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Export Mix Changes and Firm Performance

Evidence from Chile

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Export Mix Changes and Firm Performance:

Evidence from Chile[*]

Abstract

In this paper we analyze changes in the export mix of Chilean firms, looking particularly at differences between large firms and SMEs. To do that, we use detailed information of exported products by firms during the period 1995-2005. Our econometric results, which look at the impact of export product churning on firm performance, are heterogeneous by type of change in export mix and by firm size. In general, export mix changes are associated with improvements on productivity, although our results suggest that this positive effect is only for SMEs. In terms of employment and sales, we find that export product churning has positive effect on large firms and lower – and in some case negative – on SMEs. It seems that changes in export mix are more important for firm growth in large firms, but not in terms of productivity. In contrast, SMEs can have a higher potential for productivity improvement through export product churning but this does not translate necessarily in significant increase in sales and employment.

Key Words: Productivity, Firms Growth, Export Mix, International Trade, SMEs, Large Firms

JEL Codes: D22, F14, L25

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1. Introduction

In traditional trade models, with perfect competition and no distortions, international trade promotes a better reallocation of resources and increases then overall efficiency (productivity) of the economy. The mechanism is well known: industries with comparative advantage (relatively more productive) expand and industries without comparative advantage (relative less productive) decline, and resources move towards their more productive use. Recent literature (Melitz, 2003; Bernard et al., 2003) has emphasized an additional mechanism of productivity increase. In the context of heterogeneous firms, with exogenous differences in productivity, opening to international trade promotes a better reallocation of resources within sectors. This happens because firms of high productivity expand and low-productivity firms decline (or exit)[1].

With the increased availability of detailed firm-product level data, a new literature on multi-product firms has studied how *within-firm* resources reallocation can also increase productivity.

In these models, firms endogenously sort across products and changes in the product mix – defined as dropping or adding products - have important quantitative effects on firm and aggregate productivity (Bernard et al. 2010). The rearrangement of the product mix occurs as a result of policy changes, such as opening to trade, which change trade costs (Bernard, et al. 2011), or exposure to different competitive pressures (Mayer, et al. 2011). In both cases, firms react by increasing production of their most productive and hence higher-profits goods that allows them to survive to the new environment of either higher wages as a result of openness to trade, or tougher competition. On the empirical side, Bernard, et al. (2010) and Goldberg et al. (2010) have analyzed the extent of product mix changes and their contribution to total output in manufacturing in the US and India, respectively. Navarro (2012) presents a similar exercise for

[1] Noteworthy recent models that sustain this view are Bernard et al (2007), who build a model including both within-industry and between industries factor reallocation. Bustos (2011) extends this type of heterogeneous firm models by considering that firms can invest in new technologies to increase productivity. In both cases, the conclusions are similar, and consistent with the idea that trade liberalization increases aggregate productivity.

Chile. These studies suggest that product mix changes are an important margin by which firms can reallocate resources, from less to more efficient uses, increasing firm productivity. Alvarez et al. (2012), using propensity score matching and panel regressions with fixed effects, estimate the impact of product mix changes on several firms performance variables, but they do not address the impact of changes in exported products.

In this paper, we move a step beyond, by analyzing empirically *export* product mix changes, and particularly looking at heterogeneous effects in small and medium size enterprises (SMEs) relative to larger firms, using information for Chilean manufacturing plants during the period 1995-2005. We focus on export mix changes and SMEs because smaller firms are markedly under-represented in Latin America´s external sector. As such, it can be argued that SME internationalization could be a growth opportunity for countries in the region, and it may be a major policy priority for these economies. The relevant policy question is how to best support and accelerate this internationalization process. Second, some literature has argued that small firms are different, since they face more important constraints than larger firms, which could impact the probability of performing export mix changes as well as its impact[2].

We first analyze if SMEs have a lower probability of actually doing export mix changes. We then explore heterogeneous effects - across firm size categories in terms of employment - of export products mix changes on firm's performance. In order to provide a more complete picture of these impacts, several indicators of firm performance are used: productivity, employment, and real sales. We consider different types of export mix changes: only adding products, only dropping products, and both adding and dropping products simultaneously. Given the endogeneity of changes in export mix, appropriate econometric procedures are used.

[2] This literature has focused on the relevance of financial constraints and its impact on productivity and export performance. See for example, Manova (2013), Jaud and Kukenova (2011), Minetti and Zhu (2011), Bellone et al. (2010) and Hericourt and Poncet (2013).

We find first that SME's have a lower probability of introducing changes in their export mix, but this effect is significantly mediated by the number of products the firm was exporting in the previous period. Second, introducing export mix changes, particularly adding products (with or without dropping at the same time) has, in general, a positive impact on productivity, sales and employment. However the impact on different outcome variables appears to be driven by different firms sizes. Higher productivity due to churning is mainly driven by SMEs, while the positive impact on employment and sales appears to be driven by larger firms. Our results are robust to different definitions of SMEs, introduction of lags in export product churning and different export value cutoffs to consider exported products.

The paper is structured as follows. In the second section, we describe our datasets and present the basic patterns of export churning and firm performance. In the third section, we discuss the econometric approach and how we deal with endogeneity issues. The fourth section presents our results. The fifth section concludes.

2. Data and Basic Facts

We use and merge two datasets in our empirical analysis. First, we have detailed data on firm level Chilean exports, from customs. It provides information on export value by firm and product (at the 6-digit level of aggregation according to Harmonized System). We merge this information with firm level characteristics from the INE´s Annual Survey of Manufactures (ENIA). ENIA provides information on total employment, value-added and fixed capital, which allows us to estimate production functions and calculate total factor productivity using the procedure of Levinsohn and Petrin (2003)[3]. The merging process allows us to have a sample period for 1995-2005 of firms that were part of ENIA, where some of which exported according

[3] All nominal variables were deflated using industry- specific (3-digit ISIC) prices indexes.

to customs, and some of which did not[4]. In other words, our sample is the full ENIA database, with customs product export information attached. We dropped firms that had information from customs but not from ENIA, as we need firm level information.

Additionally, since we need to identify the adding and dropping of export products, we use a single HS classification in order to avoid misclassifying code changes for product mix changes. Since HS classifications changed over time (our datasets include HS1992, HS1996 and HS2002), we use a homologation procedure used in Wagner and Zahler (2013). Finally, we filtered our merged dataset as we dropped observations that were too small (with a threshold of $1000 per firm-product transaction) [5].

We adopt the following definitions for export product churning:

- Added products: a product is not exported in t-1, but exported in t
- Dropped products: a product is exported in t-1, but not exported in t[6]

Using these definitions firms undertaking export product churning are classified in three mutually exclusive categories: (i) those that only add export products, (ii) those that only drop export products, and (iii) those that add and drop products simultaneously.

Using both information sources and the definitions described above, we document the main stylized facts on export product churning in Chilean manufacturing plants. We present our results differentiating firms by size (large and SMEs) using a standard employment based definition by employment. In the case of Chile, firms with less than 200 workers are classified as SMEs. We

[4] We initially tried to use data from the Formulario 3 from ENIA instead of using customs. This annex from ENIA, provides both product codes of exported products and *produced* products. Having information of produced products (and not only exported products as we have if we use customs information) is an advantage because we can get evidence on if differential export product churning is driven by export considerations or production related factors. These products are classified in the CPC codification. Even though we got a correspondence between HS and CPC, there was a recodification of CPC codes in 2001 which we could not correct by an appropriate correspondence *within* CPC classifications. Second, using F3 and not customs data eliminates a significant part of the action of churning as many firms export many products that they do not produce.

[5] We also tried other thresholds (mainly zero and $5,000) as robustness checks, which we do not show in the paper, since results do not change significantly.

