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Indirect Exporters

Fergal McCann



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INDIRECT EXPORTERS

NON-TECHNICAL SUMMARY

Intermediation in international trade is a topic which has received large interest in the last few years. An empirical literature has arisen documenting the important role played by wholesalers and distributors in mediating international trade. Indeed, Akerman (2010) shows that half of Swedish exporting firms are wholesalers, although they only comprise 15% of export volume. Blum et al. (2010) show that wholesalers account for 35% of Chilean imports. Bernard et al. (2010) show that for Italian data, wholesalers account for 11% of total export volume. This new evidence on the importance of intermediary firms, who do not necessarily produce anything themselves (although Bernard, Jensen et al. (2010) show that many wholesaling firms are “mixed firms” engaging also in production), has led to economists rethinking the traditional way of modeling firms engaging in international trade.

A number of models of search and matching have appeared to explain trade intermediation. In Blum et al. (2009), larger firms are more visible and will more easily match with consumers abroad. Smaller firms, however, do not enjoy this privilege, and use an intermediary firm to match them to foreign consumers. The seminal Melitz (2003) model of firms engaging in exporting assumes no intermediation technology, but rather that firms wishing to export from one country simply find consumers in the importing country to buy their product. Theoretical advances of the Melitz model attempting to account for trade intermediation have appeared in recent years. Akerman (2010) models wholesalers as having economies of scope in products exported. Thus, these firms can smooth the fixed costs of exporting over many products. His model predicts that these wholesaling firms will be more prevalent in countries with high fixed entry costs. Ahn et al. (2010) and Abel-Koch (2010) also model a wholesaling industry as offering a lower fixed cost into the export market for firms unable to meet the Melitz productivity cut-off, while at the same time charging a higher variable cost, presumably due to the mark-up that the wholesaler charges the producer for providing the intermediation service.

The common feature of all models extending Melitz (2003) thus far is that they all predict a productivity ordering of exporting firms: non-exporters are less productive than firms exporting through an intermediary, while these firms are less productive than firms exporting directly. This ranking, while assumed in the theory, has so far received no empirical support. The aim of this paper is to provide the first evidence on the existence of the productivity ranking assumed by the emerging theoretical literature.

Based on firm-level data for a large number of Eastern European countries, we find that the ranking assumed by the theory is indeed an accurate one. Across many different measures proxying for firm performance, we see that the ranking holds. For all measures used in the paper, firms exporting directly, (DE) are shown to be better performing than either those using an intermediary (Indirect Exporters, IE), or domestic firms. The advantage of IE over domestic firms, however, is less robust than that for DE. When “productivity premia” are estimated using logged output per worker, we see that IE are not significantly more productive than domestic firms. However, this surprising result is not robust to a broadening of the definition of IE.

The overall message of the paper is that the productivity ranking assumed by the literature seems a fairly accurate one, although the sorting of IE ahead of domestic firms is subject to a certain ambiguity. This

finding may suggest that the intermediaries play an extremely important role - their services may in fact lower the fixed cost of exporting to such a degree that firms exporting indirectly and firms selling on the domestic market appear very similar.

ABSTRACT

An Indirect Exporter is defined as a firm that sells its product to a trade intermediary in its own country, who then goes on to export the good. Despite the numerous appearances of these firms in recent theoretical models, there has been no empirical work comparing these firms to Domestic firms and "Direct Exporters". Using a firm-level data set for Eastern Europe, I show that these firms do, as predicted in the theoretical literature, lie between Domestic firms and Direct Exporters for a range of measures of firm performance. The advantage enjoyed by Direct Exporters is the most robust finding, while the ambiguity surrounding the productivity gap between Indirect Exporters and Domestic firms indicates that these two categories of firm may be close to identical.

JEL Classification: F10, F14

Keywords: Exports, Productivity, Trade Intermediation, Indirect Exporters.

INDIRECT EXPORTERS

RÉSUMÉ NON TECHNIQUE

L'intermédiation dans le commerce international suscite un intérêt croissant et une importante littérature empirique documente le rôle des grossistes et des distributeurs dans ce domaine. Ainsi, Akerman (2010) montre que la moitié des entreprises exportatrices suédoises sont des grossistes, même si ces derniers ne réalisent que 15 % du volume des exportations. Blum et al. (2010) montrent que les grossistes effectuent 35% des importations chiliennes. De telles illustrations de l'importance des intermédiaires ont conduit les économistes à repenser la façon traditionnelle de représenter le comportement d'exportation des firmes depuis le modèle pionnier de Melitz (2003).

