

# The increase in the number of low-value transactions in international trade\*

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This version: June 14, 2024  
*Preliminary draft*

## Abstract

This paper documents a new feature of international trade: the increase in the number of low-value transactions. Using Spanish data, we show that the share of low-value transactions in the total number of transactions increased from 9% to 61% in exports and from 14% to 54% in imports between 1997 and 2023. The increase in the number of low-value trade transactions is related to the rise in e-commerce and direct-to-customer sales facilitated by online retail platforms. In the case of exports, the increase in the number of low-value transactions is also explained by the fast-fashion strategy followed by clothing firms.

**JEL:** F10, F14

**Keywords:** international trade, low-value transactions, fast fashion, e-commerce, online retail platforms, Spain.

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\*We thank the Department of Customs and Excise of the Spanish Tax Agency (AEAT) for providing Customs data. This research was conducted as part of the Project PID2021-122133NB-I00 financed by MCIN/AEI/10.13039/501100011033/FEDER, EU. We also gratefully acknowledge the financial support from the Basque Government Department of Education (IT1429-22).

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# 1 Introduction

The globalization process that began in the 1980s presents some characteristics, such as the revolution in information and communication technology, the emergence of China as a global manufacturing exporter, and the expansion of global value chains, which were unknown in previous integration episodes (Krugman, 1995; Rodrik, 2011; Baldwin, 2016; Antràs, 2020). This paper documents an additional novel feature of this globalization process: the rise in the number of low-value transactions.

We define a low-value transaction as the exchange of a product between a domestic and a foreign trade operator (i.e., a firm or an individual) whose value does not exceed 150 euros. This value is the *de minimis* threshold used by the European Union (EU), which means that any good whose value is equal to or less than 150 euros does not pay any tariffs when it enters the EU.<sup>1</sup> Using the universe of Spanish international trade transactions, this paper shows that the share of low-value transactions in the total number of transactions increased from 9% to 61% in exports and from 14% to 54% in imports between 1997 and 2023.

Despite the large increase in the number of low-value transactions, they still represented a very small share of the total export and import value in 2023: 0.4% and 0.2%, respectively. We show that clothing and footwear dominate low-value transactions in both exports and imports, and have contributed notably to the increase in the share of low-value transactions in the total number of trade transactions between 1997 and 2023. We document that countries geographically close to Spain are the main destinations for low-value export transactions, while China is by far the most important origin for Spanish low-value import transactions. Furthermore, China has been the most important contributor to the rise in the number of low-value import transactions between 1997 and 2023. We also discover that there are fewer firms performing low-value transactions than large-value transactions. Finally, we find that the concentration of number of transactions by firm is much higher for low-value transactions than for high-value transactions. For example, the firm that performed the largest number of low-value transactions in 2023 represented 20% and 21% of the total number of low-value export and import transactions, respectively. Regarding high-value transactions, the top firm “only” represented 6% and 2% of the total number of high-value export and import transactions, respectively.

We offer two potential explanations for the increase in the share of low-value transactions in the total number of international trade transactions. First, the increase in the number of low-value transactions in exports until 2021 is explained by clothing and footwear firms. During the last decades, these firms have developed a so-called fast fash-

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<sup>1</sup>The Council Regulation No. 918/83 that established the *de minimis* threshold in the EU denoted transactions equal or below the *de minimis* threshold as consignments of negligible value.

ion strategy, characterized by the rapid adaptation of clothing displayed in the store to changing consumer preferences and the creation of scarcity with collections that end quickly. This strategy requires a frequent restocking of stores throughout the world, which manifests itself in a large number of low-value export transactions between the distribution center in the home country and the stores located abroad. This frequency is higher in destinations far from the distribution center, as the products need more time to reach the destination. In addition, products for distant destinations are transported by air to ensure a rapid response to a change in preferences. Consistent with this argument, we show that the leading fashion retailers explain more than 60% of the increase in the number of low-value export transactions between 1997 and 2021. Furthermore, we find that most low-value export transactions are destined to countries far from Spain, and most products are transported by air.

Second, the increase in the number of low-value import transactions is related to the emergence of online retail platforms, such as Shein or Temu, which allow consumers to have access to a wide range of products while providing foreign manufacturers with access to a global market. Transactions mediated through these platforms are denoted as direct to consumer, because purchases go directly from the overseas producer to the local consumer (Fajgelbaum and Khandelwal, 2024). Consistent with this explanation, we show that the increase in the number of low-value import transactions rocketed between 2021 and 2023, when the above-mentioned platforms became popular in Spain. Furthermore, these import transactions originated in China, where these online platforms were founded. The geographical distribution and administrative justification for the large number of low-value import transactions from China are also consistent with a direct-to-consumer shipment explanation. For earlier periods, we provide evidence consistent with the argument that online stores and marketplaces explain the increase in the number of low-value import transactions. Finally, we show that the rise in the number of low-value export transactions occurring from 2021 onward, which is not related to fast-fashion retailers, is also consistent with the emergence and development of online marketplaces.

To our knowledge, this paper is the first to document the increase in the share of low-value transactions in the total number of international trade transactions. This discovery adds to the literature that has analyzed the features of the globalization process that began in the 1980s (Krugman, 1995; Rodrik, 2011; Baldwin, 2016; Antràs, 2020). We also add to the literature on the role of the de minimis threshold in international trade. Fajgelbaum and Khandelwal (2024) show that the value of de minimis imports in the US increased from 0.05 billion USD in 2012 to 49.8 billion USD in 2013. In volume, de minimis imports increased from 0.1 to 1 billion shipments between 2012 and 2023. We contribute to this literature by analyzing both low-value export and import transactions, quantifying the share in value and volume of low-value transactions in total

trade transactions, exploring a longer time period, and documenting stylized facts about the number of low-value transactions, such as product composition, destinations and origins, number of traders, and concentration of transactions across traders.

Our paper also speaks to the literature on e-commerce, online platforms, and direct-to-consumer shipments. Online platforms reduce barriers to finding and evaluating potential foreign consumers or suppliers and facilitate logistics and international payments (Lendle et al., 2016; Chen and Wu, 2021; Carballo et al., 2022). Volpe-Martincus et al. (2024) argue that the expansion of direct-to-consumer shipments is related to the increased participation of consumers in international trade. We contribute to this literature by providing evidence consistent with the argument that corporate online stores and online marketplaces contributed to the rise in the number of low-value trade transactions.

Finally, we also contribute to the literature exploring the relationship between fast fashion and international trade. Fernandes and Tang (2020) show that Portuguese clothing manufacturers responded to Chinese competition by increasing the frequency of their shipments. We show that the high frequency of shipments by fashion retailers played a very important role in the rise in the number of low-value export transactions. Furthermore, we show that these transactions were concentrated in countries that were far from Spain and products were transported by air. This latter finding also links our paper to the literature that analyzes how the time sensitivity of demand determines the choice of transport means (Hummels and Schaur, 2013).

## 2 Data and stylized facts

We obtain trade data on goods for the period 1997-2023 from the Customs and Excise Department of the Spanish Tax Agency (AEAT-Customs). Each observation included in the data set captures the commercial exchange of a product between a Spanish trade operator (a firm or an individual) and a foreign trade operator. The exchange should be related to a specific commercial invoice and recorded by the Spanish trade operator in her customs declaration. If an invoice contains two different products, the data set will record two observations, one for each product. Each observation provides information on the direction of the trade flow (exports or imports), the Spanish trade operator's customs identification code, the product in the 8-digit Combined Nomenclature (CN) classification, the value (in euros), the country of destination or origin, the Spanish province of destination or origin, the month in which the transaction occurred, and the date the transaction was documented in customs. Our data set does not provide an identification of the foreign partner.

Based on the characteristics and limitations of our data set, we define a trade transaction as the exchange recorded by an observation, that is, the commercial exchange of a

product between a Spanish and a foreign trade operator that belongs to a specific invoice and is recorded in a customs declaration.<sup>2</sup> It is important to stress that our dataset does not capture shipments, but product-specific transactions between a Spanish and a foreign trade operator.

