The Micro Dynamics of Exporting: Evidence from French Firms

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The Micro Dynamics of Exporting - Evidence from French Firms

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Abstract

This paper describes the dynamics of firms' exports to different countries. Using a panel of almost 19,000 French exporters, we define an export-relation as an observed positive export flow from a French firm to a destination. We establish the following facts: 1. There is a great deal of dynamics in firms' export relations that washes out at a more aggregate level; 2. Export values shipped by individual firms to specific destinations are very volatile: most of the changes occur within established export relations (*intensive margin*), with new relations or relations that are terminated (*extensive margin*)contributing little to adjustments in export value at firm level ; 3. Export flows within a newly-created relation involve very small values, often inferior to 1000 euros; 4. Export-relations are also very volatile. Moreover, from year to year single firms create and destroy relations *simultaneously*, and countries are *simultaneously* involved in the formation and termination of relations; 5. Formation or termination of export relations and changes in export values are explained mostly by firm-country specific shocks; 6. The share of relations continued from one year to the next is correlated with country characteristics: it is higher in bigger and closer markets. We discuss how those findings could be related to different kind of heterogeneous firm models and to a relation-specific trade model, arguing that the second one seems to fit more naturally *all* the documented facts.

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1 Introduction

This paper investigates the dynamics of trade relations across destinations using a panel of almost 19.000 French exporters over the five-year period 1995-1999. We define an "export-relation"[1] as a (positive) shipment by a firm to a destination in a given year. We describe how these export-relations evolve over time and present a number of stylized facts, many of which are completely novel. Finally, we relate our findings to the existing firm-level trade literature.

Our results show that export-relations are very volatile. In a typical year around 27 % of all relations are newly created, and 21 % are destroyed (leaving a net creation of around 6%). Moreover, export flows associated with specific trade-relations fluctuate a lot. The same firm increases export flows to some destinations while it decreases them to other destinations. To see how this affects the growth rate of aggregate French exports we perform the following exercise. For any two subsequent years we classify export-relations in four groups: created relations (observed whenever a firm does not export to a destination the previous year but it exports there the year after), destroyed relations (observed in the opposite case), continuing relations for which export flows increased between the two years and continuing relations for which export flows decreased. We then calculate the contribution of each group of export-relations on the gross growth rate of aggregate French exports. We find that in a typical year the contribution of newly created relations is of 7.3%, the contribution of destroyed relations is 3.6%, continued relations with increased flows contribute for 48.1% and continued relations with reduced flows contribute 41%. This decomposition suggests two facts. First, the net export growth rate at the aggregate level hides a lot of relation-specific dynamics (since increasing and decreasing flows mostly cancel out). Second, most of the change in export flows occurs within existing trade relations (*intensive margin*), with newly created or destroyed ones (*extensive margin*)[2] contributing very little to changes in export values. Moreover, since a big fraction of trade relations is created or destroyed every year, this implies that newly created/destroyed relations involve very small values.

Taking a closer look at these values, we find that the smallest 10% of flows within newly created (or destroyed) relations involve shipments worth less than 1000 euros and that this pattern is broadly consistent across sectors and destinations. Even median flows are initially not much larger than 5000 euros. However, export flows tend to increase with the age of the relationship.

We then separate firms according to their size and apply the previous decomposition. We find

[1] Or "trade-relation" or simply "relation".

[2] In this paper we use Chaney (2008)'s definition of extensive and intensive margin. The former is given by the flows with which relations are created or terminated while the latter is given by flows within existing relations.

that the *extensive margin* is more relevant for small exporters since a larger fraction of changes in their export flows is explained by those relations which are newly created or terminated. By repeating the decomposition for different groups of countries we also reveal that the *extensive margin* is more relevant for less "popular" countries, the ones to which French firms export less, since a larger fraction of changes in French exports is explained by newly created or destroyed relations.

As a next step we ask what kind of shocks may drive the observed dynamics. A simple dummy regression reveals that a great amount of the trade dynamics at the relation level seems to be due to relation-specific shocks. In fact a typical firm *simultaneously* creates trade relations with some destinations while destroying trade relations with others. Similarly, a given firm tends to increase values shipped to some destinations while decreasing values shipped to others. At the same time a typical destination experiences *simultaneous* entry of some firms and exit of others.

Even if around 27% of relations are created or terminated, the majority of them (the remaining 78%) are stable. We find that the probability for a firm to export to a specific destination conditional on having exported there the previous year is much larger than the probability to export to this destination for a random firm. This means that export relations are persistent. While persistence (measured as the fraction of firms that export to a destination in two consecutive years relative to total exporters) is stable across sectors, we find that it is positively correlated with destination market size (GDP, per capita GDP and population) and negatively correlated with distance to the destination.

Having described the micro-dynamics of export relations and flows, we turn to contrast the uncovered facts with theoretical models on firm-level trade. We first consider the standard theoretical framework provided by the Melitz (2003) model. Many findings may be compatible with a shock augmented version of that model (where shocks are aimed at explaining the creation and destruction of relations). Others, however, seem hard to square with such a model. First, exporter-destination specific shocks seem to play a large role in explaining entry and exit and these remain unexplained. Second, the large amount of starting trade relations that involve only small values is difficult to reconcile with a model where exporters face important (sunk) fixed costs to export [3].

As an alternative, we sketch a model where trade is relationship specific and exporters need to find a distributor in each destination. Since the quality of the partner is initially uncertain, trade relations start small and are unstable in the beginning, which provides a micro-foundation for exporter-destination specific shocks. In this context, moreover, both persistence of trade relations and small

[3] Unless the structure of those costs is such that a firm pays them only for becoming an exporter and not to export to each destination. However, these costs are intended to represent costs to explore the market, to find a partnership and so on, so it is implausible that they are not specific to a trade relation.

export values could be easily rationalized as well.

The findings of this paper are related to a recent literature which links persistence of exports to sunk fixed costs. Starting with the contributions of Roberts and Tybout (1997) and Bernard and Jensen (2004), a line of empirical work that is based on the idea of sunk fixed costs to export (Baldwin and Krugman (1989), Dixit (1989)) has investigated the dynamics of firms' export status. These papers use firm level data sets which provide information on aggregate export values per firm but not on the destinations to which firms export nor on the value shipped to each destination. The general conclusion is that firms' export status is very persistent. Das, Roberts and Tybout (2007) structurally estimate a model with heterogeneous firms and sunk costs to export using a panel of Columbian exporters and provide numbers for the estimated sunk fixed costs to export of approximately 400,000 U.S. dollars for these firms.

Eaton, Kortum and Kramarz (2004) and Eaton, Kortum and Kramarz (2008) use a cross section of the same French firm-level data set we exploit in this paper to describe export patterns across destinations. In Eaton et al. (2004) they reveal that most exporters sell to only one destination, and this tends to be a popular one, while few firms export to many destinations, which also include the unpopular ones. Eaton et al. (2008) fit a quantitative version of the Melitz (2003) model of heterogeneous firms to the cross section of French firms to assess how well this model performs in explaining export patterns across markets.

The papers most closely related to ours are the simultaneous contributions by Eaton, Eslava, Kugler and Tybout (2007), who study the dynamics of Colombian exporters across destinations, and Lawless (2007), who investigates the export patterns of a sample of Irish exporting firms across destinations and time. While many of their findings are in line with ours, they focus on somewhat different aspects of export relation dynamics. Eaton et al. (2007)'s analysis is centered on the observation that most new entrants in a destination sell initially very small values and only few survive in the long run. Those, which do survive, however, grow very fast and contribute a fair amount to aggregate Columbian export growth in the longer run. Lawless is interested in the simultaneous entry and exit of firms in a given destination, the gradual fashion in which exporters expand the number of destinations to which they export and the small contribution of new relations to aggregate export growth.

The rest of the paper is organized as follows: section 2 describes the data; section 3 to section 5 describe the dynamics of trade relations and trade flows, uncovering ten new facts; in section 6 we provide a discussion of the findings and relate them to different models; section 7 concludes.

2 Data set

The main data source for our analysis is the Douane data base, available at the French Statistical Agency (INSEE-*Institute National de la Statistique et des Études Économiques*), which contains all French Customs data. For each firm it allows us to precisely observe its exports to any destination in a given year. Each firm is assigned to a sector using the 3-digit NES classification system, which, excluding agriculture and services, consists of up to 60 industries.