Certains économistes ont utilisé les modèles de "recherche et appariement" pour expliquer l'intermédiation commerciale. Ainsi, dans Blum et al. (2009), les grandes entreprises ont l'avantage d'être plus visibles et de trouver plus facilement à s'apparier avec les consommateurs à l'étranger que les petites entreprises qui doivent utiliser un intermédiaire pour vendre à l'étranger. Le modèle des firmes exportatrices de Melitz (2003) ignore l'intermédiation et fait l'hypothèse que les entreprises qui souhaitent exporter trouvent directement des consommateurs dans le pays importateur. Cependant, ces dernières années, des prolongements théoriques de ce modèle ont tenté d'intégrer le rôle des intermédiaires. Dans le modèle d'Akerman (2010), les grossistes exportant un large éventail de produits peuvent répartir les coûts fixes d'exportation sur un grand nombre de produits ; le modèle prédit alors que les grossistes réaliseront une part de l'exportation totale plus importante vers les pays où les coûts fixes d'entrée sont plus élevés. Ahn et al. (2010) et Abel-Koch (2010) modélisent également les grossistes comme offrant aux entreprises incapables d'atteindre le niveau de productivité nécessaire pour exporter (le "cut-off" du modèle Melitz) la possibilité de réduire le coût fixe d'exportation ; en revanche, le coût variable de l'exportation par l'intermédiaire d'un grossiste est plus élevé, probablement en raison de la marge prise par le grossiste.

La caractéristique commune à tous les modèles dérivés du cadre théorique de Melitz (2003) est de prédire une hiérarchie de productivité des entreprises : les non-exportatrices sont moins productives que les entreprises exportant par une firme intermédiaire, elles-mêmes moins productives que les entreprises exportant directement. Le but de cet article est de fournir le premier test empirique de la hiérarchie de productivité prédite par cette littérature théorique émergente.

Ce travail, qui utilise des données de firmes d'un grand nombre de pays d'Europe orientale, confirme globalement la hiérarchie des modèles théoriques. Quelle que soit la mesure de la performance utilisée, les entreprises exportant directement se révèlent plus performantes que celles qui utilisent un intermédiaire (les exportateurs indirects) et que celles vendant leurs produits uniquement sur le marché domestique. L'avantage des exportateurs indirects sur les entreprises "domestiques" est moins robuste que celui des exportateurs directs. Lorsque les différences de performance sont mesurées par la productivité par travailleur, les exportateurs indirects n'apparaissent pas significativement plus productifs que les entreprises domestiques. Cependant, cette différence apparaît si l'on retient une définition plus large des exportateurs indirects.

Le message général de cet article est que la hiérarchie de productivité prédite par la littérature théorique

apparaît vérifiée. L'incertitude concernant l'avantage des entreprises exportateurs indirects vis-à-vis des entreprises domestiques pourrait s'interpréter comme un indice du rôle important des intermédiaires : les services des grossistes permettraient une réduction des coûts fixes d'exportation suffisante pour que les entreprises exportant par leur intermédiaire et celles n'exportant pas ne se distinguent pas nettement du point de vue de leurs performances.

RÉSUMÉ COURT

Un exportateur indirect est défini comme une entreprise qui vend ses produits dans son propre pays à un intermédiaire commercial qui va ensuite les exporter. Différents modèles théoriques récents distinguent au sein des firmes ces exportateurs indirects, mais il n'y a pas eu de travaux empiriques comparant ces entreprises à celles servant uniquement le marché domestique ni aux exportateurs directs. Utilisant une base de données de firmes de plusieurs pays d'Europe orientale, ce travail montre que les exportateurs indirects se situent, comme prévu par la littérature théorique, entre entreprises "domestiques" et exportateurs directs pour une série de mesures de performance de l'entreprise. L'avantage dont bénéficient les exportateurs directs sur les entreprises domestiques est la conclusion la plus robuste. L'ambiguïté qui entoure l'écart de productivité entre exportateurs indirects et entreprises domestiques, indique que ces deux catégories d'entreprises peuvent être presque identiques, ce qui soulignerait le rôle important joué par les intermédiaires dans l'accès au marché étranger.

