HOW MUCH DO FIRMS PAY AS BRIBES AND WHAT BENEFITS DO THEY GET?
EVIDENCE FROM CORRUPTION CASES WORLDWIDE

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ABSTRACT

We analyze a hand-collected sample of 166 prominent bribery cases, involving 107 publicly listed firms from 20 stock markets that have been reported to have bribed government officials in 52 countries worldwide during 1971-2007. We focus on the initial date of award of the contract for which the bribe was paid (rather than of the revelation of the bribery). Our data enable us to describe in detail the mechanisms through which bribes affect firm value. We find that firm performance, the rank of the politicians bribed, as well as bribe-paying and bribe-taking country characteristics affect the magnitude of the bribes and the benefits that firms derive from them.

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1. Introduction

Bribery is increasingly becoming an important concern for governments and companies. Over the past 30 years, firms like Siemens, BAE Systems, Hyundai, Lockheed Martin, and Halliburton were reported to have bribed government officials worldwide. These are not isolated incidents. The *Dow Jones State of Anti-Corruption Survey* (2011) reports that over 40% of companies claim to have lost business to competitors that won contracts unethically. In a 2006 survey, 11% of OECD firms reported that "firms like theirs" bribe in other OECD countries, and 26% reported bribery in developing countries (D'Souza and Kaufmann, 2010).

Early literature on bribery suggests that it promotes efficiency and growth by removing bureaucratic rigidities and "greasing the wheels of bureaucracy" (Leff, 1964; Huntington, 1968), since the most efficient firms, who can afford to pay the largest bribes, will be assigned projects (Lui, 1985; Beck and Maher, 1986). By paying bribes, efficient firms lower the transaction costs they would incur if they instead complied with bureaucratic regulations. A recent stream of literature takes a negative view, arguing that governments' "grabbing hand" extracts rents from firms (Shleifer and Vishny, 1993; 1994; 1998; Frye and Shleifer, 1997). In this sense, bribery acts as "sand in the machine" by inducing administrative delays (Ades and Di Tella, 1997 or Kaufmann and Wei, 2000).[1]

Despite a huge academic literature on bribery, there is little *direct* evidence on the factors that influence the magnitude of these bribes, and the benefits that firms derive from them. This is not surprising since this kind of activity is usually undisclosed. Most of the literature has attempted to measure bribery *indirectly*, by relying on questionnaires or by constructing indices at the country-level using survey evidence of corruption perceptions.[2] There is little analysis of

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[1] Bardhan (1997), Jain (2001), and Svensson (2005) survey the literature. Corruption can distort resource allocation by acting as an arbitrary tax, limiting private investment (Murphy, Shleifer and Vishny, 1991; Mauro, 1995; Keefer and Knack, 1995; Mauro, 1997), and foreign direct investment (Wei, 2000; Lambsdorff, 1999), affects the size and composition of public expenditure (Arvind, 2001; Shleifer and Vishny, 1993; Tanzi and Davoodi, 1997), distorts the allocation of entrepreneurial talent (Bhagwati, Brecher, and Srinivasan, 1984), influences the resource distribution between official and unofficial sectors of the economy (Johnson, Kauffman, and Shleifer, 1997; Friedman, Johnson, Kauffman, and Zoido-Lobaton, 2000), and it affects the firm's cost of capital (Garmaise and Liu, 2005).

[2] Examples include Transparency International's Corruption Perceptions Index (www.transparency.org), indices by International Country Risk Guide (www.prsgroup.com), Global Competitive Report, Business Environment and

firm-level data, with firm-level evidence also being largely derived from surveys (Hellman and Schankerman, 2000; Svensson, 2003; Cull and Xu, 2005; Fisman and Svensson, 2007; D'Souza and Kaufmann, 2010). However, other studies have identified several potential problems with self-reported survey evidence and the indices commonly used to measure corruption. [3]

Consequently, there are calls in the literature for moving away from survey data to the analysis of real-world decisions associated with corruption (Svensson, 2005; Fisman and Miguel, 2007; Reinikka and Svensson, 2004; Olken, 2006). The sparse literature on corruption that uses firm-level data from actual bribery incidents typically focuses on the date of the *revelation* of the bribery incident, and examines its impact on stock prices (Smith, Stettler, and Beedles, 1984; Karpoff, Lee, and Martin, 2010) and on leverage (Fan, Rui, and Zhao, 2008).

In our paper, we take a different approach to most of the previous studies. We analyze a hand-collected sample of 166 prominent bribery cases, involving 107 publicly listed firms from 20 stock markets that have been reported to have bribed government officials in 52 countries worldwide, during 1971-2007. We analyze actual documented bribery incidents (rather than perceptions or self-reported survey evidence), and we focus on the *initial date of award of the contract* for which the bribe was paid (rather than the date of revelation of the bribery). We attempt to answer three questions. Which firm performance, government official, bribe-paying country and bribe-taking country characteristics affect the magnitude of the bribes that firms pay? What benefits do firms receive by paying bribes and which factors affect these benefits? What

Enterprise Performance Surveys (Hellman, Jones, Kaufmann, and Schankerman, 2000), and Worldwide Governance Indicators (Kaufmann, Kraay, and Mastruzzi, 2009).
[3] Bertrand and Mullainathan (2001) argue that subjective dependent variables are biased because the measurement error is likely to correlate in a causal way with the explanatory variables. Knack (2006) identifies numerous biases with the indices used to measure corruption, which involve whether the surveys record the participants' "expert opinions" (or perceptions of what "other firms" are doing) rather than their own actual experience, whether respondents are influenced by previous ratings in their responses (or by optimism, recent economic performance, recent publicized corruption scandals), whether the ratings are determined centrally by a small number of people, whether the responses refer to corruption at the central/federal level or local level, how individual constituents are weighted, interdependence of sources for some of the ratings, selection bias in the firms included in surveys, changes in the questionnaires over time, regression to the mean of ratings as previous "errors" are corrected in subsequent ratings, and uncertainties about the actual (as opposed to the intended) content of some indicators. Aggregating information from numerous sources appears to be less accurate than using a single source. Donchev and Ujhelyi (2009) claim that economic development, political system and cultural variables tend to bias perceptions of corruption *away* from experience. Fan, Lin, and Treisman (2009) report that countries with similar levels of corruption frequency (gleaned from surveys) may have very different levels of corruption perceptions and vice versa.

determines the division of rents between bribing firms and government officials? To put it more simply: How much do firms pay as bribes? What benefits do they get? How are the rents divided?

In our analysis, we match specific bribe payments with specific contracts awarded to the firm at a time the bribery was not public knowledge. Our measure of the *net* benefits that firms receive is the change in market capitalization at the announcement of the award of the contract (estimated using event study methodology) minus the amount of the bribe payment. To illustrate our empirical methodology, consider Figure 1 where we use Elf Aquitaine, a major French oil company, as an example. Elf was reported to be involved in widespread bribery of government officials in Europe and Africa, resulting in jail terms for numerous executives in a 2002-2003 French court trial. In one reported incident, Elf paid the equivalent of $46 million (all figures are in constant 2005 U.S. dollars) as a bribe to a prominent member of Germany's ruling Christian Democratic Party (CDU) in order to acquire oil refinery assets at Leuna from the Treuhandanstalt (the German government agency that handled the privatization of East German state-owned assets following Germany's re-unification).We trace back the award of the contract to Elf and find three relevant announcement dates related to this deal, namely 16 January 1992 (Treuhandanstalt announces the deal), 23 July 1992 (official signing of the contract), and 4 September 1992 (European Commission competition authorities clear the deal). Around these dates, Elf earned three-day market-adjusted excess returns of −0.4%, +1.9%, and +0.3% respectively, which represent an increase in its stock market capitalization of $327 million. We estimate the absolute value of the *net* benefit that Elf received from this bribe in net present value terms as $281 million (the difference between the increase in market capitalization and the bribe payment). Alternatively, we may say that Elf received 7 dollars of benefit per dollar of bribe it paid (the ratio of the increase in market capitalization divided by the bribe payment).

Our sample consists of firms that paid a bribe, won a contract as a result, got caught, and their actions were publicized. It does not include three other types of firms: firms that were caught but entered into plea bargains with authorities, so that the bribery was not publicized; firms that paid or offered a bribe but did not get the contract; and, more importantly, firms that paid a bribe, won a contract but were not caught. Unfortunately, there is no dataset that we know

that includes the last three types of firms, and would allow us to do the analysis that we do. [4] To the extent that not all firms that pay bribes get caught, and the bribes or benefits received by firms that do get caught differ in systematic ways from firms that don't, our results may not be representative of all firms that pay bribes. Nevertheless, examining this sample of actual bribery cases does provide us with valuable insights. We do not know whether any bias that our sample selection introduces is more or less serious than the biases prevalent in numerous other studies on corruption (see footnote 3 above).

How much do firms bribe? We measure the size of bribes in four different ways: absolute size, bribe as a proportion of the firm's sales or assets, and bribe as a proportion of the size of the contract (a bribe "tax"). The median bribe in our sample is $2.5 million. We find that abnormal firm performance (relative to a control sample) and the rank of the politicians bribed significantly affect the magnitude of the bribes paid. Firms that pursue higher sales growth, and under-performing firms pay larger bribes. In line with McMillan and Zoido (2004), we find that politicians with greater hold-up power (heads of state, presidents, prime ministers, ministers and members of parliament) receive larger bribes. These bribes may also reflect the fact that high-ranking politicians can deliver contracts to firms with higher probability.

Economic, legal, regulatory, and regime characteristics in the bribe-paying and bribe-taking countries are also significant in explaining the magnitude of the bribes. Firms from bribe-*paying* countries where company directors are less likely to be held accountable by shareholders (countries with lax director liability provisions), and where there is more market competition, and lower newspaper circulation pay larger bribes. Firms pay larger bribes in bribe-*taking* countries where government regulations place larger burdens on firms, and where there is less deterrence to the acceptance of bribes by politicians (countries with low scores for civil liberties, strong military, high income inequality, low GDP per capita, unreliable police, and no public

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[4] One comprehensive dataset pertains to the U.N. Oil-for-Food program in Iraq and contains lists of firms, requests, and payments (Hsieh and Moretti, 2006; Jeong and Weiner, 2012). However, these payments do not constitute traditional bribes, where government officials pocket money for their personal gain. Most payments became government revenue which was used for illegal arms purchases and weapons programs. It is not known to what extent government officials were enriched in the process. Furthermore, the available list does not include dates of the payments, making it very noisy to estimate the benefits that firms received.

disclosure of politicians sources of income – following the measures constructed by Djankov, La Porta, Lopez de Silanes, and Shleifer, 2010).

What benefits do firms receive from paying bribes, and how are the rents divided between politicians and firms? We use three measures of benefits: the *net* benefits that firms receive (difference between the firm's change in market capitalization and the bribe payment), the *gross* benefit per dollar of bribe (ratio of the change in market capitalization divided by the bribe payment), and the proportion of the rents received by government officials (ratio of the bribe payment over the sum of bribe payment and increase in the firm's market capitalization). Firm market value increases by 11 dollars, on average, for each dollar of bribe they pay. This figure is in line with estimates made by the U.S Department of Justice, which arrived at a similar estimate of 10 dollars (Karpoff, Lee, and Martin, 2010). Interestingly, we find that firms that pay bribes in foreign countries, and firms that bribe higher ranking government officials *do not* appear to receive larger benefits. High-ranking politicians are able to capture the rents from large contracts in the form of larger bribes.

When we examine the determinants of these benefits, we find that firms with better operating performance receive larger benefits (and correspondingly government officials bribed by these firms receive a smaller share of the rents). Firms from countries with higher accountability (better accountability of directors, firm disclosure, and shareholder lawsuits), and smaller newspaper circulation receive larger benefits. Furthermore, firms that bribe politicians in poorer countries, countries with limited political rights, high income inequality, unreliable police, limited disclosure of politicians' sources of income, and stronger military also receive larger benefits. In contrast, firms that bribe in countries with more regulation receive smaller benefits. Our findings suggest that bribes are less likely to "grease the wheels of bureaucracy."

Our paper contributes to the literature on corruption by analyzing direct data on large-scale bribery by firms, which has not been analyzed before. Our results are in line with previous studies on the role of the political system, and the level of economic development in bribe-taking countries (Ades and Di Tella, 1999; Treisman, 2000; Glaeser and Saks, 2006; Gonzales, Lopez-Cordova, and Valladares, 2007; Mocan, 2008; D'Souza and Kaufmann, 2010), and on the role of

publicity in deterring corruption (Ferraz and Finan, 2008; Olken, 2007; Reinikka and Svensson, 2004; 2005; Bjorkman and Svensson, 2009; McMillan and Zoido, 2004; Giglioli, 2008; Brunetti and Weder, 2003; Djankov, La Porta, Lopez de Silanes, and Shleifer, 2010).

We also find that many of our results on large-scale bribery differ from existing evidence derived from self-reported surveys, face-to-face interviews or small-scale field experiments, which tend to be dominated by smaller firms. For example, D'Souza and Kaufmann (2010) conjecture that the absolute magnitude of bribes in high-income countries is likely to be higher compared to low-income countries because of the larger size of contracts. Surveys from small Ugandan firms analyzed by Svensson (2003) and Fisman and Svensson (2007) suggest a negative relationship between the magnitude of bribe payments and annual sales growth. Our results suggest the opposite conclusion.

We conduct a series of robustness tests to address additional questions. First, we show that our sample composition reflects the relative size of stock markets worldwide after adjusting for corruption perceptions in the country. Second, the method of detection does not affect our results. Third, in line with Svensson (2003) and Fisman and Svensson (2007), we do not find differences in performance between bribing and control firms either when the bribe was paid or when the bribe was detected, suggesting that the detection was not related to performance characteristics. Fourth, after examining deals in jurisdictions with better anti-bribery enforcement, and deals by repeat offenders, we find only limited evidence that the market discounts the probability of detection and punishment. Fifth, after comparing deals that involved competitive bidding with deals that did not, and after examining deals in jurisdictions where the payment of bribes is widely expected, we assess the impact of the degree of competition on the magnitude of the bribe and the benefits. Sixth, firms may bribe in order to build long-term political connections (Fisman, 2001; Faccio, 2006; Jayachandran, 2006; Claessens, Feijen, and Laeven, 2008; Sapienza, 2004; Khwaja and Mian, 2005; Claessens, Feijen, and Laeven, 2008; Faccio, Masulis and McConnell, 2006; Goldman, Rocholl, and So, 2007). However, in our sample, the benefits that firms receive do not depend on the number of deals that the firm conducts in the

country. Overall, although we do not find evidence of any obvious biases with our results, the earlier caveat about analyzing only firms that have been detected applies.

The remaining of the paper is organized as follows. Section 2 describes our data and methodology. We measure the benefits that firms receive using event study methodology. Due to asymmetric information, our empirical measure may deviate from the *ex ante* benefits as estimated by the firm. Section 3 presents a simple model of these benefits and makes information assumptions about what the market knows. Sections 4 and 5 report our empirical results. Section 6 reports robustness tests and addresses additional questions. Section 7 concludes.

2. Data and methodology

We obtain our initial sample from official documents that report corruption cases, such as Transparency International's OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission litigation, enforcement, and complaints releases, U.S. Department of Justice documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), and the UK's Serious Fraud Office website. We also conduct a newspaper search, which allows us to identify earlier cases. Our initial sample consists of 408 corruption cases.

For inclusion in our final sample, we must be able to trace the public announcement of the award of the contract for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The date of the initial contract (*not* the date that the bribe was paid or that the bribery was revealed) is the event date in our study. In many cases firms bribe officials to reduce their tax or customs liability, to obtain permits or smaller contracts, and these events are not subject to public announcements. This step reduces our sample to 175 cases. Firms must have stock and financial statement information in DATASTREAM, further reducing our sample. Our observations are at the firm-bribe level. Our final sample consists of 166 observations, involving 107 publicly listed firms from 20 stock markets that have been reported to have bribed government officials in 52 countries worldwide during 1971-2007.[5]

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[5] If the firm secured more than one contract more than three years apart with the same bribe, we treat them as separate bribing incidents and prorate the amount of the bribe. If the bribe was paid by a consortium, we include each firm as a separate observation (if the exact amount each of the firms paid is not provided but there is a detailed

Our sample includes bribery cases that have been investigated by authorities. We do not require convictions for bribery in all cases for three reasons. First, the zeal with which national authorities prosecute high ranking government officials varies from country to country. As stated in the 2007 Annual Report of the OECD Working Group on Bribery, "investigations of the foreign bribery offence … are steadily increasing; however, the number of convictions remains low. Many cases have not proceeded beyond the investigation stage. The Working Group would like to see more cases taken forward for prosecution" [p. 8]. Second, some bribes were paid at a time that it was not illegal in the firm's country of origin to bribe foreign government officials (in many European countries bribery abroad was made illegal around 10 years ago). Finally, investigations often lead to charges not for the bribery itself but for crimes that are easier to prosecute, such as accounting fraud and money laundering.[6] The Al Yamanah contracts of BAE in the UK[7] and the case of Siemens in Greece[8] are examples of such cases. We include them in our sample, because they give us a wider coverage of firms. However, they are not significantly different from the remaining cases, and excluding them does not affect our results.

Information about the firms, countries, industries, and ranks of government officials involved is reported in the Appendix. Bribe-paying firms in our sample mostly come from developed markets (Japan, U.S., France, Germany, UK etc). They bribe government officials in developed markets (Japan, South Korea, Singapore, U.S.) and in emerging markets (Nigeria,

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breakdown of the contract size by firm, we use the contribution of each firm to the contract in order to prorate the bribe; otherwise, we divide the amounts equally between the firms participating in the consortium).

[6] Corrupt firms pay higher audit fees (Lyon and Maher, 2005), and have lower informativeness of accounting earnings (Fan, Li, and Yang, 2010; Riahi-Belkaoui, 2003).