Douane data report 97% of the value of national trade. According to the requirements of Eurostat, Doaune data should contain all flows which are above 1,000 euros for extra-EU trade and above 200 euros for intra-EU trade. However, this is not always the case in the original data set where also much smaller flows are reported. This may be the consequence of a misreporting problem. [4]

We use the BRN - Bénéfices Réels Normaux data base, also available at INSEE, which provides information on French firms balance sheets, to eliminate those firms which are exporters according to Doaune data base but which do not report any export sales in their balance sheet. Finally, we take all and only those firms which export in at least one year in the time-span we are analyzing (thus we abstract from those firms which are non-exporters in the whole time span we consider).

Our final data is a panel of almost 19.000 French manufacturing firms which may export to up to 146 destinations[5] from 1995 to 1999 .

3 Dynamics of export-relations and export-flows

As the literature has pointed out, the aggregate value of exports can increase either because more relations are created, or because export flows within existing relations increase. In the context of our study an export-relation is defined by a positive export flow by a specific French firm to a specific destination. When a relation is created or destroyed, the value of exports changes through the *extensive margin*. Conversely, when flows change within an existing relation then trade is adjusting through its *intensive margin*.

In this section we study two phenomena in turn. First, the creation and the destruction of trade relations through entry and exit of firms in different destinations. Second, the dynamics of export values through the *intensive* and *extensive margin*.

[4] The analysis we present takes care of this problem: all the results are robust to the exclusion of the 5th and the 10th percentile of trade flows.

[5] Countries' names and codes are reported in the appendix.

Table 1: Fluctuations in export status

year	number of firms	new exporters	as percentage	no-more exporters	as percentage	net entry into export market	as percentage
1995	18382	-	-	-	-	-	-
1996	18986	2263	12%	1659	9%	604	3%
1997	19513	2299	12 %	1772	9%	527	3%
1998	19950	2164	11%	1727	9%	437	2%
1999	19996	2003	10%	1957	10%	46	0.2%

3.1 Trade-relation dynamics

We first describe fluctuations in export status, i.e. participation in export activity, that is the margin of adjustment analyzed by Bernard and Jensen (2004)[6]. From one year to the other almost 9% of exporters cease to export; conversely, a slightly higher percentage of 12% of exporters, start to export. This is reported in Table 1, where we observe for each year the number of exporters in the sample, the number of firms which cease to and those who begin to export. In a typical year there is a net increase in the number of exporters, which - aggregating entries and exits into export activity - turns out to be relatively small (3%).[7]

A similar pattern can be found if we investigate the dynamics of trade relations. Entry into and exit from specific export destinations are very frequent phenomena. In the first column of Table 2 we report for each year the number of active relations in the sample [8].

Columns (3) to (5) report the number of destroyed and created relations year by year. We find that each year around 25% of all firm-destination relations are newly created, while around 21% of relations are destroyed, with the difference being a positive net creation of trade relations. This suggests that

[6]Bernard and Jensen (2004) use a data set that provides information whether a firm is an exporter or not. In our case we also know to which destination a firm exports, thus we can separately analyze export-status and export-relations of each firm.

[7]Moreover, a part of the new exporters are firms that will stop to export in one of the subsequent years. This finding suggests that there is a percentage of exporters which we could consider as occasional exporters, that is firms which export only from time to time.

[8]Since the total number of destinations in the data is 146 and in 1995 we have 18.382 exporters, the average number of destinations to which French firms export is roughly eight. As EKK (2004) have shown the distribution of the number of export destinations is very skewed, with very few firms exporting to almost all destinations and the majority of them exporting only to one destination.

Table 2: Trade relations created and destroyed

year	relations	created	as percentage	destroyed	as percentage	net creation	as percentage
1995	157558	-	-	-	-	-	-
1996	167279	43629	27.7%	33908	21.5%	9721	6.2%
1997	177513	45715	27.3%	35481	21.2%	10234	6.1%
1998	183595	44721	25.1%	38639	21.7%	6082	3.4%
1999	185849	43394	23.6%	41140	21.4%	2254	1.2%

there is a lot of trade micro-dynamics which remains hidden when we aggregate statistics. This is true across years and across sectors[9]. Finally, it is worth noticing that around 50% of the destroyed relations are re-created in at least one subsequent year and around 70% of created relations are destroyed in at least one subsequent year in the sample.

We can conclude that: **export relations are very volatile (FACT 1).**

3.2 Export-relations by firm and country

In this subsection we analyze the previous patterns considering firms and countries separately.

The creation and destruction of trade relations is related to firm size. In Figure 1 we plot for each firm the share of entered and exited destinations against firm size (measured by firms' total export value in logs). Small firms enter and exit a larger fraction of their export destinations[10]. This is also more formally confirmed by a regression of the fraction of created/destroyed relations on firms' total exports:

$$\frac{N_{i,enter}}{N_i} = \beta_0 + \beta_1 Exports_i + \epsilon_i \tag{1}$$

and

$$\frac{N_{i,exit}}{N_i} = \beta_0 + \beta_1 Exports_i + \epsilon_i \tag{2}$$

where N_i is the total number of destinations served by a given firm in a year, $N_{i,enter}$ ($N_{i,exit}$) is the number of destinations to which a firm begins (ceases) to export and $Export_i$ are total export

[9] We do not report all the sectoral analysis in the paper since all the findings hold for different sectors.

[10] We report the graph without the biggest five percent of firms' exports to show that the correlation is not driven by a few large observations. For bigger firms that export to many countries, the share of exited/entered destinations could be very small by construction. The same could happen for very small exporters that export only to one destination. The correlation is still negative eliminating the smallest 5% or 10% of exporters.

flows by a firm (in logs). β_1 is negative and very significant in both cases[11]. Evaluating the regressions at the mean, they imply that an average exporter creates around 36% of its relations and destroys around 31%.

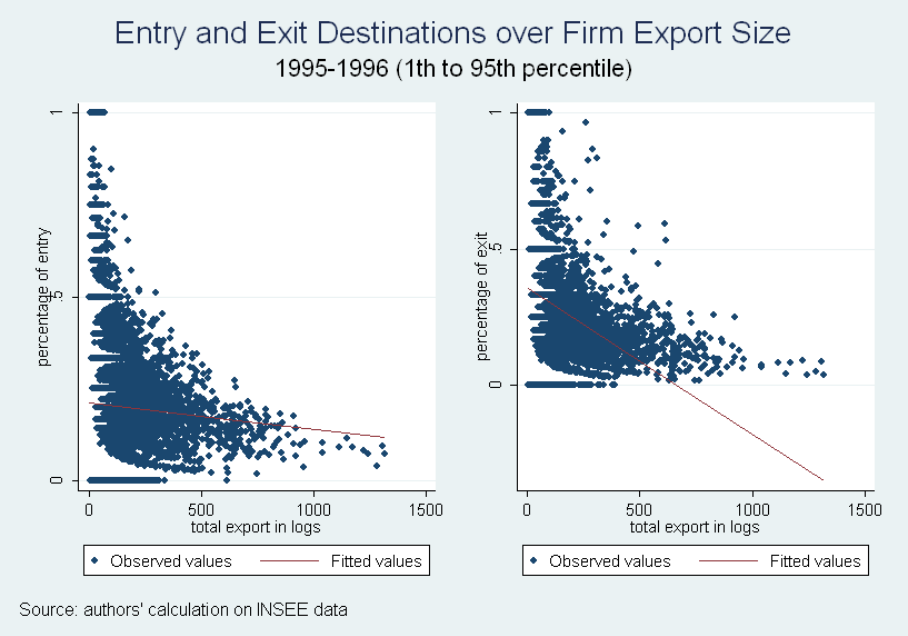

Figure 1: Share of entered and exited destinations over firm export size

If we focus at the destination level, we find that the fraction of trade relations created and destroyed is higher in less popular destinations (measured by total French exports to that destination). This can be seen from Figure 2 and is also confirmed when regressing the fraction of created and destroyed relations in each country on the total exports to that country:

$$\frac{N_{c,enter}}{N_c} = \beta_0 + \beta_1 Exports_c + \epsilon_c \tag{3}$$

$$\frac{N_{c,exit}}{N_c} = \beta_0 + \beta_1 Exports_c + \epsilon_c, \tag{4}$$

where c is a country index. These results confirm that total exports to a country are significantly negatively correlated with the fraction of entering and exiting firms[12].

Notice that these results are not mechanical. Even if in a given year the number of exporters to Germany (DE) is higher than the number of exporters to Azerbaijan (AZ), this does not imply that

[11] For entries: $\beta_1 = -0.00029^{(***)}$ $R^2 = 0.02$, $n = 16723$. For exits: $\beta_1 = -0.00047^{(***)}$ $R^2 = 0.04$, $n = 18382$.

