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Which factors create export value for firms? A case study on Greek industry in Crisis

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Abstract

Firms, especially in economies in crisis, seek new ways to increase and exploit their competitive advantage and turn to export activity in order to limit their dependence on the domestic markets and achieve sustainability. In this paper, we are examining a crucial question: Which are the main determinants of the export performance of firms? First, Greece is a very appealing case study for our research, especially due to the Crisis that started in late 2009 and has allowed us to pool data from the Greek manufacturing industry before and during that period (2005-2017), and eventually create a sample of 286 firms. Therefore, we attempted to determine the impact of the crisis and the most important factors that create export value for firms. After an extensive research in the literature available, the most widely used financial and non-financial factors have been determined and examined for each and every firm in our sample. By using a dynamic model approach, that is GMM, we concluded that the most productive firms with higher values in both size and sales growth might have been more successful in their export activity, especially during the recession.

Keywords: Export Determinants, Export Performance, Financial Measures, Non-Financial Measures, Greek Industry, Financial Crisis, Panel Data.

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Introduction

This research intends to highlight the factors to successful export activity. Firms, due to the current environment of globalization, opt for export activity so as to enjoy the advantages it offers in terms of economies of scale, production costs, productivity, employability and sustainability (Basile, 2001). But mainly, exporters are aiming to limit their dependence on the domestic markets (Lages, 2004). Although, exporting is not the only way to internationalization (Furlan and Grandinetti, 2011; Wright and Dana, 2003), it still is in many cases the only way to break into foreign markets (Dana and Wright, 2009; Grandinetti and Mason, 2012; Majocchi and Zucchella, 2003).

Therefore, the crucial point for firms entering foreign markets is the evaluation of their economic performance as an outcome of their export activity (Diamantopoulos and Schlegelmilch, 1994; Park et al., 2010). Determining the stages required to enter a foreign market in order to be

successful tends to be a complex process consisting of a series of actions resulting from both internal and external business environments. In this context, an in-depth investigation of all the determinants that affect the export performance of firms is required. Also, it would be useful to investigate how likely (or not) the existence of a correlation between export performance and overall economic performance appears to be.

Our main goal is to approach export performance and analyze possible factors that affect it in detail. Current literature has examined a number of determinants grouped into three basic categories: Firm characteristics, Macro characteristics and Export Marketing characteristics (Zou and Stan, 1998; Brouthers et al., 2009; Darling and Seristo, 2004). In turn, even though there is a large number of studies that explore the determinants of export performance, this specific scientific area is still characterized by a theoretical and practical fragmentation (Chen et al., 2016). This is because its empirical findings cannot be integrated into a common knowledge base due to the existence of diverse definitions of export performance (Aulakh et al., 2000; Morgan et al., 2004). In the end, our key research question is which companies are engaged in export activity and if so, whether these are the most economically powerful ones or not. The importance of our research is being underlined by the facts that: a) very few studies have been reported in the context of emerging economies (Raghunath and Rose, 2016), and especially, as far as we know, b) there's no study addressing firm export performance in the Greek industry during the economic recession period.

The rest of the paper is as follows: Part 2 presents the theoretical background by approaching relevant literature, whereas Part 3 analyzes the research methodology. In Part 4, the empirical analysis is being shown followed by some concluding remarks. Finally, on the last part, the current limitations, as well as some ideas for future research, are being presented.

Literature Review

The definition of Export Performance

As far as the measurement of export performance is concerned, there is a lack of a generally accepted conceptual framework. In this context, many studies connect the export performance to objective or subjective indicators. On one hand, there is an external body of literature that approaches the export activity field by using financial measures such as export sales volume (Das, 1994; Evangelista, 1994), growth (Kaynak and Kuan, 1993; Shoham, 1996) or export profit (Shoham, 1996), while the most widespread financial measurement is export sales divided by total sales (Diamantopoulos and Schlegelmilch, 1994). On the other hand, there is a remarkable number of researches that approach the export performance indicator by utilizing subjective qualitative metrics that derive from the firm's managerial bank of information. Indicatively, there are studies that connect the export performance criterion to the perceived satisfaction in "goal achievement" (Cavusgil and Zou, 1994; Katsikeas et al., 1996) or to the measurement of any discrete indicator on which the export success story is based. (Evangelista, 1994; Madsen, 1989). The aforementioned multidimensional nature of export performance is being addressed by Sousa who lists 50 unique dimensions in his 2004 study whereas, Katsikeas et al. mentions 42 relevant measurements (2000). Meanwhile, there are many reasons for the approach chosen, such as the availability of the data, the limitations of time and/or the expertise of the researcher (financial department, sales department, etc.) (Beleska-Spasova, 2014).