[7] In May 2004, the *Guardian* newspaper alleged that BAE Systems won the 1985-1988 $86 billion "Al Yamanah" contracts supplying jets to Saudi Arabia by paying bribes to Saudi officials. UK's Serious Fraud Office launched an investigation which was later dropped. As Prime Minister Tony Blair said, "our relationship with Saudi Arabia is vitally important for our country … that strategic interest comes first." In June 2007, the U.S. Department of Justice investigated BAE, and forced a $400 million settlement on charges of false accounting (Timeline: BAE corruption probe, 26/06/2007; Blair defends Saudi probe ruling, 15/12/2006, *BBC News*, www.news.bbc.co.uk; U.S. launches corruption probe into Britain's BAE, 26/06/2007, *Reuters*, www.reuters.com; BAE pays fines of BP285m over arms deal corruption claims, 05/02/2010, *The Guardian*, www.guardian.co.uk)

[8] Investigations in Greece and Germany uncovered that Siemens paid tens of millions of Euros to Greek government officials over 17 years to secure contracts. During 2008-2010, following expiry of the prosecution period under the statute of limitations, a high-ranking official of the ruling PASOK party, and the former Telecommunications Minister, publicly admitted to have received payments. Siemens was never prosecuted. In March 2012, the Greek government came to a negotiated settlement with the company, which involved the payment of damages by the firm ("Siemens probe widens", 28/01/2008; "Siemens cash traced", 03/05/2008; "First Siemens charges filed", 02/07/2008; "Mantelis faces criminal charges", 28/05/2010, *Kathimerini,* www.ekathimerini.com).

Philippines, Indonesia, Lesotho, China, South Africa). Domestic bribes involve a firm and government official from the same country, and mostly occur in Japan and South Korea. Foreign bribes represent roughly two-thirds of our sample. Most firms operate in the construction, electric and electronic equipment (mostly defense related), aircraft (mostly defense related), oil and gas industries. The government officials bribed are high-ranking (heads of state: president or prime minister, ministers, members of parliament or political parties; 71 observations), and low-ranking (local government governors or mayors, military officers, judges, heads of state-owned agencies, and others such as civil servants or members of procurement committees; 67 observations). Some firms bribe more than one official for the same contract.

In Table 1, we list how the bribery was detected by authorities (we report more detailed information in the Appendix). The detection appears exogenous to the firms in our sample (we investigate this issue in more detail in the robustness Section 6). In most cases, the revelation arose from investigation of the *government official* involved (rather than the firm), following government or regime change, and started in a foreign country, other than the firm's country of origin (58 cases). On other occasions, detection followed unrelated investigations, action by whistleblowers, voluntary disclosures by the firm, exogenous changes in enforcement, actions by competitors or other interested parties, and investigations by the press.

To estimate the benefits that firms receive we compute the cumulative abnormal returns (CAR) over days [-1,+1] relative to the initial contract announcement day (day *0*) using event study methodology. CARs are estimated as the difference between daily raw returns (with dividends re-invested) and the return of the stock market index of the country where the firm is listed.[9] If there is more than one announcement related to the same contract, we sum the CARs across all relevant announcements. We estimate the *gross* benefits that firms receive as the cumulative change in firm market capitalization (CAR × firm market capitalization) summed over all relevant announcements pertaining to the same contract. We estimate the *net* benefits as

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[9] We obtain qualitatively similar results using market model residuals CARs. We focus on market-adjusted returns because the approach allows us a larger sample size (we do not need data during the estimation period), and because we want to use a consistent methodology across all markets that avoids the problems of thin trading arising from the widespread incidence of days with zero returns in some markets but not in others (Corrado and Truong, 2008).

the *gross* benefit minus the amount of the bribe. Our analysis of the division of rents between government officials and bribing firms is based on the share of the rents received by the government official, which we estimate as the ratio of the bribe payment divided by the sum of the bribe payment plus the firm's *gross* benefits.[10]

Our use of CAR to quantify the benefits of bribery assumes that the market reaction to the announcement of the contract is efficient. Even in the presence of some inefficiency, managerial performance and turnover are, to a large extent, evaluated using the evolution of stock prices over the manager's tenure, so it is reasonable to assume that firms will use the likely market reaction as a criterion when deciding whether to pay a bribe or not

Our benchmark for assessing abnormal performance is a general market benchmark. It might be argued that a better comparison might be between bribing firms and the remaining bidders who bid for the same contract but did not win. There are two potential problems with this approach. Not all bribes in our sample were the result of competitive bidding. Furthermore, the dynamics of the bidding process are unknown. In the presence of a winner's curse or if some bidders are subject to agency costs of managerial discretion, companies may over-bid. In such a case, losing the contract may be good news for these firms, making it difficult for us to evaluate the market reaction for failed bidders. Our approach is similar to the assessment of the market reaction to merger announcements, which uses general market indices as benchmarks rather than the performance of the remaining bidders for the same target who did not complete the deal.

Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). The list and definition of firm performance measures appear in Table 2, Panel A. Country-level data are obtained from Djankov, La Porta, Lopez de Silanes, and Shleifer (2010), *Freedom House* (www.freedomhouse.org), the Polity IV project (www.systemicpeace.org), the World Bank (data.worldbank.org), issues of the *Doing Business Report* (published by the World

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[10] To facilitate the interpretation of the results on the division of rents, we consider the firm's share of the rents to be zero when its *gross* benefit is negative. Our results are qualitatively similar if we do not perform this adjustment.

Bank), and the *Global Competitiveness Report* (published by the World Economic Forum). The list and definition of these variables appear in Table 2, Panel B.

Table 3, Panel A, reports comparisons of size between bribe paying firms in our sample and the universe in the country and industry where they are listed. Our sample firms are significantly larger across all measures. This is not surprising, since larger firms are more likely to generate interest in the international press. Table 3, Panel B, reports descriptive statistics on the bribes and the benefits that firms receive from them (all figures are converted to constant 2005 U.S. Dollars using exchange rates at the announcement of the contract and the U.S. GDP deflator). The median bribe in our sample is $2.5 million, representing 0.2% of the firm's total assets or sales, and 2% of the size of the contract, with a median contract size of $194 million. Foreign bribes ($6.5 million) and bribes to high-ranking government officials ($11.4 million) are significantly larger than domestic bribes ($0.1 million) or bribes to low-ranking government officials ($1 million). High ranking government officials also extract larger bribes as a proportion of the bribing firm's assets and sales. The median *net* benefit that firms receive by paying bribes is $0.6 million (representing 1.7 dollars of benefit per dollar of bribe), which suggests that these benefits are not overwhelmingly large. The benefits do not differ significantly between foreign or domestic bribes, and between different ranks of government officials bribed. However, only the benefits received by bribing low ranking officials are significantly different from zero.

3. A model of the benefits that firms receive by paying bribes

Our measure of the benefits that firms receive by paying bribes is based on the market reaction at the announcement of the contract award and on the bribe that was paid in order to secure the contract. It can be argued that due to asymmetric information, our empirical measure may deviate from the true benefits from the bribe. For example, we estimate the *ex post* benefits, while firms compute their benefits *ex ante*. If the firm faced a positive probability of winning the contract without paying a bribe, our measure may over-estimate the *ex ante* benefits.

In this section, we present a simple model of the *ex ante* net benefits that firms receive. By making information assumptions about what the market knows, we show how the market

reaction at the announcement of the contract is related to these benefits. Further assumptions, based on evidence from previous research and estimates from our own data, help us assess whether our measure deviates from the true *ex ante* benefits.

In its most general form, the *ex ante* net benefit that the bribing firm receives from the award of a single contract by paying a bribe is (we suppress time and contract subscripts)

$$NB = (p_B - p_C)\Pi - B - p_D p_P F \tag{1}$$

where

NB is the *ex ante* net benefit the firm receives from the bribe

p_B is the probability that the firm receives the contract after paying the bribe

p_C is the probability that the firm receives the contract in the absence of the bribe

Π is the net present value (NPV) of the project viewed from a capital budgeting perspective

B is the bribe payment for this contract

p_D is the probability that the bribery is detected

p_P is the probability that the firm is fined following the detection of the bribery

F is the amount of the fine (and other pecuniary costs such as loss of reputation, foregone sales etc) that the firm receives following detection and punishment

The factors above are assumed to be known by the firm before deciding whether to bribe. A firm that is not constrained by ethical behaviour will bribe if

$$(p_B - p_C)\Pi - B - p_D p_P F \geq 0 \text{ which is equivalent to } \Pi \geq \frac{B + p_D p_P F}{p_B - p_C} \tag{2}$$

How this net benefit is related to the change in the firm's market capitalization at the announcement of the contract award depends on what information the market has at that time. Let V_{t-1} and V_t be the firm's market capitalization before and after the announcement of the award of the contract, so that $\Delta V = V_t - V_{t-1}$. We distinguish three cases.

If the market does not know about the bribe, then $\Delta V = E(\Pi)$. The market responds solely to a capital expenditure announcement by increasing the firm's market value by the expected NPV of the project (McConnell and Muscarella, 1985). Replacing for Π into equation (1) above, and subtracting the bribe payment from both sides of the equation

$$\Delta V - B = \frac{NB + [1 - (p_B - p_C)]B + p_D p_P F}{(p_B - p_C)} \tag{3}$$

If the market knows about the bribe but not the probabilities, then $\Delta V = E(\Pi) - E(B)$. The market may factor in a certain percentage of the contract as a bribe payment but does not know anything else, and it cannot estimate the remaining probabilities. In this case

$$\Delta V - B = \frac{NB + [1 - 2(p_B - p_C)]B + p_D p_P F}{(p_B - p_C)} \tag{4}$$

If the market knows everything, $\Delta V = (p_B - p_C)\Pi - B - p_D p_P F$, and

$$\Delta V - B = NB - B \tag{5}$$

To determine whether our empirical measure of the net benefits in (3), (4), and (5) approximates the true measure *NB*, we make three simplifying assumptions, based on previous research. In the robustness Section 6, we provide evidence based on our own sample.

First, there is widespread evidence suggesting that $p_D p_P F$ must be very small, so it can be treated as approximately zero. There are three reasons for this:

- The probability of detection $p_D < 1$, unless all firms that bribe get caught and our sample includes all corrupt firms. Evidence in the appendix suggests that the detection of the bribery appears *ad hoc* (for example, many firms get caught following government or regime changes in foreign countries). Many firms that bribe do not get caught.

- Even if a firm gets detected, it may not be prosecuted, therefore the probability of punishment $p_P < 1$. Many countries do not enforce anti-bribery laws and some cases took place when it was not illegal to bribe foreign government officials.

- Karpoff, Lee, and Martin (2010) show that the initial market reaction to the disclosure of prosecution under the Foreign Corrupt Practices Act (FCPA) in the U.S. is approximately −5%, and depends on whether the firm can be prosecuted for accounting violations rather than for the bribery itself. This suggests that the penalties imposed on firms may not depend on the characteristics of the bribery. Furthermore, in many cases the reduction in value that firms experienced following the detection and the fines that they received

pertain to multiple contracts. Since our sample may include only some of these contracts, the expected reduction in firm value *per contract* should be even smaller.

For the reasons stated above, we assume that $p_D p_P F \rightarrow 0$. In robustness tests reported in Section 6, we provide estimates based on our own sample which supports these conclusions.

Second, given that a bribe has been paid, we assume that the firm receives the contract with certainty ($p_B = 1$). There are a handful of documented cases when firms paid bribes but did not get contracts but these are exceptions.[11]

Third, companies that pay bribes possibly do so because the probability of winning the contract without the bribe p_C is low. From equation (2), the difference $p_B - p_C$ must be large enough to induce firms to bribe. In addition, firms that bribe in order to win licenses (so they do not compete with anyone else for the contract) or firms that win contracts from very corrupt government officials face $p_C = 0$. This suggests that we can assume that $p_B - p_C = 1$ for all firms. We provide further corroborating evidence in the robustness Section 6.

Based on this discussion, equation (3) above reduces to $\Delta V - B = NB$ and equations (4) and (5) become $\Delta V - B = NB - B$. Given that equations (3) and (4) are based on more plausible information assumptions, our measures of the benefits that firms receive by paying bribes appear accurate. At most we may be slightly underestimating the benefits by the amount of the bribe. In addition, to the extent that the probability assigned by the market to the payment of the bribe is less than one in equation (4), the accuracy of our measures increases.

4. What affects the magnitude of the bribes that firms pay?

We next turn our attention to the factors that affect the magnitude of the bribes that firms pay, and examine the impact of the bribing firms' performance, the characteristics of the government officials that received the bribe, bribe-paying and bribe-taking country characteristics. Our measures of bribe size are the logarithm of the bribe payment in constant 2005 U.S. dollars, the ratios of the bribe payment as a proportion of the bribe-paying firm's assets or sales, and the ratio of the bribe payment as a proportion of the contract value (a measure

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[11] In 2002 Monsanto paid $50,000 to an Indonesian official in a failed bid to repeal unfavourable regulation.

of the "bribe tax" that firms pay). The regressions of the latter measure use only a subset of the observations.[12] Our choice of explanatory variables is motivated by previous research, which has examined the impact on corruption of firm performance, the hold-up power of politicians, and country characteristics, which measure regulatory burdens, political characteristics of the regime, economic factors and deterrence (disclosure, and legal factors). We report *p*-values based on standard errors corrected for heteroskedasticity that cluster at the country level. We estimate country fixed effects whenever feasible. For example, due to multicollinearity, we do not estimate them in the regressions on country characteristics.

4.1. Firm performance

In Table 4, we regress the bribes on the bribing firms' abnormal performance measures. Control sample firms have not been accused of bribery and are matched to our bribing firms by country, industry, size, and market-to-book ratio 4 years before payment of the bribe. These matching criteria are selected because of the large size differences between our sample firms and their industry and country medians documented in Table 3. Although some of the competitors of the bribing firms may be international, we match by country of the bribe-paying company in order to control for different accounting standards across countries. In addition, managerial decisions on the value of paying a bribe, and the evaluation of managerial performance, are likely based on comparisons relative to firm benchmarks, which are likely to be firms in the same country and industry. Furthermore, for a large proportion of our sample, there are no direct competitors bidding for the same contract or license. Our performance measures include return on assets (which is decomposed into asset turnover and operating profit margin), return on equity (ROE), annual sales growth, total debt to market value of equity, market-to-book ratio, and annual buy-and-hold abnormal returns (BHARs) for bribing firms for the year preceding the payment of the bribe. All observations represent the *abnormal* performance of the bribing firms (difference between bribing and control sample firms). The exact definitions of these measures appear in Table 2.

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[12] This is because of the lack of contract size, either because some projects do not have a fixed size (for example, when a company obtains a license that allows it access to a certain market) or because we are unable to identify it.

We find that abnormal firm performance (relative to the matched control sample) affects the magnitude of the bribes. Firms that pursue higher sales growth pay significantly larger bribes, both in absolute terms (column 1) and as a proportion of sales (column 2), total assets (column 3) or the size of the contract (column 4). Among the remaining variables, larger bribes are paid by firms with low market-to-book ratio and low ROE (columns 2, 3), low operating profit margin (columns 1, 3), low annual buy-and-hold stock returns (column 3), and low debt (column 1). These results are in contrast to the empirical predictions of the "greasing the wheels of bureaucracy" motivation behind bribery, to the extent that our variables are correlated with firm efficiency. This explanation predicts that the most efficient firms can afford to pay the largest bribes. In contrast, we find that the *least* profitable firms are the ones who pay the largest bribes. Our results are also in contrast to Svensson (2003), who finds that the magnitude of the bribe is positively related to current firm profitability among small Ugandan firms, and Fisman and Svensson (2007), who find a negative relationship between the magnitude of bribes and annual sales growth for the same sample of firms.

4.2. Rank of government official

We next examine the impact of the official's rank on the magnitude of the bribes. In Table 5, Panel A, we report median bribes received by different ranks of government officials. *P*-values in parentheses are for tests of differences between the medians for the category in question and the remaining sample. Heads of state (presidents, prime ministers), ministers and members of parliament receive significantly larger bribes (ranging from $7.6 million to $16.8 million in absolute terms, 1.2% to 1.5% as a proportion of sales, 0.8% to 1.5% as a proportion of assets, and 4.42% as a proportion of the contract size). Local governors or mayors receive significantly smaller bribes ($0.2 million, 0.1%, and 0.1% respectively). In Panel B, we regress the bribe on the rank of the government officials. High ranking officials receive larger bribes both in absolute terms and as a proportion of the contract's size (columns 1 and 4). Heads of state receive larger bribes across all measures (columns 1-4). This evidence is in line with

McMillan and Zoido (2004) who relate the size of the bribe to the hold-up power of the recipients. High-ranking officials may also deliver contracts to firms with a higher probability.

4.3. Bribe-paying country characteristics

Table 6 shows that country characteristics are very significant in explaining the absolute magnitude of the bribe payments. Previous research informs our selection of country-level variables. We divide them into 5 categories: information disclosure, regime characteristics, legal environment, regulatory burden, and economic environment.

In Panel A, we analyze bribe-*paying* country characteristics. Firms from countries where company directors are less likely to be held accountable by shareholders pay larger bribes as a proportion of the firm's sales and assets (columns 2-3) (see Treisman (2000) on the significance of the legal system in deterring corruption). Lower newspaper circulation in the bribe-paying country is also associated with larger bribe payments (columns 1 and 4). This is not surprising since the press has been instrumental in investigating many of the cases in our sample. Previous studies report inconclusive evidence on whether competition reduces corruption (Svensson, 2005; D'Souza and Kaufmann, 2010). We find that market competition increases bribe payments (column 4). D'Souza and Kaufmann (2010) find that none of the home country governance indicators were statistically significant in explaining bribery abroad. We also find few bribe-paying country factors to be significant.

4.4. Bribe-taking country characteristics

When we examine the characteristics of the bribe-*taking* countries, we find several economic, regulatory, and regime characteristics that are significant in explaining the magnitude of the bribes. For each set of variables we first report the coefficients from univariate regressions (Panel B.1), and conclude with a final multivariate specification (Panel B.2).

