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Accrual-based and Real Earnings Management and Political Connections

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Abstract

This study examines whether the choices for accrual-based and real earnings management differ between firms with and without political connections. We argue that politically-connected firms favor the relatively more costly real earnings management strategies because of its higher secrecy, particularly in countries with high public monitoring. Using a unique panel data set of 5493 publicly traded firms in 30 countries, our results show that, compared to non-connected firms, politically-connected firms engage more in real activities manipulation and are more likely to substitute accrual-based earnings management strategies by relatively more costly real earnings management strategies, particularly when public monitoring increases. Our results also show that firms with political connections manage their earnings in general more than non-connected firms, after controlling for other differences in earnings management incentives. These findings extend the earnings management literature by showing that political connections play a significant role in the choices for accrual-based and real earnings management strategies, and that a focus on accrual-based measurements underestimates the total earnings management of politically-connected firms. Our results also support prior findings that firms trade off accrual-based and real earnings management to achieve their earnings targets.

Keywords: Real earnings management; Accrual earnings management; Political connection

JEL Classification Numbers: M4; M41; D72; F5

1. Introduction

This study examines the relation between the political connections of firms and their choices for earnings management strategies in an international setting. Firms can use multiple earnings management strategies to manage their earnings, i.e., accrual-based and real earnings management (e.g. Badertscher, 2011). Accrual-based earnings management aims to obscure true economic performance by changing accounting methods or estimates within the generally accepted accounting principles (Dechow and Skinner, 2000). On the contrary, real earnings management alters the execution of real business transactions (Roychowdhury, 2006). By adapting the timing or structuring of real transactions, firms change their operating activities to meet short-term earnings targets, which has direct cash flow consequences and also potential long-term consequences for their economic value. For these reasons, real earnings management strategies are considered to be relatively costly compared to accrual-based earnings management (Graham et al., 2005). The advantage of real earnings management is, however, that it is more difficult to detect than accrual-based earnings management (Graham et al., 2005; Gunny, 2010). In addition, real activities manipulation is normally less subject to external monitoring or scrutiny (Kim and Sohn, 2013). Literature suggests that firms that are likely to use both accrual-based and real earnings management techniques, often trade off and substitute the two earnings management strategies to achieve their earnings targets (Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012). Generally, as long as the marginal benefits outweigh the marginal costs, firms will use the relatively less costly accrual-based earnings management strategies to reach their earnings targets (Ewert and Wagenhofer, 2005). However, for politically-connected firms accrual-based earnings management may be less beneficial than real earnings management. As argued in this paper, for

firms with political connections the marginal benefits of the secrecy of real earnings management are likely to outweigh its marginal costs relative to accrual-based earnings management strategies.

Firms have political connections if their controlling shareholders or top managers are members of national parliaments or governments or have close connections with a top politician or party (Faccio, 2006). A growing body of literature has shown evidence that, on average, politically-connected firms are likely to gain competitive advantage over other companies which are not connected. Political connections may positively influence the allocation of capital and business opportunities to connected firms (Fisman, 2001). For example, politically-connected firms get easier access to debt financing and lower taxation (e.g. Johnson and Mitton, 2003; Khwaja and Mian, 2005; Claessens et al., 2008; Faccio, 2010; Goldman et al., 2013), have preferential access to government contracts (Goldman et al., 2009), have benefits from regulatory protection (Kroszner and Stratmann, 1998) and bailouts (Faccio et al., 2006), or have superior information about intended government intervention, which helps them to overcome the political uncertainties in advance (Shleifer and Vishny, 1994; Ziobrowski et al., 2004; Pastor and Veronesi, 2013).² However, the presence of these connections also involves that politically-connected firms are subject to extensive controls and monitoring by society, including scrutiny by the media and other political parties (Chaney, Faccio and Parsley, 2011; Kothari et al., 2012). Extensive public monitoring increases the risk of criticism by media and opponent political parties for receiving favorable treatment from politicians during any of their activities (Ball and Shivkumar, 2008). The costs when detected that a firm with political connections is treated favorably and/or in a secret

² Due to their close involvement with legislative processes, connected politicians might have superior information about which industries or firms are supported or harmed by intended government intervention (Ziobrowski et al., 2004). In addition, connections with firms also help the politicians to get benefits from supporting these firms or (as shareholder) to increase their financial wealth, for example, by exploiting insider information of the firms (Shleifer and Vishny, 1994; Goldman et al., 2008).

way, or that politicians use their influence to bail the connected firm out of financial difficulty, can be high (Faccio et al., 2006). Detection may damage the reputation of the firm and its managers, as well as the social image of political party they are connected with. In addition, the firms may lose their privileged access to benefits from their political connections (Hay and Shleifer, 1998).

For these reasons, politically-connected firms may not only have more benefits over similar but non-connected firms, but they also have more incentives to manage the gains that they typically derive from their connections. Earnings management may help them to hide or obscure reporting these gains, especially those of dubious legality (Faccio, 2006; Faccio et al., 2006; Chaney et al., 2011). In general, by managing their earnings downwards, they can mask political favors, weaken the ability of public monitoring, reduce political costs and the likelihood of outside intervention and maintain their reputation (Watts and Zimmerman, 1990; Faccio, 2006; Ramanna and Roychowdhury, 2011; Kothari et al., 2012).

When it is risky to use accrual-based earnings management strategies, for instance because public monitoring is strong, managers of politically-connected firms might substitute accrual-based earnings management for relatively more costly real earnings management strategies (Matsuura, 2008). Managers may prefer real to accrual-based earnings management to take advantage of being less detected and to maintain their own and the firm's reputation integrity in the short run without any disturbance at the cost of firms deteriorating long term performance (Ewert and Wagenhofer, 2005; Graham et al., 2005; ; Cohen et al., 2008; Cohen and Zarowin, 2010).

