

# Corporate Governance and Corruption: A Cross-Country Analysis

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*Because the empirical literature on the causes of corruption has focused primarily on the demand side of corruption, that is, the corrupt officials who receive bribe payments, the role of the private sector as the supply side of corruption has not been examined thoroughly in this literature. In this article, it is argued that corporate governance is among the important factors determining the level of corruption. Using a cross-country data set, hypotheses that explicitly link various measures of corporate governance to the level of corruption are tested. The results show that corporate governance standards can have profound impacts on the effectiveness of the global anticorruption campaign.*

## INTRODUCTION

Corporate governance has emerged as a major policy concern for many developing countries following the financial crisis in Asia, Russia, and Latin America. The collapse of Enron suggests that even the highly industrialized countries such as the U.S. are not immune to the disastrous effects of bad corporate governance. Studies have shown that low corporate governance standards raise the cost of capital, lower the operating performance of industry, and impede the flow of investment (Agrawal and Knoeber; Daily and Dalton; Himmelberg, Hubbard, and Love). Following the corporate scandals of Enron, WorldCom, and Tyco, more and more countries have embarked on corporate governance reforms to better protect the interests of investors.

Policy makers around the world have another important reason to be concerned with corporate governance: poor corporate governance also breeds corruption. Corruption, defined here as the misuse of public office for private gain (Rose-Ackerman 1978), has both demand and supply sides to it. While much attention to the global anticorruption campaign has been directed toward the demand side of corruption (Vogl), that is, the corrupt government officials, the supply side of corruption is just as important, and the role of the corporations as the main contributors of bribe payment should not be underestimated. Rules of corporate governance, such as accountability, transparency, and fairness, have profound

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impacts on the motives and constraints of both the bribe takers and bribe payers involved in corrupt practices.

The linkage between corporate governance and corruption is especially relevant in the context of developing countries. For instance, many developing countries have embarked on various forms of market-oriented reforms to modernize their economies, and the privatization of state-owned enterprises has often been a centerpiece of such reforms. Privatization, however, presents special challenges for both the public sector governance and corporate governance in developing countries. In some transition economies, weak corporate governance has facilitated corrupt officials in looting the already impoverished states during the process of privatization (Black, Kraakman, and Tarassova).

Globalization also poses both opportunities and challenges to corporate governance reforms in developing countries. On the one hand, globalization can accelerate the convergence of corporate governance to international standards (Khanna, Kogan, and Palepu); on the other hand, however, globalization can also increase competition for a large number of inefficient domestic firms, and thus may create high pressure for them to bribe in order to survive. In addition, the role of multinational companies in the battle against corruption should not be overlooked. While they certainly are capable of making significant impacts in improving the global business environment, some recent high-profile corporate bribery scandals involving multinational companies (e.g., Xerox in India, IBM in Argentina, and Siemens in Singapore) indicate that bribery may have been used by some multinationals as a marketing strategy to penetrate into emerging markets. Transparency International's Bribe Payers Index shows that companies from some of the leading exporting nations in the world are among the most likely to pay bribes in foreign countries to gain unfair advantages over their competitors (Transparency International). As a result, in an era of globalization, bad corporate governance may facilitate the exporting of bribery practices across the borders, and may therefore undermine the effectiveness of the global anticorruption campaign.

A better understanding of the linkage between corporate governance and corruption is of paramount importance to a more balanced approach to corruption. While empirical studies on the causes of corruption have significantly advanced our understanding of the demand side of corruption, that is, of the motives and constraints facing public officials in corrupt practices, critical questions regarding the supply side of corruption remain unanswered.

This article complements the existing empirical literature on corruption by explicitly exploring the linkage between corporate governance and corruption in a cross-country context. The article proceeds as follows: the next section focuses on theories that link various aspects of corporate governance to corruption and presents several testable hypotheses. Section three describes the data and presents empirical evidence based on a cross-country analysis. In the last section we conclude.

## CORPORATE GOVERNANCE AND CORRUPTION: THEORIES AND HYPOTHESES

Corporate governance specifies the distribution of rights and responsibilities among different participants in the corporation such as the board, managers, shareholders, and other stakeholders, and spells out the rules and procedures for making decisions on corporate affairs (OECD). To understand how corporate governance would affect the level of corruption, we need to study first how various participants in the firms would be affected by bribery practices and why bribery practices have been pervasive in business. In this section, we focus on three questions: (1) Are bribery practices rational from the firms' perspective? (2) Why are bribery practices so pervasive if bribery is counterproductive for firms? (3) How would good corporate governance help to reduce the level of corruption?

### **The Hidden Costs of Bribery**

Bribery can take place in a wide spectrum of business activities over which some government officials hold discretionary powers. For example, firms may bribe public officials to avoid or reduce tax, to secure public procurement contracts, to bypass laws and regulations, or to block the entry of potential competitors. On the surface bribery seems to be cost-effective for the firms because bribe payment is often a fraction of the monetary value of the services rendered by the corrupt officials. The reason to bribe becomes even more compelling when public officials hold the power to punish the firms for not paying the bribe (e.g., revoking the business license).