In Panel B.1, the coefficients from the univariate regressions show that firms pay larger bribes to officials from countries with low GDP per capita in columns 1-2 (coefficients -0.6128 and -3.1846; p-values 0.000 and 0.049). Low GDP per capita may proxy for weak institutions, and has been shown to be significant in numerous studies on corruption. In column 1, firms pay

larger bribes in countries with a larger proportion of the population in the armed forces (coefficient 0.3752, *p*-value 0.071). More militaristic societies may be more authoritarian as well, allowing fewer constraints on the behaviour of government officials. In columns 1-3, firms pay larger bribes in countries with larger customs burdens (coefficients 0.2206-1.5142; *p*-values 0.022-0.099).[13] Gonzales, Lopez-Cordova, and Valladares (2007) find that firms in countries with excessive regulation are more frequently the target of petty bribe requests by civil servants. These three factors are the only ones that are statistically significant in the multivariate regressions in Panel B.2. We note the negative relationship between country income and the magnitude of the bribe because D'Souza and Kaufmann (2010) conjecture that the absolute magnitude of bribes in high-income countries is likely to be higher compared to low-income countries (because projects are larger in high income countries). We find the opposite result.

Djankov, La Porta, Lopez de Silanes, and Shleifer (2010) construct a measure of the disclosure of sources of income for members of parliament worldwide, and find that it is a significant predictor of perceived corruption at the country level. In Panel B.1, column 1, firms pay larger bribes to government officials from countries that do not require public disclosure of politicians' sources of income. The significant negative coefficient −1.6921 (*p*-value 0.066) indicates that more public disclosure of politician's sources of income is associated with smaller bribe payments. Publicizing information about corruption of politicians affects their re-election chances in Brazil (Ferraz and Finan, 2008). Audits followed by publicized results led to reduced levels of corruption in Indonesia (Olken, 2007). Publicity reduced the amount of funds that district government officials siphoned off government grants for schools (Reinikka and Svensson, 2004; 2005), and improved the performance of healthcare providers in Uganda (Bjorkman and Svensson, 2009). In the early 1990s, the media played a pivotal role in publicizing the corruption scandals that led to the downfall of the post-war political regime in Italy (Giglioli, 2008). McMillan and Zoido (2004) document that in Peru, Montesinos paid significantly larger bribes to

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[13] We use the scores for customs burden in preference to statutory rates, because Johnson, Kaufmann, and Zoido-Lobaton (1998) show that statutory rates may not be good proxies for the actual burden that firms face. Other proxies for regulation were not significant.

the news media compared to judges or politicians, suggesting that the strongest check on the government's power was the news media. In the same spirit, freedom of the press has been shown to be negatively related to corruption around the world (Brunetti and Weder, 2003).

In columns 1-3, firms appear to pay larger bribes in countries with fewer civil liberties (coefficient 0.4257, *p*-value 0.085), higher income inequality as proxied by the share of income held by the top 20% of the population (coefficient 0.1207, *p*-value 0.055), and where the police is not reliable (coefficients 0.2755-1.2528; *p*-values 0.044-0.093). Income inequality may be correlated with corruption at the highest level, and government officials may have more freedom to engage in corrupt acts where the police is not reliable. Di Tella and Schargrodsky (2003) examine procurement in Buenos Aires public hospitals in the 1990s, and show that prices of certain inputs declined following a government crackdown on corruption. D'Souza and Kaufmann (2010) find that increased levels of voice and accountability, press freedom, transparency, and rule of law lead to less bribery in procurement contracts.

The remaining variables in the table (political rights, freedom of the press, democracy, literacy, judicial independence, legal rights and legal efficiency) are not statistically significant, although many of these variables are highly correlated with the proxies that are significant at the top of the table. [14] Overall, bribe-taking country characteristics are more robust in explaining the magnitude of the bribe (and the benefits that firms receive in the next section) compared to bribe-paying country characteristics. In analysis that we do not report in the tables for brevity, we re-estimate the regressions for bribe-paying countries by including the characteristics that were significant in the bribe-taking regressions of Panel B, and find that these variables have no explanatory power for bribe-paying countries (and vice versa). Therefore, the set of country characteristics that explains the magnitude of the bribes is *different* across bribe-paying and bribe-taking countries, suggesting that the institutional factors that affect the payment of bribes are different from the factors that affect the receipt of bribes. In addition, we estimate specifications where we include both bribe-paying and bribe-taking country characteristics in

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[14] In analysis not reported, we find that firms pay larger bribes in absolute terms to government officials from countries with legal systems derived from Islamic law (following the *CIA World Factbook* classification).

one regression. The bribe-taking country characteristics appear more significant in explaining bribes and benefits (in the next section). However, these specifications suffer from multicollinearity, and also it is not a priori clear whether the clustering of standard errors should be at the bribe-paying or bribe-taking country level. Consequently, we choose to report results from specifications that separate bribe-paying and bribe-taking country characteristics.

5. What benefits do firms receive by paying bribes? What factors affect these benefits?

In this section, we examine our second and third questions, namely what benefits do firms receive by paying bribes, which factors affect these benefits, and how the rents are shared between government officials and firms. In Table 7, we estimate the benefit that firms receive per dollar of bribe as the coefficient from a regression of the *gross* benefit (change in market capitalization) on the bribe payment. Results from simulations reported by Barth and Kallapur (1996) indicate that, in cross-sectional regressions of levels-based accounting variables, regressing unscaled variables, including a scale factor (such as sales), and reporting White (1980) heteroskedasticity-consistent *p*-values, mitigates coefficient bias and heteroskedasticity better than scaling the variables. Following their recommendations, we include sales as a scale proxy.[15]

In columns 1-2, market capitalization increases by between $10.18 (*p*-value 0.056) and $11.46 (*p*-value 0.049) respectively for each dollar of bribe they pay. These estimates are remarkably close to estimates made by the U.S Department of Justice and the Securities and Exchange Commission – based on cases that they have prosecuted – which arrived at a similar average of 10.93 dollars of benefit per dollar of bribe (Karpoff, Lee, and Martin, 2010). In columns 3-5, firms that pay bribes in foreign countries, firms that bribe higher ranking government officials or both do not appear to receive larger benefits compared to the remaining firms (they receive less than $10 in *gross* benefits per dollar of bribe they pay). Although firms bribing high-ranking politicians are awarded projects of larger size, they have to pay larger bribes to secure these contracts (see Table 3 and Table 5). It appears, therefore, that high-ranking

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[15] Barth and Kallapur (1996) analyze regressions of firm value on book value and earnings, but their setting is also applicable in our case.

politicians are able to capture the rents from these contracts in the form of larger bribes. We examine the division of rents in greater detail in the next table.

In the remainder of this section, we examine whether the factors that were significant in explaining the magnitude of the bribes affect the benefits that firms receive. In Table 8, we use three measures of benefits: the *net* benefits that firms receive, the *gross* benefit per dollar of bribe, and the proportion of the rents received by government officials (see Table 2 for definitions). We regress them on the same variables discussed in the previous section. The first two measures of firm benefits can be correlated with firm size. Therefore, we include sales or the natural logarithm of sales as independent scale variables. We do not report the univariate regressions, since they are qualitatively similar to the multivariate results reported in the table. We also do not run the regression on all the sets together since there are only 86 observations with non-missing values for all the 37 variables with attendant multicollinearity issues.

5.1. Firm performance

In Panel A, firms with better performance (higher market-to-book ratio, operating profit margin, asset turnover, and ROE), lower sales growth, and more debt receive larger benefits from paying bribes (columns 1-2). Therefore, although under-perfoming firms pay larger bribes (Table 4), they do not receive larger benefits in return. Similarly, in column 3, government officials appropriate more rents from firms with low operating profit margin, high debt, and high sales growth. These results do not support the "greasing the wheels" hypothesis behind bribes.

5.2. Bribe-paying country characteristics

Firms from bribe-*paying* countries with less director liability, worse company information disclosure, and lack of shareholder lawsuits receive smaller benefits (columns 4-5). We conjecture that this result may not be limited to benefits from corruption but may apply more generally: since the stock market reaction forms the basis for measuring the benefits that firms receive, it may well be that shareholders receive smaller benefits from *any* project in countries where directors are not accountable, and with poor disclosure of firm-specific information. In

addition, firms from countries with smaller circulation of newspapers receive higher benefits, in line with previous evidence on the role of the media in curbing corruption.

5.3. Rank of government official

In Panel B, we examine the impact on benefits of the rank of government officials who receive the bribes. High ranking officials appear to appropriate more than 50% of the rents compared to less that 20% for low ranking officials (column 3). Consequently, firms that pay bribes to high ranking officials do not receive statistically significant benefits from these bribes, because most of the rents are expropriated by the government official.[16] In contrast, firms that pay bribes to low ranking government officials receive in benefits more than $4 per dollar of bribe they pay (*p*-value 0.033).

In analysis that we do not report in tables, when we regress the share of the rents appropriated by the government official on the number of bribes paid by the firm in the same country (in a specification similar to the one in Table 7, estimated in the subsample of firms that appear more than once in our sample, after controlling for the sequence of the contract received, and for a year trend), we find that the more bribes a firm pays in the same country the larger the proportion of the rents appropriated by the government official. For each subsequent bribe paid by the firm in the *same* country, the proportion of the rents appropriated by the government officials increases by 9 percentage points (*p*-value 0.082).

5.4. Bribe-taking country characteristics

In Panel C, we examine the impact of bribe-taking country characteristics on the benefits. In columns 4 and 5, firms that bribe politicians in bribe-taking countries which suppress political rights, and have high income inequality (column 1), have low GDP per capita, strong military, and poor disclosure of politicians' sources of income (column 2), and unreliable police forces (columns 4-5) receive larger net benefits from these bribes. Firms in countries with more regulation, as proxied by customs burden, receive lower net benefits (columns 4-5), in contrast to what would be expected if bribes helped overcome bureaucratic rigidities. Firms receive smaller

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[16] The higher competition for large projects (requiring the support of high ranking government officials) may also dissipate away the benefits in a form of winner's curse.

net benefits when they pay bribes in countries with lack of civil liberties (columns 1-2), and low literacy (column 2), which suggests that firms may need a minimum of civil liberties in order to capture the benefits from projects. Finally, government officials appropriate a larger share of the rents (column 3) in countries with strong military forces.

6. Robustness tests and additional questions

In this section we report the results of a series of robustness tests, and address some additional questions. More specifically, we examine how representative our sample is of the general population of bribe-payers, whether the method of detection affects our results, whether the performance of bribe-paying firms differs from their peers, whether the market discounts the probability of detection and punishment, whether the market discounts the probability of getting the contract without paying a bribe, whether competition among bidders affects the bribes they pay and the benefits they receive, and finally, we evaluate our results in light of the literature on political connections.

6.1. How representative is the sample?

The selection criteria we impose may make our sample unrepresentative of the general population. For example, countries with high levels of corruption might also have poor reporting standards, implying that we do not capture the extent of bribing activity. We therefore analyze the frequency of observations from different countries in our sample.

We demonstrate our approach in Table 9 by using the examples of Argentina and Germany. Argentina appears with 1 observation (representing 0.6% of our sample) and Germany with 16 observations (representing 9.6% of our sample). These are the actual frequencies in column 1. Are these countries over- or under-represented in our sample?

The size of the market will influence the pool of publicly listed companies that may engage in bribery of government officials and the bribes they can pay. Argentina is a smaller market than Germany, and there are fewer publicly listed Argentinian firms that could potentially engage in bribery of government officials. The average market capitalization of Argentina during our 1980-2007 sample period represented 0.3% of total worldwide market capitalization, and that

of Germany represented 3.5% (as a comparison, the U.S. represented 38.6%, Japan 20.4%, and the United Kingdom 9.3%). Based on the sizes of the two markets, we would expect to observe 0.5 (=166×0.3%) observations from Argentina and 6 (=166×3.5%) observations from Germany in our sample. These are the expected frequencies (see column 2). Chi-square tests of differences in proportions suggest that Argentina is correctly represented in the sample (1 actual observation compared to 0 expected), whereas Germany is over-represented (16 actual observations compared to 6 expected) (see column 3).[17]

Firms from countries with more corruption (because they are more likely to pay and politicians are more likely accept bribes) will appear in our sample with higher frequency. We adjust the expected frequencies for corruption perceptions as follows. We divide our sample of countries into quintiles based on average market capitalization during our sample period. Argentina belongs to the 4th quintile (with Chile, Denmark, Finland, India, Indonesia, Mexico, Norway, Philippines, and Thailand), and Germany to the top quintile (with Australia, Canada, France, Hong Kong, Japan, Netherlands, Switzerland, UK, and USA). The average adjusted Transparency International Corruption Perceptions Index (CPI) score in Argentina's quintile is 4.80, whereas for Germany's quintile it is 1.96 (we adjust our corruption scores to 10 minus the CPI score, so that higher scores represent more corruption). Given Argentina's 7.2 adjusted CPI score and Germany's 2.7, we may say that Argentina is 50% and Germany 38% more corrupt than its peers. On average, the expected sample frequency for countries in Argentina's quintile is 0.4 observations, and for Germany's quintile 14.7 observations. We increase Argentina's original expected frequency by adding 50% of its quintile average expected frequency (0.4×50%) for an adjusted expected frequency of 1 observation. Similarly, Germany's adjusted expected frequency is 12. These are the expected frequencies adjusted for corruption perceptions (columns 4-5).

The vast majority of countries appear in our sample with frequencies that do not significantly differ from the expected corruption adjusted frequencies. The U.S. is slightly under-represented, which can be explained by stronger anti-corruption enforcement (such as the 1977

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[17] We use alternative periods for estimating the share of worldwide market capitalization, and the results are qualitatively similar.

Foreign Corrupt Practices Act). South Korea and Switzerland appear slightly over-represented but the numbers involved are too small to create any bias. We conclude that our sample of bribe-paying firms does not appear to suffer from any obvious bias compared to what we might expect based on the size of these stock markets and perceptions of corruption.[18]

6.2. Does the method of detection affect the results?

Detection of the bribery by authorities may not be random but related to observable or unobservable firm characteristics (such as firm performance – to be examined in the next section – or to the quality of corporate governance). As we observed in Table 1 and in the Appendix, *a priori* the detection of the bribery appears exogenous to the firms in our sample. We cannot identify a model with selection in the absence of information on undetected bidders. Consequently, we perform an alternative test. We estimate regressions of the size of the bribe and the benefits that firms receive (similar to those in Tables 4-6 and 8) on dummy variables for the method of detection. We do not report these results on tables. Not surprisingly, bribes that were detected following investigations by the press (coefficient 3.062; *p*-value 0.003), actions by competitors (coefficient 2.171; *p*-value 0.030), and whistleblowers (coefficient 1.346; *p*-value 0.097) are larger in absolute terms. The 7 bribes detected following investigations by the press are also on average larger in relative terms (as a proportion of the firm's sales, assets, and the size of the project). It is not surprising that the press has focused on larger bribes. In contrast, the method of detection has no impact on the benefits that firms receive.

6.3. Do firms in our sample differ in their performance characteristics?

The detection of bribery may also be related to firm performance. Under-performing firms may be sloppier in hiding the bribery, and more likely to be detected. Alternatively, authorities may go after out-performing firms, which are more profitable and can afford to pay larger fines. To the extent that firm performance may impact the ability of firms to pay bribes and the benefits that they receive, any differences between bribing firms and their peers – especially at the time the bribe is detected by the authorities – might again bias our results.

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[18] We conduct the same analysis for bribe-taking countries based on the country's share of world GDP. Our results support previous findings that there is more corruption in poorer countries.

In Table 10 we estimate logit models of the likelihood of being a bribing firm using the 166 bribe paying firm observations and the 166 matched control sample firms. We estimate these models at two times: when the bribe was paid (from year −2 to year +2 relative to the bribe payment), at a time when the bribery was not public knowledge (columns 1-5), as well as during the year when the bribery was detected by authorities (column 6). The median detection time is 3 years following the award of the contract with a range from zero to 20 years.

Few of the variables are statistically significant, and they do not appear to follow any pattern. Before the payment of the bribe, bribing firms appear to under-perform in year −2 (they have lower market-to-book ratio, asset turnover and ROE but higher sales growth), and they exhibit lower asset turnover in year −1. In year 0, they exhibit higher operating profit margin but lower ROE. There is no difference in performance following the payment of the bribe. Furthermore, there is no difference in performance between bribing and control firms during the year that the bribe was detected. This suggests that, even if authorities may detect firms based on firm characteristics, these are not the performance characteristics that we examine in this paper. Overall, there is little to distinguish bribing from control firms, and the few differences that we document occur at a time that the bribery is not public knowledge.

Our results are in line with previous evidence. The surveys of small Ugandan firms analyzed by Svensson (2003) and Fisman and Svensson (2007) suggest no differences in profitability between bribing and non-bribing firms. In addition, to the extent that profitability is tantamount to efficiency, our results are in contrast to the empirical predictions of the early literature on corruption, which suggested that bribery can promote efficiency by removing bureaucratic rigidities. Central to this argument is that the most efficient firms can afford to pay the largest bribes and they will be awarded more contracts. We find that this is not the case.

6.4. Does the market discount the probability of detection and potential punishments?

In our main analysis, we assumed the factor $p_D p_P F$ (which measures the probability of the authorities detecting the bribe, the probability of punishment given detection, and the magnitude of the fine that the firm may be asked to pay) was equal to zero. As a further test, we

use our data to estimate whether the benefits that firms receive are smaller in jurisdictions with better enforcement of anti-bribery laws. If the market discounts the probability of detection and punishment, then we should expect that the market reaction to contract awards is *smaller* in countries with better enforcement of anti-bribery laws. We use U.S. bribe-paying firms to proxy for firms from a country with strong enforcement, since the FCPA is the earliest, most stringent, and widely enforced anti-bribery regulation worldwide. The sample for this test is 1980-2007. We get qualitatively similar but progressively stronger and even more significant results when we examine 1990-2007 and 2000-2007, when FCPA enforcement was progressively stronger.

