The views expressed in this paper are those of the authors' and do not necessarily reflect the views and policies of the Asian Institute of Management. Questions and comments on this draft should be addressed to Steve Almeda (salmeda@aim.edu).
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Assessing the impact of firm-level characteristics on corruption perceptions
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Why do Asian firms say that their governments are corrupt? 
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ABSTRACT
What drives firm perceptions of government corruption in Asia? This study analyzes the different firm characteristics that affect why firms perceive their governments to be an obstacle to growth. Utilizing the lens of organizational cognition, we postulate that heightened sensitivity towards corruption at the firm level is a function of both the firm’s direct experience of corruption and of its relative vulnerability to its negative effects. Through the use of the World Bank Enterprise Survey data from 13 Asian countries, this study finds that when controlling for firm-level corruption experiences, firms that have higher levels of private ownership, domestic market exposure, and most importantly, government contract dependence are more likely to state government corruption as their most pressing obstacle to growth.

Key words: Corruption, SME, Asia

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INTRODUCTION

There is an expanding literature in the economics and management literature on the economic impact of government corruption on the performance of firms (Knack & Keefer, 1995; Mauro, 1995; Shleifer & Vishny, 1993). These studies point to a strong consensus among scholars regarding the negative effects of corruption on firms, including slow technology adoption (Comin & Hobijn, 2010; Henisz & Macher, 2004), greater oligarchic control (Fogel, 2006), limited trust among firm employees (Child & Tsai, 2005) and lower internationalization (Wan, 2005), among others. These harmful effects at the firm-level translate to obstacles to economic development at the national level through lower foreign investments (Globerman & Shapiro, 1999) and increased risk and uncertainty (Getz & Volkema, 2001). These studies point to government corruption as one of the top obstacles in the lack of economic convergence between developing countries and their more developed counterparts (Knack, 1996).

However, recent developments in the global economy require a re-evaluation of the veracity of this negative relationship. There has been a remarkable improvement in the economic performance of many emerging market firms (Bonaglia, Goldstein, & Mathews, 2007; Ramamurti & Singh, 2009) even though the levels of government corruption in these countries have not improved. Certain studies have even claimed that the presence of institutional inefficiencies in certain countries have provided firms with new sources of competitive advantage for them to go global (Cuervo-Cazurra & Genc, 2008; Peng, Wang, & Jiang, 2008). Rather than having a uniformly negative impact, government corruption is more likely to have a heterogeneous impact on firms. Some firms may develop political resources or corporate structures that allow them to exploit the unevenness of the playing field created by poor public policy (Dieleman & Sachs, 2008; Galang, 2012).

Given the potential for certain firms to modify their behavior to overcome the negative obstacles posed by government corruption, why is it that many firms do not generate the appropriate political strategies to minimize its negative impact? We believe that part of the reason for the lack of appropriate political coping strategies on the part of firms is that not all firms perceive the presence of bad governance in an equal fashion. For one thing, the level of government corruption is neither uniform nor constant within a country. Some firms tend to be more prone to being affected by rapacious government officials than others. Highly regulated industries or those that are more dependent on government contracts tend to be more vulnerable
to rent-seeking opportunities than industries that are more market-oriented (Hillman, 2005; Schuler, Rehbein, & Cramer, 2002). Smaller firms have limited resources at their disposal and pay relatively higher amounts in bribes than larger firms (Hellman & Schankerman, 2003). In essence, some firms in the same country could potentially have numerous experiences of corruption, while other domestic firms can go through their daily business relatively corruption-free.

Second, we postulate that firms do not have an equal capability to perceive the level of corruption in their environment. Firms that develop capabilities in terms of better organizational cognition towards the external political environment are poised to better respond to changes in the external environment (Oliver & Holzinger, 2008). Such firms that can accurately view the institutional problems as opportunities rather than constraints can capitalize on them to improve their own performance (Boddewyn, 1988; Bonardi, Hillman, & Keim, 2005). On the other hand, firms that misperceive the presence of corruption may wrongly invest in political networking and rent-seeking, thereby misallocating resources towards political rather than competitive outcomes (Adler & Kwon, 2002; Okhmatovskiy, 2010).

Finally, corruption itself is a multi-dimensional manifestation of weak national institutions (Campos, Lien, & Pradhan, 1999; Wei, 2000). The negative impact of corruption on firms could be due to the political instability that corruption facilitates; or be due to the unpredictable form of taxation that it mimics (Rodriguez, Uhlenbruck, & Eden, 2005; Shleifer & Vishny, 1993), or be due to its role as a barrier to the development of financial markets (Beck, Demirguc-Kunt, & Maksimovic, 2005). The multi-dimensional nature of corruption may cause policy makers to attribute poor firm performance on government corruption, even if the main difficulties faced by firms are based on the tangential outcomes that accompany poor institutional development.

Despite this heterogeneity, most of the empirical studies in the economics and management literature draw from national-level indicators drawn from multiple expert surveys on corruption and poor governance. Examples of these metrics include the different corruption indices by Transparency International, the World Bank Governance Indicators and International Country Risk Guide among others. The aggregation of these indicators can be prone to misstatements because they inherently assume that perceptions of corruption are constant across firms and regions (Jensen, Li, & Rahman, 2010).
In light of these issues, we have generated a study to look at the determinants of corruption perceptions among firms. This paper utilizes data from the World Bank Enterprise Surveys (WBES) to assess the determinants of firm-level perceptions of government inefficiency vis-à-vis how they are seen to hinder the growth and performance of firms at an international and intra-national level. This paper contributes to the literature on corruption in three ways. First, the paper will construct a governance index that aggregates firm’s experiences of corruption up to the national level using for 13 developing countries in Asia. This index will provide an Asian dimension to the previous work done by the World Bank on the Graft Index of Firm Transactions (Gonzalez, Ernesto Lopez-Cordova, & E Valladares, 2007), which looked at the experience of corruption of firms from Latin America and Africa only. As mentioned in the Gonzales et al. study (2007), this Graft Index has an advantage versus prior measures of corruption indicators because it aggregates actual experiences of firms in being asked for informal payments from government officials rather than their notional impressions of general corruption in the country. The Asian region provides an appropriate context to understand this issue because apart from the fact that Asian countries have been understudied in the international business literature in general (Bruton & Lau, 2008), the region provides diversity in institutional structures that provides an interesting field for understanding the political challenges of companies faced with substantial globalization pressures (Bruton & Lau, 2008; Hofstede, 2007). Our findings indicate that Asian firms have experiences more similar to that experienced in Africa rather than their counterparts in Latin America.

Second, the paper analyzes the firm-level variations of perceptions of government corruption as an institutional obstacle to firm growth. Capitalizing on the results of the GIFT analysis, we control for the actual experience of corruption by individual firms to determine the other firm-level determinants that increase the firm’s sensitivity towards corruption. Through the lens of organizational cognition theory, we highlight these firm-level characteristics as manifestations of the increased salience of corruption to the operations of the firm. By determining the firm characteristics that tend to generate the worst perceptions of national governance, we could partially determine the firm-types that are most vulnerable to predatory government practices.

