

Services versus Goods Trade: Are They the Same ?

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Abstract

In this paper we compare static and dynamic features of trade in goods and trade in services at the micro level. By using data from the same country, Belgium, and by making use of a common definition of transaction, we are able to enrich the existing qualitative comparisons with quantitative insights and to fill the existing gap in the literature. First, we analyze static features of trade such as participation rates, firms characteristics, heterogeneity, concentration and trade variation. Then, we explore dynamic aspects focusing on entry, exit, survival and growth strategy in foreign markets. From a static perspective, our results reveal that there are limited qualitative differences between trade in goods and trade in services and even the quantitative ones do not justify the need of different theoretical models. In the time dimension instead, some key peculiarities of services offer new insights for differentiating between the two.

Keywords: Trade in Services, Trade in Goods, Trade Dynamics.

JEL Classification: F10, F14, L80.

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1 Introduction

For a long time, international trade has been solely associated to the commerce of manufactured goods, but services have in fact become increasingly traded over time and today goods and services represent two equally important components of world trade. Accordingly, the international trade literature has recently begun exploring trade in services under different perspectives in a bid to understand the specific patterns of this new form of trade. Starting from the observation that services and goods have very different characteristics,¹ the purpose of this stream of research has been to understand to what extent existing theoretical models can be applied to services. Surprisingly, all studies using firm-level trade data² find that the two types of trade share many common features³ and only few, if any, differences. Based on this evidence, the conclusion of Breinlich and Criscuolo (2011) is that current models focusing on firm heterogeneity for trade in goods⁴ represent a solid building block for a theory of trade in services. There are, however, two relevant limitations to this conclusion. First, the datasets used in previous studies have either very limited information or none at all on firms trading goods.⁵ Therefore, any similarity drawn remains qualitative and usually related to evidence on trade in goods in different papers and countries. Second, little attention has been provided in the comparison between the dynamics of trade in goods and trade in services. As a consequence, a definite choice among the different frameworks describing trade dynamics⁶ is not yet possible for services.

In this paper, we use a very detailed dataset from the National Bank of Belgium (hereafter NBB) on export and import transactions of Belgian firms to present a comparison of static and dynamic features of trade in goods and trade in services. First, we focus on the static characteristics of trade and we analyze trade participation, the characteristics of the firms engaging in trade and the size, composition, concentration and heterogeneity of firms' trade flows. Second, we explore trade dynamics, looking at entry, exit and survival in foreign markets, and comparing firms' growth strategies during their export and import life. One contribution of this paper is to compare features of trade in goods and trade in services at the micro level using data for the same country, Belgium, and using a common definition of transaction. Therefore, we are able to complement the existing qualitative comparisons with quantitative insights. The second contribution is to provide a comprehensive and comparable analysis of trade dynamics

¹The World Trade Organisation (2010) observes that services are intangible and their nature makes trade in services subject to more constraints than trade in goods. Product characteristics are observable before purchase and they can be produced, stored, moved and consumed in different locations and times. Services instead are not storable, their characteristics are not observable before purchase and production and consumption often coincide.

²Breinlich and Criscuolo (2011) for the UK, Kelle and Kleinert (2010) for Germany, Walter and Dell'mour (2010) for Austria, Gaulier et al. (2011) for France and Federico and Tosti (2012) for Italy

³like trade participation by a few firms only, high concentration, variation and heterogeneity across traders and the gravity model.

⁴Like Melitz (2003) and Bernard et al. (2011) among others.

⁵Kelle and Kleinert (2010), Federico and Tosti (2012) do not have any information on trade in goods, Breinlich and Criscuolo (2011) has information on trade in goods only for two years and only for exports and Walter and Dell'mour (2010) Gaulier et al. (2011) have information on trade in goods, but they do not exploit it.

⁶Such as Das et al. (2007), Araujo et al. (2012) and Eaton et al. (2012) to name some.

for both goods and services by decomposing firms' trade growth into the growth of its margins.

In a nutshell our findings are as follows. From a static perspective there are no qualitative differences between trade in goods and trade in services and the quantitative differences are often a matter of small magnitudes. Some sizable differences arise in terms of the frequency of transactions as well as in terms of transaction values. However, in terms of static trade models featuring firm heterogeneity and trade costs, like Melitz (2003) and Bernard et al. (2011) among others, such differences are not directly relevant. When turning to the time dimension, we find instead some reasons to differentiate trade in goods and trade in services from a theoretical perspective. Service trade is different from trade in goods because is characterized by a much stronger scope for increase over the client margin, i.e., the number of foreign partners a firm trades with. Therefore, differently from trade in goods, the expansion of firm exports in a market is not much due to learning about a specific foreign partner as in Araujo et al. (2012) but more learning about potential clients and their preferences as in Eaton et al. (2012).

This paper is related to the international trade literature in three ways. First, it complements the static qualitative evidence of the existing empirical firm-level studies on trade in services in Breinlich and Criscuolo (2011), Kelle and Kleinert (2010), Walter and Dell'mour (2010), Gaulier et al. (2011) and Federico and Tosti (2012) with evidence at the quantitative and dynamic level. Second, it describes two novel dimensions of the empirical literature on trade that examines the features of firm-level trade:⁷ on the one hand, we are able to analyze all possible trade options a firm can exploit when facing foreign markets, i.e. both import and export and both services and goods trade; on the other hand, this paper shows the importance of the transaction margin in understanding the variation of trade both across firms and over time.⁸ Third, this paper offers some new insights to dynamic theoretical models like Araujo et al. (2012), Eaton et al. (2012), Rauch and Watson (2003), Albornoz et al. (2012), Freund and Pierola (2010), Lawless (2009) and Buono et al. (2008) in order to account for the specificities of services trade.

The paper is organized as follows. In Section 2 we describe the data. Section 3 is devoted to the static analysis and comparison of trade in goods and trade in services while in Section 4 we consider dynamic aspects. Finally Section 5 summarizes our findings and suggests future avenues for research.

2 Data

The analysis set out in this paper benefits from three extremely rich datasets provided by the National Bank of Belgium (hereafter NBB). The first is the NBB Trade Database, which includes imports and exports of goods made by Belgian firms over the period 1995-2010. The data provided by the NBB is organized at month-year-firm-product-country level: for every month and year, we have firm-level information on the values of imports and exports by product type and by partner-country. Moreover, we

⁷Like Bernard and Jensen (1995, 1999), Muûls and Pisu (2009), Mayer and Ottaviano (2007), Eaton et al. (2004, 2011), Bernard et al. (2009b) and Manova and Zhang (2009) among others.

⁸Eaton et al. (2008) introduce the transaction dimension only in a static setting and only for trade in goods and they find that it is the most important source of export variation across firms trading goods. Bernard et al. (2009a) have the information on transactions but they do not exploit it.

have information on the number of transactions made in that month-year for the firm-country-product triple, the unit value of the good, the quantities shipped and if the information comes from the Intrastat (Intra-European) or Extrastat (Extra-European) declarations. Firms are uniquely identified via their VAT number, products are classified following the 8-digit Combined Nomenclature (CN8) while for countries we have ISO 2-digit codes. For the purpose of this paper, we focus on transactions involving a change in ownership only. In this way, we get rid of transactions referring to movement of stocks, replacement or repair of goods, processing of goods, returns and transactions without compensation. Similarly to other trade data at firm-level,⁹ the requirement for observing a firm-level flow is reasonably low. In particular, firms trading with extra-EU countries have to declare to the NBB any transaction exceeding 1,000 Euros and this threshold has remained stable over time. Firms trading with EU countries instead were obliged to declare their transactions only if their exports or imports on the previous year were above 104,115 Euros. This threshold increased to 250,000 Euros after 1998 and to 1,000,000 Euros for exports and 400,000 Euros for imports after 2006.¹⁰

The second piece of information is the NBB dataset on trade in services which was collected from 1995 to 2005 in order to compile the Balance of Payments (BoP). Over that period Belgian firms were obliged to declare to the NBB any service transaction above 12,500 Euros (9,000 Euros from 1995 to 2001) in which the counterpart was a foreign entity, without any difference between intra-EU and extra-EU trade. As in the case of goods, the service dataset provided by the NBB is organized at a month-year-firm-product-country level. We can track firms through their VAT code, service products are classified following the BoP classification (see Table 1), the destination or origin country is determined via ISO 2-digit codes and we have information on the value and the number of transactions made. We drop transactions referring to “*Merchanting*” and “*Services between Related Enterprises*” from this dataset because their definition in the NBB classification does not uniquely identify trade in services and includes also values of the goods involved. The definition of trade in services is based on the residence status as in the International Monetary Fund (1993) Balance of Payments Manual (5th ed.) and the data includes modes one, two and four of trade in services as defined in the General Agreement on Trade in Services (GATS).¹¹ However, our dataset does not distinguish among these different trade modes.