According to all our measures, despite the higher likelihood of detection and punishment, U.S. firms that pay bribes receive *larger* benefits compared to firms from other parts of the world with less enforcement. During 1980-2007, the mean change in market capitalization at the announcement of contract awards was +2.7% for U.S. firms compared to $-$0.3% for non-U.S. firms (*p*-value for difference 0.049). The respective medians were +1.2% and +0.5% respectively (*p*-value for difference 0.057). During 2000-2007, when FCPA enforcement was stronger, the mean change was +4.6% for U.S. firms compared to $-$1.4% for non-U.S. firms (*p*-value for the difference 0.042). The median *net* benefit that U.S. firms received by paying bribes was $67.7 million ($29.3 dollars of benefit per dollar of bribe). The respective figures for non-U.S. firms were $2 million and $0.85 respectively (*p*-values for differences 0.019 and 0.175 respectively).

When we regress the change in the firm's market capitalization on the bribe payment after controlling for cross-sectional differences in firm size (in specifications similar to those in Table 7), we find that U.S. firms obtain on average $14.8 dollars of benefit per dollar of bribe they pay (*p*-value 0.000). In contrast, non-U.S. firms earn only $5.9 (*p*-value 0.141). It appears, therefore, that the market reacts more strongly to the announcement of contract awards to the U.S. firms in our sample compared to firms from the rest of the world. This is inconsistent with the market discounting the probability of detection more heavily where anti-bribery enforcement is stronger. These findings suggest that the market may not suspect the existence of the bribe payment.

Furthermore, when we examine whether the benefits are different for companies with fewer deals in the sample compared to firms with many deals (which may affect the probability of detection), we find that the benefits do not depend on the number of deals.

There is only one category of firms for which we have evidence that the market may be discounting the bribe payment. We have 12 cases in our sample that occur *subsequent* to the detection of these firms for other bribery incidents. The market already knows that these firms have paid bribes in the past. When we regress the net benefits that these firms receive in subsequent contracts on a dummy variable indicating they have been detected paying bribes in the past (in a specification similar to those in Table 8, estimated in the subsample of firms that appear more than once in our sample, after controlling for the total number of bribes paid by the firm in this country, for the sequence of the contract awards, and for a year trend), we find that firms that have been detected paying bribes in the past receive *lower* net benefits in subsequent contracts (*p*-value 0.020). This is despite the fact that these firms pay smaller bribes as a proportion of the contract size in the subsequent deals. These findings may suggest that the market reaction to the contract award has already discounted the bribe payment and the higher probability of future detection for these firms.

6.5. What is the probability of getting the contract without paying a bribe?

We conjecture that firms that bribe for contracts that do not involve competition from other bidders (such as licenses, circumventing regulations, or obtaining firm-specific benefits such as reduction in taxes) are firms for which the probability of getting the contract without paying a bribe, $p_C=0$ and the probability of getting the contract after paying a bribe, $p_B=1$. This is because in the absence of corruption, non-compliance with regulations guarantees that the license will not be granted. Furthermore, these contracts – since they do not involve other bidders – involve direct negotiations between government officials and firms, which make the probabilities much more certain. In contrast, for the remaining firms that bribe for contracts in the face of competition from other bidders (domestic and international tenders), p_C may take positive values. However, when we analyze the mean and median change in market

capitalization at the announcement of contract awards, the median *net* benefit that firms received by paying bribes, and when we regress the change in the firm's market capitalization net of the bribe payment after controlling for cross-sectional differences in firm size, we find no differences between the firms that bribed for contracts that did and did not involve competition from other bidders. This suggests that we can consider that $p_B - p_C = 1$ for all firms.

We also note that if p_C is significantly greater than zero, then our approach will be overestimating the benefits for these firms. It is likely that $p_C > 0$ in countries with less corruption. Therefore, our approach will *overestimate* the benefits that firms receive in countries with less corruption. The evidence that we report in Table 8 suggests that the benefits from bribery are *smaller* in countries with less corruption. If these benefits are also overestimated, this suggests that the *true* benefits are even smaller. The inferences that we draw from our findings do not change.

As a final test (also not reported in tables), we regress the benefits that firms receive on the bribe-taking country's Corruption Perception Index as reported by Transparency International (in specifications similar to those in Table 8). We find that corruption perceptions are positively related with the benefits that firms receive (the benefits per dollar of bribe are smaller for firms bribing government officials in less corrupt countries). To the extent that these benefits are also overestimated, our general inferences do not change.

6.6. Competition and the benefits from the bribe

If the bids for the contract are contested by many potential bidders (for example when many firms bid for the same contract), it is possible that competition among the bidders leads to a "winner's curse" scenario (see, for example, Roll, 1986), whereby the bribe *B* is large enough so that the net benefits decline to zero or are even negative. This situation may also arise in the presence of agency costs of managerial discretion among bribe payers, which may lead them to overpay in their effort to get more contracts (rather than maximize shareholder wealth). In addition, the size of the pie and the splitting of the gains may be endogenous, and may depend on the level of competition for the contract and on the cost of detection.

However, when we analyze the mean and median change in market capitalization at the announcement of contract awards, the median *net* benefit that firms received by paying bribes, and when we regress the change in the firm's market capitalization net of the bribe payment after controlling for cross-sectional differences in firm size we find no differences between the firms that bribed for contracts that did not involve competition from other bidders (such as licenses, circumventing regulations, firm-specific benefits such as reduction in taxes) compared to firms that bribed for contracts that faced competition (domestic and international tenders).

Competition among many bidders may also help government officials capture a larger share of the rents. We find some supporting evidence for this conjecture. In cases when firms bribed for contracts that did not involve competition from other bidders the median share of the rents accruing to the government official is 2.6% compared to 39.3% for the remaining firms that bribed for contracts that faced competition from other bidders. The difference is statistically significant (*p*-value 0.098). Therefore, competition among bidders appears to hand a larger share of the rents from the deal to corrupt government officials.

An alternative way to gain insights might be to conduct an event study of firms that bid for the same contract but lost, which may give us a "clean" estimate of the contract's NPV. However, there are two potential problems. First, not all bribes in our sample were the result of competitive bidding. Second, the dynamics of the bidding process are not clear. In the presence of a winner's curse or agency costs of managerial discretion, companies may over-bid. If the market perceives that unsuccessful bidders avoid the winner's curse, losing the contract may be good news, making it difficult to evaluate the market reaction.

6.7. Bribes and political connections

Firms may not focus on the benefits from specific contracts but may pay bribes in order to build long-term political connections (Fisman, 2001; Faccio, 2006; Jayachandran, 2006; Claessens, Feijen, and Laeven, 2008), which may help provide them with easier access to bank finance (Sapienza, 2004; Khwaja and Mian, 2005; Giannetti and Ongena, 2009; Berkman, Cole and Fu, 2009; or Claessens, Feijen, and Laeven, 2008), government sponsored bailouts (Faccio,

Masulis and McConnell, 2006), and government contracts (Goldman, Rocholl, and So, 2007). [19]

If this is the case, our approach may *under*estimate the benefits that firms receive. In the most extreme case, government officials do not ask for bribes, but they are offered "courtesy" payments by the firm after the deal is agreed. In this case, the bribe does not affect the probability of winning the contract ($p_B = p_C$). The net benefit from paying the bribe becomes

$NB = -B - p_D p_P F$. This is the cost now of building political connections that the firm may use in the future. This cost may not be related to the NPV of the awarded contract or to the market reaction at the announcement of the specific award.[20]

According to this hypothesis, we should find that, when firms conduct many deals in the same country, our estimated benefits should be smaller in deals conducted early compared to deals conducted later. However, as we report in Section 6.4, the benefits that firms receive in our sample do not depend on the number (or sequence) of deals that the firm conducts in the same country. Furthermore, in Section 5.3 we show that the more bribes a firm pays in the same country, the larger the proportion of the rents appropriated by the government official. We should expect the opposite result if our data captured political connections. This is not to say that political connections do not matter. It may rather be that political connections and bribery for specific contracts are distinct phenomena. Also, to the extent that we can identify multiple contracts that firms received by paying a single bribe, we have aggregated them in our measures, hence controlling for the impact of political connections.

7. Conclusions

We analyze a hand-collected sample of 166 prominent bribery cases, involving 107 publicly listed firms from 20 stock markets that have committed bribery of government officials in 52 countries worldwide during 1971-2007. We focus on the initial date of award of the contract for which the bribe was paid (rather than of the revelation of the bribery). In addition,

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[19] A related stream of literature examines the returns to lobbying U.S. politicians (see for example, De Figueiredo and Tiller, 2001; De Figueiredo and Silverman, 2006; Bertrand, Bombardini and Trebbi, 2011; Bombardini and Trebbi, 2009; Bombardini and Trebbi, 2011).

[20] We know of at least one (non-publicized) case where a German multinational offered such a payment to a Greek government minister. The payment was refused.

we compare the bribing firms with a matched sample of competitors that have not been involved in bribery incidents. Our data enable us to describe the benefits the firms receive from paying bribes. We find that firm performance, the rank of the politicians bribed, as well as bribe-paying and bribe-taking country characteristics affect the magnitude of the bribes, and the benefits that firms receive from them. Many of our results are in contrast to previous survey-based studies.

Our paper may suffer from two limitations. First, it focuses on large bribery incidents that have attracted international attention. We do not know whether our results can be generalized to more widespread small-scale corruption. Second, our sample consists of firms that have been detected paying bribes and their detection has been publicly disclosed. We do not know whether the results generalize to firms that paid bribes but were not detected.

Since less profitable firms pay larger bribes but do not receive larger benefits, then why do they pay bribes? Perhaps these firms suffer from agency costs of managerial discretion, and pursue growth at the expense of shareholder wealth maximization, in the same way that firms pursue value-destroying mergers and acquisitions. Perhaps their performance would have been even worse had they not been awarded these projects through bribery. Has the introduction and enforcement of anti-bribery laws changed these benefits? How do other bidders (who lost the contract to the bribing firm) perform? Does competition among bureaucrats affect the benefits or detection? Do corporate governance characteristics of the bribing firm affect the likelihood of bribery and the likelihood of detection, and how can we disentangle the two effects? We leave these questions for future research.

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Table 1
How the bribery was revealed to authorities

The table reports how the bribery was revealed to authorities (the detailed sources appear in the Appendix). The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the amount of the bribe.

Method of detection	Number of cases	(% of sample)
Investigations of politicians or government officials	58	(35%)
Spin-off from unrelated or third party investigation	39	(23%)
Whistleblowers	15	(9%)
Voluntary disclosure by company	15	(9%)
Exogenous change in enforcement	14	(8%)
Action by competitors or third parties	9	(5%)
Investigations by the press	7	(4%)
Unknown	9	(5%)
Total number of cases	166	

Table 2
Definitions and sources of explanatory variables

Panel A. Firm-level variables

Variable	Measurement
A. Bribe size	
Log (Bribe)	Natural logarithm of bribe payment in constant 2005 USD
Bribe/Sales	Bribe payment divided by firm sales in last fiscal year-end
Bribe/Assets	Bribe payment divided by firm total assets in last fiscal year-end
Bribe/Project	Bribe payment divided by contract size
B. Benefits	
Gross Benefit	[-1,+1] CAR times firm market capitalization summed over all relevant contract announcements in constant 2005 USD
Benefit per dollar of bribe	*Gross* Benefit divided by the bribe payment
Net Benefit	*Gross* Benefit minus the bribe payment
Share of rents received by the government official	The ratio of the bribe payment divided by the sum of the bribe payment plus the largest of the change in firm market capitalization or zero.
C. Firm performance characteristics	
Abnormal Asset turnover	Sales divided by total assets (difference between bribing and matched control firm)
Abnormal Operating profit margin	Operating profit divided by sales (difference between bribing and matched control firm)
Abnormal Return on equity (ROE)	Net income divided by shareholders' equity (difference between bribing and matched control firm)
Abnormal Sales growth	Annual sales growth (%) (difference between bribing and matched control firm)
Abnormal Total debt / market value of equity	Total debt divided by market value of equity (difference between bribing and matched control firm)
Abnormal Market-to-book	Market capitalization divided by book value of equity (difference between bribing and matched control firm)
Buy-and-hold abnormal returns (BHAR)	The difference between the 12-month buy-and-hold return for the bribing firm sample and the buy-and-hold returns for the control firms
D. Government official ranks	
High-ranking	Head of state (president, prime-minister), government minister, member of parliament, political party
Low-ranking	Local government governor or mayor, military officer, judge, head of state-owned agency, and other lower level government official such as civil servant or member of procurement committees

Panel B. Country-level variables

Variable	Range of values	Source of data
Public disclosure of politicians' sources of income	From 0 (no disclosure) to 1 (full disclosure)	Djankov, La Porta, Lopez de Silanes, and Shleifer (2010)
Political freedom (civil liberties), Political freedom (political rights), Freedom of the press	Take the values 1 (free), 2 (partially free), and 3 (not free). Therefore, high values represent *Lack of...*	*Freedom House* (www.freedomhouse.org)
Democracy score	From +10 (full democracy) to −10 (full autocracy)	Polity IV project (www.systemicpeace.org)
GDP per capita, Proportion of labour force in the armed forces, Literacy rate of the total adult population, Income share held by the top 20% of the population, Newspapers per 1,000 inhabitants	Numbers or percentages, from low to high	*World Development Indicators*, World Bank (data.worldbank.org)
Director liability, Disclosure index, Ease of shareholder lawsuits	From 1 (highest standards) to 10 (lowest standards). We express the raw scores from the report, which originally range from 0-10, as their inverse multiplied by 10, so that values of 1 of our standardized measure represent the highest and values of 10 represent the lowest standards (since the original raw score appears in the denominator of our standardized measure, in a handful of cases, the original raw scores of 0 are re-assigned the next lowest raw score of 1).	*Doing Business Report*, World Bank
Customs burden, Legal rights, Legal efficiency, Judicial independence, Police reliability, Degree of competition	From 1 (highest standards) to 10 (lowest standards). We express the raw scores from the report as deciles across all countries with scores in the report, with decile 1 representing highest standards and decile 10 representing lowest standards. Therefore, high values represent *Lack of...*	*Global Competitiveness Report*, World Economic Forum

Table 3
Firm and bribe characteristics

The table reports descriptive statistics for a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. Figures are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. Panel A reports firm size characteristics. The figures represent median values for sample firms, country and industry during the year of the bribery. Panel B reports bribe characteristics. The benefits that firms receive by paying bribes are estimated as (1) cumulative abnormal returns (CAR) over days [-1,+1] relative to the initial contract announcement day (day *0*) using event study methodology, summed across all relevant contract announcements (if more than one announcements), (2) the cumulative change in firm market capitalization (CAR × market capitalization) summed over all relevant announcements (*gross* benefits), (3) *gross* benefits divided by the amount of the bribe, and (4) *gross* benefits minus the amount of the bribe (*net* benefits). CARs are estimated as the difference between daily raw returns (with dividends re-invested) and the return of the stock market index of the country where the firm is listed. Total sales and assets for the firms involved are for the last year before the initial announcement of the contract. Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). Foreign bribes are those involving a firm and a government official from different countries. High rank government officials are heads of state (president or prime minister), government ministers, and members of parliament. Low rank government officials are local government governors or mayors, military officers, judges, heads of state-owned agencies, and other lower level government officials (for example, civil servants or members of procurement committees). The figures in the table are median values. Significance levels in parentheses (*p*-values for tests of medians and differences in medians) are based on the Wilcoxon signed rank test, and the Mann-Whitney test. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

Panel A. Firm Characteristics

	Total assets (USD 2005, millions)	Market capitalization (USD 2005, millions)	Sales (USD 2005, millions)	Shareholders' Equity (USD 2005, millions)
	(1)	(2)	(3)	(4)
(1) Bribing firms minus country median (median)	17,199 (0.000)***	5,333 (0.000)***	13,977 (0.000)***	2,959 (0.000)***
(2) Bribing firms minus industry median (median)	17,190 (0.000)***	5,350 (0.000)***	13,903 (0.000)***	2,939 (0.000)***

Panel B. Bribe characteristics

	Bribe characteristics				Project characteristics	Benefits			
	Bribe (USD, 2005)	Bribe / Assets	Bribe / Sales	Bribe / Project size	Project size (USD, 2005)	CAR [-1,+1] All announcements	*Gross* Benefit: Cumulative Change in Market Cap (USD, 2005)	*Gross* Benefit / Bribe	*Net* Benefit: *Gross* Benefit - Bribe
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. All bribes	$2,535,584	0.22%	0.16%	1.94%	$194,000,000	0.64%	$7,824,766	1.73	$625,594
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.068)*	(0.025)**	(0.016)**	(0.213)
	[N=155]	[N=114]	[N=113]	[N=54]	[N=55]	[N=148]	[N=133]	[N=133]	[N=133]
B. Classification by location									
Foreign bribes	$6,500,764	0.45%	0.41%	1.32%	$203,000,000	0.76%	$6,825,299	1.41	$97,168
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.159)	(0.064)*	(0.055)*	(0.390)
	[N=112]	[N=88]	[N=87]	[N=50]	[N=51]	[N=112]	[N=97]	[N=97]	[N=97]
Domestic bribes	$193,588	0.01%	0.01%	3.73%	$48,046,683	0.61%	$26,852,125	30.41	$24,338,938
	(0.000)***	(0.000)***	(0.000)***	(0.100)*	(0.100)*	(0.218)	(0.179)	(0.212)	(0.275)
	[N=43]	[N=26]	[N=26]	[N=4]	[N=4]	[N=36]	[N=36]	[N=36]	[N=36]
Difference (p-value)	(0.000)***	(0.000)***	(0.000)***	(0.298)	(0.263)	(0.966)	(0.982)	(0.298)	(0.687)
C. Classification by rank of government official bribed									
High rank	$11,429,071	1.06%	1.23%	4.42%	$577,000,000	0.35%	$11,716,230	0.81	-$3,309,096
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.486)	(0.195)	(0.240)	(0.818)
	[N=57]	[N=41]	[N=40]	[N=19]	[N=19]	[N=54]	[N=48]	[N=48]	[N=48]
Low rank	$1,063,049	0.08%	0.10%	1.22%	$132,000,000	0.73%	$5,337,543	4.19	$3,948,873
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.065)*	(0.070)*	(0.033)**	(0.168)
	[N=98]	[N=73]	[N=73]	[N=35]	[N=36]	[N=94]	[N=85]	[N=85]	[N=85]
Difference (p-value)	(0.000)***	(0.000)***	(0.000)***	(0.261)	(0.001)***	(0.733)	(0.916)	(0.343)	(0.435)