[12] For entries: $\beta_1 = -2.92^{(***)}$, $R^2 = 0.52$, n=146. For exits: $\beta_1 = -2.08^{(***)}$, $R^2 = 0.56$, n=146

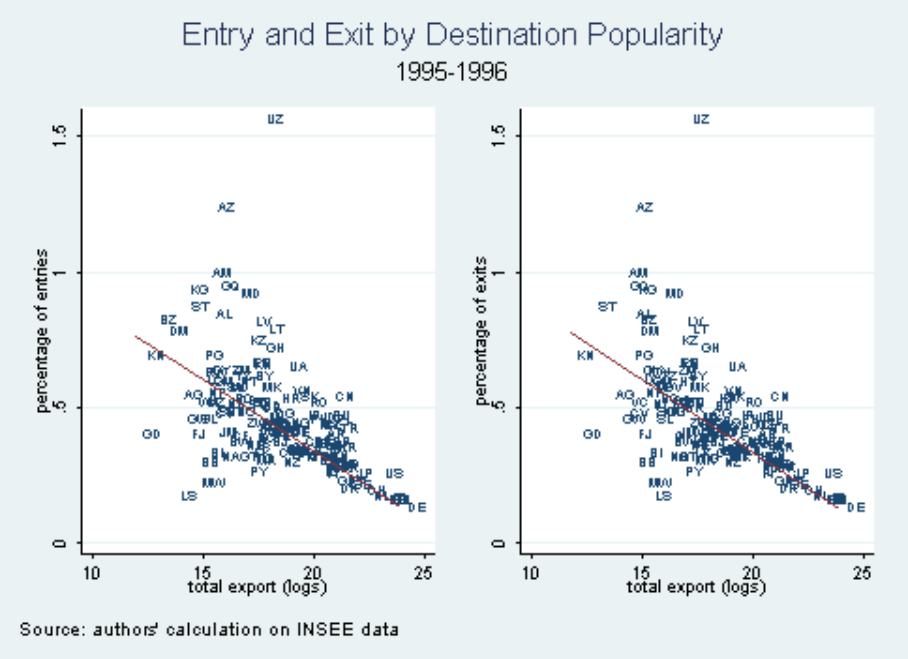

Figure 2: Fraction of firms entering/leaving vs. total French exports by country

in the following year the share of entrants in Germany is much smaller than in the share of entrants in Azerbaijan. In fact only half of the exporters in the data set export to Germany, thus in principle the share of entrants in this country could be much higher than the 10% we observe in the data.

We conclude that **creation and destruction of trade relations is more frequent for small firms and small destinations (FACT 2).**

3.3 Trade-flow dynamics

Is the phenomenon discussed in last subsection relevant in terms of export values? Do newly created/destroyed relations involve large flows? In this subsection we address this issue by considering the adjustment in export values that occurs within newly created/destroyed relations (*extensive margin*) and within existing ones (*intensive margin*).

We denote with Q_t the value of aggregate French exports (given by the sum of the flows of all existing relations in a year q_{ict}), and index firms by i, countries by c and years by t. Then we have

$$Q_t = \sum_{i \in I} \sum_{c \in C} q_{ict}. \tag{5}$$

We consider growth in export values using mid-point growth rates[13]:

[13]This overcomes the problem that we would have with ordinary growth rates, which are not defined for cre-

$$G_t = \sum_{c \in C} \sum_{i \in I} g_{ict} s_{ict}, \tag{6}$$

where s_{ict} is the average export share of firm i in country c in total French exports,

$$s_{ict} = \frac{q_{ict} + q_{ict-1}}{Q_t + Q_{t-1}} \tag{7}$$

and g_{ict} is the midpoint-growth rate of export value of firm i in country c,

$$g_{ict} = \frac{q_{ict} - q_{ict-1}}{1/2\,(q_{ict} + q_{ict-1})}. \tag{8}$$

To see to what extent adjustments in export values are due to the *extensive margin* and to the *intensive margin*, we classify all trade-relations into four subsets: *entry* - the newly formed relations (those for which $q_{ict-1} = 0$ and $q_{ict} > 0$), *exit* - the destroyed relations (for which $q_{ict-1} > 0$ and $q_{ict} = 0$), *increase* - the continuing relations for which export flows increase ($0 < q_{ict-1} < q_{ict}$), and *decrease* - the continuing relations for which the export flows decrease ($q_{ict-1} > q_{ict} > 0$). We can thus write:

$$G_t = \sum_{ic \in entry} g_{ict} s_{ict} + \sum_{ic \in exit} g_{ict} s_{ict} + \sum_{ic \in increase} g_{ict} s_{ict} + \sum_{ic \in decrease} g_{ict} s_{ict} \tag{9}$$

To get a better sense of the magnitudes and the relative contributions of each of the four terms we take absolute values of mid-point growth rates of all firm-destination relations, and aggregate them to obtain the gross export growth rate, $\widehat{G}_t$:

$$\widehat{G}_t = \sum_{ic \in entry} |g_{ict}| s_{ict} + \sum_{ic \in exit} |g_{ict}| s_{ict} + \sum_{ic \in increase} |g_{ict}| s_{ict} + \sum_{ic \in decrease} |g_{ict}| s_{ict} \tag{10}$$

Table 3 reports the gross (mid-point) growth rate, the contribution of each of the four components of decomposition (10), as well as the aggregate net growth rate for different years. The net midpoint growth rate of exports is roughly 1%, while the gross midpoint growth rate is almost 10%. This difference indicates that export flows are very volatile as well. The contribution of newly-created and destroyed relations to the gross growth rate are respectively 7.3% and 3.6% in 1996. The intensive margin explains the rest, with increasing flows within existing relations explaining 48% and decreasing flows within existing relations explaining 41%.

This pattern is very similar across different years and for all the sectors as shown in Figure 3.

ated/destroyed relations. Notice that the mid-point growth rate lies in the interval [-2,2] and takes the value -2 in the case of exit and 2 in the case of entry.

Table 3: Mid point growth rates by year. Percentages explained by components.

	gross	net	enter	exit	increase	decrease
1996	0.100	0.011	7.3%	3.6%	48.1%	41.0%
1997	0.102	0.038	6.4%	2.7%	62.2%	28.8%
1998	0.097	0.016	5.0%	3.7%	53.4%	37.9%
1999	0.095	0.002	4.7%	3.5%	46.4%	45.4%

We conclude that **flows are very volatile and most changes in value occur at the intensive margin (FACT 3)**. Thus while creation and destruction of trade relations is very frequent, it involves shipments of small values.

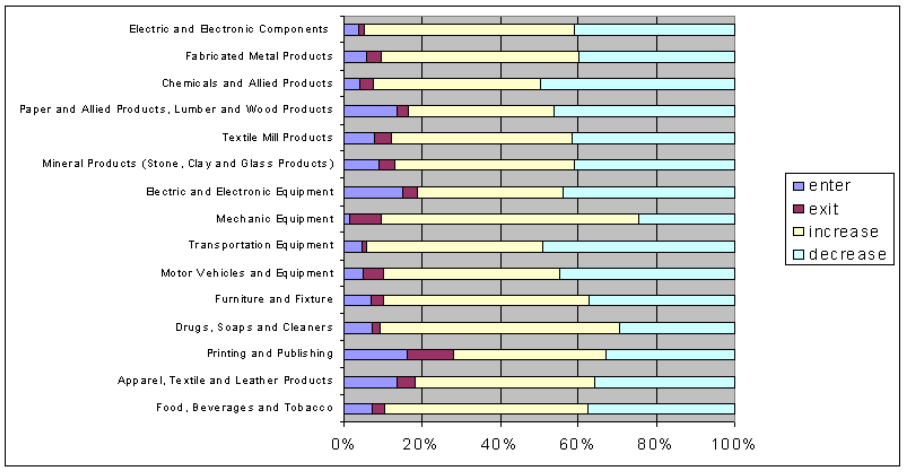

Figure 3: Intensive and Extensive margin contributions to export growth by sector

3.4 Small quantities

We next take a closer look at the level of flows involved in starting relations. In Table 4 we report the average and median export values for all relations, relations that were created (terminated) in 1996 and persisted during the whole observation period and relations that were created (destroyed) in 1996 but were destroyed (recreated) in some subsequent year. Relations that are created or destroyed involve very small values. Moreover, relations that start in 1996 and last for all the remaining years in the sample, have higher average values than occasional relations (146,961 vs 36,281 euros).

