

Public Sector Transparency and Corporate Accounting Practices in Asia

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Abstract

This article examines the impacts of firms' political environment on the quality of their accounting practices. In specific, we hypothesize that the quality of political institutions is among the determinants of firms' decisions regarding accounting practices, and test the hypothesis with a unique cross-country firm-level data set. Our results show that quality of corporate accounting practices is positively related to the quality of political institutions as measured by predictability of rules, laws, and regulations and of their interpretations in implementation. In political environments characterized by opaque public sector, it may be advantageous for firms to adopt shady accounting practices to cope with various risks arising from information asymmetry between government and business.

Key Words: Financial Disclosure, Transparency, Corruption

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Introduction

Corporate governance in Asia has been in the spotlight since the Asian financial crisis in 1997. Corporate accounting practices have in particular drawn heavy scrutiny, and it is now a consensus among experts that poor accounting practices in Asian firms was a leading factor contributing to the crisis (Gelos and Wei, 2002; Johnson et al., 2000a; Vishwanath and Kaufmann, 1999). Poor accounting practices led to excessive exposure to debt, weak protection of the shareholders' interests, and distortions in resource allocation in the economy (ADB, 2001; Mitton, 2002).

Corporate accounting practices also have significant impacts on public sector governance. Because poor corporate accounting practices reduce the chance of detecting and exposing malfeasance, they open the door for shady exchanges with corrupt public officials. The impacts of such dubious accounting practices on public corruption have been confirmed by some recent empirical studies. Kimbro (2004) has shown that that quality of accounting standards is inversely associated with corruption, and Wu (2005) finds that prevalent corruption problems in many Asian countries are indeed due in part to poor quality of corporate financial reporting in the same milieu. In response to the Asian financial crisis, governments in many Asian countries have launched various reforms aimed at strengthening corporate accounting practices, in hopes of restoring investor confidence and enhancing public sector governance (ADB, 2001). In Thailand, for example, companies listed in the stock market must now submit quarterly and annual financial statements that conform to International Accounting Standards (IAS). In South Korea the government has taken significant measures to enhance the enforcement of accounting and auditing standards to conform to international standards. Countries largely unaffected by the crisis, such as China, have also recognized the financial risks associated with low-quality accounting practices and have embarked on accounting reforms of various kinds (Lin and Chen, 2000).

Despite these efforts, progress in strengthening corporate accounting practices in Asia has been rather modest in the decade since the financial crisis (Morris et al., 2004); some have even perceived a decline in quality in recent years (Claessens and Fan, 2003). Decisions on financial reporting are ultimately the responsibility of individual firms; yet such decisions are not made in a vacuum, and the external environment plays a critical role in how these decisions are made. Choi (2002) concludes in his study of accounting reform in Korea that because corporate financial disclosure is deeply imbedded in cultural norms, change in accounting practices may take a long time to become fully implemented. Rosser (2003) observes that although adoption of international accounting standards among Indonesian firms may now project a positive image for foreign investors, little has changed in actuality, owing to the absence of a political environment conducive to accounting reform.

The impact of external environments on corporate accounting practices has also been highlighted in the literature on cross-country determinants of corporate financial reporting decisions. Studies have showed that corporate financial reporting is influenced by cultural values (Gray, 1988; Zarzeski, 1996), legal systems (LaPorta et al., 1998; Ball et al., 2000; Jaggi and Low, 2000) and politico-economic factors (Ball, 2001; Archambault and Archambault; 2003; Bushman et al., 2004). The importance of external environmental influences suggests that corporate and public decision makers would be prudent to develop reasonable expectations of what accounting reforms can achieve in view of such constraints, and to think strategically about implementation of those reforms.

The present analysis seeks to extend the literature by focusing on the role of public sector transparency in determining firms' decisions on accounting practices. Government plays an important role in shaping the operating environment to which corporate accounting practices respond, and degree of transparency in government actions shapes the degree of economic, financial, and political risks perceived by the corporate sector. In conditions of low public sector transparency, firms might find it advantageous to adopt substandard or dubious accounting practices in order to cope with various risks arising from asymmetry in information exchange between government and business. The analysis presented here used an

international data set drawn from individual corporations to explore characteristics of public sector transparency as perceived by firms in Asia and to test empirically the relationship between public sector transparency and quality of corporate accounting practices.

Understanding the linkage between public sector transparency and corporate accounting practices has several important policy implications. First, policy makers in Asia should devise reform strategies that reflect on key features of the underlying political environment, such as level of public sector transparency. Ignoring the relationship between public sector transparency and corporate accounting practices could significantly reduce the effectiveness of the accounting reforms. Second, neglecting the characteristics of public sector governance (such as transparency) may fuel unrealistic (high) expectations regarding how soon accounting reforms can achieve their intended goals. Changes in accounting practices may come about only slowly as long as public sector transparency remains unchanged. Third, a better understanding of the role of public sector transparency in determining firms' financial disclosure will enhance and expand the strategies and measures at the disposal of government. Targeted efforts to improve public sector transparency can in turn greatly improve prospects for successful accounting reforms.

Discussion below first reviews theoretical linkages between public sector transparency and corporate accounting practices and derives several testable hypotheses. Public sector transparency and corporate sector accounting practices in Asia are then considered in light of data from the World Business Environment Survey (WBES 2000) and econometric models are tested. Concluding remarks focus on the policy implications of these findings.

Public Sector Transparency and Corporate Accounting Practices: Theoretical Linkages

There is no commonly agreed-upon definition of public sector transparency (Bellver and Kaufman, 2005). In the context of its impacts on the corporate operating environment, public sector transparency can be defined as the assurance of firms' rights to certain types of

information that help to prevent potential abuses arising from asymmetry in information exchange between government and business.