Classification JEL : F10, F14

Mots clés : Exportation, Productivité, Exportateurs Indirects, Intermédiation du commerce.

INDIRECT EXPORTERS¹

1. INTRODUCTION

The role played by intermediaries in international trade is a topic of growing interest. The literature has provided ample evidence, across countries of varying levels of economic development, that these firms account for a significant portion of trade flows.² These studies have been accompanied by a range of papers modeling international trade as involving more than uniquely exporting firms in one country and consumers in another.

The theoretical modeling of the role of trade intermediaries has usually involved either network or matching frameworks³ or extensions of the model of Marc J. Melitz (2003). I will focus on those papers that build on the Melitz framework due to their explicit predictions on the distinction between Direct and Indirect Exporters. In Ahn et al. (2010) the fixed cost of selling to an intermediary in the firm's own country is lower than the fixed cost of exporting directly. This leads to a sorting where the most productive firms export directly, less productive firms export

¹I thank Anders Akerman, Agnès Bénassy-Quéré, Matthieu Crozet, Ron Davies, Benny Jung, Sebastian Krautheim, Eóin McGuirk and Farid Toubal for helpful comments. I acknowledge financial support from the EU Marie Curie RTN "Globalization, Investment and Services Trade" (GIST). I acknowledge the hospitality of the CEPII, where this paper was partly written. I am, of course, responsible for any remaining errors.

²JaeBin Ahn, Amit K. Khandelwal and Shang-Jin Wei (2010) find that intermediaries account for 20 percent of Chinese exports in 2005. Bernardo S. Blum, Sebastian Claro, and Ignatius Horstmann (2010) report that around 35 percent of imports into Chile from Argentina are mediated through wholesalers, with 6 percent through retailers. Anders Akerman (2010) shows that in Sweden in 2005, roughly half of firms exporting goods were wholesalers, while these wholesalers accounted for 15 percent of export volume. Gabriel J. Felbermayr and Benjamin Jung (2009) show at industry level for the US that the ratio of exports to intermediaries over exports to foreign affiliates is almost always larger than one, and often by orders of magnitude. Andrew B. Bernard, J. Bradford Jensen, Stephen J. Redding and Peter K. Schott (2010) show that in the US, "mixed wholesaler-retailers", i.e. firms with more than 75 percent of output in those categories, account for two thirds of US exports in 2002.

³See Pol Antràs and Arnaud Costinot (2010), Blum et al. (2009), Dimitra Petropoulou (2007) or James E. Rauch and Joel Watson (2004).

through intermediaries, and the least productive active firms sell on the domestic market only (termed here "Domestic firms"). Akerman (2010) models wholesalers as having an advantage through economies of scope, i.e. they smooth the fixed cost of selling abroad across many products. He then shows that wholesalers will export a lower volume but more products, and finds a similar productivity sorting to Ahn et al. (2010). Felbermayer and Jung (2009) present a slightly different set-up, focusing on the hold-up problem. They also predict the same sorting pattern as the above two papers.

To the best of my knowledge, empirical evidence on the productivity sorting present in the above-mentioned models does not exist. In each paper, the empirical analysis focuses on a different issue relating to the intermediaries themselves, rather than to the indirect exporting firms. The aim of this paper is to inform this growing literature on the validity of the productivity sorting results generated by each model. Due to a lack of panel data, I cannot ascertain cleanly whether the productivity sorting is due to selection into export modes or learning from exporting. The purpose of this study is rather to inform the literature on the relative performance of these three types of firms.

We see from probit analysis that Indirect Exporters are more likely than Domestic firms to import, to be foreign owned, to license foreign technology, to be multi-product firms, and to engage in R&D. We also see that Direct Exporters are more likely to engage in most of the above than Indirect Exporters. This suggests support for the performance hierarchy mentioned above. On productivity, the results presented here again suggest that it is valid to assume that Direct Exporters are more productive than both Indirect Exporters and Domestic firms. On the other hand, the assumption that Indirect Exporters are more productive than Domestic firms receives weaker support. In terms of sales and domestic sales, these firms exporting through wholesales are indeed shown to perform more strongly than purely domestic firms. Using logged output per worker as a measure of productivity, however, the hypothesis that Indirect Exporters are more productive than Domestic firms is shown to not hold. Using a broader definition of Indirect Exporter, the productivity hierarchy presented by the theoretical literature is shown to hold perfectly. The overall message of the paper is that, while the hierarchy assumed

by theory seems an accurate one, the productivity advantage of Indirect Exporters should be viewed with a certain amount of caution. The ambiguity suggests that intermediaries may play such an important role in international trade that the fixed costs of domestic production and exporting indirectly may in practice be close to indistinguishable.

