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Export, strategies and performance: the Made in Italy during the 2011-2013 crisis

Stefano Costa, Francesca Luchetti

Sommario

Negli anni 2011-13, la domanda estera ha rappresentato un fattore di traino della competitività per molte imprese della manifattura italiana. In questo lavoro si analizza il legame tra struttura, strategie e performance delle imprese per un insieme rappresentativo di settori del modello di specializzazione italiano (abbigliamento, alimentari, arredamento, calzature, occhialeria, oreficeria), ponendo particolare attenzione alle unità che concentrano le loro esportazioni sui prodotti del Made in Italy (Made in Italy Exporters -MIES). Per fare ciò ci si avvale di una nuova base dati che integra informazioni di differenti fonti (Censimenti, Commercio estero, Registro Asia, SBS).

I risultati principali sono due: nel periodo 2011-2013 le MIEs hanno registrato una generale tenuta delle vendite all'estero anche nel biennio di crisi, ma concentrare l'export su questi prodotti non ha preservato le imprese dal ridurre l'occupazione. Rispetto alle altre imprese esportatrici, inoltre, le MIEs innovano di più nel prodotto e nel marketing, fanno della qualità il principale punto di forza competitivo, e soprattutto attivano reti di collaborazione produttiva molto più intense.

Parole chiave: Made in Italy, esportazioni, propensity score matching, strategie d'impresa, performance.

Abstract

In 2011-13 foreign demand was crucial for the competitiveness of the Italian manufacturing firms. In this work, we analyze the export and employment dynamics of firms belonging to six traditional Italian manufacturing production sectors (food, clothing, furnishing, footwear, eyewear and jewelry), focusing on firms selling abroad mainly Made in Italy products ("Made in Italy exporters" - MIEs). In doing so, we use a new database integrating information from different sources (Business census, Trade, Business registers and balance sheets data). Our results are twofold. Firstly, in 2011 -2013 MIEs had a good export performance, even though being MIE did not preserve them from reducing job positions. Second, compared to domestic firms and other exporters, MIEs introduce more product and marketing innovations, rely more on product quality, and have much stronger inter-enterprises relationships.

Keywords: Made in Italy, export, performance, propensity score matching, business strategies.

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1. Introduction

As a consequence of the severe and persistent recession which affected the Italian economy since 2008, the debate on the microeconomic factors necessary to strengthen the competitiveness of manufacturing firms has reinforced. For countries like Italy, where the years of “double-dip” (2011-2014) were characterized by a marked and prolonged fall in domestic demand, export represented a fundamental vehicle to enhance competitiveness or even survive, especially in manufacturing industries.

In this context, the doubts about the adequacy of the Italian specialization model, that even during the years of expansion (between 2000 and 2007) had been judged particularly vulnerable to international competition, have been further raised. This model, mainly based on production of medium- or low-technology goods, is generally considered too exposed to the competition of the emerging countries, that would hamper Italian firms competitiveness both in terms of prices and costs (Faini and Sapir 2005, de Nardis and Trogir 2006, Bank of Italy, 2009). While not causing a change in the specialization model, globalization has encouraged a shift within the traditional business sectors in search of more efficiency gains; this has reduced the role of price in favor of “non-price” factors related to the content of product quality, such as innovation and flexibility in production (Di Mauro and Foster 2008).

On the one hand (Bayoumi *et al.* 2011, Tiffin 2014) such circumstances explain why, despite the slowdown suffered by domestic exports in 2013, there has been a substantial resilience in certain productions, particularly for food-drinks and jewelry (grown on average by more than 5% per year). On the other hand, strong attention has been paid to the study of heterogeneity factors and on the firms’ behaviour. Business strategies have progressively become a crucial element in the studies devoted to the competitiveness of firms and industrial systems, both from a positive and prescriptive (i.e. policy-oriented) points of view.

Among the most studied factors, the fundamental role of productivity (both labour and total factor productivity) has been emphasized by a considerable amount of works.¹ Moreover, the literature which has addressed the Italian case has focused mainly on the role played by the product-oriented strategies, especially in the sectors more related to the Italy specialization model. In particular, firms which renewed or increased their range of products while moving towards quality improvement have registered increases in value added and profitability (Di Giacinto e Micucci 2011). This seems to be one the most important phenomenon of Italian industrial transformation in the twenty-first century and favored mainly Made in Italy competitive firms².

In recent years new contributions have analyzed the importance of global value chains for the participation of a firm in the international competition. In this vein, the partaking in global value chains, for example by producing intermediate goods, is more likely to enhance the productivity and performance of Italian firms (Accetturo *et al.* 2011, Agostino *et al.* 2011). Moreover, the firms more involved in the supply chains are more likely to compete internationally and have better performance also on the domestic markets; this is true especially for small and medium-sized enterprises, which play an overwhelming role in the Italian business system (Giovannetti *et al.* 2014).

On such bases, this article aims at deepen and extend the link between the international competitiveness and business strategies of the Italian manufacturing firms during the recession period

¹ The views expressed in this paper are those of the authors and do not necessarily represent the institutions with which they are affiliated. From the theoretical point of view, Melitz (2003) and later works (Melitz and Ottaviano 2008, Bernard, Redding and Schott 2011) have demonstrated that high levels of productivity are needed to overcome the sunk costs related to the ability to export. On the empirical side, these findings have been confirmed in numerous works (for a detailed overview see Wagner 2012) and, for Italy, in the contribution in particular of Castellani and Zanfei (2007) and Benfratello and Razzolini (2008). Other works (Mayer and Ottaviano 2007, Criscuolo and Martin 2009, Altomonte *and others.* 2012) have extended and confirmed the close link between international performance of firms and productivity – even in the most complex forms of internationalization (two-way trading, outsourcing, foreign control) – showing how these are accompanied by higher levels of productivity. As for the Italian case, the same result was obtained by Pietrovito *et al.* (2013) on the basis of sectoral data, and by Costa *et al.* (2014) using firm-level data.

