ECONOMIC RESEARCH FORUM
منتدى البحوث الاقتصادية
2016

working paper series

INVESTMENT CLIMATE AND FIRMS' EXPORTS IN EGYPT: WHEN POLITICS MATTER

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Working Paper No. 1071

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December 2016

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First published in 2016 by
The Economic Research Forum (ERF)
21 Al-Sad Al-Aaly Street
Dokki, Giza
Egypt
www.erf.org.eg

Abstract

The objective of this paper is to explore the nexus between exports performance and components of the investment climate. This paper contribution is twofold: first, the paper fills the gap in the available literature by combining both the literature on productivity and investment climate and that on exports and productivity. Second, we use firm-level data to examine the differential impact of investment climate on both the intensive and the extensive margins using the World Bank enterprise survey for Egypt. Our results suggest that in fact, politics do matter for two reasons. First, the most important constraint affecting firms' exports is political instability despite investment reforms. Second, the ability of state owned firms to become exporters, despite their limited competitiveness once they enter the exports market. Finally, tax policy and competition from the informal sector are the most important impediments that hinder both the increase in the number of exporters and the quantity of exports. Imported inputs do also matter for both of the two margins.

JEL Classification: F10, F12

Keywords: Investment, Exports, Firm-Level data, Egypt.

ملخص

الهدف من هذه الورقة هو استكشاف العلاقة بين أداء الصادرات ومكونات مناخ الاستثمار. مساهمة هذه الورقة تتكون من شقين: أولا، تملأ الفجوة في الأدبيات المتوفرة من خلال الجمع بين كل من الأدب على الإنتاجية ومناخ الاستثمار وذلك على الصادرات والإنتاجية. ثانيا، تستخدم البيانات على مستوى الشركات لدراسة التأثير المتباين لمناخ الاستثمار على كل من كثافة وهوامش واسعة باستخدام مسح البنك الدولي عن المؤسسات في مصر. وتشير النتائج التي توصلنا إليها أن السياسة هامة جدا لسببين. أولا، أهم القيود التي تؤثر على صادرات الشركات هو عدم الاستقرار السياسي على الرغم من إصلاحات الاستثمار. ثانيا، قدرة الشركات المملوكة للدولة لتصبح مصدرة، على الرغم من قدرتها التنافسية المحدودة بمجرد دخولها سوق الصادرات. وأخيرا، السياسة الضريبية والمنافسة من القطاع غير الرسمي هي من العوائق الهامة التي تعرقل كل من زيادة عدد المصدرين وكمية الصادرات. المدخلات المستوردة هامة أيضا لكلا الهامشين.

1. Introduction

The growing literature on international trade models with heterogeneous firms shows that export decision is chiefly determined by the firm productivity. Indeed, according to these models (e.g. Roberts and Tybout, 1997; Bernard et al., 2003; and Melitz, 2003), firms face uncertainties about their future productivity when making an irreversible costly investment decision to enter the domestic market. Furthermore, the decision to export occurs after the firms observe their productivity, since a firm enters export markets if and only if the net profits generated from its exports in a given country are sufficient to cover the fixed exporting costs. The better the investment climate, the lower the sunk cost borne by the firm and the more likely a non-exporter becomes an exporter. Hence, investment climate affects the extensive margin of trade.

The literature on the nexus between productivity, exports and investment climate is not abundant. Most of the available literature focuses on the relationship between investment climate and firms' production. In India, the value added per worker is 44% lower in those states that suffer from poor investment climate, where poor access to electricity and Internet seems to explain 25% of the total factor productivity gap in these firms (Dollar et al, 2002). Dollar et al (2004) show that customs delays and power outages are the most serious bottlenecks for firms in Pakistan, Bangladesh and India, and lower for Chinese firms. Subramanian et al (2005) find that delays in customs clearance and utility services interruptions negatively affect firms' performance in China and Brazil. Reducing customs clearance time by one day in China is expected to increase total factor productivity by 2% to 6%. Moreover, Kinda et al (2009) find that the investment climate seems to be poorer for MENA than for other developing countries. MENA firms are also less export oriented than their peers in other developing countries. To the contrary, Hallward-Driemeier et al (2006) and Bastos and Nasir (2004) find no evidence on the impact of physical infrastructure on firms' productivity. Escribano et al (2010) suggest that customs clearance delays affect mainly firms' performance in faster growing African economies, while poor access to electricity and telecommunications matter for slower growing African economies. Şeker (2011) suggests that improvements in regulation, access to finance, and physical infrastructure significantly increase export volumes across countries with different income levels.

The case of Egypt is of particular interest since, according to the Doing Business ranking, Egypt was the top reformer in the MENA region for five years in a row. Yet, it faced several problems in the wake of the political turmoil that took place in 2011. Since 2014, the government has also been carrying out additional reforms to enhance the business environment and boost investments and exports. Yet, despite these reforms, exports did not increase and the number of exporters declined. This is why it is worthy to investigate the impact of different components of investment climate on exports.

Thus, the objective of this paper is therefore to explore the nexus between exports performance and components of the investment climate. Our contribution is twofold: first, the paper fills the gap in the available literature by combining both the literature on productivity and investment climate and that on exports and productivity. Second, we use firm-level data to examine the differential impact of investment climate on both the intensive and the extensive margins. Using the World Bank enterprise survey for Egypt, the analysis is done in two steps. First, we estimate a Total Factor Productivity by sector (TFP). Second, we examine the impact of both productivity and investment climate components on exports performance measured by both the quantity of exports (intensive margin) and the likelihood of becoming an exporter (extensive margins).

Our results suggest that in fact, politics do matter for two reasons. First, the most important constraint affecting firms' exports is political instability. Second, given the ability of state

owned firms to become exporters, despite their limited competitiveness once they enter the exports market. Our findings can be explained by the ability of state owned firms to easily overcome barriers related to entering the exports market due to easier communication with government authorities, a privileged access to information, and possibly other (informal) channels. Yet, government ownership does not affect the quantity of exports. Finally, tax policy and competition from the informal sector are the most important impediments that hinder both the increase in the number of exporters and the quantity of exports. Imported inputs do also matter for both of the two margins.

The paper is organized as follows. Section 2 describes the data sets used in the analysis and presents preliminary evidence and stylized facts. Section 3 presents the estimation framework. Section 4 discusses the empirical results. Section 5 concludes.

2. Stylized Facts

2.1 Investment climate in Egypt

Political instability following the 2011 unrest had a negative impact on business and investment in Egypt. Figure 1 depicts the evolution of the share of total investments to GDP between fiscal years 2004/2005 and 2013/2014. Investments reached a peak of 22.4% of GDP in FY 2007/2008 as a consequence of successful regulatory reforms carried out between 2004 and 2008 to boost domestic and foreign investment and enhance the business environment. Since 2008/2009, investments witnessed a drop due to overall economic slowdown at the international level, and later due to the wave of political unrest in Egypt and the region since 2011, to reach 14% of GDP in FY 2013/2014. Exports have also dropped from 30.3% to only 15.2% of GDP during the same period. According to the World Bank 2013 Enterprise Survey, nearly 50% of firms reported unstable political conditions as the main obstacle to their operations. This percentage is higher than the average share in MENA region, which does not exceed 30%. The impact of political, economic and business conditions differ according to firm size. Medium and large firms reported political instability to be the major obstacle to their operation more frequently than smaller firms.

The distribution of investments per sector is depicted in figure 2 where infrastructure services (water, electricity, telecommunications and construction) account for 35% of total investments in Egypt, followed by the manufacturing sector with a share of 15.7%. Hence, it is important to boost investments in infrastructure in order to attract foreign investors and increase both investments and exports.

In response to the overall economic slowdown, the Egyptian government has carried out a series of reforms to improve the business environment and encourage investment, especially in export-oriented sectors. Table 1 summarizes recent investment-related reforms undertaken by the Egyptian government. In March 2014, the Egyptian Regulatory Reform and Development Activity (ERRADA) was launched with the objective of reviewing and streamlining business-related regulations and eliminating burdensome administrative procedures. Law-Decree No. 17/2015 was issued in March to simplify investment procedures and standardize incentives. The law amends Law No.8/1997 on investment incentives and guarantees and related articles in Corporate Law No. 59/1981 and Tax Law No. 91/2005. The new legislation includes special incentives for export-oriented activities and new government-investor dispute settlement mechanisms, and enforces the role of the General Authority for Investment (GAFI) as a one-stop-shop for investors. More specifically, the new law allows for reduced sales tax on machinery and equipment of 5% instead of 10% and a flat tariff rate on imports of equipment used in production at 2%. A number of non-tax incentives are provided in labor-intensive projects, investments in remote areas, and sectors of national priority. These include free allocation of land, reduced energy tariffs, and reimbursement of costs of infrastructure built by investors. The licensing system is also enhanced with a maximum issue period of 15 days

following the submission of all required documents and completion of procedures. Finally, new dispute settlement mechanisms are introduced through the establishment of a number of specialized committees.