Factors that determine the performance of exporting firms

International literature mainly groups the determinants for export performance in two categories based on two respective theories; the resource-based view (RBV) and the industrial organization theory (IO) (Zou and Stan, 1998; Brouthers et al., 2009; Darling and Seristo, 2004). The first theory emphasizes the endogenous environment that the factor comes from, while the IO underlines exogenous environmental determinants that affect the firms' export performance the most. The RBV focuses on physical, technological and human resources which are combined with superior capabilities in a unique way, thus leading to firm heterogeneity and performance deviation (Penrose, 1959; Makadok, 2001). The question is whether the effective combination of unique resources and

dynamic capabilities might generate a sustainable competitive advantage to a specific firm, compared to its competitors (Conner and Prahalad, 1996; Dhanaraj and Beamish, 2003).

In turn, the IO theory addresses external environmental factors that contribute to the firm's export performance. The main concept of this theory underlines the correlation between external environment and firm performance. Following the IO theory's logic, a firm has to successfully adapt its export strategies to external factors (Scherer and Ross, 1990). Many studies follow the contingency paradigm in which an exporter should develop a strategy based on both of the two aforementioned theories in order to achieve superior export performance (Robertson and Chetty, 2000; Yeoh and Jeong, 1995; Cavusgil and Zou, 1994).

The next question is whether export factors can be controlled (or not) by the exporting firm (Aaby and Slater, 1989; Bilkey, 1978; Zou and Stan, 1998). In this context, we could divide factors in three distinct sub-groups: a) internal-controllable, b) internal-uncontrollable and c) external-uncontrollable factors.

Internal-controllable factors

Management's attitudes and perceptions is one of the most frequently cited groups of factors which affects export performance to a great extent. Even though a large number of findings have been extracted, export commitment, international orientation and management perception toward export advantages or barriers appear to be the most significant ones. First, management's export commitment has been approached as one of the key factors to high export performance allowing a firm to implement export strategies effectively (Cavusgil and Zou, 1994; O'Cass and Julian, 2003). Secondly, management's export orientation has been reported as a positive influence on export performance since it derives from the ability of management to avoid threats or to benefit from arising opportunities (Aaby and Slater, 1989; Zou and Stan, 1998). Moreover, management perception toward export advantages seems to be an important factor which contributes well to export performance. According to some scholars, the perception towards export barriers should be taken into consideration as well, even though such a factor has been presented as an indirect determinant of export performance. Ramaswami and Yang (1990) claim that exporters perceive fewer barriers than non-exporters.

Besides management's attitudes and perceptions, export marketing strategy displays an additional group of internal-controllable factors. The more efficient the export planning, the higher the firm's export performance is. However, the few negative findings can be justified as an outcome of the high cost of export planning that was probably caused by specific circumstances (Katsikeas et al., 1996). Moreover, the firm's exporting strategy (follower or first mover) is basically significant, provided that it's been designed to fully correspond to foreign market circumstances. Scholars that support an insignificant correlation between export organization or exporting strategy and export performance are very few (Madsen, 1987; Zou and Stan, 1998). In addition, the positive effect that factors such as utilization of international marketing and segmentation target strategy have on performance has been confirmed by numerous sources.

Regarding the marketing mix determinants many studies have addressed product, pricing, distribution and promotion capabilities to be important factors of export performance. More specifically, at first we have to define that "product capabilities" refers to a firm's ability to offer a competitive product in a foreign market. In general, studies have mainly shown that product capabilities are positively related to export performance (Leonidou et al., 2002). Product strengths (O'Cass and Julian, 2003), product adaptation (Leonidou et al., 2002), customer services, are some of the factors with positive influence on export performance, especially on the measurement of export sales, profits and growth. There are scholars that strongly claim that through standardization the product is over-designed for some markets and under-designed for others (Douglas and Wind, 1987). Secondly, the "pricing capabilities" factor refers to the firm's ability to put together a competitive price strategy according to the foreign market needs. This particular factor seems to have insignificant correlation to export performance in many studies (Chetty and Hamilton, 1993). However, there are findings showing its positive relation with superior export performance - an

observation that indicates that further research should be done in this field given the importance of the pricing factor for the firm's income.