² For a thorough examination see the works in Lanza and Quintieri (2007). Bugamelli, Cristadoro and Zevi (2010) obtained similar results for the following years, characterized by the first phase of the crisis.

2011-2013. In doing so, a broad set of strategic choices is considered: four different types of innovation (product, process, marketing, organization), the degree of intensity of inter-firm relations, the competitive strength points of the firms (e.g. price, quality, etc.). In particular, the analysis aims at pointing out the structural and behavioural elements underlying two aspects of firms' performance: the dynamics of exports and employment, also emphasizing how these are linked to each other. This is an important issue, since from a policy-oriented perspective the result of an increase just in the firm's export is very different from the result of an increase in exports accompanied by a growth of firm's employees.

In order to optimize the available data source, the analysis is restricted to firms with at least 20 employees working in typical Made in Italy business sectors: clothing, food, furniture, footwear, eyewear, jewelry. Using a new database that integrates information on firm's structure (size, industry, location, group), strategies (competitive strengths, innovation typologies, intensity of inter-firm relations, outsourcing through FDI or production agreements) and performance (productivity, profitability, exports and employment dynamics), we propose a twofold analysis. First we assess whether, for those exporting firms which sell abroad mostly Made in Italy goods (henceforth "Made in Italy exporting firms", or MIEs), the choice of export in prevalence such goods fostered a better performance in 2011-2013 (in terms of changes in exports and employment) compared to firms exporting other goods (henceforth "Other exporters", or OEs). Successively, we identify a "strategic profile" of these firms underlying their performance, emphasizing the characteristics that differentiate MIEs from the OEs and non-exporting firms.

The rest of the paper is structured as follows. Section 2 Describes the database used; Section 3 presents some descriptive evidence on MIEs and OEs characteristics and on the trends of exports and employment; Section 4 Describes the econometric analysis and discusses the results; Section 5 contains some concluding remarks.

2. The database

The database, includes information from several statistical and administrative sources. The main source is a database obtained by the integration between the Italian Business Register and foreign trade statistics. It contains the whole set of firms belonging to six traditional manufacturing production sectors (clothing, food products, furnishing, footwear, eyewear and jewelry)³. For each firm the database provides information on its structure (number of employees, geographic location, industry, position within an enterprises group), and the value of exports registered in 2011 and 2013. Amongst this set of companies, those firms whose export turnover depend for more than 50% from the sale of Made in Italy products – i.e. consumer goods of medium-high to high-quality and high prices (measured in terms of average unit values) – have been identified. These latter firms are the so-called "Made in Italy exporters", or MIEs and are distinguished from the other exporting firms (OEs).

Other information has been added to the database: data from administrative sources (corporate balance sheets) related to the economic results of companies (productivity, profitability, value added / turnover) and job positions employed during the considered period, the latter (expressed in full-time work units) drawn from the ISTAT survey on employment, wages and social security contributions (OROS survey).

Finally, the dataset has been integrated with data derived from a multipurpose survey set up for the 9th General Census of Industry and Services of 2011. More in detail, the data include qualitative information on the governance of the firms, the characteristics of their inter-enterprise relationships (type, number of partners involved, the presence of counterparts abroad), the firms' innovation ac-

³ For the details on the methodology used for the selection of Made in Italy sectors and products and the identification of MIEs, see Centro Studi Confindustria e Prometeia (2014), pag. 141.

tivity (product, process, marketing and organizational innovations), the possible recourse to offshoring (through foreign direct investment or agreements), and the competitive strength points of the firms (price, product quality, flexibility in production, extension of the distribution networks, location of the firms). For the sake of representativeness of the results, the analysis has been restricted to firms with at least 20 employees.

It is obtained a final dataset of approximately 7,070 companies, representing 5% of active firms in the six sectors, about 89% of the value added, over 85% of employment and almost 87% of total exports.

3. Structure and characteristics of Made in Italy exporting firms (MIEs)

MIEs do not differ greatly from the OEs: they employ an average of 84.3 employees compared to 80.3 of the OEs (and about 35 of the non-exporting firms) (Table 1). However, there is large heterogeneity between sectors, as the average increased from 50 of jewelry to over 400 employees for eyewear firms (although in the latter the distribution is highly concentrated). Compared to domestic firms, the exporting units are less isolated: they belong more frequently to a group (43 and 44% of total respectively for MIEs and the OEs, compared to 18.4% of non-exporters, although for the latter there is a slight predominance of parent companies), and they have more inter-firms relations. Indeed, there is no big difference in the proportion of firms that have at least a productive relationship with other counterparts (75.4% for domestic firms, 79.8% for the OEs, 78.9% for MIEs, with a peak of 86.1% in eyewear and 84.9% in clothing), but the gap becomes rather significant when considering the intensity of relationships activated. In this respect, we calculated a “connectivity index” (ICO), which measures the degree of intensity of the relationship of a firm in the form of subcontracting, contract, and other formal agreements - joint ventures, consortia, etc. – or informal agreements. The index summarizes three different dimensions of relationships: the variety of typologies, the number of counterparties involved, the geographic extension (identifying, above all, if counterparts abroad are involved)⁴.

