TRAINING IN THE CAPTURED ECONOMIES OF THE MIDDLE EAST AND
NORTH AFRICA

A Thesis
submitted to the
Graduate School of Arts and Sciences
of Georgetown University
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degree of Master of Public Policy
in Public Policy.

By

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Abstract

Despite the importance of firm level training in the MENA region for alleviating the issues of high youth unemployment rates, skills mismatches in the labor market, and the long transition periods between the education and labor markets, the incidence of firm level training in the region is lower than the global average. Given the prevalence of state capture by politically connected firms in the Middle East and North Africa, it is important to examine the role of political connections in training. Since state capture enables politically connected firms to gain advantage over non-connected firms by gaining easier access to subsidies, finances, land, and infrastructure, these firms are able to allocate more resources to firm level training than non-connected firms. Using a Probit model to estimate the probability of provision of training in a firm given its political connections, this paper finds that politically connected firms in the Middle East and North Africa that capture the state have a higher probability of providing formal training to their employees than non-connected firms. These results indicate that politically connected firms are able to allocate more resources to training, thereby increasing their productivity and crowding out competition from non-connected firms, resulting in economic stagnation.
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I. Introduction

The Middle East and North Africa Region (MENA) has one of the highest youth unemployment rates in the world: 27.2% in the Middle East and more than 29% in North Africa, which is more than double the global average (World Economic Forum, 2014). Moreover, the transition period from education to the labor market is very long and the skills gap between what employers need and graduates’ posses is very large (Liaqat and Nugent, 2015). Although firm level training would help alleviate these problems, the region has one of the lowest incidences of firm level training globally (Liaqat and Nugent, 2015). To help explain this issue of lack of firm level training, I examine a phenomenon that is wide spread in the region, state capture by politically firms through bribery. According to the corruption perceptions index, three of the ten most corrupt countries in the world are in the MENA region and on average, the region is more corrupt than the global average (Transparency International, 2016). The Director of the Middle East and North Africa Department at Transparency International said that these rankings will not improve unless “governments make a genuine break with cronyism” (Zughayar, 2016).

This paper aims to examine the relationship between state capture by politically connected firms and firm level training in these economies. Since state capture enables politically connected firms to gain advantage over non-connected firms by gaining easier access to subsidies, finances, land, and infrastructure, these firms are able to allocate more resources to firm level training than non-connected firms (Diwan, Keefer, and Schiffbauer, 2015; Faccio, 2006; Faccio, 2010; Hellman and Kaufmann). This leaves non-connected firms unable to compete with connected firms, leading to the crowding out of non-connected firms due to unfair competition.
Previous studies have shown that state capture and investments in innovation and technology are complementary in connected firms (Taha, 2016). Since investments in technology and investments in human capital are complementary, I expect to find a positive correlation between state capture and investments in human capital as well.

Using the World Bank Enterprise Surveys, my analysis is based on data from surveys of firms in seven countries in the MENA region surveyed in various years between 2002 and 2014. The key dependent variable is the incidence of training in the surveyed firms, and the key independent variable is a constructed political connections index, which captures the different types of bribes that these firms have paid, indicating a high score of political connections for firms that pay the different bribes, and a low score for those that do not. I use a probit model to estimate the probability that a firm provides formal training to its employees, given its political connections.

The results show that politically connected firms have a higher probability of providing formal training to their employees than non-connected firms. These results are consistent with previous studies on state capture. This indicates that politically connected firms that capture the economy are able to allocate more resources to human capital investments than non-connected firms, thereby crowding out competition from these non-connected firms. Eliminating competition leads to stagnation in economic growth, job creation, and firm start up. Furthermore, given the importance of human capital investments for industrialization, limiting training to only politically connected firms is harmful for industrial policy, a crucial step in growth for developing countries (Rodrik, 2013). Put differently, rising unemployment rates require the implementation of policies to enhance private sector activity and
sustained job creation. At same time, implementing these policies might erode the competitive advantage and thus rents of politically loyal firms. Thus a central policy challenge for countries in the MENA region is to balance these conflicting policy goals.