The AEAT-Customs database combines information from two sources: Intrastat and Extrastat. Intrastat captures firms' trade flows with EU partners. In 2023, firms had to present a monthly Intrastat document if they accumulated an export (import) value with EU members of 400,000 euros in the current year or in the previous year. Extrastat captures firms' trade flows with non-EU countries. In this case, all firms should present the document. Due to Intrastat's data presentation threshold, AEAT-Customs does not capture all the small- and large-value transactions occurring between Spanish firms and their EU partners. This should not affect our estimations, because below-the-Intrastat-threshold trade only represented 1.8% of total trade.<sup>3</sup> In any case, the appendix shows that there are no major differences in the evolution of the number of low-value trade transactions between EU and non-EU countries.

Panels A and B of Figure 1 show the evolution of low- (green area) and high-value (orange area) export and import transactions from 1997 to 2023, respectively. They also plot the share of low-value transactions (blue dashed line) in total export or import transactions. There is a large increase in the number of transactions between 1997 and 2023: export transactions rise from 3 million in 1997 to 60 million in 2023 (they multiply by 20), while import transactions rise from 4 million in 1997 to 36 million in 2023 (they multiply by 9). The increase in the number of transactions is much larger than in the value of trade, which “only” multiplies by 4 in both exports and imports between 1997 and 2023.

The first stylized fact, whose documentation constitutes the main contribution of this paper, is the large increase in the share of low-value transactions in the total number of transactions. It rises from 9% to 61% in exports and from 14% to 54% in imports. That is, in 2023, low-value transactions represented more than half of the total number of transactions.<sup>4</sup> As shown in Figure A.1 in the appendix, this key stylized fact is robust to using a low-value threshold corrected for inflation, a low-value threshold based on the 800 USD de minimis value applied by the United States, and to splitting the sample into

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<sup>2</sup>Hence, our data set only contains transactions that involve the transfer of property in exchange for financial compensation. It does not include transactions related to gifts, donations, or return of goods. We exclude Andorra and Gibraltar from the list of origins and destinations because, due to their location, trade with these territories is similar to domestic sales for Spanish firms.

<sup>3</sup>This data, estimated by AEAT-Customs, corresponds to 2022 (the last year with definitive data). It is available at: <https://sede.agenciatributaria.gob.es/Sede/estadisticas/estadisticas-comercio-exterior/principales-resultados-serie/2023.html>.

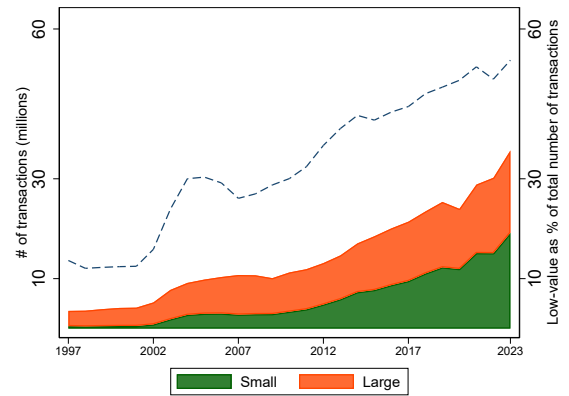
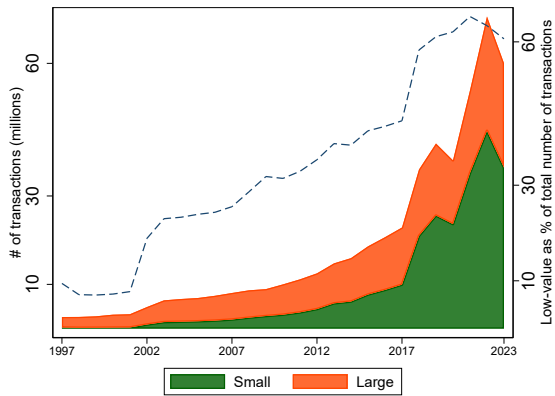
<sup>4</sup>The median values of an export and import transaction in 1997 were 4,678 and 2,776 euros, respectively. In 2023, they decreased to 77 and 114 euros.

**Figure 1: Stylized facts**

A. Number of low-value transactions and their share in the total number of transactions

Exports

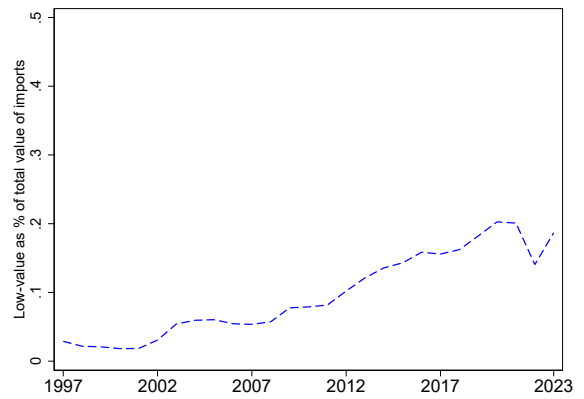
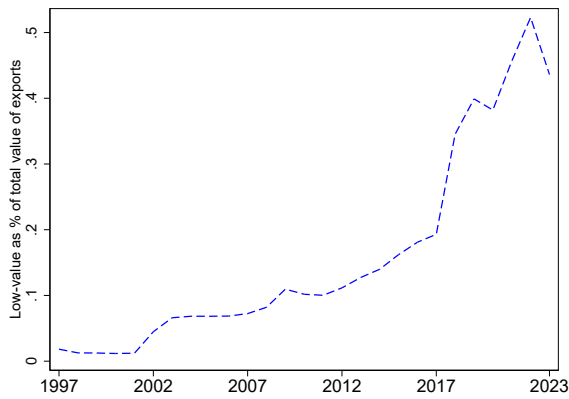
Imports



