016/j.ijindorg.2010.03.005
Areti Gkypali , James H. Love and Stephen Roper (2021)	Fixed effect, random effect, multivariate probit	The authors find evidence of both learning-to-export and learning-by-exporting effects among SMEs, and that firms consciously select their export status based on current productivity performance. Innovation plays a key role, and its effect does not occur exclusively in the transition to exporting, but also in building up export capability.	Export Status	Profitability, productivity, family business, firm size, firm age, product innovation, process innovation, organizational innovation, growth ambition, capital investment plan, skill investment plan, etc.	UK	2015-2017 panel data	Gkypali, A., Love, J. H., & Roper, S. (2021). Export status and SME productivity: Learning-to-export versus learning-by-exporting. *Journal of Business Research*, *128*(May), 486–498. https://doi.org/10.1016/j.jbusres.2021.02.026

Yuandi Wang, Wei Cao , Zhao Zhou and Lutao Ning (2013)	Tobit	The results of the study show that external technology acquisitions positively influence Chinese firms' export performance.	Exports % Sales	Export intensity, Existing technology strength, Technology age, Firm type, New product sales, Total assets, R&D intensity, Firm size, External technology acquisition, Ratio of foreign technology acquisition, Copatent, Export volume, Corporate ownership, industry	China	2000-2003 panel data	Wang, Y., Cao, W., Zhou, Z., & Ning, L. (2013). Does external technology acquisition determine export performance? Evidence from Chinese manufacturing firms. International Business Review, 22(6), 1079–1091. https://doi.org/10.1016/j.ibusrev.2013.02.009
Joana Reis (2016)	Tobit, Heckman two stage model, Random effects model	The empirical results show that some industry characteristics (export orientation, concentration), as well as characteristics of firms (labor productivity, size and age), are important determinants of a firm's export intensity.	Exports % Sales	R&D intensity, Capital intensity, Industry concentration, Labor productivity, Export orientation, firm age, firm size, export orientation (% of exporting firms in the industry).	Portugal	2010-2014 panel data	Reis, J. (2016). *The impact of industry characteristics on firms ' export intensity*. https://doi.org/10.1177/2233865916646560
Orlando Lima Rua (2018)	Partial least squares structural equation modeling (PLS-SEM)	Intangible resources has a positive, significant and direct influence on absorptive capabilities and on export performance.	Export performance	Absorptive capabilities, Innovation, Intangible resources	Portugal	2016 cross-sectional data	Rua, O. L. (2018). From intangible resources to export performance Exploring the mediating effect of absorptive. Review of International Business and Strategy., 28(3/4), 373–394. https://doi.org/10.1108/RIBS-02-2018-0012
Antonio Majocchia, Emanuele Bacchiocchib and Ulrike Mayrhofer (2005)	Fixed effect, random effect	The results show that it is not business experience per se which is important but that it is the relative change in experience that truly impacts upon export performance.	Exports % Sales	Firm size, firm age, business experience, exchange rate, demand condition in foreign market, sector specific factors	Italy	1997–2001 panel data	Majocchi, A., Bacchiocchi, E., & Mayrhofer, U. (2005). Firm size , business experience and export intensity in SMEs : A longitudinal approach to complex relationships. International Business Review, 14(6), 719–738. https://doi.org/10.1016/j.ibusrev.2005.07.004
Joachim Wagner (2001)	OLS, Tobit, Beta regression, Papke Wooldridge	The results shown that an inversely u-shaped nexus between firm size and exports is only found in some but not all manufacturing industries in Germany.	Exports % Sales	Firm size, Firm size squared, Branch plant status, craft shop, university degree of employees, R&D/sales ratio, Patents, product innovation	Germany	1994,1995 panel data	Wagner, J. (2001). A Note on the Firm Size – Export Relationship. Small Business Economics, 17(4), 229–237.

