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EXPORT CONCENTRATION AND COMPETITION: DOES THE FIRMS TYPE MATTER?

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Abstract

Trade liberalization enhances the competition in the market as it increases the quality and the quantity of the products available to domestic buyers. This paper contributes to the literature in two ways. First, using Egyptian firm level data, it attempts to examine how export market concentration is affected by competition at the destination market and how firms adjust their product scope following periods of trade openness. Second, we disentangle this effect by the size of exporter to see how small and large firms adjust their trade in response to a fiercer competition. Our findings show that the market potential exerts a positive and significant impact on the concentration index showing that tougher competition in an export market induces a firm to skew its export sales towards its best performing products. Market potential does matter more for small exporters rather than large ones as it helps them become more specialized.

JEL Classification: F10, F12, F15.

Keywords: Trade, Competition, Firm-level data, Egypt.

ملخص

تحرير التجارة يعزز المنافسة في السوق لأنه يزيد من نوعية وكمية المنتجات المتاحة للمشترين المحليين. وتسهم هذه الورقة في الأدبيات بطريقتين. أولا، باستخدام البيانات المصرية على مستوى الشركات، نحاول فحص كيفية تأثر تركيز سوق التصدير بالمنافسة في سوق المقصد وكيف تقوم الشركات بتعديل نطاق منتجاتها بعد فترات الانفتاح التجاري. ثانيا، نفصل هذا التأثير عن طريق حجم المصدر لنرى كيف تضبط الشركات الصغيرة والكبيرة تجارتها ردا على المنافسة الشرسة. وتظهر نتائجنا أن إمكانيات السوق لها تأثير إيجابي وكبير على مؤشر التركيز والذي يظهر أن المنافسة الشديدة في سوق التصدير تدفع الشركة إلى تحريف مبيعاتها التصديرية نحو منتجاتها الأفضل أداء. إن إمكانات السوق مهمة أكثر بالنسبة للمصدرين الصغار بدلا عن المصدرين الكبار لأنها تساعدهم على أن يصبحوا أكثر تخصصا.

1. Introduction

According to traditional trade theory, trade liberalization enhances the competition in the market as it increases the quality and the quantity of the products available to domestic buyers. This assumption could be true if markets are perfectly competitive. Nevertheless, in the new trade system, since markets are imperfectly competitive, it has been seen that the decline in trade tariffs does not lead to a decrease in the level of price in many countries [1]. This is why many authors were interested in assessing the competitive effect of trade liberalization in both the domestic and the export market. Indeed, Melitz and Ottaviano (2008) showed in their model of monopolistic competition with heterogeneous firms and endogenous markups that free trade leads to higher productivity, lower markups and greater products variety. Their model combines all possible sources of welfare gain following trade in the same set-up.

Furthermore, in their model of multi-product firms, Eckel and Neary (2010) showed that increasing competition following trade openness leads to an increase in productivity but may lead to a negative effect as the number of varieties decline when firms concentrate on their core-competence. Finally, Mayer, Melitz and Ottaviano (2014) built a similar model to the previous one but with monopolistic competition rather than the oligopolistic one and, hence they do not account for the cannibalization effect. Their model suggests that trade openness reflected in more market competition encourages the firms to drop their least effective products and skew their production towards their "core competence". This model has a higher impact on total productivity than in the case of single product firms due to two main channels: the firms cancel the products far from core competence (selection effect) and better allocation of resources as the production is now concentrated on the more efficient products.

Moreover, following the literature in this area, the number of firms should decrease after trade openness as the least productive firms exit from the markets as they could not afford the fixed cost of exporting. Hence, the market should be concentrated around the most productive firms (self-selection effect). Yet, if the number of destinations (extensive margin) served by the surviving firms increases across time this may reflect a "learning by export" effect rather than a self-selection one.

In the same line, several studies assessed the competitive effect of trade liberalization in both the domestic and the export markets using firm-level data. First, Altomonte and Baratieri (2014) estimate the impact of import penetration on the price markup for Italian firms in the manufacturing sector, they found clear evidence for pro-competitive effect of trade at the aggregate level. However, when they do the same analysis for a more detailed industry level, they found that increasing import penetration could lead to a higher price-cost margin which reflects a possible anti-competitive effect of trade openness. This might be explained by the industry's product mix. After trade liberalization, industries may switch their product mix towards low elasticity goods which leads to higher mark-ups for firms in this industry. However, industries with more concentrated product mix are more competitive. Furthermore, Altomonte and Ogliari (2010) studied the same relationship for single vs. multi-product firms, they found a pro-competitive effect in the long run for increasing import penetration for Italian firms between 2000 and 2007. This effect is lower for multi-product firms. While the relationship is not significant in the short run, firms adjust their product scope following periods of liberalization in the long run. Finally,

[1] There are many models that study the possibility of collusion in a context of trade openness and found that cartel is more stable for more details see: Brander and Krugman (1983), Pinto (1986), Ashournia *et al.*, (2011) and Bond and Syropoulos (2008).

Chen et al. (2009) investigated the impact of trade openness for the EU manufacturing sector and they found that in the short run, domestic market openness leads to pro-competitive effects through the decrease in price level, profit margin and an increase in the productivity, however, foreign openness leads to the opposite impacts. In the long run, trade leads to more anti-competitive effect as the firms could react to increased competition through producing in more closed markets and sell to their domestic market through exports as it is less costly due to low trade costs.

Thus, this paper contributes to the literature in two ways. First, using Egyptian firm level data, it attempts to examine how export market concentration is affected by competition at the destination market and how firms adjust their product scope following periods of trade openness. Second, we disentangle this effect by the size of exporter to see how small and large firms adjust their trade in response to a fiercer competition. Our findings show that the market potential exerts a positive and significant impact on the concentration index showing that tougher competition in an export market induces a firm to skew its export sales towards its best performing products. Market potential does matter more for small exporter rather than large ones as it helps them become more specialized.

The paper is organized as follows. Section 2 presents some stylized facts. Section 3 shows the methodology and the data used. Section 4 displays the empirical results and section 5 concludes.

2. Stylized Facts

Since most of the MENA countries are oil dependent, diversification of exports has become an economic policy priority in the MENA countries since the 1990s. This diversification holds both at the exported products level and the number of destination. Figure 1 shows that MENA countries are quite different ranging from countries with concentrated markets[2] such as Djibouti and Yemen to less concentrated ones such as Egypt, Bahrain and Malta.

At the product level, Table 1 presents the share of top four exported products in total commodity exports which is an indicator of concentration of exports on certain products. In oil and natural gas rich countries like Algeria, Kuwait, Oman and Saudi Arabia, only four products constitute about 90% of total exports. Countries like Egypt, Jordan and Tunisia are more diversified since they experienced a decrease by 29.7, 25 and 18 percent respectively in this share between 1991 and 2009.

The same fact is also confirmed by Figure 2 that presents the number of exported HS6 product. Even though UAE and Saudi Arabia are ranked among the first countries, most of the products are oil products. Countries like Egypt and Tunisia are more diversified with 1868 and 1510 products respectively.

Having a closer look at the Egyptian case, Egypt's exports have experienced a modest growth after the financial crisis in 2008 and after the political turmoil in 2011 since they increased by 19% between 2009 and 2013. As it is shown in Table 2, the competitiveness of Egyptian exports declines significantly contributing by -32% to exports growth, but it was counterbalanced by two factors, namely increase in world trade (+49%) and growth in product specialization (+8%).

Exports in Egypt suffered also from a significant decrease in their intensive margin since traditional markets' exports decreased by 51.5% and traditional products in traditional markets

[2] HHI is a measure of dispersion of trade value across an exporter partners. A country with trade (exports and imports) concentrated in a very few markets will have an index value close to 1. Similarly, a country with perfectly diversified trade portfolio will have an index close to zero.

increased by 70% leading to an increase in exports by 19%. Moreover, a slight improvement has been witnessed in terms of the new products to traditional markets (Figure 3).

In terms of exports destination, EU is Egypt's main trade partners as it is shown in Figure 4 that shows that OECD economies (EU and US mainly) account for more than 2/3 of Egypt's exports.