Table 1 – MIEs vs. Other exporters: characteristics of firms

	Number of enterprises		Persons employed	Size (employment)		Enterprises belonging to a group (% of total)			Enterprise with at least one relationship (%)	Connectivity index (ICO)	Productivity
	Units	% of total		Mean	Median	No group	Parent companies	Subsidiaries			
Clothing	955	25.3	25.8	81.8	36.2	57.9	9.7	32.4	84.9	25.9	44.6
Food	1,247	33.0	37.4	91.0	40.6	50.7	10.9	38.4	73.7	24.3	71.0
Furniture	889	23.5	19.5	66.6	40.0	58.7	8.4	32.8	79.7	25.0	44.3
Footwear	511	13.5	10.3	61.1	37.2	67.1	8.8	24.1	84.1	23.8	42.9
Eyewear	30	0.8	4.6	465.9	59.7	56.7	6.7	36.7	86.1	20.8	48.4
Jewelry	148	3.9	2.4	49.7	31.6	60.1	7.4	32.4	74.3	23.6	45.6
Total MIEs	3,780	53.5	63.0	80.3	38.8	57.0	9.6	33.4	78.9	24.8	53.1
Total OEs	1,244	17.6	21.8	84.3	37.8	56.0	11.5	32.5	79.8	23.7	57.9
Domestic firms	2,046	28.9	15.3	35.9	26.8	81.6	3.1	15.3	75.4	14.6	33.0

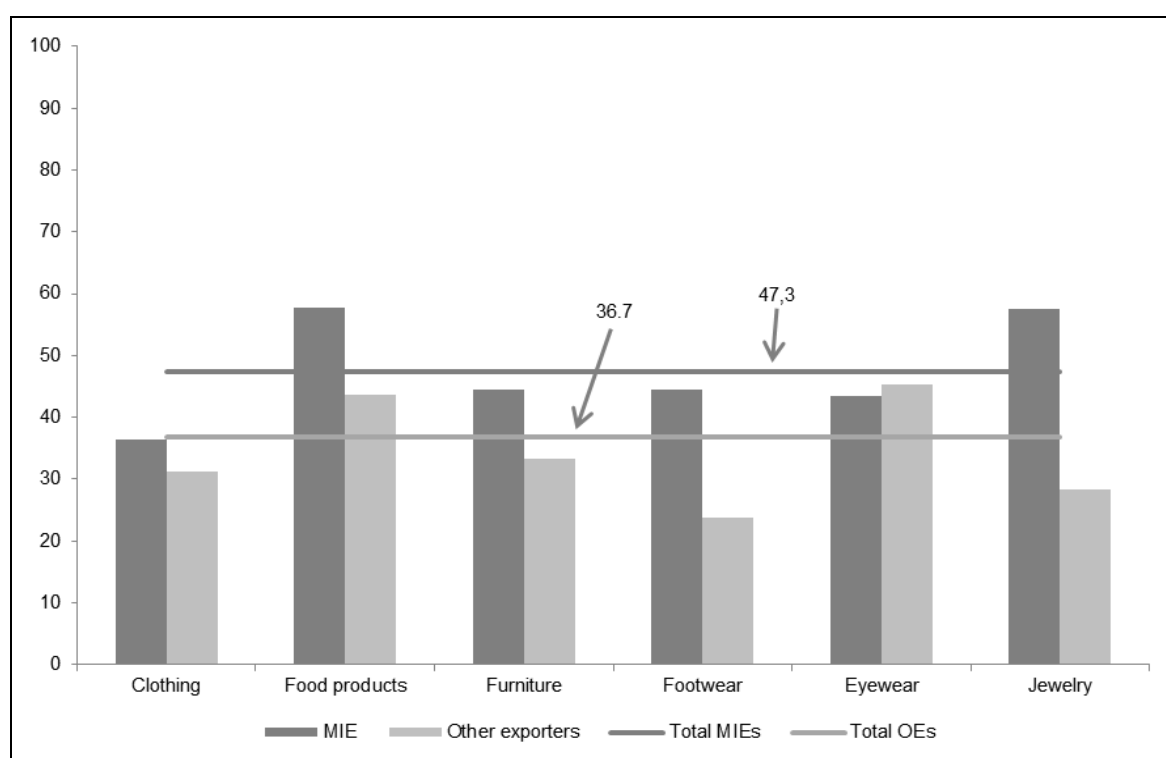
Source: based on ISTAT data.

⁴ For details on the methodology used for the construction of the indicator, see ISTAT (2013d).

The degree of connectivity of MIEs firms (24.8) is similar to that of the OEs' one (23.7), but it is nearly twice as the domestic firms' one (14.6, compared to an average of 15.7 of the whole production system). Finally, both MIEs and OEs show levels of productivity (expressed in terms of value added per employee) much higher than those of domestic firms, even if OEs are more productive (respectively around 53 and 58 thousands euro per employee compared to 33 thousands euro of the domestic units).

Considering the export performance in the period 2011-2013, MIEs firms, on the whole, have less been affected by the slowdown in global demand (Figure 1): sectors such as food and jewelry registered higher share of MIEs firms in expansion (respectively 57.7 and 57.4%), while more difficulties have been observed in the clothing sector (36.4 of the production units registered an increase in exports). The greater performance gap between MIEs and the other exporting firms (29.2 e 20.8 percentage point) has been registered respectively in Jewelry and footwear sectors.

Figure 1 – MIEs and OES: firms with growth in export value between 2011 and 2013 (%)