[6] In the results, we also show an alternative definition as robustness check, dropping products that lasted only one year and thus defining "add" as a product that was not exported in t-2, and was exported in t-1 and t.

show also information with a different threshold of 100 workers. Table 1 shows basic stylized facts and descriptive statistics.

Our database is an unbalanced panel of 9855 manufacturing firms, where 13.3% of them have more than 100 workers. A relatively similar number of large and SME firms export at some point in the eleven-year time sample[7]. However, as shown in the literature, most large firms export (81% compared with 22% of SMEs). The average number of exported products is very different between large firms and SMEs. Large firms export on average (median) 5 (3) products, whereas SMEs export 0.57 (0). Also, exported values of old and new products are significantly higher in large firms. The former is expected but not necessarily the latter. Finally, we also observe that survival and large exported volume of new products are marginally higher for large firms compared to SMEs.

Next, we show figures showing the evolution of key variables over time. First, we look at the total number of exported products per firms (extensive margin) and total exports per product and firm (intensive margin). The average number of exported products has been stable on around 1.5 (Figure 2.1), with large firms exporting a higher number of products (about 5).

The export churning is an important phenomenon in manufacturing plants. Every year about 25% of firms change their export mix. In general, independently of the employment threshold used for size, the evidence suggests SMEs are less likely to do export product churning than large firms. This is true in the case of firms only adding export products (Figure 2.2), only dropping export products (Figure 2.3), and adding and dropping at the same time (Figure 2.4). Logically, SMEs have a higher propensity of not doing any export product churning (Figure 2.5). More than 80% of them do not do any churning (mostly because most of them do not export), whereas only around 30% of larger firms do not engage in these dynamics.

[7] We use the 100 employee SME definition for our analysis in this section.

In figure 2.6, we show that this phenomenon is not only important in terms of the number of firms but also in terms of export value. Firms do any type of changes in export mix represent about 85% of total exports, but these firms are less important in terms of export by SMEs (about 70%) compared by exports by large firms (around 95%).

All of these stylized facts are robust whether we consider exporter firms only. In Figure 2.7, we show that large firms export about 7 products while SMEs export about 3 products only. Also, conditional on exporting, Figure 2.8 presents evidence that large firms are more likely to add products (about 25% during the period) than SMEs (about 22%). Figures 2.9 and 2.10 indicate, that consistent with previous evidence for the entire sample, SMEs are less likely to drop products and add and drop products simultaneously. While about 13% of large exporters do not undertake any export churning, this figure is about 24% in SMEs (Figure 2.11).

A final stylized fact we show is product survival. Consistent with evidence for other countries, entry of new products, a main component of product churning, has a low chance of survival (Eaton et al., 2007). 70% of products introduced by firms in our database last only one year, and it decreases over time. Comparing large and SMEs, we do not find quantitatively important differences between both groups of firms, although survival rates are slightly higher for large firms.

Overall, the descriptive evidence shows that SMEs have a lower propensity to export, export less products and have lower export value per product, have lower unconditional propensities to change their export mix and have a marginally lower chance of survival in the new products they introduce.

3. Econometric Approach

We present two set of estimations for looking at, first, whether SMEs are less or more likely to change their export mix. After that, we analyze the impact of export product churning on variables related with firm performance, specifically with productivity, sales, and employment.

In the first case, to look at differences in the propensity to change export mix across firm categories, we estimate several cross-sectional Probit regressions as follows:

$$P(PCH_i = 1) = \emptyset(\beta D_i^P + \varepsilon_i)$$

Where PCH is a dummy variable for firms undertaking changes in the export mix, and D^P is a dummy variable for SMEs. The parameter of interest is β that measures the differences in the probability of product churning between large firms and SMEs. To control for industry-specific differences, we include industry-fixed effects[8].

After documenting whether SMEs are less or more likely than large firms to do product churning, we explore how changes in export mix are associated with changes in firm performance. Following the theoretical literature on within-firm factor reallocation, we expect that product churning be associated with increases in productivity. These estimations are based on the idea that product mix changes are an important margin by which firms can move resources from less to more efficient uses, increasing firm productivity. We distinguish the effect of adding and dropping products and we also look at differential impact depending on firm size. In particular, differences between large firms and SMEs. To give a broader picture of the effects of export product churning, we also look at the impact on other characteristics of the firms, specifically, on sales and employment

[8] We do not undertake panel estimation in this case because we are interested mainly in documenting cross-sectional statistical differences between large firms and SMEs.

To deal with endogeneity issues, given by the fact that export churning can be determined by observable and unobservable firm characteristics, we use a dynamic model as follows:

$$Log(Y_{it}) = \alpha_i + \alpha_t + \beta Log(Y_{it-1}) + \delta Churning_t + \epsilon_{it}$$

The performance variable (Y) is explained by its own lag and for a dummy variable for product churning. The lagged values of the dependent variable controls for past performance that can affect the decision of changing the export mix, and the firm-fixed effect controls for all unobservable and time invariant firm characteristics that also affect product churning. All time-variant shocks, such as changes in real exchange rate, which can affect firm´s performance, are captured by year dummy variables ($\square_t$). In all our regressions, we also include the number of exported products as explanatory variable for capturing differences in the potential scope for product churning across firms.

For the dependent variables, we measure employment as the number total of workers and sales are measured in real terms using 3-digit industry deflators. For productivity, we calculate TFP as residual from value added production functions at the 3-digit ISIC level following the Levinsohn and Petrin (2003) technique.

A descriptive statistic of the main variables we use can be seen in Table 3.1.

[Table 3.1 around here]

Also, once we take log differences of our key dependent variables we found a relevant number of outlier values (productivity changing more than 100% from one year to another and employment and sales of a log difference of more than 2 in absolute value). We dropped those observations for the analysis of section 4.

4. Results

4.1 Differences in Export Churning

In Table 4.1, panel A, we show the results for the probability of export products churning for three selected years. The dependent variable is measured as dummy for any change in export mix either adding or dropping products. As it can be appreciated in columns (1) through (3), the parameter is negative and statistically significant and indicates that SMEs are about 50% less likely to do any export product churning. In columns (4) through (6), by including the number of exported products, we confirm that SMEs are less likely to make product churning than large firms even after controlling for this variable, although the differences with large firms is reduced to about 16%. This indicates that lower product churning is not only associated to the fact that SMEs export less products, but due also due to underlying factors of being a SME[9]. In panel B of Table 4.1, we present similar results using contemporaneous and one year lags of the number of exported products and the findings are similar.

Using a threshold of 200 workers for defining SMES, the results are qualitatively similar, but it is harder to find significant differences between large and SMEs (Table 4.2). As it can be appreciated, after controlling for the number of exported products, the differences in the probability of introducing changes in the export mix are mostly not significant across the specifications.

In Tables 4.3 and 4.4, we complement previous results using a Multinomial Logit for explaining differences across the three types of product churning: only add products, only drop products, and add and drop products at the same time. In general, these results show that SMEs

[9] Even though Formulario 3 has consistency problems, we also used it to whether SMEs are less likely to introduce changes in the export mix, even after controlling for the number of *produced* product by firms. We find that our results hold when controlling for this variable.

are less likely to both adding and dropping products. Consistent with previous results, these findings are robust to the inclusion of the number of exported products as control variable.

4.2 The Impact of Export Churning

The basic regressions for the impact of product churning on TFP, sales and employment are shown in Table 4.5. We show results controlling and not controlling for the number of exported products. In general, we find that product churning is associated with improvements in TFP and increase in employment and sales, but with some differences depending on the type of mix change and performance variable. For productivity, we find that dropping export products and adding and dropping at the same time have a positive effect on TFP. We find also that adding products and adding and dropping have a positive effect on total sales. In contrast, for employment, our results show that all types of product churning are associated with firm growth. It does not make too much difference for these results if we control or not for the number of exported products. In fact, only one variable in one specification (only drop export products for the sales equation) turns out to be not significant[10].