The seemingly justifiable bribery practices (for economic gains or for survival) have several hidden costs for the owners or shareholders of the firms that might be overlooked, or at least underestimated. First, bribery exposes the firms to substantial legal and financial risks in the future. Firms involved in bribery will bear the risks of legal actions against them if the bribery acts are caught. Corporate managers who are convicted of bribery are often prosecuted under criminal laws and may face fines but also jail sentences. There are substantial financial risks involved as well. Governments may decide to nullify contracts that have been initiated or influenced by bribery, or to blacklist the firms for future government projects. In 1996, five multinational companies (Siemens, Pirelli, BICC, Marubeni, and Tomen) were banned by the government of Singapore from bidding on any government projects for five years after their consultant was convicted of paying bribes for utilities construction contracts. For an established firm, its reputation amounts to a significant component of its overall market value, and bribery practices expose the firm to the risk of losing such value. In a recent empirical study on corruption and international corporate value, Charles Lee and David Ng find that the level of corruption has a negative impact on shareholder value of a firm.

Second, firms opening their doors for corruption may find it difficult to resist demands for bribery payments in the future (Rose-Ackerman 1999). Firms with a reputation for bribing their way out are more likely to receive demands for higher bribe payment by corrupt officials, sometimes for services that are normally free of bribery for other firms. Bribe payment from firms with such a reputation may be perceived to be “safe” from the perspective of the potentially corrupt officials, and these corrupt officials may increase the level of bureaucratic interference in order to secure bribe payments from these firms. As a result, firms that hope to circumvent government regulations may actually face an increased level of bureaucratic interference. Using firm-level data, Daniel Kaufmann and Shang-Jin Wei find that firms that pay more bribes face more, not less, effective red tape because corrupt officials can often customize the nature and amount of harassment on firms in order to maximize bribe collection.

Perhaps the most damaging consequence of bribery for the firms is that it undermines the firms’ drive in developing long-term competitive advantages. If managers realize that they can win business through bribery rather than through providing better products or services, they will be busy courting government officials rather than concentrating on developing the competitiveness of their firms through innovation and better investment decisions. In 1977, when the U.S. Government first enacted the Foreign Corrupt Practices Act to prevent U.S. firms from bribing foreign public officials, critics suggested that such a unilateral move by the U.S. government would put U.S. companies in a competitive disadvantage in many emerging markets. Today, multinational companies based in the U.S. have been recognized as global leaders in the many fields in which they operate. In retrospect, toughness on bribery might have forced U.S. companies to focus their attention on developing long-term competitive advantages through innovation and better investment decisions.

In summary, bribery practices have several hidden costs that may dwarf any immediate gains from such practices. Therefore, firms should avoid or minimize the opportunities for bribery practices in order to protect the interests of the owners or shareholders.

### **The Principal-Agent Problem and Bribery**

A distinction should be made between passive and active bribery before the article proceeds further. Passive bribery occurs when firms feel that they have to pay to avoid being punished, and active bribes occur when firms initiate the transaction of bribe payment in order to evade their responsibilities to the public or to undermine the efforts of their competitors. Such a distinction is crucial because in the former case it is difficult for the firms to “opt out” of the corrupt practices, while in the latter case firms have many options available. Here we turn our attention to the latter cases.

The *principal-agent problem* or *agency problem* in the modern corporate systems may account for the fact that many firms do get involved in corrupt practices despite the possibility that the cost of bribery may outweigh the benefit. The principal-agent problem arises when there is a separation between those who own the firm—the principals—and those who control it—the agents, and the interests of the principals may not coincide with those of the agents. For example, while the owners (the principals) are more interested in maximizing the return for their investments in the long run, the managers (the agents) might be motivated by their own personal interests. The incentive structure for the managers differs from that of the owners, and so does their time horizon and risk attitudes. Bribery may offer the managers the opportunity to cash in on any immediate upside movement from bribery activity while leaving the future potential risk and cost to the owners or shareholders. For example, securing a public project by bribing public officials may increase the value of the cooperation for the short run, thus significantly increasing the compensation to the managers, but the firm may be held criminally liable for the bribery involvement in years to come and the shareholders are forced to bear such a risk. The ability to win business through bribery may also allow a nonperforming manager to temporarily conceal his failure to increase the value of the firm through strategic planning and hardwork, and bribery may actually enable the manager to shirk his duty without facing the consequence of such behavior.