Thirdly, while approaching the factor of "distribution capabilities" (which involves types of channels direct, indirect, channel relationships and distribution adaptation), we need to take into consideration that it presents mixed findings. For instance, exporting through direct channels in foreign markets is positively linked to export performance. The same applies to channel relationships which, when expressed as motivation, affiliation or support, the findings are positively related as well. On the contrary, distribution adaptation presents negative relationship with export performance due to the deriving costs (Zou and Stan, 1998).

Lastly, the "promotions capabilities" factor addresses the firm's advertising strategy through ads, sales promotion programs, and promotion adaptation. The aforementioned measures have been highlighted in several studies which have presented mainly positively related findings (Leonidou et al., 2002; Francis and Collins-Dodd, 2004).

Internal-uncontrollable factors

Management characteristics or managerial traits or skills, have been examined by several studies for their impact on firm's export success. Export experience, foreign language knowledge, education level of management, are some of the most frequent measures that have been approached. In general, all of them have been presented as positively correlated with export propensity and intensity (Suarez-Ortega, 2003). Moreover, the rest of the measures above are strongly linked to export performance, with the exception of education. However, a group of studies have claimed that exporters with less international experience are more successful than other firms with more experienced managers (Das, 1994).

Firm characteristics is another group of factors that determine export performance and, as such, it has been thoroughly examined in literature. Firm competencies, size, technology level and age are the most researched independent variables that have been examined. More specifically, firm competencies in terms of market positioning and/or human resources seem to be significant determinants of export performance. Firm size, the most researched factor, has been presented with mixed results by several scholars. The most positive findings have been shown in studies where size is measured in total sales, whereas many negative results been presented when measuring in number of employees.

As far as the technology level is concerned, it must be noted that both positive and negative results are presented (Zou and Stan, 1998). So, more attention should be given to the technology factor since it could be a growth aspect in both firm and national economy level. According to the essay of OECD about Unleashing the Export Potential of SMEs in Greece (2016), upgrading the exported product by using diversification methods which are based on knowledge-based capital, could expand the export base and increase the added value of exports. Furthermore, Barry and Bergin (2012) address the importance of hi-technology sectors in revealing comparative advantages and developing strong export performance during the Irish financial crisis.

Last but not least, the age of the firm, which is defined by the number of years that a firm operates, seems to have a negative or insignificant impact on export performance (Bodur, 1994; Das, 1994). Indeed, the age of the firm needs to be studied further since there are findings showing that it positively correlates to firm's export growth in transitional economies (Shinkle and Kriauciunas, 2010). However, other studies present that functioning in an emerging economy market can be difficult for a young firm mainly due to its restricted access to capital.

External-uncontrollable factors

Even though those factors have been researched the least by the relevant scientific community, some findings are still showing their important contribution to export performance. First, industry characteristics - as a factor that addresses manufacturing complexity - has been reported several times to be of a positive influence on export performance (Holzmuller and Kasper, 1991; Ito and Pucik, 1993). The specific group presents mainly the industry's technological intensity and the instability that likely characterizes the sector. Therefore, high technologically oriented industries present

superior export performance but, due to the relative lack of studies, more research is definitely required.

Secondly, the elaboration on the topic of export market characteristics has been even more limited than the rest. Characteristics, such as export market competitiveness or attractiveness have been presented as factors with both positive (Cavusgil and Zou, 1994) and negative (Kaynak and Kuan, 1993) contribution to export performance. The legal and political environment is the most frequently examined factor due to its high impact on the cost of doing business abroad.

As a third argument, domestic market characteristics have been also examined restrictedly based on the export assistance/policy and the domestic environmental hostility. The limited number of studies on this group have presented a positive relationship with export performance (Katsikeas et al., 1996). More specifically, export assistance measured by the number of agencies that are used by a firm is found to positively contribute to export success.