Third, the paper will conduct a comparative analysis of six different manifestations of poor governance at the micro-level: corruption, taxation, business permit processing, customs,
political instability and access to finance. By assessing which of these corruption-related factors are actually perceived as the major problem by firms, we can disentangle the multi-dimensional effects of poor governance on vulnerable firms. Such an analysis would aid policymakers in determining the best focus of government efficiency programs that would minimize the obstacles firms face in each country.

The rest of the paper will be structured as follows. The next section provides a review of related literature and a theoretical overview pertaining to the basis of organizational cognition of corruption across different firm-types. The following section provides the calculation of the GIFT index for Asian firms, with a description of the data and methodology utilized. The next section describes the empirical work on the firm-level determinants of corruption perceptions across our sample of Asian firms. The next section discusses the results of the statistical analyses conducted in the prior section. The final section summarizes the main findings of the paper and provides new directions in which to take the research forward.

ORGANIZATIONAL COGNITION AND GOVERNMENT CORRUPTION

Corruption – defined as the misuse of public office for private gain (Shleifer & Vishny, 1993) – has been increasingly scrutinized in the literature for its corrosive effects on economic development (Campos et al., 1999; Wei, 2000). Much work has been conducted on the macro-impact of corruption on overall firm performance and national development (see Treisman, 2007). This growing literature began in earnest more than 20 years ago due to advances in the theoretical conceptualization on corruption (Shleifer & Vishny, 1993) and the availability of cross-country survey data that facilitated macroeconomic comparisons (Knack & Keefer, 1995; Mauro, 1995). These papers have generated a scholarly consensus pointing to the negative impact of dysfunctional government institutions on economic outcomes (Lambsdorff, 2006; Treisman, 2007). Though there were some methodological questions regarding the validity of using managerial perceptions data to proxy for an aggregated national index, much of these concerns have been previously evaluated and validated in the literature (see Kaufmann, Kraay, & Mastruzzi, 2006). This research does not seek to debunk the validity of these claims, as prior studies on individual firm responses to corruption surveys indicate a strong correlation between individual responses and national indicators (Bennedsen, Feldmann, & Lassen, 2009).
However, there remains a substantial gap in the literature on the impact of government inefficiencies at the micro-level (Bennedsen et al., 2009; Harstad & Svensson, 2011). Firm-level analyses of government inefficiencies remain sparsely conducted in both the management and economics literatures. This literature gap is problematic given how differences in firm-level experiences of corruption generate differences in how said firms react to corruption, which then determines whether national governance problems lead to economic progress or underdevelopment (Galang, 2012).

In particular, there has been very little work looking on the antecedents of corruption perceptions (Davis & Ruhe, 2003). The few studies that have looked at this issue indicate that, indeed, inter-firm perceptions of government efficiency display a variety of responses, even within the same country (Bennedsen et al., 2009). The variety in government corruption perceptions has been shown to be affected by certain managerial and firm characteristics. These differences in corruption perceptions provides the potential for certain firms to accurately assess the institutional problems generated by government corruption and for them to react accordingly to improve their own performance (Boddewyn, 1988; Bonardi et al., 2005). At the same time, other firms may misjudge the level of corruption in an environment and may misallocate scarce firm resources towards political rather than competitive resources (Adler & Kwon, 2002; Okhmatovskiy, 2010).

At the same time, corruption can be seen as a multi-dimensional manifestation of institutional weakness, especially in developing countries. Among the primary effects of corruption are the amount of bribes required by government officials for the provision of public services that increases the costs of doing business in a country, akin to an increase in tax rates for firms (Wei, 2000). While the costs of corruption may mimic a tax increase, its costs go beyond mere taxes, because of its illicit, unpredictable and distortionary nature (Rodriguez et al., 2005; Shleifer & Vishny, 1993). Alternatively, corruption generates regulatory influence by incumbent firms that generate barriers to the development of financial markets as a means to protect the interests of incumbents (Beck et al., 2005; Rajan & Zingales, 2003). In addition, corruption is said to generate unfair income distributions, policy reversals and subsequently unstable governments (Mauro, 1995; Wei, 2000). The particular impact of corruption on each firm goes beyond its immediate manifestation, but also in terms of the taxation, financing and political stability that firms encounter in the political environment.
What drives these differences in firm-level corruption perceptions? Theories regarding organizational cognition suggest that the external environment is not something purely exogenous to the firm. In essence, the response of the firm to the environment is strongly influenced by how the firm’s managers interpret said environment (Kaplan, 2011). Individual managers are thought to be boundedly rational and they rely on their own simplified cognitive representation of the environment to understand the infinite complexity of the environment (Simon, 1991). Human difficulties in processing complex situations encourage managers to rely on simplified cognitive representations, rules of thumb and routines that allow them to make informed decisions. However, this simplification comes at the price of restricting the capacity to absorb all of the external information (Cyert & March, 1992; Nelson & Winter, 1982; Tversky & Kahneman, 1986). Nonetheless, this simplification channels the attention of the individual manager on only a particular type of stimuli; and thus managers are able to filter out the irrelevant information and make better decisions for the benefit of the organization.

Which types of information are more likely to attract the attention of the individual manager? For the most part, environmental occurrences that are novel in context and deviates from previously held expectations become more salient from the viewpoint of the individual and more likely to be noticed (Fiske & Taylor, 1991; Nadkarni & Barr, 2008). In particular, aspects of the environment that are perceived to generate uncertainty, to be hostile to the manager and to prevent the manager from attaining its organizational goals are more likely to capture any person’s attention. On the other hand, events that are not socially salient for the manager are not attended to by the individual members of the firm and will not likely be recorded by the firm’s information systems (Hoffman & Ocasio, 2001).

Overt displays of corruption, such as being requested for a bribe by a public official, fits the bill of a stimulus that has a high level of social salience. The risks and uncertainty generated by such an experience is most likely to stand out and call the attention of the firm’s managers. Therefore, the primary driver for firm-level perceptions of government corruption are likely rooted in their first-hand experiences of their managers being solicited for illicit payments. Given how such personal experiences of corruption are perceived to deviate from broadly-held social norms and be a threat to the performance of the firm (Luo, 2002), they generate a greater degree of salience than other firm experiences and are more likely to shape the understanding of the firm of the broader environment. Therefore, managers that have observed corruption personally
should naturally have a more negative perception towards government corruption than others. This outcome should not be surprising as such salient experiences are among the main drivers of perception.

Apart from analysing the attention of individuals in an organization, organizational cognition theory looks into how the structure of the organization affects the cognition of its members. In essence, organizations are created to provide an institutional structure to the efforts of the managers and allow them to focus their on the activities that are thought to be most relevant for the organization, and selectively ignore those that are not (Nadkarni & Barr, 2008; Ocasio, 1997). For example, organizations sometimes divide employees into marketing departments where employees focus their work on generating sales; accounting departments where people look primarily at recording the economic performance of the firm; and finance departments where managers assess the financial viability of the enterprise. Marketing managers are given incentives for hitting sales targets, ensuring that these individual focus their attention solely on improving revenues. The drawback of such an organizational structure is that it limits the capability of firms from perceiving and learning from the entire gamut of information that is present in the environment.

