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Chapter

Entry-Mode Selection and Firm's Productivity across Market Destinations: An Empirical Investigation

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Abstract

This work aims at investigating the productivity premia of three alternative modes of internationalization for a panel of Italian manufacturing firms: FDI, international outsourcing, and exporting. By using simple regression tests we try to investigate whether and to what extent these modes of firm's entry into the foreign markets increase the productivity of firms at home. Surprisingly, our findings show that firms that self-select in engaging in exporting have the greatest productivity gains. The findings hold true even when we extend the analysis to geographical country penetrations.

Keywords: international trade, offshoring, FDI, productivity

1. Introduction

A critical issue for firms that operate in a globalized world is the choice of the best entry mode to service international markets. The selection of the best strategy is of pivotal importance because of its impact on firm's performance. The options available to firms have extended in recent years and the two most widely options - represented by exporting and foreign direct investment (FDI) - have become wider. The additional mode that we consider in this paper is the activity of fragmenting part of the production abroad either by international outsourcing (arm's length trade) or vertical foreign direct investment (FDI) in which all or parts of production is relocated to another country to affiliated firms. According to the literature, we define this entry mode as offshoring whose purpose is either accessing resources or a response to intensification of competitive pressures from abroad. Increasingly, it represents the internationalization mode that occurred most frequently in the last decades. This move is not only confined to cost saving activities but includes the reallocation of tasks and activities of the entire value chain.

The vast majority of Italian companies that choose to move their production facilities to foreign countries takes away also intangible capital and skills that have made famous the Made in Italy. The main reason is to reduce labour costs. The average salary in the South Eastern Europe - the geographical area where many Italian firms have offshored productions - is about three times less than the average wage in Italy. But the level of wages is not the only advantage to move production

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abroad: even tax conditions, less bureaucracy, a favorable regulatory environment are attractive factors for entrepreneurs. For these reasons, a large number of Italian companies has moved in that area 17,700 businesses [1].

All the internationalization choices require different levels of resource commitment: exporting is a low resource-commitment and a low risk entry-mode, whereas FDI and offshoring are associated with greater risks, higher fixed costs and organizational complexities. Thereby, the returns expected by these entry modes are higher for FDI and offshore-outsourcing and lower for exporting firms.

As reported by Greenaway and Kneller in their review article [2], the bulk of the empirical literature does not study simultaneously the productivity performances of all these different international choices but investigates separately firm performance for exporters against non-exporters, offshorers against non-offshorers and MNEs against some other form of internationalization, generally exporting. There are still few studies that put together all these different forms of foreign activity to bettering our understanding of the structure of foreign trade, characterized by a growing role of multinationals and a growing share of intermediate inputs in trade flows. The objective of this work is to assess the productivity performances of firms that undertake different overseas market-entry strategies.

Seminal works in international trade literature state that the entry modes of firms in international markets is endogenous and depends on ex-ante firm's productivity. From a theoretical point of view, the model that compares different entry-modes in international markets is that by Helpman et al. [3]. This model, adding heterogeneity across firms in the same industry shows that firms self-select their entry-mode (exports versus FDI) according to productivity levels of firms. This is done through a sequence of different fixed and sunk costs associated with the various forms of internationalization. In their model the choice to serve foreign markets is associated with different fixed and variable costs, which have important consequences for firm's strategy to enter into foreign markets. The fixed costs of Horizontal-FDI (HFDI) are greater than those of exporting. Since only the most productive firms can afford the duplications costs in establishing new plants in a foreign country, the main prediction of the model is that FDI firms are more productive than exporting ones.

This theoretical prediction is generally supported by a fairly extensive empirical literature. Studies by Bernard and Jensen [4] and Yeaple [5] confirm that U.S. firms with the lowest productivity stay domestic, those with higher productivity export, and those with the highest productivity invest abroad. Further validations come from UK firms [6], Irish firms [7], German firms [8, 9]. Other studies conducted on Japanese firms such as Tomiura [10], and Kimura and Kiyota [11], also confirm the sorting pattern of internationalization with respect to productivity. However, the HMY model refers only to the standard moves (exports versus FDI) but some of these empirical papers have extended the predicted ranking by including also offshoring.

More recently, Wakasugi [12] in his study on Japanese firms finds only a partial validation of the HMY predictions. The novelty in his study is the distinction among different destinations of the foreign activity of the Japanese firms. While the result is consistent with the HMY sorting of export and FDI in the case of USA and EU destinations, the reverse order holds in the case of Asian country destinations. This suggests that dissecting exports and/or the investment modes by producers in different foreign markets might be crucial to assess the validity of the predicted theoretical ranking. Many other studies have distinguished foreign activities by destination countries but in that case the analysis was directed only to exporting activity (i.e. [13–15], De Loecker [16] among others).