Recent studies that use different measures of accrual earnings management, report that the presence of political connections is associated with a lower accruals quality, suggesting that

politically-connected firms manage their earnings more than non-connected firms (Riahi-Belkaoui, 2004; Chaney et al., 2011; Ramanna and Roychowdhury, 2010). However, the current evidence is restricted to accrual-based earnings management and therefore neglects the potentially more hazardous effects of real earnings management. In situations, where both accrual-based and real earnings management techniques are likely to be used, variation in earnings management cannot be captured by studying the use of accrual-based earnings management only (Kothari et al., 2012; Zang, 2012). Since politically-connected firms are likely to use both accrual-based and real earnings management strategies, studying only accrual-based earnings management strategies most possibly underestimates the overall effect of their earnings management activities.

In short, politically-connected firms have opportunities to gain a lot from their political connections, but are also more at risk because they are under higher public scrutiny and subject to more extensive controls than non-connected firms. For these reasons, they have more incentives to manage their earnings. Particularly if the gains from their connections are large and of dubious legality, they may need to be hidden. The costs when press detects that a firm manages its earnings can be higher for politically-connected firms than for firms without these connections. After all, they have reputation damage and may lose their privileged access to benefits from their political connections. Moreover, detection may increase political costs and the likelihood of outside intervention. For these reasons we expect that firms with political connection have more incentives to use the relatively costly real earnings management strategies to manage their earnings more secretly than non-connected firms.

This study extends the literature on the relationship between political connections of firms and earnings management by investigating whether the choice of both accrual-based and real earnings management differ between firms with and without political connections. In addition, we examine

to what extent politically-connected firms use accrual-based and real earnings management as substitutes. Moreover, we investigate the role of public monitoring in explaining variance in these earnings management strategies, and whether politically-connected firms are more likely to manage their earnings in general than non-connected firms.

Using a unique panel data set of 5493 publicly traded firms in 30 countries, our results show that, compared to non-connected firms, politically-connected firms engage more in real activities manipulation and are more likely to substitute accrual-based earnings management strategies by relatively more costly real earnings management strategies. Particularly when politically-connected firms are established in countries with relatively high levels of public monitoring, they use relatively more real earnings management. Our results also show that firms with political connections manage their earnings in general more than non-connected firms, after controlling for other differences in earnings management incentives. The findings of additional analyses show that the results are robust to the inclusion or exclusion of countries and to different measures of earnings management and public monitoring.

This paper contributes to the ongoing research related to earnings management in three ways. First, it complements a growing body of international literature studying the differences in accrual-based earnings management between politically-connected and non-connected firms (Riahi-Belkaoui, 2004; Chaney et al., 2011; Ramanna and Roychowdhury, 2010). We show that political connections play a significant role in explaining variance in both accrual-based and real earnings management representing total earnings management. Compared to non-connected firms, connected firms seem to favor real earnings management although the increased likelihood of real activities management does not offset the decrease in the probability of conducting accrual-based

earnings management. Thus, we suggest that a too strong focus on accrual-based measurements leads to an underestimation of earnings management by politically-connected firms.

Second, we add to the extant earnings management literature that considers both real and accrual-based earnings management as substitutes in managing earnings (Ewert and Wagenhofer, 2005; Cohen and Zarowin, 2010; Zang, 2012). Most of the studies (Cohen and Zarowin, 2010; Cohen et al., 2008; Matsuura, 2008) documented that in settings in which both accrual-based and real earnings management techniques are likely to be used to achieve earnings target, firms switch from one type of earnings management to another after new legislation, e.g., the passage of SOX (Cohen et al., 2008), or around seasoned equity offerings (Cohen and Zarowin, 2010). Our results add to this literature by showing that the tendency for firms to trade-off accrual-based versus real earnings management also varies with the presence of specific firm characteristics, i.e., the existence of political connections.

Finally, it complements literature on the role of public monitoring and governance by showing that politically-connected firms that are established in countries with relatively high levels of public monitoring use relatively more real earnings management strategies to hide the gains that they typically derive from their political connections.

The remainder of this paper is structured as follows: First, we present a review of the related literature and develop hypotheses on the associations between firms' political connections and their use of accrual and real earnings management in financial reports. . This is followed by the research method, the results and robustness tests. Third, we draw conclusions, discuss the limitations of our study and indicate directions for further research.

2. Literature review and Development of Hypotheses

Firms can use multiple earnings management strategies, i.e., accrual-based and real earnings management, to manage their earnings (e.g. Cohen and Zarowin, 2010; Dechow et al., 2010; Badertscher, 2011; Kothari et al., 2012). Accrual-based earnings management occurs when managers can choose accounting policies from a set of generally accepted policies to achieve earnings objectives. Real earnings management occurs when managers undertake actions that change the timing or structuring of operations and deviate from normal business practices, like manipulating sales, reducing discretionary expenditures and overproducing inventory to decrease the costs of goods sold, undertaken with the primary objective of meeting certain earnings thresholds (Roychowdhury, 2006). Real earnings management is considered to be more expensive than accrual-based earnings management (Graham et al., 2005; Kim and Sohn, 2013). Unlike accrual-based earnings management, it has direct cash flow consequences which may also have a detrimental economic impact on a firm's long-term value (Gunny, 2010). On the other hand, real earnings management is more difficult to detect than accrual-based earnings management because the real earnings management activities directly affect cash-flows. In addition, real activities manipulation is normally not under the jurisdiction of any existing auditing system and less subject to extensive controls and external monitoring by society, including scrutiny by the media and other political parties (Kim and Sohn, 2013).