James H. Love a, Stephen Roper and Ying Zhou (2016)	Odered probit	The results indicate that there is positive relationship between innovation and exporting and geographic scope. Early internationalization is also linked positively to the number of countries to which firms export and the intensity of their export activity. Authors find no evidence to relating early internationalization to extra-regional exporting	Years of internationalization experience, geographic scope of exporting activities	Firm age, firms size, early internationalizing firm, firm turnover, experienced senior management, business with formal plan, sell overseas directly via website	UK	2011,2012,2013 cross-sectional data	Love, J. H., Roper, S., & Zhou, Y. (2016). Experience, age and exporting performance in UK SMEs. International Business Review, 25(4), 806–819. https://doi.org/10.1016/j.ibusrev.2015.10.001
Alfredo D'Angelo, Antonio Majocchi, Antonella Zucchella and Trevor Buck (2013)	Tobit	The result of this paper provide empirical evidence that the determinants of SME export performance vary in line with the geographic scope of internationalization. While product innovation positively impacts on SME export performance	Exports % Sales	Firm age, firm size, R&D, product innovation, ratio of external managers to the total number of employees, industrial districts, sectors	Italy	2011 cross-sectional data	D'Angelo, A., Buck, T., Majocchi, A., & Zucchella, A. (2013). Geographical pathways for SME internationalization: Insights from an Italian sample. International Marketing Review, 30(2), 80–105. https://doi.org/10.1108/02651331311314538
Chitra Singlab, Rejie Georgea, Rajaram Veliyath (2017)	Random effect	The results indicate that that family owners with lower levels of ownership favor their firms' internationalization, they do not favor it at higher levels of ownership.	Degree of internationalization (Ratio of foreign assets to total assets)	Firm size, firm age ,R&D intensity, family ownership, domestic corporate ownership, foreign corporate ownership, ROA, age, Leverage, Group dummy, MNC dummy	India	2002–2008 panel data.	Singla, C., George, R., & Veliyath, R. (2017). Ownership structure and internationalization of Indian firms. Journal of Business Research, 81(December 2016), 130–143. https://doi.org/10.1016/j.jbusres.2017.08.016
Arpita Agnihotria, Saurabh Bhattacharya (2019)	GLS regression	The study finds that RPTs (related party transaction) have a negative influence on internationalization. Business group ownership is found to strengthen the negative relationship between RPTs and internationalization, whereas foreign shareholding weakens this relationship.	Ratio of foreign investments to total investment	Firm Size, firm Age, R&D Intensity, Related party transaction (RTP), Foreign Ownership, Family ownership concentration, Debt Equity Ratio, Past performance, Industry	India	2005-2015 panel data.	Agnihotri, A., & Bhattacharya, S. (2019). Internationalization, related party transactions, and firm ownership structure: Empirical evidence from an emerging market. Research in International Business and Finance, 48(January), 340–352. https://doi.org/10.1016/j.ribaf.2019.02.004
Federica Pascucci, Oscar Domenichelli, Enzo Peruffo and Gian Luca Gregori (2021)	OLS	The results indicate that there is a U-shaped relationship between family ownership and export performance: the highest levels of export performance correspond to the lowest and highest family ownership levels.	Exports % Sales	Family Board, Group, Family CEO, CEO duality, Number board member, ROI, firm age, firm size, liquidity, service, family ownership, family manager, family ownership squared	Italy	2017 cross-sectional data	Pascucci, F., Domenichelli, O., Peruffo, E., & Gregori, G. L. (2021). Family ownership and the export performance of SMEs: the moderating role of financial constraints and flexibility. *Journal of Small Business and Enterprise Development*, *ahead-of-p*(ahead-of-print). https://doi.org/10.1108/jsbed-03-2021-0113