These results hold also we include one additional lag of the variables associated with export product churning (Table 4.6). In general, the additional lag reinforces the positive effect of changes in the export mix or they are statistically significant. For this reason, in the rest of the paper we present the results using only contemporaneous variables for changes in the export mix.

In quantitative terms, our basic results (Table 4.5) suggest that adding & dropping products would generate an increase of about 3% in the short-run and about 10% in the long-run. The magnitudes are similar considering the effect of other types of changes in the export mix on sales and employment. In fact, add and dropping products increases sales and employment by about 4% and 2% in the short-run, and 12% and 9% in the long-run. Compared to previous results, the

[10] Due to this, we do not incorporate this variable in the following regressions. Results including this variable are available upon request.

magnitude of these effects is smaller. Alvarez et al. (2012) reports a positive effect of 17% on total factor productivity for adding products, 18% for drooping products, and 30% for firms adding and dropping products simultaneously. However, the estimated effects in that paper refers to changes in the mix of produced and not exported products. Also, there some studies looking at the impact of exit from international markets, not specifically to dropping products, showing a contemporaneous fall in productivity of 2.7% which is not sustained over time (Girma et al., 2003). Then, our results are more in line with theoretical literature suggesting a positive effect of changes in export mix due to within-firm reallocation effects, but the magnitude tends to be lower than those coming from changes in products produced by the firm.

We analyze whether the impact of export product churning is different for SMEs than for large firms. To do that, we include and interaction between export churning and a dummy for SMEs. In this case, SME 100 (SME 200) indicates firms with less than 100 (2000) workers. The results for SME 100 are shown in Table 4.7. In general, we find that improvements in productivity associated with product churning are mostly driven by the impact on SMEs. The parameter of the interaction with the size dummy is positive and significant for only adding products and for adding and dropping export products simultaneously. As it can be appreciated in the productivity equation, the parameter for dummy variables of export product churning is not significant, suggesting that changes in export mix are not related with productivity improvements for large firms.

Looking at the effects on employment and sales, the results go in the opposite way. The parameters of the interactions are always negative and significant. This suggests a positive effect of export product churning on employment and sales for large firms, but a smaller impact and in some cases negative on SMEs. Then, our findings reveal that SMEs are more likely to take

advantage of increasing productivity by reallocating resources within the firms, but they do not experience large gains in terms employment and sales.

In Table 4.8, we present the results for SMEs defined with the employment threshold of 200 workers (SME2000). The results are qualitatively similar, but with some changes in terms of magnitude. Consistent with previous results for SME 100, we find a positive effect of export product churning (only add and add and drop) on productivity for SMEs, but not significant effects on productivity of large firms. For sales and employment, the interaction terms between variables of changes in export mix and the size dummy are also negative, but lower in absolute value compared to SME100, indicating that the effect on employment and sales is positive, but small. Then, the positive effect of export product churning in terms of sales and employment seems to be increasing in the size of the firms.

We check the robustness of our results to alternative methodologies. First, we estimate a simple fixed effects regression without lagged dependent variables (FE in the following tables). Second, we use additional lags of the dependent variable (FE lags). Third, to deal with the endogeneity in linear panel data models with fixed effects and lagged dependent variable, we use the system GMM methodology (SGMM)[11].

Tables 4.9 and 4.10 presents the results for the impact of changes in export mix on productivity. Our findings reveal that the impact of product churning is not robust across methodologies. In general, in contrast to previous results, most of coefficients are not significant and not consistent with the idea that product churning increases SMEs productivity mostly.

The results for sales are presented in Tables 4.11 and 4.12. In this case, our findings are more similar to the previous ones. In general, we find that changing export mix, either adding

[11] Given that using additional lags of the dependent variable reduces the number of observations, for each group of regressions we also show results with the common sample.

or/and dropping products, is associated with increases in sales and that this impact is lower for SMEs.

Finally, in Tables 4.13 and 4.14, we present the results for the effect of changes in export mix on employment. We find that, in general, adding and/or dropping products has a positive effect on sales. Also, consistent with previous evidence and across different methodologies, this positive impact is larger for SMEs.

In the case of the results using lagged dependent variable as covariate and fixed effects, there is a consistency problem originated by the correlation between the lag of the dependent variable and the error term. To look at how sensitive are our results to this endogeneity problem, we have also estimated the regressions excluding fixed effects. In general, our results do not change qualitatively. In general, we find positive effect of changes in export mix on sales and employment, and these effects tend to be lower for SMEs[12].

5. Conclusions

In this paper, we analyze changes in the export mix of Chilean firms, looking particularly at differences between large firms and SMEs. Using detailed information of exported products by firms during the period 1995-2005, we find several interesting facts. First, export product churning is an important phenomenon in manufacturing plants, not only in terms of the number of firms but also in terms of the importance of firms in total exported value.

Second, and consistent with evidence for other countries, entry of new products into international markets has a low and decreasing chance of survival. Comparing large firms and SMEs, the descriptive evidence shows that SMEs have a lower propensity to export, export less products and have lower export value per product, have lower unconditional propensities to

[12] These results are available upon request.

change their export mix and have a marginally lower chance of survival in the new products they introduce.

Third, we find, through regression analysis, that SMEs are less likely to do export product churning than large firms. This result is robust to controlling for the potential scope of product churning captured by the number of exported products and, indeed, for the number of sold products.

Our econometric results, which look at the impact of export product churning on firm performance, are heterogeneous by type of change in export mix and by firm size. In general, export mix changes are associated with improvements on productivity, although our results suggest that this positive effect is only for SMEs. However, this result does not hold when alternative methodologies are used. In terms of employment and sales, we find that export product churning has a positive effect on large firms and lower – and in some case negative – on SMEs. It seems that changes in export mix are more important for firm growth in large firms, but not in terms of productivity. In contrast, SMEs can have a higher potential for productivity improvement through export product churning, but this does not translate necessarily in significant increase in sales and employment.

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Table 2.1
Descriptive Statistics

	MEANS				
	Overall	More than 200 workers	Less than 200 workers	More than 100 workers	Less than 100 workers
Number of Firms	9855	647	9208	1319	8536
Number of Exports Firms	2979	567	2412	1080	1899
Total Number of Exported Products	3470	2844	2911	3127	2527
Number of exported product per firm (unconditional)	1.34	6.97	0.8	4.98	0.57
Total value exported (US$ million) per firm (unconditional)	0.38	3.20	0.12	1.82	0.08
Total value exported old products (US$ million) per firm (unconditional)	0.34	2.92	0.10	1.64	0.07
Total value exported new products (US$ million) per firm (unconditional)	0.41	0.28	0.02	0.18	0.01
% of survival after five years (products that survive in t+4 or beyond as % of those born in t)	11.05%	12.49%	10.02%	11.75%	9.97%
% of all new products in "t" that after 5 years being exported exceed 10% of total export of the corresponding firm	5.57%	4.35%	6.49%	4.73%	6.98%
% of all new products in "t" that after 5 years being exported exceed 500,000US$	1.12%	1.67%	0.72%	1.44%	0.62%

	MEDIANS				
	Overall	More than 200 workers	Less than 200 workers	More than 100 workers	Less than 100 workers
Number of exported product per firm (unconditional)	0	4	0	3	0
Total value exported (US$ million) per firm (conditional)	0.00	0.29	0.00	0.12	0.00
Total value exported old products (US$ million) per firm (conditional)	0.00	0.19	0.00	0.07	0.00
Total value exported new products (US$ million) per firm (conditional)	0	0.012	0	0.0028	0