Following this literature, we use a database for a large sample of Italian manufacturing firms, which include both large and small-medium sized enterprises, to test different international entry-modes as well as the decision to stay domestic. The first move is horizontal foreign direct investment, the second move is offshoring and the third is exporting. More specifically, we test whether companies that choose horizontal FDI show a higher performance compared to offshoring firms and whether the latter outperforms, in terms of productivity, exporting firms. In turn, we test whether exporting firms outperforms purely domestic firms. Finally, we test whether the findings are consistent across different destinations of foreign activities. Our main measure of performance is Total Factor Productivity (TFP).

This paper contributes to the literature on market entry modes. Firstly, it adds a piece of evidence on the internationalization moves and their impact on firm's performances by investigating Italian firms. There are a number of research contributions that investigate the outcomes of entry-modes for individual countries by providing mixed results.

Secondly, it uses a dataset that enables to separate firms' strategies according to destination countries in order to evaluate whether the ranking holds when firms' productivity varies across destinations.

Thirdly, in contrast to previous literature, our finding is that for Italy the best performers in international markets are exporting firms.

The remind of the paper is organized as follows. Section 2, briefly review the literature on entry-modes. Section 3 describes the data and present some preliminary descriptive statistics by taking special care at identifying the different strategies of internationalization in our data set. Section 4 reports the main findings of our tests. The last section summarizes and draws some conclusions.

2. Related theoretical literature

In this section we recall some contributions of the literature to delineate the analytical context of our research. Prior of the HMY paper, other theoretical models have tried to incorporate the profound transformations that we observe empirically in the international context by incorporating sunk costs, heterogeneity, and uncertainty in dynamic models. This line of research, how rightly pointed out by James Tybout [17], dates from the late '80s. Recently, however, many interesting papers have been published that extend the literature on international choices of companies on the basis of a set of new stylized facts. The new approach to the analysis of cross-border trade and foreign investment has been developed in the canonical paper by Melitz [18], Bernard et al. [19], Antràs [20], Antràs and Helpman [21] and Helpman, Melitz and Yeaple [3] among others. These models, focusing on individual firm behaviour and participation in international markets, offer an explanation of why some companies stay in house while others go overseas as well as to the puzzle of international fragmentation of production. One of the most remarkable features of globalization and accelerated competition is that the reduction of transportation and communication costs have contributed to boost international trade and has pushed firms to find new ways of value creation. Among the motives for choosing different foreign strategies, the degree of heterogeneity within industries emerges as a result of productivity differentials across firms. What comes out from this literature is that the interaction of sunk costs and productivity heterogeneity is the key motive to explain the choices of globalized firms. The international strategies of corporations of exporting or investing abroad should depend on productivity cutoffs that make these different modes of internationalization profitable.

Indeed, Krugman [22] developed a model, (successively tested by [23]), in which firms trade-off proximity to consumers (FDI) against the scale economies achieved by production concentration in one location for export. The HMY model introduces firm-level heterogeneity to confirm the prediction of the proximity-concentration trade-off thus allowing this trade-off choice to differ across firms within the same industry through the assumption of different costs associated with serving the foreign markets. Firms tend to substitute FDI sales for exports when transport costs are high and plant-level returns to scale are low. But because of the higher fixed costs of FDI, this choice will be made only if the profit curve for subsidiary sales is steeper than that of exporting. More precisely, their results show the presence of a productivity cutoff which is a function of industry and destination country characteristics: firms with productivity below this cutoff export, whereas firms with productivity above the cutoff invest abroad. In addition, since foreign investors and exporters coexist in the same industry, it is possible to calculate the Export/FDI ratio by aggregating all firms in the same industry with productivities above their correspondent cutoffs and this ratio will be lower the larger the variable trade costs and viceversa. The main findings are embodied in the following sequences of outward orientation by firms: (i) the most productive firms serve foreign markets via subsidiary sales, (ii) intermediate productivity firms cover foreign markets through exports and (iii) lowest productivity firms serve only the domestic market.