B. Share of low-value transactions in total trade value

Exports

Imports



C. Top 20 HS 2-digit chapters by share in total number of low-value transactions (2023)

Exports

Imports

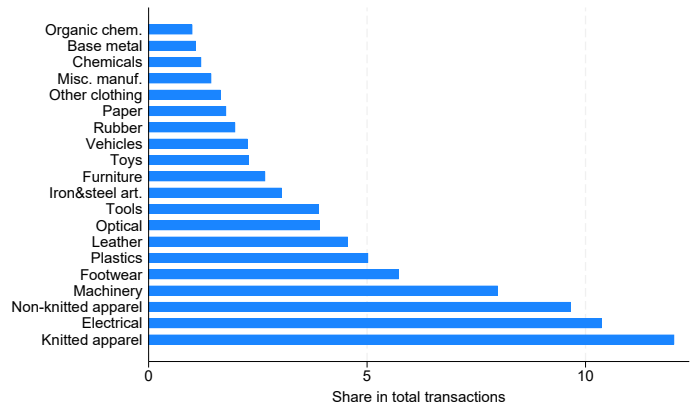
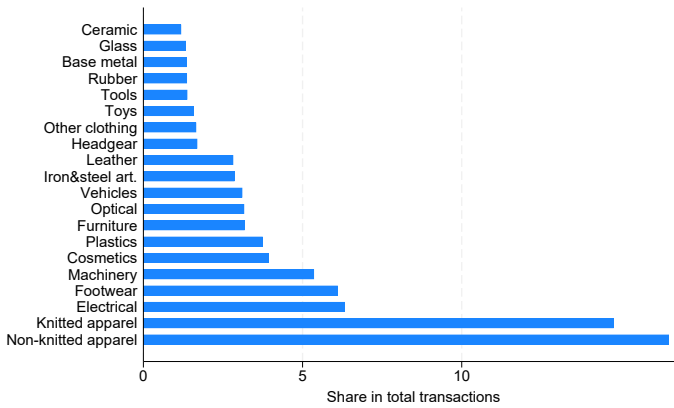
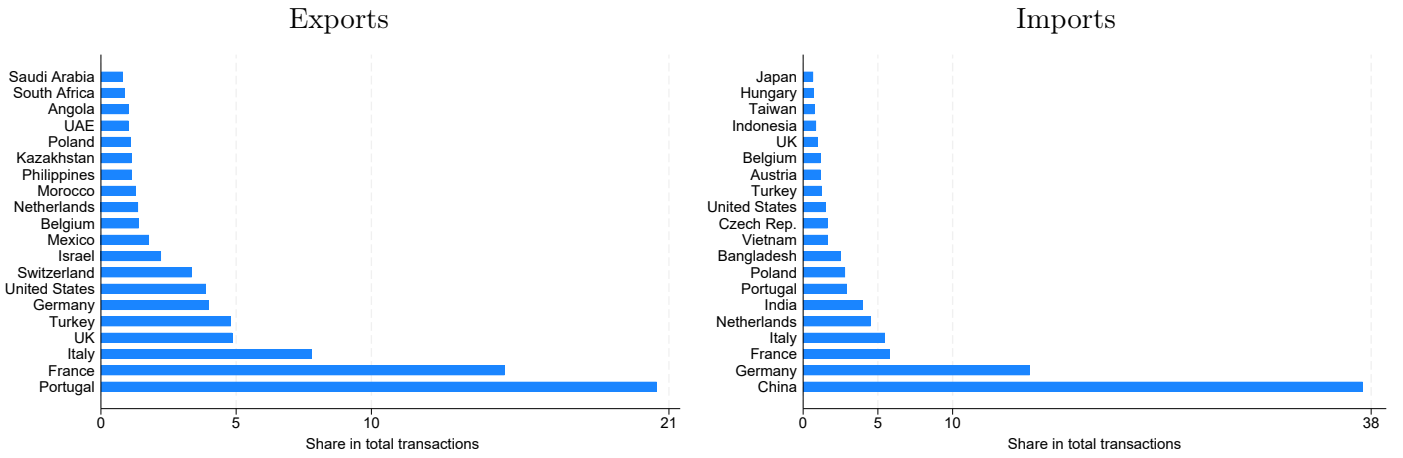
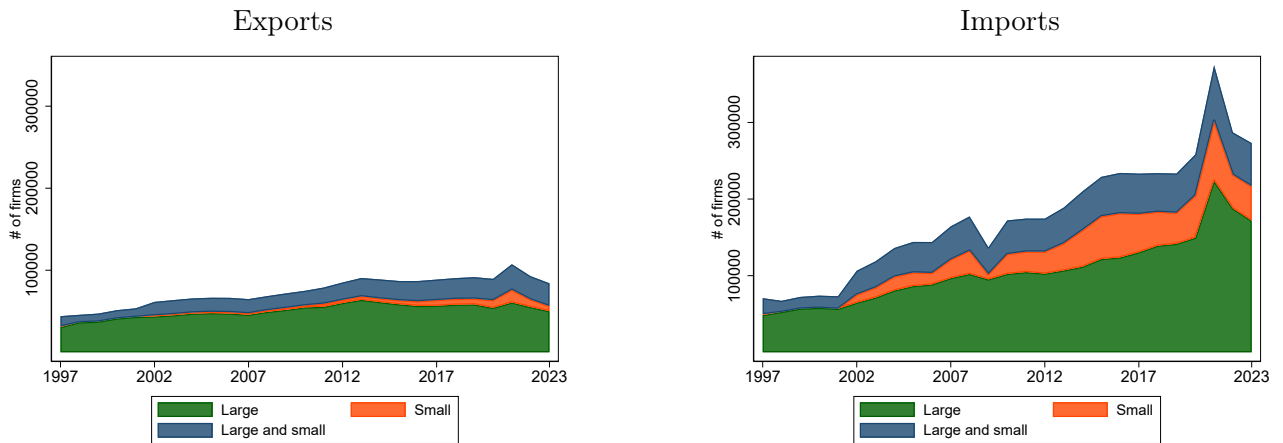


Figure 1: cont.

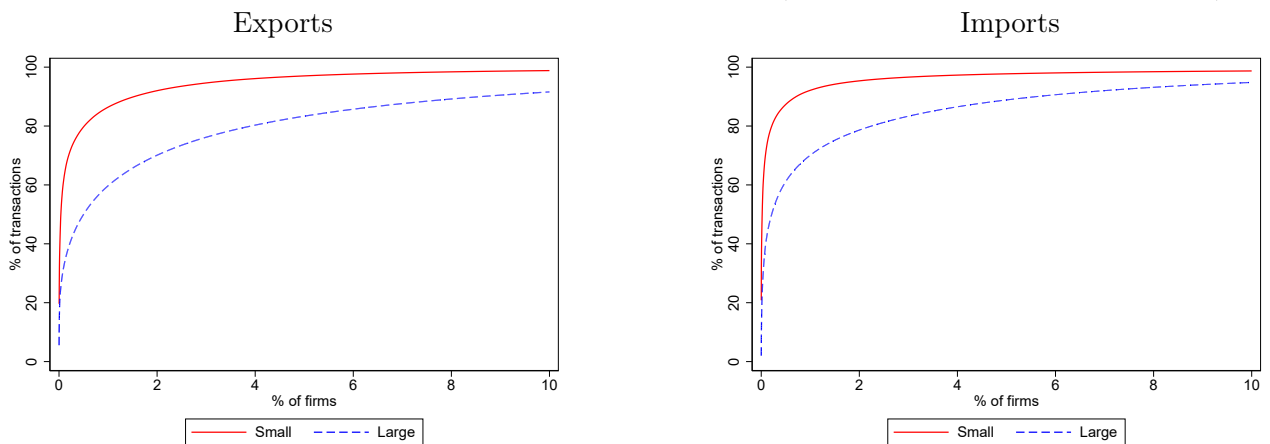
D. Top 20 countries by share in total number of low-value transactions (2023)



E. Number of firms



F. Concentration of number of transactions by firm, 2023 (% of total number of transactions)



Note: authors' calculations based on AEAT-Customs.

EU and non-EU members.<sup>5</sup>

The total value of low-value exports increased from 16 million euros in 1997 to 1,478 million euros in 2023 (it multiplied by 92). For imports, the value of low-value transactions increased from 30 million euros to 735 million euros (it multiplied by 24). These increases were much larger than those in total value, which, as mentioned above, multiplied by 4. Despite these large increases, our second stylized fact is that low-value transactions still represent a very small share of the value of trade. Panel B shows that low-value export transactions represented 0.4% and 0.2% of total export and import value in 2023, respectively. In 1997, the figures were 0.02% and 0.03% for exports and imports, respectively.

A major limitation of our dataset is that most low-value transactions do not report the traded product. Specifically, 70% and 71% of low-value trade transactions in 2023 did not report the exported and imported product, respectively. This occurs because export transactions equal to or below the de minimis value of the destination country and import transactions equal to or below 150 euros are not obliged to report the traded product. Keeping this limitation in mind, the third stylized fact is that clothing and footwear represented the largest share of low-value transactions that recorded the traded product in 2023: 41% and 30% of the total number of export and import transactions, respectively (panel C of Figure 1). Electrical and electronic products, such as semiconductors or switchers, and computer parts also accounted for a sizable share of export and import transactions. Interestingly, in 1997, books was the top product in exports and electrical machinery in imports (panel A of Figure A.2 in the appendix). The share of clothing and footwear in 1997 was 12% and 13% for exports and imports, respectively. This comparison highlights that the clothing and footwear industry had played an important role in the growth of the number of low-value transactions.<sup>6</sup>

The fourth stylized fact, documented in Panel D of Figure 1, is that Spain's neighbors, Portugal and France, were the main destinations for low-value exports in 2023 (35% of total export transactions). However, the ranking of export destinations is sensitive to the year analyzed. For example, the United States was the most important destination of low-value transactions in 2021 (Figure A.4 in the appendix). The difference in the ranking of countries between 2021 and 2023 will be explained when discussing the potential explanations for the increase in the number of low-value transactions in the following section.

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<sup>5</sup>The exception is that the share of low-value export transactions in the total number of transactions between 2021 and 2023 decreased in non-EU27 countries and increased in EU27 countries.

<sup>6</sup>Panel A of Figure A.3 in the appendix shows that clothing and footwear also occupied prominent roles among the most exported and imported products in high-value transactions in 2023. However, their share in the total number of transactions was smaller than that in low-value transactions: 23% in large-value export transactions versus 41% in small-value transactions, and 22% versus 30% in import transactions.



China was the main source of low-value imports (37% of total import transactions). Only eight countries that appear on the list of the top 20 export destinations are also included in the list of the top 20 import origins. In particular, China, which is the most important origin of low-value imports, is not included in the list of the top 20 destinations.<sup>7</sup> The ranking of export destinations is similar in 1997 and 2023 (panel B of Figure A.2 in the appendix). In contrast, China represented less than 5% of all low-value import transactions in 1997. This comparison suggests that China has played a key role in the growth of low-value import transactions.<sup>8</sup>

We estimated descriptive regressions to identify the country-level factors correlated with having a high share in Spain’s low-value export and import transactions. Table A.1 in the appendix shows that the number of low-value export transactions is positively correlated with GDP and GDP per capita of the importer, sharing a land border and official language, and negatively correlated with distance and being a member of the EU. The number of low-value import transactions is positively correlated with the GDP of the source country, being a member of the EU, and negatively correlated with sharing an official language. Belonging to a free trade agreement does not play any role in either exports or imports. This is consistent with the fact that low-value import transactions, by definition, are duty-free.<sup>9</sup> However, we observe that belonging to the EU has a large negative effect on the share of low-value export transactions in the total number of export transactions, while it has a large positive effect on imports.