II. Literature Review

Firm level training has been widely established to provide benefits to the individual employees, the firm, and the society as a whole (Almeida and Carneiro, 2009). There also exist a large number of studies that look at the negative effects of state capture on economies (Faccio 2006). Only few studies, however, have looked at the effect of state capture on training. These studies have found that corruption has a negative effect on investments in human capital in general, and education in specific (Ehrlich and Lui, 1999; Mauro, 1997; Mauro, 1995; Tanzi and Davoodi, 1997; Mo, 2001). The aim of this thesis is to contribute to the scarce literature on the subject, by examining the relationship between state capture and training in the Middle East and North Africa.

Firm Level Training

Human capital investments, specifically, the training of employees offered by firms, have a substantial effect on increasing the productivity of the firm (Almeida and Carneiro, 2009). In fact, trainings offered by firms have greater impact on efficiency than does formal education (Bhaumik and Dimova, 2013). They are also a main source of human capital development once individuals enter the labor market (Hansson, 2009). According to the theory of endogenous growth, human capital accumulation through on the job training is one of the key factors generating fast
growth (Romer, 1968; Kim, Shim, and Kim, 1995). In the long term, training by firms increases labor demand, (Ottersten and Mellande, 1999) the duration of employment, and earnings (Ham and Lalonde, 1996). Firm level training, therefore, has returns to the employee, the firm, and the economy as whole.

Human capital investments are crucial for the development of the Middle East and North Africa. Many studies have shown that industrialization is necessary for rapid growth in developing countries. In his seminal work on Industrial policy, Dani Rodrik shows, however, that industrial policy cannot be successful without heavy investments in human capital (World Bank, 2015; Rodrik, 2013). Manufacturing today is more capital and skill-intensive than it was during the first two waves of industrialization (Rodrik, 2013). This means that manufacturing can no longer absorb low skilled labor like it used to, and so training is essential to industrialization and the expansion of the manufacturing sector (Rodrik, 2014). Manufacturing industries are considered “escalators” to growth in developing countries due to the international pressure that the manufacturing sector faces in tradable goods (Rodrik, 2013). Because of this pressure, labor productivity tends to converge unconditionally with the labor productivity in advanced economies, regardless of other factors in the economy (Rodrik, 2013). Industrial policy is, therefore, crucial to growth in the Middle East, but will not be successful unless these countries enhance their human capital investments.

To see whether institutional corruption has an effect on reducing the firm level training in the MENA region, one must develop an in depth understanding of state capture, which is prevalent in the region.
State Capture

State capture is defined as the “ability of firms to manipulate the public policies, laws, and regulations of the State to their own advantage by providing illegal private gains to public officials” (Hellman and Kaufmann, 2001). This granular form of corruption enables firms to “capture” benefits such as trade protection, energy subsidies, access to land, and regulatory enforcement (Diwan, Keefer, and Schiffbauer, 2015). Connected firms have been found to have stronger market power and pay lower taxes (Faccio, 2010). Having only a few firms in the economy capture all these benefits leads to the absence of “neck-on-neck” competition, which hinders growth (Aghion et al., 2001). In fact, studies have shown that sectors in which politically connected firms are prevalent, economic growth decreases in that sector (Diwan, Keefer, and Schiffbauer, 2015). Studies have also shown that state capture leads to a fall in job creation, firm startup and productivity growth (World Bank, 2015).

State capture by politically connected firms occurs more in countries where there are lower levels of judicial independence, weak regulations on political conflicts of interest, high levels of corruption, and restrictions on foreign investments (Boubakri, Cosset, and Saffar, 2008; Faccio 2006). The Middle East and North Africa are, therefore, ripe ground for State capture by politically connected firms. Before the Arab Spring, cronyism thrived in Egypt, Ben Ali and Trabelsi families controlled the business sector in Tunisia, and similar crony capitalism is seen in Syria, Libya, Algeria and Yemen. (World Bank, 2015; Kienle, 2001; Sfakianakis, 2004). Most of the policies that benefitted these elite firms before the Arab Spring, such as authorization requirements, energy subsidies to industry, and trade protection, still exist today (World Bank, 2015).
Capturing Training