The main challenge to make information on trade in goods and trade in services fully comparable is represented by the differences in the cut-off thresholds. Since we are going to analyze dynamic issues, we need a common cut-off definition constant across goods and services and over time. Two solutions can be implemented: the

⁹For example the French dataset used in Eaton et al. (2011) and Mayer and Ottaviano (2007) among other papers.

¹⁰For more details on this dataset see Muûls and Pisu (2009) and Behrens et al. (2012) Mion and Zhu (2013) and Bernard et al. (2010).

¹¹The GATS defines four modes of trade in services: mode 1 (Cross-Border) is when a service is produced in one country and consumed in the territory of another country. Mode 2 (Consumption Abroad) is when the service is consumed in the territory in which it has been produced by the resident of another country. Mode 3 (Presence Abroad) is when the service is provided by a supplier through the commercial presence in the country of the consumer. Mode 4 (Presence of Natural Person) is when a supplier provides the service in another country sending one or more employees to that country. For examples refer to Ariu and Mion (2012) and Breinlich and Criscuolo (2011).

first would be to apply the rule for intra-EU goods trade and exclude all firms that did not export/import at least 250,000 Euros the year before; the second would be to focus only on extra-EU trade and impose a minimum threshold of 12,500 Euros to all transactions for both goods and services. The problem with the first option is that we would not be able to properly apply the rule to trade in services because we are only able to observe transactions above 12,500 Euros.¹² Moreover, in this way, we would lose track of many small exporters which would be a considerable limitation in the analysis of trade dynamics. Therefore, we opt for the second one and focus the analysis of this paper on extra-EU trade.¹³ One last step to make services and goods trade comparable is to use the CN goods product classification at 2-digit level (CN2). In this way, the definition of what is a goods product using the CN2 classification is as narrow as the definition of a service product in the BoP classification.¹⁴ In order to keep the dimension of the dataset manageable and avoid any seasonality issue, we collapse the data at the firm-year level. Therefore, for any given firm-year we know for both services and goods trade the export (import) values, the number of products or services exported (imported), the number of export (import) partner-countries and the number of export (import) transactions made. Finally, we attach to this dataset balance-sheet information on Belgian firms over the period 1995-2005 coming from the Business Registry covering the population of firms required to file their (unconsolidated) accounts to the NBB.¹⁵ The resulting dataset includes all firms registered in Belgium having limited liability which means around 200,000-300,000 firms per year, for a total of about 3 million observations over our time frame. When compared to most of the firm-level datasets used in the literature, this is particularly good in terms of coverage, since we have almost every firm operating in Belgium and a long time span. Moreover, this is the only available dataset with information on transactions' values and number for both goods and services and both for imports and exports.¹⁶

¹²If we were able to observe transactions below 12,500 Euros we would certainly end up with a different set of trading firms satisfying the 250,000 Euros cutoff computed on the sum of all transactions made in an year.

¹³In order to check whether the exclusion of intra-EU trade substantially affects our findings the results, we applied the same analysis also including EU trade. All the results remain broadly confirmed, indicating the fact that the findings of the paper are not specific to the way firms trade with extra-EU countries.

¹⁴Using this rule, we count 90 goods products and 49 service products.

¹⁵For any firm-year, we get information on firms' main sector at NACE 5-digit level, the foundation year and annual accounts figures such as employment, turnover, value added, physical capital, intangible capital and wage. For more information on this dataset refer to Behrens et al. (2012) and Muûls and Pisu (2009).

¹⁶The novelty of using transaction data raises the need for clarification on precisely what a transaction is in our datasets. In general, in this paper, a transaction is defined as the registration by the NBB of a credit (export) or a debt (import), above 12,500 Euros, between a Belgian firm and a non-EU firm, arising from the transfer of ownership of a good in the case of trade in goods and the provision of a service in the case of trade in services. More specifically, both for goods and services the collection system is declaration-based, and for trade in goods is represented by the declaration of an outgoing (export) or an incoming (import) shipment of products made to the Belgian Customs Authority (that passes on the information to the NBB). For trade in services, a transaction is defined by a declaration made to the NBB about the collection of a credit (export) or the solvency of a debt (import) related to the provision of a service. This can be direct, when the Belgian firm makes the declaration directly to the NBB, or indirect, when the declaration is made by the financial institution that is involved in

3 Static Analysis

In this Section we provide a comparison of static features of trade in goods and trade in services at the micro level using data for the very same country. As outlined in Section 2, the data we construct allows us to properly contrast these two types of trade so enriching the existing qualitative comparisons with quantitative insights. In the spirit of the previous literature describing trade at firm level, we focus our attention on trade participation, the characteristics of firms engaging in trade, trade margins and their contribution to trade flows variation across firms, as well as degree of concentration of such trade flows. The key insight from our analysis is that, from a static perspective, there are not relevant qualitative differences between trade in goods and trade in services and the quantitative differences are often a matter of small magnitudes. Some sizable differences arise in terms of the frequency of transactions as well as in terms of transaction values. However, in terms of static trade models featuring firm heterogeneity and trade costs, like Melitz (2003) and Bernard et al. (2011) among others, such differences are not directly relevant.

3.1 Trade Participation

We start our analysis by looking at the participation of firms in export and import activities separately. In this way, we can distinguish in Table 2, panel a, firms that export only goods (*Goods Exporters*), those that export only services (*Service Exporters*), those that export both (*Bi-Exporters*) and those that do not export at all (*Non-Exporters*). Panel b presents the same type of classification for imports.

The first important result that emerges from Table 2 is that, even if we account for services exporters, the percentage of firms that engages in export activities remains a minority of the total number of firms, only 4.16%, very close to the estimates of Bernard et al. (2007) and Bernard et al. (2009b) when considering only trade in goods. The participation of firms in service exports is rarer than for goods, with only about 20% of exporters selling services abroad. When considering that more than 70% of domestic production is represented by services (Duprez, 2011) and about 80% of firms belong to the services sector, the low participation of service traders becomes even more impressive. This can be interpreted as a signal that introducing services in international markets is a relatively more difficult activity. Several factors can explain why trading services in foreign countries is rarer than trading goods: fixed costs, variable costs and the intrinsic lower tradability of services. Higher fixed costs of exporting and importing services would imply a more severe selection process allowing fewer firms to enter the export and import market, making service trading more elitist than trade in goods. Examples of this types of costs can be the acquisition of special certifications, the inscription to particular registers or market restrictions (as in the case of telecommunications). Higher variable costs might be related, for instance, to the impediments

the execution of the transaction. The NBB defines the list of companies that should declare directly, for the other firms not on the list, the financial institution involved in the transaction collects and sends the information to the NBB. In the rest of the paper we will refer to the number of transactions or equivalently to the frequency of trade as the number of transactions performed by a firm over one year.

of freely moving people due to visa requirements (which can require money and time) or the obligation to follow specific schemes imposed by professional associations. The lower tradability of services instead relates to the specific nature of some services which make them hardly tradable. Examples are hairdressers and janitorial services.

The second result of Table 2 is that, among exporters, 5.09% of them export both goods and services, and, even if few, they account for 30% of total exports (4.85% being services and 25.14% goods). Therefore, these *Bi-Exporters* make a much bigger contribution to total trade than any other category of exporters. A similar pattern can be observed for imports in panel b of Table 2. In Table 3, we merge information on exports and imports in order to classify firms taking into account all four trade options they can exploit. Even by accounting for exports and imports together, the share of firms engaging in international markets remains fairly small at 6.62%. Looking at total exports of services in Table 4 (Panel a), we see that they are mostly concentrated in the hands of firms simultaneously importing and exporting services: 86.34% for exports and 83.85% for imports. Looking at goods trade (Panel b) the picture looks very similar: imports and exports are in the hands of firms that simultaneously export and import goods with a share of 83.52% for exports and 84.72% for imports. Moreover, we observe that 48.22% of services exports is carried out by firms that do not trade goods at all and 51.88% by firms that trade also goods. At the same time, 53.36% of goods exports is in the hands of firms that do not trade services at all and 46.64% by firms that trade services too.

3.2 Firms' Characteristics

In this sub-section, we explore whether firms engaging in different trade activities differ in terms of standard observables: employment, turnover, labor productivity, average wages, capital intensity, intangible capital intensity and age.¹⁷ We follow the strategy of Bernard and Jensen (1999) and regress these firm-level characteristics against dummies identifying the different categories of traders along with industry-year dummies. Far from capturing a causal link, this type of analysis is simply meant to provide descriptive evidence. We build on the same categories used in Table 2 and provide estimations of dummies indicating firms that export (import) only goods, only services, or both services and goods. The reference category in our analysis is represented by firms that do not export (import) at all.

Table 5 reports our results; panel a for exports and panel b for imports. With few exceptions, we find that *Bi-Exporters* (*Bi-Importers*) display higher premia with respect to both *Non-Exporters* (*Non-Importers*) and other trading firms. At the same time *Services Exporters* (*Services Importers*) are often associated to higher premia than goods traders. The signs and magnitudes of the premia corresponding to goods and service traders are comparable with previous studies and they suggest that differences across goods and services while being significant they are not too important. In order to more finely characterize differences across firms in terms of the scope of their trading activities we consider together export and import participation. Following the classification in

¹⁷Employment is in full-time equivalents, average wage is computed as total wage bill over the number of workers, capital intensity is computed as total physical assets over the number of workers and intangible capital intensity as intangible assets over the number of workers.