Organizational cognition theory thus states that managerial perceptions go beyond the actual manager-level experiences and is also a function of the hierarchy, structure and incentive system of the organization. Because of the formal rules and processes of an organization, its structure will channel mainly information that confirms to previously-held organizational beliefs about the external environment, while those that are contrary are more likely to be discarded (Kiesler & Sproull, 1982). These create stronger impediments for individual processes that limit the awareness and motivation of firms to react quickly and properly to changes in the environment (Yu & Cannella, 2007). Outcomes such as groupthink or social conformity thus become prevalent in many organizations, due to the cognitive systems that are embodied in it.

Much like individuals, firms then react more intensely towards policy issues that have a stronger impact on the firm’s competitive performance (Hillman, Keim, & Schuler, 2004; Schuler & Rehbein, 1997). Organizational cognition has been linked more closely to firm characteristics, suggesting that organizational activity is driven by the perceptions and beliefs of managers regarding how the company should operate in its competitive environment (Daft & Weick, 1984; Julian, Ofori-Dankwa, & Justis, 2008).
The factors that strongly shape the diagnosis by the firm of the salience of the political environment are its assessment of the urgency and manageability of the situation (Dutton & Duncan, 1987). The urgency assessment is the perceived cost of non-response to the political situation, while manageability is a function of the firm’s capability to react positively to said situation (Julian et al., 2008). These two factors combined predict the vulnerability of the firm to the impact of corruption on their performance, with more vulnerable firms having worse perceptions of the particular manifestation of corruption in their environment, irrespective of their experience of that aspect.

**Firm Size**

Certain studies point to the fact that small firms tend to perceive their environment to be more corrupt than their peers (Batra, Kaufmann, & Stone, 2003; Bennedsen et al., 2009). Smaller firms are more negatively affected by rent-seeking bureaucrats and other institutional problems (Beck et al., 2005). Relative to their larger counterparts, they pay a larger share of their income as bribes and are asked to pay these bribes more frequently (Hellman & Schankerman, 2003). Moreover, smaller firms do not have as much political resources at their disposal to shape regulation in their favor (Bennedsen et al., 2009; Harstad & Svensson, 2011), making them much more vulnerable to government predation. This heightened level of vulnerability to corruption increases the salience of corruption to the firm and makes them more likely to perceive corruption in the industry (Julian et al., 2008).

_Hypothesis 1: Smaller firms are more likely to maintain heightened perceptions towards corruption in their environment, when controlling for the actual experience of corruption._

**Foreign Ownership**

Foreign-owned firms suffer from a liability of foreignness in having to deal with an unfamiliar regulatory environment (Freeman, Carroll, & Hannan, 1983; Zaheer, 1995). Unlike domestic firms, foreign firms do not possess sufficient experience, personal contacts and local knowledge to properly assess the host political environment that they are operating in. At the same time, these firms are subject to the simultaneous pressures to conform to two different sets of external
pressures – or an “institutional duality” – stemming from the need to deal with the managerial requirements of its parent company and the distinct institutional requirements of its host country (Kostova & Roth, 2002). These firms are subject to the authority of multiple sources of sovereignty (Hillman & Wan, 2005), especially when there are home country regulations or normative practices that constrain their activities in other locations (Rodriguez et al., 2005). As such, foreign firms have a greater likelihood of poorly interpreting the local governance conditions as compared to domestic firms.

Moreover, foreign firms choose to expand abroad in only the countries they willingly select. These expansion plans are generally based on a search for country locations where there is a good match between their firm-level competitive advantage and the institutional resources in the domestic environment (Dunning, 1988). In contrast, domestic firms operate in the locations that their founders find themselves in. These firms have no choice but to first adapt their organizational resources to match whatever the local environment necessitates in order to survive. As such, domestic firms tend to be more attune to the conditions of their local environment.

Hypothesis 2: Foreign-owned firms are less likely to maintain heightened perceptions towards corruption in their environment than domestic firms, when controlling for the actual experience of corruption.

State Ownership
State ownership produces firms that are owned collectively by the state instead of shareholders, funded mainly by taxation rather than fees paid by clients, and controlled by political forces more than markets (Niskanen, 1971; Walmsley & Zald, 1973). These inherent differences generate public enterprises that are generally more bureaucratically complex; prone to be affected by external events; less subject to competitive pressures; concerned with multiple, often contrasting objectives; and more constrained by limited funding than their private counterparts (Boyne, 2002; Rainey, Backoff, & Levine, 1976). By design, state-owned firms face much more government intervention than private firms (Hellman & Schankerman, 2003) and their poor performance is generally a reflection of the inefficiencies of the governments that own
them. As such state-owned firms should have a greater sensitivity to the corrupt environment, and would likely be negatively affected by corruption.

However, in a highly corrupt environment, state ownership could also provide a mechanism by which political risks can be mitigated (Doh, Teegen, & Mudambi, 2004). By being co-owned by the government itself, state-owned firms are not likely to be forced to close or declare bankruptcy due to changes in regulatory policy or by the extraction of bribes, as the corrupt state will generally protect its own vested interests – as opposed to private sector firms which usually find themselves at the losing end of bad regulation. In certain instances, favoured state owned firms may even capitalize on the poorly governed environment (Peng, Tan, & Tong, 2004) by gaining regulatory privileges not accorded to private firms or accessing preferential treatment from firm regulators. In essence, these favoured state-owned firms are those that have grown to a substantial size, as these firms become the crown jewels of the government structure. Large government firms are then accorded special treatment by corrupt officials. Hence, larger state-ownership will be more tolerant of illicit behaviour by their owners and more likely to be lead to firms that are less organizationally sensitive to the level of corruption in the country.

Hypothesis 3a: Large state-owned firms are less likely to maintain heightened perceptions towards corruption in their environment than privately-owned firms, when controlling for the actual experience of corruption.

Hypothesis 3b: Medium and small state-owned firms are more likely to maintain heightened perceptions towards corruption in their environment than privately-owned firms, when controlling for the actual experience of corruption.

Export Dependence

Certain firms generate their income primarily from sales to the domestic market, while other firms sell to a global consumer base. Firms that operate mainly for their domestic markets are required to interact more intensely with local suppliers, customers, employees and government officials when carrying-out commercial operations and conducting business activities, which intensifies their exposure to corrupt practices. This intensified exposure to the domestic environment will introduce the firm to a wider array of potential legal vulnerabilities related to market access, labor practices, licensing requirements, and contractual arrangements for
operations in the local market (Lecraw, 1984; Luo, 2007). On the other hand, exporting firms generally come with higher technical or managerial capabilities in the production of a globally competitive product; this capability provides firms with a stronger bargaining power vis-à-vis the government (Kobrin, 1987). These capabilities are further enhanced over time through the learning and innovation that comes with being exposed to the global market (Cassiman & Golovko, 2010). The profitability of exporting firms thus becomes less vulnerable to government corruption than their counterparts.