We expect that firms with political connection have more incentives to use the relatively costly real earnings management strategies than non-connected firms. Politically-connected firms have opportunities to gain a lot from their political connections (Faccio, 2010; Pastor and Veronesi, 2013). However, they are also under higher public scrutiny and subject to more extensive controls and public monitoring. As a consequence, the gains from their connections may

need to be hidden, especially when they are of dubious legality (Fisman, 2001). The costs they face when press detects that a firm manages its earnings to mask gains may wipe out the benefits from their connections. After all, detection may damage the firm's reputation integrity – as well as damage the reputation of connected politicians – and increase political costs and the likelihood of outside intervention. In addition, they may lose their privileged access to benefits from their political connections. Consequently, the benefits of use of real earnings management strategies for politically-connected firms are likely to be higher than for non-politically-connected firms. So, we assume that real earnings management helps politically-connected firms more effectively than accrual-based earnings management to obscure the reporting of gains that managers typically derive from their connections. It thus helps to weaken the monitoring ability of society, including scrutiny by the media and other political parties, to reduce political costs and to maintain the reputation of the firm and its managers. For these reasons, for politically-connected firms the benefits of the more secrecy of real earnings management are likely to outweigh the higher costs compared with accrual-based earnings management strategies. In addition, when compared to non-connected firms, for politically-connected firms the expected net benefits of use of real earnings management are likely to be higher. Hence, politically-connected firms are more likely to resort to the more costly real earnings management strategies than non-connected firms. Based on the above discussion we propose the following hypothesis:

H1: Other things being equal, politically-connected firms use more real earnings management than non-connected firms.

Darrough and Rangan (2005) and Mizik and Jacobson (2008) argue that greatest effect of accrual-based and real earnings management would be attained through a coordinated use of both tools. In situations in which both earnings management methods are likely to be used, literature (Ewert and Wagenhofer, 2005; Cohen and Zarowin, 2010; Zang, 2012) provides evidence that managers trade-off between two earnings management strategies based on their relative costs and benefits, using accrual-based and real earnings management as substitutes. Managers of politically-connected and non-connected firms may use both accrual-based and real earnings management to enhance corporate value as long as the marginal benefits outweigh the marginal costs and use of the strategies. However, politically-connected firms have relatively more incentives to mislead society including press than non-connected firms, but at the same time are also subject to relatively extensive controls and strong public monitoring (Chaney et al., 2011). If earnings management is detected, for politically-connected firms the costs, including reputation damage and the opportunity costs when they lose the benefits from their connections, can be higher than for firms which are not connected. As a consequence, in the end for connected firms accrual-based earnings management may be more costly than real earnings management. When it is risky for politically-connected firms to manage their earnings, real earnings management strategies offer connected firms' relative advantage of high opacity with a lower likelihood of detection. For these reasons politically-connected firms are more likely to substitute accrual-based earnings management by relatively costly real activities manipulation than similar, but non-connected firms. In addition, the substitution of accrual-based earnings management with real earnings management spreads the risks that managers are taking when they manage their earnings (Graham et al., 2005; Roychowdhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010). In comparison with non-connected firms, for connected firms the marginal gains from substituting

relatively less expensive accrual earnings management strategies by real activities manipulation are likely to outweigh the additional costs. This may also include the opportunity costs related to the deterioration of the firm's future performance after applying real earnings management. Hence,

H2: Other things being equal, politically-connected firms are more likely to substitute accrual-based earnings management by real earnings management than non-connected firms.

Aside from the incentives and opportunities of politically-connected firms to manage their earnings, culture of a country, and in particular whether the level of public monitoring is relatively high or low, can influence the choice of accrual-based and real earnings management strategies (Isidro and Raonic, 2011; Houqe et al., 2012; Zang, 2012). We expect that politically-connected firms that are established in countries with relatively high levels of public monitoring use relatively more real earnings management to hide the gains that they typically derive from their political connections, especially those of dubious legality. This is reflected in the following public monitoring hypothesis:

H3: Other things being equal, politically-connected firms domiciled in countries that have a higher (lower) level of public monitoring are more (less) likely to use real earnings management.

We also expect that firms with political connections manage their earnings more in general than non-connected firms. Compared with companies that are not connected, politically-connected firms have more incentives to manage their earnings secretly (Faccio, 2006; Faccio et al., 2006; Chaney et al., 2011). They are likely to gain competitive advantage over other companies which

are not connected. However, they are also more inclined to use earnings management strategies to hide or obscure reporting the gains that they typically derive from their connections. Managing their earnings secretly helps them to weaken the monitoring ability of society, including scrutiny by the media and other political parties, to maintain their reputation, and to reduce political costs and the likelihood of outside intervention (Kothari et al., 2012). Despite the substitution of accrual-based earnings management by real earnings management, we expect that the latter overcompensates the former. This implies that, in total, earnings management increases. Hence, we propose the following hypothesis:

H4: Other things being equal, politically-connected firms are more likely to manage their earnings in general than non-connected firms.

3. Research method

3.1. Data

To test the above hypotheses, we use the firms included in the study of Faccio (2006) as a starting point. This database includes 20202 publicly traded firms in 47 countries during the years 1997–2001, comprising 607 political connections of 541 firms. A firm is identified as being connected with a politician if “at least one of its large shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, or closely related to a top politician or party” (Faccio, 2006, p. 370).³ Consistent with Chaney et al. (2011), we exclude firms that are located in countries that have not a single political connection, because these data may bias the results. For the remaining

³ We thank Mara Faccio for kindly providing us with the data set.

firms to be included in our sample, we require that all financial and non-financial information are available. This information is extracted from the Worldscope Database that contains historical financial data from annual reports of publicly traded companies around the world. After omitting missing observations, our remaining unbalanced panel dataset includes data for 5493 sample firms in 30 countries comprising 17664 firm-year observations.