Svetla Marinova Marin Marinov (2017)	Qualitative method	Main results indicate that owner-manager international orientation and commitment combined with contacts in his or her social spaces lead to early export inducement despite the fusion of ownership and control, and regardless of transition context volatility and inefficiency	-	Entrepreneur, firm specific and context-specific factors.	Bulgaria	2015 cross-sectional data	Marinova, S., & Marino, M. (2017). Inducing the internationalization of family manufacturing firms from a transition context. *European Business Review*, *29*(2), 181–204. http://dx.doi.org/10.1108/EBR-07-2016-0085
Izabela Kowalik Lidia Danik Tomasz Sikora (2017)		The Polish INVs are characterized by higher innovativeness and risk-propensity than gradual exporters.	Overall financial success perceptions	Innovativeness, proactiveness, risk-taking, international experience	Poland	2014 cross sectional data	Kowalik, I., Danik, L., & Sikora, T. (2017). Entrepreneurial orientation elements in the Polish international new ventures. *Baltic Journal of Management*. http://dx.doi.org/10.1108/BJM-03-2016-0070
Aldas Kriauciunas, Audra I. Mockaitis, Mona Bahl (2010)	OLS regression	The results indicate that low-cost manufacturing capabilities and pro-active managerial orientation towards international operations are positively associated with increased internationalization.	Level of internationalization	Knowledge Orientation, cost orientation, Proactive Orientation, size, country	Czech republic, Estonia, Lithuania, Poland, Romania, Slovenia	2005 cross sectional data	Kriauciunas, A., Mockaitis, A. I., & Bahl, M. (2010).Internationalization of Manufacturing SMEs in Central and Eastern Europe: Which Capabilities Matter?.
Mitja Ruzzier, Bostjan Antoncic, Robert D. Hisrich (2007)	Factor analysis	The study develops a new proposed internationalization construct can be considered to be a valid measure of the internationalization of SMEs by capturing their multi-dimensionality.	Degree of internationalization	-	Slovenia	2009 cross-sectional data	Ruzzier, M., Antoncic, B., & Hisrich, R. D. (2007). The internationalization of SMEs: developing and testing a multi-dimensional measure on Slovenian firms. *Entrepreneurship and regional development*, *19*(2), 161-183.
Nuša Basle, Polona Tominc and Romana Korez-(2018)	Logit model	The study establishes only the limited impact of SMEs' market knowledge on their internationalization and highlights low awareness and usage of Slovenian and the EU's institutional support for the internationalization of SMEs in Slovenia	Different dimensions of internationalization (import mode, export mode, : contract-based mode, investment mode.)	Market Knowledge (knowledge of political, legal and economic environment, knowledge of market environment, knowledge of social and cultural environment)	Slovenia	2017 cross sectional data	Basle, N., Tominc, P., & Korez-Vide, R. (2018). The impact of market knowledge on the internationalization of small and medium-sized enterprises in Slovenia. *European Journal of International Management*, *12*(3), 334-350.
Bersant Hobdari, Aleksandra Gregoric, Evis Sinani (2011)	Fixed effect, GMM	The results show that firms controlled by either insiders or foreigners, on average, export more.	Degree of internationalization	Firm ownership, capital intensity, labor productivity, R&D expenditures, investment/total assets, Herfindahl index,	Estonia and Slovenia	1993–2002 panel data	Hobdari, B., Gregoric, A., & Sinani, E. (2011). The role of firm ownership on internationalization: evidence from two transition economies. *Journal of Management & Governance*, *15*(3), 393-413.

Jerzy Cies´lik, Eugene Kaciak, Narongsak (Tek) Thongpapanl (2015)	GMM model	Main results indicate that export experience and performance have an inverted S-shaped relationship, with performance increasing at low and high levels of experience but decreasing at moderate levels of experience.	Export sales growth	Firm size, time to internationalization, technology intensity dummies, export experience, no. of export markets growth, major exporter's share growth.	Poland	2003-2010 panel data	Cieślik, J., Kaciak, E., & Thongpapanl, N. T. (2015). Effect of export experience and market scope strategy on export performance: Evidence from Poland. *International Business Review*, *24*(5), 772-780.
Mariola Ciszewska-Mlinaric, Krzysztof Obloj & Aleksandra Wasowska (2017)	two-stage Heckman regression analysis	Firms founded either in the transition (1990–2003), or in the post-transition phase (2004 and later) are more likely to: (1) make the decision about internationalization earlier in their life cycle, (2) enter developed markets, and (3) achieve a higher degree of internationalization than firms founded under the communist regime (before 1990)	Internationalization speed, degree of internationalization, direction of internationalization	Firm age, founding in post-transition phase, founding in transition phase, communist experience, firm size, competition, localization, industry, domestic performance	Poland	2013 cross-sectional data	Ciszewska-Mlinaric, M., Obloj, K., & Wasowska, A. (2018). Internationalization choices of Polish firms during the post-socialism transition period: The role of institutional conditions at firm's foundation. *Business History*, *60*(4), 562-600.
Andrzej Cieślik, Anna Michałek, Jan Jakub Michałek, Jerzy Mycielski (2015)	Probit	The probability of exporting is positively related to the level of productivity, firm size, the share of university graduates in productive employment and the internationalization of firms.	Dummy of exports	Firm size, age, productivity, foreign capital, foreign technology, university graduates	Baltic Countries and Central Europe	2002, 2005, 2009 pooled data	Cieślik, A., Michałek, A., Michałek, J. J., & Mycielski, J. (2015). Determinants of export performance: Comparison of central European and Baltic firms. *Finance a Uver - Czech Journal of Economics and Finance*, *65*(3), 211–229
Jerzy Cies´lik, Eugene Kaciak, Narongsak (Tek) Thongpapanl (2015)	GMM	A firm's export experience and performance have an inverted S-shaped relationship.	Exports sales growth	employment, firm size, time to internationalization, major exporter's share growth, number of export markets growth, export experience.	Poland	2003-2010 panel data	Cieślik, J., Kaciak, E., & Thongpapanl, N. (2015). Effect of export experience and market scope strategy on export performance: Evidence from Poland. *International Business Review*, *24*(5), 772–780. https://doi.org/10.1016/j.ibusrev.2015.02.003