To investigate how small entry values can be we consider the smallest ten percent of entry values[14]

[14]Exit values behave similarly, even though they are smaller than entry ones.

Table 4: Average and median exports flows (in euros)

1995-1996	average	median
All relations in 1995	640,997	28,084
Relations destroyed permanently in 1996	45,213	4,871
Occasionally destroyed relations (for 1996 only)	42,038	6,131
All relations in 1996	630,214	27,796
Relations created permanently in 1996	146,961	13,266
Occasionally created relations (for 1996 only)	36,281	6,595

and plot them against our measure of market size (log of GDP) (Figure 4). The 10th percentile is around 1000 euros for most countries, while for European ones it is even smaller. This may derive from different reporting thresholds in the Douane database, which implies that the smallest actual export flows are likely to involve even smaller values than the ones reported here.

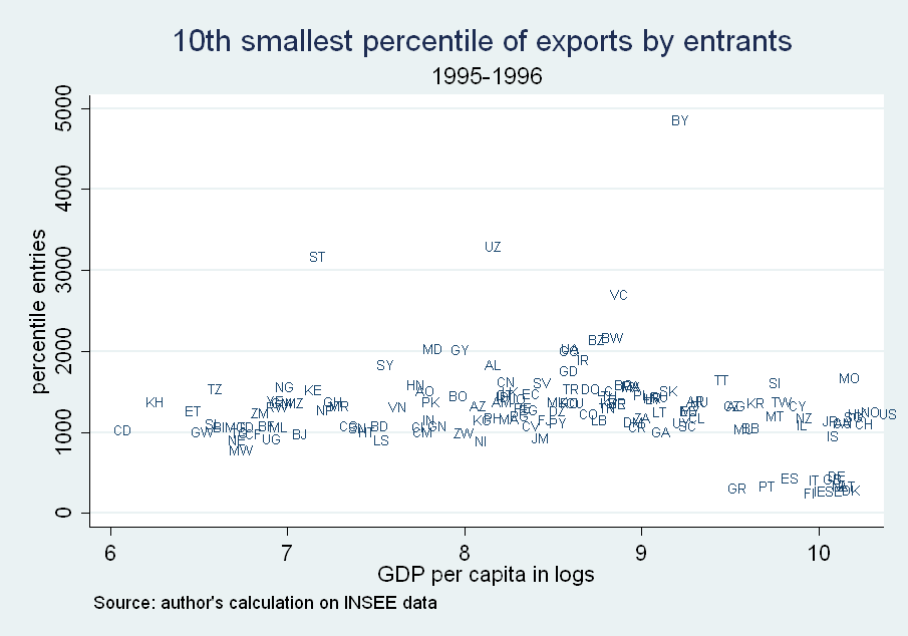

Figure 4: 10th percentile of entry quantities by country

To investigate whether entry values differ substantially across sectors, we report percentiles by sector in Table 5. The 10th percentile of export values at entry varies from 659 euros in the "Printing and Publishing sector" to 1095 euros in the "Drugs" sector. We conclude that the phenomenon of

Table 5: Entry flows by percentile and 2-digit NES sector

sectors	Entry flows by percentile				
	10st	30th	50th	70th	90th
Food, Beverages and Tobacco	963	2911	6522	15314	56098
Apparel, Textile and Leather Products	876	1878	3999	9497	40973
Printing and Publishing	659	1497	3129	8583	41376
Drugs, Soaps and Cleaners	1095	3201	7359	19742	84750
Furniture and Fixture	866	1877	3927	9783	36942
Motor Vehicles and Equipment	882	2577	6715	16362	85082
Transportation Equipment	777	2148	5119	19330	163883
Mechanic Equipment	902	2378	5530	14620	63692
Electric and Electronic Equipment	955	2470	5793	13980	52484
Mineral Products (Stone, Clay and Glass Products)	953	2347	5971	14779	60394
Textile Mill Products	797	2263	4868	11697	40935
Paper and Allied Products, Lumber and Wood Products	892	2928	6636	14695	62439
Chemicals and Allied Products	979	2456	5723	14023	54882
Fabricated Metal Products	898	1986	4514	10224	38354
Electric and Electronic Components	854	1953	5151	14729	63951

observing small entry values does not depend much on the specific sector we look at. Even when disaggregating sectors even further things do not change.

Finally, even though starting relations involve small export flows, export flows tend to increase as relations mature. This is shown in Figure 5 where we report box plots of export values by age of relation. The box plot reports the median, the 25th and 75th percentiles as well as the minimum and maximum export values by age of the relation. Clearly, the median increases over time and the distribution becomes more and more left skewed, as some relations grow larger and larger.[15]

The message is clear: **(FACT 4) an average firm enters an average destination with very small flows which tend to increase as the relation gets older**.

3.5 Trade-flow dynamics by firm and destination

In order to see how the intensive and the extensive margin relate to firm and destination size, we report decomposition (10) for different sub-samples. First, we divide the sample along the firm dimension considering small exporters (whose export flows are below the 25th percentile of aggregate

[15] We exclude the 5% largest observations from the plot because including them would make the graph unreadable.

Figure 5: Export flows distribution by relation age

firm exports), medium (25th-75th percentile) and large (above 75th percentile) ones.

Table 6 shows the results for growth rates between 1995 and 1996. The extensive margin is much more important for small exporters. These exporters contribute 2.1% to the aggregate export growth rate and 96.5% of their contribution comes from movements along the extensive margin. For big exporters instead, movements along the extensive margin account only for 7.7%. Note also that 93% of gross growth in export values comes from the 25 percent of largest exporters.

The fact that the extensive margin is more relevant for small firms can also be seen from Figure 6. It plots for each firm the fraction of gross changes in export flows coming from newly formed or

Table 6: Contribution of components by firm size percentiles

percentile	enter (%)	exit (%)	increase (%)	decrease (%)	total (%)
1-25	95.8	0.7	3.4	0.1	2.1
25-75	20.6	12.5	41.7	25.2	4.8
75-100	4.7	3.2	49.4	42.7	93.1
all	7.3	3.6	48.1	41.0	100

Table 7: Contribution of components by country size percentiles

percentile	enter (%)	exit (%)	increase (%)	decrease (%)	total (%)
1-25	30.6	20.5	28.2	20.6	4
25-75	15.5	7.0	44.9	32.5	13.4
75-100	6.0	3.0	48.6	42.4	86.2
all	7.3	3.6	48.1	41.0	100

destroyed relations against the value of its total exports (in logs). The correlation is negative and statistically very significant[16].

Figure 6: Fraction of change in values shipped to entered/exited destinations vs. total firm exports

Next, we divide the sample in small (1st to 25th percentile of export values), medium (25th-75th percentile) and large (above 75th percentile) export destinations and perform the same analysis. From Table 7 we observe that the fraction of export growth rates explained by those firms that newly enter or exit from a given market is larger in less popular export destinations.

This can also be seen from Figure 7, which plots the contribution of the *extensive margin* (in its two components) against total exports to country c (in logs). [17]

[16] enter: $\beta_{q_i} = -0.042^{(***)}$ $R^2 = 0.15$ $n = 16723$; exit: $\beta_{q_i} = -0.063^{(***)}$ $R^2 = 0.23$, $n = 18382$.

[17] All the figures in this section, obtained without eliminating the smallest or largest percentiles are similar.

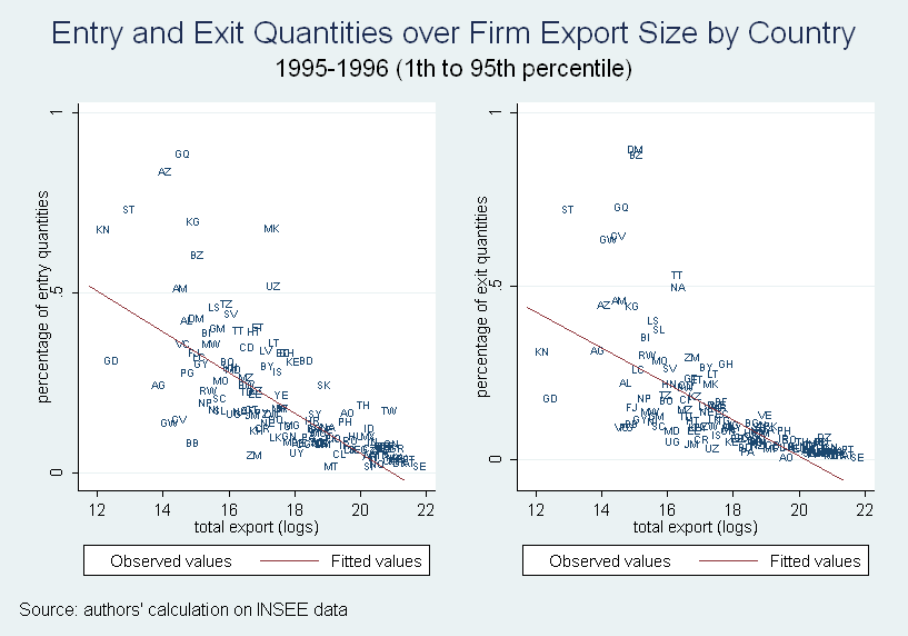

Figure 7: Extensive margin over total exports by country

Again, we observe a large and statistically very significant negative correlation[18].