Table 4
Bribe size and paying firm abnormal performance

The table reports ordinary least squares regressions of the size of the bribe on bribing firm performance characteristics for a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The bribe amounts are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. All observations represent the abnormal performance of the bribing firms (difference between bribing and control sample firms). Our control sample firms have not been accused of bribery and are matched to our bribing firms by country, industry, size, and market-to-book ratio 4 years before payment of the bribe. Return on assets (ROA) is decomposed into asset turnover (defined as sales revenue divided by total assets), and operating profit margin (operating profit divided by sales revenue). Return on equity (ROE) is net income divided by book value of equity. Sales growth is estimated annually. The leverage measure is total debt divided by market value of equity. Market-to-book is market capitalization divided by book value of shareholders' equity. Buy-and-hold abnormal returns (BHARs) for bribing firms are estimated as the difference between the 12-month buy-and-hold return for the bribing firm and the buy-and-hold returns for the matched control firm. The natural logarithm of sales is based on constant 2005 USD figures. All figures are for the last year before the initial contract announcement date. Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). Intercepts and country fixed effects whenever applicable are estimated but not reported. Significance levels in parentheses (*p*-values) are based on White (1980) heteroskedasticity consistent standard errors clustered at the country level and adjusted for degrees of freedom. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

	Log(Bribe)	Bribe/Sales	Bribe/Assets	Bribe/Project
	(1)	(2)	(3)	(4)
Abnormal Debt / Market value of equity $_{year(-1)}$	-0.092 (0.002)***	-0.1767 (0.378)	-0.0931 (0.751)	0.8414 (0.770)
Abnormal Market-to-book $_{year(-1)}$	-0.039 (0.367)	-2.4601 (0.000)***	-5.3228 (0.000)***	-1.6284 (0.570)
Abnormal Asset turnover $_{year(-1)}$	-0.5081 (0.278)	-4.2554 (0.443)	-3.8521 (0.493)	-2.3903 (0.509)
Abnormal Operating profit margin $_{year(-1)}$	-0.2083 (0.037)**	-12.3776 (0.114)	-21.7639 (0.050)**	13.9146 (0.614)
Abnormal ROE $_{year(-1)}$	0.0742 (0.001)***	-0.9885 (0.000)***	-2.2828 (0.000)***	-0.6457 (0.622)
Abnormal Sales growth $_{year(-1)}$	0.6431 (0.000)***	38.6603 (0.000)***	98.234 (0.000)***	12.4513 (0.026)**
Annual buy-and-hold abnormal returns $_{year(-1)}$	-0.7184 (0.189)	-9.8454 (0.112)	-16.8548 (0.075)*	1.3089 (0.864)
Log(Sales) $_{year(-1)}$	0.1975 (0.271)	-4.868 (0.261)	-5.4263 (0.280)	0.0297 (0.976)
Country fixed effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.35	0.74	0.92	-0.28
Observations	106	96	96	38

Table 5
Bribe size and receiving government official proxies

The table reports univariate results in constant 2005 U.S. dollars (Panel A), and ordinary least squares regressions (Panel B) of the size of the bribe on the rank of government officials that received the bribe for a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The government officials that receive the bribe are high ranking officials (heads of state – president or prime minister –, government ministers, members of parliament), local government governors or mayors, military officers, judges, heads of state-owned agencies, and other lower level government officials (for example, civil servants or members of procurement committees). The bribe amounts are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. Intercepts are estimated but not reported. Financial statement data, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). In Panel A, significance levels are for tests of differences in medians between the respective category and the remaining sample. Significance levels in parentheses (*p*-values) are based on the Mann-Whitney test for differences in medians (Panel A), and White (1980) heteroskedasticity consistent standard errors clustered at the bribe-taking country level and adjusted for degrees of freedom (Panel B and C). Intercepts and country fixed effects whenever applicable are estimated but not reported. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

Panel A. Univariate analysis (medians)

	Bribe (USD 2005)	Bribe/Sales	Bribe/Assets	Bribe/Project
	(1)	(2)	(3)	(4)
A. High rank				
Head of State [N=20]	$16,765,467 (0.000)***	1.44% (0.007)***	1.48% (0.008)***	4.71% (0.199)
Minister [N=29]	$7,627,935 (0.051)*	1.19% (0.063)*	0.75% (0.033)**	2.01% (0.959)
Member of Parliament [N=20]	$13,774,211 (0.001)***	1.50% (0.011)**	1.27% (0.007)***	4.42% (0.293)
High rank median	**$11,429,071 (0.000)***	**1.06% (0.000)***	**1.23% (0.000)***	**4.42% (0.000)***
B. Low rank				
Military Officer [N=7]	$5,315,002 (0.734)	0.29% (0.910)	0.34% (0.915)	0.44% (0.125)
Judge [N=3]	$5,002,708 (0.851)	3.15% (0.939)	1.69% (0.871)	
Head of State Agency [N=26]	$502,104 (0.108)	0.10% (0.456)	0.06% (0.756)	0.38% (0.121)
Governor/Mayor [N=20]	$194,148 (0.000)***	0.01% (0.000)***	0.01% (0.000)***	2.96% (0.428)
Low rank median	**$1,063,049 (0.000)***	**0.08% (0.000)***	**0.10% (0.000)***	**1.22% (0.000)***
Differences (High rank vs Low rank p-values)	(0.000)***	(0.000)***	(0.000)***	(0.261)

Panel B. Ordinary least squares regressions

	Log(Bribe)	Bribe/Sales	Bribe/Assets	Bribe/Project
	(1)	(2)	(3)	(4)
High vs. low government official rank				
High rank politician	1.218 (0.043)**	20.647 (0.193)	19.524 (0.191)	6.709 (0.065)*
Country fixed effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.45	0.63	0.93	0.90
Observations	155	113	114	54
Specific government official rank				
Head of State	2.692 (0.089)*	54.023 (0.100)*	50.823 (0.095)*	10.347 (0.000)***
Minister	0.983 (0.273)	-0.148 (0.989)	-1.251 (0.892)	-3.9228 (0.000)***
Member of Parliament	1.500 (0.009)***	8.529 (0.368)	6.403 (0.176)	-2.2872 (0.000)***
Governor/Mayor	0.271 (0.742)	2.454 (0.813)	0.193 (0.981)	7.5250 (0.001)***
Military Officer	0.603 (0.604)	15.411 (0.177)	12.396 (0.133)	-2.7186 (0.007)***
Judge	-2.558 (0.003)***	17.281 (0.195)	14.076 (0.225)	
Head of State Agency	-0.587 (0.687)	16.694 (0.263)	11.229 (0.177)	4.0871 (0.000)***
Other Official	-0.304 (0.790)	6.009 (0.372)	4.441 (0.342)	-0.4625 (0.657)
Unidentified Official	1.418 (0.269)	10.861 (0.350)	9.546 (0.330)	-0.3544 (0.674)
Country fixed effects	Yes	Yes	Yes	Yes
Adjusted R^2	0.47	0.65	0.93	0.92
Observations	155	113	114	54

Table 6
Bribe size and country characteristics

The table reports ordinary least squares regressions of the size of the bribe on bribe-paying and bribe-taking country-level characteristics for a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007. Panels A and C report results of multivariate regressions. Panel B reports results of univariate regressions where only the explanatory variable of interest is included. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The bribe amounts are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). Definitions and sources of data of the country characteristics appear in Table 3. Intercepts are estimated but not reported. Significance levels in parentheses (*p*-values) are based on White (1980) heteroskedasticity consistent standard errors clustered at the country level and adjusted for degrees of freedom. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

Panel A. Bribe-paying firm country proxies (factors for doing business globally and competitiveness)

	Log(Bribe)	Bribe/Sales	Bribe/Assets	Bribe/Project
	(1)	(2)	(3)	(4)
(Lack of) Director Liability	-0.0271 (0.811)	1.8273 (0.096)*	5.5831 (0.000)***	0.0894 (0.652)
(Lack of) Disclosure	0.0288 (0.878)	-3.5086 (0.224)	-2.5532 (0.333)	0.2652 (0.293)
(Lack of) Shareholder Lawsuits	0.7898 (0.527)	-5.7558 (0.566)	-12.1293 (0.183)	-2.8299 (0.187)
(Lack of) Legal Efficiency	0.1657 (0.768)	-6.3104 (0.376)	-0.0051 (0.999)	0.8046 (0.340)
(Lack of) Firm Ethics	-0.2007 (0.647)	0.4865 (0.929)	-7.2346 (0.128)	-0.7240 (0.539)
(Lack of) Competition	-0.1361 (0.746)	5.5775 (0.336)	3.8163 (0.391)	-1.8423 (0.007)***
Daily newspapers	-0.6629 (0.000)***	-1.1603 (0.536)	-1.7555 (0.389)	-1.4324 (0.000)***
Country fixed effects	No	No	No	No
Adjusted R^2	0.14	-0.05	-0.04	-0.05
Observations	139	103	104	53

Panel B. Bribe-taking country proxies

	Log(Bribe)	Bribe/Sales	Bribe/Assets	Bribe/Project
	(1)	(2)	(3)	(4)
B.1. Coefficients of univariate regressions				
GDP per capita (USD 2005)	-0.6128 (0.000)***	-3.1846 (0.049)**	-5.1418 (0.148)	-0.0459 (0.935)
Armed Forces (%)	0.3752 (0.071)*	-2.8332 (0.128)	-4.8895 (0.228)	-0.6140 (0.456)
Customs Burden	0.2206 (0.099)*	1.5142 (0.027)**	1.4384 (0.022)**	0.3251 (0.425)
Public Disclosure of Politicians' Income	-1.6921 (0.066)*	-6.0263 (0.497)	-17.3301 (0.370)	1.2537 (0.641)
Income Inequality	0.1207 (0.055)*	0.2733 (0.294)	0.3760 (0.392)	-0.0743 (0.557)
(Lack of) Police Reliability	0.2755 (0.093)*	1.2528 (0.045)**	1.1490 (0.044)**	0.0399 (0.936)
(Lack of) Civil Liberties	0.4257 (0.085)*	1.9933 (0.197)	2.5106 (0.238)	-0.4494 (0.359)
(Lack of) Political Rights	0.3263 (0.152)	0.9202 (0.497)	0.5377 (0.733)	-0.4650 (0.289)
(Lack of) Press Freedom	0.9332 (0.106)	9.3683 (0.166)	18.1776 (0.246)	-0.7400 (0.492)
Democracy score	-0.0864 (0.212)	-0.4574 (0.281)	-0.6376 (0.262)	0.1678 (0.249)
Literacy	-2.097 (0.245)	-63.4486 (0.188)	-132.7920 (0.266)	-1.0237 (0.876)
(Lack of) Legal Efficiency	0.1727 (0.385)	0.5111 (0.446)	0.4037 (0.521)	-0.0948 (0.829)
B.2. Coefficients of multivariate regressions				
GDP per capita (USD 2005)	-0.548 (0.032)**	-5.3897 (0.067)*	-5.2906 (0.055)*	-0.6518 (0.796)
Armed Forces (%)	0.5851 (0.047)**	-0.8919 (0.683)	-1.1827 (0.571)	-2.0682 (0.391)
Customs Burden	0.8162 (0.007)***	3.9395 (0.165)	3.3311 (0.21)	1.8728 (0.407)
Public Disclosure of Politicians' Income	0.1093 (0.878)	12.1847 (0.119)	10.3828 (0.158)	-4.4688 (0.456)
Income Inequality	0.0603 (0.355)	-0.2922 (0.453)	-0.2424 (0.516)	-0.3543 (0.459)
(Lack of) Police Reliability	-0.4837 (0.16)	-2.9543 (0.216)	-2.5836 (0.252)	-0.3126 (0.921)
(Lack of) Civil Liberties	0.0403 (0.937)	6.1161 (0.169)	4.5949 (0.201)	1.1036 (0.517)
(Lack of) Political Rights	-0.0899 (0.886)	-5.4262 (0.345)	-4.5168 (0.372)	-5.2509 (0.294)
(Lack of) Press Freedom	0.4138 (0.698)	5.7014 (0.308)	4.8807 (0.319)	7.0665 (0.281)
Democracy score	0.0285 (0.778)	-0.2656 (0.786)	-0.3105 (0.753)	-0.5668 (0.576)
Literacy	0.3645 (0.886)	-4.5657 (0.864)	-4.5858 (0.857)	11.5319 (0.454)
(Lack of) Legal Efficiency	-0.1398 (0.555)	-2.0131 (0.209)	-2.1502 (0.18)	-1.6459 (0.311)
Country fixed effects	No	No	No	No
Adjusted R^2	0.30	-0.05	-0.05	-0.17
Observations	114	81	82	47

Table 7
What benefits do firms receive by paying bribes?

The table reports ordinary least squares regressions of the gross benefit that firms receive by paying a bribe on the magnitude of the bribe for a sample of 166 cases involving publicly listed firms that that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The government officials that receive the bribe are heads of state (president or prime minister), government ministers, members of parliament and local government governors or mayors, military officers, judges, heads of state-owned agencies, and other lower level government officials (for example civil servants or members of procurement committees). The gross benefits that firms receive by paying bribes are estimated as the cumulative change in firm market capitalization (CAR over days [-1,+1] relative to the initial contract announcement times firm market capitalization) summed over all relevant announcements. CARs over days [-1,+1] relative to the initial contract announcement day (day *0*) using event study methodology are estimated as the difference between daily raw returns (with dividends re-invested) and the return of the stock market index of the country where the firm is listed. The bribe amounts and firm total sales revenues are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. Foreign bribes are those involving a firm and a government official from different countries. High rank government officials are heads of state (president or prime minister), government ministers, and members of parliament. Exchange rates and GDP deflators are obtained from *International Financial Statistics* (*IFS*). Intercepts and country fixed effects are estimated but not reported. Significance levels in parentheses (*p*-values) are based on White (1980) heteroskedasticity consistent standard errors clustered at the country level and adjusted for degrees of freedom. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

	All Bribes	All Bribes	Foreign Bribes	Bribes to High-Rank Politicians	Foreign Bribes to High-Rank Politicians
	Gross benefit (USD 2005)	Gross benefit (USD 2005)	Gross benefit (USD 2005)	Gross benefit (USD 2005)	Gross benefit (USD 2005)
	(1)	(2)	(3)	(4)	(5)
Bribe (USD 2005)	10.1840 (0.056)*	11.4613 (0.049)**	9.3131 (0.007)***	4.4145 (0.382)	4.1854 (0.479)
Sales (USD 2005)		16.2097 (0.361)	17.7845 (0.415)	16.6537 (0.328)	20.6807 (0.319)
Country fixed effects	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	-0.32	-0.36	-0.38	-0.15	-0.28
Observations	133	115	86	42	34

Table 8
What explains the net benefits that firms receive by paying bribes and the division of rents?

The table reports ordinary least squares regressions of the benefit that firms receive from paying the bribe, and of the division of rents on bribing firm performance characteristics, rank of government officials that received the bribe, and country-level characteristics for a sample of 166 cases involving publicly listed firms that that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The government officials that receive the bribe are heads of state (president or prime minister), government ministers, members of parliament and local government governors or mayors, military officers, judges, heads of state-owned agencies, and other lower level government officials (for example, civil servants or members of procurement committees). The *net* benefits that firms receive by paying bribes are estimated as the *gross* benefits (cumulative change in firm market capitalization (CAR over days [-1,+1] relative to the initial contract announcement times firm market capitalization) summed over all relevant announcements) minus the amount of the bribe. CARs over days [-1,+1] relative to the initial contract announcement day (day *0*) using event study methodology are estimated as the difference between daily raw returns (with dividends re-invested) and the return of the stock market index of the country where the firm is listed. The share of the rents received by the government officials is the ratio of the bribe payment divided by the sum of the bribe payment plus the largest of the change in firm market capitalization or zero. The bribe amounts and firm total sales revenues are converted into constant 2005 U.S. Dollars (USD) using exchange rates at the announcement date of the contract for which the bribe was paid and the U.S. GDP deflator. All firm performance observations represent the abnormal performance of the bribing firms (difference between bribing and control sample firms). Our control sample firms have not been accused of bribery and are matched to our bribing firms by country, industry, size, and market-to-book ratio 4 years before payment of the bribe. Return on assets (ROA) is decomposed into asset turnover (defined as sales revenue divided by total assets), and operating profit margin (operating profit divided by sales revenue). Return on equity (ROE) is net income divided by book value of equity. Sales growth is estimated annually. The leverage measure is total debt divided by market value of equity. Market-to-book is market capitalization divided by book value of shareholders' equity. Buy-and-hold abnormal returns (BHARs) for bribing firms are estimated as the difference between the 12-month buy-and-hold return for the bribing firm and the buy-and-hold returns for the matched control firm. The natural logarithm of sales is based on constant 2005 USD figures. All figures are for the last year before the initial contract announcement date. Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). Definitions and sources of data of the country characteristics appear in Table 3.Intercepts are estimated but not reported. Significance levels in parentheses (*p*-values) are based on White (1980) heteroskedasticity consistent standard errors clustered at the country level and adjusted for degrees of freedom. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