Another dimension of the principal-agent problem arises from the divergence of interests and objectives between the inside shareholders and outside shareholders. Because of their differences in the control of top management—the access to the firm's financial information and the portfolio of holdings—inside shareholders and outside shareholders can be affected differently by bribery practices. For example, the inside shareholders, through their control of the management, can shift the burden of bribe payments completely to the outside shareholders. The information advantage of the inside shareholders over the outside shareholders allows them to pull out quickly should anything go wrong. Inside shareholders may also have controlling stakes in multiple firms, enabling them to redistribute the costs and benefits of bribery practices among a set of different firms—a strategy that can be detrimental to the outside shareholders in these firms. A derivative suit for bribery filed by minority shareholders of South Korea's Samsung Corporation in 2001 against the chairman and directors (mostly inside shareholders) of the company provides an excellent example of the clash between inside shareholders and outside shareholders over bribery practices.

Furthermore, the challenges in monitoring and controlling today's many large corporations also add multiple layers to the principal-agent problem. Many bribery cases involve low-level managers and employees instead of the top management. Even if top management is committed to ethical business conduct, middle or low-level managers may have

strong incentives to boost their performance and pay through bribery and, as a result, the decisions to bribe could be made by managers at various levels without the knowledge of the top management. For example, many multinational companies have established wholly owned subsidiary companies in many regions or countries where they operate, and some of these subsidiaries have become big spenders in the market for corrupt services.

Last, information asymmetry between principals and agents regarding bribery makes it more difficult for owners or shareholders to solve the principal-agent problem of bribery through monitoring. Agents have the tendency to hide any information that they think reflects poorly on them, whether it is safety violation or involvement in bribery practices. The fact that bribery is illegal and often kept secret allows the managers (the agents) to collude with corrupt officials in deceiving the firms' owners as well as the public.

### **The Coordination Game and Bribery**

The principal-agent model of bribery may have limited applicability in explaining the widespread bribery practices arising from two circumstances. The first is that, while attention thus far has been focused on active bribery, many bribery practices are initiated by managers who try to avoid punishment for not paying the bribes. For example, in a society with a high level of corruption, the fear of being undercut by its competitors through bribery forces all firms to do the same in order to survive. Under the second circumstance, the level of corruption is very high in countries where most firms are family-owned businesses that do not encounter principal-agent problems. For example, Haider Khan questions the merit of applying the principal-agent model of corporate governance to Asia where the majority of the businesses are family-owned.

A simple coordination game can be used to illustrate firms' choices in those situations. It is assumed that two firms compete for a public contract, and the payoff matrix is shown in the figure below (Figure 1). The number in the top-left corner in each cell represents the payoff for Firm A and the number in the bottom-right corner in each cell represents the payoff for Firm B. It is assumed that the firm involved in bribery can gain an unfair advantage over the other firm if the other does not bribe, but such gain would be offset by potential costs, as discussed in the last section. The firm that chooses not to bribe given the fact that the other firm bribes will suffer big losses as indicated by the change from 4 to 0. When both firms offer a bribe (4<sup>th</sup> Scenario), no firm can gain an unfair advantage over the other, and the award of the public contract would be determined by the same probability distribution prior to the bribery, but the corrupt officials can charge higher premiums for their services because demand for them is higher. This game has two equilibria: (not bribe, not

FIGURE 1  
**Payoff Matrix of Two Firms Competing for a Public Contract**

		Firm B	
		Not bribe	Bribe
Firm A	Not bribe	4 1 <sup>st</sup> Scenario 4	0 2 <sup>nd</sup> Scenario 3
	Bribe	3 3 <sup>rd</sup> Scenario 0	1 4 <sup>th</sup> Scenario 1

bribe) and (bribe, bribe). While the best strategy for each firm when the other firm does not bribe is to not bribe, the best strategy in the situation when other firm bribes is to bribe in order to avoid the worst scenario (2<sup>nd</sup> Scenario for Firm A and 3<sup>rd</sup> Scenario for Firm B).

The implications of the simple coordination game are straightforward. A firm's decision to pay a bribe has negative effects on other firms in the game by decreasing their rate of success with a given bribe payment or raising the bribe amount needed for success, or both. While the individual firm's best choice is to bribe when others would do the same, this best strategy from the perspective of the individual firm leads to the worst scenario collectively for all firms involved. On the other hand, the simple coordination game shows that the equilibrium at which no firm bribes is also a stable outcome: once everyone stops bribing there is no incentive to defect from this equilibrium (Rose-Ackerman 2002).

The simple coordination game helps explain why bribery practices are more widespread and persistent in some industries than in others. Transparency International's Bribe Payers Index 2002 reports a high occurrence of bribery practices in industries such as public works, arms and defense, and oil and gas. Bribery will be a dominant strategy for firms in a specific industry once it becomes an industry norm. It also explains why a country with a high level of corruption may find it extremely difficult to move away from the equilibrium at which many firms are engaged in bribery practices in one form or another.

