



Organization and export performance



Grigorios Spanos

Aix-Marseille University (Aix-Marseille School of Economics), CNRS & EHESS, France

HIGHLIGHTS

- Present new facts on the internal organization of firms and export performance.
- In the aggregate there is an ordering of the distribution of organizations.
- The number of layers in firms is positively correlated with export performance.
- Firms with a greater number of layers export more products to more destinations.
- Introducing organization into heterogeneous firm models can explain these facts.

ARTICLE INFO

Article history:

Received 13 May 2016

Received in revised form

24 July 2016

Accepted 26 July 2016

Available online 30 July 2016

JEL classification:

F14

L23

Keywords:

Trade

Firms

Margins

Exports

Organization

ABSTRACT

This paper presents new facts on firms' internal organization and their export performance. I find an ordering of the distribution of organizations and, both across and within firms, firms' number of layers is positively correlated with their export performance.

© 2016 Elsevier B.V. All rights reserved.

1. Introduction

Recent research in international trade has shown that firms' internal organization is important for understanding the outcomes of firms and workers in the economy. In particular, [Caliendo and Rossi-Hansberg \(2012\)](#) show that exporters are on average more productive because they have a greater number of layers. Despite its relevance, empirical evidence on the organization of firms remains limited in international trade. The existing literature has mainly focused on firm size and productivity to examine firms' export performance, characteristics that are related to organization.¹

¹ E-mail address: grigorios.spanos@gmail.com.

¹ I broadly define export performance to include the decision to export, as well the number destination markets served, the number of products sold, and the value of exports.

This paper fills this gap and examines how organization, the number of layers in firms, relates to French manufacturing firms' export performance over the years 2000–2006. I first examine the distribution of organizations, the percent of firms producing with a given number of layers. I find there is a ranking of distributions. More precisely, the distribution of organizations of exporters, of firms that export to many destinations and export many products, first-order stochastically dominates the distribution of non-exporters, and of firms that export to a few countries and a few products.

Second, using regression analysis and controlling for the characteristics of firms, I find, both across and within firms, the number of layers in firms is positively correlated with export performance. Exporters, and firms that sell more products to more destinations, and at a greater value, have a greater number of layers. Overall, these results provide further evidence of the importance of studying organization in order to understand firms' outcomes in the economy.

Table 1
Descriptive statistics.

	2000		2003		2006	
	Mean	St. Dev.	Mean	St. Dev.	Mean	St. Dev.
Organization						
Exporters	2.98	0.88	2.96	0.88	2.95	0.87
Non-exporters	2.09	0.95	2.04	0.94	2.01	0.93
Size						
Exporters	56.23	146.53	59.98	167.47	61.75	177.18
Non-exporters	23.37	506.76	23.44	510.13	21.77	221.74
In productivity						
Exporters	3.04	0.66	2.25	0.68	2.31	0.69
Non-exporters	2.89	0.70	2.12	0.69	2.19	0.71

Notes: Sample descriptive statistics for the years 2000, 2003 and 2006.

This paper contributes to a growing literature on the organization of firms in international trade (Caliendo and Rossi-Hansberg, 2012, Caliendo et al., 2012, and Friedrich, 2015) and complements Caliendo et al. (2012), who find in French manufacturing sectors exporters tend to have a greater number of layers than non-exporters. This study provides additional empirical facts on firms' organization, and examines how organization relates to export performance. Moreover the results from this study can be rationalized by introducing organization into existing models of trade, for example in the multi-country model of Chaney (2008) or the multi-product model of Bernard et al. (2011).

2. Data description

The analysis is conducted over the periods 2000–2006 and uses data from three French sources. The first source is annual transactions level data provided by the French Customs Agency, and is used to obtain information on firms' export performance. For each year and firm, the data report the value and quantity of exports by product (cn8 level) and destination.

The second source, which is used to measure firms' size and to observe their internal organization, is the Déclarations Annuelles des Données Sociales (DADS), provided by the French National Statistical Institute for Statistics and Economic Studies (INSEE). For each year, the DADS is an exhaustive cross-section of all workers who earn a positive wage in mainland France. In a given year, for every firm there is information on its industry, its employees, and their occupation (cs-occupational codes).