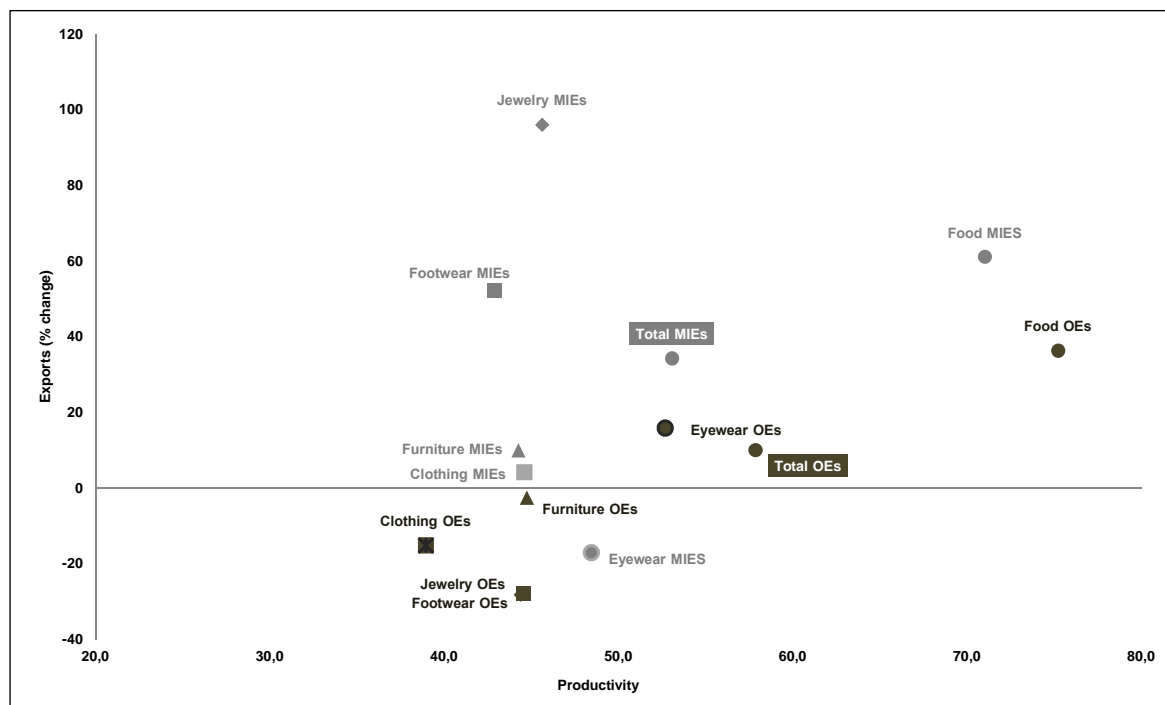
Source: based on ISTAT data.

Therefore link between productivity and trends in exports is somehow mixed. This suggests that, as seen in this work introduction, the role of "non-price" competitiveness factors in these sectors and in that period prevail over price factors. This fact is also visible in Figure 2, which reports firms' exports performance in 2011-2013 and productivity levels in 2011.

On the whole, MIEs have lower productivity levels than OEs, but from 2011 to 2013 the value of exports increased, while the export of OEs remained almost unchanged. More in detail, with the exception of jewelry and clothing firms, the OEs appear to be more productive than MIEs, but even in that difficult period the latter (except eyewear units) showed a better export performance. Finally, the MIEs in food sector show highest (average) productivity levels and a good performance in foreign markets, regardless of the typology of products exported, and this is consistent with what

has been observed in other recent works.⁵

Figure 2 – MIEs and OEs: Export value and labour productivity (percentage changes and average of value added per employee, thousands of euro) . Years 2011-2013.



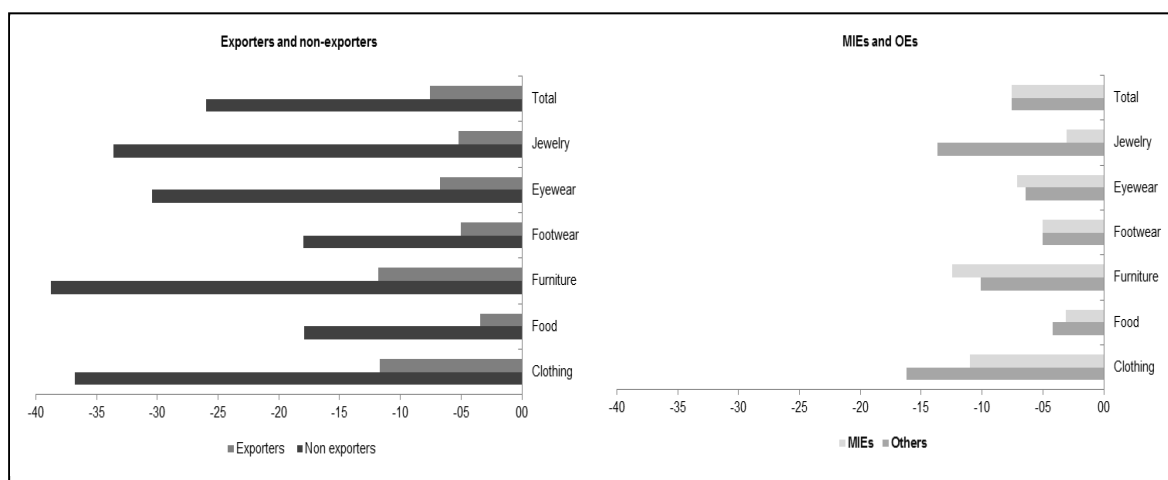
Source: based on ISTAT data.

MIEs stand out for their performance in foreign markets, but this does not happen when we consider the evolution of employment. During the same two-year period, most of both MIEs and OEs failed to prevent jobs losses, even though domestic firms have been hit more severely by the crisis (Figure 3). Indeed, employment decreased by an average of 7.6% for both type of exporters. At the same time, the number of employees of non-exporting firms dropped by over 26%.

The jobs losses affected firms in all the traditional sectors, but characterized to a greater extent furniture and clothing activities, where the number of employees decreased on average by more than 11% for the exporting firms and over 36% for the domestic units. However, the gap in performance between MIEs and OEs has been relatively limited, even though in the furniture industry the loss of jobs has been greater for MIEs (respectively 12.4 and 10.1%).

As far the business strategies are concerned, the importance of the product brand for the MIEs is confirmed: these firms indicate as their main competitive strength point the qualitative content of their product, while other elements, for example the product price, appear to be less crucial for their competitiveness (Table 2). Over 88% of MIEs (over 90% in the case of the food and jewelry MIEs) base their competitiveness mainly on product quality, compared to “only” 80.7% of non-exporting firms. On the contrary, price is a key factor for competitiveness for just 30.7% of MIEs.