Research Methodology

Data Sample

Our sample was formed utilizing Greek ICAP Database, one of the biggest and most thorough commercial directories of Greek firms which constitutes a reliable source of data, including business data and financial statements (balance sheet, cash flows) covering the majority of the Greek economy's sectors. We retrieved micro-level business data from 286 Greek manufacturing firms between years 2005 and 2017. This era is rather important for the Greek economy, since it can be divided into two discrete sub-periods; the growth period that took place during 2005 and 2009 and the recession period that started in late 2009, in the aftermath of the global financial crisis of 2007–2008. The resulting data pool forms an unbalanced unique Panel Dataset which was created with 3718 observations in total (286 firms x 13 years = 3718 observations). These sample firms belong to 26 different industrial sectors of the Greek economy (Chart 1). The main characteristics of our sample are the following: 286 randomly selected firms, creating an unbalanced Panel Dataset constructed over 13 years (from 2005 to 2017). We have collected an equal number of exporters and non-exporters from each industry that operate in 26 distinct industrial sectors (from the traditional and the Hi-Tech industries) of the Greek economy. 193 of the firms in our sample are located in urban areas, while the other 93 in rural.

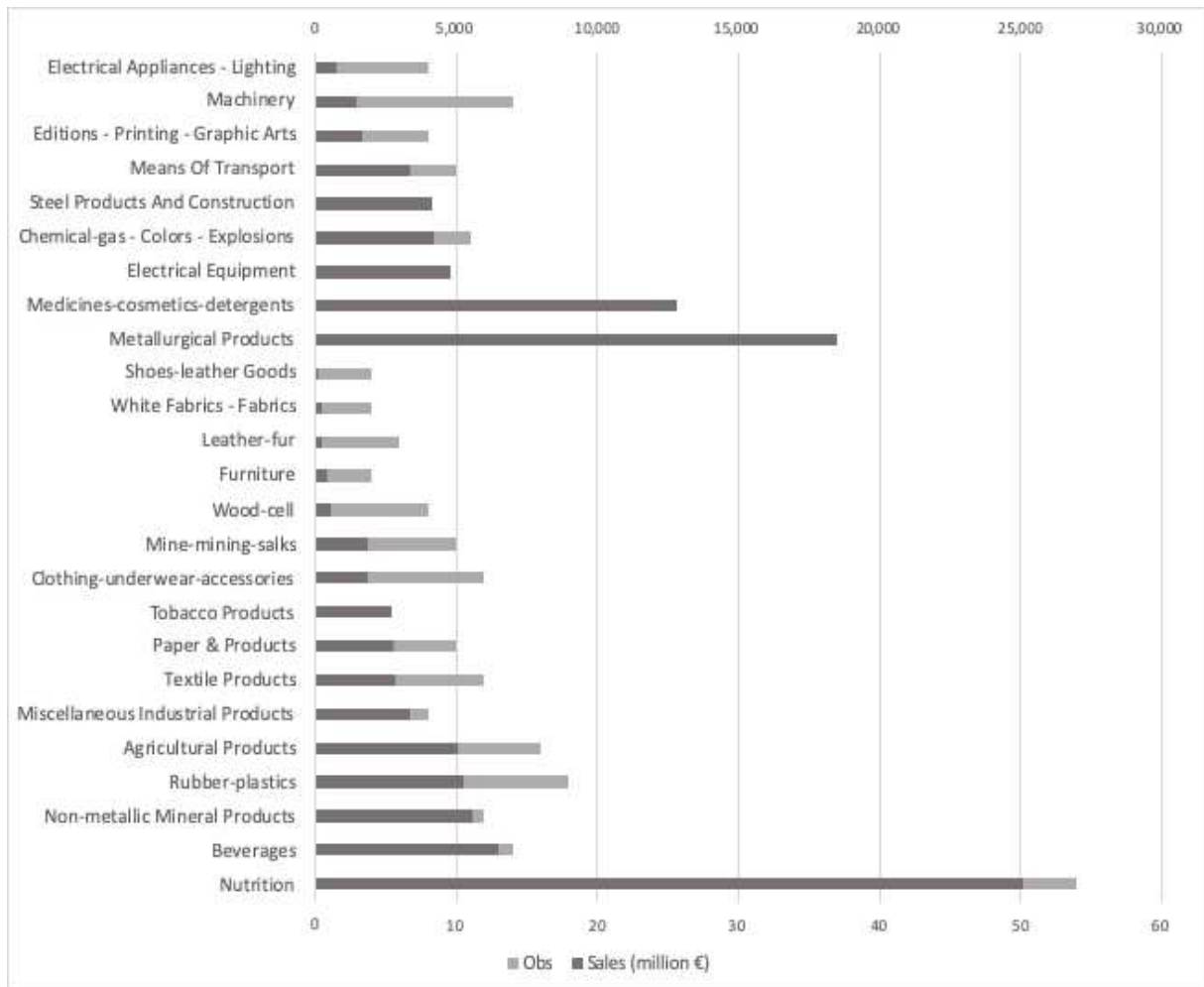


Chart. 1 Number of sampled observations per Industry Sector

We should also mention that we have used “EViews” statistical software for the processing and statistical analysis of the aforementioned panel Dataset.

Variables

By utilizing the framework of the Contingency theory, we have combined firm-specific characteristics with environmental factors in order to assess the firm’s ability to comply with internal and external influences (Hultman et al., 2011). In order to answer our research question, we collected 11 distinct variables that will be later used for the estimation of the employed model. More specifically, we have included:

- a) firm-specific variables, namely “Export Growth”, “Own Capital”, “Total Assets”, “Labor Productivity”, “Cash Ratio”, “ROE”, “Sales Growth”, “Age” & “Location”,
- b) an industry-specific variable, “Sector”,
- c) a country-specific variable, “Crisis”.

The above-mentioned variables and their respective definitions can be found on Table 1.

Table 1 Definitions of the indicators included in the analysis

#	Indicator Name	Definition
1	Export Growth	Export Growth Rate calculated on fixed base-year 2005 in percentage (%)
2	Own Capital	Equity divided by Capital and Liabilities in percentage (%)