Appendix B: CEE countries

Table B. 1

List of CEE countries

1	Estonia	Member of the European Union and NATO
2	Latvia	Member of the European Union and NATO
3	Lithuania	Member of the European Union and NATO
4	Poland	Member of the European Union and NATO
5	Czech Republic	Member of the European Union and NATO
6	Slovakia	Member of the European Union and NATO
7	Hungary	Member of the European Union and NATO
8	Romania	Member of the European Union and NATO
9	Bulgaria	Member of the European Union and NATO
10	Slovenia	Member of the European Union and NATO
11	Croatia	Member of the European Union and NATO
12	Albania	member of NATO
13	Montenegro	member of NATO
14	Serbia	

15	North Macedonia	Member of NATO
16	Bosnia and Herzegovina	
17	Kosovo	

Table B. 2

Main export destination for CEE countries

	Country	5 top partners of exports for each country in 2018
1	Estonia	Finland, Sweden, Russian Federation, Latvia, USA
2	Latvia	Lithuania, Estonia, Russian Federation, Sweeden, Germany
3	Lithuania	Russian Federation, Latvia, Poland, Germany, USA
4	Poland	Germany, Czech Republic, United Kindom, France, Italy
5	Czech Republic	Germany, Slovakia, Poland, France, United Kingdom

6	Slovakia	Germany, Czech Republic, Poland, France, Italy
7	Hungry	Germany, Slovakia, Italy, Romania, Austria
8	Rumania	Germany, Italy, France, Hungary, United Kingdom
9	Bulgaria	Germany, Italy, Romania, Turkey, Greece
10	Slovenia	Germany, Italy, Croatia, Austria, France
11	Croatia	Italy, Germany, Slovenia, Bosnia and Herzegovina, Austria,
12	Albania	Italy, Spain, Greece, Serbia, Germany
13	Montenegro	Serbia, Hungary, Bosnia and Herzegovina, Slovenia, Poland,
14	Serbia	Italy, Germany, Bosnia and Herzegovina, Romania, Russian Federation
15	North Macedonia	Germany, Serbia, Bulgaria, Belgium, Greece
16	Bosnia and Herzegovina	Germany, Croatia, Italy Slovenia, Serbia

Source: UNCTADSTAT

Appendix C: Regression and factor analysis results

Table C. 1

Probit regression results coefficients for 2009

VARIABLES	(1) Export propensity	(2) Export propensity	(3) Export propensity	(4) Export propensity	(5) Export propensity
Ln age	0.0315	-0.0958	-0.0367	0.0341	0.0273
	(0.0441)	(0.133)	(0.0924)	(0.0775)	(0.0744)
Ln size	0.254***	0.397***	0.458***	0.441***	0.384***
	(0.0217)	(0.0911)	(0.0538)	(0.0435)	(0.0438)
Foreign ownership	0.00408***	0.00441	0.00382*	0.00769***	0.00646***
	(0.000954)	(0.00519)	(0.00223)	(0.00210)	(0.00198)
Ln productivity	0.189***	0.0284	0.106**	0.132***	0.125***
	(0.0208)	(0.0776)	(0.0446)	(0.0431)	(0.0370)
Sales growth	0.000771***	0.00187*	0.00174**	0.00282***	0.00292***
	(0.000203)	(0.00113)	(0.000699)	(0.000767)	(0.000774)
Product innovation		0.0274			
		(0.219)			
Process innovation		0.535*			
		(0.307)			
Ln R&D		0.126**			
		(0.0586)			
Manufacturing	1.066***	0.357	0.231	-0.0833	-0.0961
	(0.0655)	(0.472)	(0.355)	(0.334)	(0.307)
Other services	0.234***	0.275	-0.0696	-0.325	-0.372
	(0.0668)	(0.594)	(0.455)	(0.412)	(0.385)
Direct importing			0.480***		
			(0.115)		
Foreign input			0.00152		