Information asymmetry between government and business may take several forms. First, firms may not be aware of the existence of existing laws and governmental policies and regulations affecting the nature and conduct of their business. Information asymmetry is more pronounced in environments where changes in laws, policies, and regulations have occurred recently or frequently. The asymmetry may have disproportionately large effects on smaller firms, which may lack resources to keep track of such changes. Second, firms may have inadequate access to information on the conventions and procedures whereby changes in laws and regulations are effected. In such circumstances, firms might undermine their own positions by conforming to existing laws and regulations that will soon be modified or superseded. Third, information asymmetry may arise from discretionary administrative action in interpreting laws and regulations as applied to specific situations. Laws and regulations are often quite vague because of political compromises that were needed to ensure their passage, and this ambiguity leaves enormous discretionary leeway to the agencies or officials that implement them.

Corruption can further exacerbate the impacts of information asymmetry between government and business. Although it is important to distinguish lack of transparency from outright corruption, the two phenomena are closely linked, especially in their relationship to firms' operating environments. Corrupt officials can more easily extract bribe payments from businesses that are confronted with acute information asymmetry problems; they can also intentionally increase the opaqueness of public sector activities in order to secure more bribe payments from businesses.

Firms' responses to unpredictable operating environments that result from a low level of public sector transparency can be quite predictable. First, as a counterbalancing strategy to asymmetry arising from governmental sources, firms may choose to reduce informativeness in return, fashioning their accounting reporting so to obstruct access to corporate financial information. Firms may also simply choose to limit public access to actual corporate financial

information in hopes of cushioning against risks induced by an unpredictable operating environment.

Second, lack of transparency in the public sector reduces firms' incentives to improve the quality of financial disclosure. Maintaining high-quality financial information reporting requires considerable time and resources, including high long-term costs and the deployment of highly educated human capital such as accountants and lawyers (Bushman and Smith, 2001); the reward is presumed to be better prospects of attracting investments. Lack of transparency in the public sector undermines this type of effort by raising the variance of asset values and increasing the risk of investments, which can severely diminish investment flow to a particular country or sector or individual firm.

Third, lack of transparency in the public sector increases the business costs by imposing high transaction costs. In such conditions firms must expend critical resources to monitor and cope with unpredictable changes in laws and regulations and the procedural "rules of the game," and senior corporate managers must spend significant amounts of time dealing with officials who hold discretionary powers of interpreting and applying these directives. Faced with such costly government-related necessities, firms may feel no compunction in evading tax responsibility in order to survive. The main argument here is that the costs of *not* hiding corporate information can be too high.

Fourth, lack of transparency offers more leverage to predatory revenue officials who exact excessive rents or accept bribes not to do so. Firms may choose to underreport profits through fallacious accounting practices in order to avoid being targeted by such schemes. Clarke and Xu (2004) and Svensson (2003) have found that level of bribe payments is positively related to "ability to pay"; that is, firms that are more profitable firms are expected to pay more in bribes. Firms may elect to divert activities underground as a means of reducing vulnerability to extortion by government officials (Johnson et al., 2000b).

Fifth, lack of transparency also reduces costs of noncompliance with governmental strictures, especially with regard to corporate tax laws and regulations. Although tax evasion through flawed financial reporting is considered illegal in almost all countries, firms may find

it easier to get away with such activities in circumstances where interpretation and implementation of tax laws and regulations are less transparent.

From these various considerations regarding low public sector transparency and asymmetries in private–public exchange of information three hypotheses can be formed:

Hypothesis 1: *Firms that find it difficult to obtain information on laws and regulations are more likely to adopt low standards for corporate accounting practices.*

Hypothesis 2: *Firms that must cope with unexpected changes in rules, laws, and regulations are more likely to adopt low standards for corporate accounting practices.*

Hypothesis 3: *Firms that perceive the interpretation of regulations as unpredictable are more likely to adopt low standards for corporate accounting practices.*

Empirical Findings

Data

To test these hypotheses data from the World Business Environment Survey (WBES) were used to supply measures for economic modeling of relationships between public transparency and corporate accounting practices. Conducted by the World Bank in 1999–2000 with the aim of understanding the constraints that businesses confronted, WBES covers 83 countries, including 12 in Asia. Table 1 shows WBES coverage relating to Asia and the number of firms surveyed in each country.

[TABLE 1 ABOUT HERE]

This data set differs in several respects from data used in other empirical studies on the determinants of corporate information disclosure. First, it contains not only publicly listed firms but also privately held firms, thus providing unique insights into the determinants of financial disclosure for privately held firms. This is especially useful in a study of Asian countries, where most of firms are privately held.

Second, whereas most studies acknowledge the importance of external factors in influencing corporate financial disclosure and include measures of such factors in their analyses, the variables chosen are typically countrywide in nature and thus do not vary for

firms within the same country; as a result, variations across firms within individual countries have not been well accounted for in terms of internal factors. In the WBES-based data set developed for the present analysis, external variables provide firm-specific information and reflect the characteristics of external environments as experienced by individual firms.

Third, although level of conformity to international standards as reflected in items included in firms' financial statements has often been used to measure quality of financial disclosure, such a measure is intermediate in nature and may not accurately reflect the actual quality of financial disclosure. By contrast, firms participating in WBES were directly asked about percentage of sales reported for tax purposes; the WBES-based data set used here for Asian countries thus can provide a direct measurement of quality of financial disclosure.