Since politically connected captor firms have a comparative advantage in their access to subsidies, finances, and infrastructure, they are able to allocate more resources toward increasing their productivity, thereby crowding out non-connected firms. They are able to use their policy capture in allocating the resources they gained with comparative advantage in their access to subsidies, finance, and infrastructure to increase productivity, and crowd out other firms by purchasing technology, and training their workforce. In fact, it was found that firms that engage in State capture are significantly more likely to “innovate, open new plants, and develop new products” (Hellman, Jones, and Kaufmann, 2000). Since states capture and investments in technology and innovation are complementary, and investments in technology and human capital are complementary, I expect to find results that indicate that captor firms are more likely to make human capital investments as well (Hellman and Kaufmann, 2000; Rodrik, 2013).

Examining the effect of state capture on the investment climate in an economy helps shed light on the transmission mechanisms through which politically connected firms crowd out the non-connected firms. The World Bank defines the “investment climate” as the “many factors that shape opportunities and incentives for firms to invest productively, create jobs, and expand” (World Bank, 2005). State capture is an important phenomenon to examine because it affects many factors that affect investments in human capital such as competitive pressure, an unstable economic environment, and higher barriers to entry (Johnson et al., 2000; Mauro, 1995; Mauro, 1998; World Bank, 2005).
\textit{Competitive Pressure}

When politically connected firms capture policies that give them an advantage in the economy, non-connected firms are denied opportunities, which raises their costs, making them less competitive (World Bank, 2005). Studies have shown that the absence of “neck-on-neck” competition hinders economic growth (Aghion et al., 2001). Indeed, it was found that in the Middle East and North Africa, political connections lead to limited competition and job creation (World Bank, 2015).

\textit{Unstable Economic Environment}

When government policies favor only a few firms, it creates policy uncertainty for non-connected firms, leaving them with little incentive to invest (World Bank, 2005). In economies where corruption is prevalent, returns to investment are difficult to predict, as costs become higher and risks become larger due to the dispersion of outcomes (World Bank, 2005; Johnson et al., 1997; Everhart, Vazquez, and McNab, 2009). The less credible government policies are, the lower are the rates of investment and growth (Brunetti, Kisunko, and Weder, 1998).

\textit{High Barriers to Entry}

In captured economies, the efforts required to open a new business become so high that it dampens entrepreneurship prospects (Kronenberg, 2004; Bardhan, 1997). In the Middle East and North Africa, political connections have led to constraints in firm start up (World Bank, 2015).

Considering the effect these three factors have on the investment climate, it is crucial to study the relationship between state capture and training. If training is limited to only a few politically connected firms in an economy, it can have dire consequences
for economic growth, since growth does not take place until a broad range of sufficient human capital is accumulated (Rodrik, 2013).

Given the prevalence of state capture by politically connected firms in the Middle East and North Africa, and the importance of training for the development of a skilled workforce for increased productivity efficiency, and economic growth, it is important to examine the role of political connectivity in training (Almeida and Carneiro, 2009; Bhaumik and Dimova, 2013; Rodrik, 2014; World Bank, 2015). This paper will contribute to the scarce literature on the effects of State capture by politically connected firms on the formal training of employees by firms.

III. Conceptual Framework - Bribery as State Capture

Corruption has been widely thought of as the actions of the state or bureaucrats in extracting rents from the economy for their exclusive benefit (Hellman and Kauffmann, 2002). With this thought comes the image of a bureaucrat extorting bribes from a defenseless firm to merely survive in the market. This view of corruption has led to the formulation of policies with the purpose of reducing the discretionary authority of state officials. However, as Kauffman and Hellman show, corruption takes on another more granular image (2002). In this view, firms manipulate policy formation to their substantial advantage. This behavior of the firm is what is called State Capture. Despite its negative effects on the political economy of a country, few systematic efforts have been made to distinguish its causes or consequences. (Hellmann and Kauffmann, 2001) Focus groups and interviews of businesses carried out by the World Bank in the Middle East and North Africa show that this type of corruption is just as big of a problem as petty corruption, and that it is
a big part of the big picture in the political economy of the region (World Bank, 2009).