## Corporate Governance and Corruption: Hypotheses

Good corporate governance can lead to the reduction of corruption by addressing both the principal-agent problem and the problem of coordination. The principles of good corporate governance such as accountability and transparency not only can improve firms' operating performance, but can also reduce the level of corruption by imposing more constraints on both the corrupt officials and the corruptors from the private sector. In order to verify these claims empirically, the following two hypotheses to explore the linkage between corporate governance and corruption are proposed.

### *Hypothesis 1: Corruption Will Be Lower in Countries Where Corporate Boards Are More Accountable to Shareholders*

The accountability of corporate boards to shareholders, particularly outside shareholders, reduces the incidence of bribery. First, an independent and competent corporate board that truly represents the interest of shareholders can help prevent the opportunistic behaviors of the managers (and/or inside shareholders). While managers (and/or inside shareholders) of firms might be tempted by the immediate gains from bribery, it is in the interest of the shareholders of firms not to be involved in bribery activities.

In addition, having strong corporate boards also makes it more credible for managers to commit to a "no bribe" policy when dealing with public officials who demand a bribe payment. George Clarke and Lixin Colin Xu find that the level of bribe payment depends on the ability of firms to pay instead of on the potential gains from the services provided by corrupt officials. An independent and competent corporate board limits the firm's ability to pay a bribe and can actually boost the bargaining power of the managers in dealing with corrupt officials.

Furthermore, having a strong corporate board helps deter the extortion demands from corrupt officials by increasing the risks they face, because there will be more people in the know and the chance of whistle-blowing from insiders will be increased.

Increasing the accountability of corporate boards to shareholders can also help solve the problem of the coordination game by providing firms with a mechanism to signal to their competitors that they are unwilling to cope with demands from corrupt officials for bribe payments, thus the best strategy for all firms is not to offer bribes.

### *Hypothesis 2: Corruption Will Be Lower in Countries that Have Higher Standards for Accounting Information Reporting*

The transparency in the provision of accounting information can help reduce the level of corruption by increasing the probability of detecting bribery acts. First, better accounting practices help reduce the information

asymmetry between principals and agents and enable principals to monitor the behaviors of agents more effectively. With higher accounting standards, corporate managers who are engaged in bribery practices against the will of the shareholders often face a more difficult task of hiding bribe payments. In addition, strengthening the rules and regulations regarding accounting information reporting and disclosure helps fortify the internal control and monitoring system within the firms. In 2001, IBM, the American computer giant, reported a bribery case to the U.S. Securities and Exchange Commission involving its wholly-owned subsidiary (IBM Argentina); this case involved a bribe payment of \$4.5 million to public officials of Banco de la Nacion Argentina. It will be much more difficult to uncover the corrupt practices committed by insiders if the company's accounting practice is of low standard. Furthermore, transparency in accounting information reporting and disclosure also deters corrupt practices from the demand side because it increases the probability that the corrupt practices will be caught.

Last, high accounting standards help solve the information asymmetric problem in the coordination game discussed earlier. Since bribery practices are often kept secret, corrupt officials hold an information advantage over firms regarding the existence and amount of bribery payments. Better accounting information may provide firms better access to information about the activities of other firms in this regard and help them move together to the equilibrium of no bribery.

## CORPORATE GOVERNANCE AND CORRUPTION: EVIDENCE

### **Data Description**

The lack of empirical studies on the link between corporate governance and corruption is in part due to the paucity of data on corporate governance. In recent years, however, a few attempts have been made by several international consulting firms to measure corporate governance at the country level. For example, in 2001 PricewaterhouseCoopers published its Opacity Index for 35 countries, in which corporate governance is one of five components in determining the opacity level of a country. In May 2002, McKinsey & Company ranked 21 economies around the world based on perceived quality of corporate governance from a survey of institutional investors. Credit Lyonnais Securities Asia, an investment consulting firm based in Hong Kong, also published its own corporate governance rating of 25 emerging markets based on a comprehensive analysis of 495 companies in these economies. Table 1 shows the coverage and ratings of these different corporate governance indices.

These newly available corporate governance ratings serve as timely additions to the tools available to investors, but they are not suitable for empirical analysis here for three reasons. First, these ratings reflect mainly

TABLE 1  
Corporate Governance Ratings

Country	PWC Rating <sup>a</sup>	McKinsey Rating <sup>b</sup> (%)	CLSA Rating <sup>c</sup>
Argentina	49	24	
Brazil	63	24	
Canada		11	
Chile	28	18	
China	86	25	49.1
Colombia	55	21	
Czech Republic	77		
Ecuador	68		
Egypt	68	39	
France		13	
Germany		13	
Greece	49		
Guatemala	71		
Hong Kong	53		62.9
Hungary	65		
India	79	23	55.6
Indonesia	68	25	37.3
Israel	62		
Italy	26	16	
Japan	81	21	
Kenya	72		
Lithuania	59		
Malaysia		22	56.6
Mexico	29	19	
Morocco		41	
Pakistan	62		33.9
Peru	61		
Philippines		22	43.9
Poland	55	23	
Romania	78		
Russia	81	38	
Singapore	38	21	64.5
South Africa	82	22	69.3
South Korea	90	20	47.1
Spain		14	
Sweden		13	
Switzerland		15	
Taiwan	56	19	54.6
Thailand	78	20	55.1
Turkey	80	27	43.0
United Kingdom	45	12	
United States	25	14	
Uruguay	56		
Venezuela	50	24	

<sup>a</sup>PricewaterhouseCoopers (PWC), 2001. *The Opacity Index*. PWC rating reflects the accounting/corporate governance opacity of the country. Higher rating indicates lower standards of corporate governance.