			(0.00164)		
University degree				0.00325	
				(0.00297)	
Job training				0.0681	
				(0.0934)	
Skilled workers				0.00194	
				(0.00178)	
Ln average labor cost				0.00164	
				(0.0486)	
Industry experience				0.00306	
				(0.00455)	
Foreign technology					0.314***
					(0.110)
Website					0.206**
					(0.0958)
International certificate					0.182*
					(0.0986)
Constant	-3.922***	-3.043***	-2.894***	-3.077***	-2.798***
	(0.263)	(1.072)	(0.633)	(0.606)	(0.506)
Observations	3,181	308	708	973	1,044
LR χ^2	LR χ^2 (2)=605.90	LR χ^2 (2)=43.90	LR χ^2(2)= 183.76	LR χ^2(2)= 244.75	LR χ^2(2)= 273.45
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-1685.2838	-148.91185	-362.18566	-544.68003	-580.18061
Pseudo R^2	0.1712	0.1793	0.2023	0.1826	0.1903
Linktest H_0:Omitted variables	0.134	0.119	0.819	0.212	0.354

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table C. 2

Probit regression results coefficients for 2013

VARIABLES	(1) Export propensity	(2) Export propensity	(3) Export propensity	(4) Export propensity	(5) Export propensity
Ln age	-0.0162	-0.0149	-0.0711	-0.144*	-0.0408
	(0.0445)	(0.0449)	(0.0824)	(0.0803)	(0.0463)
Ln size	0.256***	0.238***	0.361***	0.436***	0.194***
	(0.0221)	(0.0226)	(0.0483)	(0.0448)	(0.0241)
Foreign ownership	0.00711***	0.00711***	0.00675***	0.00881***	0.00706***
	(0.000967)	(0.000981)	(0.00241)	(0.00207)	(0.00101)
Ln productivity	0.111***	0.107***	0.108**	0.154***	0.0815***
	(0.0184)	(0.0185)	(0.0425)	(0.0403)	(0.0191)
Sales growth	0.000571	0.000622*	0.0525***	0.0106	0.000591
	(0.000361)	(0.000367)	(0.0129)	(0.00661)	(0.000372)
Product innovation		0.212***			
		(0.0576)			
Process innovation		0.131**			
		(0.0647)			
Marketing innovation		-0.0566			
		(0.0629)			
Organizational innovation		0.156**			
		(0.0658)			
Manufacturing	1.170***	1.124***	0.0454	0.180	1.119***
	(0.0618)	(0.0628)	(0.264)	(0.234)	(0.0636)
Other services	0.512***	0.491***	0.231	0.419	0.449***
	(0.0638)	(0.0641)	(0.371)	(0.339)	(0.0660)
Direct importing			0.549***		
			(0.101)		
Foreign input			0.00155		
			(0.00147)		

University degree				-0.00202	
				(0.00244)	
Job training				-0.0499	
				(0.0893)	
Skilled workers				0.000747	
				(0.00181)	
Ln average labor cost				-0.0450**	
				(0.0187)	
Industry experience				0.00821*	
				(0.00432)	
Foreign technology					0.181***
					(0.0660)
Website					0.471***
					(0.0579)
International certificate					0.144***
					(0.0541)
Constant	-3.025***	-3.043***	-2.279***	-2.447***	-2.851***
	(0.235)	(0.237)	(0.579)	(0.572)	(0.241)
Observations	3,630	3,604	876	999	3,528
LR χ^2	LR χ^2 (2)=757.60	LR χ^2 (2)= 790.25	LR χ^2 (2)=195.12	LR χ^2 (2)= 192.99	LR χ^2 (2)=832.49
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-1913.0313	-1875.8964	-476.44778	-591.7685	-1805.0734
Pseudo R^2	0.1646	0.1740	0.1698	0.1398	0.1874
Linktest H_0:Omitted variables	0.052	0.669	0.000	0.009	0.945