The fifth stylized fact, documented in panel E, is that the number of firms that only trade in low-value transactions is smaller than the number that trade in high-value transactions or in high- and low-value transactions. For example, in 2023, the number of firms that only traded in low-value transactions represented 8% and 16% of all exporters and importers, respectively. These percentages were much higher than those at the beginning of the period (2% for both exporters and importers). There is an increase in the percentage of exporters that trade in large- and low-value transactions. In contrast, the percentage of this category of firms decreases among importers. We find a positive correlation between the number of large- and low-value transactions performed by a firm both for exports and imports. We also document a positive correlation between the total value of large- and low-value transactions by a firm for both exports and imports (Table A.2 in the appendix).

Finally, the sixth stylized fact, documented in panel F, is that the concentration of

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<sup>7</sup>If we add-up China and Hong-Kong, the ranking of low-value import transactions in 2021 was similar to that in 2023 (Figure A.4 in the appendix).

<sup>8</sup>Panel B of Figure A.3 shows that China also represented a large share of high-value import transactions in 2023. However, this share was smaller than that in low-value import transactions: 20% versus 37%.

<sup>9</sup>Volpe-Martincus et al. (2024) get a similar result when comparing firms’ and consumers’ imports. The former would be equivalent to our high-value transactions and the latter to our low-value transactions.

the number of transactions by firm is higher in low-value transactions than in high-value ones. For example, the top firm in number of low-value export transactions represented 20% of all low-value export transactions in 2023, while the top firm in high-value export transactions “only” represented 6% of total high-value export transactions. For imports, the differences were even larger: the top firm represented 21% and 2% of the total number of small- and high-value transactions, respectively. Furthermore, the concentration of transactions by firm increased between 1997 and 2023, in particular for low-value transactions: the share of the top firm in the total number of transactions increases from 3% to 20% in exports and from 3% to 21% in imports.

### 3 What explains the increase in the number of low-value trade transactions?

This section offers two potential explanations for the large increase in the number of low-value trade transactions between 1997 and 2023. The first addresses the rise in the number of low-value transactions in exports. As mentioned above, among the observations that reported the CN 8-digit product code, clothing and footwear represented 41% of all low-value export transactions in 2023 and explained 71% of the increase in the number of low-value export transactions between 1997 and 2023.

Since the beginning of the 1990s, some Spanish fashion firms have become internationally well known brands (Guillén, 2005; Guillén and García-Canal, 2010). The competitiveness of these firms has been based on the so-called fast fashion strategy, which focuses on rapidly adapting the clothing displayed in the store to changing consumer preferences (Crofton and Dopico, 2007). In addition, these firms generate a sense of scarcity with collections that end quickly, leading consumers to purchase a garment without delay in the event that it is no longer available on the next visit to the store (Ghemawat and Nueno, 2006).<sup>10</sup>

The fast-fashion business model requires stores to replenish frequently, a procedure that echoes the just-in-time system, introduced first by Toyota in the automotive sector and later implemented in other industries (Womack et al., 1990). Since all products exported by leading Spanish retailers go through a distribution center in Spain (Ghemawat and Nueno, 2006; Rodríguez, 2024), we expect the fast fashion strategy to generate a large number of low-value transactions between the distribution center and stores abroad. We also anticipate the frequency of transactions to be higher in destinations far from Spain. Because products take longer to reach their destination, firms have to respond very quickly to replenishment demands from stores to ensure that preferences do not change before

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<sup>10</sup>As explained by Fernandes and Tang (2020), the fast fashion strategy may also have helped garment manufacturers in developed countries respond to low-cost competition from Asia.

goods arrive. In many destinations, it is likely that air transport will have to be used to ensure rapid replenishment of stores.

Using the procedure described in [de Lucio et al. \(2018\)](#), we identified the export transactions of the leading fashion retailers in Spain in our database. Panel A of Figure 2 shows the evolution of the number of low-value export transactions of the leading retailers and all firms between 1997 and 2023. From 1997 to 2021, the increase in the number of low-value export transactions for all firms runs parallel to the increase in the number of low-value export transactions from the leading fashion retailers. This is because exports from the leading fashion retailers represent most of the volume of low-value export transactions. For example, in 2021, the leading fashion retailers represented 63% of the total number of low-value export transactions. Panel B of Figure 2 shows that the top 10 destinations of the low-value export transactions of the leading fashion retailers in 2021 were countries that were not close to Spain.<sup>11</sup> In fact, countries that are closer to Spain, such as France, Germany, Italy, or Portugal, and which were some of the most important destinations of the leading fashion retailers by export value in 2021, were not included in the top 10 ranking. Furthermore, in destinations that could not be reached by road transport in a few days from Spain (Russian Federation, Turkey, and the UK), the products were transported by air. These findings are in line with the fast-fashion strategy described above. In summary, from 1997 to 2021, the leading fashion retailers were responsible for the increase in low-value export transactions. The frequency of low-value transactions, their geographical distribution, and the means used to transport the products are consistent with the fast-fashion strategy followed by these firms.

The number of low-value export transactions of the leading Spanish retailers decreases from 2021 onward. A factor contributing to this decline was the termination or reduction of operations in Russia after the invasion of Ukraine in February 2022 ([de Lucio et al., 2024](#)).<sup>12</sup> However, the low-value export transactions of the leading fashion retailers continued to decrease in 2023, indicating that other reasons were also explaining this decline. In addition, the decrease in the number of low-value export transactions of leading fashion retailers was larger than of all firms. This indicates that firms not related to the fashion industry began to account for a sizable share of low-value export transactions. To explain this fact, we need to introduce the second potential explanation for the rise in the number of low-value transactions. However, for the sake of narrative, we will begin analyzing the evolution of the number of low-value transactions in imports to introduce this second reason.

As mentioned in the previous section, China was the most important origin, in number, of Spain's low-value import transactions in 2023. Furthermore, China was the largest

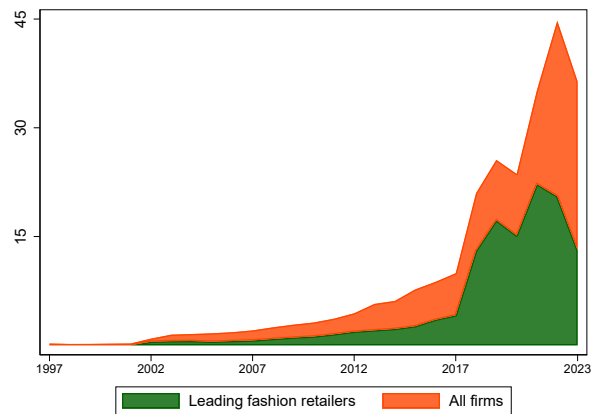
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<sup>11</sup>The top 10 destinations accounted for 55% of the total number of low-value export transactions.

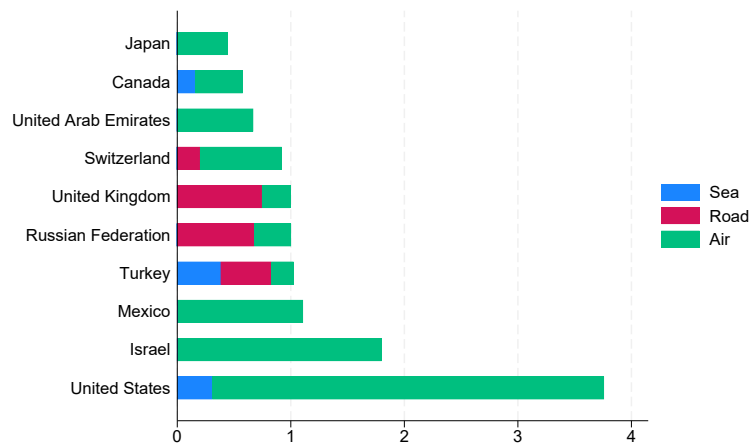
<sup>12</sup>One million export transactions to Russia from top fashion retailers were lost after the invasion of Ukraine.