<sup>b</sup>McKinsey & Company, 2002. *Global Investor Opinion Survey: Key Findings*. McKinsey rating represents the average premiums investor would pay for a well-governed company in a particular country. Higher premiums indicate lower standards of corporate governance.

<sup>c</sup>Credit Lyonnais Securities Asia (CLSA), 2002. *Saints and Sinners, Who's Got Religion?* CLSA rating is the weighted average of ratings on key areas of corporate governance such as discipline, transparency, independence, accountability, responsibility, fairness, and social awareness. The higher rating indicates higher standards of corporate governance.

the knowledge and perception of institutional investors, thus may not be representative of other potentially important informants. Second, the coverage of these ratings is quite limited, and may not provide enough variation for multivariate analysis here. Last, corporate governance involves a set of complex relationships and rules, and includes several related yet different components. These ratings tend to average out the effects of different components and cannot provide the opportunities of individually assessing the effects of different components on corruption.

Corresponding to the two hypotheses regarding corporate governance and corruption, two measures of corporate governance that are both taken from the Global Competitiveness Report (GCR) are used—one on the efficacy of corporate boards in representing outside shareholders (SHAREHOLDER), and the other on the quality of accounting practices (ACCOUNT). GCR covers about 75 major economies around the world, and its ratings reflect the views of more than 4,600 business leaders and entrepreneurs from the countries surveyed.

The first measure of corporate governance—the efficacy of corporate boards in representing outside shareholders—is based upon the question “Corporate boards in your country are (select from 1 to 7 where 1 = controlled by management and 7 = powerful and represent outside shareholders)?” While many studies on corporate governance have used measures such as ownership of firms, size of corporate board, and composition of corporate boards to proxy for the quality of corporate boards, the index provided by GCR has the distinct advantage of being able to directly measure the effectiveness of corporate boards in representing shareholders.

The second measure of corporate governance focuses on the quality of accounting practices across countries. It is based on the question “What amount of profits and wages does a company in your industry typically ‘keep off the books’ (select from 1 to 10, where 1 = less than 5 percent, 2 = 5–10 percent, 3 = 11–20 percent, 4 = 21–30 percent . . . 9 = 71–80 percent, and 10 = more than 80 percent)?” A higher percentage of unreported profits and wages represents more frequent occurrences of accounting irregularities, which in turn implies that it might be relatively easy to hide the expenses of bribery. Table 2 shows the GCR’s ratings on the two corporate governance indices for 2001–2002.

Transparency International’s corruption index has been noted both for its internal consistency and for its consistency with other major corruption indices (Treisman). Transparency International’s corruption index for 2002 has been chosen here as the measure of corruption across countries. For the convenience of interpretation, the original index has been adjusted so that the range of index is still from 0 to 10, where 10 reflects the highest level of corruption and 0 the lowest.

Besides the variables for corporate governance, several plausible determinants of corruption are included in the model here as control variables. First, almost all major studies of the determinants of corruption have

TABLE 2  
Corruption Index, Efficacy of Corporate Board, and Unreported Profits/Wages

Country	Corruption Index (TI)	Efficacy of Corporate Board	Unreported Profits/Wages	Country	Corruption Index (TI)	Efficacy of Corporate Board	Unreported Profits/Wages
Albania	7.5			Latvia	6.3	3.8	2.6
Angola	8.3			Lithuania	5.2	3.8	2.2
Argentina	7.2	4.0	2.4	Luxembourg	1.0		
Australia	1.4	5.5	1.3	Madagascar	8.3		
Austria	2.2	4.8	1.4	Malawi	7.1		
Azerbaijan	8.0			Malaysia	5.1	3.7	1.7
Bangladesh	8.8	2.2	3.8	Mauritius	5.5	2.6	1.9
Belarus	5.2			Mexico	6.4	3.5	2.0
Belgium	2.9	4.8	1.0	Moldova	7.9		
Bolivia	7.8	3.3	3.0	Morocco	6.3		
Botswana	3.6			Namibia	4.3		
Brazil	6.0	3.5	2.6	Netherlands	1.0	5.0	1.4
Bulgaria	6.0	3.3	2.6	New Zealand	0.5	5.3	1.2
Cameroon	7.8			Nicaragua	7.5	3.5	2.3
Canada	1.0	5.2	1.4	Nigeria	8.4	4.2	3.4
Chile	2.5	4.5	1.4	Norway	1.5	5.5	1.1
China	6.5	3.3	2.4	Pakistan	7.4		
Colombia	6.4	4.2	2.0	Panama	7.0	4.0	2.5
Costa Rica	5.5	4.6	2.6	Paraguay	8.3	3.5	2.7
Côte d'Ivoire	7.3			Peru	6.0	3.8	2.3
Croatia	6.2			Philippines	7.4	3.8	3.0
Czech Republic	6.3	3.2	2.6	Poland	6.0	4.7	2.4
Denmark	0.5	5.2	1.1	Portugal	3.7	3.6	2.6