The paper proceeds with a description of the data (Section 2), empirical analysis (Section 3) and a conclusion (Section 4).

2. DATA

The data used come from the Business Environment and Enterprise Performance Survey (BEEPS), which is collected by The European Bank for Reconstruction and Development (EBRD) and The World Bank. This database provides information on firm's sales, exports, ownership, imports, employment structure and perceptions of quality of institutions and corruption. Data are collected for most countries in Eastern Europe for 2002, 2005, 2007, 2008 and 2009. The authors (EBRD and World Bank, 2010) state that "the survey universe was defined as commercial, service or industrial business establishments with at least five full-time employees". The statistical sampling technique used is stratified random sampling. The three levels of stratification used were industry, establishment size and region. Table 1 of the latest report (EBRD and World Bank, 2010) shows that for the total country sample, over 98 percent of the target number of interviews were achieved.

Figures for nominal monetary variables are given in local currency units. I normalize these variables by converting them to US dollar figures using the mean yearly exchange rate from the IMF International Financial Statistics database. Table 1 shows the frequency of firms by country and year. We see that full country coverage was only carried out in 2002, 2005 and 2009. There are just under 30,000 observations in the data, with wider coverage for large countries such as Russia, Turkey and Poland.

3. EMPIRICAL EVIDENCE ON CHARACTERISTICS OF INDIRECT EXPORTERS

The aim of this paper is to give a first portrait of Indirect Exporters (IE hereon). Firms in the BEEPS are asked "what percentage of establishment's sales were indirect exports (sold

Table 1 – Sample size by country and year

Country	2002	2005	2007	2008	2009	Total
	No.	No.	No.	No.	No.	No.
Albania	170	204	304	0	54	732
Armenia	171	351	0	0	374	896
Azerbaijan	170	350	0	0	380	900
Belarus	250	325	0	273	0	848
Bosnia	182	200	0	0	361	743
Bulgaria	250	300	1015	0	288	1853
Croatia	187	236	633	0	104	1160
Czech Republic	268	343	0	0	250	861
Estonia	170	219	0	0	273	662
FYROM	170	200	0	0	366	736
Georgia	174	200	0	373	0	747
Hungary	250	610	0	0	291	1151
Kazakhstan	250	585	0	0	544	1379
Kyrgyz Rep.	173	202	0	0	235	610
Latvia	176	205	0	0	271	652
Lithuania	200	205	0	0	276	681
Moldova	174	350	0	0	363	887
Montenegro	20	18	0	0	116	154
Poland	500	975	0	0	455	1930
Romania	255	600	0	0	541	1396
Russia	506	601	0	0	1004	2111
Serbia	230	282	0	0	388	900
Slovakia	170	220	0	0	275	665
Slovenia	188	223	0	0	276	687
Tajikistan	176	200	0	360	0	736
Turkey	0	1323	0	1152	0	2475
Ukraine	463	594	0	851	0	1908
Uzbekistan	260	300	0	366	0	926
Total	6153	10421	1952	3375	7485	29386

Source: BEEPS

domestically to a third party that exports products)", as well as "what percentage of sales were direct exports". For the purposes of the current paper, a firm is Domestic (D hereon) if it has 100 percent of its sales in the domestic market, an IE if some of its sales are in the form of indirect exports but none are direct exports, and a Direct Exporter (DE hereon) if it has some sales in the form of direct exports. Table 2 presents the occurrence of each of these three types of firm. Among the DE are 943 firms that have some direct and some indirect exports. I code these as DE due to the fact that, in the world of Melitz-type models, a firm exporting through both modes must have overcome the higher fixed costs of exporting directly. We see that the majority of firms are domestic firms, as would be expected given previous evidence.⁴ Among exporting firms, the majority of these are DE, with only 3 percent of firms exporting through a trade intermediary. This suggests that the intermediate productivity range in which IE lie in the theoretical literature is a small one in reality. Looking at these firms' share in total sales,

⁴Bernard et al. (2007) show that in the US 18 percent of manufacturing firms engaged in exporting in 2002.

we see that IE are twice as important as their frequency would suggest, and unsurprisingly, DE account for a much larger share of sales than their frequency would suggest. We also see that, for both IE and DE, indirect and direct exports, respectively, account for roughly 40 percent of total sales, while DE sell on average 3 percent of their total sales through indirect exports. This indicates that once firms have overcome the costs of exporting directly, indirect exports form a negligible part of their activity.