Figure 2.1

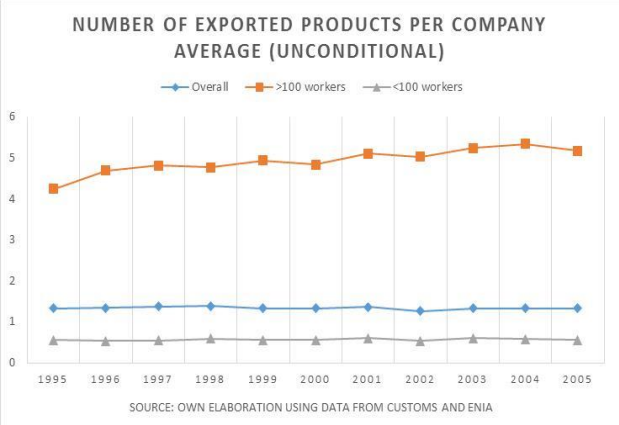

Figure 2.2

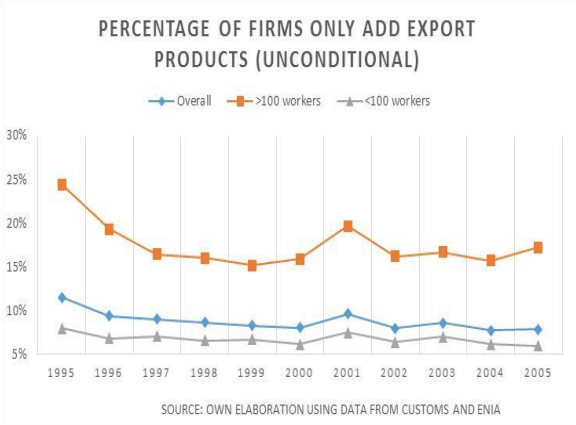

Figure 2.3

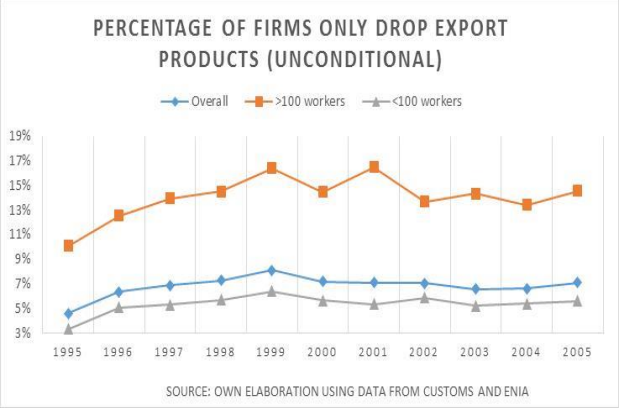

Figure 2.4

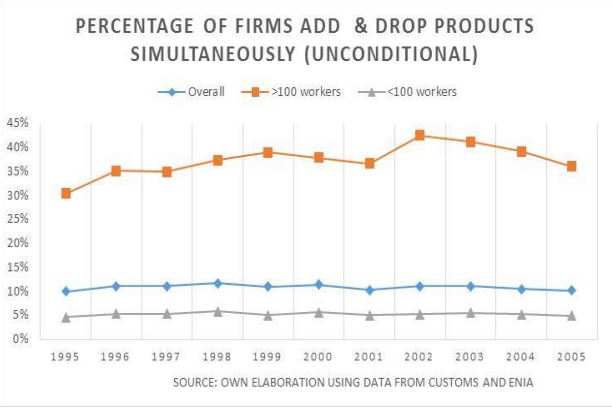

Figure 2.5

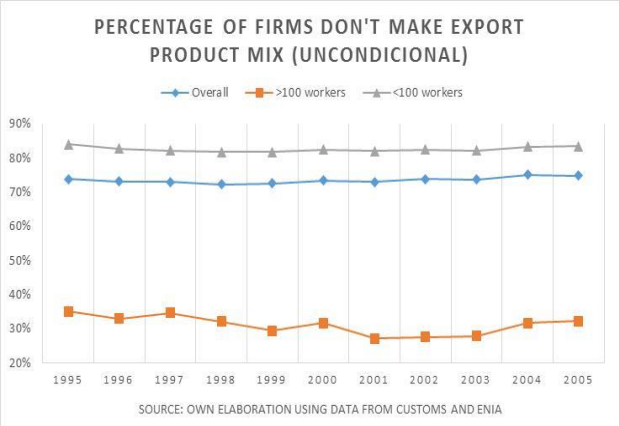

Figure 2.6

Figure 2.7

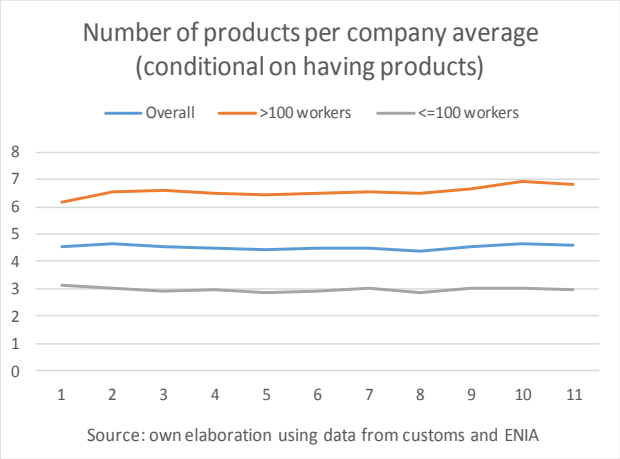

Figure 2.8

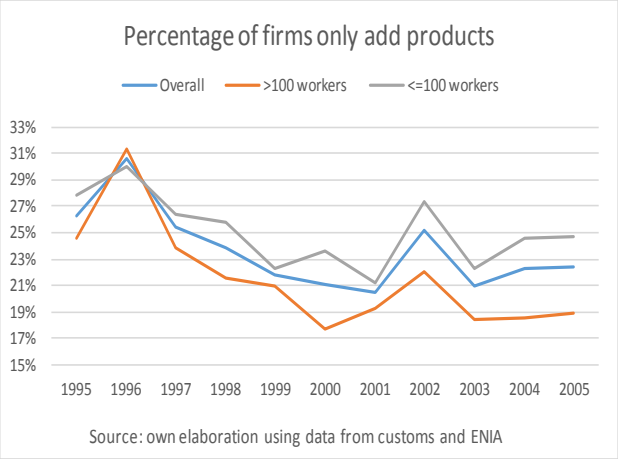

Figure 2.9

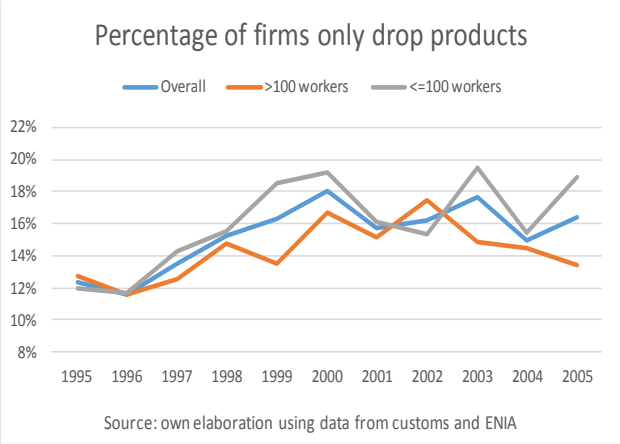

Figure 2.10

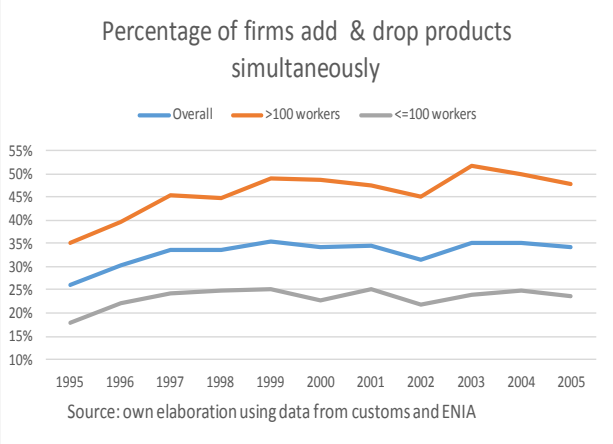

Figure 2.11

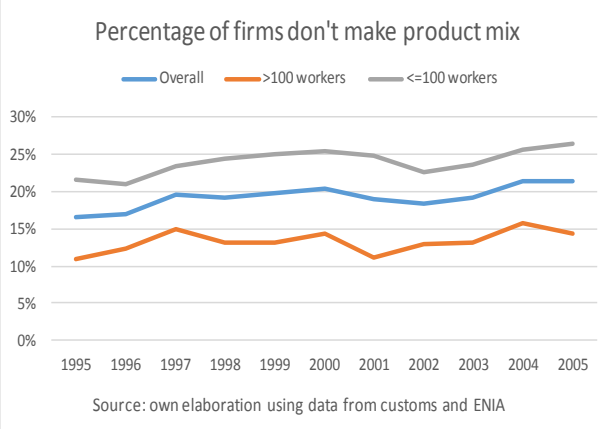

Table 3.1

Variable	Mean	Standard Desviation	p1	p5	p50	p95	p99
Log Productivity	9.4	1.3	6.2	7.8	9.3	11.4	13.0
Log Ventas	13.5	1.7	10.5	11.2	13.2	16.7	18.3
Log Empleados	3.5	1.1	1.4	1.9	3.2	5.7	6.7
# exported products (unconditional)	1.2	3.6	0	0	0	7	17
# drop products (unconditional)	0.5	1.8	0	0	0	3	8
# new products (unconditional)	0.5	1.8	0	0	0	3	8

Table 4.1
Probability of Any Change in Export Mix, SMEs with less than 100 workers

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	1995	2000	2005	1995	2000	2005
SME100	-0.500***	-0.521***	-0.513***	-0.166***	-0.163***	-0.116***
	(0.033)	(0.021)	(0.035)	(0.026)	(0.034)	(0.036)
#_exported_products				0.435***	0.280***	0.270***
				(0.039)	(0.039)	(0.034)
Observations	5,173	4,793	5,085	5,173	4,793	5,085
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo-R-squared	0.215	0.201	0.209	0.636	0.533	0.551
	(7)	(8)	(9)	(10)	(11)	(12)
VARIABLES	1995	2000	2005	1995	2000	2005
SME100	-0.299***	-0.163***	-0.191***	-0.128***	-0.099**	-0.092***
	(0.064)	(0.033)	(0.031)	(0.032)	(0.039)	(0.032)
#_exported_products				0.364***	0.155***	0.170***
				(0.048)	(0.032)	(0.018)
#_exported_products(t-1)	0.312***	0.286***	0.249***	0.105***	0.183***	0.133***
	(0.027)	(0.045)	(0.041)	(0.032)	(0.034)	(0.020)
Observations	5,173	4,793	5,085	5,173	4,793	5,085
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo-R-squared	0.215	0.201	0.209	0.649	0.587	0.582

SME100: dummy that takes the value of one if the firm has less than 100 workers. #_exported_products: number of exported products in year *t*. #_exported_products(t-1): number of exported products in year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.2
Probability of Any Change in Export Mix, SMEs with less than 200 workers

VARIABLES	(1) 1995	(2) 2000	(3) 2005	(4) 1995	(5) 2000	(6) 2005
SME200	-0.569***	-0.611***	-0.589***	-0.081	-0.134***	-0.081
	(0.033)	(0.026)	(0.044)	(0.057)	(0.046)	(0.061)
#_exported_products				0.458***	0.295***	0.280***