Dominican Republic	6.5	3.7	2.6	Romania	7.4	5.1	4.2
Ecuador	7.8	3.5	3.2	Russia	7.3	3.9	3.2
Egypt	6.6	3.7	2.2	Senegal	6.9	4.8	1.2
El Salvador	6.6	3.5	2.0	Singapore	6.7	4.0	3.2
Estonia	4.4	4.8	2.6	Slovak Republic	4.0	4.0	2.6
Ethiopia	6.5			Slovenia	4.0	5.1	1.6
Finland	0.3	5.9	1.0	South Africa	5.2	3.5	2.0
France	3.7	4.9	1.2	South Korea	5.5	5.0	1.3
Georgia	7.6			Spain	2.9	3.5	2.5
Germany	2.7	5.2	1.5	Sri Lanka	6.3	5.6	1.2
Ghana	6.1			Sweden	0.7	5.3	1.3
Greece	5.8	3.1	2.5	Switzerland	1.5	4.8	1.6
Guatemala	7.5	3.3	2.7	Taiwan	4.4		
Haiti	7.8			Tanzania	7.3		
Honduras	7.3	2.5	2.5	Thailand	6.8	3.9	2.7
Hong Kong	1.8	3.9	1.4	Trinidad and Tobago	5.1	3.8	2.1
Hungary	5.1	4.7	2.2	Tunisia	5.2		
Iceland	0.6	4.8	1.2	Turkey	6.8	2.8	3.4
India	7.3	3.5	2.0	Uganda	7.9		
Indonesia	8.1	3.3	2.1	Ukraine	7.6	4.3	4.2
Ireland	3.1	4.6	1.3	United Kingdom	1.3	5.5	1.4
Israel	2.7	4.7	1.6	United States	2.3	5.7	1.2
Italy	4.8	4.4	1.9	Uruguay	4.9	3.8	2.5
Jamaica	6.0	4.5	2.5	Uzbekistan	7.1		
Japan	2.9	2.9	1.1	Venezuela	7.5	3.3	2.0
Jordan	5.5	3.8	2.5	Vietnam	7.6	4.1	2.7
Kazakhstan	7.7			Zambia	7.4		
Kenya	8.1			Zimbabwe	7.3	4.1	1.6

included Gross Domestic Product (GDP) per capita as a determinant for corruption, and have reported a high level of correlation between high GDP per capita and low level of corruption. Felipe Larrain and Jose Tavares postulate that the demand for good governance is higher in rich countries than in poor countries, and that good institutions are more affordable in high-income countries as human capital capacity is unlikely to be a constraint. In this analysis, the logarithm of GDP per capita in 1999 is used to measure the difference in economic wealth across countries.

The second economic variable included the openness of countries. Alberto Ades and Rafael Di Tella (1996 and 1999) find that countries that are more open to foreign trade tend to be less corrupt. Treisman further elaborates on the idea by pointing out that a high level of imports reduces corruption by increasing market competition, thus limiting the ability of public officials to provide profitable protection to potential bribe payers. In this article, the share of imports in 1999 divided by GDP is used to represent the openness across countries.

Variables to account for the legal and cultural roots of corruption are also included. The effectiveness of a country's legal system may affect the risk of corrupt officials being caught and punished. Treisman argues that countries with a British colonial heritage inherited not only a common law legal tradition but also a particular legal culture that emphasizes procedural justice. Religious traditions may also affect the level of corruption, and in particular, more egalitarian religions such as Protestantism pose a greater challenge to authorities than more "hierarchical" religions. Whether a country was once a British colony (BRITISH COLONY) and the percentage of population professing Protestant faith (PROTESTANT) to account for the legal and cultural factors determining the level of corruption are also included.

Last, the effects of the characteristics of the political institutions on corruption are also considered. Democratic norms and values delegitimize corrupt practices, and a number of researchers (Treisman; Sandholtz and Koetzle) have found that countries that had been democracies for a long period of time experience lower levels of corruption. The distribution of power between central and local governments can also have an impact on the level of corruption. Andrei Shleifer and Robert Vishny argue that federalism helps curtail corruption practices by creating competition in the provision of public goods. In this article, whether a country has been a democracy continuously since 1950 (DEMOCRACY) and whether a country is a federal state (FEDERAL) are used to capture the effects of political institutions on corruption.