Table 1 presents descriptive statistics for these 5493 sample firms, consisting of 457 connected firms and 5036 non-connected peers. Panel A shows the country distribution of the sample firms with and without political connections in total. We define the control variables that are presented in Panel A in more detail in Section 3.3.3. Panel B presents the distribution of all firms with and without political connections from 1997 to 2001. Consistent with Faccio (2006 and 2010), both Panel A and B show that the percentage of politically-connected firms varies considerably between countries. The sample consists of relatively many firms from the UK, the U.S. and Japan, and some country samples are very small, containing two to five firms. To investigate to what extent the cross country variation – and the risk of self-selection bias – may have affected the results, we include robustness tests that we show in our robustness section. In addition, Panel C shows the distribution of sample firms across industry and size, while Panel D presents that distribution across year and industry. Among these industry groups manufacturing is well represented with 9.767 observations (55%) and services with 5.496 observations (31%), while mining, transportation and public utilities, trade and finance, insurance & real estate represent respectively 5%, 3%, 1% and 4% of the observations. Consistent with Faccio (2006 and 2010), additional analysis (unreported) also shows that, on average, connected firms have a higher leverage than the non-connected firms but a smaller market-to-book ratio.

[Insert Table 1 about here]

3.2 Method

We use multilevel logistic and linear panel data regression analyses to test our hypotheses. Multilevel analysis is an appropriate method to include explanatory variables at different levels simultaneously and to study interactions among levels (Hox, 2002). Moreover, for a nested data, as in our present study, the traditional assumptions of (single-level) logistic regression like independence of explanatory variables and uncorrelated error terms, may not always hold (Dong and Stettler, 2012).

Our dependent variables are proxies for real and total earnings management. Following prior literature (Roychowdhury, 2006; Cohen et al., 2008; Cohen and Zarowin, 2010; Gunny, 2010; Zang, 2012), we use three proxies for real earnings management (RM) and two proxies for accrual-base earnings management. To assess a firm level real, accrual and total earnings management, we construct the dummy variables *RM_DUMMY*, *ACC_DUMMY* and *TEM_DUMMY*. Consistent with prior literature, *RM_DUMMY* combines the three proxies of real earnings management, whereas *ACC_DUMMY* combines two estimations of discretionary accruals that proxy accrual-based earnings management (Dechow et al., 1995; Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012). *TEM_DUMMY* captures the combined effects of accrual-based and real earnings management to assess a firm level total earnings management.

In our analyses, we estimate the following multilevel logistic regression models:

$$\begin{aligned} \text{Log}(Y) = & \beta_1 \text{CONNECT} + \beta_2 \text{CONNECT} * \text{PUBLIC MONITORING} + \beta_3 \text{COUNTRY}_{\text{CONTROL}} \\ & + \beta_4 \text{INDUSTRY}_{\text{CONTROL}} + \beta_5 \text{FIRM}_{\text{CONTROL}} + \beta_6 \text{YEAR}_{\text{CONTROL}} + \varepsilon \dots (1) \end{aligned}$$

Where, the response variable *Y* is a proxy for either real earnings management (*REM_DUMMY*) or total earnings management (*TEM_Dummy*).

In addition, for our proxies of real earnings management we estimate the following multilevel linear regression models:

$$\begin{aligned} \text{REM} = & \alpha_1 \text{CONNECT} + \alpha_2 \text{CONNECT} \times \text{PUBLIC MONITORING} + \alpha_3 \text{COUNTRY}_{\text{CONTROL}} \\ & + \alpha_4 \text{INDUSTRY}_{\text{CONTROL}} + \alpha_5 \text{FIRM}_{\text{CONTROL}} + \alpha_6 \text{YEAR}_{\text{CONTROL}} + \epsilon \dots (2) \end{aligned}$$

The explanatory variable CONNECT takes the value of 1 if a firm has political connections and 0 if not. To analyze to what extent the influence of political connections on earnings management depends on a country's level of public monitoring, we include the interaction between CONNECT and PUBLIC MONITORING. In addition, we control for random firm effects (FIRM), and include fixed effects at industry (INDUSTRY) and year (YEAR) level. In the multilevel logistic regression models we also control for country fixed effects (COUNTRY), while in the multilevel linear regression models we control for country fixed or random effects.

Despite the advantage of multilevel analysis as discussed above, in the multilevel logistic regression models, it is not possible to include our measure of PUBLIC MONITORING due to collinearity with the fixed country effects (Hox, 2002; Dong and Stettler, 2011). To show the base impact of countries' levels of public monitoring on earnings management - and to test the robustness of the result - we also analyze the data using logistic regression analysis with several control variables at country level. Table 2 summarizes the definitions of the dependent, independent and control variables that are used in our study.

[Insert Table 2 about here]

3.3 Measurement of variables

3.3.1 Measurement of earnings management

Accrual-based earnings management: Following prior literature, we use two estimations of discretionary accruals to proxy accrual-based earnings management. First, we estimate discretionary accruals by using the modified cross-sectional Jones model (Dechow et al., 1995; Cohen et al., 2008; Cohen and Zarowin, 2010), as follows:

$$\frac{TA_{it}}{Assets_{it-1}} = K_1 \frac{1}{Assets_{it-1}} + K_2 \frac{\Delta SALES_{it}}{Assets_{it-1}} + K_3 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it} \quad (3)$$

where (Worldscope data items in brackets): TA_{it} = the total accruals in year t of the i th firm, measured by the difference between income before extraordinary items and discontinued operations [WC01551] and cash flows from operations [WC04860] (Collins and Hribar, 2002); $ASSETS_{it-1}$ = the total assets at the end of year $t-1$ of the i th firm [WC02999]; $SALES_{it}$ = the net sales in year t of the i th firm [WC1001]; $\Delta SALES_{it}$ = the change in net sales from year $t-1$ to t of the i th firm; PPE_{it} = the net value of property, plant, and equipment at the end of year $t-1$ of the i th firm [WC02501].

