



Paper to be presented at the
DRUID Society Conference 2014, CBS, Copenhagen, June 16-18

The Advantage of Affiliation to Business Groups: Economizing or or Rent Seeking? Evidence from the ?Arab Spring?

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May 2013

Acknowledgment: I am very grateful to Alfonso Gambardella and Giovanni Valentini for their insightful suggestions from the inception of the research idea to this stage. I am also grateful to Anita McGahan, Mario Amore, Torben Pederson, and the SMS anonym best PhD paper reviewers for their valuable inputs at different phases of the paper. Flaws and omissions remain mine.

Preliminary Draft: please do not cite or circulate it without the consent of the author.

1. Introduction

Business groups, a collection of legally independent firms bound together by block shareholders are common around the world (Morck, 2007). The prevalence of business group, specially in countries where corruption is pervasive, market supporting institutions are less developed, shareholders rights are less protected and corporate governance is less transparent has led scholars to ask what really causes this organization form to emerge and persist, and what its contribution is to an economy. Review of studies about business groups by Khanna and Yafeh (2007) illustrates that there is a general tendency that affiliation to business groups is positively related to firm performance. However, the mechanism by which this manifests is far from clear (Morck, 2007). Some scholars attribute the positive association to the *value adding* (Economizing) role whereby groups substitutes the weak markets by reducing information asymmetry and transaction costs among affiliates and with outside partners (Khanna and Yafeh, 2007; Chang and Hong, 2000). In contrast, some other studies show that business groups are rent seeking mechanisms by which minority stockholders are expropriated (Almeida and Wolfenzon, 2006) and rent is garnered through political connection (Fisman 2001; Morck and Yung, 2004).

Therefore, it is not clear how and under what conditions do business groups play *value adding* or rent seeking role and benefit their affiliate firms. If business groups play economizing role, they fill the weak product and factor market by mustering and allocating scarce financial, human capital, as well as intangible resources such as technology and reputation for firms within a group (Chang and Hong, 2000). On the other hand, if they play a rent seeking role, they establish political connections and benefit member firms by providing regulatory oversights, protection from new entrants in their industries, privileged deals from government owned banks, and other regulatory enterprises (Faccio and Lang, 1999). To date, there are very few studies that aim at identifying which of these two are the prevailing sources of rent for group affiliated firms. The reasons for this are twofold. On the one hand, the establishment of business groups is specific to the socio-cultural and political contexts of the countries. Accordingly it is difficult to generalize the role of business groups as *value adding* or rent seeking (e.g. Khanna and Yafeh, 2007). On the other hand, methodologically, both *value adding* and rent seeking roles of business groups lead to better performance of group affiliated firms. This creates an identification problem as to which of the mechanisms is at play for an observed firm performance.

Identifying the prevailing source of rent for affiliates of business groups has both theoretical and policy relevance precisely because the two rent generation and appropriation strategies are profoundly different. The *value adding* strategy emphasizes on wealth creation while rent seeking emphasizes on wealth redistribution. As such, these strategies are different in the amount of value they create and their welfare implication.

Juxtaposing these two alternative mechanisms of rent creation and appropriation by business groups, this study aims at contributing to filling the gap by addresses the methodological challenge using a quasi-experiment. Recently, the *Arab spring* has swept many long serving presidents and political parties from power unconstitutionally. Among those countries, Egypt and Tunisia pioneered the change at the beginning of 2011. This quasi experiment helps untangle the two competing explanations. The assumption is that the change in governments disrupts existing connections between politicians and businesses. This creates a discontinuity in *influence rents* that firms used to secure through political connections. Any market irregularity associated with this change does not put business groups in a disadvantageous position as they are argued to be better to respond to weak markets.

Using a longitudinal data and Difference in Differences methods, I compare how affiliates of business groups perform before and after the treatment compared to two control groups. The results show that group affiliated firms are severely negatively affected than the control groups after the treatment. The negative effect is especially high for firms affiliated with family business groups. The implication is that political connection is the main rent appropriation mechanism by which group affiliated firms outperform their stand-alone counterparts in North Africa.

By untangling these alternative explanations this study provides both theoretical and practical contributions. Theoretically, beyond, the obvious argument that institutions matter in the choice of firm strategies, this study sheds new lights on the heterogeneous impact of institutions on rent appropriation mechanisms of stand-alone vs. group affiliated firms. More specifically, this study provides empirical evidence from North Africa that the high performance of group affiliated firms is derived mainly from political connections than from economizing in transactions, corroborating the *rent seeking hypothesis*. This evidence also informs the policy debate on the value of business groups as 'paragons or parasites'. Empirically, using a quasi-experiment, it

tackles the identification problem of *value adding* vs. rent seeking effects of affiliation to business groups on firm performance.

Theory and Hypotheses

Several theoretical perspectives have been adopted to explain the existence of business groups in emerging economies. The main ones are agency theory, transaction cost economics, resource based view, sociological or relational perspectives, and political economy perspectives (Khanna and palepu, 2000; Yiu *et al.*, 2007).

According to the agency theory, in emerging economies, market for corporate governance is weak and there exists a high principal-principal agency problem. Majority shareholders, tunnel resources from firms in which they have a lower ownership to firms they have a higher ownership by separating controlling and shareholding rights (Bertrand *et al.*, 2002; Almeida and Wolfenzon, 2006). This stream of literature focuses on how minority shareholders are expropriated by majority shareholders within a group. The analysis focuses on the differences in performance of firms only affiliated with business group. Consequently, it does not fit well to explain the average effect of affiliation to business groups on firm performance with respect to stand-alone firms.

The transaction cost economics and resource based view perspectives, on the other hand, posit that business groups are the right response to weak market institutions. When market supporting institutions are weak, firms can get various benefits from affiliating with business groups. First, affiliation reduces information asymmetry and provides access to imperfectly marketed factor inputs such as human and financial capital within the group (Khanna and Palepu, 1997, 2000; Chang and Hong, 2000). Second, affiliation helps to finance strategically important projects that have difficulties to be financed by external sources. Thirdly, groups serve as an alternative for portfolio diversification when investors have a very limited option to diversify their investment in the market (Chang and Hong, 2000). Therefore, since group affiliated firms have better access to imperfectly market factor inputs and intangible assets they perform better in the market. According to the sociological or relational based view, business groups are formed as a reflection of the norms and values of the society they are embedded. Group affiliation gives legitimacy, reduces transaction cost and positively affect performance (Kanna and Palepu, 2000; Yiu *et al.* ,

2007; Granovetter, 1994). Even though, the sociological perspective differs from the other two with respect to why business groups come into existence, all these theories predict that business groups are value enhancing organization forms.

Distinct from the transaction cost or sociological perspectives, the political economy perspective posits that the main source of rent for business groups is political connection (Morck and Young, 2004; Fisman, 2001). Large business groups are connected to governments by virtue of their structure as government owned or through kinship and friendship ties between the ultimate owners and politicians. Political connection provides privileges such as regulatory oversight, protection from new entrants in their industries, and access to privileged deals from government owned enterprises (Faccio and Lang, 1999). Therefore, group affiliated firms get rents from political connection. While there is a strand literature in finance that estimates the value of political connection, e.g. Faccio *et al.* (2005), Amore and Bennedsen (2013), minimal attention is given to understand the difference in the propensity of firms to establishing political connection. Departing from this literature, the main thesis of this study is investigating the difference in the propensity of firms in establishing and benefiting from political connection.

Review of the theories used to explain the existence of business groups suggest two competing theoretical perspectives on how group affiliation might lead to better performance: Groups as *value adding* or rent seeking entities. Using insights from the new institutional economics, two hypotheses that establish these competing mechanisms. Before drawing on the competing hypotheses, following the earlier works, I establish the baseline hypothesis that in emerging economies affiliation has a positive impact on performance either due to *value adding* (Khanna and Palepu, 2000; Khanna and Palepu, 1997; Chang and Hong, 2000) or rent seeking effects (Fisman, 2001).