At the firm level, we use trade data from the General Organization for Export and Import Control (GOEIC), the Ministry of Industry and Foreign Trade in Egypt from 2006 to 2010. This dataset has four dimensions: exporting firm, year, destination and product (at the HS4 level). It is worthy to note that most of the firms are multiproduct, remain in the market for more than a year but export to one destination. Table 3 shows that 30% of the Egyptian firms produce only one product and this ratio is almost constant over our period of interest.

If we look at each year separately Figure 5 shows that the ratio of single product firms increased slightly to reach around 38% in 2010. Yet, in 2008, around 64% of the firms are multiproduct, the highest share of multiproduct firms. This ratio increases to near 74% if we look at the firms identified during the four years.

Moreover, on average 68% of the Egyptian firms export for more than one year. This reflects that one third of the firms exports for in only one year. This reflects the sustainability of the export status of the firms in the database. Table 4 shows that, when we look at each year separately, between 2006 and 2009 almost 70% of the firms export for more than a year. Nevertheless, 50% of the exporting firms in 2010 are single year firms. This is confirmed by Figure 6 where the number of new entrants and exitors is the same and the number of continuing firms is relatively high. Indeed, both the number of new entrants and firms exiting from 2006 to 2010 has been declining by an annual average of close to 21% and the number of continuing firms, from one year to the other, has increased by 13.5% (Hendy and Zaki, 2014).

When we look at the destination dimension, in 2006 only 42% of the firms export to more than one country. This percentage decreases over years and reached 36.4% in 2010. From Table 5, we find that the majority of the Egyptian firms (almost 62%) export to only one destination.

Thus, on average, Egyptian exporters are multiproduct firms, they continue to export for more than one year. Yet, many of the firms export to one destination. The next section will examine the different factors that are likely to affect competition at both the intensive and extensive margins.

3. Model Specification

In order to examine the nexus between export concentration and competition, we run several specifications. We are interested in two main concentration indices at both the destination and the firm level.

First, we measure competition by constructing a Herfindahl-Hirschman index (HHI_{kjt}) to account for the concentration in the destination market for each product and then regressing this index on several variables measuring the market characteristics at the destination.

$$HHI_{kjt} = \alpha_0 + \alpha_1 \ln GDP_{jt} + \alpha_2 \ln mp_{jt} + \alpha_3 \Phi_{ij} + \alpha_4 INS_{jt} + \varepsilon_{kjt} \quad (1)$$

We regress this index on several variables measuring the market characteristics at the destination. We also include bilateral trade barriers between Egypt and the destination country. Hence, GDP_{jt} is the Gross Domestic Product at the destination j in year t, mp_{jt} measures market potential in country "j", Φ_{ij} is an indicator for the freeness of trade (the higher the value, the freer the trade)

between i and j[3] and INS_{jt} the quality of institutions at the destination j and ε_{kjt} is the discrepancy term. Indeed, Araujo et al. (2011) showed that institutions play an important role on the probability of remaining exporters for many years to the same destination.

Second, in order to see how a firm responds to greater competition through variation in its product mix, we use the same methodology as in Melitz et *al.* (2014) and test how the export sales for firms vary across destinations. Therefore, we construct a Herfindahl-Hirschman index (HHI_{fkjt}) to account for the diversification /concentration within the firm f in the destination market j for each product k, *as follows:*

$$HHI_{fkjt} = \beta_0 + \beta_1 \ln GDP_{jt} + \beta_2 \ln mp_{jt} + \beta_3 \Phi_{ij} + \beta_4 INS_{jt} + \eta_{kjt} \quad (2)$$

where η_{kjt} is the discrepancy term. Obviously, in the case of a single product firm, the HHI will take the value of 100%. For the multiproduct firms the dependent variable will be the index for its core competency which is the product having the highest index value. For robustness check, we construct a ratio for the firm's export sales for its best performing product relative to its second best[4], this ratio will be our dependent variable. It is worthy to note that while the HHI in equation (1) was an indicator for the export market concentration per product k per destination j, the index in equation (2) measures the concentration within the same firm f.

Moreover, we account for concentration at the extensive margin first by taking the logarithm of the number of products exported by each firm $Ln(NumProd)_{fkjt}$:

$$Ln(NumProd)_{fkjt} = \gamma_0 + \gamma_1 \ln GDP_{jt} + \gamma_2 \ln mp_{jt} + \gamma_3 \Phi_{ij} + \gamma_4 INS_{jt} + \xi_{fkjt} \quad (3)$$

with ξ_{fkjt} is the discrepancy term.

Third, concentration at the intensive margin is measured by taking the logarithm of the value of exports to a certain destination $Ln(X_{fkjt})$, as it is shown in equation (4):

$$Ln(X_{fkjt}) = \delta_0 + \delta_1 \ln GDP_{jt} + \delta_2 \ln mp_{jt} + \delta_3 \Phi_{ij} + \delta_4 INS_{jt} + \upsilon_{fkjt} \quad (4)$$

with υ_{fkjt} is the discrepancy term

We run quantile regressions to control for the exporter size and examine the differential effect of competition on small vs. large exporters.

Finally, we run a multinomial logit to examine the nexus between firm dynamics and product/destination concentration. Since we have two criteria (single vs multi-product and single vs multi-destination) used to determine the firm status, we create sixteen dummy variables for firms, varying from single product single destination firms to multiproduct multi destination firms between the first and the last period in our sample as follows:

$$\text{Prob}(Tr_{fkjt}) = \sigma_0 + \sigma_1 \ln GDP_{jt} + \sigma_2 \ln mp_{jt} + \sigma_3 \Phi_{ij} + \sigma_4 INS_{jt} + \chi_{fkjt} \quad (5)$$

with χ_{fkjt} is the discrepancy term. Table 6 shows the transition matrix for the different statuses a firm might have.

[3] See Appendix 1 for the construction of the freeness of trade variable and market potential.

[4] Check Appendix 3 for robustness check. To test for the impact of competition in the destination country, we use as a dependent variables local ratio of the product's highest share to the second one within the same destination, the same ratio but across all destination and finally the share of the highest product to total exports of the firm. Our findings are generally robust.

4. Empirical Results

4.1 How does product concentration respond?

In this part, we will study how the market size and the competition in the destination country affect export market concentration and the firm's product concentration. We also test the impact of the destination country GDP and market potential on the extensive margin measured by the firm's number of products.

4.1.1 At the destination level

Table 7 shows how the export market concentration varies across destinations. First of all, we found that the coefficient of country size (measured by the destination GDP) is negative and significant. Clearly, a greater market makes firms re-allocate their exports from smaller destinations to larger ones. We also find that market potential exerts a positive effect on the concentration index pointing out the fact that tougher competition leads to higher concentration. This result stands in line with Melitz (2003) model that states that after periods of trade liberalization, the market becomes concentrated around the most productive ones as the least productive firms could not afford the foreign competition (self-selection effect).

4.1.2 At the firm level

The impact of the destination market's size and level of competition on the number of products exported by Egyptian firms is presented in Table 8. It is worthy to note that market size (GDP) has a positive impact on the number of products. Egyptian firms sell more product to destinations with higher market size. However, the level of competition has a negative impact on the number of products, which means that more competition encourages the firms to drop some of the products exported.

These results stand in line with the results we obtain concerning the impact of these variables on the concentration index of the firms measured by HHI product mix (Table 9). Our results are robust for the different specifications (whether OLS or with fixed effects). It is obvious that the negative impact of GDP on the HHI product mix is significant in different specifications showing that an increase in destination GDP would induce firms to diversify their exports leading to a lower concentration index per destination. Second, more openness (measured by destination market potential) implies a higher concentration index per firm. This is in line with the fact that tougher competition in an export market induces firms to skew its export sales towards its best performing products. We find very strong confirmation of this competitive effect for Egyptian firms since this variable is highly significant in all the specifications. In column 3, we add the variable "*freeness of trade* Φ_{ij}" to measure the degree of freeness of trade between Egypt and the destination market. We follow the same methodology used in Melitz et al. (2014) to calculate this variable. It is calculated using a gravity model like the one used for calculating the market potential but after getting rid of origin and destination fixed effects to measure only bilateral trade barriers impact. This variable has a positive impact on the firm's concentration index. Higher trade costs lead to less concentration in the product mix of the firms. This could be explained by the fact that in destinations where trade costs are higher (freeness of trade is lower), firms face higher competition mainly from domestic firms that do not bear these costs, that's why exporters diversify their exports to the destination to deal with the competition faced.