In addition to these incentives, earnings exempted from taxation are increased from EGP 5,000 to EGP 6,500. The 22.5% tax rate ceiling is applied uniformly to all firms operating in Egypt. Additionally, the capital gains tax has been suspended for two years. In a step to restructure the customs system, executive regulations of the Customs Law were amended to allow for electronic submission of some documents. In line with the WTO TRIPs Agreement, the Law on Intellectual Property Rights Protection No.82/2002 is amended to set a legal framework for protection of new varieties of plants. The Competition Law No.3/2005 is amended by Decree-Law No.56/2014 in order to guarantee the independence of the Egyptian Competition Authority (ECA) and resolve the overlap between the former and sectoral regulatory authorities. Finally, Decree-Law No.87/2015 has been issued to reform the electricity sector. The new law seeks to increase investments in the energy sectors to cope with increasing demand and eliminate power cuts by privatizing generation and distribution of electricity, while leaving the government only in charge of regulation and policy.

According to the Doing Business 2016 Report, Egypt's rank is 131 out of 189 countries in the ease of doing business, compared to a ranking of 126 in the previous year[1], and has a distance to frontier (DTF)[2] score of 54.43. Egypt scored the largest increase in DTF over the past 12 years. Yet, most of the gains occurred between 2004 and 2008 after the creation of a single access point for business registration in 2004, the reduction of business registration fees in 2007, and the elimination of the minimum capital requirement in 2009. Table 2 provides comparisons of Egypt's ranking and performance in a number of selected indicators to two subgroups: MENA and lower middle-income countries. Egypt's Doing Business rank is 73 in 189 economies for the ease of starting a business. It has the 3rd and the 14th position among 20 MENA and 51 lower middle-income countries respectively.

By observing the firm-level survey, Table 3 shows that, in terms of obtaining a license, Egyptian firms need longer time to obtain all types of licenses than their peers in MENA and in lower middle-income countries. In the case of operating licenses, the delay is 4 to 5 times higher in Egypt (138.9 days compared to 33.4 and 28.1 days in both groups respectively). Licensing is also a more complicated and lengthy procedure for small and medium enterprises than for large ones. In addition to lengthy procedures, corruption indicators are also higher in Egypt than in both benchmark groups. For example, more than 71.9% of Egyptian firms responding to the survey reported having been expected to give gifts to obtain operating licenses, compared to around 20% in the two other groups.

Egypt lags behind in the ease of paying taxes, with a global ranking of 151, and ranks of 18 and 35 among MENA and lower middle-income countries subgroups respectively. According to the Doing Business Reports, Egyptian firms make 29 tax payments a year, spend 392 hours a year filing, preparing and paying taxes, and pay total taxes amounting to 45% of profit.

Lengthy licensing procedures, costly taxation and corruption are, among other reasons, three important causes of the prevalence of informality in Egypt. About 90% of firms responding to the enterprise survey reported having started their business without being formally registered. Indeed, competition coming from the informal sector might have a negative effect on firms performance as informal firms have a cheaper cost of production which make them advantaged

[1] The change in ranking does not necessarily reflect deterioration in performance, but rather a change in methods of calculation. Previous rankings using the old methodology are currently not available.

[2] The DTF score benchmarks the performance of economies to best regulatory practices, where 0 indicates the worst performance and 100 the best performance (Egypt Doing Business Report, 2016) .

compared to formal ones. This is why some firms mentioned in the survey that this competition from the informal sector is the most severe constraint.

Egypt ranks 79th globally and first in MENA countries in access to credit. However, financial intermediation remains relatively low and the non-government loans-to-deposits ratio has decreased from 54.2% in June 2010 to 43.8% in June 2015 (Ministry of Finance, 2015). More specifically, firms operating in the trade sector receive only 16.4% of total non-government credit facilities, compared to a share of 44.1% for firms in the industrial sector (Ministry of Finance, 2015). SMEs represent around 97% of total enterprises in the manufacturing sector (of which 6% is exporting), yet their share of credit is limited to a mere 25%. Limited access to finance is thought to be due to reluctance of banks to lend small entrepreneurs due to high risk and low returns, in addition to the lack of awareness of small entrepreneurs with procedures and required documents and overall lack of financial education. The enterprise survey depicts limited efficiency of the financial intermediation market, with 89.1% of firms relying on internal funds and informal sources (such as family) to finance their activities, compared to 72% in both other groups. Only 6% of firms have bank loans or other forms of credit, and 59.6% have a bank account.

Access to water has been significantly improved, clean water networks covering nearly 100% in urban areas and 93% in rural areas of Egypt (African Development Bank, 2015). Water shortage in Egypt is lower than MENA and lower middle-income economies, with around 2 cut-offs a month, compared to 2.75 and over 4 cut-offs a month for both groups respectively.

The number of power outages in a typical month in Egypt reaches up to 16.3, slightly below MENA average and significantly higher than the group of lower middle-income countries. Meanwhile, losses in sales due to power outage are as high as 5.6% of total sales value in Egyptian firms, higher than MENA and lower middle-income averages (4.7% and 4% respectively). Delays to get an electricity connection are also significantly higher in Egypt than MENA and lower middle-income countries, with nearly 76 days compared to only 41 and 29 days for both groups respectively. According to the Doing Business Report, Egypt ranks 144th in access to electricity, which requires 7 procedures and costs 272.9% of income per capita. Delays to obtain a telephone line are currently at 7 days[3], compared to 8.5 days for MENA and 19.4 days for lower middle-income countries. Internet use is lower in Egyptian firms than in the case of their peers from both benchmark groups. Only 45% of Egyptian firms communicate with their clients through Internet, compared to more than 60% both subgroups.

Egypt's global rank in the ease of trading across borders is 157, and it comes at the 14th place among 20 MENA countries. Nearly half of the firms responding to the survey use inputs of foreign origin. Exporting firms have reported an average of 7.4 days to clear exports through customs, which is one day higher than MENA average. Meanwhile, importing firms need 9.2 days in average to clear imports from customs, which is lower than MENA average and lower middle-income countries. Losses due to spoilage or breakage while exporting are significantly lower in Egypt, with losses of 0.5% of total exports, compared to over 1% in MENA and lower middle-income countries. Despite the measures taken to facilitate trading through borders, the number of procedures, delays at the border and cost of clearing exports and imports remain major obstacles to Egyptian firms.

Last but not least, crime imposes an extra cost on operating firms where a proportion of their resources are shifted to cover security issues. Indicators of crime suggest that the situation in Egypt is generally better than in both benchmark groups in terms of losses due to thefts and robbery, and fairness of courts.

[3] Communication with Telecom Egypt customer service.

To conclude, this analysis shows that investment climate is still facing serious problems despite the reforms mentioned above. Figure 3 summarizes the percent of firms identifying the problem as the main obstacle. It is obvious that political instability and access to finance are the most severe constraints followed by electricity and corruption. Yet, labor market issues measured by labor regulations and inadequate labor force do not represent serious impediments to Egyptian firms.

2.2 Exporters characteristics in Egypt

Table 4 depicts the number of establishments in the manufacturing sector in 2013. Four sectors account for almost 40% of the manufacturing firms which are food, textiles, garments and fabricated metals. Moreover, exporters are chiefly concentrated in food, textiles, garments and chemicals.

Figure 4 shows the differences between exporters and non-exporters. It is worthy to note that exporters are larger in terms of labor, capital, use of intermediate inputs and total factor productivity. The differences between the two groups are also statistically significant as it is shown in Figure 5. Yet, their number is smaller since they represent 20 % of the total number of firms.

In a nutshell, it is quite clear that exporting firms are performing better in terms of productivity and different factors of production. However, they are still facing serious impediments imposed by the investment climate. This is, despite the reforms implemented by the government of Egypt, neither exports nor the number of exporters increased. The next section will examine the effect of the latter on exports performance.

3. Methodology and Data

To examine the impact of investment climate on exports performance, we undertake our empirical analysis in several steps, extending hereby the work of Dollar et al (2004). Indeed, since productivity is one of the most important determinants of becoming an exporter (Melitz, 2003), we first estimate the total factor productivity through the logarithmic form of production function and retrieve the logarithm of TFP as the residual at the sectoral level[4]. The production function which takes a general Cobb-Douglas form is as follows:

$$Y_{ik} = A_{ik} L_{ik}^{\alpha} K_{ik}^{\beta} I_{ik}^{\sigma} \quad (1)$$

where Y is total output, K is capital, L is labor, I is total intermediate inputs, A is technology efficiency parameter, i denotes individual plant and k denotes sector. By log-linearizing equation (1), we obtain an estimable equation as follows:

$$logY_{ik} = logA_{ik} + \alpha\, log\, L_{ik} + \beta\, log\, K_{ik} + \sigma\, log\, I_{ik} + \varepsilon_i \quad (2)$$

We estimate the TFP at the sectoral level as follows:

$$TFP_{ik} = logA_{ik} = logY_{ik} - \widehat{logY}_{ik} \quad (3)$$

with $\widehat{logY}_{ik}$ the estimated production.