In order to better understand how bribery can lead to state capture, one must examine the functions that bribery serves, leading to state capture.

**Bribery as Lobbying Power**

Bribing can serve as a function of lobbying in the form of campaign contributions, for example. However, bribery is not a perfect substitute for lobbying (Harstad and Svensson, 2004). An example of this would be if a country has enacted a new tariff; firms in a sector can either collectively lobby the government to provide a free license, or firms can individually obtain free licenses by bribing government officials. An important difference between bribery and lobbying is that lobbying leads to change for all firms in a sector, when a new law is enacted, whereas bribery, the benefit is exclusive to the firm that bribes (Svensson, 2005).

**Bribery As Legislation Formation**

Bribes intended to influence the legislative process, as opposed to only how they are implemented, are classic cases of grand corruption. Such bribes are those given to parliament members to buy their votes, judges to buy a court decision, or government officials to enact favorable decrees. (Kauffmann and Hellman, 2001). Although the World Bank Enterprise Surveys do not have data to allow for the isolation of this kind of bribes, there is strong anecdotal evidence that this type of bribery is prevalent in the Middle East.
Bribery as a “Greasing” Mechanism

Firms use bribes to accelerate the process of operations, especially in economies with bad governance structures. Bribes in this scenario are used to “get things done,” leading to more efficient processes for the firms. This bribes by definition give the bribing firm an advantage over firms that do not bribe, as their operations are accelerated becoming more efficient (Lui, 1985).

This paper aims to contribute to the scarce literature that looks at bribery as the active efforts of firms to capture the state, as opposed to mainstream view of corruption where government officials are the aggressors and firms the victims. This view of corruption, namely state capture, not only changes how we view the actors of corruption, but also the policies that are formulated to battle corruption. If this new view is adopted, then it follows that policies to tackle corruption will be directed towards firms instead of government officials, as they are now.

IV. Main Hypothesis

Politically connected firms in the Middle East and North Africa that capture the state will have a higher probability of providing formal training to their employees than non connected firms.

Empirical Analysis

In order to test my hypothesis, I pursue the following empirical strategy. First, I use a Probit model to examine the relationship between the political connectivity of a firm and the probability that it offers formal training to its full-time, permanent employees. All regressions use heteroskedasticity consistent robust standard error estimates.
Training = Constant + Political Connections Index+ Controls (Country, Year, Sector, Size, Age)

whereby:

**Key Dependent Variable**

The dependent variable is training which indicated the incidence of formal training provided to employees of the firm. It is a dummy variable indicating whether firms have formal training for their employees. The training could be done in house or could be outsourced. The training covers both skilled and unskilled workers. The survey question asks firms whether they provide formal training to their full-time employees. In the dataset, training is equal to one if the firms answer “yes,” and zero if firms answer “no.” Of the 7,070 firms surveyed, 5,439 firms answered “no,” 1,584 firms answered “yes,” and 47 firms have not answered the question. This variable will determine whether state capture by politically connected firms leads to a monopoly of training, thereby crowding out other firms by putting them at a disadvantage in terms of human capital.

**Key Independent Variable**

The key independent variable is the political connectedness of firms. I construct this variable using an index that captures whether firms bribe government officials, as a proxy for the private gains provided to public officials. There are six types of bribes included in the index and they are as follows:

- Bribe Water: dummy variable indicating whether a firm has paid a bribe to obtain a water connection.
• Bribe Permit: dummy variable indicating whether a firm has paid a bribe to obtain a construction-related permit.

• Bribe Inspection: dummy variable indicating whether a firm has paid a bribe to tax officials for an inspection.

• Bribe Import: dummy variable indicating whether a firm has paid a bribe to obtain an import license.