The predictions of the HMY model have been confirmed by the empirical analysis conducted by the same authors. Using US export and affiliate sales data that cover 52 manufacturing sectors and 38 countries they show that cross-sectoral differences in firm heterogeneity predict the composition of trade and investment in analogy with the theoretical model. The research focus of our empirical analysis is to explore not just the decision to serve foreign markets through export and horizontal FDI but also vertical foreign investment decisions motivated by factor (labour) costs advantages. As pointed out by Antràs and Helpman [21] the model of HMY does not address the organizational choice of firms that need to purchase intermediate inputs, which is one of the most important form of international trade in the last decades.

There exists numerous studies in the international business literature that investigate the selection of these entry-modes. However, the research is fragmented and the issue of the link between selection of entry strategies and performances is limited or at least it is not posed in the perspective so far outlined. Also in this literature the two most widely options are exporting and FDI but the majority of studies investigated the determinants of the two choices. The approach followed is an incremental one: firms initially choose exporting and only after gaining experience in the host country may expand their operations through ownership of production [24, 25]. While FDI research focuses on the OLI framework of Dunning [26–28], which is expected to explain the majority of international strategy selection, export research relies instead on transaction costs theory (TCT), which provides valuable insights on how firms organize their activity abroad to increase their efficiency by selecting export channels [29]. Other recent approaches build on the research-based view and institutional theory to explain how firms can improve export performance by considering not only export channels but also the performance consequences of learning capabilities [30, 31]. More specifically, recent contributions by He et al. on exporting choice suggest that market orientation capabilities of firms, that is the effort to create value in the export market, is important to link export channel selection and export performance. These capabilities are not considered in the TCT but are crucial to assess exporter's performance. Indeed, capabilities help firm to learn about foreign markets and adjust "strategy and products to conform to market demand, which should result in superior export performance" (p.30)

A different strand of the same literature has investigated offshoring performance in isolation with respect to the other entry-modes by looking at different aspects of performance such as corporate financial performance, cost saving, sales growth etc. [32–34], among many others) as well as general characteristics of the offshoring strategy [35]. However, also in the business practice the decisions of firms' internationalization are not taken in isolation, thus a joint analysis of entry strategies is conducive to a better understanding of the phenomenon. Our perspective is to compare the different productivity performances of all the three entry modes taken together, without investigating the determinants of these choices. The purpose is to stimulate a more intensive discussion that takes into account theoretical advances from different strands of literature.

Therefore, entering offshoring in our analysis, Italian firms that decide to sell goods overseas have three options: (i) producing at home and export (ii) fragmenting production such that producing and selling of goods may occur in one or more different locations abroad (offshoring), (iii) opening up an affiliate in the destination market and produce and sell goods in that location (horizontal FDI).[1]

3. Data description and productivity measures

Our firm-level data are drawn from the IX and X waves of the three-year Survey on Manufacturing Firms (Indagine sulle Imprese Manifatturiere) administered by the commercial bank Capitalia-Unicredit. The surveys used cover the period 2001-2006 and was conducted in 2004 and 2007. These surveys report, through stratified samples by geographical areas, and industrial sectors several aspects of selected units with employees between 11 and 500 and a census of firms with more than 500 workers. Information is collected through questionnaires as well as quantitative data from firm's balance sheets for all the years covered by the Survey, regarding factor inputs, output, value added, and all data details necessary to our analysis. More importantly from the firm's interviews, we collected a rich set of information on different types of international engagements by Italian firms.

For our purpose, we pool together the two waves, adding the panel units to the non-panel components from the second survey for an entire sample of more than 4000 Italian manufacturing firms. In the cleaning process, we exclude observations revealing a value added, or capital stock or materials that are negative or missing for more than two years (or, alternatively, in the central year) over each three-year wave. Moreover, we consider as outliers firms where measures of value added or inputs (i.e. capital stock, the number of employee), over each wave's period fell within either the first or the last percentiles.

Namely, for our empirical analysis, we consider as a first category companies that perform horizontal FDI aimed at producing goods that will be sold into foreign countries. For this scope, in order to define horizontal FDI, we use the following questions:

i. Within the three-year period (2001-2003 or 2004-2006), did the company make any FDI?

ii. Share of foreign production by destination: (a) sold in the place where the company was settled, (b) sold to third countries.

[1] As in Helpman [36] with the term offshoring "we refer to the sourcing of good or service in a foreign country, either from an affiliated or an affiliated supplier (p. 127).

As a second type we include firms doing offshoring activities, that are those investments aimed at moving abroad the production of semi-finished goods or components, which are going to be re-imported into the domestic country and then either sold into the domestic country, or re-exported abroad or re-introduced into the domestic production.[2] The definition of offshoring relies on the following questions:

i. Did the company move abroad the production of semi-finished goods or components.

ii. Share of foreign production by destination: (a) re-imported into the domestic market, (b). re-exported abroad¡ (c) re-introduced into the domestic production.