H1. Group affiliated firms perform better than their non-affiliated counterparts

Affiliation to business groups as an Economizing mechanism

The theory of new institutional economics suggests that social and political organizations of nations affect economic outcomes (North, 1990; Williamson, 2000). The two main formal underlying institutional conditions that affect the choice of the right organization forms and

governance mechanisms are the property rights and contract enforcement institutions. Emerging economies are generally characterized by both weak property rights and contract enforcement institutions (Khanna and Palepu 1997; Acemoglu, 2005). Transaction cost economics elucidates that while having the institutions right is a priority, choosing the right governance form is the second order economizing approach to cope with problems of weak contract enforcements (Williamson, 2000). Transactions that have similar attributes might best fit to different governance forms depending on the quality of contract enforcement institutions. The weaker the contract enforcement institutions, the more transactions are governed within a hierarchy than in a market (Williamson, 2000). In emerging economies, many intermediary institutions that facilitate contract enforcement are not well developed (Ahuja and Yemirman, 2011; Khanna and Palepu, 1997). There is high information asymmetry between transacting parties. Where there are no rating agencies, quality control agencies, or generally government watchdogs, buyers suffer from shortage of information to believe what the sellers claim is right. Similar problems surface in the factor market to choose a competitive human capital where there is no ranking of universities, or acquire funds from financial institutions where there are no strong credit rating agencies. Many former studies argue that affiliation to business groups is an economizing mechanism by which performance is improved. Affiliating to a group reduce transaction costs and access scarce and imperfectly marketed inputs from internal markets (Khanna and Palepu, 1999; Khanna and Yafeh, 2007). By building reputation, affiliation also reduces information asymmetry to transact with external parties.

Sudden and unconstitutional government change creates a sharp break in the political institutions. Arguably, such a change might also affect market supporting institutions. Countries such as Egypt and Tunisia which experienced sudden government change at the beginning of 2011 in a relatively peaceful way have encountered some irregularities in the functioning of markets. For example, based on the World Development Indicators, the stock market value traded as a percentage of GDP, stock market turnover ratio, and stock market return have declined in 2011 as compared with the 2010 values. For example, in Egypt from 2010 to 2011 the stock market value traded as a percentage of GDP has decreased from 21% to 12%, and stock market turnover ratio from 43% to 34%. Similarly in Tunisia the stock market turnover has reduced from 17.6% to 10.9%, stock market return from 39.7% to -10% and stock market volatility increased from 8.4% to 13%. Moreover, there is a reduction in the total credit

provided to the private sector as a percentage of GDP. These indicators suggest that the financial market is not improved following the government change. Similarly, data from the World Governance Indicators (2013) shows that institutions that facilitate contract enforcement, such as control of corruption, rule of law, and government effectiveness have been relatively worse after the government change. Although the decline in the financial market condition and quality of governance might not be very dramatic, the indicators did not show any improvement to reduce cost of transactions outside the boundary of the firm. Therefore, values that firms generate by affiliating with business groups are not replaced by better institutional quality after the sudden government change.

If affiliation to a group is a mechanism to reduce transaction cost, and facilitate resource sharing and intragroup transaction, it might serve as a *shock absorber* that partially alleviates the negative effect of market irregularities during drastic political changes. When the external market is getting worse, affiliates of business groups have the alternative to use complimentary resources such as distribution channels, logistics, and slack financial as well as human resource including security from other affiliate firms to protect their firms from theft, plunder, or other destructions in areas exposed to such criminal activities during the instability. Moreover, being under the umbrella of an ultimate owner facilitates the mobilization of resources to resume operation after such instability. Having such a privilege brings a significant difference between affiliates and stand-alone firms when the shock makes the already weak market institutions worse.

H2a. The negative effect of a political regime discontinuity is lower for group affiliated firms than for the non-affiliated ones.

Affiliation to Business Groups as a Rent Seeking Mechanism

Contract enforcement institutions govern the relationship between ordinary citizens (Acemoglu, 2003). When firms anticipate contract enforcement problem with ordinary citizens, they have the option to internalize some of the transactions. Property rights on the other hand govern the relationship between ordinary citizens and the state. It mainly depends on the distribution of political power (Acemoglu, 2005). Weak property rights institutions expose ordinary citizens to expropriation by politicians and elites who have access to this power (Acemoglu, 2003; North

1991). Unconstrained political power serves as a mechanism to transfer wealth from the majority to privileged minorities (politicians and elites). Transaction cost economics cannot predict the right solution to economize when the problem arises from vertical relationships (firm and state). When property rights institutions are weak, firms strategize to get access to political power on to reduce risk of expropriation by the government in the one hand and tunnel public properties into their private control on the other (Acemoglu, 2003). By establishing political connections, firms influence policies, rules and regulations in their favor. This is a common scenario in emerging economies where both the economic and political institutions are at their infancy (Ahuja and Yayavaram, 2011).

The relevance of political connection might be conspicuous under certain conditions. First, when political power is centralized, uncertainty in political connection is reduced and connections established in the center will serve as a valuable social capital to deal with the respective government officials down the hierarchy (Shleifer and Vishny, 1993). Second, the effect of centralized political power on the motivation of firms to establish political connection is reinforced by the politicians longevity in power as it implies the long term returns of investments to establishing political connection. Third, when the government has a strong presence in the economy to dispense benefits in the form of, for example, selling firms below their market price in the name of privatization, provide loans from government owned banks or turn a blind eye when firms fail to respect regulatory requirements. All of these preconditions characterize countries in North Africa. Mubarak served 30 years as a president of Egypt, and Ben Ali served 27 years as a president of Tunisia and in Morocco, the government is a constitutional monarchy where much of the executive and legislative authority is still in the hands of the king. The polity indicators show that political power is highly centralized and executives in these countries are less constrained and less subject to check and balance both vertically and horizontally. Moreover, in these countries, government has a significant role in the economy. Despite the effort to privatize many firms, government still plays the main role in directly engaging in the production of goods and services (Biygautane and Lahouel, 2011; Adly, 2009). For example in Egypt by the end of 1980s public sectors produce more than 50% of the industrial outputs and possess 90% of the banking and insurance sector (Washington Post, 2011).

Arguably, given the institutional context, it is likely that many firms in these economies may find

establishing political connections valuable. Therefore, it is less surprising to observe many firms participating in the political market to gain *influence rents*. Given the same institutional environment are business groups prone to engage and are successful in influencing governments than stand-alone firms? First, according to Khanna and Yafeh, (2007), in many emerging economies, business groups are formed by the government or are supported by the government as part of market liberalizing and privatizing government owned firms. Newly privatized firms maintain their connection with the government post privatization (Boubakr *et al.*, 2008). If this is the case, since in North Africa many of the privatized firms were acquired by business groups, political connections might be maintained by these groups (Washington post, 2011; Ahram, 2011; Bassiouni 2012). Second, business groups are often diversified and many in number. So they enjoy economies of scale from forging long term relation with the government since the same connections with the top politicians can serve many firms in different industries. Third, groups comprise many firms, their administration and structure is too intricate for politicians to regulate (Dieleman, and Boddewyn, 2012). Instead of expending efforts to regulate business groups, both the top politicians and groups tend to placate each other. Business groups connect with leading political parties and finance political elections; and politicians in turn devise rules and policies favoring the interest of firms affiliated with business groups (Herzog *et al.*, 2013; Dieleman, and Boddewyn, 2012). Fourth, while affiliate firms benefit from connections established by the ultimate owner they are shielded from liability of defaults of any member firm as each of them are legally independent.

In North Africa, business groups had the opportunity to acquire privatized firms at lower price and with closed bids, access licenses and scarce resource such as land for real estate development, and loan from government owned banks (Washington post, 2011; Ahram, 2011; Bassiouni, 2012). Moreover, political connections also help business groups to benefit from subsidies and promotions provided by the government by influencing the choice of beneficiary industries and firms (Biygautane and Lahouel, 2011). Therefore, a significant change in the political system, unconstitutional government change, leads business groups to lose the benefit that they used to get.

H2b. The negative effect of a political regime discontinuity is greater for group affiliated firms than for the non-affiliated ones.