Table 2 – Observations, Relative Frequency, Group Share in Total Sample Sales, Share of Export Types in Firms’ Sales

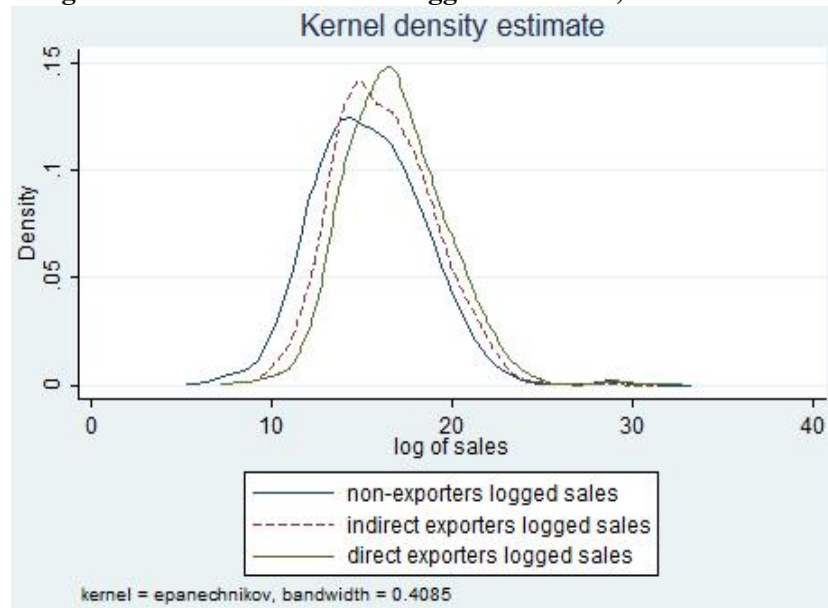
Firm Type	Observations (Rel. Freq.)	Share of Total Sample Sales	Ind. Exp./Sales	Dir. Exp./Sales
Domestic	20,848 (.71)	.3796	0	0
Indirect Exporters	882 (.03)	.0610	.3867	0
Direct Exporters	5,825 (.21)	.5593	.0341	.4032

Source: BEEPS

If we relax our definition of IE, we see that firms engaging in indirect exports are more important than as appears in Table 2. If we define IE as any firm engaging in indirect exports (even if they also export directly), and DE as firms that only export directly, we see that 7% of firms are IE and 18% are DE. Changing this definition, however, only alters the sales shares of the two groups by one percent each. If we remove the firms that export both directly and through a wholesaler and include only “pure” IE and DE, we see that frequencies and sales shares change very little.

3.1. Distributions of Exporters

I now present Kernel density plots of firm performance measures for my three categories of exporter. In Figure 1 we see that IE lie clearly between D and DE for logged total sales. As a more accurate proxy for firm productivity, I use logged output per worker. The Kernel density plots for logged output per worker in Figure 2 show that, in the lower part of the distribution, the sorting pattern predicted by the theoretical literature holds. The lower productivity of domestic firms relative to both types of exporter is confirmed at all points in the distribution. As we move up to larger values of logged output per worker, however, we see that there are some points at which the distributions of IE and DE touch, and even cross. The broad pattern, is still one in keeping with the predictions of the theoretical literature. Table A.1 in the Appendix