*Hypothesis 4: Exporting firms are less likely to maintain heightened perceptions towards corruption in their environment than domestic-market dependent firms, when controlling for the actual experience of corruption.*

**Government Contracting**

Firms also differ in terms of their dependence on the government for their profitability. Firms that derive much of their sales from government contracts become more beholden to the whims of the national government (Pfeffer & Salancik, 1978). This dependence becomes problematic especially when corrupt practices dominate in the awarding of these contracts (Dela Rama, 2012). The revenues that accrue from government contracting translate to a higher dependence on government largesse for the firm’s survival. As such, firms that are dependent on government contracts are more likely to conduct strategies that improve their involvement in political decisions, which subsequently requires them to develop more internal resources to quickly obtain information on the characteristics of their governments (Hillman & Hitt, 1999) (Hillman, 2005).

*Hypothesis 5: Firms that are more dependent on government contracts are more likely to maintain heightened perceptions towards corruption in their environment, when controlling for the actual experience of corruption.*
DATA AND METHODOLOGY

This paper draws primarily from the firm survey responses in the World Bank Enterprise Survey (WBES) which includes responses from close to 6,000 firms in 13 Asian countries. The surveys were conducted among hundreds of small and medium sized enterprises in each Asian country between 2008 and 2011. The primary purpose of the WBES was to ask enterprise managers to identify obstacles to firm performance and growth around the world, including aspects related to corruption issues (Beck et al., 2005). These countries in our sample were selected as they constituted the only countries in the region that utilized the same 2008 Core Module questionnaire. This survey has been utilized in numerous academic studies that analyze business-government relationships (Hellman, Jones, & Kaufmann, 2000; Jensen et al., 2010).

The empirical portion of the study has been conducted on two levels. The first level of analysis is performed using firm-level information aggregated to the national level, to assess how closely or how distinctly average firm-level experiences of corruption corresponds with average corruption perceptions from externally generated indicators. The second level of analysis utilizes the same methodology for estimating the extent of firm experiences of corruption to estimate the extent to which other firm-level characteristics affect corruption perceptions.

Experiencing and Perceiving Corruption: GIFT Levels in Asia

The first step in the process of understanding firm perceptions of corruption is to define the baseline in terms of firm-level experience. In this light, we replicated the measure of corruption generated by Gonzales et al (2007) in constructing the Graft Incidence of Firm Transactions (GIFT henceforth). The GIFT index calculated the probability that a firm will be asked for an informal gift or bribe when requesting access to infrastructure services or permits. The index is different from general “perception-based” measures of corruption as it relies on actual encounters with corrupt practices, rather than on managers’ perceptions about the extent of corruption in a country (Gonzalez et al., 2007).

We calculate the GIFT index as follows: let $x_{ijk}$ be an indicator of whether the firm was asked to pay an informal payment, and let $n_{jk}$ be the count of how many times a firm $i$ is asks for a government service. GIFT summarizes the how many times firms in country $k$ were asked for an

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informal payment relative to the total number of requests for public services or licenses. It is an empirical measure of firm’s contact with instances of bribery, which while imperfect, helps indicate the scale of actual corruption in a given country.

\[
GIFT_k = \frac{\sum_{i=1}^{7} \sum_{j=1}^{n} x_{ijk}}{\sum_{j=1}^{n} n_{jk}}
\]

We note that the country GIFT score is itself a random variable, and in Table 1 below, we calculate the GIFT score for the 13 countries in our sample, together with their associated confidence intervals. To the best of our knowledge, this is the first time in which these scores have been calculated for Asian countries. Looking at the table, it is apparent that there are large differences in the corruption experiences across the region. Georgia and Turkey have low GIFT scores (3.7% and 4.6% respectively), while Pakistan has the largest scores of 42.5%. The average GIFT score for the Latin American countries in Gonzalez et al. (2007) is 0.069, while that of the African countries in their sample was 0.205. The average GIFT score for our Asian sample is 0.179, relatively closer to African levels than Latin American levels.

### Table 1

**GIFT estimates (All Transactions)**

<table>
<thead>
<tr>
<th>Country – Year</th>
<th># of Transactions</th>
<th># of bribes requested</th>
<th>GIFT</th>
<th>World Bank Corruption Control</th>
<th>Ranking within Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia 2008</td>
<td>408</td>
<td>15</td>
<td>0.037</td>
<td>-0.23</td>
<td>1</td>
</tr>
<tr>
<td>Turkey 2008</td>
<td>1,583</td>
<td>73</td>
<td>0.046</td>
<td>0.08</td>
<td>2</td>
</tr>
<tr>
<td>Sri Lanka 2011</td>
<td>528</td>
<td>36</td>
<td>0.068</td>
<td>-0.42</td>
<td>3</td>
</tr>
<tr>
<td>Armenia 2009</td>
<td>625</td>
<td>66</td>
<td>0.106</td>
<td>-0.57</td>
<td>4</td>
</tr>
<tr>
<td>Uzbekistan 2008</td>
<td>425</td>
<td>62</td>
<td>0.146</td>
<td>-0.96</td>
<td>5</td>
</tr>
<tr>
<td>Philippines 2009</td>
<td>3,208</td>
<td>499</td>
<td>0.156</td>
<td>-0.79</td>
<td>6</td>
</tr>
<tr>
<td>Kazakhstan 2009</td>
<td>843</td>
<td>139</td>
<td>0.165</td>
<td>-0.91</td>
<td>7</td>
</tr>
<tr>
<td>Azerbaijan 2009</td>
<td>616</td>
<td>124</td>
<td>0.201</td>
<td>-1.12</td>
<td>8</td>
</tr>
<tr>
<td>Mongolia 2009</td>
<td>893</td>
<td>183</td>
<td>0.205</td>
<td>-0.76</td>
<td>9</td>
</tr>
<tr>
<td>Vietnam 2009</td>
<td>2,078</td>
<td>436</td>
<td>0.210</td>
<td>-0.44</td>
<td>10</td>
</tr>
<tr>
<td>Indonesia 2009</td>
<td>948</td>
<td>219</td>
<td>0.231</td>
<td>-0.81</td>
<td>11</td>
</tr>
<tr>
<td>Lao PDR 2009</td>
<td>793</td>
<td>258</td>
<td>0.325</td>
<td>-1.12</td>
<td>12</td>
</tr>
<tr>
<td>Pakistan 2007</td>
<td>737</td>
<td>313</td>
<td>0.425</td>
<td>-0.73</td>
<td>13</td>
</tr>
</tbody>
</table>
We then compare our average GIFT score with a popular measure of national corruption perceptions, namely the Corruption Control indicator of the World Bank Governance Indicators. The World Bank Governance Indicators are widely used in the literature as a measure of institutional quality (e.g. Cuervo-Cazurra, 2008; Glaeser, La Porta, Lopez-de-Silanes, & Shleifer, 2004; Weitzel & Berns, 2006). These indicators consist of six dimensions of governance, namely Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. These annual aggregate indexes are drawn from a diverse variety of survey responses from both industrial and developing countries (Kaufmann, Kraay, & Mastruzzi, 2008). The higher index scores indicate more efficient delivery of each institutional characteristic. For this particular analysis, we obtain the indicator for Corruption Control and present it as the fourth column in the table above.