Finally, if H2b is empirically supported, I expect the following also to be true. Compared to other business groups owned by the state, widely held financial institutions or other widely held companies where at the apex the head of the group is a professional manager, family business groups may be more likely to be politically connected. This is because rich business families are likely to belong to the political elites with different kinds of ties, blood relation or other form of kinship. For example, among the business groups which were affected by the bad news release of Suharto's health condition, some were owned by his children (Fisman, 2001). Oligarchic families are rich enough to present tempting offers that are difficult for politicians to step back. Rich business families tend to be small in number; stays in the business for a long time, and interact many times with politicians; as a consequence they are in a better position to forge strong political connection than do other business groups (Morck, Wolfenzon and Yeung, 2005). Interviews of selected business groups in Egypt by Piesse *et al* (2011), points out that some family owned business groups are well positioned compared to other business groups to influence policy makers and government owned financial institutions to their benefit.

Corruption and squandering of public money by business families in both Tunisia and Egypt are among the top law cases that were brought to the court after the revolution. Anecdotal evidences from cases handled by courts mainly in Egypt and partly also in Tunisia reveal that privatization process has benefited some business groups especially family owned ones. Using close friendship with the presidents and their families and by affiliating to the leading political party, family business groups managed to get exclusive privileges in acquiring government companies during privatization process, access to credit from government owned banks, securing licenses and unduly influencing the approval and enforcement of anti-trust laws (Ahram, 2011; Ahram, 2011; New York Times, 2011).

Establishing strong political connection requires a long time commitment from being a mere political affiliate to establishing personal connections to the leading political figures. This process might not sound realistic and even possible for a professional manager who is responsible to manage a business. The condition that facilitates the diversion of resources from government to private hands is partly due to an unclear boundary between the politicians and business elites¹. Some of the business elites have served in higher government positions such as

¹ Example of prominent figures in Egypt are Ahmad EZZ, steel tycoon, and member of the parliament and budget

in the ministry, parliament, and special committee in the parliament. During this service years, business elites were not only influencing favors dispensed by the government, they themselves were in charge of dispensing benefits to firms as members of the government (Bassiouni, 2012; Roll, 2013).

H3. The negative effect of a political regime discontinuity is greater for firms affiliated with family business groups than for affiliates of other business groups and standalone firms.

4. Methods

4.1. Research Context

The Arab spring and Business groups in the Middle East and North Africa

Arab Spring has begun in Tunisia at the end of 2010. It is said to be instigated by the self-immolation of a street vendor, Mohamed Bouaziz, following the harassment and confiscation of his wares by a Municipal police. The revolution then has spread to Egypt, Algeria, Bahrain, Jordan, Libya, and others. However, only in four countries to date has the protest brought a change in regime. Libya, Tunisia, Egypt, and Yemen have succeeded in changing their leaders while Syria is still under civil war. The countries that pioneer the change and are thought to be less violent are Egypt and Tunisia. Zine al-Abidine Ben Ali, the former prime minister of Tunisia assumed top political positions in 1964. He took the premier position in October 1987 after the first prime minister of Tunisia after independence, Habib Bourguiba, was incapable of ruling the country for health reason (Encyclopedia Britannica, 2013). He was the head of the Democratic Constitutional Rally and won reelections from 1994 to 2010 with huge margins.

Following the 2010 protest against his rule, the president was ousted and is under exile in Saudi Arabia. He and his family are convicted of crimes such as embezzlement of public property, violation of human rights, killing protesters, and smuggling of drugs, guns and other archeologically valuable articles (Encyclopedia Britannica, 2013).

Hosni Mubarak started his political career in 1972 when he was appointed by President Anwar el-Sadat as commander of the air force. In 1975 he was appointed as a vice president of Sadat. He became president of Egypt following the assassination of President Sadat in 1981

committee of the leading political party, Yasin Mansour, the head of Mansour group and a one time Minister of transport of Egypt. In Tunisia the indirect link of the Trabelsi family, (family of wife of Zine al-Abidine Ben Ali).

(Encyclopedia Britannica, 2013). Since then, he was reelected four times as a president and chairman of the National Democratic Party. The popular protest of 2011 made him relinquish his power. He is now under trial for allegations of corruption, abuse of power, and killing protesters. Both leaders won elections for more than four times and stayed in power for more than 20 years.

Middle East and North Africa (MENA) is suitable to study the role of business groups. In MENA ownership of listed companies is generally concentrated. The Biggest companies in the region are either owned by families or the government. A study by Omran and colleagues (2008), covering three countries, Egypt, Tunisia and Oman shows that only 14% of the firms have dispersed ownership while others are either controlled mainly by the government or individual investors (Omran *et al.*, 2008).

Family owned businesses are the backbone of the region's economy, both as small and large diversified firms. In this region, over 80% the businesses are owned or controlled by families (PricewaterhouseCoopers, 2013). Some families control large conglomerate businesses. Based on the Forbes top 100 Arab millionaires data, only the top 25 richest families in the region own 100 billion USD worth equivalent to 40% of the total market capitalization of all firms listed in all the stock markets in the region². For example, in Egypt, 8 business families own a wealth 19.4 billion USD, equivalent to 34% of the market capitalization of the Cairo stock market, 4 families in Morocco own a wealth of 6.7 billion which is about 12% of the market capitalization of the Casablanca stock market. Large family owned firms in the region are also characterized by active participation of the families in the management of their firms (Moreno, 2012).

Similarly, government owns a significant portion of firms in the region. Among the top 100 listed companies in the region, 45% of the market capitalization, 32 companies, are under the partial control of the government (Amico, 2012). Despite the effort to privatize many of the companies in the region since 1980s, the rate of privatization has been much slower than required. According to Amico, (2012), state owned enterprises contribute half of the economic activity in the region. For example, in Egypt, many state owned firms are organized under holding companies to facilitate the privatization process. While some of these firms are privatized others are still under the holding companies. Firms are incorporated in a holding based

²This is a self-estimation based on the Forbes data and annual market capitalization data from the world bank.

on the industry they are operating. Some of these holdings are holding companies for pharmaceutical (Holdipharma), metallurgical industries, holding companies for food industries and so on, each holding comprising 12 to 25 firms.

4.2. Data Sources

Data was collected and brought together from various sources. The accounting measure of performance data were collected from Thomson One. Ownership data were mainly collected from company annual reports and their Web Pages. It was also supplemented by direct ownership data from Thomson One and Mubasher online³. Moreover, firm diversification data was collected from the Credit Risk Monitor. In Morocco, getting the annual reports was relatively easy because they are available at the Casablanca stock market webpage <http://www.casablanca-bourse.com/BourseWeb/Liste-Societe.aspx?IdLink=20&Cat=7>.

Bringing together the data from these sources was challenging. In translating Arabic names into English, some of the alphabets were spelled differently. This difference was problematic to identify the names of the main shareholders and ultimate owners. A lot of effort was expended to crosscheck the names from each company's annual reports and company webpage to match it with the information from Mubasher online and Thomson One.

4.3. Definition of Variables

Business groups

Business groups are defined differently in various contexts. For instance, a study by Khanna and Rivkin, (2001), in the context of Chile shows that affiliation to business group is mainly based on ownership overlaps, interlocking directorates, and indirect equity ties while direct equity ties and family bonds are less relevant. In contrast, in many other studies the existence of a controlling shareholder of at least two legally independent firms is a basis to identify group affiliated firms (Wolfenzon, 2006; Belenzon and Berkovitz, 2012). Although these two measures may not be mutually exclusive, they do not necessarily fully overlap. The former measure captures the broader aspects of affiliation in a specific context but limits cross country analysis. The latter one

³Mubasher is the largest site that provides news coverage for firms listed in the Arab stock market

overlooks the contextual nature of affiliation, but makes cross country comparison possible. For the sake of cross country comparison, in this study I followed the definition by Belenzon and Berkovitz, (2012).

Based on the data collected from the annual reports together with other supplemental sources, at the first stage of direct ownership, firms are identified as widely held or controlled by another firm or individual. This first stage helps identify if a firm has a controlling shareholder or is a stand-alone firm. In line with Almeida and Wolfenzon (2006), and Belenzon and Berkovitz, (2012), I identify the ultimate owner if a firm has a direct or indirect holding of at least 20% of the voting right for a listed company or 50% of the voting right for a private company. If a firm has no controlling shareholder or has a controlling shareholder which is a private company or an individual with no controlling ownership in any other company, this firm is considered as a stand-alone firm. Otherwise, if a firm has a controlling shareholder, company or individual, who has also a controlling voting right in another company; this company is considered to belong to a business group.