3	Total Assets	Total Assets (Natural logarithm)
4	Labor Productivity	Sales divided by the Total Number of Employees (Natural logarithm)
5	Cash Ratio	The ratio of a company's total cash and cash equivalents to its current liabilities
6	ROE	Net Earnings divided by Total Equity in percentage (%)
7	Sales Growth	The yearly ratio (YOY) of difference in Sales between 2005 and 2017
8	Age	Difference between year of observation and firm's year of establishment
9	Location	Indicates location type as a binary variable: 1=urban, 0=other
10	Sector	Indicates sector type according to the technological impact as a binary variable: 1=Hi-Tech, 0=Traditional
11	Crisis	Indicates the recession as a binary variable: 1=2010-2017 (memorandum time period), 0=2005-2009 (growth period)

Note: Indicator in bold stands for the dependent variables

Data Analysis Method

As far as the analysis of our Panel Dataset is concerned, we have selected to utilize a Dynamic Model-Panel, the Generalized Method of Moments (GMM). GMM is a method that estimates robustly the covariance matrices of the parameters while addressing potential endogeneity in the data (Garcia-Herrero, Gavila, and Santabarbara, 2009). Furthermore, Van Biesebroeck (2007) shows that system GMM provides the most robust estimates in the presence of measurement errors and technological heterogeneity, which are typical to many developing countries scenarios. At the same time, a more dynamic specification of the GMM methodology is adopted by including a lagged dependent variable by one year (Athanasoglou, Brissimis, and Delis, 2008) in order to rationalize the sample (Funke and Ruhwedel, 2001). Moreover, the aforementioned lagged dependent variable was included to deal with the belief that economic performance does not adjust instantaneously in changes. Finally, the one-step GMM estimator is employed, corrected for serial correlation and time variances in the disturbances by using the White period robust coefficient variance method. White's heteroskedastic-consistent standard errors allows us to obtain unbiased standard errors (White, 1980).

Proceeding with the data pre-processing, by using boxplot graphical visualization, we identified the outliers in variables "ROE" and "Cash Ratio". In order to deal with them we apply the winsorization transformation at a 5% significance level. Additionally, we had identified that variable "Own Capital" had negative extreme values; such values have been eliminated due to a lack of economic interpretation. Furthermore, the data normalization technique of the natural logarithm has been applied on variables "Total Assets" and "Labor Productivity".