From this analysis, we observe a strong correlation (-0.60) between the GIFT scores and the Corruption Control scores. This provides some indicative confirmation of our first hypothesis regarding the relationship between perception and experience. However, the fact that the correlation is not higher does highlight some disparity between the national GIFT scores vis-à-vis the scores garnered from other corruption indices. For example, we find that Pakistan’s GIFT scores generate a ranking that is lowest among the 13 countries even as its Corruption Control scores put it in the middle at number 6. Meanwhile, Uzbekistan firms report a relatively low GIFT score that ranks it at number 5, even as its Corruption Control scores put it at 11th, close to the bottom of the pack. While there should not have been an expectation of a one-to-one correspondence between these two indices as they measure two different items, the disparity between the figures provides credence to our conjecture that corruption perceptions go beyond firm-level experiences of corruption.

Furthermore, we separate the GIFT index analysis into bribe requests for transactions involving access to infrastructure and for obtaining licenses\(^2\) in Table 2. Table 2 shows that bribery is twice more likely in license transactions, and the gap is statistically significant. Interestingly, this is quantitatively different from the experiences in Africa and Latin America that Gonzales et al (2007) document. There, license transactions also are more likely to experience more corruption, but the difference is only three percentage points.

\(^2\) These are Construction permits, Operating licenses, and Import licenses. The infrastructure requests are Electricity, Water, and Telephone connections.
Table 2
Infrastructure vs. License GIFT Scores

<table>
<thead>
<tr>
<th>Type of Transactions</th>
<th># of Transactions</th>
<th># of bribes requested</th>
<th>GIFT</th>
<th>S.E.</th>
<th>CI Lower</th>
<th>CI Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure</td>
<td>3254</td>
<td>380</td>
<td>.117</td>
<td>.005</td>
<td>.106</td>
<td>.128</td>
</tr>
<tr>
<td>License</td>
<td>5155</td>
<td>1041</td>
<td>.202</td>
<td>.005</td>
<td>.191</td>
<td>.213</td>
</tr>
</tbody>
</table>

Experiencing and Perceiving Corruption: Firm-Level Determinants

The next phase of our analysis provides a breakdown of the analysis to the level of the firm. We utilize the same WBES survey, but instead of aggregating the results across countries, we look at the different determinants of firm level corruption perceptions. To add detail to the analysis, we categorize the perceptions of corruption into ten different variables and run separate analyses on these variables. The results from these regressions are designed to validate the hypotheses that were proposed in the earlier section.

We proxy for organizational cognition towards corruption in the political environment through the perceptions variable that measures the firm’s absolute perception of whether the quality of governance in the country is an obstacle to its growth. This variable is measured by each firm’s answer to a survey question on whether corruption is a perceived as an obstacle to its operations. The responses to these questions are rated by key informants on a Likert-type scale (0= “no obstacle” to 4 = “very severe obstacle”).

In order to assess that it is actually corruption and not another manifestation of poor governance that the firm perceives, we measure five other institutional factors that relate to corruption, namely: excessive taxation, lack of access to finance, over-regulation of business permits, political instability and customs procedures. For each of these additional governance indicators, firms were asked in the WBES whether they found each governance characteristic to be an obstacle to their operations and the answers corresponded to a Likert-scale.

Independent Variables

To estimate the experience of corruption by firms, we generated a firm-level variable based on the methodology of the national GIFT index, as explained in the earlier section. Whereas the national GIFT index measures the overall share of transactions where an informal payment was asked across all firms in the country, the firm-level GIFT index measures the share of informal
payment requests for each transaction the firm conducted. Because certain firms did not request for any government-issued license or public service in the two years prior to the conduct of the survey, the firm GIFT index could not be calculated for these firms. We also eliminated firms with incomplete responses to the rest of the survey questions that form the other independent variable.

We ascertained the presence of any selectivity bias generated by the exclusion of firms that failed to request for government licenses or public services. We compared the mean values across the pertinent independent variables among firms that requested for a public service in the past two years against those that did not. The means and subsequent standard deviations of each variable are reported in Table 3 below.

### Table 3
Test for Selectivity Bias

<table>
<thead>
<tr>
<th>Firm Type</th>
<th>Size</th>
<th>Foreign Ownership</th>
<th>State Ownership</th>
<th>Export</th>
<th>Government Contract</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested Public Service</td>
<td>3.3574</td>
<td>7.5475</td>
<td>0.6600</td>
<td>9.2301</td>
<td>0.1656</td>
<td>15.5628</td>
</tr>
<tr>
<td></td>
<td>(1.4462)</td>
<td>(24.7217)</td>
<td>(6.0947)</td>
<td>(25.8891)</td>
<td>(0.3837)</td>
<td>(12.3742)</td>
</tr>
<tr>
<td>No Public Service</td>
<td>3.8105</td>
<td>8.5668</td>
<td>1.9049</td>
<td>11.4766</td>
<td>0.2231</td>
<td>24.4787</td>
</tr>
<tr>
<td></td>
<td>(1.5588)</td>
<td>(25.7972)</td>
<td>(10.9854)</td>
<td>(27.1315)</td>
<td>(0.4164)</td>
<td>(60.6848)</td>
</tr>
<tr>
<td>Full Sample</td>
<td>3.4208</td>
<td>7.6902</td>
<td>1.2559</td>
<td>9.5289</td>
<td>0.1734</td>
<td>16.7334</td>
</tr>
<tr>
<td></td>
<td>(1.4708)</td>
<td>(24.8761)</td>
<td>(8.6412)</td>
<td>(26.0672)</td>
<td>(0.3888)</td>
<td>(25.0053)</td>
</tr>
</tbody>
</table>

The table above indicates no statistically significant difference between the mean variables across both samples, as the means fall within a single standard deviation. Given the absence of any systematic selectivity bias, the responses from the excluded firms were subsequently dropped from the analysis, leaving us with the current sample size of 5,832 firms.

We also generated a GIFT variable for each industry-country pair. This GIFT variable comprises the average GIFT score for all firms by industry and country. This provides a comparative level of bribery requests across each sector, given how industry regulations are expected to differ greatly across each country – and thus the opportunity to bribe would be expected to be different in each case.

The other firm-level variables were obtained from the responses of the firm to the rest of the survey questions. *Firm size* was generated as the logarithm of the total number of employees of the firm at the end of most recent fiscal year. The number of employees was thought to be the
best proxy for firm size, given how differences in the levels of economic development and market size make sales or income-based indicators less comparable across countries. *Foreign ownership* is based on the percentage of the firm that is owned by foreign individuals, companies and organizations. The *state ownership* variable is the percentage of the firm that is owned by the government or the state. The *large state owned firm* variable is used to validate whether there is a distinction between the state-ownership variable and firm size by creating an interaction term between state-ownership and large firms – defined as having more than 100 employees according to the World Bank survey. *Export dependence* is the percentage of the firm’s sales that is sold through direct exports. *Government contracting* is a dummy variable based on whether a firm was able to secure or attempted to secure a government contract over the past year.