Second, this estimated TFP is used to determine the extensive margin by regressing the probability of becoming an exporter as follows:

$$Prob(X_{ik}) = \beta_0 + \beta_1 ln(TFP_{ik}) + \beta_2 ImpInput_{ik} + \beta_3 Own_{ik} + \beta_4 Z_{ik} + d_g + d_k + \eta_{ik} \quad (4)$$

where η_{ik} is the discrepancy term.

We introduce a vector Z_{it} that includes six groups of variables measuring the investment climate that are likely to affect the decision to export.

[4] See Appendix 1 for a list of sectors.

- The first group incorporates infrastructural variables such as electricity, telecommunication and transportation.
- The second is dedicated fiscal policy including tax administration and tax policy.
- Third, a bunch of variables measuring the labor market regulations are taken into account, followed by variables measuring access to finance.
- Fourth, we measure trade facilitation issues by the length of customs procedures.
- Moreover, we include the risks coming from corruption, theft, problems with courts and political instability.
- We also include some variables measuring competition coming from the informal sector.

All these constraints are dummy variables that take the value of 1 if the obstacle is severe or major and zero otherwise. We also control for the share of imported input ($ImpInput_{ik}$) and the ownership (Own_{ik} whether it is government, private or foreign ownership) and for the share of imported inputs. We finally add industry (d_k) and governorate (d_g) dummies to control for the sectoral and regional characteristics. This regression is run using a probit model.

Third, to examine the effect of investment climate on the intensive margin, a similar regression is run where the dependent variable is the share of exported sales as follows:

$$Ln(X_{ik}) = \alpha_0 + \alpha_1 ln(TFP_{ik}) + \alpha_2 ImpInput_{ik} + \alpha_3 Own_{ik} + \alpha_4 Z_{ik} + d_g + d_k + \xi_{ik} \quad (5)$$

where ξ_{ik} is the discrepancy term.

We use manufacturing establishment surveys carried out by the World Bank (World Bank Enterprise Survey) in most developing countries over the last decade and a half, including several from the Arab world. For Egypt, we use the 2013 survey. Given that the World Bank Enterprise Survey includes both exporting and non-exporting firms, this dataset will be used to examine the effect of different variables assessing the investment climate on the probability of becoming an exporter (firm-extensive margin). For a detailed discussion of the variables construction, see Appendix 2.

4. Empirical Findings

4.1 Production function and TFP

In order to examine the impact of investment climate on exports, we first estimate the TFP, which is an important determinant of exports (Melitz, 2003). Tables 5a and 5b show the results of the production function at both the aggregate and the sectoral levels. The regressions are run by sector so that labor/capital are allowed to affect sales differently in different sectors. The results show that both labor and capital are positive and highly significant. Furthermore, the elasticity of production with respect to intermediate inputs is high and statistically significant. The R-squared of the model is in general high (ranging from 70% to 94%).

Table 6 and Figure 6 show the estimated TFP by sector. It is obvious that some sectors experienced productivity gains such as garments, leather and metals as they are more exposed to the rest of the world. The variance of the firms within each sector is also very large, especially for garments where the difference between the lowest and the highest productivity is important.

If the estimated TFP is compared for exporters and non-exporters (Table 7), we can see that exporters do much better in terms of their TFP. Figure 7 also shows the Kernel density for exporters and non-exports and it turns out that TFP is highly skewed to the right for exporters showing that the most productive firms who serve the domestic market have a greater potential to serve the international one as well. This is in line with the Melitz (2003) model of heterogeneous firms. According to this model, firms face uncertainties about their future productivity when making an irreversible costly investment decision to enter the domestic market. Following entry, firms produce with different productivity levels. In addition to sunk

entry costs, firms face fixed production costs, resulting in increasing returns to scale of production. Fixed production costs lead to the exit of inefficient firms whose productivities are lower than a threshold level, as they do not expect to earn positive profits in the future. As each firm is a monopolist for the variety it produces, it sets the price of its product at a constant markup over its marginal cost. The decision to export occurs after the firms observe their productivity, since a firm enters export markets if and only if net profits generated from its exports in a given country are sufficient to cover the fixed exporting costs (see Figure 8).

4.2 Impact on the extensive margin

As per the determinants of the likelihood of becoming an exporter, Tables 8-10 show that firms' productivity does matter in becoming an exporter. This is in line with what has been previously mentioned. Furthermore, inputs of foreign origin positively affect exports the probability of entering the exports market. This can be explained by the increased productivity due to use components of foreign origin, which allows the firm to take the decision to become an exporter.

Ownership appears to be the most significant variable and has a significantly positive impact. The results suggest that government ownership significantly increases the probability to enter the export market, followed by private foreign ownership. This shows the relative disadvantage of the domestic private sector and the significance of barriers hindering private firms to enter the export market. This is not the case for state owned firms who are able to benefit from their position to easily overcome any barriers imposed by other government authorities in order to access export markets. Firms with foreign ownership also enjoy a privileged and easier access the international market due to the nature of their ownership.

In terms of investment climate, among the host of variables included (Table 10), three turn to be significant. First, competition coming from the informal sector does have a negative impact on the probability of becoming an exporter. Interestingly, informal firms in Egypt increased significantly in recent years, and provide cheaper products as compared to the formal sector. Therefore, formal firms' sales decrease, which negatively affects their productivity and therefore their likelihood to become an exporter. Second, tax policy seems to be exerting a negative impact on the likelihood of becoming an exporter. Third, political stability has a significant negative effect on the intensive margin of exporters. The results can be explained by the overall climate of instability the country has witnessed between 2011 and 2013, and the general drop in economic performance and exports markets due to political instability, capital outflows, downsizing and exit of several domestic and foreign firms. Surprisingly, customs and administrative barriers and thefts exert a significantly positive impact on entering the exports market.

In summary, for Egyptian firms, two political variables matter for the extensive margins. First, while political instability discourages exporters, government-owned and well connected firms have an easier access to the export market. Thus, in order to increase the number of exporters in Egypt, more efforts must be deployed to improve security issues, implement a more transparent fiscal policy, enforce a fairer competition with different firms (government, private and foreign) and regulate the informal sector.

4.3 Impact on the intensive margin

We estimate the impact of investment climate on the intensive margin of already established exporters. Tables 11-13 illustrate the results. As expected, TFP has a highly significant positive effect on expanding the exports activity of firms. The results show that the incorporation of imported inputs is still significantly positive. The results go in line with the estimations of the extensive margin and highlight the role of foreign components in increased productivity and competitiveness at the international level.

Most importantly, foreign ownership seems to be the most significant variable with a significant positive impact on exports. In contrast to the case of the extensive margin, government ownership is not significant. The results are interesting since they provide an insight into the Egyptian manufacturing sector, and raise questions on transparency, access to information and competitiveness of firms located in Egypt. While state owned firms seem to enjoy the privilege of entering the exports market due to the lack of barriers and privileged access to information in addition to formal (and informal) communication channels with the authorities, these are – however- unable to compete and expand their export activity. Once having entered the export market, foreign owned firms - on the other hand- are able to compete and increase their exports. This is confirmed by Figure 9 that shows that government-owned firms have the lowest productivity. To the contrary, foreign firms perform better in terms of the share of exporters to the total number of firms and the average share of exports by firms since they are more productive. The results on foreign firms are not surprising and are in line with the estimations of the extensive margin. Foreign firms do better than government and local private firms in entering the exports market and in competing internationally. It is important also to notice that foreign establishments manufacturing sector also choose to establish in Egypt to serve the regional market and use the location as an export hub.

As per investment variables, two dimensions do matter for the intensive margins in a similar way as the extensive margin which are political instability and competition from the informal sector. Yet, for the intensive margin only, access to finance matters. Indeed, resource constraints in the forms of capital and access to finance can limit the sustainability of the firms' international activity. This is why access to finance matters.

5. Conclusion and Policy Recommendations

The objective of this paper is therefore to explore the nexus between exports performance and components of the investment climate. Our contribution is twofold: first, the paper fills the gap in the available literature by combining both the literature on productivity and investment climate and that on exports and productivity. Second, we use firm-level data to examine the differential impact of investment climate on both the intensive and the extensive margins using the World Bank enterprise survey for Egypt.