• Bribe Operating: dummy variable indicating whether a firm has paid a bribe to obtain an operating license.

• Bribe Electricity: dummy variable indicating whether a firm has paid a bribe to obtain an electric connection.

The political connectedness index is created by adding all the bribes and dividing them by six. This results in a scoring system between 0 to 1, zero indicating that a firm has not paid any bribes, 0.166 indicating that a firm has paid one type of bribe, 0.333 indicating that a firm has paid two types of bribes, 0.5 indicating that a firm has paid three types of bribes, 0.667 indicating that a firm has paid four types of bribes, 0.833 indicating that a firm has paid five types of bribes, and one indicating that a firm has paid all six types of bribes.

Of the 7,070 firms surveyed, 3,921 firms (74%) have not paid any bribes, 922 (17.46) firms (17.46%) paid one type of bribe, 290 firms (5.49%) paid two types of bribes, 104 firms (1.97%) paid three types of bribes, 34 firms (0.64%) paid four types of bribes, 10 firms (0.19%) paid five types of bribes, and 1 firm (0.02%) paid all six types of bribes.

Controls - Year, Country, Size, Age and Sectors

The model uses several control variables that might affect the incidence of firm level training or the incidence of bribes. Country and year controls are included to account for the country and year specific fixed effects. Age of the firm is included because
older firms might provide more training, given their proven ability to compete in the market. Size is included because large firms are expected to be more politically connected (Diwan, Keefer, and Schiffbauer, 2015) and are expected to provide more training given their economies of scale. The manufacturing variable is included to remove any fixed effects that would be present due to permanent characteristics across these two sectors.

V. Data and Descriptive Statistics

Data Source

The Enterprise Surveys are carried out by the World Bank Enterprise Analysis Unit. They are firm level surveys representative of an economy’s private sector. The surveys aim to understand the business environment of a country through asking about indicators such as access to finance, corruption, infrastructure, crime, competition, workforce, and performance measures (World Bank Enterprise Surveys, 2016).

Subset of Data

My analysis will be confined to Arab countries in which the surveys have been carried out. This subset of data includes eight countries, Egypt, Iraq, Jordan, Lebanon, Saudi Arabia, Sudan, Syria, and Yemen. These countries were surveyed in various years between 2003 and 2014. Yemen and Lebanon were surveyed twice. This sample has 7,407 observations.

The firm-level data for these countries cover 7,407 firms. There are 4,304 firms from the manufacturing sector and 2,059 from the services sector. The distribution of firm
size is fairly skewed with 48.85 percent small firms (5 to 19 employees), 33.83 percent medium sized firms (20 to 99 employees) and 16.83 percent large sized firms (more than 100 employees). This information has been retrieved from the World Enterprise Surveys.

VI. Results

Table 1 shows the results of the baseline regression. Probit 1 shows the basic model estimate for the relationship between political connections and the incidence of firm provision of formal training, without any controls. Probit 2 through 7 gradually include more controls to the model starting with country through year, sector, size, and age of firm.

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Probit 1</th>
<th>Probit 2</th>
<th>Probit 3</th>
<th>Probit 4</th>
<th>Probit 5</th>
<th>Probit 6</th>
<th>Probit 7</th>
<th>OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
<td>Training</td>
</tr>
<tr>
<td>Political Connections</td>
<td>1.193***</td>
<td>0.530***</td>
<td>0.547***</td>
<td>0.728***</td>
<td>0.931***</td>
<td>0.934***</td>
<td>0.748***</td>
<td>0.243***</td>
</tr>
<tr>
<td>Constant</td>
<td>(0.144)</td>
<td>(0.168)</td>
<td>(0.168)</td>
<td>(0.199)</td>
<td>(0.259)</td>
<td>(0.261)</td>
<td>(0.200)</td>
<td>(0.072)</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.090)</td>
<td>(0.105)</td>
<td>(0.122)</td>
<td>(0.408)</td>
<td>(0.416)</td>
<td>(0.128)</td>
<td>(0.115)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,258</td>
<td>5,258</td>
<td>5,258</td>
<td>4,737</td>
<td>3,636</td>
<td>3,588</td>
<td>4,674</td>
<td>3,588</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>0.0127</td>
<td>0.101</td>
<td>0.103</td>
<td>0.0999</td>
<td>0.163</td>
<td>0.167</td>
<td>0.105</td>
<td>0.157</td>
</tr>
</tbody>
</table>