**Figure 2:** Mechanisms explaining the increase in low-value transactions

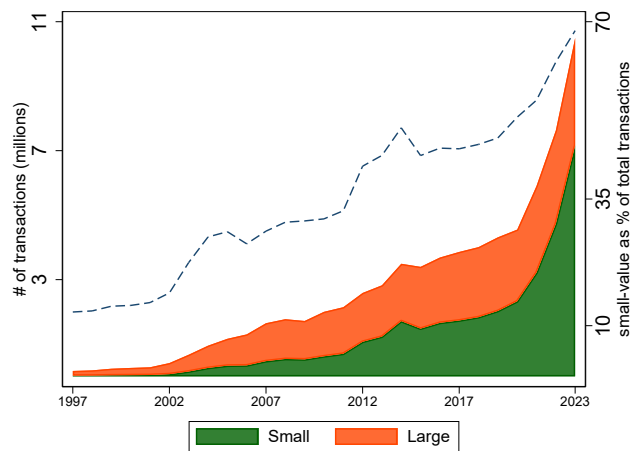
A. Number of low-value export transactions from the leading fashion retailers and from all firms, 1997-2023



B. Top 10 destinations of leading fashion retailers low-value export transactions, 2021



C. Number and share of low-value transactions in Spain's imports from China, 1997-2023



Note: authors' calculations based on AEAT-Customs.

contributor to the increase in the number of low-value import transactions between 1997 and 2023 (38%). Panel C of Figure 2 shows the evolution in the number of low- and high-value import transactions from China, and the share of low-value transactions in the total number of import transactions from China. In 1997, low-value import transactions only represented 12% of the total import transactions from China. By 2023, they represented 68% of the total import transactions. There is a steady increase in the number of low-value import transactions from China until 2020. However, in the following three years, the number of low-value import transactions multiplies by more than three, from 2 million to 7 million, and the share of low-value import transactions in the total number of import transactions increases by 17 percentage points.

This staggering increase coincides with the appearance of online retail platforms founded in China, such as Shein or Temu, which have become very attractive to consumers due to their high promotions and discounts.<sup>13</sup> These online platforms allow consumers to access a wide range of low-value Chinese products while providing Chinese manufacturers with access to a global market. Transactions mediated through these platforms are denoted as direct to consumer, because purchases go directly from the overseas producer to the local consumer (Fajgelbaum and Khandelwal, 2024).

Our data set does not provide information to determine whether a transaction is the result of an online or an offline purchase. Having this limitation in mind, we examine whether other facts are consistent with the direct-to-consumer explanation for the rise in the number of low-value import transactions from China from 2020 onward. Our data set shows that in 2023, only one firm, which we cannot identify by name, concentrated almost half of low-value import transactions originating in China. This firm did not receive imports from China in a specific province in Spain, but they were scattered throughout all Spanish provinces. Furthermore, this firm recorded 300,000 different import transactions from China in each monthly customs declaration. This very large number of declared transactions is consistent with the fact that online platforms, or the logistic partners of online platforms, should fill out a low-value import declaration (the H7 declaration) for each low-value item sent to each final customer to avoid the payment of tariffs. It is very unlikely that a firm would fraction imports for its own use into so many low-value transactions to avoid the payment of tariffs, because such a large number of transactions would raise the suspicion of tax authorities. The geographical distribution of transactions and the large number of transactions are consistent with the argument that products were sent directly from Chinese producers to Spanish customers and that the importer was a

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<sup>13</sup>For example, in August 2023, Temu and Shein were the first and third most downloaded applications in Spain (see “Temu, Shein, Miravia: el agresivo comercio electrónico chino que rivaliza con Amazon” by Pablo G. Bejarano, [www.elpais.com](https://elpais.com), 11 November 2023 at <https://elpais.com/tecnologia/2023-11-11/temu-shein-miravia-el-agresivo-comercio-electronico-chino-que-rivaliza-con-amazon.html>).

logistic partner that facilitated customs clearance and shipments.

The top importer from China in 2023 was the same as in 2022. However, before 2022, the main importers of low-value transactions from China in volume were a large retailer and two fashion firms that we were able to identify by name.<sup>14</sup> These firms received all low-value imports from China in the province where their headquarters and main warehouse were located. We do not have information to determine whether the increase in low-value import transactions from China of these firms was explained by the expansion of their e-commerce sales or the use of a just-in-time strategy. However, there are two facts that are consistent with the argument that these purchases were likely to be linked to these firms' e-commerce activities.

First, in the case of the large retailer, the number of low-value import transactions from China was almost negligible in 2019. However, it became the importer with the largest number of low-value transactions from China in 2020. That year, due to Covid, non-essential stores remained closed for some weeks. Furthermore, even when the stores opened after the strictest confinement measures were lifted, the shopping experience became less pleasant due to health-related restrictions. In parallel, the retailer reported a very large increase in e-commerce sales between 2019 and 2020. These facts suggest that it was the increase in purchases on this firm's online marketplace which contributed to the increase in the number of low-value import transactions from China. Second, as argued above, the fact that the large retailer and the two fashion firms reported very large numbers of low-value import transactions in their customs declarations is consistent with the documentation of e-commerce-based transactions.

We find that the four firms that explain the rise in the number of low-value import transactions from China are also responsible for one-third of the total increase in the number of low-value import transactions between 1997 and 2023. The remaining 100,000 firms that perform low-value import transactions each contribute a very tiny fraction to the remaining two-thirds of the increase.<sup>15</sup>

At this point, we address the increase in the number of low-value export transactions that occurred between 2021 and 2023. The firm that contributes the most to the growth of low-value transactions between 2019 and 2023 (16% of the total) is a retailer that we were able to identify by name. The increase in the number of low-value export transactions coincides with the opening of online marketplaces in three European countries by this firm since 2021. These marketplaces allowed Spanish firms that supplied the retailer in Spain to sell their products on other European markets. Consistent with this narrative,

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<sup>14</sup>For confidentiality issues, we cannot provide the name of these firms. We also cannot offer the references that back our assertions because they would enable the identification of the firms. These references can be requested from the authors.

<sup>15</sup>The exceptions are two firms that represented 4% and 2% of the increase that we could not identify. Both firms specialize in low-value imports from Germany.

we observe a large increase in the number of low-value exports by the retailer from 2021 onward, particularly in those European countries in which the marketplace was launched. The emergence of this retailer as a major player in the volume of export transactions also explains why there are differences in the ranking of destinations for low-value export transactions between 2021 and 2023. In 2021, low-value export transaction destinations were still dominated by the destinations of leading fashion retailers (panel B of Figure 2). However, by 2023, export destinations were also affected by the new retailer's destinations, which were concentrated in European countries close to Spain.

Taking into account the caveats of our data set, which cannot discriminate between online and offline transactions, these results suggest that online marketplaces could also play a relevant role in explaining the rise in the number of low-value transactions in exports. They also underscore how decisions taken by few firms can have very large effects on the volume of low-value trade transactions.

## 4 Conclusion

This paper has documented a novel feature of international trade: the rise in the number of low-value transactions. Using the universe of Spanish international trade transactions, we have shown that the share of low-value transactions in the total number of transactions between 1997 and 2023 increased from 9% to 61% in exports and from 14% to 54% in imports.

We have offered two potential explanations for the increase in the number of low-value trade transactions. First, the rise in the number of low-value export transactions, at least until 2021, is explained by transactions by fashion retailers. This high volume of low-value transactions is consistent with a fast-fashion strategy, which uses a frequent stocking of stores to adjust for changes in consumer preferences and creates a sense of scarcity among their customers. In imports, the increase in the number of low-value transactions is consistent with the emergence of online retail platforms that allow consumers to have easy access to a wide range of low-value items manufactured abroad.

The simultaneous increase in both low-value export and import transactions may be a particular feature of Spain, which is home to internationally recognized fashion brands which have their global distribution centers in Spain. In other developed countries, where local fashion firms are less prominent, we expect the rise in low-value export transactions to be smaller.