Measuring Public Sector Transparency in Asia

Two aspects of public sector transparency are of particular importance from firms' perspectives. The first is the predictability with which governments change the rules, laws, and regulations affecting firms (Bellver and Kaufmann, 2005). The second is predictability with which these laws and regulations are interpreted in implementation. Several questions in the WBES were directly related to these same aspects of firms' perceptions of public sector transparency. One question assessed the level of difficulty firms had experienced in obtaining information on laws and regulations affecting their business; another elicited firms' impressions regarding predictability of changes in such laws and regulations. Firms were also asked about the whether interpretations of regulations affecting their business were predictable. Responses to these questions were used to measure public transparency in the analysis presented here.

Table 2 shows that the majority of firms surveyed in Asia (66%) found the laws and regulations affecting their firms to be easy to obtain, at least to some degree, although significant variations occurred across countries. For example, roughly half of firms in Bangladesh, Indonesia, and Thailand rated access to laws and regulations affecting their business as very easy to somewhat easy; but in Singapore the proportion of firms reporting

that degree of accessibility was 98%, with the remaining 2% reporting that access was only somewhat difficult. Sizeable variations can also be observed across firms within countries, suggesting that perceived information asymmetry regarding difficulty of obtaining relevant laws and regulations may depend on a firm's particular sector and geographic location.

[TABLE 2 ABOUT HERE]

Table 2 also indicates a similar pattern with Asian firms' impressions of the predictability of interpretations of laws and regulations on implementation. Although the majority of firms (64%) found these interpretations to some degree predictable in application, significant variations can be seen both across countries and across firms within countries.

In comparison, a high percentage of firms expressed concern about the predictability of laws and regulations affecting their businesses: 52% believed that changes in laws and regulations were to some extent unpredictable. This perception was very strongly reported by firms in Thailand (60%), Bangladesh (61%), Indonesia (66%), and especially Kazakhstan (88%).

Corporate Accounting Practices in Asia

As mentioned above, maintaining high-quality financial reporting is expensive in both time and resources. Many firms in developing countries in Asia may be reluctant to commit the resources necessary for maintaining high-quality financial information reporting. However, the Asian financial crisis in 1997 prompted changes in firms' perception of the importance of full and accurate financial disclosure. It is now widely believed that inadequate disclosure was a leading cause of the crisis. Choi (2002) has argued that noncompliance of financial statements with international standards, deficiencies in disclosure, and lack of rigorous monitoring by external auditors were among the leading causes for the financial crisis in Korea. Rahman (1998), who conducted a comparative study of five East Asian countries affected by the crisis—Indonesia, Malaysia, the Philippines, South Korea and Thailand—found that most of the companies in these countries did not follow international accounting standards.

Since the 1997 crisis, many Asian countries have undertaken accounting reforms to strengthen the quality of financial disclosure. Countries that largely escaped the crisis, such as China, have also recognized the financial risks associated with poor accounting practices (Lin and Chen, 2000). Typical reform measures in Asian countries have involved the adoption of international accounting standards and independent auditing practices. Table 3 shows that among firms the effects of these reform initiatives have been quite impressive: roughly 50% of firms in the WBES sample now use international accounting standards, and about 60% hire external auditors to review their annual financial statements.

[TABLE 3 ABOUT HERE]

Adoption of rules and regulations in accounting reforms, however, should not be interpreted as equivalent to having good accounting practices. Accounting scandals in the United States, involving noted firms such as Enron, WorldCom, and Tyco, suggest that accounting flaws occur even in developed countries with good accounting rules and highly competent financial professionals. Accounting standards are only as good as the enforcement mechanisms driving them, and external auditors may align their interests with corrupt corporate boards and managers, turning a blind eye on irregularities in accounting reports.

The difficulties of carrying out accounting reforms are confirmed by empirical results of the present analysis. Table 4 indicates that there is a sizable disparity between accounting standards and their actual implementation. Although 50% of firms used international accounting standards and 60% hired external auditors to review annual financial reports, only 42% reported 100% of their sales for accounting purposes. This disparity was especially notable for firms in South Asia. For example, in Bangladesh, whereas 76% of firms used international accounting standards and 95% used external auditors for annual financial reports, only 18% reported 100% of their sales for tax purposes—in fact more than half reported less than 70%. It is clear that conforming to new accounting standards did not in itself not guarantee good-quality financial disclosure.

[TABLE 4 ABOUT HERE]

Econometric Models

Table 5 summarizes the variables used in the models developed for the present analysis. Corporate accounting practices were measured by five variables focusing on two related but distinct aspects, adoption of accounting standards and quality of actual accounting practices. The first variable, IAS, indicates whether or not firms adopted International Accounting Standards. The second variable, AUDIT, indicates whether firms had their annual financial reports reviewed by external auditors. The next three variables measure the quality of firms' actual accounting practices in terms of how they reported sales for tax purposes: the third variable, REPORT, indicates the extent to which firms reported their sales for tax purposes; the fourth and fifth variables, REPORTLOW AND REPORTUP, indicates what percentages of the sales firms reported for tax purposes.

[TABLE 5 ABOUT HERE]

Public sector transparency was measured by three variables: TRANSAVA, TRANSLAW, and TRANSINT, corresponding to the three hypotheses stated at the close of theoretical discussion above. The first variable, TRANSAVA, measures the degree of difficulty firms perceived in obtaining information on laws and regulations affecting their business. The second, TRANSLAW, measures the extent to which the changes in laws and regulations affecting firms' business were perceived to be predictable. The third variable, TRANSINT, measures the extent to which interpretations of laws and regulations affecting firms were regarded as transparent.