We conclude that **the extensive margin is more relevant for small exporters and less popular destinations (FACT 5)**.

3.6 Explaining trade-flow dynamics

At this point it seems interesting to get an idea of what drives the changes in export values of firms across destinations. Are changes mainly due to firm-specific shocks, due to country-specific shocks or due to those shocks that hit a specific trade relation (country-firm specific shocks)?

In order to answer this question, we regress mid-point export growth rates for each firm in each served destination between any two years, g_{ict}, on a set of firm-time (δ_{it}) and country-time (δ_{ct}) dummies[19]:

$$g_{ict} = \delta_{it} + \delta_{ct} + \epsilon_{ict}, \tag{11}$$

where the dummies are intended to capture firm-level time-varying (supply) shocks and country-level time-varying (demand) shocks respectively.

Looking at Table 8, we find that firm-level shocks and country-level shocks alone explain respec-

[18] For enter: $\beta_{q_c} = -0.05^{(***)}$ $R^2 = 0.52$, $n = 146$. For exit: $\beta_{q_c} = -0.04^{(***)}$ $R^2 = 0.45$, $n = 146$

[19] We thus have 4 time observations (1995-1996; 1996-1997; 1997-1998; 1998-1999) for each firm-country pair.

Table 8: Explaining changes in export values

Period	all	all	95-96	95-96
sample	all	staying	all	staying
observations	939,856	569,352	214,739	131,175
Adjusted R^2 (including only δ_{it})	0.07	0.05		
Adjusted R^2 (including only δ_{ct})	0.004	0.009		
Adjusted R^2 (including δ_{ct} and δ_{it})			0.09	0.06

tively around 7% and 0.4% of flow growth rate at the firm-destination level (as measured by the adjusted R^2). Even when we perform the regression including both shocks simultaneously (columns (3) and (4) [20]), the explained variation of the dependent variable is not bigger than 10%. Results are similar if we exclude entries and exits from the regression (which take on extreme values) and if we consider different years (for the last two regressions).

We thus conclude that: **export flow volatility is mostly explained by firm-country specific shocks (FACT 6)**.

4 Simultaneity

4.1 Firm level

The big amount of destroyed and created relations we observed in the second section may be the result of two different types of firm micro-behavior: it may be that some firms destroy relations, while other firms create new ones or that each firm *simultaneously* creates and destroys relations. To investigate this we look at the behavior of individual firms. Figure 8 plots for each firm i the number of destinations it entered against the number of destinations it left between 1995 and 1996. If a firm starts new relations without destroying any of the existing ones, then this observation lies on the x-axis (viceversa if a firm destroys relations without creating new ones, then it lies on the y-axis).

We observe that, indeed, many observations lie off the axes, thus indicating that exit and entry are simultaneous activities at the firm level. Moreover, the correlation among the two is positive: firms that create more relations tend to also simultaneously destroy a larger number of them.[21]

[20] In these last two columns we consider only the export mid-point growth rate between 1995 and 1996 because of computational limitations.

[21] From the figure one may get the impression that there is a negative correlation, however, there are much more observations off the axes than close to them, which is not clear in the picture.

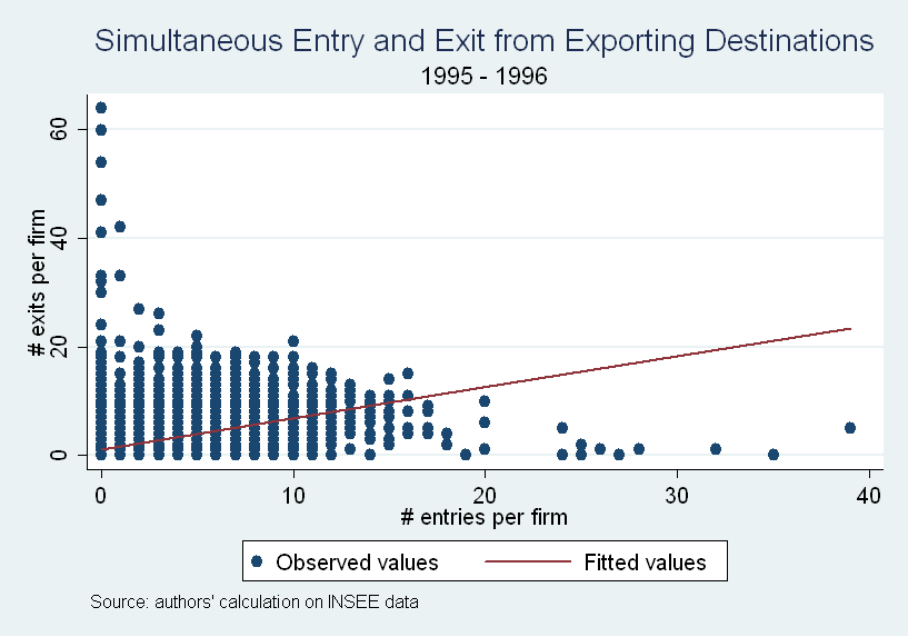

Figure 8: Number of entered vs. exited destinations

This observation holds regardless of the total number of destinations that firm i is exporting to. Figure 9 plots the fraction of destinations entered against the fraction of destinations from which a firm exits and again we observe a positive relationship confirming that firms enter some destinations while simultaneously leaving others. The correlation between the fraction of entered destinations and the left ones is 0.53 for the entire sample and similar across sectors.[22]

We conclude that **firms *simultaneously* create and destroy relations (FACT 7)**.

4.2 Country level

Here, we perform a different exercise and aggregate created and destroyed relations at the country level. Again two scenarios are possible. If country-specific (demand) shocks are important in driving the formation of relations, then most of the firms should create (destroy) relations with countries which experience a positive (negative) shock. In other words we should observe that newly-created and destroyed relations are negatively correlated at the country level. Alternatively, the findings in section two may be the consequence of a simultaneous creation and destruction of relations in each country.

In Figure 10 we thus plot for each country the share of created relations against the share of

[22]The correlation between the fraction of entered and exited destinations ranges between 0.44 in the sector "Food, Beverages and Tobacco" sector 0.62 in the sector "Transportation Equipment".

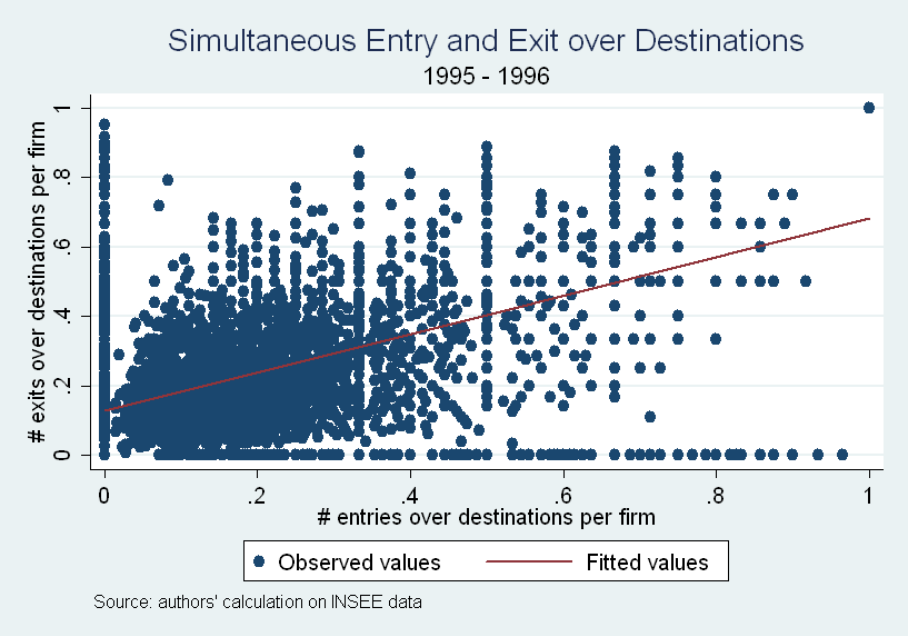

Figure 9: Fraction of entered vs. exited destinations

destroyed ones.[23]

This figure clearly shows that *simultaneity* holds also at the country-level. Moreover, we can see that European countries like Germany ("DE"), Denmark ("DK") or Netherlands ("NL") are the ones for which entry and exit account for a relatively small fraction of total trade relations compared to small and distant countries such as Azerbaijan ("AZ"), Sao Tomè and Principe ("ST") and Guinea-Bissau ("GW").