## References

- Antràs, P. (2020). De-globalisation? Global value chains in the post-COVID-19 age. *NBER Working Paper 28115*.
- Baldwin, R. (2016). *The great convergence: Information technology and the new globalization*. Harvard University Press.
- Carballo, J., Rodriguez Chatruc, M., Salas Santa, C., and Volpe Martincus, C. (2022). Online business platforms and international trade. *Journal of International Economics*, 137:103599.
- Chen, M. X. and Wu, M. (2021). The value of reputation in trade: Evidence from Alibaba. *Review of Economics and Statistics*, 103(5):857–873.
- Crofton, S. and Dopico, L. (2007). Zara-Inditex and the growth of fast fashion. *Essays in Economic & Business History*, 25:41–54.
- de Lucio, J., Mínguez, R., Minondo, A., and Requena, F. (2018). The variation of export prices across and within firms. *Review of World Economics*, 154(2):327–346.
- de Lucio, J., Mínguez, R., Minondo, A., and Requena, F. (2024). Reducing trade with Russia: Sanctions vs. firms’ voluntary suspension of activities. *Unpublished manuscript*. Available at: <http://paginaspersonales.deusto.es/aminondo/Research.htm>.
- Fajgelbaum, P. and Khandelwal, A. (2024). Direct-to-Consumer Trade and De Minimis Imports. *Mimeo*. Available at [https://akhandelwal8.github.io/files/wp\\_DM/DM\\_post.pdf](https://akhandelwal8.github.io/files/wp_DM/DM_post.pdf).
- Fernandes, A. and Tang, H. (2020). Fast fashion: Theory and evidence from Portuguese textile and clothing firms. *CESifo Working Paper No. 8125*.
- Ghemawat, P. and Nueno, J. (2006). ZARA: Fast-fashion. *Harvard Business School Case Studies*.
- Guillén, M. (2005). *The rise of Spanish multinationals: European business in the global economy*. Cambridge University Press.
- Guillén, M. F. and García-Canal, E. (2010). *The new multinationals: Spanish firms in a global context*. Cambridge University Press.
- Hummels, D. L. and Schaur, G. (2013). Time as a trade barrier. *American Economic Review*, 103(7):2935–59.
- Krugman, P. (1995). Growing world trade: Causes and consequences. *Brookings Papers on Economic Activity*, 1995(1):327–377.



- Lendle, A., Olarreaga, M., Schropp, S., and Vézina, P. (2016). There Goes Gravity: eBay and the Death of Distance. *The Economic Journal*, 126(591):406–441.
- Rodrik, D. (2011). *The globalization paradox. Democracy and the future of the world economy*. WW Norton & Company, New York & London.
- Rodríguez, J. (2024). En las entrañas de Mango: una historia de moda y audacia. *El País Semanal*, (19 May, 2024).
- Volpe-Martincus, C., Sztajerowska, M., and Santi, M. (2024). Consumers and firms in international trade. *Inter-American Development Bank Working Paper 1607*.
- Womack, J., Jones, D., and Roos, D. (1990). *The Machine that Changed the World*. Simon and Schuster, New York.

# Appendix for “The increase in the number of low-value transactions in international trade”

This online Appendix displays additional Tables and Figures mentioned in the main text.

## Additional tables

**Table A.1:** Estimates from descriptive regressions analyzing the factors affecting a partner’s share in the total number of low-value transactions

	(1)	(2)
	Exports	Imports
GDP (ln)	0.548 <sup>a</sup> (0.057)	0.858 <sup>a</sup> (0.283)
GDP pc (ln)	0.400 <sup>a</sup> (0.093)	-0.113 (0.451)
Distance (ln)	-0.655 <sup>a</sup> (0.125)	0.370 (0.426)
Contiguity	1.362 <sup>b</sup> (0.565)	0.806 (0.615)
Language	1.007 <sup>a</sup> (0.284)	-2.064 <sup>a</sup> (0.591)
European Union	-1.474 <sup>a</sup> (0.274)	2.276 <sup>a</sup> (0.595)
Free trade agreement	0.019 (0.239)	-0.607 (0.912)
Observations	192	185
Pseudo-R2	0.668	0.597

Note: Data is for 2021. In columns 1 and 2 the dependent variable is the share of a country in Spanish total number of low-value export and import transactions, respectively. We estimate a Poisson pseudo-maximum likelihood model. Distance is the harmonic mean of the population-weighted distance between the most populated cities. Contiguity is an indicator variable that turns one if the partner country shares a land border with Spain. Language is an indicator variable that turns one if Spain and the partner country share the same official language. European Union is an indicator variable that turns one if the partner country belongs to the European Union. Free trade agreement is an indicator variable that turns one if Spain and the partner country belong to the same free trade agreement. GDP and GDP per capita data are from [World Bank’s World Development Indicators](#) database. The remaining independent variables are from the [CEPII gravity](#) database. Standard errors are in parentheses. a, b, and c: statistically significant at 1%, 5%, and 10%, respectively.

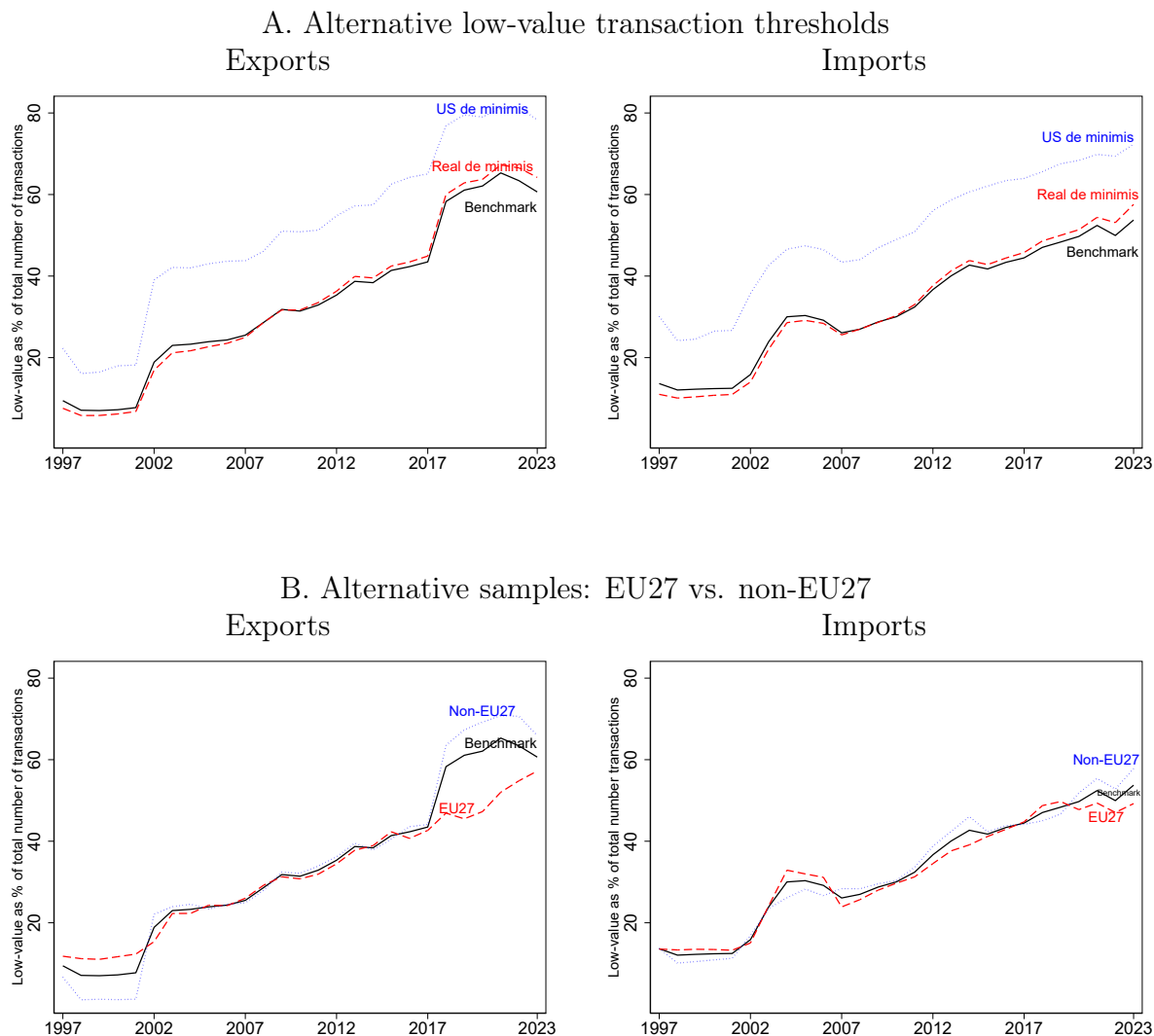
**Table A.2:** Correlation between large- and low-value transactions at the firm level