The results concerning the product mix of the firms stand in line with the theoretical model of Parenti (2012). In his model with small and big firms, the latter got different results from Mayer *et al.* (2014) where, in their model, all the firms were multiproduct. Parenti differentiates between

the impact of the market size and the level of competition on the firm's behavior. According to his model, an increase in the competition decreases the output of small firms and forces large multiproduct firms to drop some products. However, an increase in the market size encourages single product firms to increase their output and enable large firms to increase both their intensive and extensive margin.

4.2 The impact on exports intensive margin

After evaluating, in the previous part, how the extensive margin and the skew of export sales are affected by the destination size and market potential, we would like to study how the volume of exports respond to destination market characteristics. In Table 10, we can see that total exports increase with the market size in the destination country. This result is consistent in all the specifications. While the first column shows OLS estimates without fixed effects, columns 2 to 4 add firm and destination fixed effects. We find that firms increase their exports in countries with higher market potential as a destination with higher market potential encourages firms to export more. This result is consistent over all the specifications as well.

The variable "freeness of trade" is insignificant over all the table. This may be due to the correlation between market potential and the degree of freeness of trade[5]. Finally, the variable "time to import" has a negative and significant impact on the volume of exports. Indeed, the lower the quality of institutions in the destination country, measured by the time needed to import, the lower the level of exports.

4.3 Does the size of exporter matter?

As we have, in our dataset very heterogeneous firms, we divide our database into ten quantiles according to their current level of exports and their initial level of exports, then, we run quantile regressions as follows.

Table 11 presents the quantile regression where our dependent variable is total volume of exports. It is obvious that GDP has a positive and significant impact only on the firms that are in the middle of our sample. However, for firms that lie in the lowest and highest quantile, the GDP does not affect them. Moreover, while market potential has a positive and significant impact only on the smallest firms, firms in the highest quantiles are not affected by any change in the market potential. The degree of trade freeness between Egypt and any destination country affects small firms in a different way from largest firms. While firms in highest quantiles increase their exports when freeness of trade, the latter has a negative effect on smallest ones. This could be explained by the fact that small firms give a higher weight to variable cost (tariffs) than fixed cost (gravity variables). Finally, institutional variable has a negative and significant impact on firms in the middle of our sample but not firms at extremes.

Table 12 shows quantile regressions for the HHI measuring concentration within each firm. It is shown that the GDP does not affect any quantile. Toughness of competition in the destination country has a positive and significant impact on the smallest firms (0.01 and 0.1 quantiles). As well, market potential affects positively the HHI of firms in the 90th quantile. However, the degree of trade freeness between Egypt and the destination country affects only the largest firms in our

[5] As robustness check, we use the number of Egyptian exporters to a destination as a proxy for measuring the competition at the destination country instead of the GDP and market potential. We can see that this variable has a positive and significant impact on the number of products exported by the firms. This reflects that the positive impact of market size dominates the negative impact of market potential on the firms' product mix. However, this variable does not affect the total exports of firms. For more results, see Appendix 3.

database. Freer trade encourages big firms to drop their worst performing products. The institutional variables do not have any impact on the concentration index within firms.

After dividing our database according to the current volume of exports, in the following regressions we divide the firms into 10 quantiles according to their initial level of exports. In table 13 we can see OLS regression results for the intensive margin for the 10 quantiles of the firms divided according to their initial level of exports. Market potential in the destination country affects positively total exports for both the smallest firms (the 4 first quantiles) and the largest ones (the 10^{th} quantile). This result is the same we get when firms were divided according to their current quantile. The GDP affects almost all the firms in the same way. Nevertheless, freeness of trade affects smaller firms in a different way from larger ones. While smallest firms are affected positively, big firms are affected negatively. This result is contradictory with the result we get when firms were divided according to their current quantiles.

In Table 14, we do the same regression as above but with the concentration index within firms as a dependent variable instead of total volume of exports. GDP has a negative impact on the HHI of firms in the 3^{rd} quantile. Firms in this quantile increase the number of the exported products with the market size of the destination country. However, firms in the highest quantile drop their worst performing products when they export to countries with bigger market size. Moreover, HHI for firms in the middle quantiles increases with tougher competition in the destination country as the coefficient of market potential is positive and significant for these firms.

Freeness of trade has a negative impact on firms in the lowest quantile and in the largest one. These firms increase the number of their products with freer trade.

4.4 Do firms evolve over time?

Using the transition matrix in Table 6, we run a multinomial logit for the probability of a firm to change from a state to another one. The results are shown in Table 15a and 15b.

From these regressions, we can see that, higher GDP increases the probability that a single product single destination firm remains as it is vs. exiting the market or becomes multi-destination firm. Destinations with higher market size enables firms to learn by exporting and hence, they increase the number of destinations served. On the other hand, an increase in the market size decreases the probability that these firms become multiproduct multi-destination firms. This result is divided into two main components. It is obvious that it is less probably that a single product firm becomes multiproduct when the GDP increases as higher GDP encourages firms to concentrate more on their core product. However, it is counter intuitive that the number of destinations served decreases. But, we could say that the impact on the number of products dominates the impact on the destinations number.

Moreover, if we focus only on multiproduct firm, we can see that we get the same result in Melitz *et al.* (2014). A higher market size encourages these firms to drop some products and focus only on their core product, and hence, the probability of these products to become single products increases[6]. That's why an increase in the GDP is reflected in a decrease in the relative log odds of a multiproduct single destination firm to remain multiproduct.

Finally, for a multiproduct multi-destination firm, a higher GDP increases the relative log odds of remaining as it is vs. exiting the market. A higher competition at the destination increases the

[6] This result confirms that the results we get concerning the HHI product mix is due to the coexistence of single and multiproduct firms in the same market. That's why Parenti(2012)'s theory fits more with our data.

probability that a single product firm becomes a multiproduct one. Due to higher competition, firms increase the number of products they export to diversify their product mix to avoid losing profit. However, we could see that multiproduct firms are more likely to remain as they are with tougher competition. This result is counter intuitive as according to theory, firms drop their worst products with higher market potential.

Freer trade decreases the likelihood that a multiproduct firm switches to a single product one. That's intuitive as firms increases their exports to destinations with lower trade costs. Nonetheless, the likelihood that a multiproduct multi-destination firm remains as it is vs. exiting the market, with lower trade cots, decreases. This is counter intuitive as we expected the opposite sign.

Concerning institutional variables, an increase in time to import increases the probability that a single product single destination firm remains single product to avoid wasting time. For the same reason, the relative log odds ratio that a multiproduct multi-destination firm remains as it is vs. exiting the market decreases with higher time to import.

Nevertheless, a single product multi-destination firm is more likely to become multiproduct with higher time to import. On the other hand, it is less likely that a multiproduct multi-destination firm becomes a single product with greater time to import. These two results are counter intuitive as we should expect the opposite.

5. Conclusion and Policy Implications

Trade liberalization enhances the competition in the market as it increases the quality and the quantity of the products available to domestic buyers. This paper contributes to the literature in two ways. First, using Egyptian firm level data, it attempts to examine how export market concentration is affected by competition at the destination market and how firms adjust their product scope following periods of trade openness. Second, we disentangle this effect by the size of exporter to see how small and large firms adjust their trade in response to a fiercer competition.

Our findings show that the market potential exerts a positive and significant impact on the concentration index showing that tougher competition in an export market induces a firm to skew its export sales towards its best performing products. Market potential does matter more for small exporter rather than large ones as it helps them become more specialized.

From a policy standpoint, this paper should be seen as complementary to the literature emphasizing the role of firms' performance in developing countries. Indeed, we believe that the findings of this paper show the importance of implementing strategies that help firms specialize in their highest comparative advantage. Furthermore, it is worthy to note that this paper sheds the light on the effect of competition on SMEs and how, by their specialization, they can expand and increase their exports. This shall resolve the missing middle problem. Indeed, the world's poorer nations frequently have large businesses (often connected with the government or with transnational corporations) and very small, informal businesses that are not legally established and do not pay taxes. Higher specialization means higher exports and growth of SMEs.