Our results suggest that in fact, politics do matter for two reasons. First, the most important constraint affecting firms' exports is political instability. Second, given the ability of state owned firms to become exporters, despite their limited competitiveness once they enter the exports market. Our findings can be explained by the ability of state owned firms to easily overcome barriers related to entering the exports market due to easier communication with government authorities, a privileged access to information, and possibly other (informal) channels. Yet, government ownership does not affect the quantity of exports. Finally, tax policy and competition from the informal sector are the most important impediments that hinder both the increase in the number of exporters and the quantity of exports. Imported inputs do also matter for both of the two margins.

Enhancing the overall investment climate is a topic of particular interest for developing countries in general and Egypt in particular. Enhancing the investment climate is currently one of the national priorities, and the reforms recently undertaken should enhance the business climate and rebuild domestic and foreign investors' confidence in Egyptian institutions and market. Finally, the persistent lack of transparency and access to information leaves domestic private firms underprivileged in comparison to state owned and foreign firms, and remain major obstacles hindering the former to enter and operate, and potentially engage in exporting activities.

References

African Development Bank (2015) " African Economic Outlook. Egypt 2015".

Bastos, F., J. Nasir (2004) "Productivity and the Investment Climate: What Matters Most?", Policy research working paper no.335. The World Bank

Bernard, Andrew B., Jonathan Eaton, J. Bradford Jensen, and Samuel S. Kortum, (2003) "Plants and Productivity in International Trade", *American Economic Review*, 93(4), 1268-1290.

Cirera, X., Marin, A. and Markwald, R. (2011) "Firm Behavior and the Introduction of New exports: Evidence from Brazil", Working Paper, Department of Economics, University of Sussex.

Dennis, A. and Shepherd B. (2011) "Trade Facilitation and Export Diversification", *The World Economy*, Volume 34, Issue 1, pages 101–122, January.

Djankov, S., Freund, C. and Pham, C. (2006) "Trading on Time", Policy Research Working Paper Series No. 3909, World Bank, January.

Dogruel, A. S. and Tekce M. (2011) "Trade Liberalization and Export Diversification in Selected MENA Countries", Topics in Middle Eastern and African Economies, Vol. 13.

Dollar, D., G. Iarossi, T. Mengistae (2002) "Investment Climate and Economic Performance: Some Firm Level Evidence from India", Working paper no.143, Center for Research on Economic Development and Policy Reform. Stanford University

Dollar, D., M. Hallward – Driemeier, T. Mengistae (2004) "Investment Climate and International Integration", World Bank Policy Research Working Paper no. WPS3323, Washington, D.C., U.S.A.

El-Gamal, M. A., El-Megharbel, N. and Inanoglu, H., (2001) "Beyond credit: A taxonomy of SMEs and financing methods for Arab countries", ECES Working Paper Series no. 57. Egypt. The Egyptian Center for Economic Studies (ECES). May

El-Said, H., Al-Said, M. and Zaki, C. (2013) "Access to finance and financial problems of SMEs: evidence from Egypt", *International Journal Entrepreneurship and Small Business*, Vol. 20, No. 3, pp.286–309.

Erzan, R. and Filiztekin, A. (2005) "Does Size Matter in Growth, Productivity, Employment, and Vulnerability/Flexibility in Turkish Manufacturing?" *Turkish Studies*, Vol.6, No.1, pp.113-126.

Escribano, A., J. L. Guash, J. Pena (2010) "Assessing the Impact of Infrastructure Quality on Firm Productivity in Africa. Cross-Country Comparisons Based on Investment Climate Surveysfrom 1999 to 2005", Policy research working paper no.5191. The World Bank

Hallward-Driemeier, M., S. Wallsten, L. Colin Xu (2006) "Ownership, Investment Climate and Firm Performance. Evidence from Chinese firms", *Economics of Transition*, Volume 14(4), pp. 629-647.

Hoekstra, R. (2013). "Boosting manufacturing firms' exports? The role of trade facilitation in Africa", IEE Working Paper 197. University of Bochum.

Kinda, T., P. Plane, M.A. Veganzones-Varoudakis (2009) "Firm's Productive Performance and the Investment Climate in Developing Economies: An Application to MENA Manufacturing", Policy research working paper no. 4869. The World Bank

Melitz, M. (2003) "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity", *Econometrica*, Vol. 71, No. 6., pp. 1695-1725.

Ministry of Industry and Foreign Trade (2012) “General Organization for Exports & Imports Control (GOEIC), Monthly Digest”, June.

Ministry of Finance (2008) “The Financial Monthly”, Volume 3, No.11, September.

Ministry of Finance (2015) “The Financial Monthly”, Volume 10, No.11, September.

Roberts, M and J. Tybout (1997) "The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs," *American Economic Review*, American Economic Association, vol. 87(4), pages 545-64, September.

Şeker, M. (2011) “Trade Policies, Investment Climate and Exports across Countries”, Policy research working paper no.5654. The World Bank

Shepherd, B. (2012) “Trade times, Importing, and Exporting: Firm-level Evidence”, *Munich Personal RePEc Archive*, Paper No. 41706.

Subramanian, U., W. P. Anderson K. Lee (2005) “Measuring the Impact of the Investment Climate on Total Factor Productivity: The Cases of China and Brazil”, Policy research working paper no. 3792. The World Bank

UNCTAD (2002), World Investment Report 2002: Transnational Corporations and Export Competitiveness, New York and Geneva: United Nations.

World Bank (2011,a) “Doing Business 2011: Making a Difference for Entrepreneurs”, IFC and the World Bank, Washington D.C.

World Bank (2011,b) “World Development Indicators 2011”, *World Bank Group*.

World Bank (2013) “Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises”, *World Bank Group*.

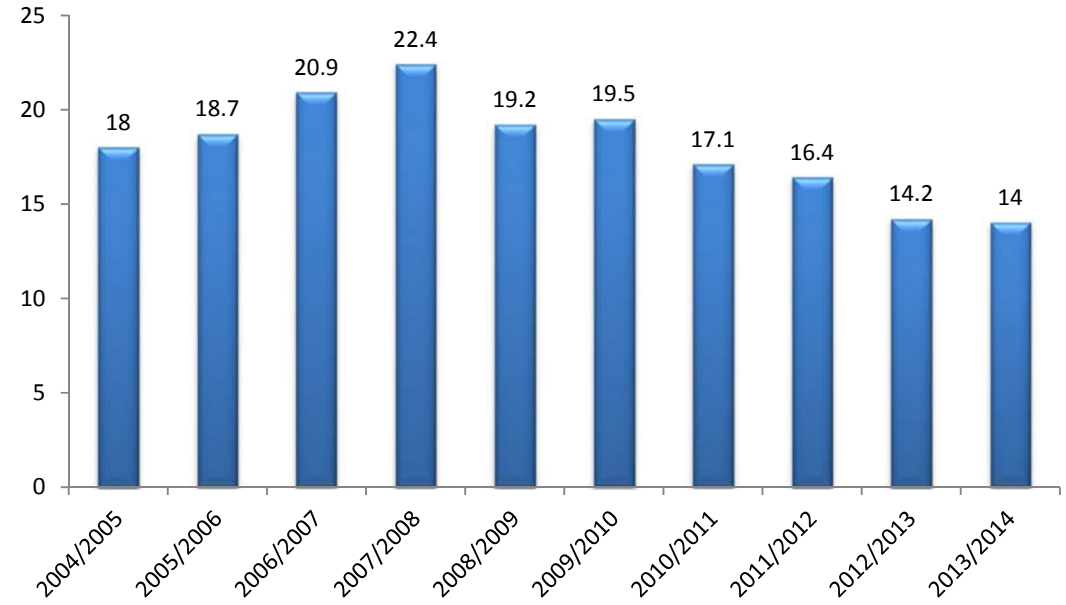
World Bank Enterprise Survey (2013): Enterprise Surveys- Egypt Country Profile 2013, *World Bank Group*

World Bank (2015) “Doing Business 2016: Measuring Regulatory Quality and Efficiency”, *World Bank Group*

Yang, C.H., J.R Chen and W.B. Chuang (2004), ‘Technology and Export Decision’, *Small Business Economics*, 22 (5), pp. 349–64.