The variables just described are the main focus of interest here, but other variables were included in the models to control for alternative interpretations of corporate accounting practices. First among these are firm characteristics such as size and ownership type. Large firms may have more resources with which to provide better corporate financial reporting than small firms do. Also, large firms may be more securely established and thus able to reveal comprehensive financial information with less fear that it will be misinterpreted (Jaggi and Low, 2000).

Second, ownership structure may also affect firms' accounting practices. Enterprises with foreign shareholders are likely to adopt corporate accounting standards that conform to international practices, in order to avoid trouble when sharing financial reportage. Governance structure can also affect firms' decisions on accounting practices. Firms established as single proprietorship or partnership may be under less pressure to require comprehensive and detailed disclosures, as principle-agent problems are not conspicuous. By contrast, firms with dispersed ownership are more likely to adopt high standards for accounting practices as managerial responsibilities are shared among board members and sharing of financial information is essential. In most countries, firms listed in stock market have to adopt high standards for accounting practices in order to meet stringent requirements to be listed in stock exchange.

Third, operating environment can also play a significant role in firms' financial reporting decisions. For example, firms may choose poor accounting practices in order to avoid paying taxes. Johnson et al. (2000b) have documented that in Eastern European countries firms facing higher effective tax rates are indeed likely hide their sales and profits. For present purposes, the extent to which high taxes were perceived by Asian firms as problematic (TAXBURDEN) has been used as a proxy for the level of taxes firms encountered. The expectation is that the more problematic taxes are perceived to be, the more likely firms would be to choose low-quality financial disclosure in order to avoid the problem.

Given the nature of the dependent variables, three types of econometric model, probit, ordered probit and interval regression, were used to test the three hypotheses regarding the role of public sector transparency in determining corporate accounting practices in Asia. The probit model focuses on firms' decisions to adopt International Accounting Standards as well as on their decisions to use external auditors. The ordered probit model and interval models focus on the determinants of the quality of corporate financial reporting as measured by the percentage of sales firms reported for tax purposes

In the probit model, it is assumed that the propensity for firms (y_i^*) to adopt good accounting practices is a function of a set of variables, including the test variables and control variable. That is,

$$y_i^* = \beta' x_i + u_i, \quad (1)$$

where y_i^* is a “latent” variable that cannot be observed directly. What is observed is a dummy variable y_i defined by

$$y_i = \begin{cases} 1 & \text{if } y_i^* > 0 \\ 0 & \text{otherwise} \end{cases}. \quad (2)$$

In the present model, where y_i is measured by IAS and AUDIT, the likelihood function can be written as

$$L = \prod_{y_i=1} F(\beta' x_i) \prod_{y_i=0} [1 - F(\beta' x_i)], \quad (3)$$

where F is the cumulative distribution function of u .

In the ordered probit model, it is assumed that reported sales for tax purposes (y_i^*) is a function of a set of variables, including the test variables and control variable. That is,

$$y_i^* = \beta' x_i + u_i, \quad (4)$$

where y_i^* is a “latent” variable that cannot be observed directly. What we observe is

$$\begin{aligned} y_i &= 1, \text{ if } y_i^* < 25\% \\ &= 2, \text{ if } 25\% \leq y_i^* < 50\% \\ &= 3, \text{ if } 50\% \leq y_i^* < 60\% \\ &= 4, \text{ if } 60\% \leq y_i^* < 70\% \\ &= 5, \text{ if } 80\% \leq y_i^* < 70\% \\ &= 6, \text{ if } 90\% \leq y_i^* < 80\% \end{aligned}$$

$$= 7, \text{ if } 90\% \leq y_i^* < 100\%$$

$$= 8, \text{ if } y_i^* = 100\%.$$

The corresponding probabilities for each ordinal interval can be stated as:

$$\text{Prob} (y_i = 1) = \phi(0.25 - \beta' x_i)$$

$$\text{Prob} (y_i = 2) = \phi(0.5 - \beta' x_i) - \phi(0.25 - \beta' x_i)$$

$$\text{Prob} (y_i = 3) = \phi(0.6 - \beta' x_i) - \phi(0.5 - \beta' x_i)$$

$$\text{Prob} (y_i = 4) = \phi(0.7 - \beta' x_i) - \phi(0.6 - \beta' x_i)$$

$$\text{Prob} (y_i = 5) = \phi(0.8 - \beta' x_i) - \phi(0.7 - \beta' x_i)$$

$$\text{Prob} (y_i = 6) = \phi(0.9 - \beta' x_i) - \phi(0.8 - \beta' x_i)$$

$$\text{Prob} (y_i = 7) = \phi(1 - \beta' x_i) - \phi(0.9 - \beta' x_i)$$

$$\text{Prob} (y_i = 8) = 1 - \phi(1 - \beta' x_i).$$

And log-likelihood of the model can be specified as

$$\ln L = \sum_{i=1}^N \sum_{j=0.4}^1 Z_{ij} \ln[\phi_{ij} - \phi_{i,j-1}], \quad (5)$$

where $\phi_{i,j} = \phi[\mu_j - \beta' x_i]$, $\phi_{i,j-1} = \phi[\mu_{j-1} - \beta' x_i]$ and Z_{ij} is an indicator variable which equals 1 if $y_i = j$ and 0 otherwise.