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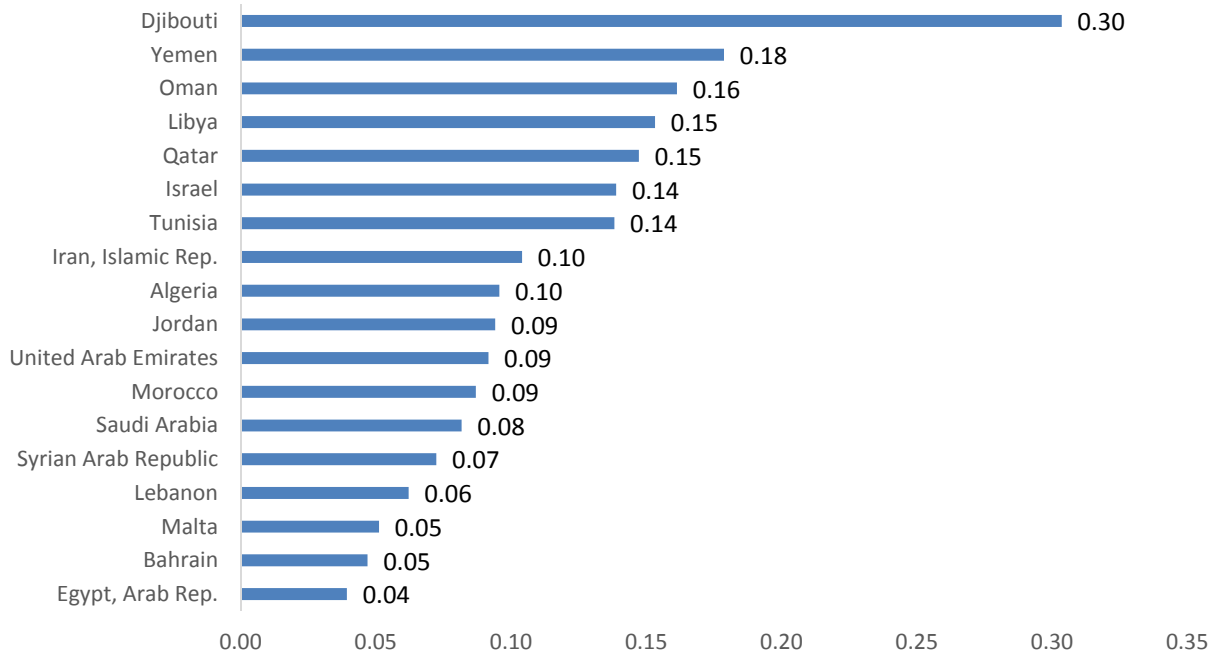
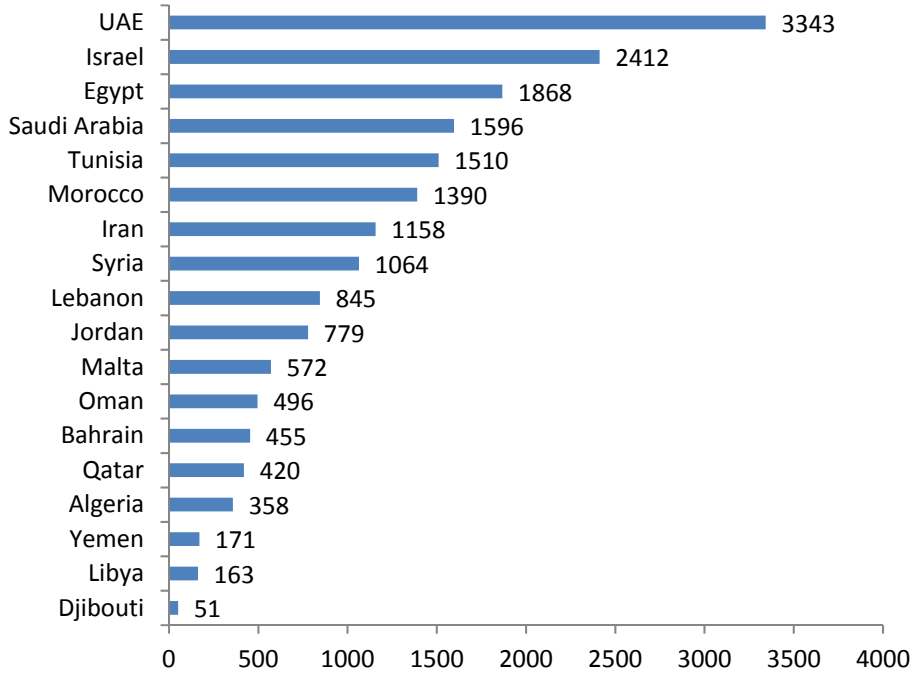
Figure 1: HH Market Concentration Index



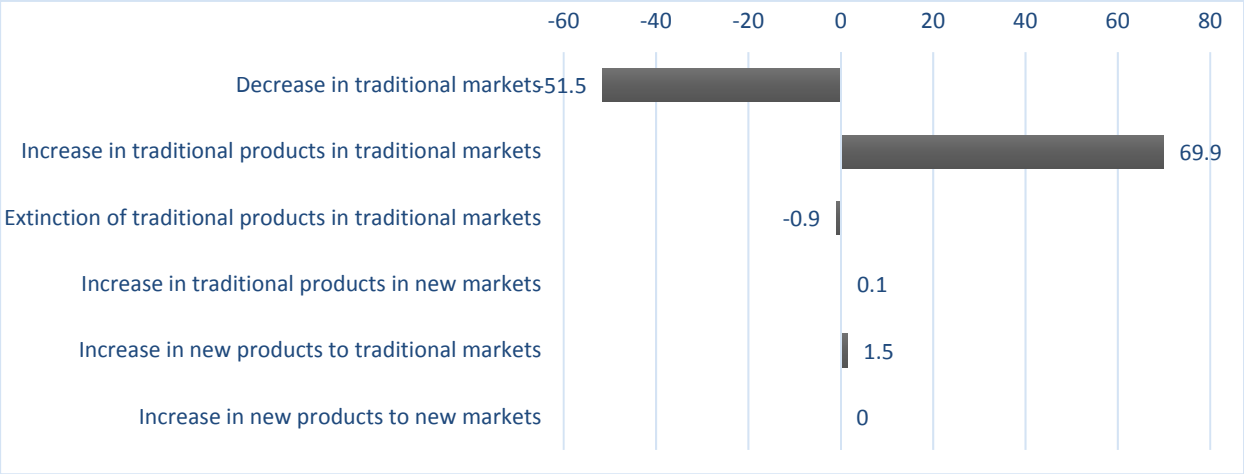
Source: WITS dataset.