We conclude that **relations are *simultaneously* created and destroyed at the country level (FACT 8)**.

4.3 Explaining export-relation dynamics

We can do an analogous exercise to the one performed in the previous section to uncover if the choice of French firms to enter and exit from various destinations is more explained by firm-level shocks, by country-level shocks or by firm-country specific ones. We thus run the following regression

$$C_{ict} = \delta_{it} + \delta_{ct} + \epsilon_{ict}, \tag{12}$$

where the dependent variable C_{ict} is an indicator variable, which refers to the choice of a firm to

[23] The first share is calculated with respect to the number of exporters in 1995 and the second is calculated with respect to the number of exporters in 1996.

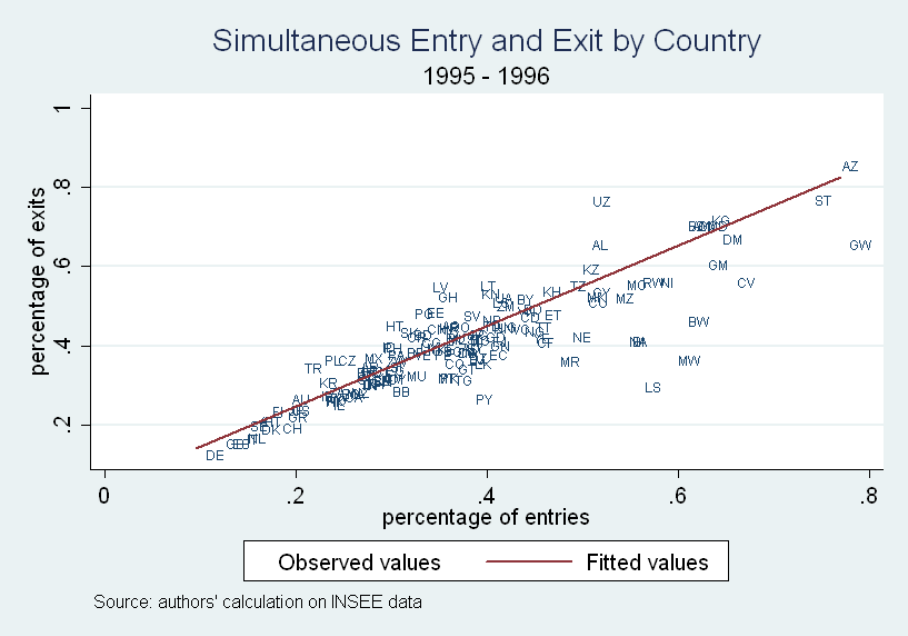

Figure 10: Fraction of entered vs fraction of exited firms by country

enter in a given destination at time t (in which case it is equal to 1), to exit from a given destination (in which case it is equal to -1) or to continue exporting (in this case it takes the value of 0).

Results are reported in Table 9. The first column shows that by introducing only firm-time (supply) dummies, we explain only 8% of the variation in the dependent variable. By introducing only country-time (demand) dummies, we explain only around 4% of the variation in the dependent variable. Even when we consider both country-level and firm-level dummies (although only for a single pair of years) we manage to explain only up to 10% of the variation of changes in firm-country relations. Thus the main part of the variation remains unexplained by the sum of country- and firm-specific shocks. Hence, variation in creation and destruction of trade relations, like variation in trade-flow growth rates, seems to be more related to factors specific to each firm-country relation.

This pattern holds for different years and for a sub-sample in which we exclude those observations for which a given firm exports consecutively for two years (column (2) and column (4)).

We thus conclude that: **creation and destruction of trade relations is mostly explained by (country-firm) relation-specific shocks (FACT 9)**.

5 Persistence

As we have shown previously, firms tend to create and destroy a significant fraction of their trade relations. Still, most of the relations are stable during years. In this section we turn to describe this

Table 9: Explaining export-relation dynamics

Period	All	All	95-96	95-96
sample	all	only entry/exits	all	only entry/exits
observations	939,856	370.504	214,739	83,564
Adjusted R^2 (including only δ_{it})	0.08	0.08		
Adjusted R^2 (including only δ_{ct})	0.04	0.04		
Adjusted R^2 (including δ_{ct} and δ_{it})			0.10	0.10

phenomenon.

First, we use a transition matrix to investigate persistence as well as the patterns of creation and destruction of trade relations in more detail. Each row of Table 10 refers to firms which export to a given number of destinations, "0", "1", "2" and so on in 1995. Each cell reports the frequency with which firms that exported to a given number of destinations in 1995, transit to any of the column categories in the following year.[24] This means that the rows sum up to 100. The last row reports the frequency of exporters in each category in 1996.[25] Notice that almost 60% of all the firms export to up to four destinations only.[26]

Differently from the finding of Eaton et al. (2007) we obtain a diagonal dominant matrix. This means that, given any initial number of export destinations, the probability to continue exporting to the same number of destinations is higher than the probability to change.

Non-exporters tend to integrate into the export market gradually, by typically entering in one destination only (27.66%) and firms that exported to only one destination tend to add or drop only a single one the year after. Indeed this observation holds for all the considered categories: either firms continue to export to the same number of destinations, or they transit to the nearest category to the left or to the right.

The previous table shows that there is persistence in the number of relations, since the probability of a relation to survive is much larger than the probability to be created or destroyed. However, the transition matrix does not allow us to determine if the identity of active relations is actually the same

[24]The last 3 columns and rows aggregate the number of export destinations in a somewhat arbitrary way. However, results are robust if we define intervals differently.

[25]Notice that, as explained in the description of the data set, here we are considering those firms which export to at least one destination in at least one year in the time-span of our sample. Thus the total number of French non-exporters is much bigger than the 22.62% reported here.

[26]As in Eaton et al. (2004) only few exporters ship their products to many destinations.

Table 10: Transition matrix between 1995 and 1996

1995/1996	0	1	2	3	4	5	(6 to 10)	(11 to 25)	25 or more
0	**63.23**	27.66	5.54	1.75	0.71	0.19	0.47	0.29	0.15
1	27.26	**49.74**	14.07	5.45	2.13	0.67	0.61	0.08	0.00
2	9.30	26.30	**32.62**	17.29	7.37	3.81	2.97	0.34	0.00
3	3.65	11.65	21.88	**27.86**	18.55	8.33	7.68	0.33	0.07
4	1.72	3.53	11.21	21.81	**24.91**	16.55	19.31	0.95	0.00
5	0.81	1.39	4.75	13.66	17.01	**21.64**	38.54	2.08	0.12
(6 to 10)	0.31	0.66	1.04	2.60	4.33	9.53	**62.94**	18.39	0.21
(11 to 25)	0.00	0.03	0.09	0.13	0.19	0.32	9.89	**81.64**	7.71
25 or more	0.00	0.07	0.00	0.00	0.00	0.21	0.07	6.49	**93.17**
exporters (in%)	22.62	20.53	9.59	6.80	4.80	3.79	11.97	13.34	6.57

over time[27].

Consequently, we fix a firm-destination relationship and follow it over time. Table 11 reports the fraction of relations that survive from one year to the next for the total economy and for each 2-digit NES sector. The first row shows that 78% of relations are still maintained in the next year and 58% survive throughout the entire sample period from 1995-1999. If relationships where destroyed completely randomly, since every year around 22% of trade relations are destroyed, the fraction of relations that survive four years should be roughly 37% ($= 0.78^4$)[28]. This is an indication of the existence of persistence.

We finally turn to investigate if persistence of relations is systematically related to country characteristics. Figure 11 shows our proxy of persistence, the share of stable relations (by country), plotted against countries' characteristics like GDP, GDP per capita, distance, population, and popularity (measured in terms of number of French exporters in logs). There is a clear positive relation between our proxy for persistence and countries' proxies for market size. The relation becomes negative when we consider distance, instead.