Table 3 we end up with 16 traders categories each associated to a different dummy variable and the reference category being represented by firms that do not trade at all. Results in Table 6 suggest that there is a premia ranking among firms based on how many trade options they use. Firms using all four trade options (importing and exporting both services and goods) display a higher premium with respect to non-traders than firms using three, two or one option. Such evidence is consistent with results in Table 5 but refers to a finer level of analysis.

The results of this sub-section highlight the fact that firms choosing different trade activities (export versus imports and goods versus services) represent different types of firms in terms of the standard observable characteristics such as size and productivity. At the same, the ranking in terms of labour productivity suggests that higher fixed costs for services might be a plausible explanation for the lower participation of firms to trade in services.

3.3 Trade Margins at the Firm Level

In this subsection, we analyze whether firm-level flows show systematic differences across goods and services for different categories of firms. We consider trade margins in the same spirit of Bernard et al. (2009a) and decompose (for goods and services separately) exports (Exp_{ft}) and imports (Imp_{ft}) made by firm f at time t into the product of the number of products p_{ft} , number of countries c_{ft} , density d_{ft} , number of transactions tr_{ft} and average transaction value \bar{x}_{ft} . Analytically:

$$Exp_{ft} = p_{ft} * c_{ft} * d_{ft} * tr_{ft} * \bar{x}_{ft} \quad Imp_{ft} = p_{ft} * c_{ft} * d_{ft} * tr_{ft} * \bar{x}_{ft}, \quad (1)$$

where the density, d_{ft} is computed by counting the number of country-product pairs effectively served by the firm over the total possible amount ($p_{ft} * c_{ft}$) and \bar{x}_{ft} is defined as firm exports (imports) value over the product between the number of country-product pairs effectively served and the number of transactions made by firm f at time t . With this decomposition, we have four extensive margins (number of transactions, number of markets, number of products and density) and one intensive margin (the average transaction value per market and product effectively served). Results in Table 7 suggest that differences between goods and services flows are qualitatively and quantitatively similar across our 16 traders categories suggesting that firms' observables are not key to understand them.

The overall picture emerging is the following. Firm exports (imports) of services are on average smaller than trade in goods. This is given by a composition effect: firms exporting or importing goods trade more products in more destinations with more transactions. Services' traders instead have less geographically widespread exports and imports, fewer products and use fewer transactions. However, the transaction value is larger for services than for goods. This difference in the number of transactions and transaction values between goods and services likely reflects the fact that goods can be easily delivered in chunks via different shipments, so transaction values tend to be small while the number of transactions tends to be large. Services instead represent a continuous flow, so transaction values tend to be large and the number of transactions small. In the next session we continue exploring and discussing the differences arising

from these two dimensions.

3.4 Margins' Variation Across Firms

In order to understand how important is a specific margin in explaining variation of trade flows across firms we use again the decomposition in equation (1) and, following Bernard et al. (2009a), we separately regress via OLS the logarithm of each margin against the logarithm of firm-level trade flows as well as industry-year fixed effects. We do this separately for exports and imports as well as for services and goods trade. Each regression provides a coefficient representing the contribution of each margin to the across-firms variation in export and import values.

Looking at the results in Table 8 one can appreciate that the biggest source of variation across firm-level flows is given by the number of transactions, which means that big exporters (importers) differ from small ones mainly because of a difference in the number of transactions they make over a year. The contribution to the total variation looks very similar for goods and services, with big exporters trading more products, in more partner countries, making more transactions and having a smaller density than small traders. However, there is a noticeable difference in terms of transaction size. While big traders of goods tend to make smaller transactions than small goods traders, the opposite holds for services.

It is certainly important to mark out these differences in terms of size and frequency of transactions highlighted in the last two subsections and study them further. However, in terms of static trade models featuring firm heterogeneity and trade costs, like Melitz (2003) and Bernard et al. (2011) among others, such differences are of little relevance. This is because they analyze export participation at the firm-product-country dimension without entering into the debate involving the organization of exports and imports in terms of shipment size and frequency.

3.5 Heterogeneity and Concentration of Firm-Level Trade Flows

We finally turn our attention here to the analysis of the degree of heterogeneity and concentration of exported and imported values at the firm-level. In doing so we decompose firms' trade flows values into their different margins and look at how such margins vary across the trade flows values distribution. More specifically, in Table 9 we use the same decomposition of firm-level trade flows values into margins used in the previous sub-sections and compare some key percentiles of the distribution of firm-level services and goods exports and imports values. Looking at the ratio between the 99th and the 1st percentile reveals that goods are much more heterogeneous than services in all margins but average transaction size. Furthermore, for both exports (panel a) and imports (panel b) margins of goods and services look very similar when considering low percentiles while suddenly diverging when reaching top percentiles. In particular, top goods traders look much bigger than services traders with the latter not reaching as high volumes, partner countries and products as the former.

By using cumulated shares of total trade corresponding the same percentiles we analyze in Table 10 concentration of trade values among firms. We find that the top percentile is accountable for a share of total trade of more than 60% for goods and

about 50% for services. In order to better characterize concentration, in Tables 11 and 12 we further classify firms in terms of how many products they trade and how many countries they reach. Again, results look quite similar between goods and services even though there are clearly fewer firms exporting and importing more than five products to more than five markets for services than for goods. This result highlights again the fact that services traders tend to be more sluggish in the expansion of their portfolio of services and markets.

4 Dynamic Analysis

Having analyzed the static characteristics of trade in goods and trade in services, we switch in this paragraph to the analysis of dynamic aspects, highlighting similarities and differences across services and goods trade. The goal is to understand how firms start exporting and importing and how they grow and expand in foreign markets. Accordingly, we analyze first entry, exit and survival in foreign markets and then firms growth strategies.

It is specifically in this crucial dimension, time, that we find some reasons to differentiate trade in goods and trade in services from a theoretical perspective. Service trade is different from trade in goods because characterized by a much stronger scope for increase over the client margin, i.e., the number of foreign partners a firm trades with. Therefore, differently from trade in goods, the expansion of firm exports in a market is not much due to learning about a specific foreign partner as in Araujo et al. (2012) but more learning about potential clients and their preferences as in Eaton et al. (2012).

4.1 Entry, Exit, and Survival in Foreign Markets

How many new trading firms do we observe every year? Table 13 shows that every year on average 43% of service exporters (42% for service importers) are firms that were not exporting (importing) in the previous year. For trade in goods the share of new exporters (importers) is lower, 31% (28%), suggesting that for services trade there is relatively more action going on in the time dimension. This result does not come unexpectedly, given the rapid expansion of service trade over our time frame. Similarly, by looking at the number of firms that stop exporting or importing, we observe that also exit rates are higher for services exporters (importers) with an average of 36% (35%) of firms that do not export (import) services the following year compared to 27% (24%) for goods exports (imports). For both service and goods trade, however, the share of entrants is larger than the share of exiters leading to a net increase in the number of trading firms which is stronger for services.¹⁸

How do these new firms enter in foreign markets? In Table 14, we differentiate new exporting (importing) firms in terms of the number of countries they trade with

¹⁸Taking into account re-entries (firms that stop exporting/importing for one year and then restart trading the year after) as well as firms that bounce around the cut-off threshold slightly lowers entry and exit shares in Table 13 while not changing the magnitude of the difference between goods and services trade.

and the number of products involved. We find that almost 80% of new service traders export or import a single service in a single market (*Singles*) and account on average for slightly less than 30% of new entrants' trade in the year of entry. For goods trade *Singles* exporters and importers represent a similar share, above 70%, but account for only 8% (15%) of new entrants' exports (imports). At the other extreme *Star* new traders, i.e., firms who from the start export (import) multiple products to (from) multiple countries, are more frequent among goods traders and represent a higher share of new entrants' trade for goods as compared to services. For example, goods *Star* new exporters account for 10% of new exporting firms and 61% of new exporters' trade in the year of entry. Similar insights are provided by Table 15 where we differentiate exiters in terms of the number of countries they trade with and the number of products involved. By comparing Tables 14 and 15 it is important to highlight that in terms of export and import contribution, every category of exiters contributes to total trade less than the corresponding category of exporters or importers in Table 14, therefore, there is also a net increase over time in terms of traded values thanks to the entry and exit turnover.

Table 16 reports the share of firms that continue operating in foreign markets t years after starting to export/import. One year after starting to trade in foreign markets only 36% (39%) of service exporters (importers) are still trading. After nine years, only 3% of the initial number of new service exporters and importers survive. Looking at goods trade, the numbers are considerably higher: after one year 46% (50%) of exporters (importers) survive while after 9 years figures go down to 6% (8%). Survival rates after nine years are thus less than half in service trade as compared to goods trade. This is a remarkable feature that we follow up in the next sub-section by looking at how export values grow over time.