⁵ See for example ISTAT (2013b and 2014).

Figure 3 - Change in employment between 2011 and 2013 (job positions)

Source: based on ISTAT data.

Also the innovative activity – aimed to the creation of new products of their marketing – is directed to the affirmation of the brand and product: in all the six sectors considered, with the partial exception of food industry, the launch of new products is the preferred form of innovation implemented by exporters (both MIEs and OEs) and is an essential competitive tool for more than half of the units (except for clothing and footwear MIEs). Finally, MIEs rely to a greater extent on marketing innovations (48.1%, compared with 39.5% of OEs), i.e. on significant aesthetic improvements in products, or new commercial strategies and services.

Table 2 – Firms by type of competitive levers and innovation (values %, 2011)

	<i>Competitive strenghts</i>		<i>Innovation</i>			
	Price	Quality	Product	Process	Organization	Marketing
Clothing	28.2	87.9	47.5	38.4	40.5	41.9
Food products	30.8	91.2	57.7	59.0	44.8	56.2
Furniture	31.4	83.9	64.2	45.0	40.9	52.2
Footwear	33.9	89.8	44.2	32.5	36.2	35.8
Eyewear	23.3	76.7	53.3	53.3	36.7	20.0
Jewelry	31.8	91.9	54.7	46.6	39.9	43.9
Total MIEs	30.7	88.4	54.7	46.4	41.4	48.1
Total OEs	33.8	83.9	52.1	49.6	40.5	39.5
Domestic firms	31.4	80.7	28.1	33.2	27.0	21.2

Source: based on ISTAT data.

4. The empirical strategy

In order to analyze such aspects more in detail, we follow a three-step analysis. The first step assesses whether, and to what extent, during the 2011-2013 crisis being MIEs was associated, on

average, to a better performance in employment (in terms of percentage change in persons employed in Italy) or export (percentage change in the export values). This strategy implies the estimate of two couples of probit models: the first one aims to capture the contribution of the MIE status to the probability of showing a better performance in either the employment or export variables; the second one is meant to assess whether the MIEs are more likely to emerge as “top performers” in either of the two variables, where a firm is “top performer” when it belongs to the highest quintile of the distribution of the performance⁶.

In the second step, these two results are jointly analyzed: estimating a multinomial logit model we assess whether the MIEs’ performance tend to be oriented only to the export growth, only to the employment growth, or a joint increase in both employees and export value, considering as a benchmark the joint decrease for all the cases.

Once analyzed whether being MIE played an important role in the international competitiveness of Italian enterprises and helped them create jobs in Italy, the last step of our empirical work aims to investigate the effective strategies adopted by the firms up to 2011. In this vein, estimating another multinomial logit model allows us to draw a “strategic profile” of the Italian exporting and non-exporting firms, and to point out both the specific strategies (and competitive tools) that characterize MIEs and OEs with respect to the non-exporting firms, and the strategies that characterize the MIEs with respect OEs.

In order to analyze the relationship between the MIE status and firm’s performance, we estimate the two following couples of *probit* models:

$$\text{Prob}(Y = 1) = \alpha_i \text{MIE}_i + \beta X_i + \gamma W_i + \delta_r P_i + \varphi_r Q_{ir} + \vartheta_{is} R_{is} + \zeta_{it} S_{it} + \varepsilon \quad (1)$$

$$\text{Prob}(Z_i = 1) = \alpha_i \text{MIE}_i + \beta X_i + \gamma W_i + \delta_r P_i + \varphi_r Q_{ir} + \vartheta_{is} R_{is} + \zeta_{it} S_{it} + \varepsilon \quad (2)$$

where:

Y_i is a dummy variable taking value 1 if:

- a) in 2011-2013 firm i experienced an increase in the number of employees and 0 otherwise;
- b) in 2011-2013 firm i experienced an increase in the value of export and 0 otherwise;

Z_i is a dummy variable taking value 1 if:

- a) in 2011-2013 firm i is top performer in terms of employment change, and 0 otherwise;
- b) in 2011-2013 firm i is top performer in terms of export change, and 0 otherwise;

MIE_i is a dummy variable taking value 1 if firm i is a MIEs and 0 otherwise;

X_i is the (logarithm of the) labour productivity of firm i (in terms of value added per employee);

W_i is the (logarithm of the) profitability of firm i (in terms of Ebitda to value added ratio);

P_i is the (logarithm of the) degree of vertical integration of firm i (in terms of value added to turnover ratio);

Q_{ir} are firms’ size control dummies;

R_{is} are industry control dummies;

S_{it} are geographical control dummies.

⁶ In both cases two separate probit models are estimated (instead of a multinomial logit model), because the possibility of showing a better performance or being “top performer” are not necessarily alternative to each other.

Results are showed in Table 3. Columns 2 and 3 report, respectively, the marginal effects of these variables on the probability for a firm to experience an increase in the value of export in 2011-2013 and an increase in the employment in the same period.

Table 3: MIEs and changes in export and employment (a)(b) – 2011-2013 (percentage points)

	Increase in export	Increase in employment	Top export	Top employment
MIEs	14.7 (0.02)***	3.7 (0.02)**	9.0 (0.01)***	2.7 (0.01)*
Log(productivity)	14.4 (0.02)***	15.9 (0.03)***	4.9 (0.02)**	10.4 (0.02)***
Log(profitability)	8.8 (0.04)**	29.5 (0.07)***	0.0001 (0.04)	26.3 (0.07)***
Log(val.add./turnover)	0.0001 (0.08)	0.0001 (0.08)	0.0001 (0.07)	0.0001 (0.07)
Size controls	Yes	Yes	Yes	Yes
Industry controls	Yes	Yes	Yes	Yes
Geographical controls	Yes	Yes	Yes	Yes
No. of obs.	4.645	4.645	4.645	4.645
Pseudo-R2	0.052	0.065	0.023	0.056
LL	-3,047.44	-2,929.32	-2,631.89	-2,497.58

Source: Authors' calculations on ISTAT data.