The same as in the ordered probit model, the dependent variables in the interval regression model—REPORTLOW and REPORTUP—are constructed from firms' responses to the question on the percentage of the firm's sales reported for tax purposes. There are however two important distinctions. First, only firms reporting less than 100% of their sales are included in the estimation. Second, the actual percentage terms instead of categories are used in the model. Seven brackets are constructed, corresponding to firms reporting less than

25%, 25 to 49%, 50-59%, 60 to 69%, 70 to 79%, 80-89% and 90 to 99%. They are, respectively, (0, 0.25), (0.25, 0.49), (0.5, 0.59), (0.6, 0.69), (0.7, 0.79), (0.8, 0.89) and (0.9, .099). The two numbers in the each bracket indicate the lower (REPORTLOW) and upper bound (REPORTUP) of the percentage of sales reported by the firm for tax purposes. The likelihood function for the interval regression model can thus be expressed as:

$$L = \sum_i \log \left[\phi \left(\frac{REPORTUP - \beta' x_i}{\sigma} \right) - \phi \left(\frac{REPORTLOW - \beta' x_i}{\sigma} \right) \right]$$

Results

Descriptive statistics of variables in the model are shown in Table 5. Many firms had adopted international accounting standards (48%) and had their annual financial statements reviewed by external auditors (58%). The majority of these firms were small and medium-sized enterprises (SMEs); about half being small (≤ 50 employees) and one-third being medium-sized (51 to 200 employees). Close to a quarter of the firms in the sample involve foreign interests, an indication that globalization has made significant impacts on the landscape of firm ownership in Asia. About 40% of the firms in the sample were formed either as single proprietorship or as partnership, and 10% of the firms were listed on a stock exchange. This is not surprising given the dominance of SMEs in the sample.

[TABLE 6 ABOUT HERE]

Table 6 shows the results of the probit model of firms' adoption of accounting standards. Columns 1–3 in Table 6 report the coefficients and standard errors of probit models for the adoption of International Accounting Standards; columns 4–6 show the results for use of external auditors. The differences among Models 1, 2, and 3 are in the measures of public sector transparency, and the same can be said about Models 4, 5, and 6. Because the measures of public sector transparency are highly correlated as one might expect, we entered those measures into the models one at a time, to forestall multicollinearity problems.

[TABLE 6 ABOUT HERE]

Most control variables in these models are generally consistent with the prior predictions as well as the findings of other empirical studies, although statistical significance levels vary depending on model specifications. In the present analysis, variables on firm characteristics proved to be statistically significant in determining the firms' accounting practices. The coefficients on SMALL and MEDIUM show that bigger firms were more likely to adopt accounting practices conforming to international norms and expectations—a finding that is statistically significant for all models. Coefficients for FOREIGN indicate that firms with foreign ownership were more likely to adopt International Accounting Standards and to use external auditors than firms that were domestically owned, a sign that globalization may have positive impacts on the spread of better accounting practices. Expectations regarding the effects of firms' ownership structure are also confirmed in the results: firms formed as single proprietorship were less likely to adopt International Accounting Standards or to employ external auditors, and listed corporations were more likely to adopt high standards of accounting practices. Last, although the negative coefficients on TAXBURDEN in all six models suggest that firms that reported resentment of high taxes were less likely to adopt high standards in accounting practices, the perception of high taxes has greater impacts on the adoption of International Accounting Standards than on the use of external auditors.

Public sector transparency measured by predictability of policies, laws, and regulations as well as their implementation was shown to have the expected effects on both adoption of International Accounting Standards and use of external auditors, although statistical significance levels vary depending on the dependent variables in the model. First, all three variables for public sector transparency registered positive effects on the adoption of International Accounting Standards and the use of external auditors. Second, the coefficients for public sector transparency variables are statistically significant for Models 4, 5, and 6, for which AUDIT is the dependent variable, but not for Models 1, 2, and 3, for which IAS is the dependent variable. Third, the size of coefficients for public sector transparency is much larger in models for AUDIT than those for IAS. Overall, effects of public sector transparency

manifested more clearly in firms' decisions to engage external auditors than in their decisions to adopt International Accounting Standards.

As discussed earlier, the adoption of International Accounting Standards and international norms should not be interpreted as equivalent to having good-quality corporate accounting practices. Table 7 reports the results of the ordered probit model and interval regression model for firms' actual performance in corporate accounting practices: Models 7, 8, and 9 are ordered probit models for which the dependent variable is REPORT; Models 10, 11, and 12 are interval regression models for which the dependent variables are REPORTLOW AND REPORTUP. Firm size is shown to be inversely related to percentage of sales reported (except for coefficients on SMALL in Model 11 through 12), but the effects are not statistically significant for all models. Firm ownership matters: the coefficients on both FOREIGN are statistically and economically significant in all six models, suggesting that foreign ownership had positive effects on the quality of firms' actual accounting practices. While the results show that the listed firms are more truthful in reporting their sales for tax purposes, the coefficients on SINGLEPROP and PARTNER show that the effects of ownership structure on the quality of actual accounting practices are not as clear-cut as on the adoption of International Accounting Standards and the use of external auditors.

[TABLE 7 ABOUT HERE]

Table 7 also shows that predictability of laws and regulations and also transparency of their interpretation are positively correlated with sales reported for tax purposes. The coefficients of all three variables (TRANSAVA, TRANSLAW, and TRANSINT) not only have expected signs on all models but also statistically significant. It thus appears that firms had greater incentive to reveal accurate financial information when information on laws and regulations was easier to obtain, when the change of laws and regulations was predictable, and when the interpretation of these laws and regulations was transparent.