We include in the analysis also offshoring in services which relies on the following questions:

i. Did the company buy services from abroad?

ii. Share of foreign production by destination: (a) re-imported into the domestic market, (b) re-exported abroad, (c) re-introduced into the domestic production.

The third category involves firms doing only exporting. In the internationalization part of the survey, firms answer at the following questions: (1) has the firm exported all or part of its output in the last year of the survey? (2) What is for each firm the percentage of its exports on total sales? Firms are asked to indicate the geographical area of destination as percentage sales exported for each destination, so that the total should be 100%. The nine geographical areas are EU (15), New Entrants in the EU in 2004, Russia, Turkey and other EU countries, Africa, Asia, China, Usa-Canada and Mexico, Latin America, Australia.

Finally, we take domestic firms, that are those that do not export and offshore either. Unfortunately, for Italy, these forms of internationalization do not fit exactly in the categories just described. In our data set, while there are pure exporters, there are not purely horizontal FDI and only a small number of firms are purely offshorers.

To compute an approximate TFP we follow Tomiura [10] using the following approximation formula:

$$TFP_{it} = \log\left(\frac{Sales_{it}}{L_{it}}\right) - \frac{1}{3}\log\left(\frac{K_{it}}{L_{it}}\right) \quad (1)$$

This measure adjusts labour productivity by a fraction (in this case (1/3) of the capital intensity). As noted by Head and Ries [37] the drawback to this measure of productivity is that it reflects both technical efficiency as well as economies of

[2] Our measure of offshoring firms includes both international outsourcing (arm's length trade), in which one company hires an overseas firm to complete a function that was previously performed in-house and offshoring FDI (or intra-firm trade) that is the multinational tendency to fragment part of production to low wage countries. In other terms, we follow the recent classification of offshoring that includes all international relations without distinguishing whether the provider is external or affiliated within the firm. The identification of offshoring firms in this broad sense has been made by looking at the section devoted to overseas production relocation in the cited Survey and reported in the Appendix.

scale. However, it is a good measure of technical efficiency if there are constant returns to scale and 1/3 is a reasonable measure of the capital share. The fraction of 1/3 has been used also by Hall and Jones [38] and roughly corresponds to physical capital intensity in manufacturing. On the other hand, using the ordinary least square method to calculate TFP as a residual would likely produce biased coefficient estimates due to correlations between the exogenous variables and the error term.

In the following we report some descriptive statistics on the whole universe of firms in our dataset.

As revealed by **Table 1**, across all destinations, firms performing only export are far more numerous than firms moving production abroad. Furthermore, among the latter group, the percentage of companies making offshoring (in materials) is larger than firms performing horizontal FDI. Over time, international activity seems to decrease from the triennial period 2001-2003 to the period 2004-2006. When we distinguish by destination of international activities, we first observe that the percentage of exporters to Southern destinations is larger than that of exporters to Northern destinations. Secondly, for investors, Southern destinations result to be preferred to Northern destinations in the period 2001-2003, but the opposite turns out to be true in the second period (2004-2006). Finally, investors to the North reduce their horizontal FDI and increase offshoring activities over time.

The **Table 2** shows the number of firms across industries distinguished by their international strategies.

Given the limited number of firms that invest abroad in some sectors, we aggregated the firms in 9 sectors. The strategies have been labeled as following: Horizontal FDI (HFDI), offshorers (OFF), Exports (EX) and Domestic (D). What emerges from the table is that the majority of firms across sectors decides to export while the percentage of firms that invest abroad chooses to do it by doing offshoring and only a small percentage of firms perform horizontal FDI. In particular, industries more involved into offshoring are Leather, Wood, Paper Products, Medical Apparels and Instruments and, at a lesser extent, Furniture, Printing

Year All destinations (%)	**2003**	**2006**
HFDI	1,25	0,27
OFF	1,76	0.83
EXP	71.82	60,9
Northern destinations (%)[2]		
HFDI	0.24	0.14
OFF	0.11	0.23
EXP	65.71	†56.7
Southern destinations (%)		
HFDI	0.79	0.05
OFF	0.62	0.16
EXP	71.82	60.9
N. Obs.	3683	4443

[1]*HFDI= horizontal FDIs¡ OFF=arm's lenght trade and vertical FDI¡ E=only exporters D=domestic firms (in the next table).*
[2]*Note that not all the companies in the dataset reveal the destination of their foreign investment. Thus, they are not counted in the statistics concerning specific destinations.*