Family Business Groups

Based on their ultimate owners, groups are classified as family business groups if the ultimate owner is a family (a single entrepreneur or a family). The non-family business groups are those whose ultimate owner is a government, a widely held financial or non-financial company and other miscellaneous such as co-operations.

If the controlling firm is a listed company, identifying the ownership structure is relatively easy. However, if the controlling shareholder is a private firm identifying the ownership is difficult. All the available data in the respective company webpage especially the section on the company's history was consulted to identify the ultimate owner. Moreover, more than one annual report was consulted to identify the ultimate owner. In line with Faccio and Lang (2002) and Masulis *et al.* (2011) when the ultimate owner of a group is a private company and it is not possible to identify the owner of that firm, the group is categorized as a family business group. This is not a particular problem for firms in Africa. Actually, Faccio and Lang, (2002), pointed out the same problem in identifying the ultimate owners of Western corporations and Masulis *et al.* (2011), in larger set of countries.

Return on assets

The dependent variable used to measure firm performance is Return on Assets (ROA). It is defined by the World Scope, the original source of Thomson One financial data, used in this study as follows. $ROA = (\text{Net Income before Preferred Dividends} + ((\text{Interest Expense on Debt-Interest Capitalized}) * (1 - \text{Tax Rate}))) / \text{Average of Last Year's and Current Year's Total Assets} * 100$.

4.4. Empirical strategy

Selection of the treatment treated and control groups

From those countries that experienced the *Arab Spring*, Egypt and Tunisia are chosen for this study because in Yemen the change has happened very recently and that the effects are yet to be realized. Moreover, Yemen does not have a stock market. In Libya the government change was not peaceful; and the stock market was closed for a long time which makes getting data very difficult. Moreover, there are only about 10 companies listed on the stock market. Therefore, the sample for the study is limited to firms listed in the Cairo stock market in Egypt and that of the Tunis stock market for Tunisian companies. Besides, listed companies of Morocco are included as a control group.

This sudden unconstitutional and relatively peaceful change in the political system that reasonably dismantles political connection between firms and politicians is the main motivation for the choice of this setting for this particular study. Two important issues might be at stake to accept the sudden government change following *Arab Spring* as an identification strategy: the political connection capability of some firms, and potential endogeneity of the treatment.

First, one might consider that establishing political is a capability that some firms possess (Oliver and Holzinger, 2008). Those firms that were politically connected with the previous regime will also be able to establish similar relationship with the new regime. They have always the capability to reconnect with the new political regimes. While capabilities might not necessarily be dynamic and completely seamless to move from one situation to the other, political connection to the new regime in this particular case is less likely to happen for the following reasons. First given that the change is drastic, reconnecting with the new regime is difficult because the new regime takes time to ensure that firms which were allies of the former regime

are trustworthy to work with. Second, once it is established, political connections like any other social capital requires longer time to be well cemented and give performance return. Therefore, the time frame used in this study is relatively short for firms with the political capability to establish valuable political connection and benefit from it.

Second, and perhaps most importantly, it is intuitive to think that the government change is not an exogenous shock. The rent seeking behavior of group affiliated firms in Egypt and Tunisia might be the driver for the government change. At this stage, it is important to make a clear distinction between the *Arab spring* and the sudden government change that is considered as a treatment. The popular uprising in the Arab countries has been attributed to many factors such as a mismatch between economic and population growth, poor income distribution, limited job opportunities, ethnic, sectarian and tribal differences as well as corruption and inefficient state sectors (Cordesman, 2012; Gurría and Schwab, 2011). As far as these factors are broad based and can be intertwined to broader socio-economic dynamics, it is hard to exclude the role of large companies outside the scene as though they did not have any contribution to the disenchantment as it is equally hard to do it for any other factor. However, the interest here is to know if the behaviors of large companies and politicians in the treated countries are any different from other countries in the region to cause the sudden government change. Interestingly the differences between those countries that succeeded and those that did not succeed in changing their government in the region are that the later are oil rich and kinship bases states while the later are not (Williamson and Carolina, 2014). These differences are not in any way related to the behavior of firms or politicians.

Moreover, a study by Lagi *et al.*, (2011), show that the factor that triggered the government changes in those countries is not the long standing political failure. It is rather a sudden perceived failure of the regimes to respond to a sharp increase in the global food prices. They argue that while, for example, during the 2008 food price hike the government of Egypt was successful to respond to the food crisis by increasing subsidy it failed to do so adequately in 2010.

And finally, to understand better if the corporate governance of firms in Egypt and Tunisia is worse than firms in other countries with similar socio-economic context, I compared the quality of corporate governance of firms in Egypt and Tunisia with respect to those firms located in

Morocco. The World Economic Forum ranks the level of firm ethics, level of investors' protection, and corporate governance of firms around the world. Table 1 presents the summary of these indicators. A comparison of the ethical behavior, strength of auditing and reporting standard, and strength of investors' protection among firms in the three countries for three years show that there is no statistically significant difference between firms in the treated countries as compared with firms in Morocco. This is consistent with the above evidences that the sudden government change is exogenous.

 Insert table 1 about here

To analyze the effect of the treatment, comparison is made between group affiliated firms in the treated countries with two control groups. The first control group is stand-alone firms in the treated countries. The second control group is group affiliated firms in Morocco. These firms are located in the same political, cultural and geographic region, but did not experience the government change. Comparing affiliated firms with that of stand-alone firms in Egypt and Tunisia allows identifying if business groups are prone to rent seeking behavior as compared with stand-alone firms in the treated countries. The second control group helps to confirm that the result observed by comparing group affiliated and unaffiliated firms in the treated countries is not because of any other unobserved change in the business environment within the region that affect the performance of firms particularly group affiliated firms.

In 2010, there are a total of 350 companies listed in the stock market of the three countries with a total market capitalization of 161 billion USD.

With these two control groups the two baseline models are defined as follows

$$Y_{it} = \beta_0 + \beta_1 Dbg + \beta_2 DDbg + \varphi_i T + \alpha_{ic} + \gamma_{it} + \delta_i I + \delta X_{it} + \mu_{it} \quad 1$$

$$Y_{it} = \beta_0 + \beta_1 Dbg_t + \beta_2 DDbg_t + \varphi_i T + \alpha_{ic} + \gamma_{it} + \delta_i I + \delta X_{it} + \mu_{it} \quad 2$$

Y_{it} is the accounting measure of performance, ROA. The performance data is collected on quarterly⁴ basis from the first quarter of 2005 to the second quarter of 2012. There are a total of 30 quarters of which 24 are measures before the treatment and 6 after the treatment.

⁴ Quarterly financial data are available only for Egyptian companies but for Tunisia and Morocco there are only semi-annual financial data

D is a dummy that indicates if the firm belongs to a business group

DD is interaction of a dummy for the treatment and being an affiliate of a business group. It is the difference in differences which shows if being a group affiliate after the treatment has any effect on their performance.

iT is a dummy variable for the treatment effect

it is a dummy variable for the quarters

il is a dummy for industry with two digit SIC code

Xit are firm level controls specifically firm size (log of assets), level of firm diversification, if a firm is owned by a foreign investor (company) and the log of firm age

μ_{it} is the error term.

In the second model, the control group is group affiliates in Morocco. Therefore, Dbg_t is a dummy variable that shows if a group affiliate belongs in the treated countries (Egypt or Tunisia). $DDbg_t$ is a dummy variable that indicates whether a group affiliate is in the treated countries after the treatment. At the second stage, I tested whether affiliates of family business groups are affected more than affiliates of non-family business groups due to the treatment. Therefore, two dummies are included. One dummy for affiliation with family business group and another for being an affiliate of family business group after the treatment while keeping group affiliation dummy, a family firm dummy and other controls in the baseline model.

$$Y_{it} = \beta_0 + \beta_1 D_{bg} + \beta_2 D D_{bg} + \beta_3 D_{fbg} + \beta_4 D D_{fbg} + \varphi_i T + \alpha_{ic} + \gamma_{it} + \delta_{il} + \delta X_{it} + \mu_{it} \quad 3$$

$$Y_{it} = \beta_0 + \beta_1 D_{bg_t} + \beta_2 D D_{bg_t} + \beta_3 D_{fbg_t} + \beta_4 D D_{fbg_t} + \varphi_i T + \alpha_{ic} + \gamma_{it} + \delta_{il} + \delta X_{it} + \mu_{it} \quad 4$$

And finally in a third model instead of analyzing the effect of the treatment on the treated by considering one control group at a time, both controls are included and a triple DDD is estimated. By including both control groups simultaneously, it is possible to parcel out any general trend that is affecting the performance of group affiliated firms other than the treatment and any other effect that impacted firms' performance in the treated countries.