[27]It may be that the number of export destinations remains constant but that the identity of export destinations changes. For example, a firm may export to Spain and Italy in 1995 and to Germany and Russia in 1996: in this case the transition matrix would report this observation on the diagonal since the number of active relations does not change from one year to the other.

[28]When we calculate the same numbers by weighting each firm by its size (in terms of total served destinations) we find very similar patterns and slightly smaller numbers. This is the case because for bigger firms the number of stable relations is higher, as we already noticed by looking at the broken relations.

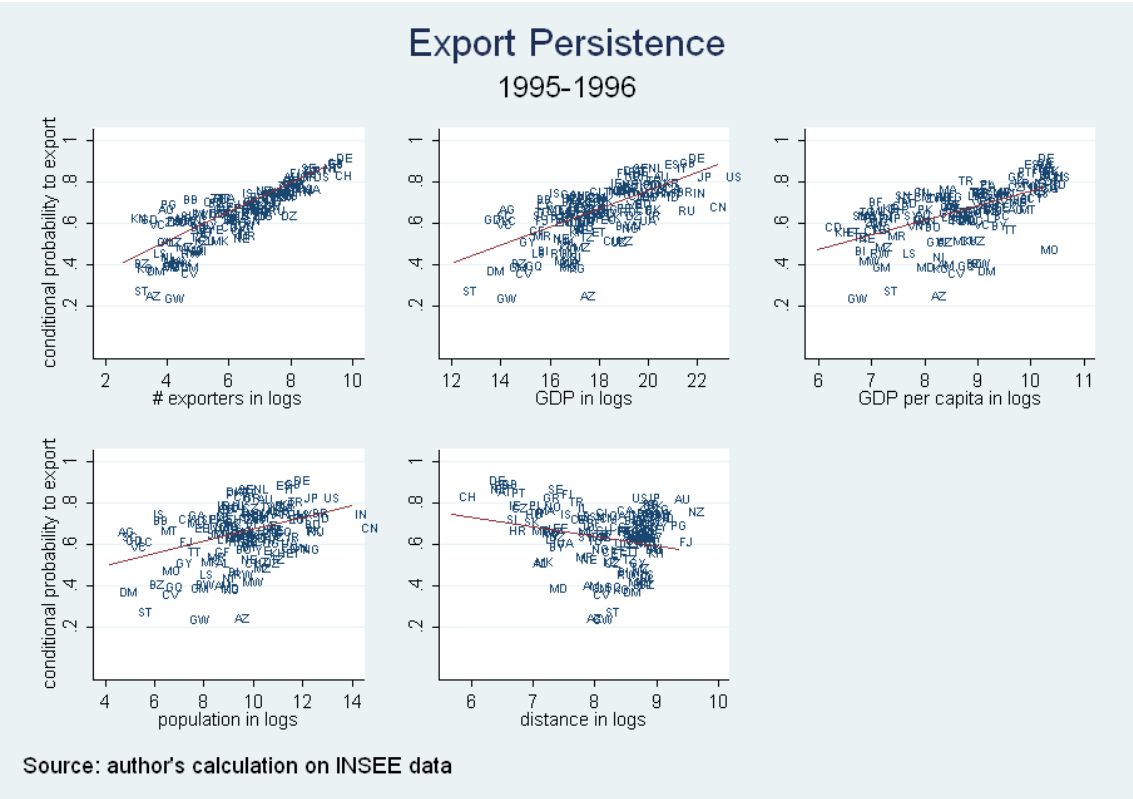

Figure 11: Persistence vs country characteristics

Table 11: Fraction of stable relations

	95-96	96-97	97-98	98-99	95-97	95-98	95-99
Total Economy	0.78	0.79	0.78	0.78	0.69	0.63	0.58
Food, Beverages and Tobacco	0.80	0.81	0.80	0.81	0.71	0.65	0.60
Apparel, Textile and Leather Products	0.77	0.77	0.76	0.75	0.66	0.59	0.54
Printing and Publishing	0.72	0.72	0.72	0.72	0.61	0.54	0.49
Drugs, Soaps and Cleaners	0.84	0.84	0.84	0.84	0.76	0.71	0.67
Furniture and Fixture	0.77	0.78	0.77	0.75	0.68	0.61	0.56
Motor Vehicles and Equipment	0.77	0.79	0.80	0.77	0.69	0.63	0.58
Transportation Equipment	0.77	0.77	0.76	0.75	0.67	0.61	0.56
Mechanic Equipment	0.76	0.76	0.76	0.75	0.67	0.61	0.56
Electric and Electronic Equipment	0.77	0.76	0.76	0.76	0.67	0.61	0.56
Mineral Products	0.80	0.80	0.79	0.79	0.71	0.65	0.61
Textile Mill Products	0.79	0.80	0.80	0.79	0.71	0.64	0.60
Paper and Allied Products, Lumber and Wood	0.77	0.79	0.77	0.77	0.68	0.61	0.56
Chemicals and Allied Products	0.82	0.82	0.81	0.81	0.73	0.67	0.62
Fabricated Metal Products	0.78	0.79	0.78	0.77	0.69	0.63	0.58
Electric and Electronic Components	0.80	0.80	0.80	0.79	0.72	0.67	0.63

Even if Figure 11 shows interesting patterns, a caveat applies. Our measure of persistence could indeed capture the fact that a destination is *chosen* by any firm in two consecutive years just because it is an easy destination to export to. In other words since export decisions are not random, this figure does not show that a firm exports to a country in a given year *because* it was exporting there in the previous one.

We are aware that formal econometric analysis, that controls for firm and country characteristics, would be needed to corroborate the interpretation of these findings. However, this is outside the purely descriptive scope of our analysis. In leaving more formal analysis for future work, we take these findings as indicative for this phenomenon.

We conclude that **there is a large amount of persistence and that this seems to be related to market characteristics (FACT 10)**.

6 Discussion

In the previous sections we have presented new evidence on the micro-dynamics of firms' exports. In this section we relate our results to the theoretical literature. We first contrast our findings with

standard firm-heterogeneity trade models (Melitz (2003), Bernard, Eaton, Jensen and Kortum (2003) and Melitz and Ottaviano (2008)). We argue that even though some of the facts we have uncovered can be rationalized within these frameworks, others are more difficult to explain since these models provide no micro-foundations for analyzing the dynamics of firms' export relations. Therefore, we turn to contrast our results with another class of models that emphasize the relation-specific nature of trade at the micro-level.

Consider a standard Melitz (2003) model of trade with monopolistic competition, heterogeneous firms ranked by an exogenous productivity level drawn from some distribution function and fixed costs to export which need to be paid for each destination. In this model a firm exports to a destination only if its export revenues (which are a function of its productivity level) are sufficiently high to cover the fixed cost. This, in turn, implies that for each export market there exists a cutoff-productivity level such that only firms with a productivity above that cutoff-level export there. As a result, very unproductive firms do not export, less productive exporters enter only those destinations with a low cut-off (the most popular ones) and "superstar" firms export to many destinations, among them the less popular ones (for which the cut-off level is high). Moreover, while less productive firms lie closer to the export cut-off (since their productivity is just marginally higher than that), more productive firms are far away from such cutoffs (for most of the countries where they export to).

In order to discuss our findings in this framework we need to incorporate firm-specific (productivity) as well as country-specific (demand) shocks along the lines of Eaton et al. (2008) to allow for a source of dynamics in the model. In addition, we consider the fixed-costs to enter to be at least partially sunk. In this context many of our findings could be rationalized. In fact, relations are dynamic and extensive and intensive margins have a different role for bigger firms than for smaller ones. The latter, whose productivity lies close to the destination-specific cutoff, are likely to exit/enter when they are hit by demand- or productivity shocks. The former, which are far away from cutoff, rather adjust their export values along the intensive margin when hit by a shock.

The observation that exporters simultaneously create and destroy relations and that relations are at the same time created and destroyed at the destination level is, on the contrary, more difficult to explain in this context. The reason is that a firm that is hit by a positive shock should create relations without destroying the active ones, and in the same fashion, countries that are hit by positive shocks should be involved only in newly-created relations. While these patterns could be explained by the combined effect of these two shocks, our intuition that this is not the case is confirmed by the fact that variation in relations is not well explained by the sum of country- and firm-shocks but is mainly due to relation-specific (firm-country specific) shocks.