4.2 Growth Paths

In Table 17 we look at the firm-level exports and imports and their margins defined in equation (1) during the export and import maturity of the firm, defined as the number of years elapsed since the firm started exporting goods (panel a) or services (panel b) or importing goods (panels c) or services (panel d). In order for numbers to be comparable across time we follow the same cohort of entrants: those who started trading in 1996, for which we have the longest available time span: 9 years with zero corresponding to the entry one.¹⁹

Services and goods exporters (importers) both start with relatively small values, two to four times smaller than the average trader,²⁰ but after nine years they grow up to a factor of six and sell significantly more than the average exporter (importer). This rapid growth comes in part from the usual suspects. Firms on average sell more product to more countries over time. However, the biggest source of variation over time is the number of transactions which in the case of service exports scores a record multiplier seven with respect to the year of entry. Average transaction values actually tend to decrease over time across the board but transactions number more than compensate for

¹⁹In this way, we avoid the exported (imported) values for the first cohort being averaged with those of the later cohorts for which we do not have any meaningful way to correct for inflation.

²⁰We refer to the average total firm exports and imports in Table 7.

this. This is in line with Bernard et al. (2009a) and Buono et al. (2008) who find that the main source of goods export growth in the short run is represented by an increase in the average exports per firm, market and product and further qualifies their results in that such increase is crucially determined by a rise in transactions' number.

This important increase in the number of transactions can be the consequence of an increase in the number of interactions with existing customers and/or an increase in the number of customers. However, given the magnitudes at stake and the fact that the transaction values do not tend to rise, it is likely that the second component is the most important in our results. This new margin of trade, the client margin in the terminology of Ottaviano and Volpe Martincus (2013), is being subject to a very recent interest spurred by the availability of micro trade data allowing to identify the foreign partner like Bernard et al. (2013) for Norway and Ottaviano and Volpe Martincus (2013) for some Latin America countries. Our insight to this small but certainly growing literature is that, to the extent our results are driven by the client margin, service trade is different from trade in goods because characterized by a much stronger scope for increase over this margin. Therefore, differently from trade in goods, the expansion of firm exports in a market is not much due to learning about a specific foreign partner as in Araujo et al. (2012) but more learning about potential clients and their preferences as in Eaton et al. (2012).

5 Conclusions

In this paper we have provided a detailed comparison of static and dynamic features of trade in goods and trade in services at the firm level. By using data from the same country, Belgium, and by making use of a common definition of transaction, we have been able to enrich the existing qualitative comparisons with quantitative insights. From a static perspective our results show interesting differences between services and goods in terms of transaction values and numbers. However, these are not directly relevant for actual theoretical models of trade. Besides from this, we do not observe significant qualitative or quantitative differences across goods and services that justify modifications of the actual theoretical frameworks in order to describe cross-sectional features of trade in services. Instead, when analyzing trade dynamics we have highlighted that services' growth is characterized by a much stronger scope for increase over the client margin than trade in goods. Therefore, dynamic trade models for services should put more emphasis in the role of learning about potential clients and their preferences as in Eaton et al. (2012) than to learning about a specific foreign partner as in Araujo et al. (2012). More in general, our results reveal the importance of the transaction margin in order to understand static and dynamic features of trade.

This paper represents a further advance in the understanding of the differences across goods and services trade and, more generally, of trade characteristics and trade dynamics. However, more research is still needed in order to have a more complete picture of the patterns of trade in services. In particular, more attention should be paid to the role of trade costs for services, in order to understand which specific forces hamper services flows. Besides, more research is needed in order to gain a better understanding of the cost and production structure of firms trading services. Finally,

more work should be done in the direction of analyzing separately the four modes of services trade, in order to understand the dynamics of services that do not require personal interaction versus those that require human proximity. The answer to all these questions would provide a more complete understanding of the services sector and services trade, and it would arm policy-makers with new instruments to better master the liberalization of services trade.

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Table 1: List of Services in the Balance of Payments

Number	Name	Code	Number	Name	Code
1	Transportation	205	<i>5.4</i>	<i>Re-Insurance</i>	257
<i>1.1</i>	<i>Sea Transport</i>	206	<i>5.5</i>	<i>Auxiliary Services</i>	258
1.1.1	Passengers	207	6	Financial Services	260
1.1.2	Freight	208	7	Computer and Information Services	262
1.1.3	Other	209	<i>7.1</i>	<i>Computer Services</i>	263
<i>1.2</i>	<i>Air Transport</i>	210	<i>7.2</i>	<i>Information Services</i>	264
1.2.1	Passengers	211	8	Royalties and License Fees	266
1.2.2	Freight	212	9	Business Services	268
1.2.3	Other	213	<i>9.1</i>	<i>Merchandising and other trade-related activities</i>	269
<i>1.3</i>	<i>Other Transport</i>	214	9.1.1	Merchandising	270
1.3.1	Passengers	215	9.1.2	Other Trade-Related Activities	271
1.3.2	Freight	216	<i>9.2</i>	<i>Operational Leasing Services</i>	272
1.3.3	Other	217	<i>9.3</i>	<i>Miscellaneous Business, Professional and Technical Activities</i>	273
2	Travel	236	9.3.1	Legal, Accounting, Management, Consulting and Public Relations	274
<i>2.1</i>	<i>Business Travel</i>	237	9.3.2	Advertising, Market Research, and Public Opinion Polling	278
<i>2.2</i>	<i>Personal Travel</i>	240	9.3.3	Research and Development	279
2.2.1	Health-related	241	9.3.4	Architectural, Engineering and Other Technical Services	280
2.2.2	Education-related	242	9.3.5	Agricultural, Mining, and Other On-Site Processing Services	281
2.2.3	Other	243	9.3.5.1	Waste Treatment and De-pollution	282
3	Communication Services	245	9.3.5.2	Agricultural, Mining, and Other On-Site Processing Services	283
<i>3.1</i>	<i>Postal and courier services</i>	246	9.3.6	Other Business Services	284
<i>3.2</i>	<i>Telecommunication services</i>	247	9.3.7	Services between Related Enterprises	285
4	Construction Services	249	10	Personal, Cultural and Recreational Activities	287
5	Insurance Services	253	<i>10.1</i>	<i>Audiovisual and Related Services</i>	288
<i>5.1</i>	<i>Life Insurance and Pension Funding</i>	254	<i>10.1</i>	<i>Other Personal, Cultural and Recreational Activities</i>	289
<i>5.2</i>	<i>Freight Insurance</i>	255	11	Governmental Services	291
<i>5.3</i>	<i>Other Direct Insurance</i>	256			

Note: List of Services present in the Balance of Payments. We exclude “Merchandising” (code 270, in bold) and “Services between Related Enterprises” (code 285, in bold) because they can not genuinely be considered as trade in services in the NBB dataset.

Table 2: Trade Participation, Export and Import Separately

Panel a: Exports				
	Services	Goods		Non-
		Bi-Exporters		Exporters
Share of firms	0.77%	0.21%	3.18%	95.84%
Share of Exporters	18.41%	5.09%	76.50%	
Share of Exports	8.19%	4.85%	25.14%	61.83%
Number of firm-years	23,327	6,447	96,910	2,920,621
Panel b: Imports				
	Services	Goods		Non-
		Bi-Importers		Importers
Share of Firms	0.67%	0.36%	3.21%	95.75%
Share of Importers	15.78%	8.55%	75.67%	
Share of Imports	6.16%	5.89%	37.44%	49.18%
Number of firm-years	20,417	11,065	97,920	2,917,903

Note: this table represents separately for exports (Panel a) and Imports (Panel b) and for each category of firm (firms exporting (importing) only services (Services), both services and goods (Bi-Exporters or Bi-Importers), only goods (Goods) and for Non-Exporters (Non-Importers)) 1) the share of firms with respect to the total number of firms 2) the share of exporters or importers with respect to the total number of exporters or importers and 3) the share of total exports or imports. The unit of observation is a firm-year.

Table 3: Trade Participation, Exports and Imports Together

All Firms						Traders Only						
Goods Trade		Services Trade						Services Trade				
		E	I	E-I	D	Tot		E	I	E-I	D	Tot
	E	0.06%	0.06%	0.03%	1.86%	2.01%	E	0.94%	0.86%	0.49%	28.11%	30.40%
	I	0.03%	0.08%	0.03%	2.05%	2.20%	I	0.52%	1.16%	0.52%	30.98%	33.18%
	E-I	0.04%	0.18%	0.07%	1.08%	1.38%	E-I	0.66%	2.69%	1.11%	16.36%	20.81%
	D	0.45%	0.34%	0.24%	93.38%	94.41%	D	6.84%	5.09%	3.67%		15.61%
	Tot	0.59%	0.65%	0.38%	98.37%	100.00%	Tot	8.96%	9.80%	5.79%	75.44%	100.00%

Note: the left table represents the share of Exporters (E), Importers (I), Exporters and Importers (E-I) and Domestic (D) firms in terms of both goods and services trade as % of the total amount of firms in the dataset. The right table does the same as % of the total number of firms that engages in at least one form of trade.