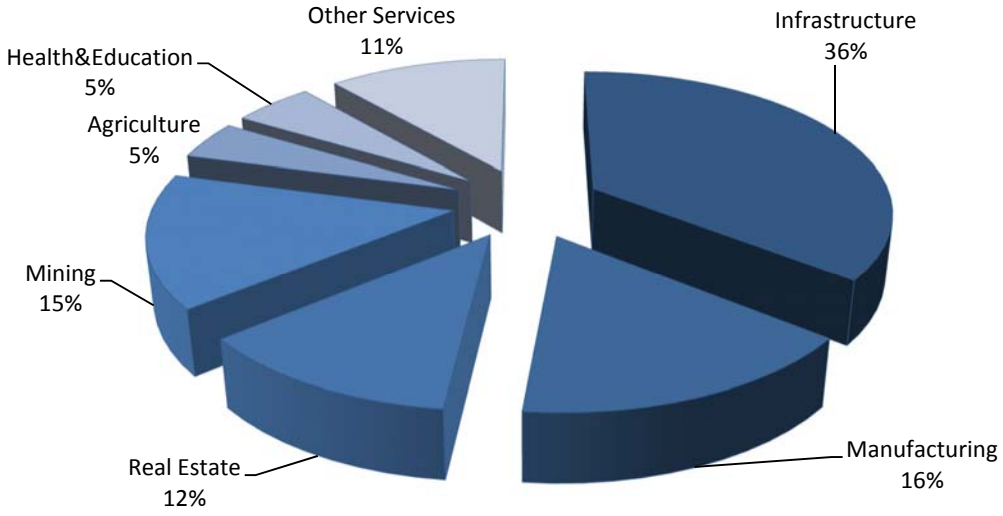
Yoshino, Y. (2008) “Domestic constraints, firm characteristics, and geographical diversification of firm-level manufacturing exports in Africa”, Policy Research Working Paper Series 4575, The World Bank.

Figure 1: Share of Total Investments in GDP in % (2004/2005 – 2013/2014)



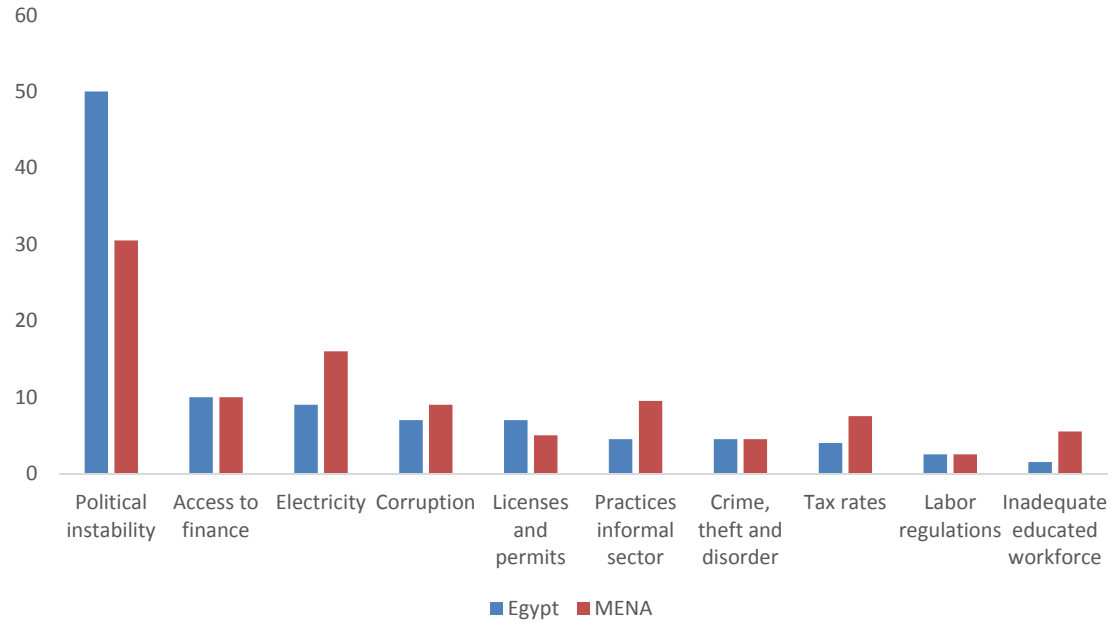
Source: Ministry of Finance (2008, 2015)

Figure 2: Sectoral Distribution of Investments (2013/2014) in %



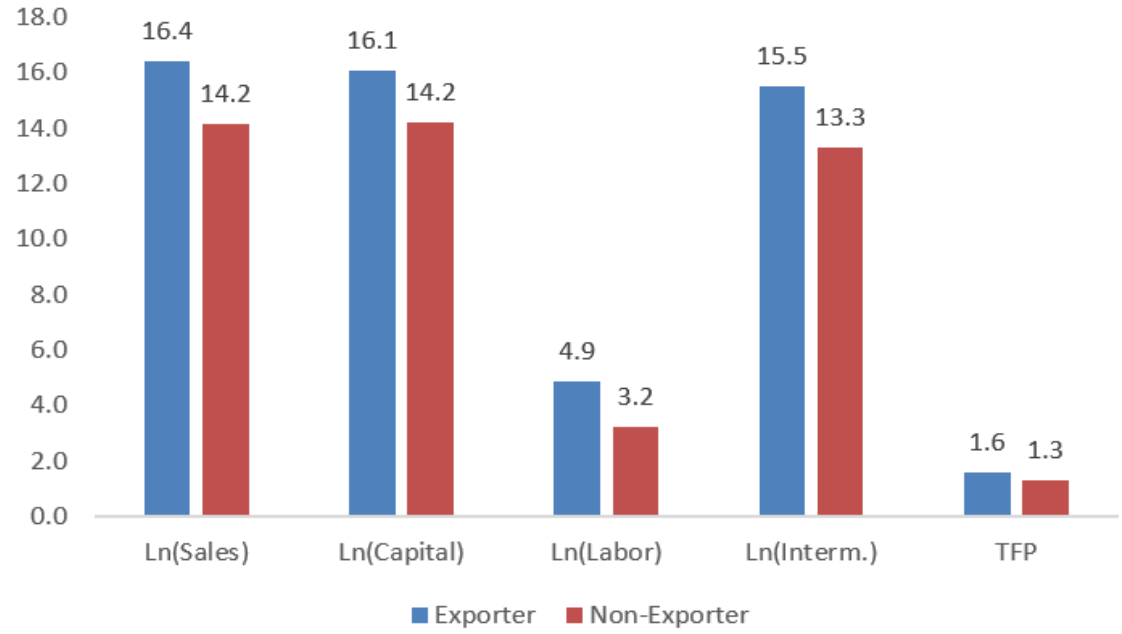
Source: Ministry of Finance (2015)

Figure 3: Percent of Firms Identifying the Problem as the Main Obstacle



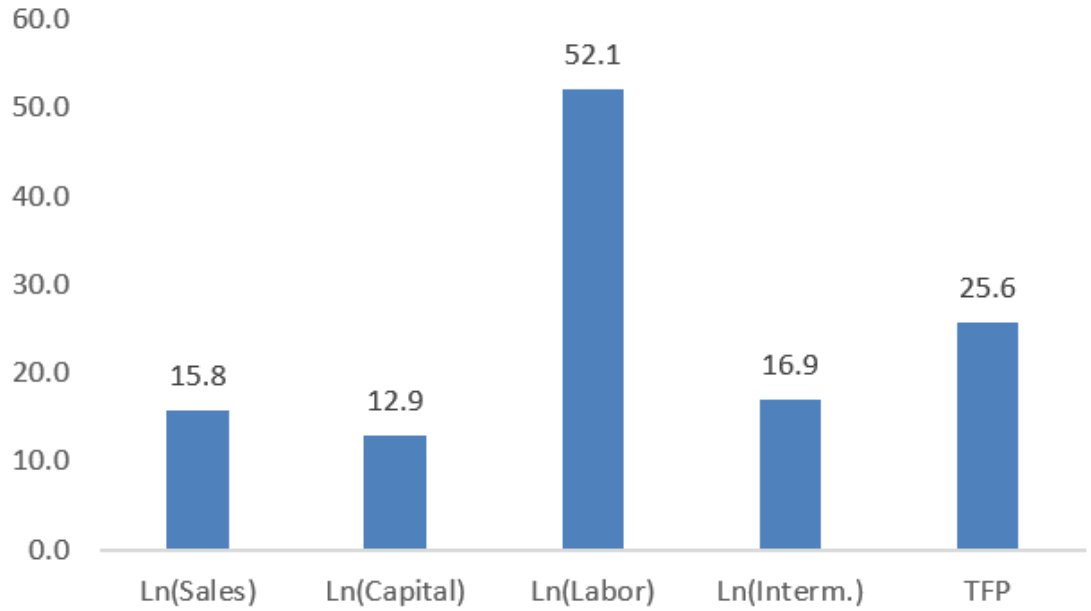
Source: Constructed by the authors using the WBES.