The structure of the Model

Dependent variable

In order to analyze exporting dynamism, several scholars tried to capture the export intensity by using various measures such as growth of export sales, profitability-based measures and management perception of export profitability (Makris, 2014). While Export Performance has been measured in literature in a number of different ways, we have chosen as the dependent variable for our model one of the most frequently utilized definitions: the export sales growth variable; export sales, export intensity and export profitability are the other three most commonly used measures (Chen et al.,

2016). The Export Growth (EXPG) variable was measured as the change (%) in total export sales for each year using 2005 as a fixed base-year.

Explanatory variables

The model includes the following explanatory variables: “Total Assets”, “Labor Productivity”, “Cash Ratio”, “Own capital”, “ROE”, “Sales Growth”, “Age”, “Location”, “Sector” and “Crisis”.

We evaluate the impact of a firm’s size on export performance (Bernard and Jensen, 1999), by employing the Total Assets (TAS) variable, in its natural logarithm. The latter is a representative measure of Greek firm size while, especially during the recession Greece, swapped unskilled labor for capital and transformed from labor to capital intensive (Georgopoulos and Glaister, 2017). Furthermore, these findings might be very useful for the policy makers who should establish supporting tools specially designed for either SMEs or larger firms.

The variable Labor Productivity (LP) stands for the firm’s productivity and it is measured with the natural logarithm of the sales divided by the total number of employees (Varum and Rocha, 2011). That measure has been adopted because there are findings indicating that export performance might be boosted by labor costs when the latter remains at a very low level (Liu and Shu, 2003). Moreover, we considered that the significant fluctuation of labor productivity in Greek economy (Georgopoulos and Glaister, 2017) is a factor that needs further investigation regarding its impact on export growth.

Additionally, we employ Cash Ratio (CRA) measured as the ratio of a firm's total cash and cash equivalents to its current liabilities. The liquidity factor represents the financial aspect that might determine a company’s decision to venture into international markets (Melitz, 2003). More specifically, we incorporated the cash ratio indicator in order to examine the liquidity constraints that Greek firms might have encountered due to the recession and the capital controls imposition in 2015. Moreover, we examine the ratio of firm’s own capital to its total capital, named Own Capital (CAP), which shows that the cash-flow generating ability of firms can also be intrinsically dependent on the composition of their capital structure, and gives us a clear indication on the specific relationship between capital structure and performance (Majumdar and Chhibber, 1999).

As far as the firm’s profitability is concerned, we took into account the financial ratio of Return of Equity (ROE), which is calculated as a percentage of net earnings to total equity, as it has not been empirically examined widely by researchers specialized in international trade (Mayer and Ottaviano, 2007).

The variable Sales Growth (SGR) is a measure of the firm’s overall growth and it has been calculated as the percentage of growth in sales between two consecutive years. Growth in sales contributes positively to the firm's value and sustainability (Schmalensee, 1989; Hirsch, 1991). In addition, it is an important piece of information for investors.

The most widespread results (e.g., EFIGE, 2010) has shown that firm’s age presents a strong impact on producing and exporting goods especially when firms operate on developed economies. Age has been examined in several studies until now as an explanatory variable of the export performance (Roberts and Tybout, 1997) but still needs further examination since older firms might present a significant experience under turbulent conditions whereas younger firms present greater flexibility. Our study calculates Age (AGE) as the time period between the firm’s founding year and the year of observation.

In addition, we captured the environmental impact on export performance by examining the location (LOC) as a binary variable, where value (1) stands for urban firm physical location. The specific import was considered to be important as there are numerous studies that have shown that firms located close to transportation centers are more likely to succeed in exports (Zhao and Zou, 2002), which is an argument that needs to be justified.

Moreover, we used sector as a binary variable, based on firm’s technological impact. By using value (1) we refer to “Hi-tech” sectors chemicals, pharmaceuticals, electronic equipment, electrical devices, machinery, metal industry, metal products, transportation, printing, whereas value (0) represents “traditional” sectors. The variable of Sector (SEC) addresses the crucial argument that a healthy hi-tech business could be more efficient, therefore promoting growth in the company

(OECD, 2016). Last, we need to examine that, even though Greece's competitive advantage should have been improved to deal with the economic crisis, a very low share has been maintained over the last decade, which makes Greece rank last among the other EU28 in 2017.