Table 1.
Distribution of different internationalization modes across destinations.[1]

Category	Year	Distributi0n (%)				N. firms
		HFDI	OFF	EX	D	
1.Food & Beverages,	2003	0.0	0.25	67.75	32.0	400
Textiles, Clothing	2006	0.27	0.0	55.38	44.35	372
2. Leather, Wood,	2003	1.23	5.62	75.57	17.93	569
Paper products	2006	0.51	1.86	69.93	27.87	592
3.Printing & Publishing,	2003	0.68	2.05	58.56	39.38	292
Petroleum Products & Chemicals	2006	0.0	0.24	38.59	61.17	412
4.Rubber & Plastics,	2003	0.96	0.48	76.50	22.06	417
Non-metal minerals, Metals	2006	0.46	0.70	65.20	33.64	431
5. Metal Products	2003	1.05	0.35	61.24	37.35	854
	2006	0.09	0.43	50.51	33.64	1,166
6. Nonelectric Machinery, Office Equipment &	2003	22.45	1.51	85.69	10.73	531
Computers, Electric Machinery, Electronic Mat.	2006	0.29	0.73	77.71	48.97	682
7. Medical Apparel & Instruments,	2003	2.11	3.17	73.94	21.13	284
Vehicles	2006	0.53	0.80	60.90	38.03	376
8- Other Transportation	2003	2.25	1.12	68.54	28.03	89
	2006	0.0	0.88	72.81	26.32	114
9.Furniture	2003	1.21	1.21	83.0	14.98	247
	2006	0.34	2.68	72.15	25.17	298

Table 2.
Distribution of different internationalization modes across industries.

and Publishing, Petroleum Products and Chemicals. On the other side, industries focusing more on horizontal FDI are Office Equipment and Computers, Electric Machinery, Electronic Materials and Transportation. Overall, firms in the whole sample seem to reduce the international activity in 2006 with respect to 2003. However, some industries increase their offshoring activity over time, such as Rubber and Plastics, Non-Metal Minerals, Metals, Metals Products and Furniture, while Food, Beverages, Textiles and Clothing increase their share in Horizontal FDI and, finally, Other Transportation raise their share in Exports.

Figure 1 shows kernel densities of TFP for the four types of firms in our data set.

The ordering of the firms' productivity seems to be the following: both in 2001-2003 and 2004-2006, firms producing abroad are more productive than those exporting, being the latter more productive than domestic firms.

As the figure illustrates there are productivity differentials among firm groups. The differences are more pronounced for the period 2004-2006. The distribution of the log of total factor productivity (TFP) for the four types of Italian firms are those serving only the domestic market (domestic firms), those engaging in export (pure exporters), those engaging in horizontal FDI, and those engaging in offshoring. concentrated over larger TFP values with respect to exporters. In turn, the latter are better performers in TFP than domestic counterparts. However, the ranking of distributions of firms that perform horizontal FDI with respect to offshorers is not clear-cut as they seem to be almost overlapping.