Figure 2: Number of Exported HS6 Digit Products



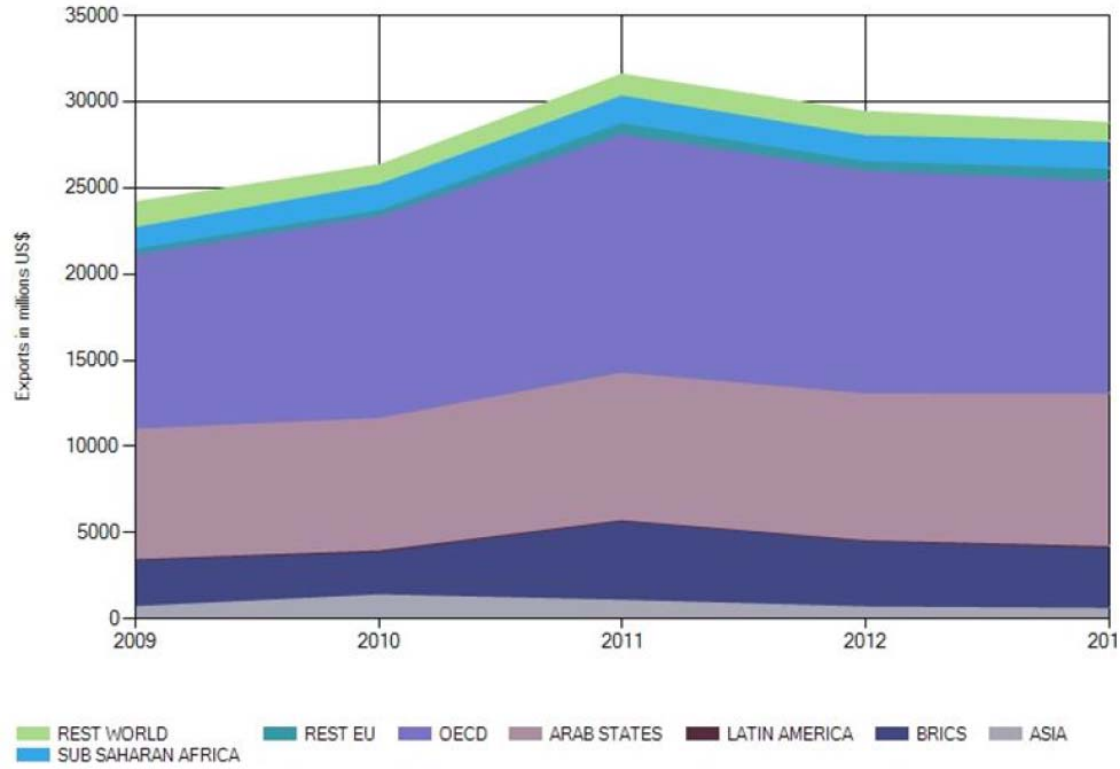
Source: WITS dataset.

Figure 3: Factors behind Growth of Egypt's Exports



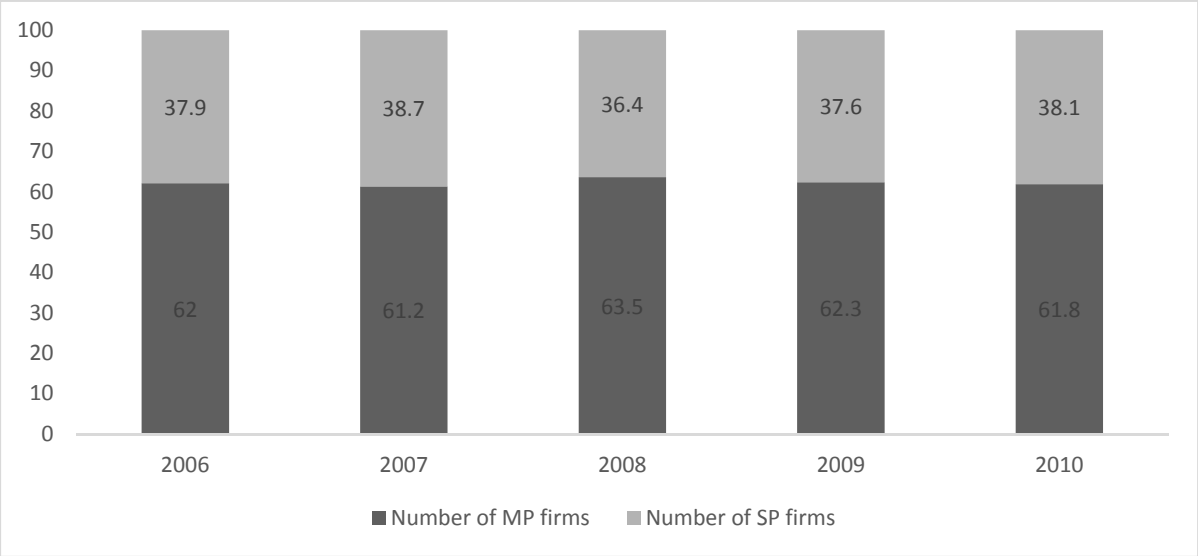
Source: ITC (2014)

Figure 4: Egypt's exports by Region of Destination



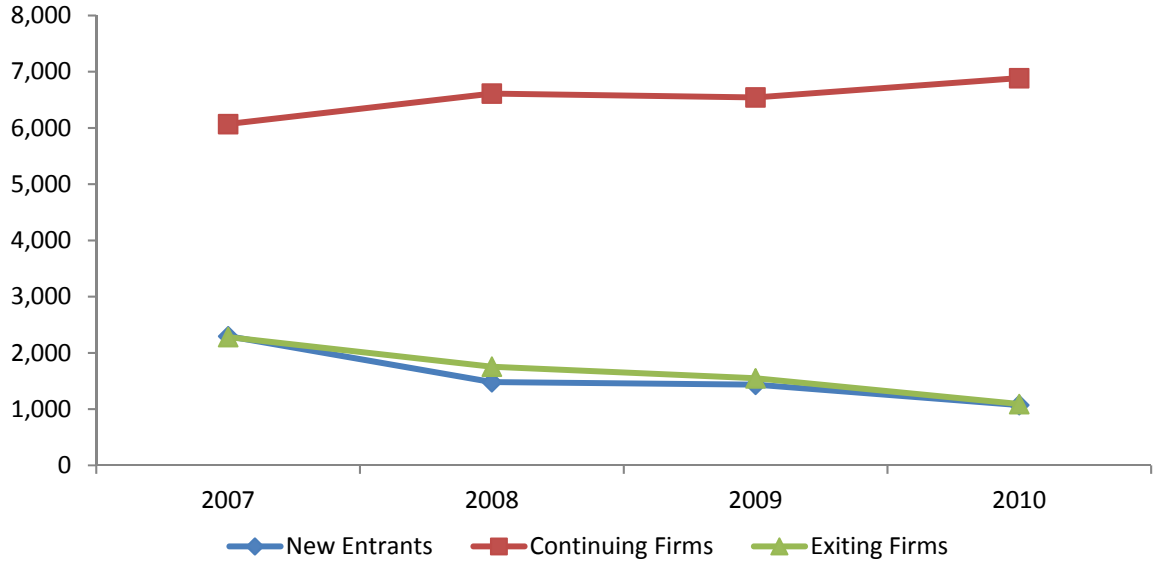
Source: ITC (2014)

Figure 5: Multiproduct vs. Single Product Firms within Each Year Separately



Source: Constructed by the authors using the customs data.

Figure 6: Firms Entry and Exit



Source: Hendy and Zaki (2014).

Table 1: Share of Top Four Products in Selected MENA Countries

	Algeria	Egypt	Jordan	Kuwait	Morocco	Oman	Saudi Arabia	Tunisia
1991	97.15	62.43	50.37	90.65	34.27	91.4	93.95	41.66
1995	94.42	50.38	47.08	96.51	36.67	85.87	90.7	45.88
2000	97.21	52.02	27.35	96.57	36.69	87.44	93.82	45.88
2005	98.03	60.48	31.91	.	30.49	90.29	91	38.83
2008	97.56	43.88	40.73	95.58	40.5	86.57	91.48	36.61
2009	97.62	.	37.7	.	30.78	81.1	88.66	34.13
Change	0.48%	-29.71%	-25.15%	5.44%	-10.18%	-11.27%	-5.63%	-18.07%

Source: Dogruel and Tekce (2011)

Table 2: Factors behind Marginal Growth of Egypt's Exports

Marginal Growth due to	US$ change	% change
Growth due to world's trade growth	11,797,832.8	48.8
Growth due to product specialization	1,925,387.8	8.0
Growth due to geographic specialization	-1,390,742.0	-5.8
Growth due to competitiveness	-7,735,189.6	-32.0
Sum of marginal growths	4,597,289.0	19.0

Source: ITC (2014)

Table 3: Multiproduct vs. Single Product Firms Overall the Sample

	Multiproduct		Single product		Total	
Year	Number	Ratio	Number	Ratio	Number	Total
2006	2616	66.9	1296	33.1	3912	100
2007	1993	68.5	915	31.5	2908	100
2008	1966	73.6	707	26.4	2673	100
2009	1858	72.2	717	27.8	2575	100
2010	2012	69.8	871	30.2	2883	100
Total	10445	69.9	4506	30.1	14951	100

Source: Constructed by the authors using the customs data.