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

The results show a positive statistically significant relationship. This means that an increase in political connections is correlated with an increase in the incidence of the provision of formal training of employees by firms. The political connections remain positive and statistically significant even as controls are added. Country of operation
is added in model two, Survey Year is added in model three, sector in model four, firm size in model five, and age of firm in model six.

Table 2 - Marginal Effects

<table>
<thead>
<tr>
<th>VARIABLE(S)</th>
<th>Probit 1 Training</th>
<th>Probit 2 Training</th>
<th>Probit 3 Training</th>
<th>Probit 4 Training</th>
<th>Probit 5 Training</th>
<th>Probit 6 Training</th>
<th>Probit 7 Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Connections</td>
<td>0.343*** (0.041)</td>
<td>0.145*** (0.046)</td>
<td>0.150*** (0.046)</td>
<td>0.188*** (0.051)</td>
<td>0.192*** (0.054)</td>
<td>0.192*** (0.054)</td>
<td>0.192*** (0.051)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,258</td>
<td>5,258</td>
<td>5,258</td>
<td>4,737</td>
<td>3,636</td>
<td>3,588</td>
<td>4,674</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>0.0127</td>
<td>0.101</td>
<td>0.103</td>
<td>0.0999</td>
<td>0.163</td>
<td>0.167</td>
<td>0.105</td>
</tr>
</tbody>
</table>

Controls

| Country | No | Yes | Yes | Yes | Yes | Yes | Yes |
| Year | No | No | Yes | Yes | Yes | Yes | Yes |
| Sector | No | No | No | Yes | Yes | Yes | Yes |
| Size | No | No | No | No | Yes | Yes | No |
| Age of Firm | No | No | No | No | No | Yes | Yes |

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

These results indicate that the political connections of firms lead to an increase in training by 19.2%, holding other controls constant. There are three possible explanations for why firms that engage in state capture would train their employees more:

First, by paying bribes to achieve state capture, firms already secure an advantage over non-connected firms by having access to finances and subsidies. By using these resources to increase their firm-level training, they are able to solidify their competitive advantage, and crowd out any competition from non-connected firms.

Second, returns to investment are not predictable when there is a high degree of corruption. Given the prevalence of corruption in the Middle East, non-connected firms cannot predict the returns to their human capital investments, and therefore,
elect not to invest (Everhart, Vazquez, and McNab, 2009).

*Third*, in authoritarian regimes, governments control citizens’ education and keep a stronghold over the educated elite. In fact, in a recent study, it was found that the “emancipative value” of education, embodied in the political liberalism resulting from education, in the Middle East and North Africa is far less than its emancipative value elsewhere (Alississ and Diwan, 2016). Governments might use their relationships with these connected firms, to try to control which firms provide training, and what kind of training they provide, in order to protect and manifest the existing political economic equilibrium.

Given the type of bribes these results point to, it is more likely that the first two explanations are the ones captured in this model. Although governments do control education contents that reach the masses, at the firm level, it is more likely that this is done with a smaller number of oligarch firms, which have very close ties with the government.

Although at first glance, these results indicate, somewhat counter-intuitively, that state capture is beneficial to the economy, since it is correlated with an increase in training, it is not that simple. When politically connected firms capture all the benefits of policy and gain advantage in the market over non-connected firms, it produces an atmosphere that promotes tax evasion and the growth of the informal economy, because firms are not inclined to pay taxes or be subject to regulations they will not benefit from (World Bank, 2005). Empirical evidence overwhelmingly suggests this state capture has a myriad of negative effects that lead to the crowding out of non-connected firms such as raising the cost of capital, increasing the level of economic uncertainty and returns on investments, and increasing the costs of entrepreneurship.
These results are further evidence of the extent of state capture and the means by which politically connected firms crowd out non-connected firms.