Table 3 presents the variable names, brief descriptions, and sources of data. A statistical summary of the data here is shown in Table 4.

## Regression Results

In order to test the two hypotheses regarding corporate governance and corruption, a set of multivariate models with Transparency Interna-

TABLE 3  
Description of Variables

CORRUPTION	Corruption Perception Index. Ranging from 0 to 10 with 10 representing the highest level of corruption	Transparency International (2002)
SHAREHOLDER	Rating on the effectiveness of corporate boards in representing the interests of shareholders. Scale from 1 to 7 (1 = corporate boards controlled by management, 7 = powerful and represent outside shareholders)	Global Competitiveness Report (2001–2002)
ACCOUNT	Average amount of profits and wages companies in a country typically “keep off the books.” Scale from 1 to 10 (1 = less than 5%, 2 = 5–10%, 3 = 11–20%, 4 = 21–30% . . . 9 = 71–80%, 10 = more than 80%)	Global Competitiveness Report (2001–2002)
GROSS DOMESTIC PRODUCT (GDP)	Log of GDP per capita	World Development Indicators, World Bank
IMPORT	Imports as % of GDP	World Development Indicators, World Bank
PROTESTANT BRITISH COLONY	% of Protestants in population A dummy variable indicates whether a country is a former British colony	La Porta et al. (1999) Treisman (2000)
DEMOCRACY	A dummy variable indicates whether a country had been democratic continuously since 1950	Treisman (2000)
FEDERAL	A dummy variable indicates whether a country is a federal state	Treisman (2000)

tional’s corruption index as the dependent variable is analyzed, and the results of an ordinary least squares (OLS) regression<sup>1</sup> are shown in Table 5. Column (1) reports the unstandardized coefficients and standard errors when the two corporate governance variables as well as the full set of control variables discussed earlier are included. The regression coefficients indicate that the results from the data analysis are generally consistent with both the prediction of theories and the findings of other empirical studies. Economic wealth has a significant and negative coefficient, suggesting that a poor country plagued with a high level of corruption may grow its way out of corruption. The openness of the country matters in the battle against corruption as indicated by the

TABLE 4  
Statistical Summary of Variables

	Number of Observations	Mean	Standard Deviation
SHAREHOLDER	72	4.14	0.85
ACCOUNT	72	2.14	0.77
GROSS DOMESTIC PRODUCT	72	9.06	0.89
IMPORT	72	41.26	24.50
PROTESTANT	72	15.25	25.60
BRITISH COLONY	72	0.29	0.46
FEDERAL	72	0.22	0.42
DEMOCRACY	72	0.28	0.45

TABLE 5  
Regression Results

	(1)	(2)	(3)	(4)	(5)
SHAREHOLDER	-0.416** (0.201)	-0.391* (0.197)	-0.479** (0.174)	-0.438** (0.166)	-0.150
ACCOUNT	0.844*** (0.231)	0.821*** (0.232)	0.869*** (0.217)	0.841*** (0.213)	0.263
GROSS DOMESTIC PRODUCT	-1.370*** (0.202)	-1.377*** (0.199)	-1.418*** (0.206)	-1.410*** (0.203)	-0.506
IMPORT	-0.009* (0.005)	-0.010* (0.005)	-0.008* (0.004)	-0.009** (0.004)	-0.087
PROTESTANT	-0.015*** (0.005)	-0.017*** (0.005)	-0.015*** (0.005)	-0.017*** (0.005)	-0.173
BRITISH COLONY	-0.488* (0.253)	-0.469* (0.256)	-0.529** (0.256)	-0.500* (0.256)	-0.093
DEMOCRACY	-0.336 (0.403)	-0.224 (0.387)			
FEDERAL	0.394 (0.276)		0.336 (0.264)		
CONSTANT	18.066*** (1.929)	18.202*** (1.926)	18.595*** (2.003)	18.558 (2.001)	
Number of Observations	72	72	72	72	
R <sup>2</sup>	0.90	0.89	0.89	0.89	

The table reports unstandardized coefficients, with standard errors in parentheses.

\* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

statistically significant coefficients on IMPORT: higher levels are correlated with lower levels of corruption while controlling for other plausible determinants of corruption. Both the high percentage of Protestants in the population and the British colonial heritage correspond to a low level of corruption.

The findings also show that the two political institution variables, DEMOCRACY and FEDERAL, have the expected effects on the level of

corruption: countries that have been democratic for a long time have lower levels of corruption, and federal states are more corrupt than states that have more decentralized administrative structures. However, the coefficients are not statistically significant. Such results are consistent when one variable at a time in Columns (2) and (3) is added to account for the potential correlation between these two variables. In addition, there is virtually no change in the overall fitness of the model measured by  $R^2$  when these two variables are excluded as shown in Column (4), indicating that adding these control variables contributes little to the explanatory power of the model. Overall, regression analysis here suggests that the variables representing political institutions are weak predictors of corruption if other determinants of corruption are accounted for.