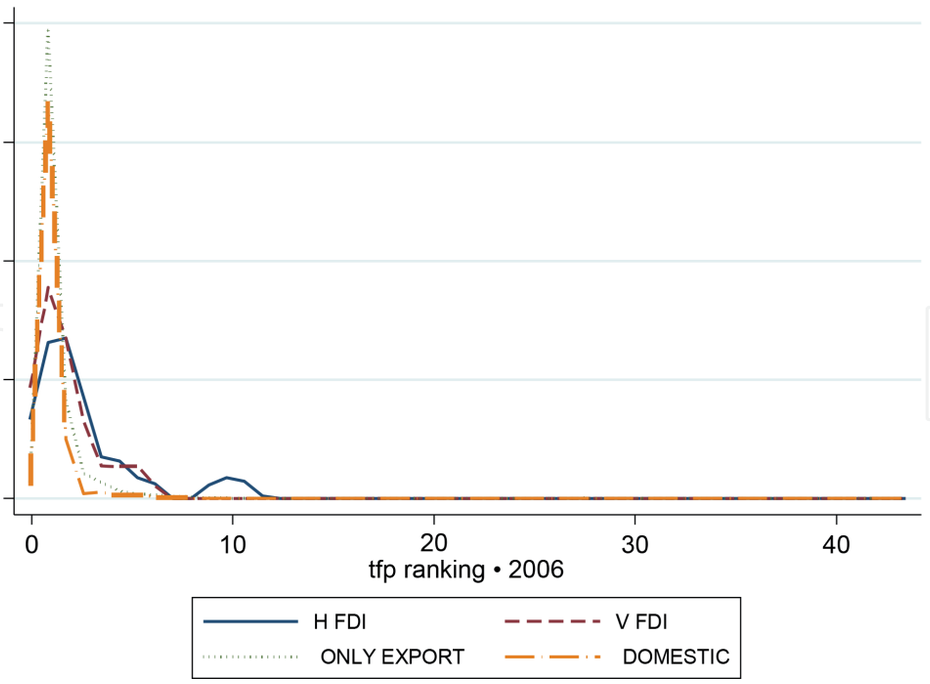


Figure 1.
TFP kernel densities across different internationalization modes.

4. Empirical methodology

Since productivity is the key element of our study, in order to overcome simultaneity and andogeneity problems of parametric approximation of TFP, we use the semi-parametric method suggested by Levinshon and Petrin [39] and widely used in the literature.[3] Specifically, this estimator permits to estimate production functions using firm-level data and solves the simultaneity bias of correlation of productivity shocks and input choices by using a composite index of materials (intermediates) to proxy unobserved productivity shocks.[4]

Consider the following Cobb-Douglas production function:

$$y_{it} = a_0 + a_l l_{i,t} + a_k k_{i,t} + w_{i,t} + u_{i,t} \tag{2}$$

for the LP estimation it becomes:

$$y_{i,t} = a_0 + a_l l_{i,t} + a_m m_{i,t} + a_k k_{i,t} + w_{i,t} + u_{i,t} \tag{3}$$

where y, l, k, m are respectively the log of output, employment, intermediate inputs, and capital stock for firm i at time t and $w_{s,t}$ is the productivity shock observable by firms. Although also this method of computation of TFP suffers some significant identification problem, it allows us to limit endogeneity issues. The regression implemented sector-by-sector on each wave's three-year panels uses materials from the balance sheet data as well as white and blue collars as labour

[3] The Levinshon and Petrin measure of TFP has been calculated by implementing the levpet routine available in Stata.

[4] The method relies on a a function in which intermediate inputs are used to control for productivity and this has an advantage over the Olley and Pakes [40] method which uses investment to proxy for productivity. In our data set (as well as other firm-level datasets) this variable was not available.

inputs. As previously, also these measures at the firm level were re-scaled by the macro-sector level mean[5] of TFP. Finally, we averaged the values over the three years wave.

With this measure we provide results from premia estimates in the Table below. In more detail, we seek to measure the difference in performance among firms in overseas markets according to different strategies. Thus, as standard in the literature, we run OLS regressions to estimate the relationship between firms 'performances and various internationalization strategies. The procedure follows the Bernard and Jensen (1995) paper extended to include our strategies as follows:

($IS_{i,t}$ = [$HFDI_{i,t}$, $OFF_{i,t}$, $EXPi_{,t}$, $D_{i,t}$])[6]

The regression implemented is:

$$y_{i,t} = \alpha + \beta IS_{i,t} + \gamma Empolyment_{i,t} + \sum_i \gamma_i INDUSTRY_i + \sum_j \delta_j AREA_j + \varepsilon_{i,t}, \quad (4)$$

where i is the index of the firm and t is the time indicator $IS_{i,t}$ is a dummy variable for the international status of the firm, that takes on value of 1 if the firm internationalizes in year t, and 0 otherwise. y represents the measure of firm performance. We consider as firm performance measures not only TFP and labour productivity (Value added/L) but also the capital/labour ratio and gross sales per-worker. As usual we control for industry, region dummies and firm size measured by the number of employees. Productivity premia calculated by the β coefficient are reported in the **Table 3**.

In the second part of the Table we have divided our firms by country destinations of their internationalization activities. The geographical areas of internationalization of Italian firms in our dataset have been distinguished in the North in which we have included all high income countries (EU15), USA, Japan, Canada, Australia) and the South in which we have included less developed countries (East Asian countries and 8 Central and Eastern European countries (see Appendix).

The analysis of the simplest strategy considered (i.e. purely exporters), EXP yields the clearest outcome: exporters perform better than domestic firms in terms of TFP[7] sales, capital/labour ratio and labour productivity. Distinguishing by export destination does not affect what just assessed. The main implication of this result is that the importance of distance should have diminished over time in the sense that advances in technology have contributed to reducing the costs of trade. Therefore, the well-established-finding that bilateral trade diminishes with distance should be rethought. Indeed, in some recent papers this puzzle has been explored and some explanations have been advanced, which are based on the concept of "geographic neutrality" (see [41]).