Table 4: Trade Status and Trade Shares

Panel a: Services											
Total Exports of Services						Total Imports of Services					
Goods	Services					Goods	Services				
	E	I	E-I	D	Tot		E	I	E-I	D	Tot
E	1.15%	-	4.83%	-	5.98%	E	-	0.79%	3.87%	-	4.66%
I	1.27%	-	13.33%	-	14.60%	I	-	1.73%	8.82%	-	10.55%
E-I	1.60%	-	29.60%	-	31.21%	E-I	-	6.37%	32.32%	-	38.69%
D	9.64%	-	38.58%	-	48.22%	D	-	7.25%	38.85%	-	46.10%
Tot	13.66%	-	86.34%	-	100.00%	Tot	-	16.15%	83.85%	-	100.00%
Panel b: Goods											
Total Exports of Goods						Total Imports of Goods					
Goods	Services					Goods	Services				
	E	I	E-I	D	Tot		E	I	E-I	D	Tot
E	0.46%	1.15%	0.38%	14.49%	16.48%	E	-	-	-	-	-
I	-	-	-	-	-	I	0.37%	2.00%	1.17%	11.75%	15.28%
E-I	1.37%	16.59%	26.69%	38.87%	83.52%	E-I	1.88%	18.27%	21.79%	42.79%	84.72%
D	-	-	-	-	-	D	-	-	-	-	-
Tot	1.83%	17.74%	27.08%	53.36%	100.00%	Tot	2.25%	20.27%	22.96%	54.53%	100.00%

Note: panel a represents the share of total exports of services (left side) and imports (right side) for each of the firm categories: Exporters (E), Importers (I), Exporters and Importers (E-I) and Domestic (D). Panel b represents the share of trade of goods for the same categories of firms.

Table 5: Firm Characteristics by Trade Status, Export and Import Separately

	(1) Employment	(2) Turnover	(3) Labor Productivity	(4) Wages	(5) Capital Intensity	(6) Intangible Capital Intensity	(7) Age
Panel a: Exports							
Bi-Exporters	2.5272 ^a (0.027)	4.0915 ^a (0.029)	0.5068 ^a (0.010)	0.5590 ^a (0.007)	0.0139 (0.021)	-0.2114 ^a (0.046)	0.5873 ^a (0.012)
Service Exporters	1.6665 ^a (0.015)	2.7392 ^a (0.016)	0.3655 ^a (0.007)	0.5367 ^a (0.005)	-0.4541 ^a (0.015)	-0.6303 ^a (0.035)	0.4273 ^a (0.007)
Goods Exporters	1.2986 ^a (0.007)	2.4894 ^a (0.007)	0.2961 ^a (0.003)	0.2586 ^a (0.002)	0.0117 ^c (0.006)	-0.5174 ^a (0.017)	0.3066 ^a (0.003)
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.9597 ^a (0.001)	-1.5898 ^a (0.001)	-3.0287 ^a (0.001)	-3.6711 ^a (0.001)	-3.6720 ^a (0.002)	-5.5836 ^a (0.004)	2.0945 ^a (0.001)
Firms-Years	1,386,471	2,053,839	1,348,137	1,384,905	1,346,148	319,606	2,806,572
R-squared	0.1626	0.2050	0.1239	0.1253	0.0869	0.1314	0.0723
Panel b: Imports							
Bi-Importers	2.8403 ^a (0.018)	4.4771 ^a (0.019)	0.5480 ^a (0.008)	0.5760 ^a (0.005)	0.1307 ^a (0.014)	-0.1563 ^a (0.032)	0.5914 ^a (0.009)
Service Importers	1.6701 ^a (0.015)	3.0939 ^a (0.017)	0.3811 ^a (0.008)	0.5424 ^a (0.005)	-0.5612 ^a (0.016)	-0.4588 ^a (0.035)	0.4471 ^a (0.007)
Goods Importers	1.2144 ^a (0.006)	2.2822 ^a (0.007)	0.2630 ^a (0.003)	0.2502 ^a (0.002)	0.0470 ^a (0.006)	-0.5545 ^a (0.017)	0.2969 ^a (0.003)
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.9535 ^a (0.001)	-1.5923 ^a (0.001)	-3.0292 ^a (0.001)	-3.6724 ^a (0.001)	-3.6742 ^a (0.002)	-5.5835 ^a (0.004)	2.0941 ^a (0.001)
Firms-Years	1,386,471	2,053,839	1,348,137	1,384,905	1,346,148	319,606	2,806,572
R-squared	0.1703	0.2097	0.1241	0.1266	0.0872	0.1314	0.0726

Note: Robust Standard errors in parentheses, ^a p<0.01, ^b p<0.05, ^c p<0.1. Every column represent a different regression in which the dependent variable is one of the seven firm characteristics (Employment, Labor Productivity, Average Wage, Average Capital, Intangible Capital and Age) and the independent variables are the dummies identifying firms exporting only services (Service Exporters), firms exporting only goods (Goods Exporters) and firms exporting both (Bi-Exporters) in panel a. In panel b instead the independent variables represent firms that only import services (Service Importers), firms that import only goods (Goods Importers) and firms importing both (Bi-Importers). All regressions include industry-year dummies.

Table 6: Firm Characteristics by Trade Status

	(1) Employment	(2) Turnover	(3) Labor Productivity	(4) Wages	(5) Capital Intensity	(6) Intangible Capital Intensity	(7) Age
4 Trade Options:							
S(ie)G(ie)	3.8996 ^a (0.040)	5.7647 ^a (0.41)	0.6821 ^a (0.015)	0.7307 ^a (0.009)	0.2395 ^a (0.030)	-0.5532 ^a (0.038)	0.7658 ^a (0.010)
3 Trade Options:							
S(ie)G(i)	3.1516 ^a (0.062)	4.7787 ^a (0.064)	0.6043 ^a (0.030)	0.7404 ^a (0.018)	-0.0841 (0.066)	-0.9461 ^a (0.071)	0.6617 ^a (0.015)
S(i)G(ie)	2.9446 ^a (0.022)	4.6725 ^a (0.022)	0.5497 ^a (0.009)	0.5615 ^a (0.006)	0.1634 ^a (0.017)	-0.8417 ^a (0.027)	0.6036 ^a (0.006)
S(e)G(ie)	2.2958 ^a (0.050)	3.8838 ^a (0.049)	0.4749 ^a (0.021)	0.5187 ^a (0.013)	0.0552 (0.041)	-0.9896 ^a (0.053)	0.5202 ^a (0.011)
S(ie)G(e)	2.1872 ^a (0.057)	4.0640 ^a (0.059)	0.5128 ^a (0.027)	0.6502 ^a (0.016)	-0.4134 ^a (0.059)	-0.7525 ^a (0.090)	0.6201 ^a (0.019)
2 Trade Options:							
S(e)G(e)	1.3763 ^a (0.042)	2.7254 ^a (0.043)	0.3727 ^a (0.023)	0.3981 ^a (0.013)	-0.1239 ^a (0.046)	-0.5248 ^a (0.096)	0.3568 ^a (0.015)
S(i)G(e)	1.7954 ^a (0.041)	3.5493 ^a (0.040)	0.5728 ^a (0.023)	0.5085 ^a (0.012)	-0.1391 ^a (0.039)	-0.5764 ^a (0.113)	0.3383 ^a (0.021)
S(e)G(i)	1.9678 ^a (0.064)	3.2725 ^a (0.063)	0.4533 ^a (0.029)	0.5618 ^a (0.019)	-0.1647 ^a (0.059)	-1.0203 ^a (0.082)	0.4660 ^a (0.016)
S(i)G(i)	1.8081 ^a (0.041)	3.3870 ^a (0.041)	0.5086 ^a (0.029)	0.4948 ^a (0.013)	-0.0056 (0.037)	-0.8301 ^a (0.056)	0.4297 ^a (0.012)
S(d)G(ie)	1.7925 ^a (0.009)	3.2310 ^a (0.010)	0.3586 ^a (0.004)	0.3353 ^a (0.003)	0.0558 ^a (0.009)	-0.9859 ^a (0.017)	0.4594 ^a (0.003)
S(ie)G(d)	2.1528 ^a (0.024)	3.6423 ^a (0.025)	0.4107 ^a (0.011)	0.6513 ^a (0.007)	-0.7707 ^a (0.025)	-0.7890 ^a (0.032)	0.5027 ^a (0.006)
1 Trade Option:							
S(d)G(i)	0.9276 ^a (0.008)	1.8941 ^a (0.007)	0.2265 ^a (0.004)	0.2104 ^a (0.002)	0.0410 ^a (0.008)	-0.8521 ^a (0.017)	0.3522 ^a (0.002)
S(d)G(e)	0.8686 ^a (0.082)	1.9907 ^a (0.008)	0.2463 ^a (0.004)	0.1921 ^a (0.003)	-0.0314 ^a (0.009)	-0.7244 ^a (0.027)	0.2224 ^a (0.004)
S(e)G(d)	1.3273 ^a (0.018)	2.1930 ^a (0.019)	0.3372 ^a (0.009)	0.4852 ^a (0.006)	-0.3648 ^a (0.020)	-0.6495 ^a (0.030)	0.2445 ^a (0.004)
S(i)G(d)	1.3555 ^a (0.021)	2.6807 ^a (0.024)	0.3379 ^a (0.009)	0.5026 ^a (0.008)	0.5487 ^a (0.024)	-0.4199 ^a (0.040)	0.2495 ^a (0.007)
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.9179 ^a (0.001)	-1.6500 ^a (0.001)	-3.0389 ^a (0.001)	-3.6816 ^a (0.008)	-3.6709 ^a (0.024)	-5.4221 ^a (0.004)	2.0611 ^a (0.001)
Firms-Years	1,386,471	2,053,839	1,348,137	1,384,905	1,346,148	319,606	2,806,572
R-squared	0.1901	0.2424	0.1273	0.1333	0.0876	0.1457	0.0850