Table 4: Multiyear vs. Single Year Firms

	Multiyear		Single year		Total	
Year	**Number**	**Ratio**	**Number**	**Ratio**	**Number**	**Ratio**
2006	3763	70.3	1588	29.7	5351	100
2007	2044	70.3	862	29.7	2906	100
2008	1656	71.3	668	28.7	2324	100
2009	1632	72.0	635	28.0	2267	100
2010	1025	48.7	1078	51.3	2103	100
Total	10120	67.7	4831	32.3	14951	100

Source: Constructed by the authors using the customs data.

Table 5: Multi-destination vs. Single Destination Firms

	Multi-destination		Single destination		Total	
Year	**Number**	**Ratio**	**Number**	**Ratio**	**Number**	**Ratio**
2006	3596	42.2	4925	57.8	8521	100
2007	3337	39.1	5207	60.9	8544	100
2008	3159	37.9	5166	62.1	8325	100
2009	3041	37.1	5159	62.9	8200	100
2010	2958	36.4	5176	63.6	8134	100

Source: Constructed by the authors using the customs data.

Table 6: Transition Matrix between the First and the Last Year

From → **To ↓**	**Single Product** **Single Dest.**	**Single Product** **Multi Dest.**	**Multi Product** **Single Dest.**	**Multi Product** **Multi Dest.**
Single Product Single Dest.	1	2	3	4
Single Product Multi Dest.	5	6	7	8
Multi Product Single Dest.	9	10	11	12
Multi Product Multi Dest.	13	14	15	16

Source: Constructed by the authors.

Table 7: Empirical Results for Concentration Index at the Destination Level

	OLS HHI	FE HHI	FE HHI	FE HHI
Ln(GDP)	-0.0204***	-0.0490***	-0.0452**	-0.0571**
	(0.00179)	(0.0184)	(0.0186)	(0.0265)
Ln(MP)	-0.00248	0.0302***	0.0245***	0.0284***
	(0.00172)	(0.00270)	(0.00469)	(0.00596)
Φ_{ij}	0.0342***		0.00553	-0.00668
	(0.00117)		(0.00353)	(0.00476)
Ln(Time imp.)	0.00420*			-0.0135
	(0.00240)			(0.00860)
Ln(Tim enfo.)	-0.0386***			0.00151
	(0.00411)			(0.0351)
Constant	1.210***	1.454***	1.407***	1.786***
	(0.0424)	(0.436)	(0.438)	(0.666)
Observations	39,015	65,601	65,601	39,015
R-squared	0.047	0.005	0.005	0.003
Number of id		25,316	25,316	15,776

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 8: Empirical Results for Number of Products Exported

	(1) OLS Ln(Num.Prod.)	(2) FE Ln(Num.Prod.)	(3) FE Ln(Num.Prod.)	(4) FE Ln(Num.Prod.)
Ln(GDP)	0.0738***	0.183***	0.160***	0.0874
	(0.00379)	(0.0462)	(0.0469)	(0.0671)
Ln(MP)	-0.0260***	-0.103***	-0.0774***	-0.0798***
	(0.00376)	(0.00679)	(0.0110)	(0.0138)
Φij	-0.0347***		-0.0251***	-0.00738
	(0.00255)		(0.00839)	(0.0113)
Ln(Time imp.)	-0.0264***			0.00841
	(0.00534)			(0.0194)
Ln(Tim enfo.)	0.102***			-0.0467
	(0.0102)			(0.103)
Constant	-1.048***	-2.122*	-1.763	0.215
	(0.0971)	(1.107)	(1.114)	(1.740)
Observations	60,973	102,911	102,911	60,973
R-squared	0.020	0.008	0.008	0.007
Number of id		52,508	52,508	31,689

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 9: Empirical Results for HHI using Fixed Effects

	(1) OLS HHI_pm	(2) FE HHI_pm	(3) FE HHI_pm	(4) FE HHI_pm
Ln(GDP)	-0.0203***	-0.0370**	-0.0304*	-0.00716
	(0.00136)	(0.0181)	(0.0184)	(0.0263)
Ln(MP)	0.00781***	0.0352***	0.0279***	0.0276***
	(0.00135)	(0.00260)	(0.00436)	(0.00549)
Φ_{ij}	0.0119***		0.00710**	0.00142
	(0.000915)		(0.00337)	(0.00456)
Ln(Time imp.)	0.00905***			-0.00345
	(0.00192)			(0.00779)
Ln(Time enfo.)	-0.0296***			0.0232
	(0.00368)			(0.0446)
Constant	1.220***	1.064**	0.963**	0.322
	(0.0349)	(0.434)	(0.437)	(0.702)
Observations	60,973	102,911	102,911	60,973
R-squared	0.013	0.007	0.007	0.006
Number of id		52,508	52,508	31,689

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: Empirical Results for Intensive Margin

	(1) OLS Ln(X)	(2) FE Ln(X)	(3) FE Ln(X)	(4) FE Ln(X)
Ln(GDP)	-0.155***	1.255***	1.240***	1.028***
	(0.0155)	(0.150)	(0.151)	(0.215)
Ln(MP)	0.219***	0.170***	0.187***	0.143***
	(0.0154)	(0.0216)	(0.0342)	(0.0438)
Φ_{ij}	-0.0273***		-0.0159	-0.00855
	(0.0104)		(0.0275)	(0.0368)
Ln(Time imp.)	0.458***			-0.257***
	(0.0218)			(0.0619)
Ln(Time enfo.)	-0.0559			0.123
	(0.0418)			(0.366)
Constant	8.843***	-25.80***	-25.57***	-18.15***
	(0.396)	(3.589)	(3.598)	(5.661)
Observations	60,973	102,911	102,911	60,973
R-squared	0.008	0.010	0.010	0.013
Number of id		52,508	52,508	31,689

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 11: Quantile Regression for Exports Volume (with FE)

Quantile	**0.01**	**0.1**	**0.25**	**0.5**	**0.75**	**0.9**	**0.95**	**0.99**
	Ln(X)	**Ln(X)**	**Ln(X)**	**Ln(X)**	**Ln(X)**	**Ln(X)**	**Ln(X)**	**Ln(X)**
Ln(GDP)	0.737	1.258***	1.006***	0.844	0.868***	1.150***	1.414***	0.896
	(1.452)	(0.338)	(0.186)	(0)	(0.182)	(0.300)	(0.447)	(0.989)
Ln(MP)	0.519*	0.234***	0.203***	0.182	0.105***	-0.0493	-0.143	-0.00351
	(0.314)	(0.0730)	(0.0401)	(0)	(0.0395)	(0.0650)	(0.0967)	(0.214)
Φ_{ij}	-0.0784	-0.111*	-0.0959***	-0.0894	-0.0264	0.131**	0.243***	0.272
	(0.272)	(0.0632)	(0.0347)	(0)	(0.0341)	(0.0563)	(0.0837)	(0.185)
Ln(Time enfo.)	-0.954	-0.0254	-0.00178	-0.0944	-0.0122	0.698	0.590	-0.516
	(2.679)	(0.623)	(0.342)	(0)	(0.337)	(0.555)	(0.825)	(1.825)
Ln(Time imp.)	-0.469	-0.223**	-0.263***	-0.256	-0.251***	-0.293***	-0.225*	-0.134
	(0.424)	(0.0985)	(0.0541)	(0)	(0.0532)	(0.0877)	(0.130)	(0.289)
Constant	-13.36	-24.71***	-17.26***	-12.05	-12.02**	-21.48***	-26.47**	-8.623
	(38.99)	(9.067)	(4.983)	(0)	(4.899)	(8.069)	(12.01)	(26.56)
Observations	60,973	60,973	60,973	60,973	60,973	60,973	60,973	60,973
FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 12: Quantile Regression for Product Mix (with FE)

Quantile	**0.01**	**0.1**	**0.75**	**0.9**	**0.95**	**0.99**
	HHI pm	**HHI pm**	**HHI pm**	**HHI pm**	**HHI pm**	**HHI pm**
Ln(GDP)	0.0617	0.0544	-0.00274	-0.0178	-0.0488	-0.0719
	(0.0808)	(0.0660)	(0.0331)	(0.0492)	(0.0529)	(0.0843)
Ln(MP)	0.0491***	0.0650***	0.0109	0.0233**	0.0109	-0.00164
	(0.0175)	(0.0143)	(0.00716)	(0.0106)	(0.0114)	(0.0182)
Φ_{ij}	-0.00840	-0.0108	0.00610	0.00872	0.0185*	0.0315**
	(0.0151)	(0.0124)	(0.00620)	(0.00921)	(0.00990)	(0.0158)
Ln(Time enfo.)	0.0982	0.115	0.0112	-0.0286	-0.0564	0.0644
	(0.149)	(0.122)	(0.0611)	(0.0908)	(0.0976)	(0.156)
Ln(Time imp.)	0.00319	0.000783	-0.00156	-0.00955	-0.00899	0.0129
	(0.0236)	(0.0193)	(0.00966)	(0.0144)	(0.0154)	(0.0246)
Constant	-2.587	-2.587	0.575	1.095	2.255	2.212
	(2.170)	(1.773)	(0.889)	(1.321)	(1.420)	(2.263)
Observations	60,973	60,973	60,973	60,973	60,973	60,973
FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Standard errors in parentheses. (i) *** p<0.01, ** p<0.05, * p<0.1 . (ii) The 25th and 50th quantiles have been dropped.