VII. Plausability Tests

If State capture is the reason that politically connected firms provide more training to their employees than other non-connected firms, then political connections should also point to other advantages that these firms have. These advantages can be placed in two categories, the first being the advantages “given” to them by capturing the government policy benefits, and the second being the advantages the firms themselves “produce” because of the former accumulated resources. Examples of resources given to them would be easier financial access and access to subsidies. The advantages produced by the firms given their competitive advantages given to them are their provision of training, their acquisition of new technologies, and an increase in their exports. Table 3 shows the results of a Probit regressing easier access to finances, better exports, new technology acquisition, and easier access to subsidies on political connections.
Financial access is positive and statistically significant, meaning that politically connected firms are significantly more likely than their counterparts to have a line of credit or a loan. This implies that there is a high cost of finance for non-connected firms, which has a negative impact on firm output, employment and growth (Beck, Demirgüç-Kunt, and Maksimović, 2005; Kinda, Plane, and Véganzonès-Varoudakis, 2011).

Exports are also positive and statistically significant, which is confirms previous findings that show the link between having access to finance and being exporter (Dollar, Hallward-Driemeier, and Mengistae, 2006).

As for innovation, this confirms previous studies, as mentioned in the literature review, that show a positive and significant relationship between state capture and innovation.
Subsidies are positive, but not statistically significant.

Table 4 shows the marginal effects of the Probit regressions.

**Table 4 – Marginal Effects**

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Probit 1 Financial Access</th>
<th>Probit 2 Exports</th>
<th>Probit 3 Technology</th>
<th>Probit 4 Subsidies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Connections</td>
<td>0.222***</td>
<td>0.105*</td>
<td>0.472***</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>(0.046)</td>
<td>(0.063)</td>
<td>(0.094)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>Observations</td>
<td>3,535</td>
<td>3,603</td>
<td>3,132</td>
<td>2,523</td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>0.100</td>
<td>0.155</td>
<td>0.108</td>
<td>0.132</td>
</tr>
</tbody>
</table>

**Controls**
- Country: Yes
- Year: Yes
- Sector: Yes
- Size: Yes
- Age of Firm: Yes

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

These results paint a big picture of the State capture that these firms engage in. Political connections allow firms easier access to finances, enabling them to not only provide training to their employees more than non-connected firms, but also to acquire more technologies, and increase their exports more.

**VIII. Policy implications and Conclusion**

Despite the importance of firm level training for the MENA region in alleviating the issues of high youth unemployment rates, skills mismatch in the labor market, and the long transition period between the education and labor markets, the incidence of firm level training in the region is lower than the global average. To understand the institutional reasons behind this shortage of training, I look at how politically connected firms capture the economy through bribery. State capture is prevalent in the
Middle East and North Africa, and plays a big role in how the private sector interacts with policy makers.

Building off a systemic analysis of the WES for selected MENA countries, I show that state capture is positively associated with firm training. Even though, this result might be counter-intuitive, for the case of MENA countries, this positive relationship nicely reflects the intimate interconnections between the private sector and public policy makers. In particular, my findings underscore the importance of technological progress in creating a specific form of competitive advantage for close political allies.

Using bribes as an indicator for political connections, I use a Probit model to predict the effect of political connections on the incidence of firm level training. However, because I use bribes, there is a potential problem of endogeneity in the model. It is possible that firms that provide training are more productive, and are, therefore, able to pay more bribes. Furthermore, it is possible that it is the non-connected firms that have to pay bribes in order to move their businesses along. This possibility is unlikely for two reasons. First, the results of the plausibility tests indicate that the firms that pay more bribes are also the firms that have easier financial access. According to previous literature, politically connected firms are the firms with easier financial access, meaning that it is unlikely that non-connected firms are paying the bribes (Diwan, Keefer, and Schiffbauer, 2015). Second, previous studies have shown that public officials tend to ask for bribes from firms that they expect can pay them (Tangri and Mwenda, 2001).