- (a) Probit robust estimates of the probability of belonging to the specific classes of performance, with size, sector and geographical controls; marginal effects of the dummy "MIE", indicating whether the firm exports mainly products of "Made in Italy"; marginal effects of the (logarithm of) productivity (value added per employees), profitability (ebitda to value added ratio) and value added to turnover ratio. In brackets robust standard errors; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.
- (b) In columns 2 and 3: contributions to the probability of increasing export/employment. In columns 4 and 5: contributions to the probability of being top performer in terms of percentage change of export/employment;

With regard to the performance on the international markets (export), productivity and profitability have a positive and significant contribution (as it was expected), confirming one of the most widespread results in the related literature⁷. However, to our purpose the most important result is that being MIE appears to help the export of Italian firms, as it is associated to an increase of 14.7 percentage points (p.p.) in the probability of observing a growth of export value in the 2011-2013 period. Analogously, even though to a lesser extent, exporting mainly Made in Italy products makes a firm 3.7 p.p. more likely to increase the number of employees.

Furthermore, the probability for MIEs to result as top exporters – namely to belong to the highest quintile of the distribution of export value – is 9 p.p. higher than that of OEs. In other words, in 2011-2013 the MIEs were 9 p.p. more likely to increase export value by no less than 25%. Such a positive effect on firm's performance applies also to the probability of being top employer (i.e. the probability of belonging to the top quintile of the distribution of the percentage changes in the number of employees, that is the probability of an increase in employment by no less than 4%), even though this occurs to a lesser extent (+2.7 p.p.) with respect to the performance in terms of export.

However, this type of analysis is typically affected by self-selection problems, namely the fact that being MIE is not a random feature, but is itself related to firm's characteristics and performance. In other terms, it is possible that only firms which show some characteristics (e.g. a higher level of productivity, profitability etc.) may be induced to focus their export on the products here considered, therefore "becoming" MIEs.

⁷ See among others Wagner (2012).

To deal with such issues, we applied the propensity score matching procedure⁸, which basically allows to compare an observable outcome – the performance of MIEs – with a non-observable one – the performance of the same firms if they were OEs –, by approximating this latter with the performance of an appropriate counterfactual. As it is well-known, the counterfactual is identified by matching each MIE firm with a OE companion which, on the basis of its characteristics, had a similar ex-ante probability of being MIE, but eventually was not. In other words, we identify a set of firms as similar as possible to the observable MIEs, apart from the fact that they are OEs. This set of firms is the counterfactual (the so-called “control” group), the performance of the MIE group we have to compare to.

The ex-ante probability of being MIE is given by the following probit model:

$$Prob(MIE_i = 1 | productivity_i, profitability_i, size, sector, territory) \quad (3)$$

The standard matching estimators for the effects of being MIE on the firm’s employment and export performance are reported in table 4.

Table 4 - Coefficients of the MIE in the Propensity Score Matching (a)

	Increase in export	Increase in employment	Top export	Top employment
MIE	13.1 (0.02)***	4.1 (0.02)*	9.2 (0.01)***	3.3 (0.02)*
Covariates	Yes	Yes	Yes	Yes
No. observations	4,645	4,645	4,645	4,645
No. treated	3,493	3,493	3,493	3,493
No. untreated	1,152	1,152	1,152	1,152

Source: Authors’ calculation on ISTAT data.

(a) We used the average of the three nearest neighbours with replacement (to reduce the variance of the estimates), imposed a calliper of 0.005 (to exclude poor matching) and imposed the belonging to a common support for treated and untreated units. Covariates and controls include: logarithm of productivity, logarithm of profitability, size dummies, sector dummies, territorial dummies. Bootstrapped standard errors with 500 replications are in brackets; * p < 0.1; ** p < 0.05; *** p < 0.01.

The PSM estimators confirm both that the relationship between performance and MIE status is affected by self-selection (the effects of being MIE are different from those of previous probit estimates), and that being MIE does have a positive effects on firm’s performance. In particular, with respect to the OE status, being MIE raises the probability of increasing export by 13.1 percentage points (+4.1 p.p. for the probability of being top exporter). Moreover, MIEs also have +4.1 p.p. of increasing employment (+3.3 p.p. of being top performers on employment dynamics). Therefore, exporting mainly Made in Italy products seems having fostered the firms’ resilience on international markets (with respect to the OE status) in a period (2011-2013) where domestic demand was dull or decreasing. Our results, however, show that this stimulus is accompanied by a lower (although still positive) effect on firm’s employment.

In order to analyze more in depth such relationships, and to take into account the interaction between the changes in a firm’s export and employment performance, we use a multinomial logit model to estimate the probability for a firm to position in one of four classes of performance:

- “winners”: firms that in 2011-2013 did not decrease either export or employees;
- “home grounded”: firms that in 2011-2013 decreased export but not employees
- “export driven”: firms that in 2011-2013 did not decreased export and decreased em-

⁸ For a comprehensive review of the propensity score matching and its variants, see Wooldridge (2002), Blundell and Costa Dias (2002), Caliendo and Kopeinig (2005).

- ployees;
 – “losers”: firms that in 2011-2013 decreased both export and employees.

The model is as follows:

$$\text{Prob}(Y_i = j / X) = \exp(\alpha_i \text{MIE}_i + \beta_i X) / \left[1 + \sum_{j=1}^4 \exp(\alpha_i \text{MIE}_i + \beta_i X) \right] \quad (j = 1, 2, 3, 4) \quad (3)$$

where MIE_i and the vector X are the same explicative variables as in model (1).

The results are reported in Table 4. They show the contributions (in percentage points terms) of each covariate on the probability of belonging to a specific class of performance, taking as a benchmark the “losers” class.