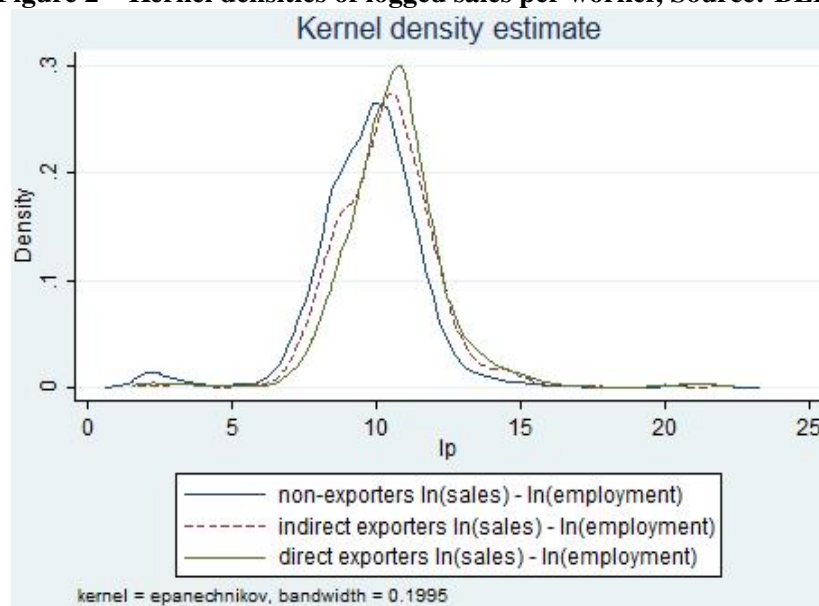
Figure 1 – Kernel densities of logged total sales, Source: BEEPS

reports Kolmogorov-Smirnov tests for equality of distributions. We see from this table that the distributions for both IE and DE lie significantly to the right of those for the rest of the sample, and that the distribution for DE lies to the right of that for IE. This offers continued support for the performance hierarchy set out throughout the paper.

3.2. Simple Regression Analysis

In this section I engage in simple regression analysis to estimate the “performance premia” for each exporter type. Table 3 gives a more in-depth picture of the characteristics of the different type of exporters. I run five probit regressions which give the probability for IE and DE relative to D firms of participating in the following activities: importing, having a foreign owner, licensing of foreign technology, Research and Development (R&D) and multi-product sales. These regressions will give the reader an impression of the type of activity which IE are more likely to engage in than D or DE firms. Given these five activities are also shown in the literature to be highly correlated with productivity, we can also interpret a higher likelihood as indicating better performance. Formally I run

$$Pr(Y_{it} = 1) = IndirectExp_{it} + DirectExp_{it} + \delta_c + \delta_t + \delta_s \quad (1)$$

Figure 2 – Kernel densities of logged sales per worker, Source: BEEPS

where $Y = 1$ if a firm engages in each of the five variables mentioned above and 0 otherwise, $IndirectExp_{it}$ is a dummy for IE, $DirectExp_{it}$ is a dummy for DE, and the other controls are country, time and sector dummies. I then run four OLS regressions of the form

$$X_{it} = IndirectExp_{it} + DirectExp_{it} + \delta_c + \delta_t + \delta_s \quad (2)$$

where X_{it} represents logged sales, logged domestic sales, logged output per worker and employment. From the probit regressions in Table 3 we see that IE and DE are more likely to be engaged in all the activities mentioned above than domestic firms. This confirms the theoretical literature's prediction that domestic firms sit at the bottom of a performance hierarchy. These probit regressions also give credence to the predictions of the theoretical literature on the relation between IE and DE. For importing, being foreign owned and engaging in R&D, the likelihood of participation is statistically significantly higher for DE than IE. For licensing of foreign technology and for being a multi-product firm, the marginal effect is larger for IE, but the chi-squared test cannot reject equality of coefficients between the two types of exporter. Using OLS regressions, Table 3 tells us again that for sales, local sales and employment (l), the hierarchy predicted by the theoretical literature holds in its entirety. For logged output per worker, we find that DE are statistically significantly more productive than both IE and D

firms. The data do not give a significant difference in logged output per worker between IE and D firms, however. Table 3 gives the strong overall impression of a performance hierarchy of firms: DE are the most productive firms, followed by IE, followed by D firms. These results suggest that, at a first glance, the theoretical assumption of an intermediate level of fixed exporting costs for those exporting through a trade intermediary seems an accurate approximation.

We now relax our definition of IE, to now allow all firms that export indirectly to be considered IE, and restrict our definition of DE to firms that only export directly. In Table 4, the vast majority of results from Table 3 are reproduced, with one important exception: the coefficient on labour productivity now tells us that IE, when defined in this more broad way, are indeed more productive than Domestic firms, although only at the ten percent level of significance. When moving from the narrow definition of IE, we do indeed see that the hierarchy proposed by the current theoretical literature holds perfectly in the data.