Estimation of difference in differences model with panel data using ordinary least squares has limitations due to error correlation within and across panels, causing an underestimation of standard errors and ultimately biased and inefficient estimates (Bertrand *et al.*, 2004; Peterson, 2008). Peterson suggested that in the presence of both time and firm level correlation of errors, one option is to address one of them parametrically by including dummies and cluster on the

other dimension. In this paper, time dummies with feasible generalized least squares (FGLS) are used. FGLS is more efficient and less biased than OLS when there are correlations of errors within and across panels and that the error correlations are time invariant (Peterson 2008). The test of serial correlation and heteroskedasticity suggests the use of FGLS adjusted for cross-sectional heteroskedasticity and panel-specific auto regression. On top of the FGLS, firm fixed effect OLS is also used as robustness check.

5. Results

5.1. Descriptive statistics

A total of 276 firms with data on ownership and accounting measures of performance were found of which a total of 174 firms are from Egypt, 67 are from Morocco and the remaining 35 companies are from Tunisia. Since all the 267 firms are not listed in the stock market or show their performance from the beginning of the data point, the panel is unbalanced.

Insert table 2 about here

As table 2 illustrates, there are about 3100 firm-quarter observations of which 67% are group affiliated. A larger portion of the business groups is either family owned (34%) or government owned (20%). Of the total number of group affiliated firms more than 50% are family owned, about 35% are government owned the rest are owned by widely held financial institutions, corporations or cooperatives. Table 3 shows the bivariate correlation of the variables.

Insert table 3 about here

In an ideal experiment, the control and the treatment group are randomly assigned to the experiment so that any effect that is observed after the treatment will be fully attributed to it. In a quasi-experimental setting like this the control groups with which comparison is made might not have the same feature as the experiment group. Table 4 and 5 compare the attributes of the two control groups with affiliates of the treated business group.

Table 4 shows the comparison of the attributes of stand-alone firms with respect to affiliated firms in the treated country. Comparison of the average measure of firm age, size, ROA and level of diversification show that there is a significant difference between the two types of firms. Stand-alone firms are older, smaller, and less diversified, but the difference in their ROA is not statistically significant. Many of the differences in the attributes of stand-alone and affiliated firms are in line with former studies by Khanna and Rivkin (2001) in the context of India, Chile, and others except that in these countries unlike in others, stand-alone firms are older than firms affiliated with business groups.

Insert table 4 about here

Table 5, compares affiliates of the treated groups with the control groups in Morocco. The table shows that affiliated firms in Morocco on average are older and larger both in terms of sales and total assets than affiliates of the treated groups. However, there is no significant difference between them in terms of the level of diversification and ROA. The differences observed between firms affiliated with the treated business groups with respect to the stand-alone firms and affiliates of the control groups suggest the need to go beyond testing the simple difference in difference.

Insert table 5 about here

5.2. The Effect of the treatment on the performance of firms affiliated with the treated groups

Table 6 presents the mean difference in ROA between firms affiliated with the treated business groups with that of the control groups. Columns 1a to 1c show the mean and the mean difference between stand-alone and affiliates of business groups in their ROA before and after the treatment. The result shows that affiliated firms have a higher ROA before the treatment and lower ROA after the treatment as compared with the stand-alone counterparts, even though in neither of the cases the difference is statistically significant.

In the same table, columns 2a to 2c show the mean and the mean difference in ROA between the affiliates of control and treated business groups. The result shows a similar pattern with that of columns 1a-1c. There is an overall drop in the profitability (ROA) of both the treated and the two control groups. However, the qualitative impact seems higher for firms affiliated with the treated groups, although that does not show up in the statistical test. The result shows that there is an overall drop in profitability of firms in all the three countries after the *Arab spring*. The lower profitability of those in the treated countries after the treatment is expected because the instability has an impact on those economies and firm performance as well irrespective of their position and connection with the previous governments. However, a drop in the profitability of group affiliated firms in Morocco after the change indicates that group affiliated firms might have been differently affected during the change and thereafter. Therefore, a triple difference in difference might be a plausible test to better understand the effect of the treatment to affiliates of groups in the treated countries.

A simple Difference in Difference regression, without including any other control, in the last row of the table confirms that affiliates of the treated business groups perform significantly worse than their stand-alone counterparts as well as the control groups of Morocco. Since there are differences in the observable characteristics of the treated and both of the control groups, a multivariate model estimate is presented in table 7 and 8 by including controls of those important firm characteristics, industry, time and country dummies.

Insert table 6 about here

Table 7 depicts the effect of the treatment on ROA of group affiliates and family group affiliates. Column 1a and 1b, present a Feasible Generalized Least Square Estimation and column 2 in the same table shows the firm fixed effect estimate of the treatment on ROA. In the regression all the firm level characteristics that make stand-alone firms significantly different from affiliate firms are included as controls. All these controls except firm diversification have a positive effect on ROA. Additionally, controls for industry, country and time dummies are included. Since the performance measures are collected on quarterly basis, the dummies for time are quarters.

Supporting Hypothesis 1 and in line with previous studies, the result in column 1a shows that affiliation with business groups contributes positively to ROA of the member firms. However, affiliated firms are not significantly negatively affected than stand-alone firms due to treatment. Column 1b shows that affiliation with family groups contributes positively to ROA and the treatment has a significant negative effect on the ROA of the family groups affiliates than to stand-alone firms. The negative effect of the treatment remains significant for affiliates of family business groups in the firm fixed effect model as well.

Insert table 7 about here

Table 8 presents the effect of the treatment on affiliates of Tunisian and Egyptian business groups with respect to those in Morocco. The first two columns, 1a and 1b, show that group affiliated firms in the treated countries have higher profitability than affiliates of business groups in Morocco. After the political change, affiliates of business groups in the treated countries are performing less than affiliates of business groups in Morocco. Similarly, family business groups of the treated countries have higher profitability than those in Morocco. But these affiliates become less profitable than Moroccan family businesses after the treatment. This result is corroborated in the firm fixed effect model as well (column 2 of table 8) supporting the third hypotheses.

Insert table 8 about here

Finally, I estimated a triple Difference in Differences in Differences to identify the effect of being a group affiliate in the treated countries after the treatment controlling for being an affiliate of a business groups, being an affiliate of groups in the treated countries, being an affiliate after the treatment, and other firm controls, time, industry and country dummies. This way, any general trend that is affecting the performance of firms affiliated to business groups other than the treatment and any other effect that impacted firms' operation in the treated countries are parceled out. Table 9 depicts this result. As the table shows in both models, affiliation to a business group both in the treated and the control countries and being an affiliate

to the group after the treatment does not have any effect on ROA. In contrast, being an affiliate to a family business group has a positive impact on ROA and that affiliates of family business groups are negatively affected after the treatment in the treated countries. This result is supported in both models.

Insert table 9 about here

To summarize, as documented in previous studies the effect of affiliating with business groups is generally positive also in the context of the Middle East and North Africa. However, this effect swabbed once the family business group dummy is included in some of the results. The two alternative mechanisms by which affiliation helps firms to perform better, namely political connection or rent seeking on the one hand and bridging the missing market in *value adding* ways on the other are tested using Difference In Difference methodology. Results show that the sudden change of political leaders in North Africa has negatively affected on group affiliated firms. This effect is particularly pronounced for family group affiliates, supporting hypothesis 2b. The positive effect of affiliation to a family business group and the negative effect of the treatment on affiliates of this group are significant in both of the control groups' model, supporting hypothesis 3.

5. Additional Analysis and Robustness Checks

How does sudden government change affect the performance of group affiliated firms?

As it is evident from the analysis, the existence of political connections by firms affiliated to groups is not directly measured. The fact that observing a negative effect of affiliation particularly with family business groups after the treatment using each control group independently and simultaneously in the empirical strategy deduces the propensity of these firms to establish political connections and effectively utilize it to extract rent. To substantiate this finding and pin down the rent seeking hypothesis further additional analysis is made.