We also find very small starting export flows and persistence in relations. In the context of the Melitz model persistence could be explained by autocorrelated shocks or by the presence of sunk-costs. The empirical literature that, in more formal frameworks, finds high persistence in export status even when controlling for shocks, usually interprets this finding as an evidence for the existence of high sunk start-up costs to export (Bernard and Jensen (2004) for example). Das et al. (2007) provide an estimation of such costs using a structural estimation for Colombian firms. They find that these costs are quite substantial, being on average as high as 400,000 dollars. Consequently, they conclude that producers do not begin to export unless the present value of their future export stream is large. In the context of our findings the value of exports at entry should thus be related to the present value of future profits (which in turn is a proxy for the sunk cost of export), especially for the large fraction of firms that maintain a relation only for a very short time span. What is difficult to explain is the combination of high persistence (which indicates the existence of high sunk costs) with the very small values with which relations usually start.[29]

Alternative models of trade with heterogeneous firms are Bernard et al. (2003) and Melitz and Ottaviano (2008). The first one is a Ricardian model with variable trade costs, where firms draw productivities randomly and engage in Bertrand-competition with limit pricing, while the second model relies on monopolistic competition and markups that are endogenously (negatively) related to the level of competition. Since fixed costs to export are not a feature of these models because only more productive firms can charge the lowest price for a given variety (Bernard et al. (2003)) or a sufficiently low price without incurring a loss (Melitz and Ottaviano (2008)), small export values are not hard to explain with these models. In a way similar to Melitz (2003) a given shock to a firm causes more exit and entry for smaller, less productive firms. However, these models have a difficult time to account for the fact that firms enter with small export values, which tend to grow over time for the relations that survive. Similarly, explaining simultaneous entry and exit of a given firm in different destinations is not straightforward with these models.

Since our analysis rather suggests that export-relations have an important role in explaining the dynamics of trade at the micro-level, we discuss another class of models which emphasize the relationship specific nature of trade and how information externalities may play a crucial role in the decision

[29] Even if we consider a model á la Melitz in which destination-specific export costs are fixed but not sunk, explaining small values is still not easy. Eaton et al. (2008) show that in order to match the fraction of firms exporting to each destination, fixed costs to export need to be on average higher in larger destinations. In order to fit the large amount of small export values they need to give small exporters better chances to draw a small fixed costs, even if average fixed costs are large.

of a firm to export. In Segura-Cayuela and Vilarrubia (2008) there is uncertainty about the export outcome since a firm does not know ex-ante the cost it will face once exporting in the foreign market. This uncertainty, which in their model could be attenuated by observing the success or failure of incumbent exporters in each market, could explain why trade-relations are so dynamic. Rauch and Watson (2003) develop a model that explains how incomplete information can induce buyers in industrialized countries to start trade relations with firms located in developing countries with small orders and how this leads to trade flows that increase over time as the quality of the partner is revealed. Most exporters, in fact, do not sell their products directly to consumers but need to rely on a local distributor in each destination. Finding a suitable distributor is difficult and involves ex ante uncertainty about the quality of the match. Araujo and Ornelas (2007) focus on the effect of contract enforcement on firm level trade dynamics in a setting where the quality of the distributor is initially unknown and needs to be learned from observed profits.

This class of models can explain why trade relations are so dynamic, why most of the changes in the value of shipments occurs at the intensive margin, and why the extensive margin is related to small quantities. Trade relations tend to start small and are more likely to break up in the beginning of the relation because of uncertainty about the quality of the match.

A matching model can also explain why the extensive margin is more important in unpopular destinations. Since the value of any match is lower in smaller markets because profits are lower, matches are more likely to be separated by a given shock.

These models also provide a micro-foundation for firm-country specific shocks and explain why firms simultaneously create some trade relations while destroying others, since not every attempt to enter a market is successful. They are also consistent with the fact that overall most adjustment in values is due to relationship specific shocks.

Even the presence of persistence can easily be explained. Having a partner has positive value, since searching for another one requires time and potentially resources: this implies an opportunity cost of foregone profits that leads to persistence of export relations. The fact that persistence is positively related to market size can also be rationalized by the fact that the opportunity cost of breaking a relation could be larger in larger markets potentially leading to more persistence of export relations.

Finally, small export values are not a problem for these kind of models either, since there is no need to rely on per period destination specific fixed costs to explain why not all firms export to all destinations.

7 Conclusion

This paper documents several new stylized facts on the dynamics of export relations and export flows. A typical French exporter often changes its export destinations and the values with which it enters or leaves destinations are small. The large variation in values shipped by firms to different destinations occurs above all within existing export destinations, with new entries or exits accounting only for a small fraction in value adjustments. Larger exporters have more stable export relations and do the bulk of their changes at the intensive margin, while small exporters enter and leave a larger fraction of their export markets from one period to the other. Trade relations are also much more stable in more popular export destinations to which more French firms export. Furthermore, entry usually involves very small values, sometimes less than 1000 euros.

We argue that, even though a shock-augmented version of the Melitz (2003)-Chaney (2008) model may rationalize some of our findings, others rather suggest that exporting involves relationship-specific dynamics. We thus argue that those trade models which provide a micro-foundation for the formation of export-relations are more suitable to account for all our findings.

Finally, we are aware that our interpretation of the facts uncovered in this paper is casual and is based exclusively on descriptive evidence. A more formal econometric analysis would be needed to convincingly discriminate among alternative theories.

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Country code	Country name	Country code	Country name
AG	Antigua et Barbuda	LC	Saint-Lucy
AL	Albania	LK	Sri Lanka
AM	Armenia	LR	Liberia
AO	Angola	LS	Lesotho
AR	Argentina	LT	Lithuania
AT	Austria	LV	Latvia
AU	Australia	MA	Morocco
AZ	Azerbadjan	MD	Moldova
BB	Barbade	MG	Madagascar
BD	Bangladesh	MK	Macedonia
BF	Burkina Faso	ML	Mali
BG	Bulgaria	MO	Macao
BI	Burundi	MR	Mauritania
BJ	Benin	MT	Malta
BO	Bolivia	MU	Mauritius
BR	Brazil	MW	Malawi
BW	Botswana	MX	Mexico
BY	Belarus	MY	Malaysia
BZ	Belize	MZ	Mozambique
CA	Canada	NA	Namibia
CD	Congo, Dem. Rep.	NE	Niger
CF	Central African Republic	NG	Nigeria
CG	Congo, Rep.	NI	Nicaragua
CH	Switzerland	NL	Netherlands
CI	Cote d'Ivoire	NO	Norway
CL	Chile	NP	Nepal
CM	Cameroon	NZ	New Zealand
CN	China	PA	Panama
CO	Colombia	PE	Peru
CR	Costa Rica	PG	Papua New Guinea
CU	Cuba	PH	Philippines
CY	Cyprus	PK	Pakistan
CZ	Czech Republic	PL	Poland
DE	Germany	PT	Portugal
DK	Denmark	PY	Paraguay
DM	Dominique	RO	Romania
DO	Dominican Republic	RU	Russian Federation
DZ	Algeria	RW	Rwanda
EC	Ecuador	SC	Seychelles
EE	Estonia	SE	Sweden
EG	Egypt, Arab Rep.	SG	Singapore
ES	Spain	SI	Slovenia
ET	Ethiopia(excludes Eritrea)	SK	Slovak Republic
FI	Finland	SL	Sierra Leone
FJ	Fiji	SN	Senegal
GA	Gabon	ST	Sao Tome and Principe
GB	United Kingdom	SV	El Salvador
GD	Grenade	SY	Syrian Arab Republic
GH	Ghana	TD	Chad
GM	Gambia, The	TG	Togo
GN	Guinea	TH	Thailand
GQ	Equatorial Guinea	TN	Tunisia
GR	Greece	TR	Turkey
GT	Guatemala	TT	Trinidad and Tobago
GY	Guyana	TW	Taiwan
GW	Guinea-Bissau	TZ	Tanzania
HK	Hong Kong, China	UA	Ukraine
HN	Honduras	UG	Uganda
HR	Croatia	US	United States
HT	Haiti	UY	Uruguay
HU	Hungary	UZ	Uzbekistan
ID	Indonesia	VC	Saint-Vincent and the Grenadines
IE	Ireland	VE	Venezuela
IL	Israel	VN	Vietnam
IN	India	YE	Yemen
IR	Iran, Islamic Rep.	ZA	South Africa
IS	Island	ZM	Zambia
IT	Italy	ZW	Zimbabwe
JM	Jamaica	LB	Lebanon
JO	Jordan	KZ	Kazakhstan
JP	Japan	KR	Korea, Rep.
KE	Kenya	KN	Saint-Kitts and Nevis
KG	Kyrgyz Republic	KH	Cambodia