Note: Robust Standard errors in parentheses, ^a p<0.01, ^b p<0.05, ^c p<0.1. Every column represent a different regression in which the dependent variable is one of the seven characteristics (Employment, Labor Productivity, Average Wage, Average Capital, Intangible Capital and Age) and the independent variables are the dummies identifying the different categories of firms defined in Table 3. S and G indicate if the firm is exporting (e) or importing (i) or both (ie) respectively services and goods. All regressions include industry-year dummies.

Table 7: Trade Margins and Trade Status

Panel a: Exports												
	Firm Exports		Transaction Value		Number of Transactions		Number of Products		Number of Destinations		Density	
	G	S	G	S	G	S	G	S	G	S	G	S
4 Trade Options:												
S(ie)G(ie)	51.0210	8.4799	0.0358	0.2053	733.9982	22.8969	3.3189	1.7060	15.5762	3.2390	0.6309	0.8567
3 Trade Options:												
S(ie)G(i)	-	8.0991	-	0.1932	-	23.4370	-	1.5137	-	2.9508	-	0.8892
S(i)G(ie)	13.0939	-	0.0243	-	319.6600	-	2.7069	-	12.2357	-	0.6556	-
S(e)G(ie)	4.4283	0.7772	0.0224	0.1150	91.0339	4.2541	2.1221	1.1779	5.8144	1.4773	0.7767	0.9647
S(ie)G(e)	1.6578	3.1305	0.0542	0.1038	34.8486	18.3208	1.9919	1.4904	2.8910	3.1291	0.8387	0.8840
2 Trade Options:												
S(e)G(e)	1.0407	0.3910	0.0423	0.0683	30.9067	4.4825	1.6742	1.1440	2.5185	1.4756	0.8877	0.9688
S(i)G(e)	2.8238	-	0.0473	-	74.8683	-	1.9194	-	5.1403	-	0.8292	-
S(e)G(i)	-	0.7764	-	0.0995	-	4.4567	-	1.1807	-	1.3387	-	0.9737
S(i)G(i)	-	-	-	-	-	-	-	-	-	-	-	-
S(d)G(ie)	5.0454	-	0.0225	-	120.6926	-	1.8815	-	4.9280	-	0.8331	-
S(ie)G(d)	-	3.3464	-	0.1161	-	17.5136	-	1.4032	-	2.6443	-	0.9084
1 Trade Option:												
S(d)G(i)	-	-	-	-	-	-	-	-	-	-	-	-
S(d)G(e)	1.0945	-	0.0318	-	23.1781	-	1.3054	-	2.2410	-	0.9466	-
S(e)G(d)	-	0.4481	-	0.0875	-	3.6225	-	1.1483	-	1.2661	-	0.9799
S(i)G(d)	-	-	-	-	-	-	-	-	-	-	-	-
Average	4.1459	2.1571	0.0291	0.1082	87.3095	9.8330	1.6408	1.2802	4.0194	1.9045	0.8820	0.9448
Panel b: Imports												
	Firm Imports		Transaction Value		Number of Transactions		Number of Products		Number of Destinations		Density	
	G	S	G	S	G	S	G	S	G	S	G	S
4 Trade Options:												
S(ie)G(ie)	41.4734	8.5017	0.0734	0.0973	313.8323	30.8264	4.0410	2.6605	4.8073	4.4901	0.6313	0.7283
3 Trade Options:												
S(ie)G(i)	4.7249	4.9224	0.3565	0.1045	40.5562	24.4124	1.5165	1.9252	1.5534	3.2488	0.9136	0.8347
S(i)G(ie)	14.3615	0.6924	0.0270	0.0870	220.3752	4.7940	3.1353	1.4779	3.9655	1.7226	0.6758	0.8896
S(e)G(ie)	6.0381	-	0.0289	-	104.1976	-	2.2616	-	2.4147	-	0.8135	-
S(ie)G(e)	-	2.3008	-	0.0610	-	16.9081	-	1.7275	-	3.1846	-	0.8490
2 Trade Options:												
S(e)G(e)	-	-	-	-	-	-	-	-	-	-	-	-
S(i)G(e)	-	0.2692	-	0.0548	-	3.2484	-	1.2932	-	1.4433	-	0.9293
S(e)G(i)	1.5022	-	0.0578	-	27.6631	-	1.5509	-	1.5404	-	0.9202	-
S(i)G(i)	3.6454	0.4353	0.0665	0.0718	59.3110	3.7030	1.8737	1.2451	2.0470	1.2824	0.8767	0.9562
S(d)G(ie)	5.5312	-	0.0362	-	89.7589	-	2.1489	-	2.5487	-	0.8172	-
S(ie)G(d)	-	3.0945	-	0.0920	-	18.0921	-	1.5545	-	2.9149	-	0.8836
1 Trade Option:												
S(d)G(i)	0.8017	-	0.0297	-	22.8509	-	1.5093	-	1.6128	-	0.9220	-
S(d)G(e)	-	-	-	-	-	-	-	-	-	-	-	-
S(e)G(d)	-	-	-	-	-	-	-	-	-	-	-	-
S(i)G(d)	-	0.4159	-	0.0790	-	3.8901	-	1.2233	-	1.4269	-	0.9580
Average	3.9159	1.8733	0.0367	0.0832	60.9327	10.3538	1.8536	1.4924	2.0970	2.1526	0.8696	0.9031

Note: This table reports for each of the categories of traders defined in Table 3 (S and G indicate if the firm is exporting (e) or importing (i) or both (ie) respectively services and goods) firm exports (panel a) and imports (panel b) and their margins defined in (1). Values are in millions of Euros.

Table 8: OLS Trade Decomposition

Margins:	Exports		Imports	
	Services	Goods	Services	Goods
Product	0.0759 ^a	0.1158 ^a	0.1385 ^a	0.1730 ^a
	(0.002)	(0.001)	(0.002)	(0.001)
Country	0.2095 ^a	0.3457 ^a	0.2457 ^a	0.2245 ^a
	(0.003)	(0.001)	(0.003)	(0.001)
Density	-0.0387 ^a	-0.0807 ^a	-0.0835 ^a	-0.0971 ^a
	(0.001)	(0.001)	(0.001)	(0.001)
Transaction #	0.5739 ^a	0.7946 ^a	0.6021 ^a	0.8082 ^a
	(0.003)	(0.002)	(0.003)	(0.002)
Transaction Value	0.1845 ^a	-0.1755 ^a	0.0971 ^a	-0.1087 ^a
	(0.005)	(0.003)	(0.005)	(0.003)
Industry-Year Dummies	Yes	Yes	Yes	Yes
Observations	24,581	85,535	26,473	90,402

Note: Robust Standard errors in parentheses, ^a p<0.01, ^b p<0.05, ^c p<0.1. Every coefficient comes from a different regression in which every margin defined in eq. (1) is regressed against firm exports (left panel) or firm imports (right panel) together with industry-year dummies.