If the lower performance of group affiliated firms following the political change is due to the interruption of rent these firms used to secure from the government, the effect should be significantly higher for those which are operating in highly regulated industries. So I tested if family group affiliated in regulated industries in the treated countries are severely affected than others operating in the less regulated industries after the treatment. I used a proxy developed by the World Bank group Investing Across Borders (IAB) indicator to measure degree of regulation. IAB measures the restriction on foreign equity ownership across industries. The restriction on foreign investors' ownership is an industry level regulation that aims at protecting domestic firms against competition. Protecting selected industries from foreign investors' competition can be considered as one way of rent appropriation by domestic firms. Using this indicator, I classified industries as regulated if there is a restriction of foreign ownership investment in an industry and unregulated if there is no such restriction. Then I tested if family business groups in the regulated industries were highly affected after the government change. As table A. in the Annex shows, indeed, firms affiliated with family business groups in these industries were severely affected. This further corroborates the existence of rent from political connection by family business groups.

Moreover, the fact that affiliates of business groups or family business groups have been dramatically affected by the government change might not necessarily imply rent seeking behavior. Businesses groups might be structurally rigid and ill-suited to respond to changes as swiftly as single firms. So they are victims of the change for other things not related to political connection. If this is the case, group affiliated firms, regardless of whether the ultimate owner is

the state or family, should be equally negatively affected. To test this, compared the extent to which state controlled group affiliates and family controlled group affiliates are affected by the government change. As table D in the annex shows, firms affiliated to government owned business groups are not affected by the government change. It is an indication that the lower performance of group affiliated firms is less to do with maladaptation of these firms to sudden changes and instabilities. Whereas connections established by family business groups with the previous government have perished with the ousted political leaders, firms affiliated with state controlled business groups, by virtue of the ownership structure, have still maintained their political connection.

It might also be that group affiliated firms have engaged in those industries that are highly affected by the government change. While this could be true, it is difficult to differentiate the low performing industries after the government change from the loss of benefits by business groups from the previous government. However, I chose the tourism sector that shrank very dramatically after the government change. According to the African Development Bank (2012) the tourism sector is the most affected sector in the two countries during the *Arab spring*. The sector has shrunk from a growth rate of 13.9% in 2010-2011 to -8.6% in 2011-2012. The decline in overall contribution of this sector is not caused by the 'rent seeking' behavior of business groups. It is rather because tourists are not travelling for security reasons to these countries. As table C in the annex indicates, on average, there is no difference in the number of group affiliated firms with respect to other firms in the treated countries in their engagement in the tourism sector. This is an indication that the negative effect of the change to firms with family business groups is not due to their engagement in those sectors that are highly affected by the change.

Robustness Checks

Difference in Difference method assumes that there is a common trend in the performance of firms affiliated to business groups and stand-alone firms. If for instance the performance of firms affiliated to business groups is declining before the treatment, the significant effect of the treatment might be wrong. To tackle this, I tested for a placebo treatment a year before the actual treatment. Table B, in the annex, shows that the placebo treatment does not have any effect on the overall performance of firms. The performance of affiliated firms has not declined after the placebo treatment.

The data used to track affiliation to business groups is based on ownership data since 2009. The performance data on the other hand begins from the first quarter of 2005. Therefore, there could be a change in status of firm's affiliation to groups from 2005 to 2009. Using a merger and acquisition data from Zephyr, I looked into the merger and acquisition deals made from 2005-2010 for the three countries. Except for a single firm in Egypt, the ultimate owner of any firm in my data has not been changed during this period. So excluding that single firm does not have any qualitative effect on the results.

In identifying the ultimate owners of business groups, similar to the former studies, I have classified those groups whose ultimate owner is a private company as a family business group. The percentage of firms assigned in this way accounts around 3.4% of the total observation which is equivalent to the one by Masulis *et al.* (2011). However, the results remain qualitatively the same with the exclusion of these observations.

6. Discussion

Previous works, many in developed economies, have documented that the performance of firms is driven by industry, year, corporate parent and business segment effects (McGahan, and Porter, 1997, 1999; Rumelt, 1991). Later, similar studies in emerging economies documented that the performance of firms is also affected by affiliation with business groups (Khanna and Palepu, 1997). Broadly, there are two theoretical perspectives that are used to explain the persistent heterogeneity in firms' performance, *value adding* (economizing) and rent seeking (strategizing) (Williamson, 1991). Rent seeking and *value adding* roles might have similar implications at the firm level, but their implication on the long term competitive advantage of firms and their welfare implications are different. The *value adding* role illuminates that the heterogeneity in firm performance and its persistence overtime comes from the difference in allocative and productive efficiency among firms (e.g. Williamson, 1991). In contrast rent seeking perspective accentuates that the persistent heterogeneity in firm performance is the result of firms' strategies to persuade government policies and regulations to their favor and acquire *influence rent* (e.g. Williamson, 1991; Ahuja and Yemirman 2011; De Figueiredo, 2009; Capron and Chatain, 2008; Hilman et al. 2004). Using a quasi-experiment and the two competing theoretical explanations, this study shed new light on how affiliation with business groups contributes to firm

performance. More importantly, between the two mechanisms, the empirical result corroborates the rent seeking hypothesis. If business groups generate rent in *value adding* ways by filling the '*missing market*', the negative effect of the treatment in Tunisia and Egypt should have a lower impact on the performance of group affiliated firms than to stand-alone ones. Nonetheless the empirical evidence shows that they are significantly and negatively affected than the control groups. It appears that group affiliated firms effectively utilize their political connection to appropriate rent that government dispenses through its policies, regulations, subsidies and supports.

As argued by Williamson (1991) while strategizing (rent seeking) and economizing might have similar outcomes at the firm level, economizing outcomes are superior with respect to their welfare implications. Firms which gain their rent via political connection capture a larger portion of the value they create than they could through economizing. This in turn makes rent seeking firms to create less value than economizing firms at equilibrium.

On top of the additional analysis that points to rent seeking alternative outweighing the *value adding* role of business groups, anecdotal evidences collaborate this finding. Group affiliated firms have acquired government owned resources without open tender and low price⁵, privileged access to loan from government owned banks⁶, postponed or refused payments of loans taken from government banks⁷, disguised their identity as foreign investors and access developed investment areas, and tax haven dedicated to promote foreign direct investment (Bassiouni, 2012). There are also some anecdotal evidences as to how affiliates of family business groups experienced lower performance right after the government change. Following the political change some of the business tycoons fled out of these countries, their properties were frozen⁸ and some others left behind bars for corruption cases⁹. The owners of these groups are absent from guiding and overseeing their business, and some of their resources is not any more free to be utilized by their firms. Moreover, some of those who are under court trial have

⁵ One of the top court cases on Yassin Mansour, main shareholder and CEO of Palm Hills Developments group (PHD) is under trial for profiteering and unlawfully acquiring public property

⁶ Ahmed Ezz, the CEO and main shareholder of Ezz Steel group is being retried on charges of laundering LE6.4 billion in illegally acquired funds between 2003 and 2011 in deals related to his acquisition the largest state owned company in Egypt <http://english.ahram.org.eg/NewsContent/3/12/82024/Business/Economy/Court-orders-bail-for-steel-tycoon-Ahmed-Ezz.aspx>

⁷ Yassin Mansour, head of the Mansour Group is accused of taking a pieces of land owned by the State, and refusing to pay loans from Egyptian banks worth more than EGP 2 billion which he had obtained between 2006 and 2008.

⁸ Around \$47 million of his possessions of Hussen Salem were frozen and houses worth \$14 million were seized (Bassiouni 2012).

⁹ E.g. Ahmed Ezz (Ezz steel and ceramics), Ahmed Mansour(Palm Hills real estate development) were under trial

reimbursed some of the money they are alleged to profiteer¹⁰ as declared by the supreme court of Armed Forces (Roll, 2013). On top of this, when the main shareholder of a firm is black listed, other companies might shy away from making business deals with these companies that in turn hurts their performance. With this short period of time these immediate actions are significant enough to bring about a marked negative effect on the performance of firms affiliated to business group.