Table 13: Empirical Results for Exports (by Quantile of Initial Exports)

	(1) Ln(X)	(2) Ln(X)	(3) Ln(X)	(4) Ln(X)	(5) Ln(X)	(6) Ln(X)	(7) Ln(X)	(8) Ln(X)	(9) Ln(X)	(10) Ln(X)
Ln(GDP)	3.493***	0.514	1.937**	1.152	0.748	0.312	1.245**	0.884	1.349**	0.975**
	(1.061)	(0.816)	(0.766)	(0.737)	(0.638)	(0.618)	(0.607)	(0.588)	(0.544)	(0.483)
Ln(MP)	0.569**	0.258	0.103	0.281*	-0.0358	0.124	0.0601	0.0729	-0.0323	0.130
	(0.235)	(0.159)	(0.151)	(0.144)	(0.136)	(0.123)	(0.122)	(0.119)	(0.116)	(0.102)
Φ_{ij}	0.604***	0.516***	0.0806	-0.275**	-0.0462	-0.0373	-0.0879	-0.165	-0.148	-0.164**
	(0.208)	(0.136)	(0.132)	(0.111)	(0.116)	(0.107)	(0.0980)	(0.101)	(0.102)	(0.0765)
Ln(Time imp.)	-0.642*	-0.174	-0.123	-0.422*	-0.241	0.134	-0.117	-0.00183	-0.262*	-0.392**
	(0.328)	(0.221)	(0.195)	(0.215)	(0.191)	(0.192)	(0.167)	(0.165)	(0.153)	(0.157)
Ln(Time enfo.)	-1.419	3.713**	1.381	-2.752	2.594*	-0.982	0.909	0.0351	-0.935	-0.420
	(1.706)	(1.697)	(1.576)	(1.914)	(1.329)	(1.345)	(1.113)	(0.984)	(0.633)	(0.540)
Constant	-87.33***	-38.31*	-50.37**	-2.544	-23.01	6.504	-25.67	-10.50	-12.84	-8.810
	(28.92)	(22.10)	(22.96)	(21.76)	(16.18)	(17.05)	(15.67)	(14.75)	(13.87)	(11.61)
Observations	6,192	6,260	6,472	6,369	6,306	6,023	6,212	5,872	5,657	5,610
R-squared	0.142	0.063	0.022	0.017	0.003	0.002	0.006	0.002	0.006	0.011
Number of id	3,921	3,681	3,553	3,405	3,218	3,018	3,060	2,840	2,680	2,313

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 14: Empirical Results for Product Mix (by Quantile of Initial Exports)

	(1) HHI_pm	**(2) HHI_pm**	**(3) HHI_pm**	**(4) HHI_pm**	**(5) HHI_pm**	**(6) HHI_pm**	**(7) HHI_pm**	**(8) HHI_pm**	**(9) HHI_pm**	**(10) HHI_pm**
Ln(GDP)	-0.114	-0.0629	-0.175*	-0.0891	0.0784	0.0166	0.0166	0.0208	-0.0828	0.156***
	(0.105)	(0.0995)	(0.0960)	(0.0908)	(0.0830)	(0.0915)	(0.0754)	(0.0789)	(0.0747)	(0.0572)
Ln(MP)	0.0278	0.0258	0.0439**	0.0257	0.0413**	0.0496***	0.0123	-0.00892	0.0384***	0.0228*
	(0.0226)	(0.0209)	(0.0195)	(0.0183)	(0.0181)	(0.0174)	(0.0150)	(0.0165)	(0.0148)	(0.0131)
Φ_{ij}	-0.0317*	-0.0140	-0.0162	0.0252	0.00983	-0.00570	0.0255**	0.0203	0.0101	-0.0179*
	(0.0187)	(0.0180)	(0.0160)	(0.0157)	(0.0159)	(0.0145)	(0.0124)	(0.0132)	(0.0124)	(0.0103)
Ln(Time imp.)	0.0314	-0.00899	-0.0381	-0.00242	0.00278	-0.00151	-0.0243	-0.0124	0.0193	-0.01000
	(0.0322)	(0.0277)	(0.0259)	(0.0251)	(0.0258)	(0.0269)	(0.0232)	(0.0249)	(0.0224)	(0.0182)
Ln(Time enfo.)	0.0718	0.0874	0.116	0.166	-0.127	0.349*	0.176	-0.163	0.117	-0.0390
	(0.168)	(0.156)	(0.223)	(0.216)	(0.156)	(0.194)	(0.128)	(0.103)	(0.124)	(0.0810)
Constant	2.988	1.560	3.928	1.214	-1.260	-2.750	-1.154	1.355	1.206	-2.895**
	(2.805)	(2.612)	(2.971)	(2.668)	(2.238)	(2.514)	(1.904)	(2.062)	(2.009)	(1.400)
Observations	6,192	6,260	6,472	6,369	6,306	6,023	6,212	5,872	5,657	5,610
R-squared	0.005	0.001	0.005	0.011	0.023	0.016	0.017	0.003	0.012	0.011
Number of id	3,921	3,681	3,553	3,405	3,218	3,018	3,060	2,840	2,680	2,313

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 15a: Multinomial Logit for Firms' Transition between First and Last Year

From	SP SD	SP SD	SP SD	SP SD	MP SD	MP SD	MP SD	MP SD
To	SP SD	MP SD	SP MD	MP MD	SP SD	MP SD	SP MD	MP MD
Ln(GDP)	0.279***	-0.0477	0.301***	-0.140**	0.116**	-0.151***	0.103	-0.0622**
	(0.0366)	(0.0530)	(0.0522)	(0.0690)	(0.0454)	(0.0191)	(0.0680)	(0.0307)
Ln(MP)	0.0351	0.156***	-0.00720	0.224***	0.0734	0.0355*	0.0745	0.104***
	(0.0354)	(0.0523)	(0.0504)	(0.0682)	(0.0453)	(0.0189)	(0.0673)	(0.0303)
Φ_{ij}	-0.0894***	-0.0537	-0.0425	-0.0325	-0.244***	0.112***	-0.156***	-0.0164
	(0.0250)	(0.0349)	(0.0355)	(0.0452)	(0.0306)	(0.0127)	(0.0456)	(0.0204)
Ln(Time imp.)	0.158***	-0.0723	0.161**	-0.00870	0.0857	-0.0144	-0.0215	-0.000790
	(0.0497)	(0.0751)	(0.0705)	(0.0975)	(0.0636)	(0.0267)	(0.0959)	(0.0431)
Ln(Time enf.)	0.587***	0.563***	0.661***	0.455**	0.471***	0.0647	0.565***	0.250***
	(0.105)	(0.149)	(0.149)	(0.187)	(0.139)	(0.0482)	(0.203)	(0.0825)
Constant	-13.13***	-7.775***	-14.60***	-7.151***	-7.592***	0.643	-9.390***	-3.841***
	(0.973)	(1.399)	(1.378)	(1.784)	(1.270)	(0.476)	(1.868)	(0.792)
Observations	44,449	44,449	44,449	44,449	44,449	44,449	44,449	44,449

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
The reference group in these regression is the firms who exited from the market.