Table 5: MIE status and performance (a) (b) – 2011-2013 (percentage points)

	Winners ($\Delta \text{ export} \geq 0$ $\Delta \text{ employment} \geq 0$)	Home-grounded ($\Delta \text{ export} < 0$ $\Delta \text{ employment} \geq 0$)	Export-driven ($\Delta \text{ export} \geq 0$ $\Delta \text{ employment} < 0$),
MIE	8.1 (0.01)***	-4.7 (0.01)***	6.1 (0.01)***
Log(productivity)	13.1 (0.02)***	0.0001 (0.02)	0.0001 (0.02)
Log(profitability)	19.9 (0.06)***	11.6 (0.06)*	-9.7 (0.04)**
Log(val.add./turnover)	0.0001 (0.07)	0.0001 (0.06)	0.0001 (0.06)
Size controls	Yes	Yes	Yes
Industry controls	Yes	Yes	Yes
Geographical controls	Yes	Yes	Yes
No. of obs.		4,647	
Pseudo R2		0.056	
LL		-5,881.64	

Source: Authors' calculations on ISTAT data.

(a) Robust multinomial logit estimate of the probability of belonging to each class of performance, with size, sector and geographical controls. Benchmark: “-employment, -export”. Marginal effects of the dummy “MIE”, indicating whether the firm exports mainly products of “Made in Italy”; marginal effects of the (logarithm of) productivity (value added per employees), profitability (Ebitda to value added ratio) and value added to turnover ratio. In brackets robust standard errors; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

(b) Increase/decrease in the probability of belonging to a class of performance; benchmark group: “losers”, i.e. $\Delta \text{ export} < 0$ and $\Delta \text{ employment} < 0$

These results further clarify our previous conclusions. Now MIEs are 8.1 p.p. more likely than OEs to increase their sales abroad. Moreover, being MIE fosters export but not (necessarily) the firm’s employment: it increases the probability of being “export driven” by 6.1 p.p., while its contribution to the probability of belonging to the “home grounded” class is negative (-4.7 p.p. with respect to the OE status). In other terms, once the MIEs see their export value decreasing, this is more likely to be associated to a reduction, rather than an increase, in firms employment⁹.

During 2011-2013 recession, therefore, the ability of capturing the international demand played a crucial role for the performance of the enterprises operating in the most typical sectors of the Ital-

⁹ It is also worth noting that profitability has a sort of “symmetric effect” with respect to the MIE status: it is associated to a higher probability of positioning in “+employment” classes, but in a situation of decrease in employment being more profitable go along with a reduction in export value.

ian specialization model. What is more, focusing one's own export on such products further enhanced this role.

Accordingly, since we are dealing with an activity of great importance for the competitiveness of the Italian business sector, an analysis of the MIEs' strategic profile may provide additional insights about this specific firms. In this vein, we used a new multinomial logit model to point out the structural and behavioral feature that characterize MIEs with respect to OEs and non-exporting firms. In doing so, the results of the estimates may be seen as components of a general "profile" of MIEs and OEs.

The model is as follows:

$$\text{Prob}(Y_i = j/x) = \frac{\exp(\beta_j X)}{1 + \sum_{j=1}^3 \exp(\beta_j X)} \quad (j = 1, 2, 3) \quad (4)$$

where the X vector includes the following groups of variables:

three balance sheet variables:

(a) *Log(productivity)*, that is the logarithm of the level of firm's productivity in 2011 (measured as value added per employee);

(b) *Log(profitability)*, logarithm of the profitability of the firm in 2011 (in terms of Ebidta to value added ratio);

(c) *Log(val.add./turn.)*, logarithm of the degree of firm's vertical integration in 2011 (in terms of value added to turnover ratio);

three variables on productive linkages:

(a) *Belonging to a group as a parent company*: dummies taking value 1 if in 2011 the firm belonged to a group as a parent company, and 0 otherwise;

(b) *Belonging to a group as a subsidiary*: dummies taking value 1 if in 2011 the firm belonged to a group as a subsidiary, and 0 otherwise;

(c) *Linkage*: the value of the connectivity index defined above, which measures the intensity of the inter-firm linkages of the firm (with the exception of the group relationships);

five dummies relating to a set of strength points of the firm:

Price, Quality, Flexibility in production, (size of) Distribution networks, (firm's) Location. All these variables take value 1 if the firm indicates that in 2011 the respective tool was one of its strength points, and 0 otherwise;

two dummies relating to different forms of productive internationalization:

(a) *Offshoring by means of FDI*, taking value 1 if in 2011 the firm carried out (at least) part of its production abroad by means of FDI and 0 otherwise;

(b) *Offshoring by means of agreement*, taking value 1 if in 2011 the firm carried out (at least) part of its production abroad by means of agreement/contracts, and 0 otherwise;

four dummies on the innovative activities:

Product innovation, Process innovation, Marketing innovation; Organizational innovation. Each variable takes value 1 if the firm indicates that in 2011 it carried out the corresponding form

of innovation and 0 otherwise¹⁰;

three groups of structural controls: dummies controlling for firm's *size*, *location* and *sector* in 2011.

The profiles of MIEs and OEs are reported in Table 5. In particular, for every structural or strategic characteristic of the firms, the contributions to the probability of being MIE or OE are reported, in terms of differences with respect to the contribution of being a non-exporting firm.