Firms doing both export and offshoring turn out to have significantly larger sales with respect to only exporters. Moreover, they also show larger labour productivity. In terms of TFP, offshorers seem to be better performers than exporters only when the destination country is located in the North. Finally, companies performing both export and horizontal FDI have significantly larger sales with respect to both only exporters and offshorers. Results in terms of labour productivity are not statistically significant, differently from results on capital/labour ratio, that turns out to be larger for foreign investors in the South. Hereby, our investigation shows that FDI

[5] Because of data constraints, we aggregated ATECO 1991 2-DIGIT manufacturing sectors into nine broader categories that are defined in appendix C.

[6] Tests on H FDI and Offshoring are run over a sample of firms all doing also export (domestic firms are dropped). Tests on EX (only Export) are run over a sample of firms that do not engage neither in FDI nor offshoring.

[7] As TFP measure, we use LP estimates, scaled by the macro-sector level mean.

		TFP (2006)	Sales (2006)	K/L (2006)	VA/L (2006)
HFDI	β	0.738	1.563***	-0.634	0.419
	s.e	0.795	0.302	0.528	0.289
	n.obs.	2605	2671	2670	2671
OFF	β	0.411	0.858***	-0.032	0.482***
	s.e	0.259	0.177	0.225	0.140
	n.obs.	2605	2671	2670	2671
EXP	β	0.142***	0.582***	0.068*	0.134****
	s.e	0.048	0.036	0.042	0.028
	n.obs.	4165	4264	4261	4264
HFDI (North)	β	1.975	1.628***	-0.029	0.386
	s.e	1.272	0.542	0.554	0.449
	n.obs.	2605	2671	2670	2671
OFF(North)	β	1.119*	1.295***	0.278	0.364
	s.e	0.664	0.377	0.633	0.256
	n.obs.	2605	2671	2670	2671
EXP (North)	β	0.123***	0.536***	0.089**	0.114***
	s.e	0.047	0.035	0.040	0.026
	n.obs.	4165	4264	4261	4264
HFDI (South)	β	-0.030	0.666***	0.388***	-0.019
	s.e	0.175	0.104	0.122	0.091
	n.obs.	2605	2671	2670	2671
OFF (South)	β	0.917	0.468*	0.047	0.467**
	s.e	0.596	0.257	0.528	0.229
	n.obs.	2605	2671	2670	2671
EXP (South)	β	0.142***	0.358***	0.068*	0.134***
	s.e	0.048	0.031	0.042	0.028
	n.obs.	4165	4264	4261	4264

**At 10% significance. Robust standard errors are calculated.*
***At 5% significance.*
****At 1% significance.*

Table 3.
Productivity premia based on regression estimates.[1]

and offshoring are riskier strategies. To minimize risk during the process of complex strategies of internationalization it is better to enter countries with similar institutional environments which facilitate coordination need. Thus, internationalization performance is better when FDI and offshoring firms choose markets that have preferences and norms similar to those of the home market. Many studies show that institutional distance is important for internationalization choices and FDI flows. Among the dimensions of institutional distance it should be considered legal rules [42], protectionist policies, credit market regulations as well as legal constraints in the labour market [43]. More recently, s such concepts come out in Cezar and Escobar [44], that set up a heterogeneous firm theoretical framework, also empirically validated, about the effect of institutional distance on both the location and the

volume of FDI. In particular, they show that the larger the institutional distance, the larger the adaptation costs multinational have to overcome in order to access foreign markets. In turn, large adaptation costs due to institutional gap reduce both the number of firms able to undertake FDI and the profitability of FDI themselves.

Indeed, the inefficiency in FDI and offshoring in the South evidenced in our work may be due to additional operational costs related to extended supply chains. While some costs are expected, such as those of carrying higher inventories due to longer delivery chain, higher costs of inventory obsolescence, higher insurance costs, higher management operational requirements, there are many additional costs that are unexpected and labelled "hidden costs of offshoring" recently investigated by the international business literature [45]. There can also be higher local legal and administrative burdens, country trade disputes resulting in punitive fines and instances of intellectual property theft. It is also felt that more successful products can be better designed and improved by having the relevant functions (design, research and development, production, and sales) close to each other.