Table 9: Heterogeneity

Panel a: Exports												
Centiles	Firm Exports		Transaction Value		Number of Transactions		Number of Products		Number of Destinations		Density	
	G	S	G	S	G	S	G	S	G	S	G	S
1	0.013	0.013	0.001	0.003	1	1	1	1	1	1	0.21	0.33
10	0.027	0.023	0.002	0.009	1	1	1	1	1	1	0.44	0.63
25	0.102	0.040	0.006	0.015	4	1	1	1	1	1	0.66	1
50	0.503	0.122	0.013	0.028	13	2	1	1	2	1	1	1
75	2.347	0.556	0.027	0.051	44	8	2	1	5	2	1	1
90	10.371	2.5465	0.059	0.108	147	25	3	2	11	5	1	1
99	129.225	31.503	0.359	0.619	1,644	174	10	4	46	15	1	1
Max	12,166.430	2166.504	49,383	95.965	102,072	8,535	89	26	151	103	1	1

Panel b: Imports												
Centiles	Firm Imports		Transaction Value		Number of Transactions		Number of Products		Number of Destinations		Density	
	G	S	G	S	G	S	G	S	G	S	G	S
1	0.013	0.013	0.001	0.002	1	1	1	1	1	1	0.19	0.24
10	0.032	0.025	0.003	0.007	2	1	1	1	1	1	0.33	0.50
25	0.117	0.041	0.005	0.014	5	1	1	1	1	1	0.50	0.75
50	0.436	0.124	0.011	0.027	14	2	2	1	2	1	1	1
75	1.650	0.518	0.022	0.049	41	8	3	2	4	2	1	1
90	6.318	2.264	0.049	0.103	118	24	5	3	7	5	1	1
99	85.434	37.751	0.380	0.549	1,004	192	15	8	16	19	1	1
Max	13,124.740	2,337.889	133.732	39.279	93,194	3,268	77	29	88	155	1	1

Note: This table reports the different centiles of the distribution for each of the trade margins defined in eq. (1), panel a is for exports and panel b for imports. G stands for goods trade and S for services trade. Values are in Millions of Euros.

Table 10: Concentration

Centiles	Exports		Imports	
	Goods	Services	Goods	Services
1	0.00%	0.01%	0.00%	0.01%
10	0.03%	0.08%	0.03%	0.09%
25	0.12%	0.32%	0.14%	0.35%
50	0.55%	1.26%	0.62%	1.35%
75	2.50%	4.59%	2.68%	4.68%
90	8.77%	12.42%	8.25%	13.08%
99	38.18%	44.30%	36.26%	50.71%

Note: This table presents the shares of exports and imports for the 1st, 10th, 25th, 50th, 75th, 90th and 99th centiles of the export and import distributions.

Table 11: Services, Goods and partner-countries: Exports

Panel a: Number of Exporting Firms

# of Services	# of Countries				# of Goods	# of Countries			
	1	2-5	>5	Total		1	2-5	>5	Total
1	94.5%	2.5%	0.2%	80.6%	1	73.0%	10.1%	2.6%	85.5%
2-5	0.9%	1.5%	0.4%	19.2%	2-5	2.7%	6.0%	4.2%	12.9%
>5	0.0%	0.0%	0.0%	0.3%	>5	0.1%	0.3%	0.9%	1.3%
Total	95.4%	4.0%	0.6%	100.0%	Total	75.8%	16.4%	7.8%	100.0%

Panel b: Total Exports

# of Services	# of Countries				# of Goods	# of Countries			
	1	2-5	>5	Total		1	2-5	>5	Total
1	16.1%	21.0%	13.9%	50.9%	1	2.1%	8.5%	16.0%	26.6%
2-5	4.6%	13.9%	22.3%	40.8%	2-5	0.7%	3.0%	44.2%	47.9%
>5	0.0%	0.7%	7.6%	8.3%	>5	0.1%	0.4%	25.0%	25.5%
Total	20.7%	35.6%	43.7%	100.0%	Total	2.9%	1.9%	85.2%	100.0%

Note: This table reports the share of exporters (panel a) and the share of exports (panel b) for each of the categories of exporters (based on the number of services or products exported and the number of partner-countries). For both panels trade in services is on the left and trade in goods on the right side.

Table 12: Services, Goods and partner-countries: Imports

Panel a: Number of Importing Firms

# of Services	# of Countries				# of Goods	# of Countries			
	1	2-5	>5	Total		1	2-5	>5	Total
1	93.9%	2.6%	0.6%	97.1%	1	76.1%	10.8%	1.6%	88.5%
2-5	1.0%	1.5%	0.2%	2.7%	2-5	3.2%	5.6%	0.5%	9.4%
>5	0.0%	0.1%	0.1%	0.2%	>5	0.1%	1.0%	1.0%	2.2%
Total	94.9%	4.2%	0.9%	100.0%	Total	79.5%	17.4%	3.1%	100.0%

Panel b: Total Imports

# of Services	# of Countries				# of Goods	# of Countries			
	1	2-5	>5	Total		1	2-5	>5	Total
1	11.8%	19.1%	27.2%	58.1%	1	6.1%	19.6%	26.0%	51.6%
2-5	3.1%	7.9%	9.7%	20.8%	2-5	1.5%	5.9%	5.9%	13.3%
>5	0.0%	2.3%	18.8%	21.2%	>5	0.7%	5.6%	28.8%	35.1%
Total	14.9%	29.4%	55.7%	100.0%	Total	8.3%	31.1%	60.6%	100.0%

Note: This table reports the share of importers (panel a) and the share of imports (panel b) for each of the categories of importers (based on the number of services or products imported and the number of partner-countries). For both panels trade in services is on the left and trade in goods on the right side.

Table 13: Entry and Exit

Panel a: Exports										
	Services					Goods				
	Exporters	Entrants	Survivors	Exiters	Exit by Entrants	Exporters	Entrants	Survivors	Exiters	Exit by Entrants
1995	2,230			36%		8,709			25%	
1996	2,125	39%	61%	32%	65%	9,025	33%	67%	24%	64%
1997	2,330	42%	58%	36%	66%	9,670	33%	67%	26%	63%
1998	2,329	39%	61%	39%	61%	9,566	29%	71%	27%	58%
1999	2,162	38%	62%	35%	63%	9,375	29%	71%	25%	58%
2000	2,425	45%	55%	37%	71%	9,908	32%	68%	25%	63%
2001	2,398	42%	58%	35%	64%	10,042	30%	70%	27%	59%
2002	2,988	51%	49%	35%	74%	9,816	29%	71%	32%	50%
2003	3,429	47%	53%	40%	68%	9,095	31%	69%	28%	60%
2004	3,291	41%	59%	35%	64%	9,076	31%	69%	28%	60%
2005	4,067	50%	50%			9,075	31%	69%		
Average	2,707	43%	57%	36%	66%	9,396	31%	69%	27%	59%

Panel b: Imports										
	Services					Goods				
	Exporters	Entrants	Survivors	Exiters	Exit by Entrants	Exporters	Entrants	Survivors	Exiters	Exit by Entrants
1995	2,283			35%		9,290			24%	
1996	2,324	40%	60%	34%	64%	9,524	30%	70%	24%	56%
1997	2,409	40%	60%	35%	63%	9,710	29%	71%	24%	56%
1998	2,406	38%	62%	39%	60%	9,875	29%	71%	24%	55%
1999	2,352	41%	59%	35%	64%	10,023	28%	72%	23%	57%
2000	2,502	42%	58%	34%	65%	10,359	29%	71%	24%	57%
2001	2,697	42%	58%	34%	67%	10,106	27%	73%	23%	55%
2002	3,319	50%	50%	35%	73%	9,915	26%	74%	25%	53%
2003	3,708	46%	54%	36%	68%	9,715	27%	73%	23%	55%
2004	3,678	39%	61%	33%	62%	10,113	28%	72%	22%	59%
2005	3,804	40%	60%			10,335	27%	73%		
Average	2,862	42%	58%	35%	65%	9,907	28%	72%	24%	56%

Note: panel a reports for every year the number of exporters, the share of new exporters (Entrants), the share of firms that were already exporting the previous year (Survivors), the share of firms that will not export anymore the following year (Exiters) and the share of exiters that belong to the entrants (Exit by Entrants). Panel b does the same for imports.

Table 14: Entrants Features

Panel a: Exports									
	Services				Goods				
	Singles	Multi-Service	Multi-Country	Stars	Singles	Multi-Product	Multi-Country	Stars	
New Exporters	79.4%	5.7%	9.0%	5.9%	70.3%	5.0%	14.8%	9.9%	
New Entrants Export	29.1%	7.4%	21.2%	42.4%	7.8%	2.0%	28.8%	61.4%	
Total Exports	0.5%	0.1%	0.3%	0.7%	0.6%	0.1%	2.1%	4.4%	

Panel b: Imports									
	Services				Goods				
	Singles	Multi-Service	Multi-Country	Stars	Singles	Multi-Product	Multi-Country	Stars	
New Importers	77.3%	6.5%	7.3%	8.9%	74.3%	6.3%	8.0%	11.3%	
New Entrants Import	26.4%	8.4%	13.9%	51.3%	14.5%	4.3%	26.8%	54.4%	
Total Imports	0.4%	0.1%	0.2%	0.7%	1.1%	0.3%	2.1%	4.2%	

Note: this table, in panel a, represents the average share of new exporters with respect to the total number of exporters (first row), share of exports among new exporters' exports (second row) and share of exports on total exports for each of the four categories of new exporters (Singles, Multi-Service, Multi-Country and Stars). Panel b does the same for imports.