Table 15b: Multinomial Logit for Firms' Transition between First and Last Year

From	SP MD	SP MD	SP MD	SP MD	MP MD	MP MD	MP MD	MP MD
To	SP SD	MP SD	SP MD	MP MD	SP SD	MP SD	SP MD	MP MD
Ln(GDP)	0.287***	0.00259	0.383***	0.111*	0.246***	-0.0218	0.115**	0.118***
	(0.0471)	(0.0814)	(0.0401)	(0.0648)	(0.0565)	(0.0282)	(0.0540)	(0.0269)
Ln(MP)	0.00141	0.204**	-0.0467	0.126**	-0.0548	0.0476*	0.0388	0.00442
	(0.0461)	(0.0813)	(0.0386)	(0.0635)	(0.0554)	(0.0279)	(0.0539)	(0.0263)
Φ_{ij}	-0.147***	-0.165***	-0.110***	-0.0687	-0.251***	-0.0296	-0.268***	-0.0414**
	(0.0321)	(0.0533)	(0.0275)	(0.0431)	(0.0397)	(0.0188)	(0.0362)	(0.0181)
Ln(Time imp.)	0.0626	0.180	0.0224	0.166*	-0.150*	-0.00324	-0.0849	-0.120***
	(0.0651)	(0.114)	(0.0550)	(0.0890)	(0.0802)	(0.0395)	(0.0766)	(0.0378)
Ln(Time enf.)	0.710***	0.880***	0.739***	0.768***	-0.0109	0.180**	0.575***	0.347***
	(0.141)	(0.242)	(0.118)	(0.186)	(0.166)	(0.0763)	(0.170)	(0.0747)
Constant	-13.04***	-12.42***	-14.57***	-13.39***	-4.825***	-2.918***	-7.082***	-5.946***
	(1.288)	(2.209)	(1.081)	(1.713)	(1.541)	(0.731)	(1.539)	(0.707)
Observations	44,449	44,449	44,449	44,449	44,449	44,449	44,449	44,449

Notes: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
The reference group in these regressions is the firms who exited from the market.

Appendix 1: Data Sources and Variables Definition

Variable	Definition	Source
X_{fkjt}	Total exports by firm *f* to destination *j* of product *k* in year *t*. These data cover the period from 2006 to 2010. This dataset has four dimensions: exporting firm, year, destination and product (at the HS4 level) for two variables which are value and quantity of exports.	General Organization for Export and Import Control (GOEIC), the Ministry of Industry and Foreign Trade in Egypt
HHI_{fkjt}	Herfindahl-Hirschman index (HHI_{fkjt}) to account for the diversification /concentration within the firm *f* in the destination market *j* for each product *k*	Constructed by the authors
HHI_{kjt}	Herfindahl-Hirschman index (HHI_{fkjt}) to account for the diversification /concentration at the destination market *j* for each product *k*	Constructed by the authors
$NumProd_{fjt}$	Number of products by firm and destination	Constructed by the authors
GDP_{jt}	Gross domestic product by destination and year	World Development Indicators
INS_{jt}	Time to enforce contracts and time to import by destination and year	Doing Business dataset
mp_{jt}	Market potential: we calculate market potential as a proxy for measuring level of competition in the destination country. We follow the same methodology used in Head and Mayer (2010). We estimate a gravity type relationship where we regress bilateral trade between countries between 2006 and 2010 on a set of importer and exporter dummies and on a vector of trade costs coming from the CEPII gravity dataset. This vector of trade costs includes bilateral distance, contiguity, colonial links and a set of dummies for common membership of a regional trade agreement, common language and common colony. We get trade data from IMF DOTS for the period between 2006 and 2010	Constructed by the authors
Φ_{ij}	Freeness of trade: To calculate the degree of trade freeness between Egypt and its partners, we use the same methodology used above to calculate market potential but without origin and destination fixed effects. And we use the subset of estimated data where Egypt is the origin country.	Constructed by the authors

Appendix 2: List of Countries

Afghanistan	Dem. Rep. of Korea	Kyrgyzstan	Peru	United States
Albania	Denmark	Lao	Philippines	Uruguay
Algeria	Djibouti	Latvia	Plurinational State of Bolivia	Uzbekistan
Angola	Dominica	Lebanon	Poland	Vanuatu
Antigua/Barbuda	Dominican Republic	Lesotho	Portugal	Venezuela
Argentina	Ecuador	Liberia	Qatar	Viet Nam
Armenia	El Salvador	Libya	Reunion	Yemen
Australia	Equatorial Guinea	Lithuania	Russian Federation	Yugoslavia
Austria	Eritrea	Luxembourg	Rwanda	Zambia
Azerbaijan	Estonia	Macao	Saint Helena	Zimbabwe
Bahamas	Ethiopia	Macedonia	Saint Pierre and Miquelon	
Bahrain	Fiji	Madagascar	Sao Tome and Principe	
Bangladesh	Finland	Malawi	Saudi Arabia	
Barbados	France	Malaysia	Senegal	
Belarus	Gabon	Maldives	Seychelles	
Belgium	Georgia	Mali	Sierra Leone	
Benin	Germany	Malta	Singapore	
Bermuda	Ghana	Mauritania	Slovakia	
Bosnia and Herzg.	Gibraltar	Mauritius	Slovenia	
Bostwana	Greece	Mexico	Somalia	
Brazil	Grenada	Moldova	South Africa	
Brunei	Guatemala	Mongolia	Spain	
Bulgaria	Guinea	Morocco	Sri Lanka	
Burkina Faso	Guinea-Bissau	Mozambique	Sudan	
Burundi	Haiti	Myanmar	Suriname	
Cameroon	Honduras	Namibia	Swaziland	
Canada	Hong Kong	Nauru	Sweden	
Cape Verde	Hungary	Nepal	Switzerland	
Central African	Iceland	Netherlands	Syrian Arab Republic	
Chad	India	Netherlands Antilles	Taiwan	
Chile	Indonesia	New Caledonia	Tajikistan	
China	Iran	New Zealand	Tanzania	
Colombia	Iraq	Nicaragua	Thailand	
Combodia	Ireland	Niger	Togo	
Comoros	Italy	Nigeria	Trinidad and Tobago	
Congo	Jamaica	Norway	Tunisia	
Costa Rica	Japan	Oman	Turkey	
Côte d'Ivoire	Jordan	Pakistan	Turkmenistan	
Croatia	Kazakhstan	Palau	Uganda	
Cuba	Kenya	Panama	Ukraine	
Cyprus	Korea	Papua New Guinea	United Arab Emirates	
Czech Republic	Kuwait	Paraguay	United Kingdom	

Appendix 3: Robustness Checks

Table A1: Robustness Check Using Local and Global Ratio

	Ln(Ratio Local)	Ln(Ratio Global)	Ln(Ratio Highest)
Ln(GDP)	0.0253	-0.217*	-0.0397*
	(0.203)	(0.122)	(0.0227)
Ln(MP)	0.0966***	0.0190	0.0407***
	(0.0276)	(0.0274)	(0.00332)
Φ_{ij}		-0.00248	
		(0.0219)	
Constant	-1.099	6.306**	0.0177
	(4.921)	(2.920)	(0.544)
Observations	39,615	88,844	102,911
R-squared	0.001	0.000	0.006
Number of id	20,611	48,359	52,508

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table A2: Robustness Check Using Number of Egyptian Exporters

	Ln(Num.Prod.)	HHI_pm	Ln(X)
Ln(# of firms)	0.206***	-0.0693***	0.0771
	(0.0234)	(0.00953)	(0.0877)
Φ_{ij}	-0.0529***	0.0189***	0.192***
	(0.00674)	(0.00266)	(0.0222)
Ln(Time imp.)	0.0269	-0.0126*	-0.434***
	(0.0186)	(0.00726)	(0.0573)
Ln(Time enfo.)	-0.0799	0.0325	-0.0364
	(0.102)	(0.0441)	(0.366)
Constant	0.233	0.879***	9.105***
	(0.667)	(0.286)	(2.414)
Observations	62,920	62,920	62,920
R-squared	0.008	0.007	0.011
Number of id	32,383	32,383	32,383

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1