5. Conclusions

Based on simple regression tests and using a panel data set of about 7300 Italian manufacturing firms, we have explored in this work to what extent the ordering of the productivity distributions of firms differently engaged in overseas markets conforms to the predictions of the literature. We categorized our firms into four groups according to whether they perform FDI of horizontal type, offshoring activities motivated by comparative advantages of the host country, purely exporters as well as firms that serve only domestic consumers.

Our results suggest that exporters outperform firms serving only the domestic market and outperforms also firms engaging in H-FDI in terms of productivity. Even when we include offshoring firms the productivity of this type of firms is not higher than exporting firms. Hence, our simple analysis shows that firms that perform FDI, either horizontal or vertical do not show higher productivities. The possible explanation of no difference in productivity between these two forms of foreign investments is that they are strictly interrelated and firms engaged in both activities perform equally in terms of productivity. Another reason is that increasing productivity from FDI and offshoring is not a short run phenomenon but it takes time to be conducive to high productivity (see [46]) On the contrary, exporting firms are exposed to new knowledge, technology and greater competitiveness in the global market and take advantage from this exposure through substantial learning processes that may improve their performances. The learning effect of exporting, as the literature shows, does not require a long time spin. On this ground, there is a large body of empirical evidence - known as "the microeconomics of international firm activity [16, 47, 48] that shows a positive correlation between firm productivity and export propensity just after two or three years. This evidence follows key theoretical contributions that points to the existence of large fixed cost of horizontal FDI and offshoring. To these contributions adds the ones that comes from the recent literature on the hidden costs of offshoring. Many offshored activities are strictly linked with domestic processes, which require complex coordination costs and unanticipated organizational need as well as other hidden costs that can disrupt in-house learning processes [49–53].

More work is necessary to demonstrate how these costs arise and quantify their impact especially when the distance between countries and fragmentation of various stages of production in different countries are taken into account. Indeed, when we differentiate our firms by geographical location of FDI and export destinations

we find support to the HMY ranking only for FDI decisions in the high-income countries of the North but not when activities are located in Southern countries. For firms operating in low-income countries of the South the more productive firms are purely exporting firms. This means that more distant markets either in physical terms or in technological and institutional characteristics entail diversities in terms of costs and risks. Therefore, only firms with higher productivity may serve these countries. Overall, the productivity premia of FDI firms are higher for firms operating in high income countries, exporting firms are the best performers across the majority of geographical destinations.

The results of this work is likely to be helpful in the formulation of market entry strategies. Before proceeding with complex entry mode, managers need to evaluate costs and benefits of their moves as well as country risks relative to the home country. In terms of policy implications, the evidence of this work suggests that exporting brings with it potentially positive effects. When evaluating more complex forms of entry-modes managers should consider that they seem to be favorable only for locations in the North where firms have previous experience, the cultural distance is low and where they can find market similarities such as favorable conditions to increase their performance (knowledge infrastructure and availability of qualified personnel). Then, the indication is that for Italy, export-enhancing public policy should promote exporting to all destinations especially considering small businesses, which are the majority in the industrial structure of the country.

By concluding, some caution must be exercised in generalizing the outcomes of this work. A limitation of this work is the small number of firms that perform FDI and offshoring with respect to the number of firms that perform exporting. While it is possible to isolate pure exporters, this cannot be done for the other entry-modes: companies that perform FDI and offshoring are simultaneously also exporters. This status is common to many internationalized firms, especially if the process of internationalization is a sequential one which starts with exporting and then evolves in more complex forms.

Further work is necessary to understand the differences in productivity, if ever any, between FDI and vertical forms of sourcing abroad in the Italian context. Therefore, we expect our analysis act as a guidance to identify more precise impact of different entry-modes on firm level productivity.

A. Appendix

A.1 Description of variables

The source of our data set are the 9th and 10th waves of Capitalia surveys covering the periods 2001-2003 and 2004-2006. The survey sample contains all Italian manufacturing firms with more than 500 employees and small and medium sized firms are selected through a stratified sample. In addition to the detailed qualitative information, the sample is complemented by annual balance sheets data for all the firms included in the sample.

Below is the description of the variables used in the analysis

K = fixed capital stock at the end of the period as the accounting value of net immobilization as reported in the balance sheet.

VA = the balance sheet value added of firm deflated with the corresponding producer price index.

L = total employment has been split between white and blue collars. The number of white collars is obtained by the difference between total employment and the number of hand workers.

A.2 North/south definition

NORTH: EU15, USA, Canada, Japan, Australia, New Zealand.
SOUTH: EU-8 new members after 2003 enlargement, and Russia¡ Asia (including China)¡ Africa, Centre-South America.

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