From Tables 3 and 4, the overwhelming picture is one in which firms exporting directly are more productive than firms exporting through a trade intermediary, who are in turn more productive than firms serving only the domestic market. The less robust nature of the latter relationship indicates that a certain caution should be exerted when assuming such a productivity hierarchy, but that on the whole the sorting of firms predicted by the new theoretical literature on intermediated trade is valid.

4. CONCLUSION

I have presented first evidence on the performance of Indirect Exporters. In concordance with the predictions of recent theoretical models, Indirect Exporters are found to lie between Domestic firms and Direct Exporters for a number of firm performance measures. The advantage of Direct Exporters is unambiguous throughout the paper, whereas that of Indirect Exporters over Domestic firms is suggested, but in a much less robust sense. This suggests that the fixed cost reductions made possible by trade intermediaries may be hugely economically significant in reality. These findings can help motivate and validate current and future research regarding the role of intermediaries in mediating international trade.

Table 3 – Portrait of exporter types, Base Category is Domestic firms

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Probit Importer	Probit Foreign	Probit For. Tech	Probit Multi Prod.	Probit R&D	Probit Internet	OLS <i>l</i>	OLS ln(Sales)	OLS ln(Dom Sales)	OLS Lab. Prod.
Indirect Exporter	0.264*** (16.01)	0.116*** (7.12)	0.0426*** (4.22)	0.103*** (4.92)	0.159*** (7.04)	0.2247*** (10.79)	0.7743*** (14.85)	0.7809*** (10.07)	0.3661*** (4.37)	0.0321 (0.58)
Direct Exporter	0.307*** (37.19)	0.187*** (25.92)	0.0382*** (8.48)	0.0812*** (8.35)	0.204*** (19.61)	0.3167*** (37.76)	1.1679*** (49.08)	1.4367*** (39.19)	0.7239*** (18.76)	0.2903*** (11.04)
N	18715	26036	13937	20544	17338	17926	26403	21015	20486	20977
<i>F-test for equality of coefficients between Indirect and Direct Exporters</i>										
Chi-Sq or F	5.59	16.01	0.16	0.87	3.37	16.78	52.95	67.33	17.04	20.28
p-value	0.0180**	0.0001***	0.6891	0.3513	0.0665*	0.000***	0.000***	0.000***	0.000***	0.0008***

t statistics in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
 Year, Country, Sector dummies included in all regressions
 marginal effects reported for probit regressions

Table 4 – Portrait of exporter types, Base Category is Domestic firms. Indirect Exporters defined more broadly.

	(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	
	Probit Importer	Probit Foreign	Probit For. Tech	Probit Multi Prod.	Probit R&D	OLS I	OLS ln(Sales)	OLS ln(Dom Sales)	OLS Lab. Prod.
Indirect Exporter	0.309*** (27.21)	0.136*** (11.10)	0.0457*** (5.98)	0.140*** (9.06)	0.198*** (12.03)	1.012*** (26.31)	1.082*** (18.74)	0.437*** (7.13)	0.105* (2.54)
Direct Exporter	0.293*** (34.07)	0.198*** (25.25)	0.0383*** (7.82)	0.0638*** (6.19)	0.202*** (18.03)	1.152*** (45.87)	1.442*** (37.40)	0.761*** (18.72)	0.308*** (11.16)
<i>F-test for equality of coefficients between Indirect and Direct Exporters</i>									
Chi-Sq or F	1.39	18.23	.66	16.81	.03	11.21	33.92	24.10	21.02
p-value	0.2389	0.000***	0.4168	0.000***	0.8611	0.000***	0.000***	0.000***	0.000***

t statistics in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
 Year, Country, Sector dummies included in all regressions
 marginal effects reported for probit regressions

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Table .1 – Kolmogorov-Smirnov tests for equality of distributions

	Logged sales		Logged local sales		Logged output per worker	
	Difference	P-value	Difference	P-value	Difference	P-value
Indirect Exporter vs Rest of Sample	.1572	0.000	.1109	0.000	.0961	0.000
Direct Exporter vs Rest of Sample	.3646	0.000	.2380	0.000	.1994	0.000
Indirect Exporter vs Direct Exporter	.1480	0.000	.0981	0.000	.0800	0.000

APPENDIX**6. APPENDIX TABLES AND FIGURES**

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sylvie.hurion@cepii.fr

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