Panel A. Firm and bribe-paying country characteristics

	Net benefit to firm (USD 2005)	*Gross* benefit to firm / Bribe	Share of rents received by government official	*Net* benefit to firm (USD 2005)	*Gross* benefit to firm / Bribe	Share of rents received by government official
	(1)	(2)	(3)	(4)	(5)	(6)
Bribe-paying firm abnormal performance						
Abn Debt / MVE $_{year(-1)}$	81.090 (0.000)***	624.86 (0.000)***	0.0132 (0.024)**			
Abn Market-to-book $_{year(-1)}$	89.136 (0.055)*	349.725 (0.048)**	-0.0083 (0.291)			
Abn Asset turnover $_{year(-1)}$	765.000 (0.002)***	1787.69 (0.312)	-0.0246 (0.692)			
Abn Operating profit margin $_{year(-1)}$	328.000 (0.046)**	2165.1 (0.000)***	-0.0523 (0.000)***			
Abn ROE $_{year(-1)}$	60.838 (0.107)	284.31 (0.002)***	0.0073 (0.250)			
Abn Sales growth $_{year(-1)}$	-231.000 (0.019)**	-662.70 (0.467)	0.0786 (0.001)***			
Annual BHAR $_{year(-1)}$	345.000 (0.674)	341.499 (0.862)	-0.0295 (0.789)			
Bribe-paying firm country proxies						
(Lack of) Director Liability				-0.6074 (0.048)**	-901.3 (0.000)***	-0.0158 (0.109)
(Lack of) Firm Disclosure				-2.6900 (0.000)***	-1014.8 (0.001)***	-0.0639 (0.000)***
(Lack of) Shareholder Lawsuits				-12.500 (0.001)***	3910.5 (0.145)	0.4889 (0.000)***
(Lack of) Legal Efficiency				0.3139 (0.889)	-1275.7 (0.488)	0.0371 (0.608)
(Lack of) Firm Ethics				0.1659 (0.918)	-1039.3 (0.429)	-0.0503 (0.572)
(Lack of) Competition				-1.9000 (0.284)	1091.8 (0.415)	0.0045 (0.903)
Daily newspapers				-6.4800 (0.000)***	-4038.2 (0.000)***	0.0263 (0.113)
Sales (USD 2005)	23.773 (0.047)**			18.8204 (0.085)*		
Log (Sales)		661.626 (0.201)			296.9 (0.253)	
Country fixed effects	Yes	Yes	Yes	No	No	No
Adjusted R2	-0.08	-0.22	0.04	0.07	-0.02	0.04
Observations	98	98	98	103	103	117

Panel B. Government official characteristics

	Net benefit to firm (USD 2005)	*Gross* benefit to firm / Bribe	Share of rents received by government official
	(1)	(2)	(3)
High rank government official (medians)			
Head of State	-$10,451,744 (0.794)	0.52 (0.433)	70.6% (0.000)***
Minister	$1,413,936 (0.966)	1.05 (0.764)	50.3% (0.000)***
Member of Parliament	$6,340,698 (0.551)	1.41 (0.244)	41.5% (0.001)***
High rank government official median	*-$3,309,096 (0.818)*	*0.81 (0.240)*	*55.5% (0.000)***
Low rank government official (medians)			
Military Officer	-$41,050,870 (0.999)	-4.02 (0.999)	79.6% (0.034)**
Judge	$348,000,000 (0.789)	53.87 (0.789)	1.8% (0.181)
Head of State Agency	$372,171 (0.399)	1.77 (0.173)	36.1% (0.000)***
Governor/Mayor	$505,625 (0.965)	14.46 (0.896)	22.5% (0.000)***
Low rank government official median	*$3,948,873 (0.168)*	*4.19 (0.033)***	*19.3% (0.000)***
Difference (High rank vs Low rank *p*-value)	(0.435)	(0.343)	(0.157)
Ordinary least squares regressions (coefficients)			
Head of State	3.9500 (0.566)	2122.4 (0.318)	0.3264 (0.002)***
Minister	-0.8623 (0.835)	-825.14 (0.890)	0.1461(0.412)
Member of Parliament	2.7100 (0.433)	3838.3 (0.368)	-0.0802 (0.396)
Military Officer	0.3199 (0.956)	3537.8 (0.291)	0.2737 (0.140)
Judge	-12.6000 (0.380)	-5767.9 (0.359)	0.5378 (0.004)***
Head of State Agency	2.0100 (0.710)	11969.6 (0.192)	-0.1521 (0.301)
Governor/Mayor	-15.800 (0.001)***	-3858.5 (0.029)**	0.2291 (0.063)*
Sales (USD 2005)	12.9576 (0.135)		
Log (Sales)		-691.3 (0.470)	
Country fixed effects	Yes	Yes	Yes
Adjusted R2	0.00	-0.59	-0.01
Observations	115	115	133

	Net benefit (USD 2005)	Gross benefit to firm / Bribe	Share of rents received by government official	Net benefit (USD 2005)	Gross benefit to firm / Bribe	Share of rents received by government official
	(1)	(2)	(3)	(4)	(5)	(6)
Bribe-taking government official country proxies						
GDP per capita (USD 2005)	-1.0000 (0.411)	-3035.5 (0.000)***	-0.0358 (0.232)			
Armed Forces Personnel	2.5600 (0.212)	1179.3 (0.009)***	0.1144 (0.003)***			
Literacy	-7.8200 (0.468)	3668.2 (0.060)*	-0.3272 (0.269)			
(Lack of) Civil Liberties	-6.4800 (0.082)*	-1220.1 (0.087)*	-0.0251 (0.763)			
(Lack of) Political Rights	5.6000 (0.033)**	716.9 (0.352)	0.0605 (0.724)			
(Lack of) Press Freedom	0.5578 (0.868)	107.5 (0.703)	-0.0008 (0.955)			
Democracy score	0.3688 (0.632)	5.997 (0.968)	-0.0023 (0.743)			
Income Inequality	0.6701 (0.021)**	-50.45 (0.398)	0.1081 (0.298)			
Public Disclosure of Politicians' Income	1.0700 (0.832)	-1777.7 (0.024)**	-0.0358 (0.232)			
(Lack of) Police Reliability				3.590(0.001)***	2252.2 (0.025)**	0.0081 (0.741)
Customs Burden				-3.460 (0.006)***	-2330.2 (0.012)**	0.0063 (0.789)
(Lack of) Judicial Independence				-0.3265 (0.833)	366.1 (0.606)	-0.0049 (0.907)
(Lack of) Legal Rights				0.6265 (0.481)	-60.91 (0.867)	-0.0243 (0.119)
(Lack of) Legal Efficiency				-0.3030 (0.825)	718.5 (0.401)	-0.0020 (0.956)
Sales (USD 2005)	6.4353 (0.239)			10.2141 (0.327)		
Log (Sales)		-444.5 (0.390)			227.5 (0.678)	
Country fixed effects	No	No	No	No	No	No
Adjusted R^2	-0.04	-0.05	0.00	0.00	-0.01	-0.03
Observations	86	86	101	106	106	124

Table 9
Difference between actual and expected sample frequencies for bribe-paying countries

The table analyzes the frequency of observations from different bribe-paying countries in our sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. We divide the table into two panels, countries that appear in our sample (for which the actual frequency exceeds zero), and countries that do not appear in our final sample (for which the actual frequency is zero). Column 1 of reports how many bribe-paying firms from each country are included in our final sample. In column 2 we report the "expected" sample frequency, which is estimated based on the share of country market capitalization in worldwide market capitalization. The reported figures are estimated based on the average share of worldwide market capitalization during 1980-2007. Column 3 reports p-values for a two-tailed Chi-square test which tests whether the actual frequency is significantly different from the expected. In columns 4-5, we adjust the expected frequencies for corruption perceptions in the country, as measured by Transparency International's Corruption Perceptions Index (CPI). We make this crude adjustment in the following way. We divide our sample of bribe-paying countries into quintiles based on market capitalization. Within each quintile, we estimate the average number of expected observations (from column 2) and the average CPI score of the countries that comprise it (we adjust our corruption scores to be 10 minus the CPI score, so that higher scores represent more corruption). Then we estimate the percentage difference between each country's CPI score and its quintile average, in order to obtain a measure of excess corruption perceptions. We multiply this percentage by the quintile's average number of expected observations in order to obtain a measure of the excess number of corruption observations (over and above those expected by stock market size) that we might expect from countries that have more (or less) corruption. Finally, we add (or subtract) this number on (from) the expected frequencies in column 2, in order to obtain a measure of expected sample frequency adjusted for corruption perceptions. Significance levels in parentheses (*p*-values) are based on a two-tailed Chi-square test. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)	Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)
	(1)	(2)	(3)	(4)	(5)		(6)	(7)	(8)	(9)	(10)

Countries represented in the sample

Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)	Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)
Argentina	1	0	(0.317)	1	(1.000)	Philippines	1	0	(0.317)	0	(0.317)
China	1	1	(1.000)	1	(1.000)	South Africa	3	1	(0.314)	2	(0.652)
France	23	5	(0.000)***	18	(0.404)	South Korea	8	1	(0.018)**	2	(0.054)*
Germany	16	6	(0.027)**	12	(0.430)	Spain	1	2	(0.562)	2	(0.562)
Hong Kong	1	3	(0.314)	2	(0.562)	Sweden	2	1	(0.562)	0	(0.156)
India	1	1	(1.000)	1	(1.000)	Switzerland	3	3	(1.000)	0	(0.082)*
Italy	5	3	(0.474)	3	(0.474)	Taiwan	1	2	(0.562)	2	(0.562)
Japan	43	39	(0.611)	46	(0.710)	Thailand	1	0	(0.317)	0	(0.317)
Netherlands	2	3	(0.652)	0	(0.156)	UK	10	14	(0.397)	9	(0.813)
Norway	2	0	(0.156)	0	(0.156)	USA	41	68	(0.002)***	70	(0.001)***

Countries not represented in the sample

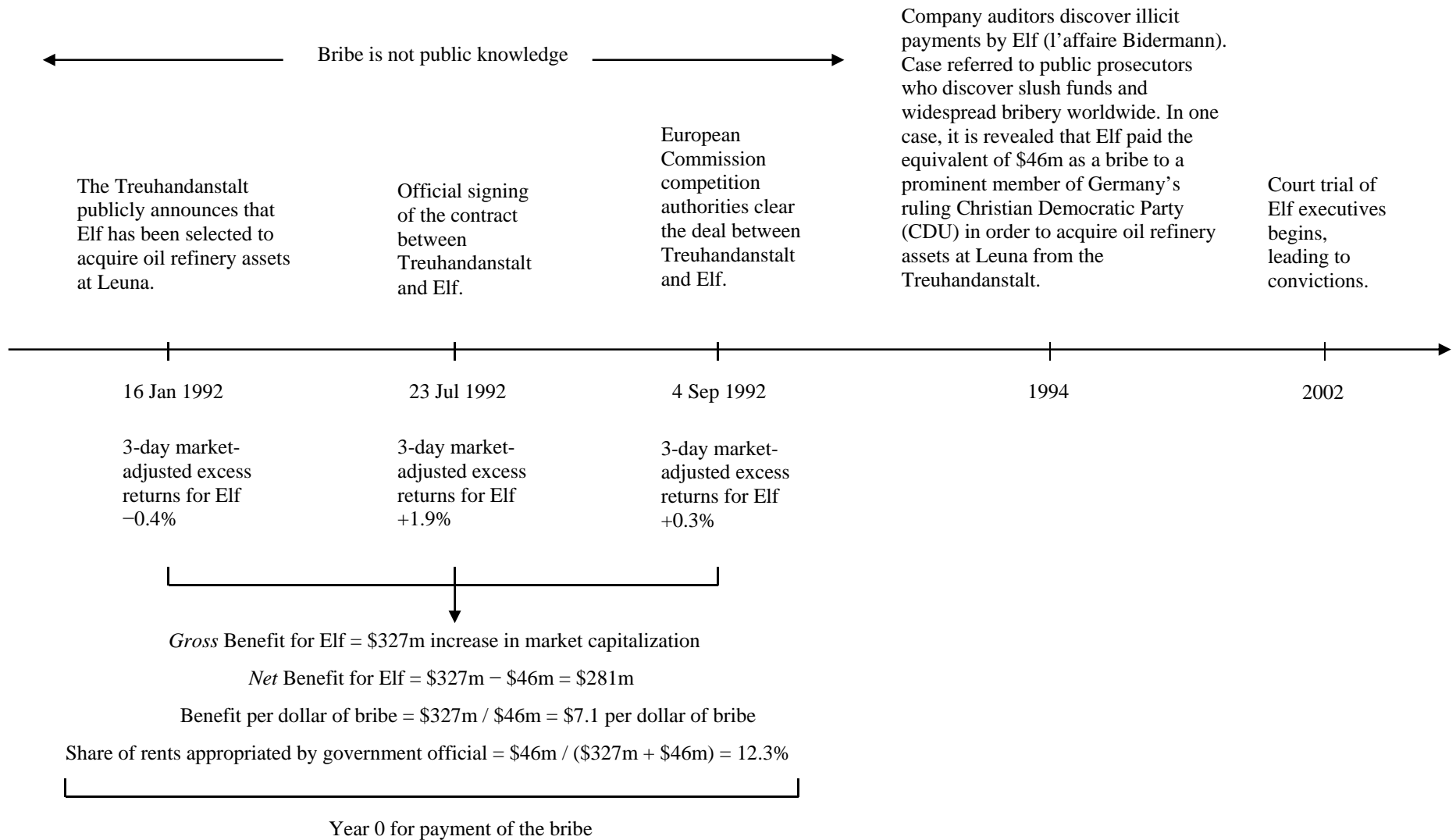| Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)	Bribe-Paying Country	Actual Freq.	Expected Freq.	p-value (diff. col 1 vs 2)	Expected Freq. (corruption adjusted)	p-value (diff. col 1 vs 4)
Australia	0	2	(0.156)	0	(1.000)	Israel	0	0	(1.000)	0	(1.000)
Austria	0	0	(1.000)	0	(1.000)	Luxembourg	0	0	(1.000)	0	(1.000)
Belgium	0	1	(0.317)	1	(0.317)	Malaysia	0	1	(0.317)	1	(0.317)
Brazil	0	1	(0.317)	2	(0.156)	Mexico	0	1	(0.317)	1	(0.317)
Bulgaria	0	0	(1.000)	0	(1.000)	New Zealand	0	0	(1.000)	0	(1.000)
Canada	0	4	(0.044)**	0	(1.000)	Pakistan	0	0	(1.000)	0	(1.000)
Chile	0	0	(1.000)	0	(1.000)	Peru	0	0	(1.000)	0	(1.000)
Colombia	0	0	(1.000)	0	(1.000)	Poland	0	0	(1.000)	0	(1.000)
Cyprus	0	0	(1.000)	0	(1.000)	Portugal	0	0	(1.000)	0	(1.000)
Czech Republic	0	0	(1.000)	0	(1.000)	Romania	0	0	(1.000)	0	(1.000)
Denmark	0	1	(0.317)	1	(0.317)	Russian Fed	0	0	(1.000)	0	(1.000)
Finland	0	1	(0.317)	1	(0.317)	Singapore	0	1	(0.317)	0	(1.000)
Greece	0	0	(1.000)	0	(1.000)	Slovenia	0	0	(1.000)	0	(1.000)
Hungary	0	0	(1.000)	0	(1.000)	Sri Lanka	0	0	(1.000)	0	(1.000)
Indonesia	0	0	(1.000)	0	(1.000)	Turkey	0	0	(1.000)	0	(1.000)
Ireland	0	0	(1.000)	0	(1.000)	Venezuela	0	0	(1.000)	0	(1.000)

Table 10
Performance comparisons between bribing and control firms (logit)

The table reports performance comparisons between a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007 and a randomly selected control sample of 166 firms without reported bribery incidents, matched by country, industry, firm size, and market-to-book ratio to the bribing firms 4 years before the event for which the bribe was paid (year 0). The logit models estimate the likelihood of being the bribing firm. In columns 1-5, performance comparisons are relative to the payment of the bribe (year 0). In column 6, performance comparisons are for the year the bribe was detected or investigation by authorities was disclosed. The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the exact amount of the bribe corresponding to this contract. The government officials that receive the bribe are heads of state (president or prime minister), government ministers, members of parliament and local government governors or mayors, military officers, judges, heads of state-owned agencies, and other lower level government officials (for example, civil servants or members of procurement committees). Return on assets (ROA) is decomposed into asset turnover (sales revenue divided by total assets), and operating profit margin (operating profit divided by sales revenue). Return on equity (ROE) is net income divided by book value of equity. Sales growth is estimated annually. The leverage measure is total debt divided by market value of equity. Market-to-book is market capitalization divided by book value of shareholders' equity. Buy-and-hold abnormal returns (BHARs) for bribing firms are estimated as the difference between the 12-month buy-and-hold return for the bribing firm and the buy-and-hold returns for the matched control firm. Financial statement data, stock returns, exchange rates and GDP deflator are obtained from *CRSP*, *Compustat*, *Datastream*, the *PACAP* database, *Factset*, and *International Financial Statistics* (*IFS*). Significance levels in parentheses (*p*-values for tests of medians) are based on robust QML Huber-White standard errors and covariances. ***, **, * denote significance at the 1%, 5%, and 10% levels respectively.