Equation (3) is estimated by using all data from all firms matched with year $t-1$ and two-digit SIC industry groupings. The parameter estimates from this regression are then used to estimate the residuals from Equation (3) in year t . To remove the problem of extreme outliers in some continuous variables, we winsorize at the top and bottom 1%. Consistent with Cohen et al. (2008), the absolute values of the residuals, capturing discretionary accruals in year t , serve as the proxy for accrual-based earnings management (DA1). We use the absolute value because it also captures accruals reversals following earnings management.

Following Cohen et al. (2008) and Dechow et al. (1995), we also develop the second measure of discretionary accruals (DA2) by using a similar approach but using Equation (4) in the first stage estimation.

$$\frac{TA_{it}}{Assets_{it-1}} = K_1 \frac{1}{Assets_{it-1}} + K_2 \frac{(\Delta SALES_{it} - \Delta AR_{ij,t})}{Assets_{it-1}} + K_3 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it} \quad (4)$$

where (Worldscope data items in brackets): AR_{it} = accounts receivable in the year t of the i th firm, measured by the amounts received by the company from the sale of goods and services on credit to customers [WC02051]; ΔREV_{it} = the change in accounts receivable from year $t-1$ to t of the i th firm.

Real earnings management: Following Roychowdhury (2006), we use three proxies for real earnings management:

- abnormal levels of cash flow from operations (CFO), as a result of acceleration of the timing of sales through increased prices discounts or more lenient credit terms;
- abnormal levels of production costs (PROD), through overproduction of inventory, resulting in a reduction of cost of goods sold;
- abnormal levels of discretionary expenses (DISX), as a result of cutting discretionary expenses such as advertising, research and development and administrative (SG&A) expenses.

Subsequent studies using the same metrics (Cohen et al., 2008; Cohen and Zarowin, 2010; Gunny, 2010; Zang, 2012) provide evidence of the construct validity of these proxies. For each metric, we

first calculate their normal levels using the model developed by Dechow et al. (1998) and then we measure the abnormal levels using the method advanced by Roychowdhury (2006).

Normal levels of CFO are expressed as a linear function of sales and the change in sales. Following Roychowdhury (2006), we estimate the following cross-sectional regression:

$$\frac{CFO_{it}}{Assets_{it-1}} = \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{Sales_{it}}{Assets_{it-1}} + \beta_3 \frac{\Delta Sales_{it}}{Assets_{it-1}} + \varepsilon_{it} \quad (5)$$

where (Worldscope data items in brackets): CFO_{it} = the net cash receipts and disbursements resulting from the operations of firm i in year t [WC04860].

Abnormal CFO (RM_CFO) is measured as the estimated residual from Equation (5). Since price discounts and more lenient credit terms will result in lower cash flow in the current period, a lower residual implies a lower level of unusual cash flow from operations suggesting more sales manipulation to manage reported earnings upward.

Also following Roychowdhury (2006), the normal level of production costs is estimated using the following equation:

$$\frac{PROD_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{Sales_{it}}{Assets_{it-1}} + \beta_3 \frac{\Delta Sales_{it}}{Assets_{it-1}} + \beta_4 \frac{\Delta Sales_{it-1}}{Assets_{it-1}} + \varepsilon_{it} \quad (6)$$

where: $PROD_{it}$ = the production costs of firm i in year t .

The abnormal production cost (RM_PROD) is the difference between actual PROD and the normal level of PROD calculated using the estimated coefficients from Equation (6). A high value of RM_PROD indicates more real activity manipulation.

The normal level of discretionary expenses is estimated using the equation (7) (Roychowdhury, 2006):

$$\frac{DISX_{it}}{Assets_{it-1}} = \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{\Delta Sales_{it}}{Assets_{it-1}} + \beta_3 \frac{Sales_{it}}{Assets_{it-1}} + \varepsilon_{it} \quad (7)$$

Where (Worldscope data items in brackets): $DISX_{it}$ = discretionary expenses, computed as the sum of SG&A and R&D expenses. S&GA represents expenses not directly attributable to the production process but relates to selling, general and administrative functions and it includes advertising expense [WC01101]. R&D [WC01201] expenses consist of all direct and indirect costs related to the creation and development of new processes, techniques, applications and products with commercial possibilities. The abnormal level of discretionary expenses is (RM_DISX) is measured as the estimated residual from Equation (7). Low residuals indicate greater amounts of discretionary expenses cut by firms to increase reported earnings.

In sum, managers can utilize one or multiple real earnings management strategies. Given sales levels, firms that engage in earnings management exhibit one or more of the following characteristics: abnormally low cash flows from operations, and/or abnormally high production costs, and/or abnormally low discretionary expenses.

Total earnings management: In order to assess a firm level total earnings management, we combine our measures of accrual-based and real earnings management. First, we construct the dummy variables ACC_DUMMY_{it} and RM_DUMMY_{it} . Consistent with Cohen et al. (2008) and Cohen and Zarowin (2010), the variable ACC_DUMMY_{it} is equal to 1 if $DA1_{it}$ and $DA2_{it}$ of firm i in year t are both above the industry-year median, and 0 otherwise. To capture the effects of real

earnings management through the three proxies in a comprehensive way, consistent with Cohen et al. (2008), Cohen and Zarowin (2010) and Zang (2012) we multiply abnormal cash flows from operations and abnormal discretionary expenses by negative one, so that the higher the amounts, the more likely it is that the firm is cutting cash flows from operations and discretionary expenses. Next, we construct the dummy variable RM_DUMMY_{it} that is coded as 1 if any of the individual real earnings management measures of firm i in year t is above the industry-year median, and 0 otherwise. A value of 1 indicates that a firm is likely to be engaged in real earnings management activities.