Last but not least, financial crisis (CRISIS) represents the most important exogenous factor in which value (1) stands for the memorandum period starting in 2010 and value (0) represents the growth period between 2005 and 2009. The fact is that, during the last 20 years, Greece's external trade was extremely low, but after the beginning of the Greek financial crisis in 2009 (and especially during the last 3-year-period) the Ext. Trade tended to be balanced due to the increase in exports. Therefore, we are attempting to justify whether this is a result of the firms' effort to become less dependent on domestic consumption.

This model also takes into account as explanatory variable the lagged value (1-year) of the Export Growth variable. The intuition of utilizing a lagged variable is that Export Growth is a firm indicator that tends to be affected by last year's growth. So, our model investigates the impact of previous year exporting behavior (-1) on the current export performance.

Thus, the equation - EQ (1) is estimated while the conceptual framework is depicted on Fig. 1:

$$Y_{EXPG} = c + \beta_1 \log LP + \beta_2 \log TAS + \beta_3 CAP + \beta_4 ROE + \beta_5 AGE + \beta_6 SGR + \beta_7 CRA + \beta_8 CRISIS + \beta_9 SEC + \beta_{10} LOC + \beta_{11} EXPG(-1) + \varepsilon_{it} \quad (1)$$

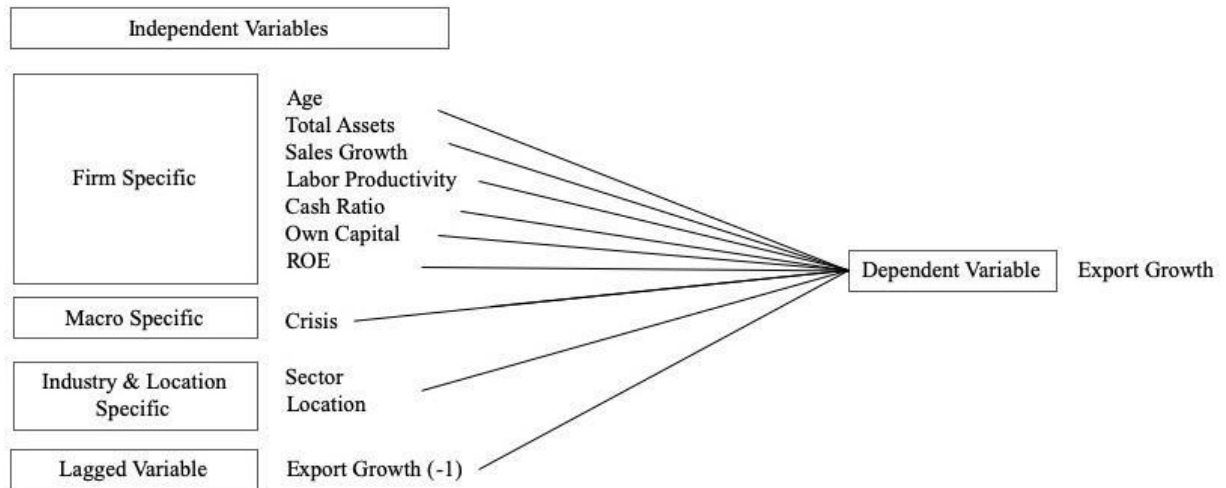


Fig. 1 Conceptual Framework of EQ

A covariance analysis of the Spearman rank-order test has been used in order to check any correlation between the explanatory variables. Table 2 verifies that our model doesn't suffer from multicollinearity issues, as the correlation coefficients are very low (no Pearson coefficient is higher than 0.17), except for one isolated case where the coefficient between Sales Growth and ROE was at 0.25 (yet, still lower than 70%).