				(0.040)	(0.040)	(0.021)
Observations	5,173	4,793	5,085	5,173	4,793	5,085
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo-R-squared	0.158	0.151	0.163	0.632	0.529	0.550
VARIABLES	(7) 1995	(8) 2000	(9) 2005	(10) 1995	(11) 2000	(12) 2005
SME200	-0.282***	-0.146***	-0.146***	-0.031	-0.060	-0.029
	(0.080)	(0.042)	(0.051)	(0.059)	(0.049)	(0.061)
#_exported_products				0.378***	0.160***	0.178***
				(0.051)	(0.030)	(0.019)
#_exported_products(t-1)	0.339***	0.299***	0.262***	0.113***	0.188***	0.136***
	(0.026)	(0.045)	(0.041)	(0.032)	(0.033)	(0.020)
Observations	5,173	4,793	5,085	5,173	4,793	5,085
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo-R-squared	0.158	0.151	0.163	0.647	0.585	0.581

SME200: dummy that takes the value of one if the firm has less than 200 workers. #_exported_products: number of exported products in year *t*. #_exported_products(t-1): number of exported products in year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.3
Multinomial Logit for Change in Export Mix, SMEs with less than 100 workers

VARIABLES	(1) 1995	(2) 2000	(3) 2005	(4) 1995	(5) 2000	(6) 2005
d_no_product_mix						
SME100	0.500***	0.534***	0.527***	0.194***	0.171***	0.145***
	(0.0478)	(0.0190)	(0.0183)	(0.0360)	(0.0377)	(0.0358)
#_exported_products				-0.581***	-0.400***	-0.364***
				(0.0276)	(0.0243)	(0.0202)
d_onlyadd						
SME100	-0.171	-0.0984***	-0.122***	-0.0227	0.00318	-0.0125
	(0.185)	(0.0135)	(0.0142)	(0.0254)	(0.0167)	(0.0173)
#_exported_products				0.325***	0.150***	0.152***
				(0.0200)	(0.0122)	(0.0110)
d_only_drop						
SME100	-0.0574*	-0.104***	-0.0871***	-0.132***	-0.151***	-0.111***
	(0.0300)	(0.0141)	(0.0129)	(0.0241)	(0.0288)	(0.0256)
#_exported_products				0.117***	0.153***	0.134***
				(0.0125)	(0.0135)	(0.0112)
d_add&drop						
SME100	-0.271**	-0.331***	-0.318***	-0.0396***	-0.0236*	-0.0212**
	(0.111)	(0.0188)	(0.0179)	(0.0144)	(0.0125)	(0.0103)
#_exported_products				0.139***	0.0969***	0.0780***
				(0.0125)	(0.00963)	(0.00750)
Observations	5,176	4,797	5,085	5,176	4,797	5,085
Industry FE	YES	YES	YES	YES	YES	YES

SME100: dummy that takes the value of one if the firm has less than 100 workers. #_exported_products: number of exported products in year *t*. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. d_no_product_mix: if the firm don't make product mix in year *t* relative to year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.4
Multinomial Logit for Change in Export Mix, SMEs with less than 200 workers