Second, to capture the combined effects of accrual-based and real earnings management, we develop a composite measure TEM_DUMMY_{it} (Cohen and Zarowin, 2010). This dummy variable is coded as 1 if one or both dummy variables ACC_DUMMY_{it} and RM_DUMMY_{it} of firm i in year t is equal to 1, and 0 otherwise.

In addition, we develop two dummy variables to assess a firm's use of combinations of accrual-based and real earnings management strategies. $HRMLAM$ is a dummy coded as 1 if RM_DUMMY_{it} is 1 and ACC_DUMMY_{it} is zero for firm i in year t , and zero otherwise. That means, $HRMLAM$ indicates firms that choose for a combination of relatively high real earnings management (HRM) and low accrual-based earnings management (LAM). $LRMHAM$ is a dummy that indicates firms with the opposite combination of earnings management strategies, where ACC_DUMMY_{it} is 1 (high accrual-based earnings management) and RM_DUMMY_{it} is zero (low real earnings management) for firm i in year t , and zero otherwise. Together these dummies indicate whether a firm uses combinations of relatively high and/or low levels of accrual-based and real earnings management compared to other firms.

3.3.2 Independent variables

Our measure of political connectedness is taken from Faccio (2006). We create a dummy variable CONNECT taking the value of 1 if a firm is politically-connected and a value of 0 if a firm is not connected at some point between 1997 and 2001. A company is defined as politically-connected if “at least one of its large shareholders (anyone controlling at least 10 percent of the voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister or the head of state, or is closely related to a top politician or party” (Faccio, 2006, p. 370 and 2010, p. 907).

To assess a country’s level of public monitoring, we use variable PRESS_FREEDOM that is based on press freedom index used by Faccio (2006). The press freedom index measures the extent of freedom that journalists and the media have in each country and the efforts made by government to ensure this freedom (Faccio, 2006, p. 379). In countries with higher levels of press freedom, it is easier to detect earnings management. In addition, in countries with more media pressure and public monitoring, abuse is more likely to be punished. For these reasons, freedom of press is a good proxy for public monitoring. To determine to what extent the effects of having (or not having) political connections differs between countries that have higher or lower levels of public monitoring, interactions between the variables CONNECT and PRESS_FREEDOM are included into the model.

3.3.3 Control variables

In our multilevel logistic and linear panel data analyses, we include firm random firm, fixed country effects and year dummies as control variables, while in the multilevel linear regression analyses we also include random country effects (Dong and Stettler, 2012). In addition, we control for fixed industry effects. Based on a categorization of industries on the basis of two digit SIC

codes (Campbell, 1996; Cohen et al., 2008), our sample is composed of publicly traded firms operating in 27 different industries. However, because we had less than 30 observations in 4 industries, we reclassified our sample in six main industry groups: mining (10-17), manufacturing (20-39), transportation and public utilities (40-49), trade (50-59), finance, insurance & real estate (60-67), and services (70-89).

In the additional logistic regression analyses – that we have added to show the base impact of a country’s level of public monitoring on earnings management and to test the robustness of the results - we also include control variables that have been found to be associated with earnings management at the country level. Consistent with Faccio (2006 and 2010), we compute measures for corruption, gross domestic product per capita and inflation. The variable corruption (CORRUPTION) is included because countries that have higher levels of corruption may have weaker legal enforcement and investor protection rights, which increases a firm’s opportunities to manage earnings and decreases the likelihood of detection and the likelihood that outsiders will take disciplinary actions against the firm (La Porta et al., 1998 and 2000; Leuz et al., 2003).⁴ As a proxy of corruption, we use the average of three indexes used by Faccio (2010) as measures of perceived corruption: the Kaufmann, Kraay and Zoido-Lobaton index (Kaufmann et al., 1999a and b); the International Country Risk index (Faccio, 2006 and 2010); and the German corruption index (Neumann, 1994). The corruption indexes are (re)scaled from 0 to 10, so that higher scores represent higher levels of corruption, i.e., “the abuse of public office for private gains” (Faccio, 2010).

⁴ In the robustness section, we also use corruption as a proxy for public monitoring since a country’s higher (lower) level of institutional quality may result in a higher (lower) level of public monitoring. The results of the additional sensitivity tests show that the different measures of public monitoring have qualitatively similar effects to the choices for earnings management strategies of firms with and without political connections.

Cross domestic product per capita (GDP/CAP) is an indicator of a country's economic development. A country's wealth potentially influences the level of legal enforcement (La Porta et al., 2000; Leuz et al., 2003). Consistent with Chaney et al. (2011), GDP/CAP is measured as the natural log of the changes in Gross Domestic Product (GDP) per Capita (CAP) (International Monetary Fund's World Economic Outlook Database (2009)). The variable inflation (INFLATION) is measured by a country's average percentage of change in consumer prices (Leuz et al., 2003). INFLATION is included because cross-country variation in inflation may affect the earnings management measures, and thus the variability in earnings management. In addition, consistent with Chaney et al. (2011), INFLATION is a proxy for the business cycle that indicates the fluctuation in economic activity and obviously affects a firm's activity.

Finally, we winsorize all continuous control variables at the top and bottom 1% of their distribution to prevent that our results are driven by extreme outliers. Moreover, in all regressions, we adjust the standard errors for possible heteroskedasticity (Wooldridge, 2002). Table 3 reports summary statistics for the dependent, independent and control variables employed in our analyses. The mean values of our proxies for discretionary accruals and real earnings management are consistent with previous studies (Cohen et al., 2008).