Discussion

The opaqueness of the public sector in Asia has been widely reported, and the empirical findings of the present analysis confirm that perception. Just over half (52%) of the firms sampled for this analysis reported that changes in laws and regulations that affected their business activities ranged from “fairly unpredictable” to “completely unpredictable.” Although fewer firms reported difficulty in obtaining laws and regulations or unpredictability in interpretations applied to laws and regulations, those factors nevertheless comprised a sizable share of the picture: one-third of the firms sampled held a negative opinion of these aspects of public sector transparency. At the same time, many firms in the sample opted for low-quality corporate accounting practices. Only 42% reported 100% of their sales for tax purposes; in China, more than 50% of firms reported less than 60%. These findings strongly support other research that has recognized shady accounting practices as a major determinant of the Asian financial crisis of 1997, and as a major obstacle to sustaining the impressive growth of Asia’s corporate sector.

The regression models presented here verify the three hypotheses that were stated with regard to the effects of public sector transparency on firms’ decisions on accounting practices, although strength of the relationship varies across models. As expected, the perceived difficulty of obtaining laws and regulations relevant to business activities (TRANSAVA) had positive effects on adoption of International Accounting Standards, the use external auditors (AUDIT), and the percentage of sales firms reported for tax purposes (REPORT , REPORTLOW, AND REPORTUP). These effects proved to be statistically significant for AUDIT, REPORT, REPORTLOW and REPORTUP, but not for IAS. The same can be said about both the transparency of laws and regulations (TRANSLAW) and the predictability of interpretation of laws and regulations (TRANSINT).

Overall, the effects of public sector transparency on the adoption of International Accounting Standards turned out to be quite weak (none of the coefficients is statistically significant) in contrast to results for use of external auditors (all three coefficients are both statistically and economically significant) and quality of actual accounting practices measured as percentage of sales firms reported for tax purposes. The disparities across models suggest

that the effects of public sector transparency were more pronounced in corporate information disclosure. Both use of external auditors and percentage of sales reported for tax purposes involved the revelation of corporate financial information to outsiders, whereas adoption of IAS did not.

Concluding Remarks

In the aftermath of the Asian financial crisis of 1997 many Asian countries have undertaken accounting reforms to strengthen the quality of accounting practices. Typical reform measures have involved the adoption of International Accounting Standards and independence in audit. The success of these accounting reforms not only will determine the business competitiveness of Asia but also will influence the quality of public sector governance (Wu, 2005).

The evidence presented here demonstrates the mutual dependency between public sector governance and corporate governance and reveals mechanisms through which such interdependency might be harnessed to enhance the effectiveness of governance reforms. Quality of corporate financial reporting was shown to be positively related to the public sector transparency, as measured by the predictability of policies, laws, and regulations as well as their interpretations in implementation.

Several implications arise from these findings. First, firms may choose to reduce the informativeness of their financial reporting, creating information asymmetry as a counterbalancing strategy against perceived information asymmetry in public sector activity. Second, lack of transparency in the public sector reduces the incentives for firms to improve the quality of accounting practices. Third, lack of transparency in the public sector increases business costs, by imposing high transaction costs upon firms, to the extent that some may be forced to evade tax responsibility through fallacious accounting practices in order to survive. Fourth, lack of transparency offers more leverage to predatory public officials who seek to extract rents from businesses; firms may choose to underreport profits through fallacious accounting practices in order to avoid being targeted. Fifth, lack of transparency also reduces

the costs of firms' noncompliance with public directives, especially with regard to tax laws and regulations.

This analysis of the linkage between public sector transparency and corporate accounting practices offers several important policy lessons for designing and implementing accounting reforms in Asia. First, it confirms that quality of corporate accounting practices is constrained by quality of public sector transparency. Policy makers in the region should take public sector transparency into consideration when designing and implementing accounting reforms. Different countries will face different challenges in accounting reforms, depending on how their corporate systems match up with prevailing political environments. This variability demands varied solutions. Ignoring such interrelationships between public sector transparency and corporate accounting practices may reduce the relevancy of reform policies.

Second, governments should not commit to specific, comprehensive reform measures prematurely. Much of the real progress that occurs might depend on what happens to firms' political environment. Firms' corporate governance practices are largely shaped by forces outside their corporate boardrooms. There is little chance that adoption of International Accounting Standards will lead to high-quality accounting practices as long as firms and their political patrons both have vested interests in keeping the public sector opaque to protect existing rent-seeking schemes. For example, tightening standards for publicly listed firms prematurely may serve as a disincentive for firms to become listed; they may become convinced that it is impossible to meet the proposed standards under opaque public sector conditions.

Third, the findings presented here do not at all imply a narrowing of available choices for measures of reform. In fact, they broaden the scope for effective measures for corporate financial disclosure by placing a new set of instruments, focused on corporate operating environments, at the disposal of those charged with projecting and implementing reforms. Pointed efforts can now be made at improving both the effectiveness of accounting reforms and the success of anticorruption campaigns by enhancing public sector transparency.