By establishing a strong tie with politicians as family business group owners did in Egypt and Tunisia, affiliated firms manage to access resource and regulatory benefits from the government. However, these strong and personalized ties are so visible that changes in the political system makes these firms liable to measures taken by the subsequent government (Jonathan *et al.*, 2012). This is in line the experience of large business groups in Indonesia after Suharto left his leadership position (Dieleman, and Boddewyn, 2012).

Although affiliates of business groups in general and family business groups in particular are getting advantage by getting connected to political leaders, the benefit is not sustainable. First, all the resources and advantages are ripped off when the political leaders are changed, *albeit* in a revolution like the *Arab Spring*. Second, these benefits are not accrued for free. The owners spend a great deal of time and resource that would have been used to develop the competence of the firm than establishing political bonds. Coming back to the initial question of whether business groups are '*paragons or parasites*' the evidence in the North Africa seems to suggest the dark side of their role, parasites. However, one can argue that North Africa has a certain kind of political and institutional context that makes investment in rent seeking activities more valuable than *value adding* investments for groups. Future research might identify the institutional contingencies or boundary conditions under which business groups prefer to invest more in establishing political connections than investments that fill the missing market in *value adding* ways. One might speculate that when governments are long serving, have a strong presence in the economy both as a regulator and main economic actor and have a centralized political system like the case of North Africa, investment to establish political connections might have a higher return than *value adding* investments. On the other hand, if governments generally have no strong role in the market as a regulator or that the political system is highly

¹⁰ for example through corruption, can thus be legalized post facto by means of financial compensation, while embezzled funds may simply be repaid. The first major business figure to use of this opportunity was Yassin Mansour, the owner of Mansour Group who was able to have several cases dropped by paying the equivalent of more than \$40 million (Stephan Roll, 2013)

decentralized, the return from political connection might be lower for business groups and ultimately they might prefer to allocate their resources in *value adding* investments.

The consequence of the predominance of rent seeking firms' in an economy might be even more severe for the non-connected firms since these firms are excluded from accessing government resources which are crucial for their growth simply because they did not show political loyalty and willingness to affiliate strongly with politicians. Moreover, it has a number of ramifications on the type of firms and entrepreneurs that will be created and succeeded. Such business environment might reward only a particular kind of entrepreneurs while discouraging innovative and entrepreneurs.

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Table 1. The mean of the percentage of ethics and strength of corporate governance of firms in the three countries for three years*.

	Morrcco	Egypt	Tunisia
Ethical behavior of firms	0.55	0.53	0.65
Strength of auditing and reporting standards	0.43	0.48	0.51
Efficacy of corporate boards	0.46	0.32	0.47
Protection of minority shareholders' interests	0.55	0.54	0.71
Strength of investor protection	0.28	0.55	0.27
Mean	0.48	0.45	0.52
t value	Morocco vs Egypt = 0.47	Egypt vs. Tunisia=-0.46	Morocco vs Tunisia =-0.78

Source: Rank data is taken from the annual Global Competiveness raw data of the World Economic Forum.

*The numbers in the table are calculated from the rank data. The rankings of the countries for the five firm ethics and governance indicators provided by the World Economic Forum are converted into percentages and the averages for three years (2008, 2009 and 2011) are estimated. Higher numbers indicate better firm governance or ethics.

Table 2. Classification of business groups by ownership

Types Of Business Groups By Ownership	Observations	Mean	Standard Deviation	Min	Max
Business groups	3084	.67	.47	0	1
Family business group	3084	.34	.47	0	1
Government business groups	3084	.20	.40	0	1
Widely held financial business group	3084	.05	.23	0	1
Other widely held company financial group	3084	.06	.23	0	1
Other kind of business group	3084	.02	.13	0	1

Table 3. Bivariate correlations

	1	2	3	4	5	6	7	8
Log of sales(1)	1.00							
Log of assets(2)	0.80	1.00						
Log of firm age(3)	-0.03	-0.13	1.00					
Level of diversification(4)	0.02	0.08	-0.09	1.00				
Foreign (company)(5)	0.27	0.27	-0.11	-0.03	1.00			
Affiliation to Business groups(6)	0.34	0.34	-0.02	0.06	0.07	1.00		
Affiliation to Family business group(7)	0.31	0.23	-0.13	0.04	0.07	0.50	1.00	
Return on assets(8)	0.25	0.07	-0.01	-0.03	0.20	0.01	0.10	1.00

Table 4. Comparison of firm characteristics between group affiliates and non-affiliates in treated countries

	Stand-alone firms	Firms affiliated to Business groups	Difference
Log of Firm age	3.307 (0.018)	3.222 (0.0178)	0.084*** (0.028)
Observations	897	1708	2605
Log of Sales	2.097 (0.053)	3.170 (0.045)	-1.072*** (0.073)
Observations	788	1486	2274
Log of assets	4.126 (0.064)	5.223 (0.045)	-1.097*** (0.077)
Observations	777	1425	2202
Diversification	1.920 (0.041)	2.040 (0.030)	-0.120** (0.051)
Observations	883	1677	2560
ROA	0.078 (0.003)	0.082 (0.002)	-0.004 (0.004)
Observations	897	1712	2609

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, standard errors in parenthesis

Table 5. Comparison of firm characteristics between group affiliates and non-affiliates in the control and treated countries

	Affiliates of business groups Morocco (control country)	Affiliates of business groups Egypt and Tunisia (treated Countries)	Difference
Log of Firm age	3.61 (0.034)	3.22 (0.018)	.391*** (0.042)
Observations	367	1708	2075
Log of Sales	4.37 (0.102)	3.170 (0.045)	1.198*** (0.105)
Observations	356	1486	1842
Log of assets	5.980 (0.092)	5.223 (0.045)	0.756*** (.098)
Observations	327	1425	1752
Diversification	2.00 (0.062)	2.04 (0.030)	-0.38 (0.138)
Observations	367	1677	2044
ROA	0.078 (0.003)	0.082 (0.002)	-0.003 (0.005)
Observations	367	1712	2079

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, standard errors in parenthesis

Table 6 Mean difference in ROA between affiliates of treated business groups with respect to controls

Performance Measures	Firms affiliated to treated Business Groups	Stand-alone Firms	Difference	Firms affiliated to treated Business Groups	Affiliates of the control Business Groups	Difference
	1.b	1.a	1.c	2.b	2.a	2.c.
ROA	0.082 (0.002)	0.078 (0.003)	0.004 (0.004)	0.082 (0.002)	0.078 (0.003)	0.003 (0.006)
Observations	1712	897	2609	1712	367	2079
ROA before the treatment	0.090 (0.003)	0.085 (0.004)	0.005 (0.005)	0.089 (0.003)	0.083 (0.004)	0.006 (0.007)
Observations	1244	597	1841	1244	246	1490
ROA after the treatment	0.061 (0.004)	0.065 (0.006)	-0.004 (0.007)	0.061 (0.004)	0.069 (0.005)	-0.008 (0.008)
Observations	468	300	768	468	121	589
DID (difference in Difference)			-0.0111*** (0.003) (N=2609)			-0.016*** (0.003) (N=2079)

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, standard errors in parenthesis

Table 7. ROA on group affiliation and treatment in the treated countries

	1.a (FGLS)	1.b (FGLS)	2(Firm Fixed effect)
Affiliation to Business Group(BG) (<i>H1</i>)	0.016*** (0.005)	0.004 (0.007)	0.00 0.00
Affiliation to BG after the treatment (<i>H2</i>)	-0.002 (0.003)	-0.000 (0.003)	0.015 (0.92)
Affiliation to Family business group (FBG)		0.026*** (0.009)	0.00 0.00
Affiliation to FBG after the treatment (<i>H3</i>)		-0.005* (0.003)	-0.025*** (0.008)
Being a family firm		-0.014** (0.007)	0.00 0.00
Level of diversification	-0.007*** (0.001)	-0.006*** (0.001)	0.00 0.00
Log of firm age	0.007*** (0.002)	0.008*** (0.003)	-0.087*** (0.021)
Log of assets	0.007*** (0.001)	0.006*** (0.001)	0.040*** (0.006)
Foreign owned company	0.052*** (0.005)	0.052 *** (0.005)	0.00 0.00
Treatment effect	-0.020 (0.015)	-0.017 (0.015)	-0.059* (0.035)
Industry, quarter and country dummies	Yes	Yes	0.00
Constant	-0.018 (0.068)	-0.015 (0.071)	0.199*** (0.072)
Number of observations ¹	2,095	2095	2104
Number of groups(firmid) ¹	182	182	191
	Wald chi2(79) = 4858.09	Wald chi2(82) = 2782.27	R2=0.12
	Prob> chi2 0.0000	Prob> chi2 0.0000	Prob> F 0.0000

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, panel heteroskedastic, standard errors in parenthesis

¹The difference between the number of groups observed in the fixed effect model and the gls model exactly shows how many single observation groups are dropped from the first order autoregressive gls estimation.