	Number		Value	
	(1)	(2)	(3)	(4)
	Exports	Imports	Exports	Imports
Large value $f_t$	0.43080 <sup>a</sup> (0.06503)	19.69778 <sup>a</sup> (1.84782)	0.00016 <sup>a</sup> (0.00005)	0.00060 <sup>a</sup> (0.00019)
Observations	1504377	2760297	1504377	2760297
Pseudo-R2	0.72290	0.54298	0.83725	0.67368

Note: In columns 1 and 2 the dependent variable is the number of low-value export and import transactions in millions per firm $\times$ year, respectively. In columns 3 and 4 the dependent variable is the total value in million euros of low-value export and import transactions per firm $\times$ year, respectively. We estimate a Poisson pseudo-maximum likelihood model. All regressions include firm and year fixed effects. Standard errors are in parentheses. a, b, and c: statistically significant at 1%, 5%, and 10%, respectively.

## Additional figures

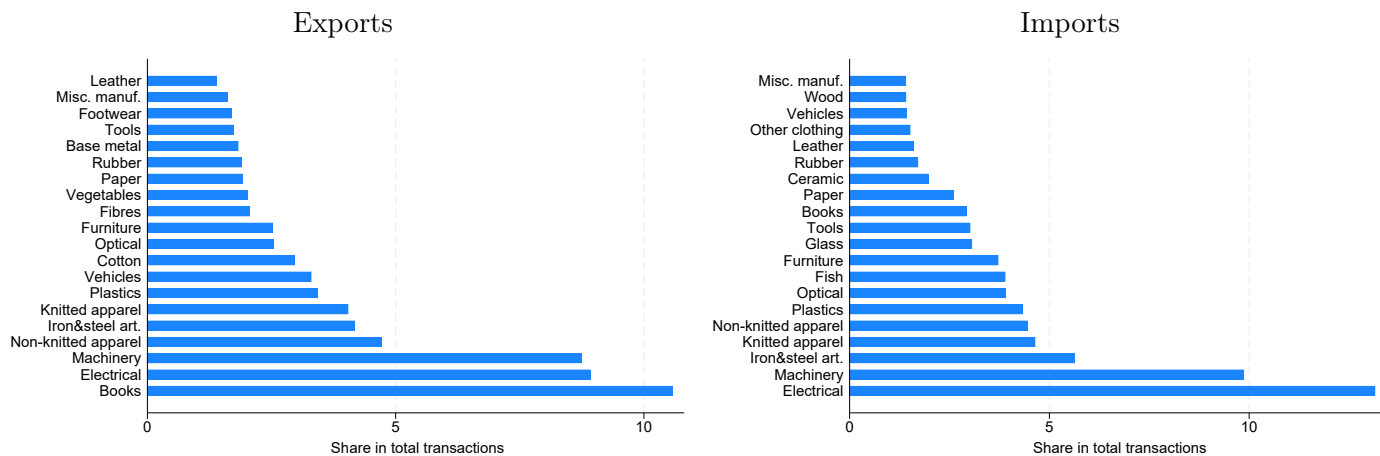
**Figure A.1:** Robustness analyses on the share of low-value transactions in total number of trade transactions



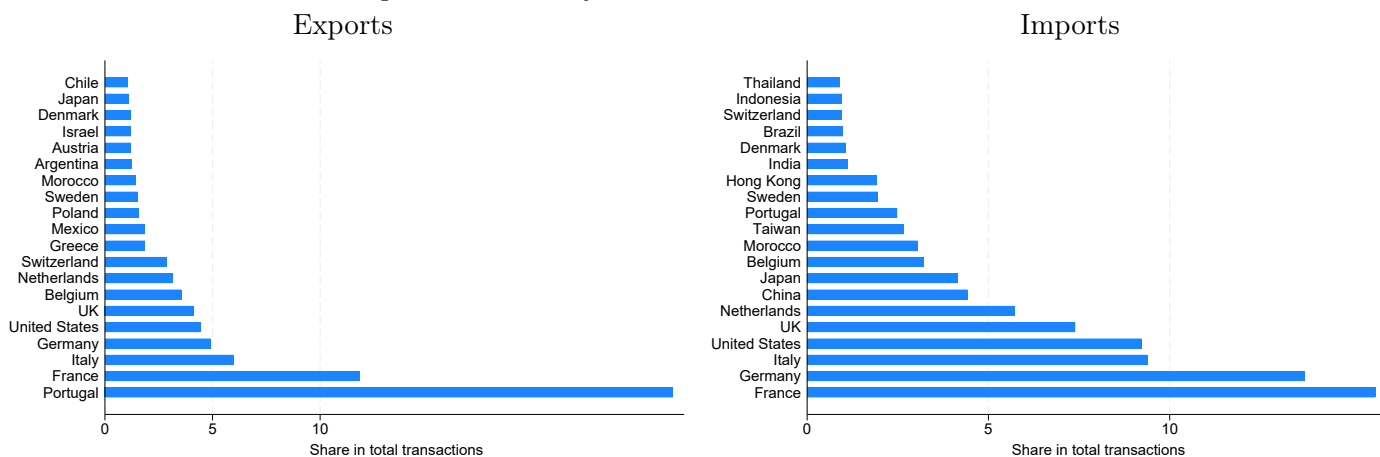
Note: Real de minimis corresponds to the 150 euro threshold, established in 2009, adjusted by the Spanish consumer price index (Spanish Statistical Institute, available at <https://www.ine.es>). US de minimis is the de minimis 800 USD value established by the United States in 2016. Benchmark corresponds to the share of low-value transactions reported in Panel A of Figure 1 in the main text.

**Figure A.2:** Stylized facts in 1997

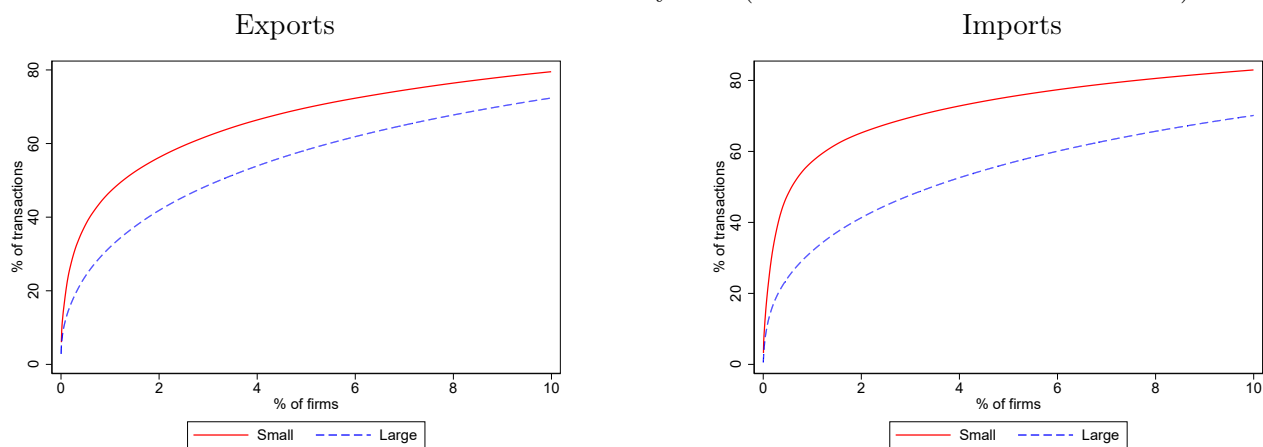
A. Top 20 HS 2-digit chapters by share in total number of transactions