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Table 1. World Business Environment Survey (2000) Coverage in Asia

Country	Number of firms
Azerbaijan	128
Bangladesh	50
Cambodia	326
China	101
India	210
Indonesia	100
Kazakhstan	127
Malaysia	100
Pakistan	103
Philippines	100
Singapore	100
Thailand	422
Total	1867

Table 2. Public Sector Transparency as Perceived by Firms across Asian Countries

Difficulty in Obtaining the Law and Regulation Affecting Firms						
	Very difficult	Difficult in most cases	Somewhat difficult	Somewhat easy	Easy in most cases	Very easy
Azerbaijan	6%	5%	13%	20%	42%	15%
Bangladesh	0%	12%	36%	6%	34%	12%
Cambodia	4%	5%	21%	49%	9%	13%
China	3%	10%	14%	22%	37%	14%
India	4%	4%	18%	32%	31%	10%
Indonesia	11%	12%	26%	40%	8%	3%
Kazakhstan	6%	13%	11%	14%	27%	29%
Malaysia	0%	1%	8%	39%	42%	10%
Pakistan	12%	9%	16%	41%	16%	6%
Philippines	1%	6%	16%	32%	29%	15%
Singapore	0%	0%	2%	11%	49%	38%
Thailand	3%	12%	34%	34%	16%	1%
Subtotal	4%	8%	21%	32%	24%	12%
Changes in Laws and Regulations						
	Completely unpredictable	Highly unpredictable	Fairly unpredictable	Fairly predicable	Highly predictable	Completely predictable
Azerbaijan	5%	9%	12%	46%	6%	23%
Bangladesh	2%	20%	39%	33%	4%	2%
Cambodia	14%	17%	28%	35%	4%	2%
China	5%	12%	19%	36%	24%	3%
India	4%	9%	40%	44%	1%	1%
Indonesia	10%	35%	21%	22%	11%	0%
Kazakhstan	41%	12%	34%	8%	2%	2%
Malaysia	13%	8%	16%	46%	13%	3%
Pakistan	9%	5%	19%	55%	12%	0%
Philippines	6%	13%	28%	35%	12%	6%
Singapore	2%	2%	9%	55%	27%	5%
Thailand	8%	12%	40%	30%	9%	1%
Subtotal	10%	13%	29%	36%	9%	3%
Interpretations of Laws and Regulations						
	Completely unpredictable	Highly unpredictable	Fairly unpredictable	Fairly predicable	Highly predictable	Completely predictable
Azerbaijan	4%	6%	12%	22%	48%	9%
Bangladesh	0%	10%	27%	29%	23%	10%
Cambodia	5%	4%	25%	49%	9%	7%
China	1%	8%	21%	33%	28%	9%
India	4%	12%	29%	46%	7%	1%
Indonesia	13%	10%	35%	35%	5%	2%
Kazakhstan	9%	20%	19%	16%	23%	13%
Malaysia	2%	0%	8%	38%	41%	11%
Pakistan	5%	12%	21%	37%	23%	2%
Philippines	3%	11%	20%	21%	35%	9%
Singapore	1%	0%	3%	14%	48%	34%
Thailand	1%	8%	32%	35%	21%	3%
Subtotal	4%	8%	24%	35%	22%	8%

Source: WBES (2000) and author's calculations.

Table 3. Asian Firms Adopting International Accounting Standards (IAS) and External Auditing of Annual Financial Reporting (AUDIT)

	Percent of firms use international accounting standards (IAS)	Percent of firms have annual financial statements that have been reviewed by external auditor
Azerbaijan	18%	8%
Bangladesh	76%	95%
Cambodia	27%	22%
China	12%	43%
India	75%	97%
Indonesia	45%	52%
Kazakhstan	63%	37%
Malaysia	20%	47%
Pakistan	64%	52%
Philippines	31%	81%
Singapore	68%	95%
Thailand	62%	83%
Total	48%	58%

Data source: WBES (2000) and author's calculations.

Table 4. Accounting Practices in Asian Firms: Sales Reported for Tax Purposes

	Less than 50%	50-59%	60-69%	70-79%	80-89%	90-99%	All (100%)
Azerbaijan	11%	16%	14%	8%	5%	9%	37%
Bangladesh	0%	15%	36%	10%	10%	10%	18%
Cambodia	0%	41%	9%	5%	6%	7%	31%
China	8%	48%	10%	1%	3%	7%	24%
India	0%	2%	3%	4%	1%	9%	81%
Indonesia	15%	14%	5%	2%	14%	11%	39%
Kazakhstan	3%	7%	10%	4%	8%	12%	56%
Malaysia	44%	19%	3%	1%	1%	9%	22%
Pakistan	16%	20%	18%	6%	4%	3%	33%
Philippines	8%	12%	3%	4%	6%	17%	49%
Singapore	8%	5%	1%	0%	1%	2%	82%
Thailand	1%	18%	17%	9%	15%	10%	31%
Total	7%	19%	11%	5%	7%	9%	42%

Data source: WBES (2000) and author's calculation.

Table 5. Dependent and Independent Variables: Description and Descriptive Statistics