Table 8. ROA on group affiliation in the control and treated countries

	1.a(FGLS)	1.b(FGLS)	2(Firm Fixed Effect)
Affiliation to Business groups(BG) in the treated countries (<i>H1</i>)	0.013*** (0.004)	0.009* (0.005)	0.00 0.00
Affiliation to BG in the treated countries after the treatment (<i>H2</i>)	-0.014*** (0.002)	-0.017*** (0.005)	-0.004 (0.009)
Affiliation to Family Business group(FBG) in the treated countries		0.010* (0.005)	0.00 0.00
Affiliation to FBG in the treated countries after the treatment (<i>H3</i>)		-0.008** (0.004)	-0.025*** (0.007)
Being a family firm		0.011*** (0.004)	0.00 0.00
Level of diversification	-0.003*** (0.001)	-0.002*** (0.000)	0.00 0.00
Log of firm age	0.011*** (0.002)	0.007*** (0.002)	-0.083*** (0.020)
Log of assets	0.008*** (0.001)	0.004*** (0.001)	0.042*** (0.006)
Foreign owned company	0.065*** (0.005)	0.051*** (0.004)	0.00 0.00
Treatment Effect	-0.029** (0.014)	-0.052 (0.034)	-0.016 (0.034)
Industry, quarter and country dummies	Yes	yes	0.00
Constant	-0.055 (0.070)	-0.027 (0.074)	0.160** (0.072)
Number of observations ¹	1,677	1,677	1683
Number of firmid (groups) ¹	164	164	170
	Waldchi2(73)= 1959.50	Wald chi2(76) = 2107.24	R2=0.14
	Prob> chi2 0.0000	Prob> chi2 0.0000	Prob> F = 0.0000

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, panel hetroskedastic standard errors in parenthesis

¹The difference between the number of groups observed in the fixed effect model and the gls model exactly shows how many single observation groups are dropped from the first order autoregressive gls estimation.

Table 9.ROA on group affiliation and treatment with two control groups

	1a.FGLS	1b.FGLS	2.Firm-fixed effect
Affiliation to Business Group(BG) (<i>H1</i>)	0.004 (0.005)	-0.010 (0.008)	0.00 0.00
Affiliation to BG in the treated countries (<i>H2</i>)	0.003 (0.006)	0.004 (0.005)	0.00 0.00
Affiliation to BG after the treatment	-0.003 (0.008)	-0.007 (0.008)	-0.013 (0.020)
Affiliation to BG in the treated countries after the treatment	0.002 (0.009)	0.008 (0.009)	0.029 (0.021)
Affiliation to Family business Group(FBG)		0.016*** (0.005)	0.00 0.00
Affiliation to FBG in the treated countries		0.007 (0.005)	0.00 0.00
Affiliation to FBG after the treatment		0.005 (0.007)	0.010 (0.016)
Affiliation to FBG after the treatment in the treated countries		-0.012* (0.007)	-0.035** (0.018)
Being a family firm		-0.010*** (0.004)	0.00 0.00
Being in the treated countries	0.012** (0.005)	0.008 (0.005)	0.00 0.00
Treatment effect	-0.055* (0.033)	-0.056* (0.033)	-0.030 (0.036)
Being in the treated countries after the treatment	-0.014* (0.008)	-0.014* (0.008)	-0.024 (0.015)
Level of diversification	-0.004*** (0.000)	-0.004*** (0.000)	0.00 0.00
Log of firm age	0.005*** (0.001)	0.006*** (0.002)	-0.086*** (0.019)
Log of assets	0.006*** (0.001)	0.005*** (0.001)	0.037*** (0.006)
Foreign owned company	0.040*** (0.003)	0.041*** (0.003)	0.00 0.00
Industry, Quarter and Country dummies	yes	yes	yes
Constant	0.090* (0.053)	0.101* (0.054)	0.208*** (0.067)
Number of observations ¹	2,511	2,511	2,521
Number of firmid(groups) ¹	247	247	257
	Waldchi2(85) =2625.36	Wald chi2(90) = 16535.95	R2=0.11
	Prob> chi2 = 0.000	Prob> chi2 =0.000	Prob> F =0.000

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, panel hetroskedastic standard errors in parenthesis

¹The difference between the number of groups observed in the fixed effect model and the gls model exactly shows how many single observation groups are dropped from the first order autoregressive gls estimation.

ANNEX
Table A.
ROA on family business groups after the treatment
in regulated industries

	FGLS
Affiliation to Business Group(BG)	-0.011 (1.18)
Affiliation to BG in the treated countries	0.007 (0.010)
Affiliation to BG after the treatment	0.000 (0.006)
Affiliation to BG in the treated countries after the treatment	-0.001 (0.007)
Affiliation to Family business Group (FBG)	0.031*** (0.008)
Affiliation to FBG in the treated countries	0.006 (0.007)
Affiliation to FBG after the treatment	-0.001 (0.004)
Affiliation to FBG after the treatment in the treated countries	0.002 (0.005)
Affiliation to FBG after the treatment in the regulated industries in the treated countries	-0.010* (0.005)
Being a family firm	-0.020*** (0.006)
Regulated industries after the treatment	-0.002 (0.003)
Regulated industries	0.000 (0.007)
Being in the treated countries	0.004 (0.010)
Treatment effect	-0.012 (0.015)
Being in the treated countries after the treatment	-0.012** (0.006)
Level of diversification	-0.002*** (0.001)
Log of firm age	0.006** (0.003)
Log of assets	0.006*** (0.001)
Foreign ownership	0.046*** (0.004)
Industry, time, and country dummies	Yes
Constant	-0.008 (0.074)
Number of observations	2,511
Number of firmid(groups)	247
Wald chi2(93)	3627.60

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, panel hetroskedastic standard errors in parenthesis

Table B. ROA on placebo treatment

	(FGLS)
Affiliates of Business Group(BG)	-0.001 (0.007)
Affiliates of BG after the placebo treatment	0.002 (0.002)
Affiliates of Family business group (FBG)	0.026*** (0.008)
Affiliates of FBG after the placebo treatment	0.002 (0.002)
Being a family firm	-0.015** (0.006)
Level of diversification	-0.005*** (0.001)
Log of firm age	0.008*** (0.003)
Log of assets	0.006*** (0.001)
Foreign ownership	0.047*** (0.005)
Placebo treatment effect	0.017 (0.015)
Industry, quarter, country dummies	yes
Constant	-0.034 (0.070)
Number of observations	2,095
Number of groups(firmid)	182
Wald chi2(82)	2397.28
Prob> chi2	0.0000

*Significant at <=10%, ** significant at <=5%, *** significant at <=1%, panel hetroskedastic standard errors in parenthesis

Table C**Difference in firms' engagement in the tourism sector**

	Firms affiliated to FBG	Firms not affiliated to FBG	Difference
Firms in the tourism sector in the treated countries	0.091 (0.010)	0.085 (0.007)	0.005 (0.012)
Number of firms	762	1790	2552

Table D

The effect of the government change on the ROA of firms affiliated to government vs. family business groups

	Firms affiliated to government business groups	Firms affiliated to family business groups	Difference
Mean ROA	0.066 (0.005)	0.101 (0.003)	-0.036*** (0.006)
Observations	595	797	1392
Mean ROA before the treatment	.067 (0.007)	0.112 (0.004)	-0.046*** (0.007)
Observations	437	583	1020
Mean ROA after the treatment	0.063 (0.008)	0.072 (0.005)	-0.019 (0.009)
Observation	158	214	372
Effect of the treatment	0.004 (0.012)	-0.407*** (0.007)	-0.041*** (0.008)