It is worth mentioning that political connections encompass a lot more than bribes. Previous papers used a variable that indicated if there were parliament members on the board of a firm to indicate whether it’s politically connected. Other papers used
perceptions of court corruption and level of tax evasion to estimate political connections. The data available in the World Bank Enterprise Surveys does not permit a more comprehensive coverage of political connections. Using bribery, however, as an indicator of political connections, allows us to examine the role of bribery in establishing political connections, and enables a more comprehensive view of the transmission mechanisms through which political connections are made.

This paper shows how politically connected firms capture the economy through training provision and technology acquisition, thereby crowding out non-connected firms. From a policy perspective, governments in the Middle East face a trade off between the short term gratification of these elite firms to gain their loyalty, and the long term economic growth that will absorb the high youth unemployment rates and the big youth populations in these countries.
## IX. Appendix

### Table 5 - Variable Definitions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country</td>
<td>The country in which the survey was conducted</td>
</tr>
<tr>
<td>Training</td>
<td>Firms offering formal training programs for its permanent, full-time employees.</td>
</tr>
<tr>
<td>Bribe electric</td>
<td>Firms expected to give gifts or informal payments to get an electrical connection</td>
</tr>
<tr>
<td>Bribe Water</td>
<td>Firms expected to give gifts or informal payments to get a water connection</td>
</tr>
<tr>
<td>Bribe Permit</td>
<td>Firms expected to give gifts or informal payments to get a construction permit.</td>
</tr>
<tr>
<td>Bribe Inspection</td>
<td>Firms expected to give gifts or informal payments during inspections.</td>
</tr>
<tr>
<td>Bribe Import</td>
<td>Firms expected to give gifts or informal payments to get an import license</td>
</tr>
<tr>
<td>Bribe Operating</td>
<td>Firms expected to give gifts or informal payments to get an operating license</td>
</tr>
<tr>
<td>Political connections</td>
<td>(Bribe Water + Bribe Permit + Bribe Inspection + Bribe Import + Bribe Operating)/5</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>= 1 if a firm operates in the manufacturing sector; =0 if a firm operates in the services sector.</td>
</tr>
<tr>
<td>Survey Year</td>
<td>The year the survey was conducted</td>
</tr>
<tr>
<td>Year Established</td>
<td>The year the firm was established</td>
</tr>
<tr>
<td>Age of Firm</td>
<td>Constructed variable. Function of survey year – year established.</td>
</tr>
<tr>
<td>Technology</td>
<td>Dummy variable = 1 if the firm has purchased new technology in the past year.</td>
</tr>
<tr>
<td>Subsidies</td>
<td>Dummy variable = 1 if the firm has had access to subsidies in the past year.</td>
</tr>
<tr>
<td>Exports</td>
<td>Dummy variable = 1 if the firm has had exports in the past year.</td>
</tr>
<tr>
<td>Financial Access</td>
<td>Dummy variable = 1 if the firm has taken out a loan in the past year.</td>
</tr>
<tr>
<td>Ownership</td>
<td>Dummy variable = 1 if the firm has majority of foreign ownership.</td>
</tr>
</tbody>
</table>
Do the Political Connections of Firms Aff ect their Training of Employees?

This chart examines the correlations in a dataset that contains information on the political connections of firms in the Middle East and their investments in Human Capital captured in the formal training of employees. The bribes the firms have paid will act as proxies for political connections.

Source: World Enterprise Surveys

Al-Ississ, M. and Diwan, I., 2016. INDIVIDUAL PREFERENCES FOR DEMOCRACY IN THE ARAB WORLD EXPLAINING THE GAP.


Khan, M., 2006. Governance and anti-corruption reforms in developing countries: Policies, evidence and ways forward


Sfakianakis, J., 2004. The whales of the Nile: Networks, businessmen, and bureaucrats during the era of privatization in Egypt. In Networks of Privilege in the Middle East: The politics of economic reform revisited (pp. 77-100). Palgrave Macmillan US.