The results provide compelling evidence in favor of the two hypotheses that link corporate governance and corruption. Controlling for key determinants widely studied in empirical studies on the causes of corruption, the coefficients on SHAREHOLDER and ACCOUNT have the expected effects on corruption and they are statistically significant. There will be less corruption in a country where corporate boards truly represent the interests of shareholders; the prevention of accounting irregularity such as keeping profits and wages off the books can also play a positive role in the battle against corruption.

The relative predictive power of the two corporate governance variables is also impressive. The last column, Column (5), shows the standardized coefficients of the variables when only the statistically significant variables (SHAREHOLDER, ACCOUNT, GDP, IMPORT, PROTESTANT, and BRITISH COLONY) are included in the model. The most powerful predictor of corruption in the model here is income level ( $\beta = -0.506$ ), followed by the level of accounting irregularity ( $\beta = 0.263$ ). The relative explanatory weight of the efficacy of the corporate board in presenting the shareholders ( $\beta = 0.15$ ) is in the same range as Protestant values ( $\beta = -0.173$ ). Overall, the standardized coefficients show that the corporate governance indicators are powerful predictors of the level of corruption.

To test the robustness of the results regarding the effects of corporate governance indicators to corruption, Transparency International's Bribe Payers Index 2002 is also used as a dependent variable<sup>2</sup> to run a regression analysis. The Bribe Payers Index ranks 21 leading exporting countries in terms of the degree to which their corporations are perceived to be paying bribes abroad. Since the Bribe Payers Index focuses only on the behaviors of firms, variables that account for the demand side of the corruption are dropped from the model. Table 6 shows that the two corporate governance measures have the expected effects on the perceived level of corrupt practices of firms from nations ranked in the Bribe Payers Index. Firms from countries with lower corporate governance standards are more likely to export corrupt practices to other nations.

TABLE 6  
**Model Using Bribe Payers Index 2002 as Dependent Variable**

	Coefficient
SHAREHOLDER	-1.119*** (0.310)
ACCOUNT	1.480*** (0.351)
CONSTANT	6.959*** (1.646)
Number of observations	21
R <sup>2</sup>	0.59

The table reports unstandardized coefficients, with standard errors in parentheses.

\*\*\* $p < 0.01$

## CONCLUSION

The recent surge of interest in corporate governance from institutional investors, international organizations, and governments around the world should be welcome news to the global anticorruption campaign. The empirical results here support a theoretical projection that good corporate governance can lead to reduced level of corruption. More emphasis should be directed to bribe payers instead of focusing solely on bribe takers.

While studies focusing on the demand side of corruption have provided a rather pessimistic outlook on the global anticorruption campaign (Treisman), the analysis here based on both the demand and supply sides of corruption offers reasons for optimism. It is in the interest of firms to improve corporate governance, and such improvement will not only impose more constraints on firms' decisions to bribe but also expose corrupt officials to higher risks of being caught.

Corporate governance can well become a critical ingredient to break a vicious cycle of bribery and corruption. This vicious cycle starts when firms are forced into bribery practices because of a high level of corruption, but widened participation of firms in bribery practices further feeds into the perception of high corruption, which in turn makes the bribery practices even more uncontrollable. The analysis of the linkage between corporate governance and corruption suggests that the improvement in corporate governance may be a catalyst to break the vicious cycle of bribery and corruption.

Shareholders and investors in countries that are experiencing a high level of corruption may receive double dividends from the improvement in corporate governance. Companies with better corporate governance have better prospects of growth and command higher valuation in the market. The McKinsey study shows that global investors are willing to pay more for better-governed companies. At the same time, better-corporate governance also helps reduce bribery practices at the firm level, which potentially can further increase the valuation of firms.

At the country level, improvement in corporate governance may help a country with high level of corruption to partially offset the negative impacts of the perception of corruption on the flow of capital (both financial and human), and the additional capital induced by good corporate government serves as catalyst for further improvement in both corporate governance and the governance of the public sector.

On the other hand, bad corporate governance may also undermine the effectiveness of the global anticorruption campaign in an era of globalization. We find that firms from countries with lower corporate governance standards are more likely to be involved in bribery practices when they export goods or services to other nations. Therefore, improving corporate governance in some leading exporting nations should be a top priority in the global anticorruption campaign.

## NOTES

1. The White estimator has been used to deal with the potential issue of heteroskedastic error variance.
2. To be consistent with results reported earlier, the original index has been adjusted so that the range of index is still from 0 to 10, where 10 reflects the highest level of bribery and 0 the lowest.

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