B. Top 20 countries by share in total number of transactions



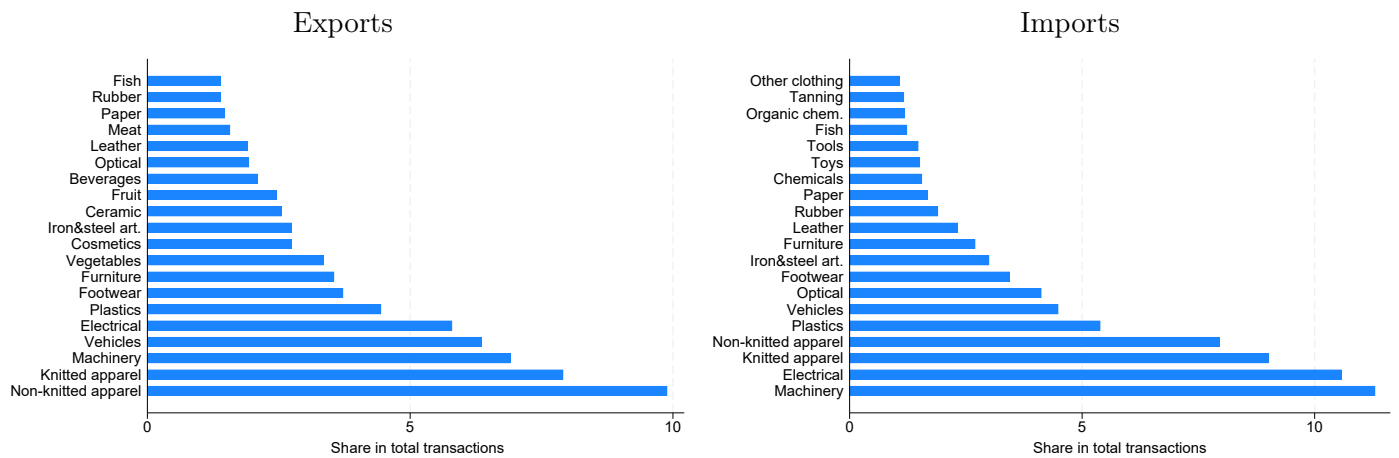
C. Concentration of number of transactions by firm (% of total number of transactions)



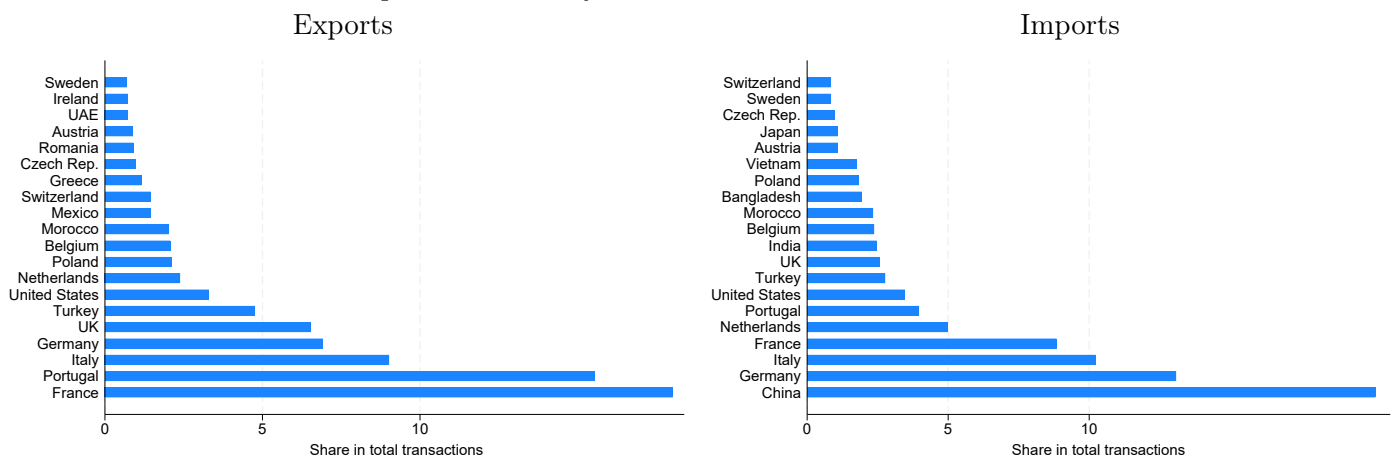
Note: authors' calculations based on AEAT-Customs.

**Figure A.3:** Stylized facts on high-value transactions in 2023

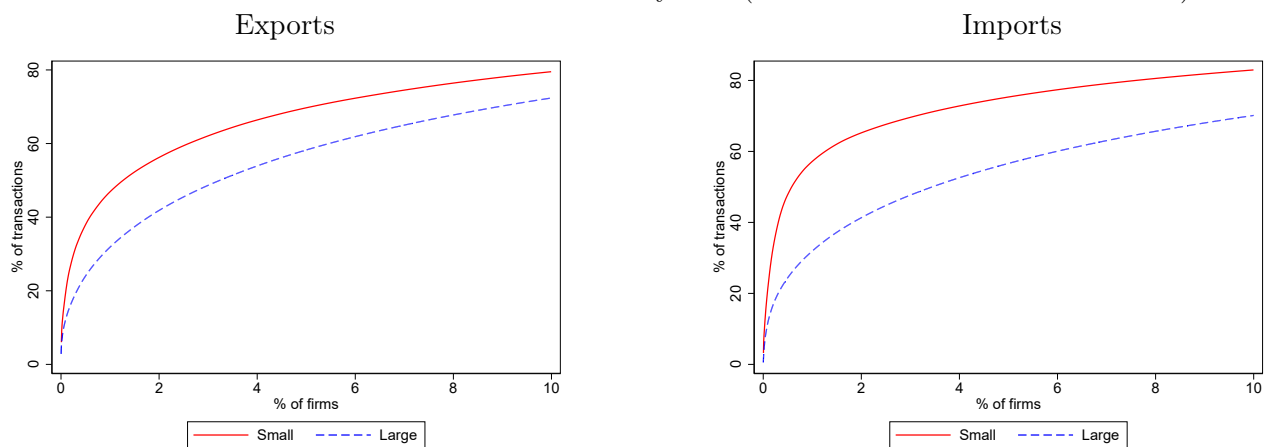
A. Top 20 HS 2-digit chapters by share in total number of transactions



B. Top 20 countries by share in total number of transactions

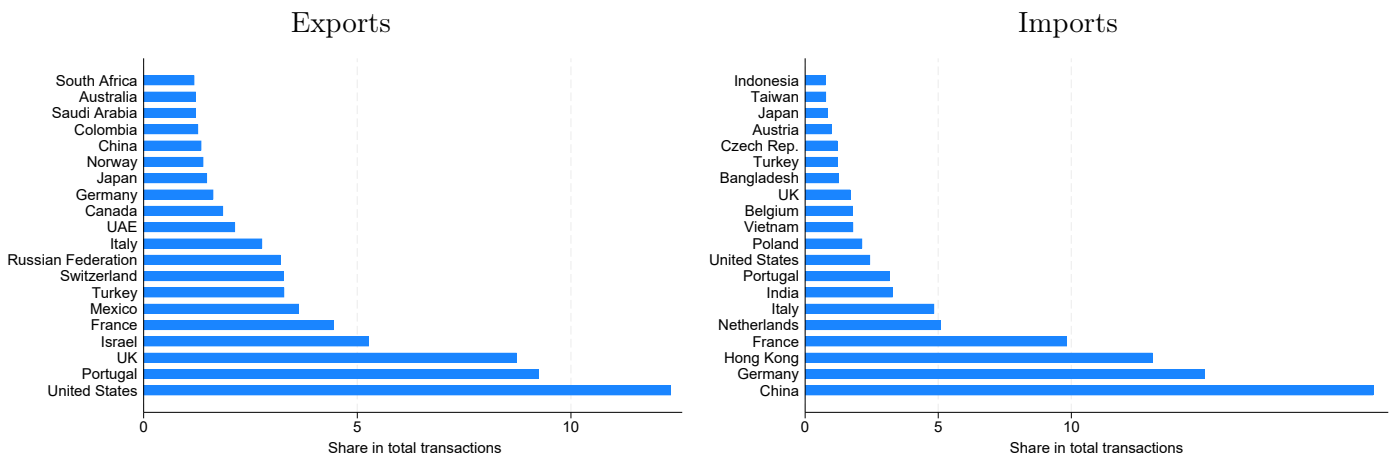


C. Concentration of number of transactions by firm (% of total number of transactions)



Note: authors' calculations based on AEAT-Customs.

**Figure A.4:** Ranking of number of low-value transactions by destinations and origins in 2021



Note: authors' calculations based on AEAT-Customs.