Figure 4: Characteristics of Exporters vs. Non-Exporters



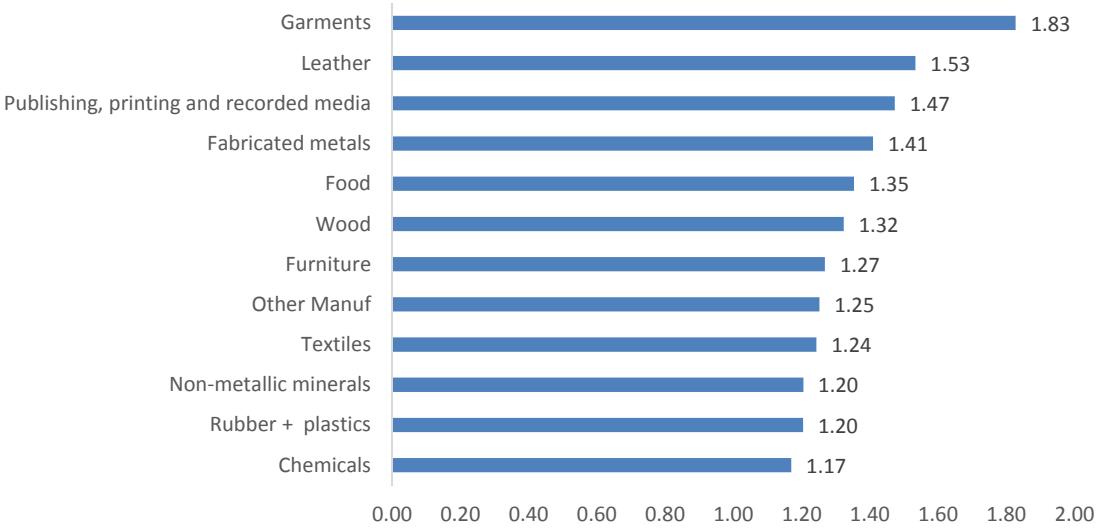
Source: Constructed by the authors using the WBES.

Figure 5: Difference between Exporters and Non-Exporters



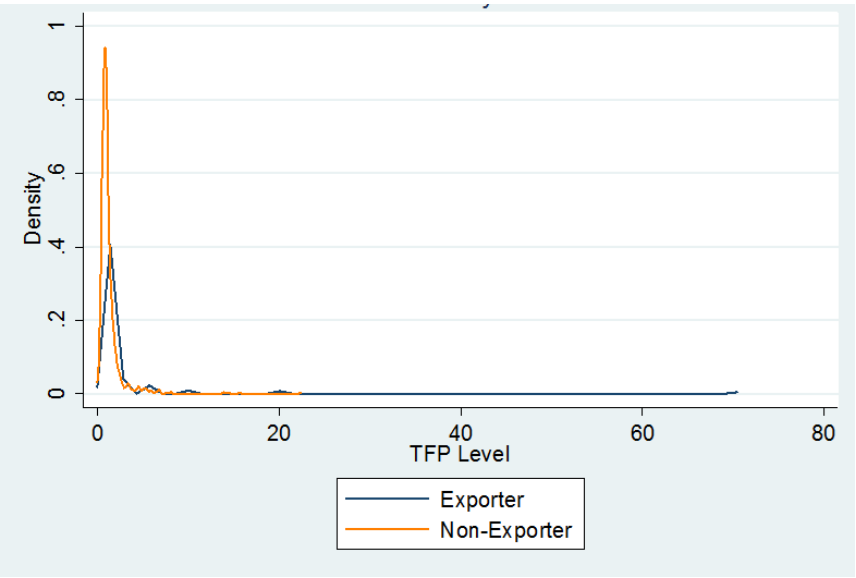
Note: Differences are significant at 1% level of significance
Source: Constructed by the authors using the WBES.

Figure 6: Estimated TFP by Sector



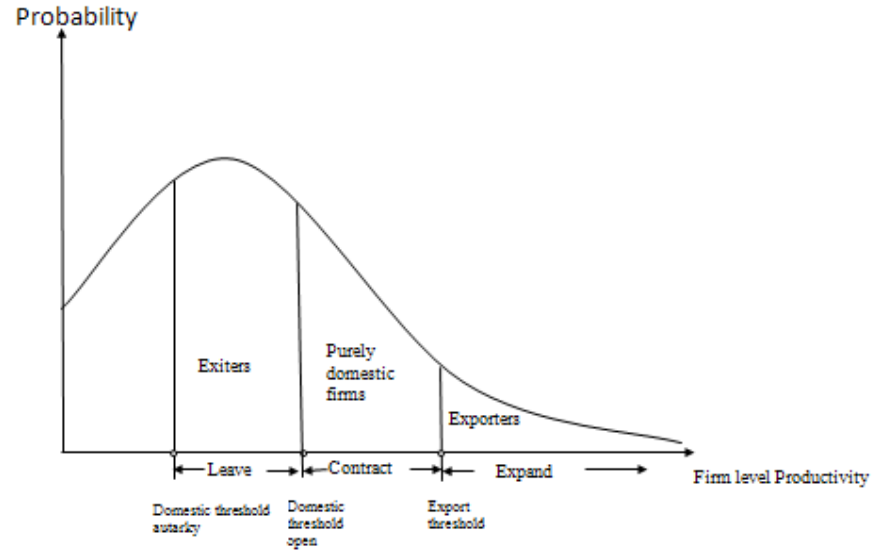
Source: Constructed by the authors.

Figure 7: Kernel Density Estimate for TFP



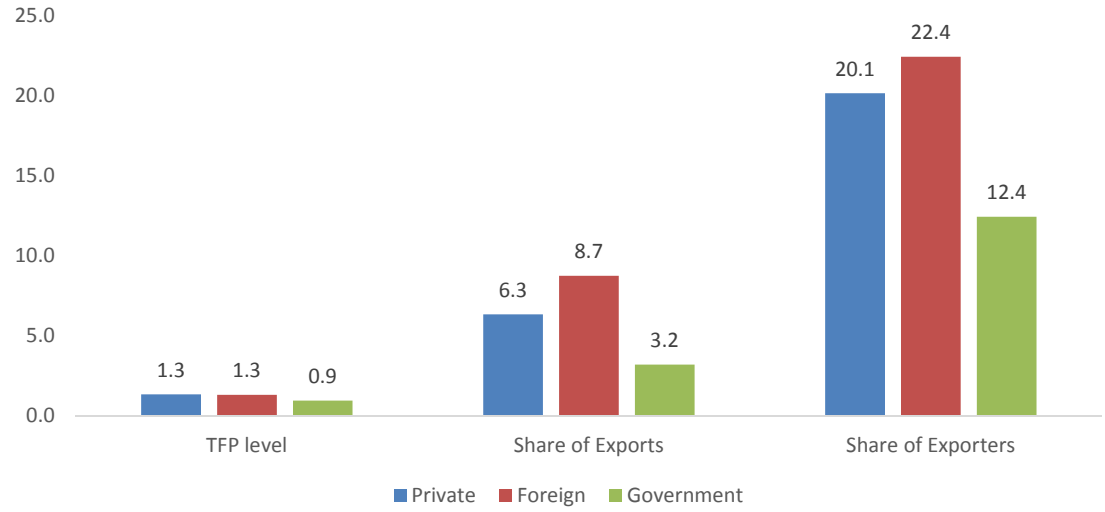
Source: Constructed by the authors.

Figure 8: Exports and Firm Productivity Level



Source: Metliz (2003)

Figure 9: Ownership and Exports Performance



Source: Constructed by the authors using the WBES.

Table 1: Major Business-Related Regulatory Reforms in Egypt (2004-2015)

Year	Regulatory Reform	Summary
2014	Reviving the role of the Egyptian Regulatory Reform and Development Activity (ERRADA)	Reviewing all investment – related regulations, eliminating burdensome and redundant regulations
	Decree-Law No. 56/2014 on competition is issued	Amends Competition Law No.3/2005 to reinforce the role of the Competition Authority
2015	Decree- Law No. 87/2015 on electricity is issued	Separation between regulation and provision of electricity. Privatization of generation and distribution.
	New Investment Law-Decree No.17/2015 is issued	Further incentives and guarantees to investors
	Suspension of Capital Gains Tax	Valid for two years
	Law No. 82/2002 on Intellectual Property Rights is amended	New varieties of plants covered

Source: Constructed by the authors

Table 2: Doing Business Global Ranking for Egypt and among MENA and Lower-Middle Income Countries (2015/2016)

Doing Business Indicator	Global Rank	Filtered Rank (20 MENA countries)	Best Practice among subgroup	Filtered Rank (51 Lower Middle-Income Countries)	Best Practice among subgroup
Ease of doing business	131	14	United Arab Emirates	29	Georgia
Ease of starting business	73	3	Morocco	14	Armenia
Dealing with construction permits	113	12	United Arab Emirates	22	Georgia
Getting electricity	144	18	United Arab Emirates	34	Philippines
Getting credit	79	1	Egypt + Saudi Arabia	22	Georgia
Paying taxes	151	18	United Arab Emirates	35	Kiribati
Trading across borders	157	14	Malta	38	Bhutan

Source: Constructed by the authors using the Doing Business Database (2015)

Table 3: Selected Indicators from the Enterprise Survey (2013): Egypt, MENA and Lower Middle-Income Countries

Indicator	Egypt	MENA	Lower middle-income countries
Incidence of Graft Index (%)[5]	47	23.7	20.2
Days to obtain and operating license	138.9	33.4	28.1
% of firms with bank loans/line of credit	6	25.6	30.5
Number of power outages/month	16.3	17.6	8.4
% of exporter firms	10.8	24.2	17
Losses due to theft or robbery (% of sales)	0.6	0.7	0.9

Source: Constructed by the authors using Enterprise Surveys (2013)

[5] The Graft Index is the proportion of instances in which firms were either expected or requested to pay a gift or informal payment when applying for six different public services.