	Year of bribery/contract award (bribery not public knowledge)					Year of detection (bribery public knowledge)
	Year (-2)	Year (-1)	Year (0)	Year (+1)	Year (+2)	Year (0) to Year (+20)
	(1)	(2)	(3)	(4)	(5)	(6)
Total debt / market value of equity	-0.0269 (0.350)	0.0186 (0.643)	0.0084 (0.758)	0.0131 (0.567)	-0.0007 (0.955)	0.0010 (0.915)
Market-to-book	-0.0700 (0.031)**	-0.039 (0.321)	0.0135 (0.304)	0.0194 (0.828)	-0.0617 (0.403)	-0.0083 (0.668)
Asset turnover	-0.4302 (0.014)**	-0.3526 (0.039)**	-0.2071 (0.233)	-0.2107 (0.198)	-0.2299 (0.180)	-0.0913 (0.697)
Operating profit margin	0.0547 (0.764)	0.1675 (0.354)	0.386 (0.007)***	0.595 (0.162)	-0.3246 (0.796)	-1.4041 (0.507)
ROE	-0.8532 (0.091)*	0.0886 (0.237)	-1.0055 (0.073)*	-0.6325 (0.206)	0.0217 (0.912)	-0.2576 (0.741)
Sales growth	0.3893 (0.059)*	0.686 (0.223)	-0.2671 (0.326)	0.1123 (0.217)	0.0013 (0.996)	0.1655 (0.112)
BHAR	0.0447 (0.840)	0.0956 (0.774)	-0.0207 (0.148)	-0.0976 (0.735)	-0.1791 (0.507)	-0.1046 (0.819)
McFadden R2	0.04	0.03	0.02	0.02	0.01	0.03
Observations	251	260	267	270	273	161

Figure 1
Timeline of events: The example of Elf Aquitaine

To illustrate our empirical methodology, we discuss the example of Elf Aquitaine, a major French oil company, reported to have been involved in widespread bribery of government officials in Europe and Africa, resulting in jail terms for numerous executives in a 2002-2003 French court trial. We try to match specific bribe payments with specific contracts awarded to the firm at a time the bribery was not public knowledge. Our measure of the *net* benefits that firms receive by paying bribes is the *gross* benefits (change in total market capitalization at the announcement of the award of the contract estimated using event study methodology) minus the amount of the bribe payment to win the contract. All figures are in constant 2005 U.S. dollars.

←——————————— Bribe is not public knowledge ——————————→

Company auditors discover illicit payments by Elf (l'affaire Bidermann). Case referred to public prosecutors who discover slush funds and widespread bribery worldwide. In one case, it is revealed that Elf paid the equivalent of $46m as a bribe to a prominent member of Germany's ruling Christian Democratic Party (CDU) in order to acquire oil refinery assets at Leuna from the Treuhandanstalt.

The Treuhandanstalt publicly announces that Elf has been selected to acquire oil refinery assets at Leuna.

Official signing of the contract between Treuhandanstalt and Elf.

European Commission competition authorities clear the deal between Treuhandanstalt and Elf.

Court trial of Elf executives begins, leading to convictions.

| 16 Jan 1992 | 23 Jul 1992 | 4 Sep 1992 | 1994 | 2002 |

3-day market-adjusted excess returns for Elf −0.4%

3-day market-adjusted excess returns for Elf +1.9%

3-day market-adjusted excess returns for Elf +0.3%

Gross Benefit for Elf = $327m increase in market capitalization

Net Benefit for Elf = $327m − $46m = $281m

Benefit per dollar of bribe = $327m / $46m = $7.1 per dollar of bribe

Share of rents appropriated by government official = $46m / ($327m + $46m) = 12.3%

Year 0 for payment of the bribe

Appendix

This appendix reports the frequency of observations for a sample of 166 cases involving publicly listed firms that are reported to have bribed government officials worldwide during 1971-2007, and how the bribery was revealed to authorities. Panel A.1 lists the countries of origin and the industries of the bribing firms, the countries where the bribery was committed, and the positions of the government officials bribed. Panel A.2 lists the firms that have been reported to have committed the bribery. Panel C lists how the bribery was revealed to authorities (the detailed sources appear in the Appendix). The sample is constructed by searching official documents that report corruption cases (Transparency International OECD Anti-Corruption Convention Progress Reports 2007-2009, U.S. Securities and Exchange Commission (SEC) litigation, enforcement, and complaints releases, U.S. Department of Justice (DOJ) documents pertaining to violations of the Foreign Corrupt Practices Act (FCPA), United Kingdom's Serious Fraud Office website), and news reports in *Lexis-Nexis* and *Factiva*. To be included in the sample, we must be able to determine the initial announcement date of the contract or event for which the bribe was paid, and the amount of the bribe. Panel A.3 documents how the bribery was revealed for the firms in our sample, in order to determine whether the detection of the bribery is exogenous to firm characteristics. Our interest is in examining whether firms were targeted by authorities based on specific firm characteristics. We are able to determine how the bribery was detected in 157 out of 166 cases in our sample (95% of our sample). We classify the method of detection into six categories, and present the relevant examples pertaining to the cases in our sample. Panel A.3.1 reports details on *investigations of politicians or government officials*, which involves revelation of the bribery which resulted from an investigation by national authorities of the *government official* involved rather than the firm. In most of these cases, the investigation followed government or regime change, and started in a foreign country, other than the firm's country of origin (58 cases). Panel A.3.2 reports details on *spin-offs from unrelated or third-party investigation*, which involves cases where the detection of the bribery followed an investigation of the company or of some of the actors involved for unrelated reasons (39 cases). Panel A.3.3 reports cases of *exogenous change in enforcement* (14 cases). Panel A.3.4 reports details of cases revealed by *whistleblowers*, where authorities have been alerted to the bribery by whistleblowers, most often former company employees who decided to take legal action against their former employer (15 cases). Panel A.3.5 reports details of cases revealed through *investigations by the press* (7 cases). Panel A.3.6 reports *voluntary disclosures*, where firms have voluntarily disclosed the corruption to the authorities. Most often the bribery was detected during routine internal investigations or during due diligence conducted before mergers (15 cases). Finally, Panel A.3.7 reports details of cases revealed through *action by competitors or third parties* (9 cases).

Panel A.1. Countries, industries, and government officials

Country of the government official bribed		Country of origin of the bribing firm		Industry		Position of the government official bribed	
Japan	27	Japan	43	Construction	46	Head of State	22
South Korea	13	USA	41	Electrical & Electronic Equipment	21	Minister	29
Nigeria	10	France	23	Aircraft, Oil & Gas	17	Member of Parliament/Party	20
Philippines	8	Germany	16	Machinery	9	Governor/Mayor	20
Indonesia, Lesotho	7	UK	10	Computers, Wholesale	6	Head of Government Agency	27
China, Singapore, South Africa	6	South Korea	8	Automobiles	5	Military	7
India, USA	5	Italy	5	Banking, Telecommunications, Trading, Transportation	4	Judge	3
Angola, Egypt, Greece	4	South Africa, Switzerland	3	Medical Equipment, Real Estate, Utilities	3	Other Official	20
Italy, Russia, Taiwan	3	Netherlands, Norway, Sweden	2	Business Services, Mining, Pharmaceuticals, Shipbuilding, Steel	2	Unidentified Official	45
Azerbaijan, Brazil, Costa Rica, Iran, Israel, Kazakhstan, Saudi Arabia, Slovakia, Spain, Venezuela	2	Argentina, China, Hong Kong, India, Philippines, Spain, Taiwan, Thailand	1	Entertainment, Food, Hotels, Rubber	1		
Argentina, Bahamas, Belgium, Benin, Congo D.R., East Timor, Gabon, Germany, Ghana, Iraq, Mexico, Mongolia, Oman, Pakistan, Peru, Poland, Romania, Serbia, Suriname, Tanzania, Thailand, Trinidad & Tobago, Uganda, Uzbekistan, Zambia	1						

Panel A.2. Companies

Companies		Companies	
BAE Systems, Elf Aquitaine, Siemens	6	Abengoa, Alcatel, Cyber Bay, Italian Development (BVI), Guoco Holdings, Anglo-American, Ballast Nedam, Balfour Beatty, Boeing, BP Amoco, Burns & Roe, China Light & Power, Concor, Conoco-Phillips, Daimler-Benz, DLF, Ericsson, EADS, Exxon, FIAT, Fuji Heavy Industries, Glaxo Smithkline, Group Five, Halliburton, Hochtief, Host Marriott, IBM,	1
Alstom	5	Impregilo, Industrial Bank of Japan, JGC, Kawasaki, Korean Airlines, LG, Wembley, Litton Industries, Long-term Credit Bank of Japan, Loral, Mobil Oil, Montedison, Newmont Mining, Nippon Steel, Pirelli, United Technologies,	
Hyundai, Kajima	4	Rolls-Royce, Koninklijke KPN, SAIC, Schering-Plough, Shimizu, Shinko Denki Kogyosho, Societe Generale de Surveillance, Societe Industrielle Plantation Haveas, Spie Batignolles, Statoil, Stirling International, Taisei,	
Baker Hughes, MAN, General Electric, Hazama, Hitachi, Invision Technologies, Mitsui, Nomura, Obayashi, Total	3	Taiwan Cement, Republic Services, Technip, Tekken, Telecom Italia, Telefonica de Argentina, Tesoro Petroleum, Texaco, Thyssen-Krupp, Titan, Toda, Toyota Tsusho, Toyo Construction, Veidekke, L-1 Identity Solutions, Wakachiku Construction, Westinghouse Electric, Willbros, Xerox, ZTE	
ABB, Blohm & Voss, Dassault Aviation, Fraport, General Dynamics, Kumagai Gumi, Lockheed Martin, Lucent Technologies, Marubeni, Mitsubishi, NEC, Samsung, Sumitomo, Teledyne, Thomson CSF	2		

Panel A.3. The bribery detection process

Number of cases	Description

Panel A.3.1. Investigations of politicians or government officials

(1)   7   The corruption associated with the Lesotho Highlands Water Project is an example. In 1986, the military government in Lesotho established the Lesotho Highlands Development Authority (LHDA) with the mandate to develop a huge infrastructure project aiming to provide electricity to Lesotho and water to South Africa. In 1993, the civilian government that followed the military regime conducted an audit of LHDA, which revealed irregularities in the conduct of its chief executive Masupha Sole. When his bank accounts were opened, they revealed links to accounts in South Africa and Switzerland. The latter revealed payments that could be linked to numerous European and Canadian firms that had won project contracts. [Darroch, F., "Case study: Lesotho puts international business in the dock", *Global Corruption Report 2005*, Transparency International, pages 31-36]

(2)   24   During 1993-1994 in Japan, the investigation for tax evasion of Shin Kanemaru, former head of Japan's ruling Liberal Democratic Party (LDP) led to a series of other investigations that uncovered massive corruption among construction companies. Numerous other politicians were investigated in the following years, resulting in the revelation of numerous bribery cases. [Nabeshima, K., "Court sends LDP a message," *The Japan Times*, 28 January 2003; Watanabe, T., "Tax trial of ex-kingpin starts in Japan," *Los Angeles Times*, 23 July 1993; "Three Shimizu execs receive suspended terms for bribery," *The Japan Times*, 13 September 2000]

(3)   2   As part of a wider political scandal involving investigation by prosecutors of Roh Tae Woo, South Korean president from 1988-1993, a legislator in the Korean Parliament alleged that the former president received a bribe in order to reverse an earlier government decision and purchase 120 F-16 fighter jets from General Dynamics. [Mintz, J., "South Korea: General Dynamics denies bribery allegations," *Washington Post*, 26 October 1995]

(4)   2   A U.S.-citizen, James Giffen, personal advisor to the government of Kazakhstan, was investigated by U.S. authorities in 2000. The investigation eventually turned to several oil companies (including Mobil Oil, and Texaco) suspected of paying bribes to the Kazak government in return for oilfield development rights. [Howald, S., "Millions from Kazakhstan on Swiss bank accounts," *Basler Zeitung*, 21 June 2004]

(5)   2   Following the fall of the dictatorship of Ferdinand Marcos in the Philippines, the first democratically elected government launched an effort to recover money siphoned away by the former dictator. As part of this effort, the new government launched an investigation of Westinghouse Electric and Burns & Roe for alleged bribes paid in order to secure a nuclear power plant contract in the mid-1970s. [Paltrow, S.J., "Westinghouse bribery trial underway," *Los Angeles Times*, 18 March 1993]

(6)   1   In South Korea, the arrest of three air-force colonels in 2002, led to investigations of bribery during the bidding for an aircraft contract by Dassault Aviation and Boeing. ["2 jet fighter makers considered by Korea," *The New York Times*, 18 March 2002]

(7)	3	The prosecution of Japanese Lower House member Muneo Suzuki, and Foreign Ministry officials in 2002, resulted in an investigation that discovered bribe payments my Mitsui in numerous foreign locations. ["Mitsui employees arrested over Kunashiri project bid," *The Japan Times*, 4 July 2002]
(8)	5	In 1995, the Corrupt Practices Investigation Bureau of the Singapore Government investigated and convicted the former chief executive of the Public Utilities Board for accepting bribes over many years. As a result of the investigation, five international companies (BICC Cables – a unit of Balfour Beatty – Siemens, Pirelli, Marubeni, Tomen) were banned from public contracts. [Singapore Corrupt Practices Investigation Bureau (app.cpib.gov.sg); "Maximum jail sentence for Singapore official," *Transparency International's Quarterly Newsletter*, March 1996]
(9)	2	Miguel Angel Rodriguez, President of Costa Rica during 1998-2002, was investigated and eventually jailed for corruption after he left office. The investigation uncovered that numerous companies had paid bribes, including France's Alcatel, and Spain's Abengoa. [Matlack, C., Smith, G., Edmondson, G., "Cracking down on corporate bribery," *BusinessWeek*, 6 December 2004; "Abengoa loses Costa Rican contract," *insidecostarica.com*, 21 October 2004]
(10)	1	After the government of Sir Lynden Pindling in the Bahamas was ousted after 25 years in office in 1992, a judicial commission was set up to investigate potential corruption in the previous government. Among its findings were allegations that aircraft maker deHavilland (then a subsidiary of Boeing) had paid bribes to government officials in order to sell planes to the Bahamian state-owned airline. [Lane, P., "Ex-Boeing unit suspected of bribes – deHavilland consultant admits to making payments to get Bahamas aircraft order," *The Seattle Times*, 21 October 1994]
(11)	1	Evidence against former Yugoslav president Slobodan Milosevic following his arrest for was crimes suggested that he may have received bribes from Telecom Italia for the sale of 29% of state-owned Telecom Serbia in 1997. [Wagstyl, S., Guzelova, I., Hope, K., "Milosevic's murky fortune," *Financial Times*, 4 April 2001]
(12)	1	In 2003, the Indian Central Bureau of Investigation (CBI) placed under surveillance several top ranking members of the Delhi Development Authority (DDA). Among many cases uncovered, one of the bribery cases involved a bribe by developer DLF for allowing a higher floor area ratio in one of its construction projects. ["DDA scam: Khattar, Risbud, Chander arrested," *The Times of India*, 8 April 2003]
(13)	1	In 2001, a scandal involving buying votes by numerous elected city and county officials and support of numerous projects broke in Colton, San Bernardino County in California. Among numerous offences involving many companies, the investigation uncovered bribe payments by Taormina Industries (a subsidiary of Republic Services). ["Hernandez, R., "Mayor lashes out at scandal," *The Press-Enterprise*, 31 August 2001; Martelle, S., "Bribery tarnishes Colton's image," *Los Angeles Times*, 10 February 2002]
(14)	1	An investigation and prosecution by authorities in Ghana of officials involved in the privatization of Ghana Rubber Estates Limited (GREL) uncovered evidence of bribes paid by the French company Societe Industrielle Plantation Havea (SIPH). ["Sherry Ayittey's passport to be released?" *Ghanaweb.com*, 28 September 2001; "Ghana Rubber Estates Limited (GREL) trail," *ModernGhana.com News*, 11 July 2003]
(15)	1	Following Benazhir Butto's 2nd term in office (1990-1993) there were corruption allegations for her and her husband Ali Zardari, which resulted in prosecution in Pakistan and Switzerland. Among the allegations was a bribe payment by Swiss firm Societe Generale de Surveillance (SGS). ["Pakistan asks Swiss to revive Zardari probe," *swissinfo.ch*, 31 March 2010]

(16)   1   The investigation and prosecution into corruption allegations related to the family of former Taiwan president Chen Shui-bian resulted in the admission of the receipt of payments from Taiwan Cement Group. ["Former Taiwan leader's wife pleads guilty," *China Daily*, 11 February 2009]

(17)   3   In 1992, Italian judge Antonio Di Pietro launched operation "clean hands" by arresting a member of the Italian Socialist Party on bribery charges. Eventually, the investigation engulfed numerous politicians and public officials and brought down the entire post-war political system in Italy ("affair Tangentopoli"). FIAT and Enimont (Montedison) were among the firms that were eventually implicated in paying bribes [Poole, J., "Digging for dirt: The story behind the clean hands campaign," *The Florentine*, 15 November 2007; Cowell, A., "Corruption at Fiat is admitted by chairman," *The New York Times*, 19 April 1993]. In 1994, the former Italian Health Minister was indicted by prosecutors for a scandal involving payments by numerous pharmaceutical companies. One of the firms implicated in the investigation was British firm Glaxo. ["Italy's ex-Health Minister interrogated," *ThePharmaLetter*, 22 August 1994; Arie, S., "British drug giant in Italian bribery investigation," *The Guardian*, 13 February 2003]

Panel A.3.2. Spin-off from unrelated or third-party investigation

(1)   5   In 2004, the Swiss Prosecutor General conducted an investigation of a Swiss banker who was suspected of laundering money for a Colombian drug cartel. No such links were discovered and the investigation ended in failure. However, the documents seized from the banker's office revealed that he acted as middleman for the French engineering company Alstom (maker of trains, subways, and power plant turbines) to secure contracts through bribes in South America and Southeast Asia. [Dahlkamp, Y., Schmitt, Y., Simons, S., "Did Alstom bribe like Siemens? France's Alstom Group may have bought its way into contracts but the media and politicians have been shielding the company," *BusinessWeek Europe*, 1 July 2008]

(2)   10   In 1994, the auditors of the major French oil company Elf Aquitaine (nowadays part of Total) discovered a small investment by the company to a textile business. Since the textile sector was outside the scope of an oil company, the matter was investigated further, and it was discovered that the payment represented an unofficial divorce settlement to the ex-wife of the company's chief executive Le Floch-Prigent ("l'affaire Bidermann"). The matter was referred to the office of the prosecutor general for investigation of misuse of company funds. It was only then that further investigations discovered slush funds that were being used to pay bribes in Africa and elsewhere. [Ignatius, D., "True crime: The scent of French scandal," *Legal Affairs,* May-June 2002 (http://www.legalaffairs.org/issues/May-June-2002/story_ignatius_mayjun2002 html)] The Elf affair had two additional unexpected consequences. First, questions asked by prosecutors to an employee of French company Technip, led to revelations of bribery by a consortium including Technip, Halliburton, JGC, and Snamprogetti in order to secure the Bonny Island project in Nigeria. [George, B.C., Lacey, K.A., 2006, Investigation of Halliburton Co./TSKJ's Nigerian business practices: Model for analysis of the current anti-corruption environment on Foreign Corrupt Practices Act enforcement, *Journal of Criminal Law & Criminology* 96, 101-124] Second, during the course of the Elf affair a captain of the Navy of Taiwan – who was believed to be ready to act as whistle-blower – was found murdered. The ensuing investigation discovered that Elf and Thomson CSF paid bribes to secure the sale of frigates to the Taiwanese Navy in 1991. ["Taiwan's frigate corruption investigation: Full steam ahead," *Defense Industry Daily*, 30 August 2010]