VARIABLES	(1) 1995	(2) 2000	(3) 2005	(4) 1995	(5) 2000	(6) 2005
d_no_product_mix						
SME200	0.586***	0.628***	0.600***	0.136**	0.204***	0.156***
	(0.0213)	(0.0229)	(0.0224)	(0.0579)	(0.0613)	(0.0554)
#_exported_products				-0.609***	-0.418***	-0.377***
				(0.0263)	(0.0239)	(0.0200)
d_only_add						
SME200	-0.143***	-0.0899***	-0.107***	0.0249	0.00140	-0.00778
	(0.0199)	(0.0193)	(0.0197)	(0.0316)	(0.0226)	(0.0228)
#_exported_products				0.332***	0.149***	0.154***
				(0.0190)	(0.0117)	(0.0107)
d_only_drop						
SME200	-0.0445***	-0.0902***	-0.0762***	-0.112***	-0.190***	-0.127***
	(0.0127)	(0.0200)	(0.0176)	(0.0379)	(0.0476)	(0.0395)
#_exported_products				0.133***	0.166***	0.143***
				(0.0128)	(0.0136)	(0.0112)
d_add&drop						
SME200	-0.399***	-0.448***	-0.417***	-0.0490**	-0.0155	-0.0214
	(0.0242)	(0.0285)	(0.0265)	(0.0218)	(0.0166)	(0.0142)
#_exported_products				0.144***	0.102***	0.0811***
				(0.0121)	(0.00954)	(0.00744)
Observations	5,176	4,797	5,085	5,176	4,797	5,085
Industry FE	YES	YES	YES	YES	YES	YES

SME200: dummy that takes the value of one if the firm has less than 200 workers. #_exported_products: number of exported products in year *t*. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. d_no_product_mix: if the firm don't make product mix in year *t* relative to year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.5
Impact of Change in Export Mix, Basic Results

VARIABLES	(1) Log productivity	(2) Log sales	(3) Log employees	(4) Log productivity	(5) Log sales	(6) Log employees
Log productivity(t-1)	0.701***			0.701***		
	(0.015)			(0.015)		
d_only_add	0.018	0.041***	0.022***	0.018	0.041***	0.022***
	(0.012)	(0.008)	(0.005)	(0.012)	(0.008)	(0.006)
d_only_drop	0.021**	0.012*	0.015**	0.021**	0.008	0.012*
	(0.009)	(0.006)	(0.007)	(0.009)	(0.006)	(0.007)
d_add&drop	0.032***	0.043***	0.033**	0.032***	0.038***	0.029**
	(0.009)	(0.009)	(0.012)	(0.009)	(0.008)	(0.011)
Log sales(t-1)		0.686***			0.685***	
		(0.016)			(0.016)	
Log employees(t-1)			0.664***			0.664***
			(0.016)			(0.016)
#_exported_products(t-1)				-0.000	0.002*	0.002*
				(0.001)	(0.001)	(0.001)
Constant	2.816***	4.236***	1.150***	2.816***	4.245***	1.150***
	(0.141)	(0.211)	(0.054)	(0.142)	(0.213)	(0.055)
Observations	40,320	40,320	40,320	40,320	40,320	40,320
Firms	8,033	8,033	8,033	8,033	8,033	8,033
Adjusted R-squared	0.496	0.464	0.453	0.496	0.465	0.453
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES

Log productivity: the logarithm of productivity of a firm. Log productivity(t-1): the logarithm of productivity of a firm in year *t-1*. Log sales: the logarithm of sales of a firm. Log sales(t-1): the logarithm of sales of a firm in year *t-1*. Log employees: the logarithm of the number of workers of a firm. Log employees(t-1): the logarithm of the number of workers of a firm in year *t-1*. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. #_exported_products(t-1): number of exported products in year *t-1*.
Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.6
Impact of Change in Export Mix, lagged explanatory variables

VARIABLES	(1) Log productivity	(2) Log sales	(3) Log employees
Log productivity(t-1)	0.700***		
	(0.015)		
d_only_add	0.018	0.041***	0.021***
	(0.012)	(0.008)	(0.005)
d_only_add(t-1)	-0.004	0.017**	0.023***
	(0.011)	(0.008)	(0.007)
d_only_drop	0.023**	0.001	0.003
	(0.011)	(0.008)	(0.007)
d_only_drop(t-1)	0.007	0.010	0.009
	(0.010)	(0.007)	(0.006)
d_add&drop	0.034***	0.033***	0.022*
	(0.009)	(0.009)	(0.011)
d_add&drop(t-1)	0.006	0.028***	0.022**
	(0.010)	(0.007)	(0.009)
Log sales(t-1)		0.685***	
		(0.016)	
Log employees(t-1)			0.664***
			(0.016)
Constant	2.816***	4.243***	1.149***
	(0.142)	(0.211)	(0.054)
Observations	40,320	40,320	40,320
Firms	8,033	8,033	8,033
Adjusted R-squared	0.496	0.465	0.453
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Log productivity: the logarithm of productivity of a firm. Log productivity(t-1): the logarithm of productivity of a firm in year *t-1*. Log sales: the logarithm of sales of a firm. Log sales(t-1): the logarithm of sales of a firm in year *t-1*. Log employees: the logarithm of the number of workers of a firm. Log employees(t-1): the logarithm of the number of workers of a firm in year *t-1*. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_add(t-1): if the firm only add products in year *t-1* relative to year *t-2*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_only_drop(t-1): if the firm only drop products in year *t-1* relative to year *t-2*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. d_add&drop(t-1): if the firm add and drop products in year *t-1* relative to year *t-2*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.7
Impact of Change in Export Mix, Interaction with dummy for Size

VARIABLES	(1) Log productivity	(2) Log sales	(3) Log employees
Log productivity(t-1)	0.700***		
	(0.015)		
d_only_add	-0.011	0.081***	0.131***
	(0.011)	(0.013)	(0.013)
d_only_add*SME100	0.042***	-0.054***	-0.151***
	(0.015)	(0.014)	(0.020)
d_only_drop	0.008	0.058***	0.115***
	(0.012)	(0.012)	(0.015)
d_only_drop*SME100	0.015	-0.064***	-0.135***
	(0.013)	(0.014)	(0.018)
d_add&drop	0.002	0.080***	0.145***
	(0.013)	(0.012)	(0.023)
d_add&drop *SME100	0.051***	-0.052***	-0.173***
	(0.018)	(0.011)	(0.030)
Log sales(t-1)		0.684***	
		(0.016)	
Log employees(t-1)			0.656***
			(0.016)
Constant	2.819***	4.255***	1.168***
	(0.141)	(0.211)	(0.055)
Observations	40,320	40,320	40,320
Firms	8,033	8,033	8,033
Adjusted R-squared	0.496	0.465	0.458
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Log productivity: the logarithm of productivity of a firm. Log productivity(t-1): the logarithm of productivity of a firm in year *t-1*. Log sales: the logarithm of sales of a firm. Log sales(t-1): the logarithm of sales of a firm in year *t-1*. Log employees: the logarithm of the number of workers of a firm. Log employees(t-1): the logarithm of the number of workers of a firm in year *t-1*. SME100: dummy that takes the value of one if the firm has less than 100 workers. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.8
Impact of Change in Export Mix, Interaction with dummy for Size

VARIABLES	(1) Log productivity	(2) Log sales	(3) Log employees
Log productivity(t-1)	0.701***		
	(0.015)		
d_only_add	-0.039**	0.101***	0.212***
	(0.018)	(0.012)	(0.018)
d_only_add*SME200	0.065***	-0.068***	-0.215***
	(0.019)	(0.013)	(0.022)
d_only_drop	-0.007	0.072***	0.187***
	(0.025)	(0.015)	(0.019)
d_only_drop*SME200	0.030	-0.066***	-0.190***
	(0.025)	(0.016)	(0.019)
d_add&drop	-0.011	0.116***	0.219***
	(0.021)	(0.014)	(0.023)
d_add&drop *SME200	0.051**	-0.087***	-0.218***
	(0.021)	(0.016)	(0.025)
Log sales(t-1)		0.684***	
		(0.016)	
Log employees(t-1)			0.655***
			(0.017)
Constant	2.818***	4.254***	1.174***
	(0.142)	(0.211)	(0.059)
Observations	40,320	40,320	40,320
Firms	8,033	8,033	8,033
Adjusted R-squared	0.496	0.465	0.460
Year FE	YES	YES	YES
Firm FE	YES	YES	YES