Table 15: Exiters Features

Panel a: Exports								
	Services				Goods			
	Singles	Multi-Service	Multi-Country	Stars	Singles	Multi-Product	Multi-Country	Stars
Exiters	84.7%	4.9%	7.0%	3.4%	78.4%	4.6%	11.2%	5.8%
Exiters Exports	55.7%	9.5%	22.5%	12.3%	26.7%	5.1%	43.2%	24.9%
Total Exports	0.3%	0.1%	0.1%	0.1%	0.3%	0.1%	0.5%	0.3%

Panel b: Imports								
	Services				Goods			
	Singles	Multi-Service	Multi-Country	Stars	Singles	Multi-Product	Multi-Country	Stars
Exiters	82.0%	5.4%	6.0%	6.5%	83.1%	5.0%	5.8%	6.1%
Exiters Import	47.0%	8.8%	22.6%	21.5%	33.9%	5.4%	34.2%	26.5%
Total Imports	0.2%	0.0%	0.1%	0.1%	0.5%	0.1%	0.5%	0.4%

Note: this table, panel a, represents the share of exiters with respect to the number of exporters (first row), the share of exports among exiters' exports (second row) and share of exports on total exports for each of the four categories of new exporters (Singles, Multi-Service, Multi-Country and Stars). Panel b does the same for imports.

Table 16: Survivors t Years After Starting to Export/Import

Panel a: Exports										
t	Services					Goods				
	All	Singles	Multi-Service	Multi-Country	Stars	All	Singles	Multi-Service	Multi-Country	Stars
0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1	36%	29%	56%	62%	76%	46%	34%	61%	75%	80%
2	21%	15%	36%	43%	59%	31%	19%	41%	58%	66%
3	14%	9%	27%	31%	47%	23%	13%	30%	48%	57%
4	9%	5%	21%	22%	37%	18%	9%	23%	40%	49%
5	7%	4%	13%	18%	30%	15%	7%	17%	33%	43%
6	5%	2%	11%	14%	27%	12%	5%	14%	28%	37%
7	4%	2%	9%	11%	23%	10%	4%	11%	24%	33%
8	4%	1%	7%	10%	20%	7%	3%	9%	15%	30%
9	3%	1%	6%	8%	18%	6%	2%	7%	13%	27%

Panel b: Imports										
t	Services					Goods				
	All	Singles	Multi-Service	Multi-Country	Stars	All	Singles	Multi-Service	Multi-Country	Stars
0	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1	39%	32%	58%	65%	73%	50%	41%	68%	75%	82%
2	23%	16%	37%	46%	56%	34%	24%	50%	56%	70%
3	15%	10%	27%	31%	44%	25%	17%	39%	44%	60%
4	11%	6%	19%	23%	34%	20%	12%	33%	37%	52%
5	8%	4%	14%	18%	29%	16%	9%	27%	31%	46%
6	6%	3%	12%	13%	25%	14%	7%	22%	27%	40%
7	5%	2%	9%	10%	20%	11%	6%	18%	22%	36%
8	4%	1%	7%	9%	18%	9%	4%	14%	19%	33%
9	3%	1%	6%	7%	15%	8%	3%	12%	16%	30%

Note: This table represents the share of firms still active in the export (panel a) and import (panel b) after t years with respect to the initial number of exporters or importers, for all firms and each category of exporters and importers (Singles, Multi-Service, Multi-Country and Stars).

Table 17: Trade Margins Over Time: 1996 Cohort of Entrants

Panel a: Services' Exports									
t	Firm Exports			Transaction Value			Number of Transactions		
	All	Singles	Multi-C.	All	Singles	Multi-C.	All	Singles	Multi-C.
0	0.88	0.15	0.45	2.87	0.89	0.06	4.63	8.89	7.97
1	2.86	1.03	0.62	7.22	1.25	0.10	13.33	4.75	6.80
2	2.86	1.03	0.62	7.22	1.25	0.10	13.33	4.75	6.80
3	2.86	1.03	0.62	7.22	1.25	0.10	13.33	4.75	6.80
4	3.84	1.05	0.63	7.65	1.58	0.05	20.26	11.58	9.00
5	4.48	1.35	2.01	12.65	3.22	0.07	29.89	14.83	15.00
6	4.55	1.19	0.92	16.24	3.02	0.07	35.16	20.04	14.10
7	4.41	1.17	1.40	15.40	1.18	0.07	33.78	22.62	13.20
8	5.02	1.38	1.07	17.81	1.59	0.04	34.67	22.62	13.20
9	5.83	1.10	0.97	22.28	1.11	0.05	32.41	20.67	16.00
Ratio of year 5 to year 0	4.36	7.00	2.41	4.41	3.62	0.88	4.06	5.10	2.72
Ratio of year 9 to year 0	6.63	7.33	2.43	7.76	1.23	0.63	7.60	11.30	9.28
Panel b: Goods' Exports									
t	Firm Exports			Transaction Value			Number of Transactions		
	All	Singles	Multi-C.	All	Singles	Multi-C.	All	Singles	Multi-C.
0	0.86	0.24	0.23	1.63	1.80	0.09	21.75	5.50	11.94
1	1.75	0.43	2.08	2.68	3.97	0.02	49.49	18.68	54.00
2	1.69	0.83	2.62	2.08	3.18	0.02	50.35	32.87	50.56
3	1.72	1.05	1.18	1.74	3.69	0.01	54.76	32.67	62.72
4	2.42	1.01	1.32	2.21	5.24	0.01	61.92	40.17	33.38
5	2.28	1.51	1.14	2.19	4.85	0.02	62.14	39.15	30.50
6	2.48	1.50	1.78	2.62	5.15	0.02	73.09	40.87	38.39
7	2.69	2.02	1.39	2.55	5.09	0.01	80.78	60.96	37.06
8	3.01	2.61	1.43	2.69	5.79	0.01	124.03	190.05	118.88
9	3.21	2.61	1.74	2.69	5.79	0.01	124.03	190.05	118.88
Ratio of year 5 to year 0	2.81	6.66	5.71	1.56	2.91	0.11	2.98	5.10	2.73
Ratio of year 9 to year 0	3.96	13.21	4.52	1.50	3.57	0.11	6.43	31.86	3.80
Panel c: Services' Imports									
t	Firm Imports			Transaction Value			Number of Transactions		
	All	Singles	Multi-C.	All	Singles	Multi-C.	All	Singles	Multi-C.
0	1.24	0.88	0.98	8.93	1.77	0.06	6.50	1.58	8.81
1	2.86	0.31	0.83	9.27	1.69	0.04	10.67	4.74	9.55
2	2.77	0.51	1.18	10.86	1.43	0.05	20.81	9.06	15.36
3	3.07	0.54	0.81	12.74	1.37	0.04	19.47	8.84	10.81
4	4.73	0.63	2.69	14.30	6.69	0.05	23.44	10.06	9.18
5	9.16	0.90	1.63	17.94	26.46	0.07	30.13	12.39	10.54
6	7.78	0.94	1.67	17.28	19.74	0.04	38.82	15.55	15.54
7	8.44	1.11	1.36	17.44	26.46	0.07	42.88	19.33	24.45
8	8.84	1.21	2.19	17.14	3.52	0.04	36.97	19.45	17.09
9	5.53	1.20	1.31	21.12	3.33	0.06	36.29	20.45	15.09
Ratio of year 5 to year 0	3.81	7.88	2.74	1.60	3.78	0.83	6.36	1.04	4.63
Ratio of year 9 to year 0	4.45	15.00	1.34	2.36	2.16	1.00	5.58	12.94	1.71
Panel d: Goods' Imports									
t	Firm Imports			Transaction Value			Number of Transactions		
	All	Singles	Multi-C.	All	Singles	Multi-C.	All	Singles	Multi-C.
0	1.67	0.15	0.99	3.52	5.52	0.03	23.82	4.05	45.03
1	3.07	0.42	4.37	6.16	8.63	0.02	73.15	23.59	140.68
2	3.89	0.81	7.64	6.72	9.71	0.02	73.74	31.44	129.61
3	4.04	0.87	8.28	6.08	10.42	0.02	77.06	33.43	163.11
4	4.74	1.12	9.36	5.94	12.78	0.02	132	33.34	198.32
5	6.70	1.18	11.02	6.94	21.89	0.02	132	33.34	198.32
6	7.51	1.09	11.09	7.53	25.45	0.02	80.59	39.75	199.57
7	7.08	1.21	4.27	5.24	27.64	0.02	73.05	41.14	170.78
8	4.91	1.34	3.52	5.31	16.23	0.02	73.05	41.14	170.78
9	4.91	1.34	3.52	5.31	16.23	0.02	73.05	41.14	170.78
Ratio of year 5 to year 0	2.84	7.47	9.45	1.68	2.32	0.67	2.99	8.23	4.40
Ratio of year 9 to year 0	2.94	8.93	3.56	1.51	2.94	0.67	3.29	11.5	2.37

Notes: This table represents the evolution over time of the total exports (panel a) and imports (panel b) and their margins defined in (1), for all firms and each category of export and import (Singles, Multi-Country and Stars). In the last two rows of each panel, the ratio between the t -th year and the 0 -th year with respect to entry (year zero). Values are in millions of Euros.

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