A number of other variables were obtained to control for other national- or industry-level effects that may affect the overall perceptions of the firm towards the level of corruption. We include firm age and the growth of the firm to control for the longevity of the firm. The gender of the owner was included to control whether male or female-owned firms tend to have different perceptions towards corruption. The product dependence variable is the percentage of the firm’s sales that is dependent on a single product, which was included as a proxy for industry diversification or business group formation, a mechanism used by firms to make them less beholden to government inefficiencies (Khanna & Palepu, 1997; Khanna & Yafeh, 2007). The national Corruption Control indicator drawn from the World Bank Governance Index was included to control for national level differences in corruption perceptions. We also included the percentage of per capita income required for Registering a Business at the national level, as measured by the World Bank to control for the level of business bureaucracy; such a measure of bureaucracy is strongly correlated with corruption, as it provides more opportunity for public officials to extract bribes from firms (Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002). Both of these national indicators were obtained for the specific year that the WBES survey was conducted for each country. We added separate industry dummies based on the 15 industry classifications used by the WBES to control for the industry-level fixed effects. We also added a year variable to control for the differences in the year when the surveys were run for each country.
Regression Analyses

In order to capture the impact of firm characteristics on corruption perceptions, we ran a two stage least squares regression to control for the bias that affects our measure of firm experience with corruption. It is likely that factors affecting firm corruption perceptions are also affecting firm’s corruption experiences. The direction of the bias is not entirely clear. If having a high perception is associated with a high GIFT score, then coefficients for uncorrected regression are biased upward.

We use the two-step least squares method to correct for this endogeneity. To run the first-stage of the regression, we utilize the firm-level GIFT corruption experience as the dependent variable and run a regression on all of the independent variables enumerated in the earlier section because these firm-level variables also affect a firm’s experience with corruption. This first-stage regression provides us with a mechanism to understand which firm-specific variables generate the greater probability of experiencing actual corruption. We include the industry-country average GIFT scores as an additional regressor in the first stage. The average industry-country GIFT is correlated to individual firm’s GIFT score; a firm is more likely to have experienced corruption as a function of its industry’s and country’s political economy. At the same time, the industry-sector average affects a firm’s perceptions only through the individual firm’s experience of corruption.

For the second stage regression, we first run a regression with the corruption perception variable as the dependent variable, followed by the five other governance indicators: finance, taxation, business permits, political stability and customs. We include the firm-level GIFT variable predicted by the first stage regression in the second stage. As the structure of the dependent variable is an ordinal scale from 0 to 4; we ran the six sets of regressions over the sample as ordered logistic regressions.

We made additional statistical adjustments to correct for some characteristics of our dataset. Various tests on the variance of the residual terms indicate the presence of heteroscedasticity, which may be due to the country effect wherein similarities in culture, regulation or income levels may be promoting intra-class correlation among firms with the same country of location. We correct for this heteroscedasticity by reporting only robust standard errors clustered by country in all of the hazard regressions. Tests were also run to measure the presence of multicollinearity among the independent variables. The variance inflation factors
(VIF) for the current set of regressors average to about 2.07, a figure below the maximum VIF of 10 that is used as a “rule of thumb” for tolerable levels of multicollinearity (O’Brien, 2007).

The summarized results of the two-stage regressions are shown in Table 4 and 5 respectively. Note that both sets of regressions include the full model specification described in the earlier section, with all independent firm and industry and country variables indicated in the table. However, in the interest of brevity and clarity, the individual industry dummies and the year variables have been dropped from the regression tables even though they were utilized in the actual regressions.
Table 4
First Stage Regressions on GIFT Probability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Corruption Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry-Country GIFT</td>
<td>0.9505** (0.0495)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>0.0067* (0.0033)</td>
</tr>
<tr>
<td>Foreign Ownership</td>
<td>-0.00004 (0.00017)</td>
</tr>
<tr>
<td>State Ownership</td>
<td>-0.00003 (0.0010)</td>
</tr>
<tr>
<td>State Ownership x Large Firm</td>
<td>-0.0001 (0.00011)</td>
</tr>
<tr>
<td>Export</td>
<td>-0.0010 (0.0012)</td>
</tr>
<tr>
<td>Government Contract</td>
<td>0.0237* (0.0106)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0002 (0.0003)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.00004 (0.00006)</td>
</tr>
<tr>
<td>Female Owner</td>
<td>0.0133 (0.0084)</td>
</tr>
<tr>
<td>Single Product</td>
<td>-0.0003† (0.0002)</td>
</tr>
<tr>
<td>National Corruption</td>
<td>-0.0212 (0.0162)</td>
</tr>
<tr>
<td>Cost of Registering a Business</td>
<td>-0.00005 (0.00025)</td>
</tr>
<tr>
<td>N</td>
<td>5523</td>
</tr>
<tr>
<td>R2</td>
<td>0.1226</td>
</tr>
</tbody>
</table>

Notes:
Country dummies, year dummies and other control variables are excluded from table for conciseness
Robust standard errors in parentheses
†=p<0.10
*=p<0.05
**=p<0.01
**Table 5**