Table 4: The Number of Establishments in The Manufacturing Sector

	Non-Exporters		Exporters		Total	
	Number	Share	Number	Share	Number	Share
Food	212	9.1%	51	8.9%	263	9.1%
Textiles	169	7.3%	72	12.5%	241	8.3%
Garments	146	6.3%	77	13.4%	223	7.7%
Leather	95	4.1%	19	3.3%	114	3.9%
Wood	81	3.5%	7	1.2%	88	3.0%
Publishing, printing	84	3.6%	24	4.2%	108	3.7%
Chemicals	95	4.1%	50	8.7%	145	5.0%
Rubber + plastics	116	5.0%	40	7.0%	156	5.4%
Non-metallic minerals	164	7.1%	25	4.4%	189	6.5%
Fabricated metals	202	8.7%	26	4.5%	228	7.9%
Motor vehicles	39	1.7%	3	0.5%	42	1.4%
Furniture	112	4.8%	24	4.2%	136	4.7%
Other Manuf	154	6.6%	49	8.5%	203	7.0%
Total	2,323	80.2%	574	19.8%	2,897	100.0%

Source: Constructed by the authors using the WBES.

Table 5a: Production Functions

	Total Ln(Sales)	Food Ln(Sales)	Textiles Ln(Sales)	Leather Ln(Sales)	Wood Ln(Sales)	Publishing, Ln(Sales)
Ln(Capital)	0.153***	0.206***	0.158***	0.107*	0.180**	0.149*
	(0.0153)	(0.0538)	(0.0397)	(0.0613)	(0.0860)	(0.0821)
Ln(Lab)	0.315***	0.215***	0.315***	0.284**	0.547***	0.418***
	(0.0225)	(0.0666)	(0.0542)	(0.140)	(0.164)	(0.131)
Ln(Input)	0.577***	0.580***	0.493***	0.595***	0.435***	0.509***
	(0.0151)	(0.0416)	(0.0450)	(0.0935)	(0.0605)	(0.0665)
Constant	3.554***	3.101***	4.611***	3.679***	3.275***	4.140***
	(0.200)	(0.649)	(0.513)	(1.076)	(1.051)	(1.001)
Sector dummies	YES	NO	NO	NO	NO	NO
Gov. dummies	YES	YES	YES	YES	YES	YES
Observations	1445	173	163	77	73	76
R-squared	0.875	0.872	0.910	0.759	0.866	0.836

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

Table 5b: Production Functions

	Chemicals Ln(Sales)	Rub. Plast. Ln(Sales)	Non-metal. Ln(Sales)	Fab. metals Ln(Sales)	Furniture Ln(Sales)	Other Manuf Ln(Sales)
Ln(Capital)	0.147***	0.122**	0.136***	0.112**	0.239**	0.170***
	(0.0449)	(0.0520)	(0.0381)	(0.0532)	(0.104)	(0.0579)
Ln(Lab)	0.264***	0.210**	0.330***	0.388***	0.0970	0.304***
	(0.0582)	(0.0824)	(0.0577)	(0.0869)	(0.145)	(0.0740)
Ln(Input)	0.699***	0.640***	0.678***	0.651***	0.507***	0.638***
	(0.0429)	(0.0494)	(0.0401)	(0.0558)	(0.0912)	(0.0536)
Constant	1.916***	3.782***	2.595***	2.606***	3.963***	2.496***
	(0.524)	(0.651)	(0.450)	(0.767)	(1.103)	(0.617)
Sector dummies	NO	NO	NO	NO	NO	NO
Gov. dummies	YES	YES	YES	YES	YES	YES
Observations	101	98	135	157	85	126
R-squared	0.941	0.928	0.921	0.867	0.783	0.917

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

Table 6: Estimated TFP by Sector

	Obs.	Mean	Std. Dev.	Min	Max
Food	173	1.3532	1.956553	0.028258	22.41166
Textile	163	1.243227	1.303878	0.100882	14.06233
Garment	141	1.827112	6.085811	0.064876	70.24866
Leather	77	1.533792	2.388703	0.033934	20.15185
Wood	73	1.323096	1.671064	0.185309	13.83542
Printing	76	1.472818	2.064626	0.123317	14.45176
Chemical	101	1.169681	0.830671	0.338223	5.317905
Rubber	98	1.203843	0.966089	0.273435	6.430611
Non-metallic	135	1.204851	1.058738	0.268139	8.132199
Fabricated metal	157	1.409009	1.652647	0.043158	15.66817
Furniture	85	1.268202	0.876495	0.001917	5.373007
Other manuf.	126	1.251961	1.075396	0.136374	6.566714

Source: Constructed by the authors.

Table 7: TFP Descriptive Statistics

	Non-Exporters		Exporter	
	Percentiles	Smallest	Percentiles	Smallest
0.01	0.184827	0.001917	0.267973	0.136374
0.05	0.39513	0.028258	0.409459	0.185309
0.1	0.488142	0.033934	0.522951	0.206233
0.25	0.689324	0.043158	0.73502	0.267973
0.5	0.956371		1.002478	
		Largest		Largest
0.75	1.344051	14.06233	1.435406	10.05406
0.9	2.040919	14.45176	2.264409	19.30413
0.95	3.332227	15.66817	3.569168	20.15185
0.99	6.701833	22.41166	10.05406	70.24866
Obs	1123		322	
Sum of Wgt.	1123		322	
Mean	1.275403		1.602112	
Std. Dev.	1.427307		4.236492	
Variance	2.037205		17.94786	
Skewness	6.828492		13.80502	
Kurtosis	73.50853		217.5956	

Source: Constructed by the authors.

Table 8: Effect on the Extensive Margin - Single Constraints

	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)
TFP	0.0463*	0.0392*	0.0431*	0.0415*	0.0454*
	(0.0237)	(0.0237)	(0.0235)	(0.0237)	(0.0237)
Imp. Input	0.145***	0.142***	0.146***	0.138***	0.144***
	(0.0222)	(0.0224)	(0.0224)	(0.0226)	(0.0223)
Gov. Own	1.083***	1.131***	1.136***	1.133***	1.112***
	(0.393)	(0.397)	(0.393)	(0.393)	(0.394)
For. Own	0.970***	0.985***	1.012***	0.973***	0.978***
	(0.172)	(0.174)	(0.174)	(0.174)	(0.173)
Priv. Own	0.568**	0.586**	0.602***	0.545**	0.580**
	(0.229)	(0.231)	(0.231)	(0.232)	(0.230)
Telecom		0.269			
		(0.178)			
Elect		0.0683			
		(0.0897)			
Transp.		0.235*			
		(0.127)			
Land			0.411***		
			(0.128)		
Tax rate				-0.241*	
				(0.127)	
Tax adm.				0.153	
				(0.147)	
Custom				0.706***	
				(0.156)	
Lab. Reg.					-0.0563
					(0.134)
Skill					0.164
					(0.127)
Constant	-1.709***	-1.753***	-1.789***	-1.718***	-1.733***
	(0.287)	(0.291)	(0.289)	(0.291)	(0.287)
Governorate dum.	YES	YES	YES	YES	YES
Sector dummies	YES	YES	YES	YES	YES
Observations	1434	1435	1435	1435	1435

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

Table 9: Effect on the Extensive Margin - Single Constraints

	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)	Pr(Exp.)
TFP	0.0447*	0.0463*	0.0425*	0.0439*	0.0466*
	(0.0237)	(0.0237)	(0.0236)	(0.0236)	(0.0238)
Imp. Input	0.143***	0.145***	0.147***	0.146***	0.144***
	(0.0223)	(0.0223)	(0.0224)	(0.0223)	(0.0223)
Gov. Own	1.099***	1.081***	1.098***	1.104***	1.035***
	(0.393)	(0.392)	(0.395)	(0.392)	(0.394)
For. Own	0.983***	0.963***	0.998***	0.987***	0.939***
	(0.173)	(0.173)	(0.174)	(0.173)	(0.173)
Priv. Own	0.583**	0.562**	0.588**	0.627***	0.541**
	(0.229)	(0.230)	(0.232)	(0.232)	(0.230)
Bus. Lic.	0.0786				
	(0.0889)				
Acc. Fin		-0.0664			
		(0.0924)			
Corr.			0.139*		
			(0.0838)		
Comp Inf.				-0.191**	
				(0.0971)	
Pol. Stab					-0.222**
					(0.0941)
Courts					0.202
					(0.243)
Thefts					0.342***
					(0.0967)
Constant	-1.740***	-1.686***	-1.838***	-1.627***	-1.679***
	(0.289)	(0.288)	(0.297)	(0.290)	(0.300)
Governorate dum.	YES	YES	YES	YES	YES
Sector dummies	YES	YES	YES	YES	YES
Observations	1435	1435	1435	1435	1435