The third source is balance sheet data from the Fichier Complet Unifié de Suse (FICUS), also provided by INSEE. For each year and firm, the data report firms' sales, capital stock, and value added. Along with information from the DADS, I use the information from FICUS to estimate productivity using the method of Levinsohn and Petrin (2003).

2.1. Construction of layers

Further, I use the first-digit of the occupational codes from the DADS to construct firms' organization, as in Caliendo et al. (2015). With the occupational codes one can observe at most four distinct layers in firms. Layer 1, the lowest layer in firms, contains ordinary workers. Layer 2, contains their supervisors, while layer 3 contains senior managers, and layer 4 is composed of owners or CEOs.²

² Caliendo et al. (2015) show that this approach of classifying workers into layers is consistent with models of hierarchical organization of Garicano (2000). Further, Caliendo et al. (2015) categorize firms by their number of layers of management. I depart from the nomenclature and categorize firms by the total number of layers in their organization.

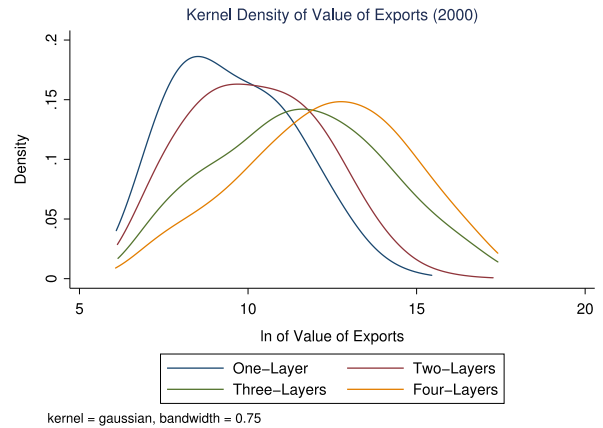


Fig. 1. Kernel density of the value of exports.

In the analysis I retain only firms that operate in manufacturing sectors, that contain at least one employee in layer 1, and that only operate during consecutive years. Because not every layer is present in firms, there are four different types of organizations in the data: one-layer, two-layer, three-layer and four-layer organizations.

The final sample contains 406,149 firm–year observations and consists of 89,495 unique firms. Table 1 reports summary statistics for the years 2000, 2003 and 2006. As is expected, across all years exporters are on average bigger, they are more productive, and on average they have an additional layer than non-exporting firms. In addition, for the year 2000, Figs. 1, 2(a) and (b) plot the kernel density of the value of exports, the number of destinations and the number of products, separately for firms with the same organization. These figures show that firms with a greater number of layers on average sell a greater value, to more destinations and they sell more products.

3. Stochastic dominance results

To begin, I examine the distribution of firms operating with a given number of layers, the distribution of organizations. I first group firms by their export status. The top part of Table 2 presents summary statistics for the year 2000. In general exporters have a greater number of layers in their organization. Roughly 32.94% of non-exporting firms are one-layer firms, 32.96% are two-layer firms, 25.54% are three-layer firms, and 8.51% are four-layer firms, while the percent of exporters producing with one, two, three and four layers in their organization is 7.08, 18.81, 42.78, and 31.32, respectively.

The top panel of Table 3 presents results from a non-parametric comparison of the distribution of organizations, the Mann–Whitney U test. The null hypothesis is that the distributions are equal, and is rejected at the one percent level. The third column indicates that the distribution of organizations of exporting firms first-order stochastically dominates the distribution of non-exporting firms. An exporter chosen at random is 74.1% more likely to have a greater number of layers than a random non-exporting firm. These findings indicate that there is a ranking of distributions, and the ranking is consistent with the model of Caliendo and Rossi-Hansberg (2012).³

I now examine whether firms that export to many destinations (or many products) produce with a greater number of layers than

³ Although they do not use the Mann–Whitney U test to compare distributions, Caliendo et al. (2012) present similar findings between exporting and non-exporting firms.

Download English Version:

<https://daneshyari.com/en/article/5058010>

Download Persian Version:

<https://daneshyari.com/article/5058010>

[Daneshyari.com](https://daneshyari.com)