Second Stage Regressions on Perceptions

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5</th>
<th>Model 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted GIFT</td>
<td>-0.3630</td>
<td>-1.1452</td>
<td>2.8318</td>
<td>-1.4060</td>
<td>-2.1317</td>
<td>-1.0845*</td>
</tr>
<tr>
<td></td>
<td>(0.9748)</td>
<td>(1.1589)</td>
<td>(2.3614)</td>
<td>(0.9377)</td>
<td>(1.4279)</td>
<td>(0.4415)</td>
</tr>
<tr>
<td>Firm Size</td>
<td>-0.0024</td>
<td>0.0233</td>
<td>-0.1176</td>
<td>0.0149</td>
<td>0.0055</td>
<td>0.1009**</td>
</tr>
<tr>
<td></td>
<td>(0.0279)</td>
<td>(0.0252)</td>
<td>(0.1146)</td>
<td>(0.0287)</td>
<td>(0.0289)</td>
<td>(0.0192)</td>
</tr>
<tr>
<td>Foreign Ownership</td>
<td>-0.0010</td>
<td>-0.0035**</td>
<td>-0.0160†</td>
<td>-0.0009</td>
<td>-0.0012</td>
<td>0.0014*</td>
</tr>
<tr>
<td></td>
<td>(0.0010)</td>
<td>(0.0010)</td>
<td>(0.0081)</td>
<td>(0.0011)</td>
<td>(0.0012)</td>
<td>(0.0005)</td>
</tr>
<tr>
<td>State Ownership</td>
<td>-0.0113*</td>
<td>-0.0143**</td>
<td>-0.0208</td>
<td>-0.0026</td>
<td>-0.0113*</td>
<td>-0.0117**</td>
</tr>
<tr>
<td></td>
<td>(0.0045)</td>
<td>(0.0025)</td>
<td>(0.0241)</td>
<td>(0.0037)</td>
<td>(0.0041)</td>
<td>(0.0033)</td>
</tr>
<tr>
<td>State Ownership x Large Firm</td>
<td>0.0009</td>
<td>0.0025</td>
<td>-0.0256</td>
<td>-0.0068†</td>
<td>0.0004</td>
<td>0.0055†</td>
</tr>
<tr>
<td></td>
<td>(0.0066)</td>
<td>(0.0065)</td>
<td>(0.0417)</td>
<td>(0.0038)</td>
<td>(0.0057)</td>
<td>(0.0030)</td>
</tr>
<tr>
<td>Export</td>
<td>-0.0013*</td>
<td>-0.0013</td>
<td>0.0112†</td>
<td>-0.0012</td>
<td>-0.0004</td>
<td>0.0012</td>
</tr>
<tr>
<td></td>
<td>(0.0005)</td>
<td>(0.0013)</td>
<td>(0.0058)</td>
<td>(0.0007)</td>
<td>(0.0012)</td>
<td>(0.0010)</td>
</tr>
<tr>
<td>Government Contract</td>
<td>0.3493**</td>
<td>0.0901</td>
<td>0.8233†</td>
<td>0.1723**</td>
<td>0.4122**</td>
<td>0.3212**</td>
</tr>
<tr>
<td></td>
<td>(0.0575)</td>
<td>(0.0754)</td>
<td>(0.4005)</td>
<td>(0.0498)</td>
<td>(0.0846)</td>
<td>(0.0578)</td>
</tr>
<tr>
<td>Age</td>
<td>0.0082†</td>
<td>0.0094†</td>
<td>-0.0001</td>
<td>0.0064</td>
<td>0.0073</td>
<td>-0.0004</td>
</tr>
<tr>
<td></td>
<td>(0.0042)</td>
<td>(0.0052)</td>
<td>(0.0131)</td>
<td>(0.0038)</td>
<td>(0.0061)</td>
<td>(0.0027)</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0005**</td>
<td>0.00006</td>
<td>-0.0002</td>
<td>0.0002</td>
<td>0.0005**</td>
<td>0.0002</td>
</tr>
<tr>
<td></td>
<td>(0.0001)</td>
<td>(0.00013)</td>
<td>(0.0004)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
<td>(0.0001)</td>
</tr>
<tr>
<td>Female Owner</td>
<td>-0.0486</td>
<td>-0.0883†</td>
<td>-0.0626</td>
<td>-0.0193</td>
<td>-0.0346</td>
<td>0.0066</td>
</tr>
<tr>
<td></td>
<td>(0.0855)</td>
<td>(0.0489)</td>
<td>(0.3187)</td>
<td>(0.0737)</td>
<td>(0.0865)</td>
<td>(0.0508)</td>
</tr>
<tr>
<td>Single Product</td>
<td>-0.0044**</td>
<td>-0.0018</td>
<td>0.0069</td>
<td>-0.0014</td>
<td>-0.0045**</td>
<td>-0.0037**</td>
</tr>
<tr>
<td></td>
<td>(0.0013)</td>
<td>(0.0014)</td>
<td>(0.0077)</td>
<td>(0.0012)</td>
<td>(0.0011)</td>
<td>(0.0010)</td>
</tr>
<tr>
<td>National Corruption</td>
<td>-0.2338</td>
<td>0.1075</td>
<td>0.4572</td>
<td>-0.0570</td>
<td>0.7086</td>
<td>-0.3000</td>
</tr>
<tr>
<td></td>
<td>(0.3999)</td>
<td>(0.4516)</td>
<td>(1.1096)</td>
<td>(0.3628)</td>
<td>(0.4855)</td>
<td>(0.1797)</td>
</tr>
<tr>
<td>Cost of Registering a Business</td>
<td>-0.0034</td>
<td>-0.0113*</td>
<td>-0.0085</td>
<td>-0.0010</td>
<td>0.0048</td>
<td>-0.0042</td>
</tr>
<tr>
<td></td>
<td>(0.0033)</td>
<td>(0.0038)</td>
<td>(0.0076)</td>
<td>(0.0033)</td>
<td>(0.0046)</td>
<td>(0.0025)</td>
</tr>
<tr>
<td>N</td>
<td>5523</td>
<td>5754</td>
<td>5736</td>
<td>5595</td>
<td>5632</td>
<td>4890</td>
</tr>
</tbody>
</table>

Notes:
Country dummies, year dummies and other control variables are excluded from table for conciseness.
Robust standard errors in parentheses
†=p<0.10
*=p<0.05
**=p<0.01
RESULTS

The results from the first-stage regression indicate that there are two main drivers of actual experience of corruption: the industry-country level corruption and the propensity of the firm to access a government contract. In essence, this result implies that the main driver of actual experiences of corruption is first and foremost the way each firm is regulated in each country. Such industry-level regulations provide governments – depending on their general quality – with the incentive and opportunity to solicit bribes from the private sector. The only other significant driver of actual firm-level experiences of corruption is the access to the government contracts. Government contracts create direct dependence on the government, and subsequently make all firms more likely to be solicited for bribes.

The second-stage regression allows us to understand the impact of firm-level characteristics on corruption perceptions. For Hypothesis 1, which talks about the impact of firm size on corruption perceptions, we find no support of the hypothesis that smaller firms are more vulnerable to government corruption than larger firms. The only regressions that indicate a negative relationship between firm size and governance characteristics are those that pertain to customs. In Model 6, we find a positive relationship between size and customs procedures ($\beta=0.1009$, $p<0.01$). The lack of any significant relationship between size and corruption seems to point to the fact that while smaller firms may be more vulnerable to government predation, larger firms may not be immune to corruption. For one thing, larger firms are more likely to be penalized by long customs procedures that affect their importation costs.

For Hypothesis 2, we discussed the link between foreign ownership and corruption. While we find that there is a negative relationship between foreign ownership and corruption in Model 1, this relationship is not statistically significant. In fact, the significant relationships between foreign ownership and poor governance are in relation to taxation and finance, with foreign-owned firms less likely to indicate a problem with taxation and finance than domestic firms. This provides support to our conjecture that foreign firms situate themselves in countries where they can to capitalize on their organization-specific and location-specific advantages (Dunning, 1988). The only place where foreign firms are placed at a disadvantage versus their local counterparts is in terms of customs in Model 6, where there is a positive relationship. This showcases the higher import content of most foreign dealings that will generate greater vulnerability to customs predation.
Regarding *Hypothesis 3a* and *3b*, we find some support for the contention that state-owned firms are less sensitive to corruption than their privately owned counterparts. However, the surprising result is that the size of the firm does not seem to matter, as state-owned firms tend to have the same lowered sensitivity to corruption. The regression results for Model 1 shows a negative relationship between state-ownership and corruption perceptions (\(\hat{\alpha}=-0.0113, p<0.05\)), while the interaction term shows no statistical significance. Moreover, we also find from Models 2, 5 and 6 that state-owned firms are less likely to describe the taxation, political stability and customs of the host nation to be problematic. The fusion of firm ownership with the state makes firms less sensitive to the negative impacts of government corruption, or at least more likely to hire employees that are less likely to negatively perceive their owners. Nonetheless, there does seem to be some weak support for Hypothesis 3b, with an indication that large state-owned firms are more sensitive to customs procedures, as shown in the results for Model 6.