Log productivity: the logarithm of productivity of a firm. Log productivity(t-1): the logarithm of productivity of a firm in year *t-1*. Log sales: the logarithm of sales of a firm. Log sales(t-1): the logarithm of sales of a firm in year *t-1*. Log employees: the logarithm of the number of workers of a firm. Log employees(t-1): the logarithm of the number of workers of a firm in year *t-1*. SME200: dummy that takes the value of one if the firm has less than 200 workers. d_only_add: if the firm only add products in year *t* relative to year *t-1*. d_only_drop: if the firm only drop products in year *t* relative to year *t-1*. d_add&drop: if the firm add and drop products in year *t* relative to year *t-1*. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4.9
Impact of Change in Export Mix on Productivity

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log productivity(t-1)		0.703***	0.662***		0.703***	0.638***
		(0.020)	(0.083)		(0.020)	(0.100)
Log productivity(t-2)		-0.003			-0.003	
		(0.005)			(0.005)	
Log productivity(t-3)		-0.019***			-0.019***	
		(0.004)			(0.004)	
d_onlyadd	0.017	-0.001	0.246**	0.016	-0.041	0.247
	(0.016)	(0.019)	(0.123)	(0.035)	(0.031)	(0.156)
d_onlyadd*SME100	0.046*	0.024	0.260*			
	(0.024)	(0.022)	(0.154)			
d_onlydrop	0.019	0.023	0.258**	0.009	0.001	0.276
	(0.018)	(0.018)	(0.105)	(0.031)	(0.035)	(0.184)
d_onlydrop*SME100	0.038*	0.008	-0.149			
	(0.022)	(0.021)	(0.118)			
d_add&drop	0.009	0.007	0.232***	0.001	-0.006	0.308***
	(0.025)	(0.018)	(0.084)	(0.046)	(0.028)	(0.112)
d_add&drop*SME100	0.090**	0.034	0.111			
	(0.033)	(0.024)	(0.105)			
d_onlyadd*SME200				0.039	0.066**	0.256
				(0.041)	(0.030)	(0.160)
d_onlydrop*SME200				0.042	0.031	-0.113
				(0.036)	(0.032)	(0.188)
d_add&drop*SME200				0.075	0.037	0.013
				(0.052)	(0.024)	(0.109)
Constant	9.430***	3.013***	3.135***	9.429***	3.012***	3.349***
	(0.018)	(0.192)	(0.777)	(0.018)	(0.192)	(0.936)
Observations	40,320	25,887	40,320	40,320	25,887	40,320
Firms	8,033	5,662	8,033	8,033	5,662	8,033
Adjusted R-squared	0.003	0.498		0.003	0.498	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
p-value Hansen			0.0000			0.0000
AR(1) p-value			0.0000			0.0000
AR(2) p-value			0.0318			0.0359

Log productivity: the logarithm of productivity of a firm. Log productivity(t-k): the logarithm of productivity of a firm in year t-k. d_only_add: if the firm only add products in year t relative to year t-1.d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.10
Impact of Change in Export Mix on Productivity, Common Sample

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log productivity(t-1)		0.703***	0.572***		0.703***	0.567***
		(0.020)	(0.100)		(0.020)	(0.115)
Log productivity(t-2)		-0.003			-0.003	
		(0.005)			(0.005)	
Log productivity(t-3)		-0.019***			-0.019***	
		(0.004)			(0.004)	
d_onlyadd	0.004	-0.001	0.008	-0.006	-0.041	-0.001
	(0.024)	(0.019)	(0.139)	(0.052)	(0.031)	(0.159)
d_onlyadd*SME100	0.061*	0.024	0.366**			
	(0.034)	(0.022)	(0.166)			
d_onlydrop	0.007	0.023	0.047	0.005	0.001	0.093
	(0.025)	(0.018)	(0.111)	(0.045)	(0.035)	(0.183)
d_onlydrop*SME100	0.046	0.008	0.094			
	(0.032)	(0.021)	(0.126)			
d_add&drop	-0.000	0.007	0.126	0.008	-0.006	0.099
	(0.030)	(0.018)	(0.099)	(0.055)	(0.028)	(0.121)
d_add&drop*SME100	0.080*	0.034	0.003			
	(0.040)	(0.024)	(0.126)			
d_onlyadd*SME200				0.062	0.066**	0.376**
				(0.053)	(0.030)	(0.168)
d_onlydrop*SME200				0.040	0.031	0.070
				(0.048)	(0.032)	(0.194)
d_add&dropSME200				0.046	0.037	0.069
				(0.062)	(0.024)	(0.129)
Constant	9.471***	3.013***	4.021***	9.469***	3.012***	4.054***
	(0.016)	(0.192)	(0.945)	(0.017)	(0.192)	(1.087)
Observations	25,887	25,887	25,887	25,887	25,887	25,887
Firms	5,662	5,662	5,662	5,662	5,662	5,662
Adjusted R-squared	0.003	0.498		0.003	0.498	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES		YES	YES	
p-value Hansen			0.0000			0.0000
AR(1) p-value			0.0000			0.0000
AR(2) p-value			0.0906			0.110

Log productivity: the logarithm of productivity of a firm. Log productivity(t-k): the logarithm of productivity of a firm in year t-k. d_only_add: if the firm only add products in year t relative to year t-1.d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.11
Impact of Change in Export Mix on Sales

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log sales(t-1)		0.614***	0.993***		0.614***	0.990***
		(0.020)	(0.008)		(0.020)	(0.008)
Log sales(t-2)		0.017			0.017	
		(0.011)			(0.011)	
Log sales(t-3)		0.022***			0.022***	
		(0.007)			(0.007)	
d_onlyadd	0.179***	0.081***	0.156**	0.227***	0.110***	0.176**
	(0.022)	(0.016)	(0.063)	(0.018)	(0.017)	(0.074)
d_onlyadd*SME100	-0.138***	-0.062***	-0.033			
	(0.026)	(0.015)	(0.075)			
d_onlydrop	0.181***	0.053***	0.108*	0.231***	0.075***	0.047
	(0.021)	(0.015)	(0.056)	(0.030)	(0.021)	(0.092)
d_onlydrop*SME100	-0.158***	-0.051***	-0.090			
	(0.024)	(0.016)	(0.063)			
d_add&drop	0.216***	0.065***	0.056	0.275***	0.107***	0.071
	(0.028)	(0.015)	(0.045)	(0.028)	(0.020)	(0.048)
d_add&drop*SME100	-0.135***	-0.052***	0.069			
	(0.022)	(0.016)	(0.056)			
d_onlyadd*SME200				-0.166***	-0.082***	-0.061
				(0.020)	(0.015)	(0.078)
d_onlydrop*SME200				-0.184***	-0.065***	-0.002
				(0.033)	(0.023)	(0.098)
d_add&drop*SME200				-0.179***	-0.094***	0.023
				(0.027)	(0.020)	(0.048)
Constant	13.494***	4.700***	0.096	13.494***	4.706***	0.129
	(0.018)	(0.238)	(0.107)	(0.018)	(0.238)	(0.105)
Observations	40,320	25,905	40,320	40,320	25,905	40,320
Firms	8,033	5,666	8,033	8,033	5,666	8,033
Adjusted R-squared	0.027	0.389		0.027	0.389	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES	YES	YES
p-value Hansen			0.000			0.000
AR(1) p-value			0.000			0.000
AR(2) p-value			0.312			0.316