[Insert Table 3 about here]

4. Results

4.1 Correlation of earnings management proxies

Table 4 reports the Pearson correlations of pairwise correlations between all variables in the main tests. As expected, the associations between the proxies of total earnings management and real and accrual-based earnings management are significantly positive, while the correlations among real earnings management proxies and the accrual-based proxies are significantly negative.

Consistent with prior studies (Cohen, 2008; Cohen and Zarowin, 2010; Zang, 2012), these latter findings indicate that firms appear to use real and accrual-based earnings management as substitutes in managing earnings. Further, the significant correlations among the proxies for real earnings management suggest that firms can choose between several methods of real earnings management. The correlations between the proxies for real earnings management and our comprehensive real earnings management proxy indicate that overall they are based on the same underlying construct. Political connectedness is significantly and positively related with total and real earnings management, but negatively related with accrual-based earnings management, indicating that connected firms use more real and less accrual-based earnings management than non-connected firms.

[Insert Table 4 about here]

4.2 Tests of hypotheses

Table 5 shows the results of the regression analyses to test H1, which predicts a positive relationship between political connectedness and real earnings management. Panel A of Table 5 shows the results of the multilevel logistic analyses (models 1-2) and logistic regression analyses (models 3-5), using our composite measure of real earnings management (RM_DUMMY) as dependent variable. The findings consistently show significantly positive associations between political connectedness and real earnings management, controlling for the other factors specified in the models. These findings indicate that politically-connected firms use more real earnings management than non-connected firms.

Panel B of Table 5 reports the findings of the additional analysis, using the three proxies of real earnings management as dependent variables, i.e. the incidence of abnormal cash flow from

operations (RM_CFO), and the abnormal production costs (RM_PROD) and the abnormal discretionary expenses (RM_DISX). The results show significantly negative relationships between abnormal levels of cash flow from operations and political connectedness, while abnormal levels of production costs and political connectedness are significantly positively associated. The associations between abnormal discretionary expenses and political connectedness are negative but not significant. These findings suggest that, compared with non-connected firms, firms with political connections manage their earnings more through the manipulation of sales and are more likely have abnormally high production costs, but do not manage their earnings more through the reduction of discretionary expenses. Together, Table 5 provides strong support for H1 that politically-connected firms are more engaged in relatively costly real activities manipulation than non-connected firms. The reported results suggest that real earnings management helps connected firms to hide or obscure reporting the gain that they typically derive from their connections, especially when they are of dubious legality (Faccio, 2006; Faccio et al., 2006; Chaney et al., 2011). In the end, for connected firms accrual-based earnings management may be more costly than real earnings management.

[Insert Table 5 about here]

Table 6 shows the results to test H2, which states that politically-connected firms are more likely to substitute accrual-based earnings management by real earnings management than non-connected firms. The significant results in Models 1-3 of Table 6 indicate that politically-connected firms are more likely to use combinations of relatively high levels of real earnings management and low levels of accrual-based earnings management than non-connected firms, everything else held constant. Moreover, the Models 4-6 show that politically-connected firms are significantly less likely to use combinations of relatively low real earnings management and high

accrual-based earnings management strategies. Together, and consistent with the results in Table 4, these results provide strong support for H2, suggesting that relative to non-connected firms, firms with political connections are more inclined to substitute accrual-based earnings management strategies for the relatively costly real earnings management strategies.

[Insert Table 6 about here]

Tables 5 and 6 also show interaction effects to test H3 which states that public monitoring has an additional effect on the choice of earnings management strategies of politically-connected firms (H3). In conformity with our expectation, the positive and significant interaction in Model 3 of Panel A of Table 5 suggests that, among the firms that have political connections, the firms domiciled in countries with high levels of public monitoring use more real earnings management strategies. However, contrary to the expectation, the significantly positive interaction in Model 2 of Panel B indicates that politically-connected firms in countries with high levels of public monitoring manage their earnings less through the manipulation of sales than connected companies in countries with low levels of public scrutiny.

Model 2 of Table 6 also shows that the interaction between political connectedness and press freedom is significantly positively associated with the use of relatively high real and low accrual-based earnings management strategies, indicating that when public monitoring increases, connected firms are more likely to substitute accrual-based earnings management strategies for real earnings management strategies. Consistently, Model 5 of Table 6 reports a significantly negative interaction with use of combinations of relatively high accrual-based and low real earnings management strategies. Collectively, these results provide limited support for H3, indicating that politically-connected firms are more likely to use real earning strategies when the level of public monitoring is relatively high.

Table 7 reports the results of the regression analyses for the hypothesized relationship between political connectedness and total earnings management (H4). The findings consistently show significantly positive associations between political connectedness and firms' levels of total earnings management. Table 7 provides strong support for H4, indicating that politically-connected firms are more likely to manage their earnings in general than non-connected firms. The reported results suggest that despite the substitution of accrual-based earnings management by real earnings management, firms with political connection have more incentives to manage their earnings secretly than non-connected firms. Moreover, the results are in line with previous research, which suggests that firms that have political connection apparently face little negative consequences from their relatively lower quality of earnings disclosure (Chaney et al., 2011; e.g. Francis et al., 2005).

[Insert Table 7 about here]

5. Robustness tests

Panel A of Table 1 shows that the United States, the United Kingdom and Japan are relatively well represented in our data set with respectively 2786 (51%), 1074 (20%) and 710 (13%) observations. To check that our results may not be influenced by the inclusion (or exclusion) of one of these countries, we recursively repeated our main analyses after eliminating these three countries, one at a time, from the analysis. In addition, we repeated our main analyses after eliminating the countries with five or less than five firm year observations. The findings of these additional analyses (unreported) are consistent with the main results in the Tables 5-7, indicating that the results are robust to the inclusion or exclusion of countries.