Variable	Description	Mean	Std. Dev.
Dependent Variables			
IAS	Dummy variable. 1=firm adopts international accounting standards; 0=all others	0.48	0.50
AUDIT	Dummy variable. 1=Annual financial statements reviewed by external auditor; 0=all others	0.58	0.49
REPORT	Categorical variable indicating percentage of total sales reported for tax purposes (1=less than 25%; 2=25 to 49%; 3=50 to 59%; 4=60 to 69%; 5=70 to 79%; 6=80 to 89%; 7=90-99%; 8=100%)	5.11	2.58
REPORTLOW	The percentage of the total sales reported for tax purposes (lower bound)	0.52	0.27
REPORTUP	The percentage of the total sales reported for tax purposes (upper bound)	0.65	0.23
Test Variables			
TRANSAVA	The extent to which information on the laws and regulations affecting the firms is easy to obtain. Scale from 1 to 6 (1=very difficult; 2=difficult in most cases; 3=somewhat difficult; 4=somewhat easy; 5=easy in most cases; 6=very easy)	3.99	1.26
TRANSLAW	The extent to which the changes in rules, laws and regulations are predictable. Scale from 1 to 6 (1=completely unpredictable; 2=highly unpredictable; 3=fairly unpredictable; 4=fairly predictable; 5=highly predictable; 6=completely predictable)	3.30	1.21
TRANSINT	The extent to which the interpretations of rules, laws and regulations are predictable. Scale from 1 to 6 (1=completely unpredictable; 2=highly unpredictable; 3=fairly unpredictable; 4=fairly predictable; 5=highly predictable; 6=completely predictable)	3.86	1.19
Control Variables			
SMALL	Dummy variable. 1=Small size firm (less than 50 employees); 0=all others	0.47	0.50
MEDIUM	Dummy variable. 1=Medium size firm (50 employees and above but less than 500); 0=all others	0.35	0.48
FOREIGN	Dummy variable. 1=Firm with some share of foreign ownership; 0=all others	0.23	0.42
SINGLEPROP	Dummy variable. 1=Firm registered as single proprietorship; 0=all others	0.28	0.45
PARTNER	Dummy variable. 1=Firm registered as partnership; 0=all others	0.16	0.36
PRIVATE	Dummy variable. 1=Firm registered as privately-held company; 0=all others	0.35	0.48
LISTED	Dummy variable. 1=Firm listed on a stock market; 0=all others	0.10	0.31
TAXBURDEN	The extent to which high taxes are problematic. Scale from 1 to 4 (1=no obstacle; 2=minor obstacle; 3=moderate obstacle; 4=major obstacle)	2.97	1.06

Table 6. Probit Models: Adoption of Accounting Standards

	Dependent Variable: IAS			Dependent Variable: Audit		
	(1)	(2)	(3)	(4)	(5)	(6)
SMALL	-0.545*** (0.116)	-0.543*** (0.116)	-0.566*** (0.116)	-0.593*** (0.139)	-0.608*** (0.139)	-0.618*** (0.139)
MEDIUM	-0.196* (0.108)	-0.222** (0.108)	-0.218** (0.107)	-0.442*** (0.137)	-0.466*** (0.136)	-0.471*** (0.136)
FOREIGN	0.730*** (0.094)	0.744*** (0.095)	0.719*** (0.094)	0.742*** (0.115)	0.699*** (0.115)	0.743*** (0.114)
SINGLEPROP	-0.763*** (0.145)	-0.792*** (0.149)	-0.803*** (0.146)	-0.985*** (0.168)	-1.015*** (0.172)	-0.965*** (0.167)
PARTNER	0.151 (0.147)	0.124 (0.149)	0.120 (0.147)	-0.104 (0.164)	-0.119 (0.166)	-0.085 (0.163)
PRIVATE	0.230 (0.141)	0.178 (0.143)	0.196 (0.141)	-0.011 (0.165)	-0.007 (0.166)	0.016 (0.163)
LISTED	0.455*** (0.170)	0.374** (0.172)	0.401** (0.170)	0.823*** (0.236)	0.730*** (0.238)	0.808*** (0.231)
TAXBURDEN	-0.072** (0.036)	-0.090** (0.037)	-0.074** (0.037)	-0.037 (0.042)	-0.044 (0.042)	-0.036 (0.042)
TRANSAVA	0.032 (0.030)			0.080** (0.035)		
TRANSLAW		0.027 (0.032)			0.069*** (0.038)	
TRANSINT			0.027 (0.032)			0.110** (0.036)
CONSTANT	0.591** (0.296)	0.668** (0.288)	0.636** (0.300)	0.626* (0.360)	0.670** (0.342)	0.665* (0.365)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1693	1682	1693	1593	1586	1593
Pseudo-R ²	0.289	0.284	0.287	0.446	0.446	0.446

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

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

Table 7. Ordered Probit Models and Interval Regression Models: Accounting Practices

	Dependent Variable: REPORT			Dependent Variable: REPORTUP and REPORTLOW		
	(7)	(8)	(9)	(10)	(11)	(12)
SMALL	-0.073 (0.095)	-0.089 (0.094)	-0.091 (0.094)	0.006 (0.024)	0.004 (0.024)	0.006 (0.024)
MEDIUM	-0.026 (0.088)	-0.050 (0.087)	-0.059 (0.087)	-0.002 (0.023)	-0.002 (0.022)	-0.003 (0.022)
FOREIGN	0.237*** (0.074)	0.205*** (0.075)	0.234*** (0.074)	0.045** (0.019)	0.037* (0.019)	0.042** (0.019)
SINGLEPROP	-0.023 (0.118)	0.058 (0.118)	0.026 (0.117)	-0.009 (0.029)	0.000 (0.029)	-0.008 (0.028)
PARTNER	0.216* (0.123)	0.251** (0.123)	0.245** (0.122)	0.061** (0.030)	0.058* (0.030)	0.056* (0.030)
PRIVATE	0.182 (0.115)	0.222* (0.115)	0.200* (0.114)	0.054* (0.028)	0.052* (0.028)	0.051* (0.028)
LISTED	0.274* (0.141)	0.358** (0.141)	0.300** (0.139)	0.083** (0.036)	0.080** (0.036)	0.077** (0.036)
TAXBURDEN	-0.011 (0.029)	-0.030 (0.029)	-0.015 (0.029)	0.010 (0.007)	0.008 (0.007)	0.010 (0.007)
TRANSAVA	0.120*** (0.024)			0.021*** (0.006)		
TRANSLAW		0.055** (0.025)			0.017*** (0.006)	
TRANSINT			0.094*** (0.026)			0.018*** (0.006)
CONSTANT				0.445*** (0.058)	0.471*** (0.057)	0.451*** (0.061)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	1519	1513	1519	1032	1029	1036
Pseudo-R ²	0.063	0.059	0.060			

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

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