Log sales: the logarithm of sales of a firm. Log sales(t-k): the logarithm of sales of a firm in year t-k. d_only_add: if the firm only add products in year t relative to year t-1.d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.12
Impact of Change in Export Mix on Sales, Common Sample

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log sales(t-1)		0.614***	0.998***		0.614***	0.992***
		(0.020)	(0.008)		(0.020)	(0.008)
Log sales(t-2)		0.017			0.017	
		(0.011)			(0.011)	
Log sales(t-3)		0.022***			0.022***	
		(0.007)			(0.007)	
d_onlyadd	0.139***	0.081***	0.078	0.184***	0.110***	0.177**
	(0.023)	(0.016)	(0.062)	(0.023)	(0.017)	(0.078)
d_onlyadd*SME100	-0.119***	-0.062***	-0.027			
	(0.025)	(0.015)	(0.077)			
d_onlydrop	0.127***	0.053***	0.047	0.169***	0.075***	0.029
	(0.026)	(0.015)	(0.053)	(0.033)	(0.021)	(0.082)
d_onlydrop*SME100	-0.110***	-0.051***	-0.050			
	(0.026)	(0.016)	(0.061)			
d_add&drop	0.143***	0.065***	0.007	0.208***	0.107***	0.062
	(0.033)	(0.015)	(0.045)	(0.028)	(0.020)	(0.047)
d_add&drop*SME100	-0.106***	-0.052***	0.085			
	(0.024)	(0.016)	(0.060)			
d_onlyadd*SME200				-0.146***	-0.082***	-0.138*
				(0.022)	(0.015)	(0.083)
d_onlydrop*SME200				-0.136***	-0.065***	-0.033
				(0.033)	(0.023)	(0.088)
d_add&drop*SME200				-0.165***	-0.094***	0.022
				(0.022)	(0.020)	(0.050)
Constant	13.570***	4.700***	0.034	13.569***	4.706***	0.115
	(0.012)	(0.238)	(0.109)	(0.013)	(0.238)	(0.104)
Observations	25,905	25,905	25,905	25,905	25,905	25,905
Firms	5,666	5,666	5,666	5,666	5,666	5,666
Adjusted R-squared	0.020	0.389		0.020	0.389	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES		YES	YES	
p-value Hansen			0.0004			0.0005
AR(1) p-value			0.0000			0.0000
AR(2) p-value			0.151			0.149

Log sales: the logarithm of sales of a firm. Log sales(t-k): the logarithm of sales of a firm in year t-k. d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.13
Impact of Change in Export Mix on Employment

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log employment(t-1)		0.608***	0.980***		0.606***	0.979***
		(0.023)	(0.012)		(0.023)	(0.013)
Log employment(t-2)		0.016			0.015	
		(0.010)			(0.010)	
Log employment(t-3)		-0.005			-0.004	
		(0.009)			(0.009)	
d_onlyadd	0.233***	0.132***	0.112	0.362***	0.219***	0.061
	(0.016)	(0.014)	(0.070)	(0.021)	(0.018)	(0.064)
d_onlyadd*SME100	-0.253***	-0.155***				-0.049
	(0.020)	(0.024)				(0.078)
d_onlydrop	0.242***	0.098***	0.082	0.366***	0.174***	0.032
	(0.022)	(0.015)	(0.075)	(0.032)	(0.017)	(0.048)
d_onlydrop*SME100	-0.262***	-0.118***				0.028
	(0.023)	(0.016)				(0.055)
d_add&drop	0.285***	0.128***	0.021	0.419***	0.208***	0.042
	(0.023)	(0.024)	(0.042)	(0.025)	(0.027)	(0.041)
d_add&drop*SME100	-0.308***	-0.170***				-0.019
	(0.031)	(0.035)				(0.053)
d_onlyadd*SME200			-0.104	-0.352***	-0.224***	
			(0.075)	(0.028)	(0.023)	
d_onlydrop*SME200			-0.038	-0.354***	-0.182***	
			(0.080)	(0.034)	(0.017)	
d_add&drop*SME200			0.016	-0.395***	-0.222***	
			(0.046)	(0.037)	(0.032)	
Constant	3.403***	1.313***	0.088**	3.402***	1.320***	0.091**
	(0.014)	(0.059)	(0.038)	(0.014)	(0.063)	(0.041)
Observations	40,320	25,896	40,320	40,320	25,896	40,320
Firms	8,033	5,665	8,033	8,033	5,665	8,033
Adjusted R-squared	0.078	0.390		0.083	0.392	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES		YES	YES	
p-value Hansen			0.1050			0.0578
AR(1) p-value			0.0000			0.0000
AR(2) p-value			0.0040			0.0053

Log employees: the logarithm of the number of workers of a firm. Log employees(t-k): the logarithm of the number of workers of a firm in year t-k. d_only_add: if the firm only add products in year t relative to year t-1.d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 4.14
Impact of Change in Export Mix on Employment, Common Sample

VARIABLES	FE (1)	FE Lags (2)	SGMM (3)	FE (4)	FE Lags (5)	SGMM (6)
Log employment(t-1)		0.608***	0.977***		0.606***	0.984***
		(0.023)	(0.012)		(0.023)	(0.013)
Log employment(t-2)		0.016			0.015	
		(0.010)			(0.010)	
Log employment(t-3)		-0.005			-0.004	
		(0.009)			(0.009)	
d_onlyadd	0.197***	0.132***	0.183***	0.321***	0.219***	0.035
	(0.013)	(0.014)	(0.070)	(0.025)	(0.018)	(0.065)
d_onlyadd*SME100	-0.227***	-0.155***				-0.033
	(0.020)	(0.024)				(0.083)
d_onlydrop	0.177***	0.098***	0.093	0.292***	0.174***	-0.008
	(0.020)	(0.015)	(0.072)	(0.028)	(0.017)	(0.047)
d_onlydrop*SME100	-0.195***	-0.118***				0.023
	(0.018)	(0.016)				(0.056)
d_add&drop	0.210***	0.128***	0.038	0.340***	0.208***	0.018
	(0.022)	(0.024)	(0.043)	(0.030)	(0.027)	(0.042)
d_add&drop*SME100	-0.260***	-0.170***				0.050
	(0.037)	(0.035)				(0.055)
d_onlyadd*SME200			-0.202***	-0.324***	-0.224***	
			(0.078)	(0.032)	(0.023)	
d_onlydrop*SME200			-0.103	-0.288***	-0.182***	
			(0.079)	(0.027)	(0.017)	
d_add&drop*SME200			0.027	-0.352***	-0.222***	
			(0.049)	(0.043)	(0.032)	
Constant	3.453***	1.313***	0.091**	3.450***	1.320***	0.070*
	(0.010)	(0.059)	(0.038)	(0.010)	(0.063)	(0.043)
Observations	25,896	25,896	25,896	25,896	25,896	25,896
Firms	5,665	5,665	5,665	5,665	5,665	5,665
Adjusted R-squared	0.055	0.390		0.061	0.392	
Year FE	YES	YES	YES	YES	YES	YES
Firm FE	YES	YES		YES	YES	
p-value Hansen			0.405			0.273
AR(1) p-value			0.000			0.000
AR(2) p-value			0.000			0.001

Log employees: the logarithm of the number of workers of a firm. Log employees(t-k): the logarithm of the number of workers of a firm in year t-k. d_only_add: if the firm only add products in year t relative to year t-1.d_only_drop: if the firm only drop products in year t relative to year t-1. d_add&drop: if the firm add and drop products in year t relative to year t-1. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.