We also find support for *Hypothesis 4*, on the impact of the export market on corruption perceptions. Model 1 indicates that firms that have more exports are less sensitive to the corruption in their political environment (\(\hat{\alpha}=-0.0013, p<0.05\)). These results provide strong support to our proposal that firms that serve primarily the domestic market are more cognizant of the corruption in their midst, given their greater need to deal with government officials to ensure continued access to the domestic markets. In terms of the other corruption-related variables, exporters become more sensitive to finance issues, given their dependence on domestic financial markets to fund and guarantee their external transactions.

For *Hypothesis 5*, we find that firms that have accessed a government contract are more likely to indicate that governments are corrupt. We find a positive relationship between corruption perceptions and the potential for government contracting by a firm (\(\hat{\alpha}=0.3493, p<0.01\)) as indicated in Model 1. In addition, we find that government contracting is positively related to perceptions towards limited access to finance, business permits, political instability and customs. This indicates the equivalent sensitivity of these firms towards all forms of government corruption, as caused by their increased dependence on the government.

We briefly explain some interesting findings from our regressions with the control variables. Firm age seems to have a weak positive relationship to corruption and taxation perceptions. This may be because greater experience provides firms with more instances of witnessing corruption and problems with the tax regime. Firms that are growing seem to be
sensitive to corruption and political instability as well, possibly an indication of a greater firm-realization regarding their success being hindered by corruption. Female ownership only has a weak negative statistical sensitivity towards taxation, indicating the limited distinction corrupt officials make on the gender of the owner. For product diversification, we find the opposite outcome where firms with a single product are less sensitive to corruption, instability and customs. This surprising result may be due to the fact that while the formation of multi-product corporations may make firms less affected by the negative impact of corruption, their entry into different markets may generate a greater likelihood for facing corrupt officials, and instead make them instead more cognizant of the presence of corruption in the country.

Most interestingly, national-level indicators of corruption do not show a significant impact across our sample, once you control for the firm-level experience of corruption. This unexpected result seems to provide an indication of how strongly the firm-level cognition towards corruption and other indicators of poor governance (e.g. excessive taxation or limited access to finance) are rooted in the actual experiences of firms rather than some overall national corruption level. On the other hand, the national Costs of Registering a Business negatively affect perceptions towards taxation, indicating how these costs are seen by firms as a direct cost to their operations. Unexpectedly, these national differences in Registration costs do not significantly affect perceptions towards the business permit process at the firm level. These country-level results may point to the need for a deeper analysis into the interactions between firm-level and country-level determinants of corruption. However, these broader findings remain highly tentative as they fall outside the scope of the current analysis.

In summary, the results of our empirical analyses provide credence to our primary premise that firm-level corruption perceptions go beyond the mere experience of firms but are also similarly formed by the firm characteristics which subsequently determine the organizational cognitive processes of the firm. Through our national-level GIFT calculations across the 13 Asian countries in our sample, we found a difference between average firm-level experiences of corruption and the average corruption perception indicators. From our firm level regressions, we were able to disentangle the relationship between firm-level experiences of corruption, firm characteristics and corruption perceptions. While we also found that there is a significant relationship between firm level corruption perceptions and actual corruption experiences, we concurrently discovered that certain firm characteristics drive these corruption
perceptions beyond this actual experience. In particular, we find that firms that are privately owned, dependent on the domestic market, and most importantly, are dependent on government contracts experience a greater sensitivity towards corruption and are more likely to state government corruption as their most pressing obstacle to growth, even when controlling for corruption experiences.

Beyond the corruption itself, there are other firm-level variables that impact these individual governance perceptions. Difficulties in accessing finance seem to be a broader problem for local firms, exporters and firms with government contracts, while taxation affects mainly domestic and privately owned enterprises. Excessive business permit regulation primarily affects firms that with government contracts, while political instability is a problem private firms that have access to government contracts. Finally, customs problems are most manifested by large firms, foreign firms and those with government contracts – firms that are more trade dependent by their business models.

**DISCUSSION AND CONCLUSION**

This paper contributes to the increasing body of scientific work that validates the premise that government corruption can be a tremendous obstacle to firm performance and national economic development. Corruption increases business uncertainty, hinders innovation and generates additional costs to the individual firm that decreases profitability and potential to survive and prosper. The harmful effects of corruption at the firm-level accumulate into economy wide impediments to the proper functioning of markets, slowing down the economic growth of nations. But the ability of certain firms to capitalize on the uneven playing field brought about by corruption can lead to economic growth opportunities, even without political reform. This has been true in Asia where countries were able to enjoy decades of miraculous performances, while retaining extractive and corrupt institutional systems (Lee & Oh, 2007).

To try to understand this seemingly paradoxical situation, we conducted a micro-analysis of the determinants of government corruption perceptions in Asia to ascertain which types of firms see corruption as a bigger hindrance to their growth. Organizational cognition theory suggests that firm level perceptions are driven by the urgency and manageability of the external environment, and as such, differences in these perceptions could translate into a greater vulnerability of these firms towards corruption. Moreover, by controlling for the impact of actual
experiences of corruption, we are able to isolate the unique features of the firm that generate a heightened sensitivity toward the corrupt environment.

Our analysis suggests that the factors that correspond most strongly to heightened perceptions of corruption are private ownership, domestic market dependence and most importantly government contracting. The first firm-level characteristic – that of being a privately-owned enterprise – suggests that private firms bear the brunt of corruption in government and are the perennial victims of corruption’s ill effects. On the other hand, state owned firms benefit from the largesse of the state, and are more likely to turn a blind eye to the corruption that surrounds them. The latter two characteristics point to the fact that greater interaction with governments, either through market access, or more especially direct government contracting may make firms more vulnerable to government predation. Firms may be better off by avoiding contact with government in order to be less beholden to its potential negative impact. In particular, exportation by firms seems to provide a mechanism for insulating the firm against government interference, adding credence to the Asian experience of export-led economic transformation.

Nevertheless, this paper is not without limitations which could form new take-off points from which future scholars could conduct further studies on the matter. The empirical analysis of the paper was bound by the questions and countries that formed part of the World Bank Enterprise Survey. With the availability of additional firm-level data, future scholars could assess other variables, such as capital investment, return on equity and other measures of performance to see whether how these affect firm-sensitivity to corruption cognition. In addition, the availability of more detailed industry-data, particularly in terms of government dependence and regulatory intensity would help unpack the impact of industry-level indicators, and compare them with the country and firm-level indicators that the paper has currently analysed. Moreover, the research was conducted on a cross-sectional basis, whereas corruption perceptions are a dynamic process. The possibility of obtaining a longitudinal study to investigate how changes in firm characteristics affect the evolution of corruption perceptions would be an ideal set-up for a further study of this phenomenon.

In summary, this study has contributed new insights regarding the process of organizational cognition and corruption perceptions across firms in Asia, itself an understudied topic in management. The study utilized broad-based firm-level data on enterprises across the
region to illustrate these relationships. This study hopes to encourage more interest in the study of the micro-antecedents of institutional behaviour. Given the importance of understanding which firms are more vulnerable to corruption, the conclusions generated from this study are hoped to provide benefits for policy makers that want to better understand the direction and the pace at which reforms should be undertaken.
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