Table 2 Spearman rank-order: Covariance Analysis of the independent variables

Correlation	Labor						
	Productivity	Total Assets	Own Capital	ROE	Age	Sales Growth	Cash Ratio
Labor							
Productivity	1.000000						
Total Assets	0.070974	1.000000					
Own Capital	-0.083394	0.063714	1.000000				
ROE	0.145152	-0.006238	0.026815	1.000000			
Age	0.146155	0.042846	0.096726	0.035191	1.000000		
Sales Growth	0.113303	0.021691	-0.030581	0.255629	-0.035697	1.000000	
Cash Ratio	-0.008872	-0.171867	0.075435	0.007518	-0.064442	-0.031471	1.000000

Note: the dummies are excluded

Results and Analysis

Empirical analysis - EQ

Table 3 Summarized results of the GMM estimator for EQ.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Labor Productivity	0.086334*	0.050090	1.723569	0.0849
Total Assets	0.040171**	0.019700	2.039195	0.0415
Own Capital	-0.319648	0.294307	-1.086102	0.2775
ROE	0.504732	0.671612	0.751522	0.4524
Age	0.000845	0.002070	0.408420	0.6830
Sales Growth	0.892492***	0.210049	4.248976	0.0000
Cash Ratio	0.285331	0.336365	0.848277	0.3963
Crisis	0.140213***	0.048859	2.869764	0.0041
Sector	0.090298	0.137953	0.654553	0.5128
Location	0.003319	0.044525	0.074552	0.9406
Export Growth(-1)	1.082958***	0.063736	16.99131	0.0000
C	-1.803361	0.950610	-1.897056	0.0579
R-squared	0.883222	Instrument rank		12
Adjusted R-squared	0.882823	Total panel observations		3234

Note: Index *** at 1%; **at 5%; * at 10%

Table 3 presents the findings from our Model. Regarding the one-step GMM specification, we find that the lagged dependent variable is statistically significant at 1%, so the use of the specific model is justified. We should also conclude that Labor Productivity, Total Assets, Sales Growth and Crisis have a statistically significant positive impact on Export Growth. More specifically, Labor Productivity creates Export Growth as shown by the results (+0.0863) at a 10% level. This finding is in line with the literature (Liu and Shu 2003; Ricci and Trionfetti 2012) suggesting that the more productive firms create a higher export performance. We also find that firm size (Total Assets) exercises a significant positive impact on Export Growth (+0.0401/ 5%). Additionally, firm growth in terms of Sales Growth appears to be highly correlated to Export Growth (coefficient 0.8924/ $p < 0.01$). Moreover, we conclude that during crisis, firms became more profitable in terms of growth

in export sales (coefficient 0.1402, at 1% level). Furthermore, our analysis identified an insignificant influence of Own Capital, ROE, Age, Cash Ratio, Sector, and Location on Export Growth, which in some cases was not anticipated in relevant literature. In particular, a lot of scholars have shown a strong relationship between age and export performance which apparently wasn't detected in our findings. Moreover, although liquidity (Cash Ratio) and profitability (Roe) seem to be relevant to dynamic export activity, this could not be verified by our results. Lastly, we locate that Own capital seems to have a negative, yet statistically insignificant influence (-0.3196) on export growth.

Research Limitation and Future Direction

In order to highlight the limitations of the current study, we must note that we measure the firms' Economic Performance under specific conditions and most importantly, using purely financial indicators. It would be highly recommended to conduct a future survey in firms measuring non-financial indicators and export barriers, such as ISO issues, managerial commitment, R&D orientations and more. Additionally, a factor that hasn't been taken into consideration in the current study is the firms' economic performance prior to the initiation of their export activity. Future researchers could consider the firms' size as an independent variable, and, more specifically, compare export determinants between SME's and Large firms. Moreover, further classifications of a firm's export activity could be applied, characterizing a firm not only as exporter or non-exporter, but also as a high exporter if its export activity exceeds 80% or low exporter if it is less than 20%. Last but not least, we consider the expansion of our research to other countries of Northern Europe that present similarities to the Greek economy to be of equally great interest.

Conclusion

This study attempts to highlight the factors to successful export activity. Utilizing a unique panel dataset from the Greek industry with 3718 observations for a period of 13 years (2005-2017) we approached our key research question: What are the main determinants for export performance of firms? The most important findings exhibited that the most productive firms with higher values in both size and sales growth might have been more dynamic in their export activity, especially during the memorandum recession years. The findings indicate that policy-makers should take specific initiatives and measures in order to boost and encourage internationalization of local firms. In addition, there are useful implications for managers who are called to take advantage of the new perspectives on the benefits of exporting. To our best knowledge, the topic of exporting activity in the context of emerging economies has yet to be reviewed extensively. Therefore, in this context, the examination of Greek firms during the recession make our findings appealing to other emerging or developing countries which, we feel, is a fact that underlines the importance of it.

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