Firstly, we have a confirmation of the presence of a "productivity premium" for internationalized firms: MIEs stand out with respect to the non-exporting firms belonging to the same sector in that they show a higher labour productivity, and this difference is also larger than the one between OEs' and non-exporting (9.2 percentage points and 6.6 p.p. respectively). By contrast, profitability (Ebitda to value added ratio), doesn't appear to be a peculiarity of MIEs or OEs, while the ratio between value added and turnover, with respect to domestic firms, is lower for OEs firms and even more for MIEs. This can be mainly due to a higher turnover and a lower vertical integration degree for the exporting firms (in particularly for MIEs units). Moreover, both MIEs and OEs have a closer linkages with other firms. Compare with domestic firms, they belong more frequently to an enterprise group, even if in a different positions: MIEs are mostly subsidiaries (this condition is associated to an increase of about 2.3 p.p. in the probability of being MIE) while OEs are mainly parent companies (+2.9 p.p.). Having relationships with other firms is very common amongst all the exporting firms: a 1% increase in the connectivity index leads to a +23.3 p.p. in the probability of being MIE (8.6 p.p. in the case of OEs).

As far as the business strategies are concerned, MIEs are different from OEs and especially domestic firms, in that they are characterized by stronger orientation to the product policy: quality is again a crucial factor for MIEs competitiveness (this is linked to +7.2 p.p. in the probability of being MIE with respect to a domestic firm), while it is less relevant for the OEs (-3.0 p.p.). This could denote for OEs a competition more oriented to a horizontal product diversification than a vertical one. On the contrary, MIEs seem to rely less on product prices (-3 p.p.), production flexibility (-1.9 p.p.) and particularly firm location (-11.1 p.p.). This is consistent with a competition on international market more based on the commercial aspects than the productive ones.

After all, with respect to the outsourcing strategies, MIEs doesn't differ from domestic firms with respect to foreign direct investment (as it, by contrast, happens for OEs), while they tend more to use less complex forms of internationalization such as agreements or contracts (+8.2 p.p.).

Even MIEs innovation activity is more focused on product: the introduction of new product or new marketing solutions increase the probability of being MIEs respectively by 6 and 10.7 p.p., while process innovation are less common (-3.4 p.p.).

5. Conclusions

For the Italian economy the 2011-2013 period was a very difficult one: also because of a sluggish internal demand, the capability of successfully compete on international markets became a crucial aspect for the firms to thrive or even survive. In this respect, the Italian specialization model faces potential weaknesses with respect to the competitive pressure from low labour costs economies, as it is based on low- or medium-technology activities. Understanding whether and how the Italian exporters coped with such weaknesses is therefore an important issue in order to elaborate and implement effective policies for a relevant part of the "backbone" of the Italian economy.

¹⁰:"Marketing innovation" is defined as new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing. The "organizational innovation", in turn, refer to the implementation of new organisational methods (changes in business practices, workplace organisation or the firm's external relations).

To this aim, in this work we pointed out the linkages between strategies and performance – in terms of employment and export dynamics – for the firms operating in six typical activities of the Italian specialization model (the so called “Made in Italy” sectors: clothing, food, furniture, footwear, eyewear, jewelry) in 2011-2013. In particular, our results show that in that two-year period the MIEs (i.e. firms exporting mainly one of the six types of products) had a higher probability to increase their export and employment with respect to the OEs (i.e. other exporters). Moreover, the MIE status is decisive for an increase in export but not for an increase in employment: once an MIE sees its export decreasing, it is likely to see a decrease in employment too, while for OEs the opposite applies.

The MIEs’ better performance in terms of export dynamics is associated to a more complex strategic profile: in fact they have a higher labour productivity, are more networked (both because they belong to enterprises groups and activate a number of inter-enterprise relationships), are more innovative in terms of new products and marketing strategies, and their competitive strength point is the quality of the product. These strategies characterize OEs to a very smaller extent, which in turn tend to compete more frequently than MIEs on the basis of productive flexibility and FDI.

Table 6: A strategic profile of MIEs and OEs (a) (b)– 2011-2013 percentage points)

	MIE	OE
Balance sheet		
Log(productivity)	6.6 (0.02)***	9.2 (0.01)***
Log(profitability)	0.0001 (0.03)	0.0001 (0.02)
Log(val.add./turnover)	-59.2 (0.05)***	-24.4 (0.05)***
Relationships		
Belonging to a group: <i>parent company</i>	0.0001 (0.02)	2.9 (0.02)*
Belonging to a group: <i>subsidiary</i>	2.3 (0.01)*	0.0001 (0.01)
Connectivity	23.3 (0.04)***	8.6 (0.04)**
Competitiveness strenghts		
Price	-2.4 (0.01)**	0.0001 (0.01)
Quality	7.2 (0.02)***	-3.0 (0.01)**
flexibility in production	-1.9 (0.01)*	2.0 (0.01)**
Distribution network	0.0001 (0.02)	0.0001 (0.02)
Location of the firm	-11.1 (0.03)***	0.0001 (0.03)
Offshoring		
Offshoring by FDIs	0.0001 (0.05)	7.8 (0.03)***
Offshoring by agreements	8.2 (0.02)***	4.1 (0.02)**
Innovation activity		
Product innovation	6.0 (0.01)***	0.0001 (0.01)
Process innovation	-3.4 (0.01)**	0.0001 (0.01)
Marketing innovation	10.7 (0.01)***	-4.0 (0.01)***
Organizational innovation	0.0001 (0.01)	0.0001 (0.01)
Structural controls		
Size controls	Yes	Yes
Industry controls	Yes	Yes
Geographical controls	Yes	Yes
<i>No. of observations</i>		6,396
<i>R2_P</i>		0.256
<i>LL</i>		-4.725.7

Source: Authors' calculations on ISTAT data.

(a) Robust multinomial logit estimate of the probability of belonging to the MIE or OE status; Benchmark: "Non exporting firm belonging to one of the six sectors considered". Marginal effects of the (logarithm of) productivity (value added per employees), profitability (Ebitda to value added ratio), value added to turnover ratio; marginal effects of the two group dummies and linkage index; marginal effects of the competitiveness strength points dummies, offshoring dummies, innovation activity dummies. In brackets robust standard errors; * p < 0.1; ** p < 0.05; *** p < 0.01.

(b) (increase/decrease in the probability of being MIE or OE.

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