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table C. 3

Probit regression results coefficient 2019

VARIABLES	(1) Export propensity	(2) Export propensity	(3) Export propensity	(4) Export propensity	(5) Export propensity
Ln age	0.0610**	0.118	0.0344	-0.0839	0.0265
	(0.0303)	(0.0954)	(0.0387)	(0.119)	(0.0315)
Ln size	0.280***	0.165***	0.240***	0.339***	0.214***
	(0.0149)	(0.0556)	(0.0193)	(0.0546)	(0.0162)
Foreign ownership	0.00581***	0.00455**	0.00333***	0.00976***	0.00599***
	(0.000659)	(0.00232)	(0.000765)	(0.00337)	(0.000698)
Ln productivity	0.227***	0.207***	0.180***	0.0448	0.172***
	(0.0161)	(0.0579)	(0.0202)	(0.0649)	(0.0169)
Sales growth	0.00136	0.00194	0.00694*	0.0428	0.000931
	(0.00159)	(0.0113)	(0.00398)	(0.0616)	(0.00160)
University degree				0.00237	
				(0.00295)	
Job training				0.152	
				(0.114)	
Skilled workers				0.00274	
				(0.00222)	
Ln average labor cost				0.190***	
				(0.0558)	
Industry experience				0.0102*	
				(0.00577)	
Management family				-0.00646***	
				(0.00155)	
Manufacturing	1.123***	1.114***	1.297***	0.921***	1.047***
	(0.0468)	(0.184)	(0.0562)	(0.282)	(0.0495)
Other services	0.502***	0.540***	0.510***	1.506***	0.446***
	(0.0489)	(0.195)	(0.0584)	(0.401)	(0.0510)
Product innovation		0.217*			
		(0.119)			
Process innovation		0.241**			
		(0.112)			
Ln R&D		0.0950***			
		(0.0357)			

Direct importing			0.623***		
			(0.0436)		
Foreign input			0.00229***		
			(0.000659)		
Foreign technology					0.0999**
					(0.0471)
Knowledge acquisition					0.319***
					(0.0526)
R&D collaborations					0.326***
					(0.0618)
Membership					0.176***
					(0.0347)
Website					0.328***
					(0.0403)
International certificate					0.127***
					(0.0384)
Constant	-4.486***	-4.573***	-4.137***	-3.662***	-3.985***
	(0.201)	(0.701)	(0.254)	(0.834)	(0.209)
Observations	7,230	761	4,690	702	7,018
LR χ^2	LR χ^2 (2)= 1712.41	LR χ^2 (2)= 160.85	LR χ^2 (2)= 1527.71	LR χ^2 (2)= 197.69	LR χ^2 (2)= 1913.94
Prob>χ^2	0.0000	0.0000	0.0000	0.0000	0.0000
Log likelihood	-4064.2612	-349.26411	-2488.9679	-356.73534	-3814.113
Pseudo R^2	0.1734	0.1791	0.2341	0.2154	0.2005
Linktest H_0:Omitted variables	0.006	0.005	0.015	0.191	0.288

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table C. 4

Rotated factor loadings of PCFA

2009			
Obstacles	Factor 1	Factor 2	Factor 3
Court	0.6559		
Inadequate educated labour			0.7929
Access to finance	0.3411		
Custom and trade regulation		0.7729	
Labour regulation	0.2857		
Informal competition		0.5439	
Tax rates	0.6790		
Tax administration	0.7676		
Business licensing	0.6193		
Transport		0.7185	
Political instability	0.6617		
Note: Overall Kaiser–Meyer–Olkin test of adequacy is 0.8445			

2019		
Obstacles	Factor1	Factor2
Court	0.6782	
Inadequate educated labour	0.4133	
Access to finance		0.599
Custom and trade regulation		0.7611
Labour regulation	0.5881	
Informal competition		0.576
Tax rates	0.7951	
Tax administration	0.7810	
Business licensing	0.6500	
Transport		0.8199
Political instability	0.6963	
Note: Overall Kaiser–Meyer–Olkin test of adequacy is 0.9121		

2013		
Variable	Factor1	Factor2
Court	0.5095	
Inadequate educated labour	0.4064	
Access to finance		0.5079
Custom and trade regulation		0.6694
Labour regulation	0.6462	
Informal competition		0.579
Tax rates	0.7413	
Tax administration	0.7529	
Business licensing		0.4589
Transport		0.7365
Political instability	0.5723	
Note: Overall Kaiser–Meyer–Olkin test of adequacy is 0.8435		

CURRICULUM VITAE

Arjona Çela is lecturer at the Department of Economics, Epoka University, where she teaches statistics and macroeconomics. Arjona's education background consists of Bachelor's Degree in Economics in Eskisehir Osmangazi University in Turkey, a Master of Science also in Economics at University of Tirana, an Erasmus Exchange Program for 2 semesters in Finland, at Laurea University of Applied Sciences and Erasmus Research Exchange Program at University of Salerno, Italy and a PhD in Economics at Epoka University. Her research focuses mainly on small and medium firms, firm internationalization and economic development. Recent publications of Arjona involve research on "Barriers of growth of SMEs in Western Balkan Countries" and "Internationalization of large companies from Central and Eastern Europe or the birth of new stars".