(3)	4	In 1999, a consortium consisting of German shipbuilding company Blohm + Voss, its parent Thyssen Krupp , and their local South African partner Africa Defense Systems (ADS) won a contract for the supply of 4 corvettes to the South African Navy, despite the fact that they were not even shortlisted following the first round of the tender. The deal raised suspicions in South Africa, and led to investigations that culminated in the jailing of the South African partner in 2005. Although the initial suspicions did not extend to the German companies, in 2006, German prosecutors began their own investigations, which uncovered bribe payments by the German companies. [Bonisch, G., Dettmer, M., "Bribery allegations cloud German ship sale to South Africa," *Spiegel Online* (www.spiegel.de), 5 February 2007] The same investigation also implicated French arms company Thomson CSF in bribe payments. [Meldrum, A. "Corruption scandal rocks ANC leadership," *The Age*, 4 June 2005]
(4)	3	French oil company Total was placed under investigation by French authorities in 2006, after it was named in the Volcker report investigating the United Nations oil-for-food program with Iraq. ["Total executive in bribery probe," *BBC News* (www.bbc.co.uk), 20 October 2006]
(5)	6	The arrest of a racketeer who succeeded in blackmailing four brokerages and numerous banks in Japan in 1997, led to an investigation that uncovered massive corruption evidence in the country's financial sector, and resulted in the arrest of more than 30 top executives of financial firms, and at least 5 Ministry of Finance and Bank of Japan officials. [Holley, D., "Bank of Japan exec arrested in deepening scandal," *Los Angeles Times*, 12 March 1998]
(6)	1	The murder of Andre Cools, a member of Belgium's Socialist Party, for what was eventually discovered to be a share of bribe money, alerted Belgian authorities, and led to an investigation which implicated top ranking government politicians (including former Secretary General of NATO Willy Claes) and French company Dassault Aviation for bribe payments during 1988-1991. [Whitney, C.R., "Belgium convicts 12 for corruption," *The New York Times*, 24 December 1998]
(7)	1	Tesoro Petroleum was placed under investigation for foreign bribery in 1977, following evidence uncovered by the Internal Revenue Service (IRS). [Robert Bolton v. Tesoro Petroleum Corp.", *United States Court of Appeals*, Fifth Circuit – 871 F.2d 1266, 24 April 1989 (cases.justia.com)]
(8)	3	German truck maker MAN was placed under investigation for extensive bribery over many years in 2009, following evidence uncovered by the country's tax authorities. ["German truck maker hit by bribery allegations," Deutsche Welle (www.dw-world.de), 5 May 2009]
(9)	1	Korean Airlines was investigated for tax evasion, which uncovered bribery of government officials. ["Korean Air $50m tax probe," *BBC News*, 11 November 1999]
(10)	1	A United nations report in 2002 named numerous foreign companies (among them Anglo-American) for helping to plunder the natural resources of the D.R. of Congo. [Carroll, R., "Multinationals in scramble for Congo's wealth," *The Guardian*, 22 October 2002]
(11)	4	Tax investigations in 1999 in Japan uncovered payment by numerous Japanese contractors in Indonesia for gaining tax concessions in Indonesia and for the award of contracts financed by Japan's Overseas Development Agency (ODA). ["Tekken dodged penalty tax on kickbacks in Indonesia," *Kyodo News*, 1 April 1999; *Jakarta Post*, 25 April 1999]

Panel A.3.3. Exogenous change in enforcement

(1)   6   Liechtenstein was blacklisted in 2000 by the Group of Seven for lack of cooperation in the investigation of money laundering activities. Following the terrorist attacks of 11 September 2001 and U.S. pressure surveillance within banks was improved. In 2003, compliance officers on the lookout for terrorist financing in LGT, Liechtenstein's largest bank, spotted transactions between two offshore companies controlled by Siemens executives Prodromos Mavridis (based in Greece) and Reinhard Siekaczek (based in Germany). The bank filed a suspicious transactions report to local authorities, which in turn alerted Swiss and German authorities. This marked the beginning of a worldwide investigation of Siemens which uncovered numerous bribe payments worldwide and resulted in jail terms for numerous Siemens executives and in the company paying large fines. [Crawford, D., Esterl, M., "Inside bribery probe of Siemens Liechtenstein bank triggered an international hunt," *The Wall Street Journal*, 28 December 2007]

(2)   8   In South Korea, President Roh Moo Hyun's administration during 2003-2007 pledged to reform the country's industrial groups (*chaebols*). It placed under investigation the country's largest industrial groups, including Hyundai, Samsung, SK Corp, and Doosan for shareholder protection and corruption violations. [Choe, S.-H., "Hyundai's plans for glory stumble over an investigation," *The New York Times*, 12 April 2006] The investigations launched implicated foreign companies as well, such as IBM's subsidiary in South Korea. ["IBM Korea draws bribery charges," *Reuters*, 1 April 2004; "IBM Korea dismisses executive in bribery probe," *Computerweekly.com*, 5 January 2004]

Panel A.3.4. Whistleblowers

(1)   3   In 2002 U.S. oil-field services firm Baker-Hughes was the target of two law suits by former employees (who claimed that they were fired by the company for refusing to pay bribes), who alerted authorities to investigate bribery in Nigeria, South America, and Thailand. [Sanders, L., "Baker faces 3 bribery allegations," *CBS.MarketWatch.com*, 20 June 2002]

(2)   1   In 2001, following the merger between Daimler and Chrysler, one of the internal auditors of Chrysler discovered how the German company processed bribe payments. After he was dismissed, in 2004, he approached U.S. authorities and disclosed what he knew. This led to a U.S. investigation that uncovered bribe payments by Daimler in 22 countries worldwide. [Hawranek, D., "US investigators crack down on Daimler's culture of corruption," *Spiegel Online* (www.spiegel.de), 30 March 2010]

(3)   1   The internal audit department of Norwegian oil company Statoil discovered bribe payments to secure oil and gas rights in Iran in 2004. When the company's top management refused to take action, the information was leaked to the Norwegian press, which led to the resignation of senior management and investigations by Norwegian and U.S. authorities. [Shearman & Sterling LLP, Cases: U.S. v. Statoil ASA (fcpa.shearman.com)]

(4)   1   In 2007, Swiss engineering firm ABB publicly announced, and informed U.S. authorities, that it had uncovered suspect payments by some of its employees in Asia, South America, and Europe. ["ABB, Siemens probes show bribery hard to stamp out," *Reuters* (www.reuters.com), 26 July 2007]

(5)   4   An employee of General Electric (GE) in Israel revealed to authorities that GE had bribed an Israeli air force general during the 1980s in order to secure the sale of GE military jet aircraft engines. The revelation led to investigations in both Israel and U.S. [Black, L., "GE in bribery case talks," *The Independent*, 11 July 1992; Gibson, W.E., "Whistleblower finally collects after long fight with GE, Israel," *The Seattle Times*, 21 December 1992] The investigations also engulfed United Technologies. [Vartabedian, R., "United Tech tied to aid diversions," *The Los Angeles Times*, 27 October 1993]

(6)   1   The former president of the Philippine Forest Corp disclosed the members of the National Economic and Development Authority (NEDA) received bribes by Chinese firm ZTE Corp for a telecommunications contract in the Philippines. [Punongbayan, M., "Lozada: Abalos told me about P200-million bribe," *The Philippine Star*, 12 November 2010]

(7)   2   A former employee filed a lawsuit against defense contractor Teledyne in 1989 alleging corruption. This led to more whistle-blowers coming forward, and an investigation by U.S. authorities that uncovered bribe payments in the U.S. and in foreign countries. ["At Teledyne, a chorus of whistle-blowers," *BusinessWeek*, 14 December 1992]

(8)   1   In 2001, two former employees of Wembley PLC's Lincoln Park U.S. subsidiary filed a lawsuit against the company alleging that their employer was planning to bribe the Speaker of Rhode Island's House of Representatives in relation to dog racing track and casino licenses. The allegations led to an investigation by U.S. authorities. [Gregg, K., Anderson, L., "Lottery chief tells of Bucci's 'bonus' offer to McKinnon," *The Providence Journal*, 16 September 2003]

(9)   1   An investigation into U.S. defense contractor Litton Industries was launched in 1995, following a lawsuit filed in a Los Angeles court by a former Litton manager. [Vartabedian, R., "Litton Saudi defense project is target of IRS inquiry," *The Los Angeles Times*, 3 July 1995]

Panel A.3.5. Investigations by the press

(1)   6   In 2003, *The Guardian* newspaper in the United Kingdom alleged that the arms sales department of the Ministry of Defense was complicit in the payment of bribes by UK defense companies abroad, and that BAE Systems had paid bribes to secure contracts in the Czech Republic, India, Qatar, and South Africa. [Evans, R., Traynor, I., Harding, L., Carroll, R., "Web of state corruption dates back 40 years," *The Guardian*, 13 June 2003; Evans, R., Traynor, I., Harding, L., Carroll, R., "BAE faces corruption claims around the world," *The Guardian*, 14 June 2003] In 2004, the newspaper alleged that BAE had won the USD86 billion "Al Yamanah" contracts for supplying jets to Saudi Arabia during 1985-1988, by paying bribes to Saudi officials. In November 2004, the UK's Serious Fraud Office launched an investigation which was dropped two years later. [Timeline: BAE corruption probe", *BBC News*, 26 June 2007 (www.news.bbc.co.uk)] The decision to drop the investigation was defended by Prime Minister Tony Blair who said that "our relationship with Saudi Arabia is vitally important for our country … that strategic interest comes first."["Blair defends Saudi probe ruling", *BBC News*, 15 December 2006 (www.news.bbc.co.uk)] However, further evidence of corruption was revealed when the Department of Trade and Industry (DTI) declassified and made publicly available in the National Archives its own copy of related files, whose originals were kept at the Ministry of Defense. The "error" was corrected, and the files were removed, but in the meantime they had been copied by an investigative journalist. [Leigh, D., Evans, R., "Kew's al-Yamanah files," *The Guardian*, 7 June 2007] A few weeks later, in June 2007, the U.S. Department of Justice opened a separate corruption probe into BAE involving this and other deals ["U.S. launches corruption probe into Britain's BAE," *Reuters*, 26 June 2007 ([www.reuters.com)](www.reuters.com)], which resulted in BAE pleading guilty to charges of false accounting and a USD400 million settlement deal. [BAE pays fines of BP285m over arms deal corruption claims," *The Guardian*, 05 February 2010 (www.guardian.co.uk)]

(2)   1   Bribery allegations against Host Marriott in relation to a contract at Miami International Airport were revealed in an investigation of local politicians carried by *The Miami Herald* in 1999. [Greene, R., Dorschner, J., Tanfani, J., "Insiders profit, travelers suffer," *The Miami Herald*, 17 October 1999]

Panel A.3.6. Voluntary disclosures

(1)   2   Lucent Technologies discovered violations of the U.S. Foreign Corrupt Practices Act (FCPA) in its Chinese operations during an internal investigation. The company fired four executives in 2004, and voluntarily alerted the SEC and the DOJ, which launched a formal investigation. ["Foreign bribery cases in Asia and Pacific," *Transparency International* (www.transparency.org)]

(2) 2 In 1999, during the presidency of Fidel Ramos in the Philippines, Fraport, the German airports operator, won the contract to construct and operate the new Terminal 3 of the Ninoy Aquino International Airport in Manila (NAIA-3). The contract was further amended during the presidency of Joseph Estrada. [Landler, M., "A bitter exit from a Philippines airport," *The New York Times*, 30 April 2003] The terminal was completed, but the new administration of Gloria Arroyo cancelled the contract in November 2002, and refused to pay Fraport, alleging that the contract provisions were too onerous. The Supreme Court of the Philippines ruled in favor of the government. Unable to recoup its investment, Fraport filed a complaint with the International Center of Settlement of Investment Disputes (ICSID) of the World Bank in September 2003, alleging extortion and the demand for bribes by Philippine authorities. [Go, M.G.A., "Philippines: All the president's lawyers," *Asia Times Online*, 25 October 2003] Following this complaint, in December 2003, German prosecutors launched an investigation into Fraport in connection to the Manila project. ["Foreign bribery cases in Asia and Pacific," *Transparency International* (www.transparency.org)]

(3) 1 In 2003, Lockheed announced the acquisition of Titan Corp. In the course of conducting due diligence after the announcement of the deal, the companies discovered bribe payments by Titan Corp. related to telecommunications contracts in Benin. The companies disclosed the findings to the U.S. authorities, and Lockheed withdrew from the merger. [Shearman & Sterling LLP, Cases: U.S. v. Titan Corp (fcpa.shearman.com)]

(4) 3 In 1999, activist organization Global Witness called on foreign oil companies operating in Angola to disclose corruption in their activities, in an effort to clean up the government and promote economic development in the impoverished country. ["A crude awakening: How Angola state corruption and the lack of oil company and banking transparency has contributed to Angola's humanitarian and development catastrophe," *Global Witness* (www.globalwitness.org), 5 December 1999] One year later BP Amoco was the first one to admit paying bribes, which also led to investigations of Elf Aquitaine and Exxon. ["Campaign success: BP makes move for transparency in Angola," *Global Witness* (www.globalwitness.org), 12 February 2001]

(5) 3 In 2004, InVision Technologies shared results of its internal investigation suggesting bribe payments abroad, and entered into a non-prosecution agreement with the U.S. Department of Justice. [Post, L., "Deferred prosecutions on rise in corporate bribery cases," ALM Media Properties, LLC (www.law.com), 17 August 2005]

(6) 2 In 1975, the SEC and the Senate Committee on Foreign Relations conducted an open investigation, asking firms to volunteer information of bribery abroad (the evidence gathered eventually led to the promulgation of the Foreign Corrupt Practices Act in 1977). Lockheed was one of the firms that provided evidence of bribery, and the investigations traced some of the bribe payments to Japanese politicians. This also exposed its Japanese partner Marubeni. [Posadas, A., "Combating corruption under international Law," *Duke Journal of Comparative and International Law* 10, 345-414]

(7) 1 In 2002, an internal investigation by Norwegian firm Veidekke uncovered a bribe paid by its UK subsidiary to the Ugandan Minister of Energy in 1999, in relation to the World Bank funded Bujagali dam project, and informed the World Bank. [Pallister, D. "Bank stalls dam after UK firm's payment to minister," *The Guardian*, 19 July 2002]

(8) 1 In 2000, an internal investigation report by its auditors uncovered bribe payment's paid by Xerox's Indian subsidiary to Indian government officials. The company disclosed the findings to the U.S. SEC and to Indian authorities. ["Xerox Modicorp under Govt scanner," *Indianexpress.com*, 4 July 2002]

Panel A.3.7. Action by competitors or third parties

(1) 2 In 1999, Korea Supply Co, the competitor to Loral Corp for an aircraft radar system awarded by the Ministry of Defense of South Korea in 1995, filed a lawsuit in the U.S. alleging bribery. The lawsuit followed reports in the Korean press which alleged that Loral's agent for the project in Korea (a former model, lounge singer, and Los Angeles nightclub owner) had an affair with the South Korean Minister of Defense. The incident drew the attention of the U.S. Department of Justice, which launched its own investigation into Lockheed Martin, which had acquired Loral in the meantime. [Girion, L., "S. Korean defense scandal to test competition law," *Los Angeles Times*, 4 December 2002]

(2) 3 In 1995, the Philippines Public Estates Authority (PEA) signed a contract for the sale of reclaimed land along Manila Bay to a joint venture involving Filipino and foreign businessmen (Amari Coastal Bay Development Corp). A few months later, a disgruntled intermediary, who felt excluded from the deal, provided evidence of corruption to a member of the Senate. The latter, disclosed the evidence in a speech on the Senate floor. The ensuing investigations eventually led to the cancellation of the contract. [Coronel, S., Tordesillas, E., "The grandmother of all scams," Philippine Center for Investigative Journalism (www.pcij.org), 28 April 1995; Go, M.G.A., "Philippines: All the president's lawyers," *Asia Times Online*, 25 October 2003]

(3) 1 A public interest litigation (PIL) lawsuit against U.S. power company Cogentrix and its partners filed by an activist, alleging bribe payments to secure the construction of a power plant in Mangalore, India, resulted into an investigation by India's Central Bureau of Investigation (CBI) in 1998. ["CBI to probe Cogentrix," Indian Express, 27 February 1998; Kachwaha, S., "Public interest litigation in India," International Bar Association Annual Conference, Buenos Aires, October 2008]

(4) 1 In 2004, U.S. oil company Oceanic Exploration filed a lawsuit in the U.S. District Court implicating ConocoPhilips in a conspiracy involving bribes in order to take away a concession it had been granted in East Timor. ["Australian government rejects Timor gas bribe allegations made in U.S. court," *Tahiti Presse*, 3 March 2004]

(5) 1 Evidence of bribery by British firm Rolls-Royce for a contract to build a power plant in India's Andhra Pradesh emerged during a legal dispute in India involving the project's local shareholders. [Barnett, A., "When Rolls-Royce 'bribed' for power contract," *The Tribune*, 4 February 2003]

(6) 1 Newmont Mining was investigated by U.S. authorities following a shareholder's accusation of bribery in Peru. ["U.S. subpoenaed Newmont Mining on Peru dispute," *The New York Times*, 4 November 2003]