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

Table 10: Effect on the Extensive Margin – Multiple Constraints

	Pr(Exp.)		
TFP	0.0313	Custom	0.613***
	(0.0232)		(0.167)
Imp. Input	0.135***	Lab. Reg.	-0.0634
	(0.0232)		(0.146)
Gov. Own	1.131***	Skill	0.117
	(0.397)		(0.135)
For. Own	0.975***	Bus. Lic.	-0.0141
	(0.177)		(0.0977)
Priv. Own	0.563**	Acc. Fin	-0.198*
	(0.238)		(0.108)
Telecom	0.251	Corr.	0.0974
	(0.189)		(0.110)
Elect	0.0569	Comp Inf.	-0.342***
	(0.0952)		(0.112)
Transp.	0.0224	Pol. Stab	-0.230**
	(0.146)		(0.103)
Land	0.429***	Courts	0.0556
	(0.141)		(0.263)
Tax rate	-0.311**	Thefts	0.327***
	(0.132)		(0.113)
Tax adm.	0.135	Constant	-1.630***
	(0.156)		(0.311)
Governorate dum	YES		
Sector dummies	YES		
Observations	1435		

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

Table 11: Effect on the Intensive Margin - Single Constraints

	Share Exp.	Share Exp.	Share Exp.	Share Exp.	Share Exp.
TFP	0.865***	0.790***	0.857***	0.847***	0.859***
	(0.211)	(0.214)	(0.211)	(0.211)	(0.212)
Imp. Input	1.243***	1.202***	1.242***	1.151***	1.232***
	(0.270)	(0.271)	(0.270)	(0.271)	(0.271)
Gov. Own	4.241	4.476	4.482	4.723	4.421
	(5.345)	(5.345)	(5.347)	(5.335)	(5.354)
For. Own	12.12***	12.04***	12.28***	12.09***	12.23***
	(2.369)	(2.372)	(2.372)	(2.363)	(2.375)
Priv. Own	5.047	5.028	5.166	4.892	5.170
	(3.150)	(3.152)	(3.150)	(3.150)	(3.156)
Telecom		4.613*			
		(2.363)			
Elect		1.113			
		(1.102)			
Transp.		-0.480			
		(1.575)			
Land			2.189		
			(1.693)		
Tax rate				-2.293	
				(1.484)	
Tax adm.				1.423	
				(1.724)	
Custom				7.179***	
				(2.159)	
Lab. Reg.					0.118
					(1.606)
Skill					1.193
					(1.626)
Constant	-3.024	-3.348	-3.332	-3.009	-3.231
	(3.784)	(3.817)	(3.791)	(3.804)	(3.796)
Governorate dum.	YES	YES	YES	YES	YES
Sector dummies	YES	YES	YES	YES	YES
Observations	1443	1443	1443	1443	1443
R-squared	0.099	0.103	0.100	0.108	0.100

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

Table 12: Effect on the Intensive Margin - Single Constraints

	Share Exp.	Share Exp.	Share Exp.	Share Exp.	Share Exp.
TFP	0.862***	0.880***	0.869***	0.863***	0.835***
	(0.211)	(0.211)	(0.211)	(0.211)	(0.211)
Imp. Input	1.227***	1.218***	1.238***	1.230***	1.247***
	(0.271)	(0.270)	(0.270)	(0.270)	(0.270)
Gov. Own	4.603	4.202	4.087	3.568	3.666
	(5.361)	(5.340)	(5.348)	(5.346)	(5.344)
For. Own	12.22***	11.94***	12.01***	11.64***	11.96***
	(2.372)	(2.369)	(2.373)	(2.376)	(2.370)
Priv. Own	5.142	4.936	4.674	4.614	4.545
	(3.152)	(3.148)	(3.177)	(3.151)	(3.155)
Bus. Lic.	0.991				
	(1.120)				
Acc. Fin		-2.110*			
		(1.126)			
Corr.			-0.932		
			(1.040)		
Comp Inf.				-2.574**	
				(1.158)	
Pol. Stab					-3.470***
					(1.202)
Courts					1.153
					(2.981)
Thefts					1.103
					(1.213)
Constant	-3.363	-2.399	-2.197	-1.891	-0.567
	(3.804)	(3.796)	(3.895)	(3.813)	(3.914)
Governorate dum.	YES	YES	YES	YES	YES
Sector dummies	YES	YES	YES	YES	YES
Observations	1443	1443	1443	1443	1443
R-squared	0.100	0.102	0.100	0.102	0.105

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

Table 13: Effect on the Intensive Margin - Multiple Constraints

	Share Exp.		Share Exp.
TFP	0.740***	Custom	7.283***
	(0.213)		(2.262)
Imp. Input	1.037***	Lab. Reg.	0.918
	(0.273)		(1.712)
Gov. Own	4.476	Skill	1.201
	(5.336)		(1.656)
For. Own	11.48***	Bus. Lic	0.559
	(2.371)		(1.175)
Priv. Own	3.902	Acc. Fin	-2.437*
	(3.168)		(1.250)
Telecom	4.576*	Corr.	-0.933
	(2.424)		(1.307)
Elect	1.520	Comp Inf.	-2.767**
	(1.126)		(1.258)
Transp.	-1.232	Pol. Stab	-3.030**
	(1.690)		(1.261)
Land	2.924	Courts	-1.123
	(1.791)		(3.103)
Tax rate	-2.226	Thefts	1.240
	(1.503)		(1.375)
Tax adm.	1.747	Constant	0.477
	(1.782)		(3.981)
Governorate dum.		YES	
Sector dummies		YES	
Observations		1443	
R-squared		0.125	

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

Appendix 1: List of Sectors

Sector	Number
Food	15
Textiles	17
Garments	18
Leather	19
Wood	20
Publishing,	22
Chemicals	24
Rubber + plastics	25
Non-metallic minerals	26
Fabricated metals	28
Motor vehicles	34
Furniture	36
Construction	45
Other Manuf.	99

Appendix 2: Variables Construction

Variable	Definition
Ln(Sales)	The establishment's total annual sales in last fiscal year
Ln(Lab)	Ln of number of permanent full-time employees at end of last fiscal year
Ln(Cap)	Ln of value of total assets.
Ln(Int)	Ln of cost of raw materials and intermediate goods used in production in last fiscal year
Share Exp.	Direct exports as a percentage of sales
Pr(Exp)	A dummy variable that takes the value of 1 if the establishment exports and zero otherwise.
TFP	Total factor productivity has been estimated using the production function mentioned above.
Imp. Input	Percentage of material inputs and supplies of foreign origin In last fiscal year.
Gov. Own	A dummy variable that takes the value of 1 if the government owns any share in the establishment and zero otherwise. It has been constructed using this question: "what is the percentage owned by Government/State?"
For. Own	A dummy variable that takes the value of 1 if private foreign individuals, companies or organizations own any share in the establishment and zero otherwise. It has been constructed using this question: "what is the percentage owned by private foreign individuals, companies or organizations?"
Priv. Own	A dummy variable that takes the value of 1 if private domestic individuals, companies or organizations own any share in the establishment and zero otherwise. It has been constructed using this question: "what is the percentage owned by private domestic individuals, companies or organizations?"
Telecom	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: telecommunications to operations of this establishment?"
Elect	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: electricity to operations of this establishment?"
Transp.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: transport to operations of this establishment?"
Land	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: access to land to operations of this establishment?"
Tax rate	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: tax rates to operations of this establishment?"
Tax adm.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: tax administrations to operations of this establishment?"
Custom	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: customs and trade regulations to operations of this establishment?"
Lab. Reg.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: labor regulations to operations of this establishment?"
Skill	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: inadequately educated to operations of this establishment?"
Bus. Lic	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: business licensing and permits to operations of this establishment?"
Acc. Fin	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: access to finance to operations of this establishment?"
Corr.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: corruption to operations of this establishment?"
Comp Inf.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: practices of competitors in informal sector? to operations of this establishment?"

Variable	Definition
Pol. Stab.	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: to operations of this establishment?"
Courts	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: court to operations of this establishment?"
Thefts	A dummy variable that takes the value of 1 if the obstacle is sever or major and zero otherwise. It has been constructed using this question: "How much of an obstacle: crime, theft and disorder to operations of this establishment?"