To check whether our results are sensitive to several alternative measures of accrual-based and real earnings management, we consider alternative measures of earnings quality. First, we repeat our analysis by using the performance-adjusted measure of discretionary current accruals (REDCA), which is based on the method used in Ashbaugh et al. (2003) and used by Chaney et al. (2011) to test the consistency of our results with those of Chaney et al. (2011). Consistent with Chaney et al. (2011), the additional results (unreported) show that the presence of political connection is positively and significantly associated with a lower current accruals quality when using the REDCA measure, controlling for the other factors specified in the model. These findings suggest that the results are sensitive to research design choices, i.e. the measurements of discretionary accruals. In addition, since discretionary accrual models, like the modified Jones' model, have been criticized to estimate discretionary accruals with error (e.g. McNichols, 2000; Collins and Hribar, 2002), we also used total accruals instead of discretionary accruals. Our results using these alternative measures are consistent with those reported in the paper.

We also checked whether our results are robust to alternative measures of public monitoring. For this reason, we used corruption as a proxy for public monitoring since a country's higher (lower) level of institutional quality may result in a higher (lower) level of public monitoring. The findings of the additional analyses (unreported) show that results are qualitatively robust to the different measures of public monitoring. In the additional logistic regression analyses we also used individual corruption measures instead of the composite average corruption measure to test our hypotheses. Moreover, we repeated our main logistic regression analyses including sampling weights, which implies that country-specific characteristics enter the regressions with equal weights. The findings of these additional analyses (unreported) show that results are robust to different measures of corruption and to different weights of country characteristics. Because of

the repeated firm-level observations in our panel data set, we also adjust the estimated standard errors for clustering at firm level, showing qualitatively similar results (unreported). In sum, none of these robustness tests changes our general results, indicating that the results are qualitatively robust.

6. Conclusion and discussion

This study examines whether the choices for accrual-based and real earnings management differ between firms with and without political connections. We argue that politically-connected firms favor the relatively more costly real earnings management strategies because of its higher secrecy. Particularly when public monitoring increases, they have more incentives to manage and mask the gains that they typically derive from their connections, especially those of dubious legality (Watts and Zimmerman, 1990; Faccio, 2006; Faccio et al., 2006; Chaney et al., 2011). Consistent with our expectations, the results of our panel data analyses show that political connections play a significant role in explaining variance in both accrual-based and real earnings management representing total earnings management. Compared to non-connected firms, politically-connected firms engage more in real activities manipulation and manage their earnings in general more than non-connected firms. In addition, connected firms are more likely to substitute accrual-based earnings management strategies by relatively more costly real earnings management strategies, while public monitoring plays a significant incremental role in explaining variance in the choices of earnings management strategies of politically-connected firms. Finally, the results indicate that politically-connected firms manage their earnings in general more than non-connected firms.

These results have several important implications for accounting practices and research related to earnings management. First, the findings are likely to be helpful for external capital providers and other stakeholders in assessing the pervasiveness of earnings management and the

overall integrity of financial reporting of the connected firms. Second, in research settings where both accrual-based and real earnings management techniques are likely to be used, variation in earnings management cannot be captured by studying the use of accrual-based earnings management only. More specifically, for politically-connected firms we suggest that a focus on accrual-based earnings management only can lead to a severe underestimation of the overall effect of their earnings management activities. Third, standard setters can consider ways to refine existing accounting standards and expand disclosure requirements to enhance financial reporting for firms in which earnings management is common and that trade-off accrual-based versus real earnings management, i.e., firms with political connections. Finally, despite the fact that higher levels of public monitoring and governance are likely to reduce firms' opportunities to manage earnings, stronger monitoring and legal enforcement can also lead to more real earnings management, thus negatively influencing the facilitation of efficient resource allocation and stewardship decisions by stakeholders.

Of course, this study has its limitations. Two of these limitations are related to the use of our measures of earnings management and political connectedness. The former limits the generalizability of our findings because we only consider one aspect of earnings manipulation, i.e. the level of accrual-based and real earnings management. Further research could benefit from examining the relationship between political connectedness and other aspects of earnings management, such as timeliness, value relevance and earnings conservatism (Dechow et al., 2010). Regarding the latter, we assumed in the empirical part that political connections are uniformly associated with choices for accrual-based and real earnings management strategies. However, the benefits from political connections should be expected to differ for a member of parliament of the opposition party to a member of parliament of the governing party to a minister in government.

Another limitation was the use of a sample with firms from 30 countries. The data showed that the percentage of politically-connected firms varied considerable between the countries. This suggests a risk of sample bias that may distort the results and limit the generalizability of our findings.

Further research could make a distinction between different types of political connections to examine the associations between types of political connections and use of different accrual-based and real earnings management strategies. Finally, we include the interaction between political connectedness and press freedom as only one of several methods to test the additional effect of public monitoring on earnings management strategies. Future research could advance this approach with other moderator effects at the country level that potentially influence and condition the choices for different earnings management strategies. Overall, more research is needed for an improved understanding of the connections between firms and politicians in different national and international contexts as this would help to identify critical factors that affect the choices of managers for different earnings management strategies.

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Table 1 Panel A. Country distribution of firms with and without political connections and (mean) country characteristics (1997-2001)

Country	No. of firms with available data				INFLA- TION ²	GDP/CAP ²	CORRUP- TION ²
	Political		Total	(%)			
	connections ¹						
No	Yes						
AUSTRALIA	34	1	35	(0.64)	3.008	26816.43	1.798
BELGIUM	2	5	7	(0.13)	1.920	25338.51	3.657
CANADA	75	7	82	(1.49)	1.735	26730.81	0.889
CHILE	6	1	7	(0.13)	4.823	9010.52	2.942
DENMARK	2	7	9	(0.16)	2.285	26481.83	0.742
FINLAND	4	2	6	(0.11)	1.797	22218.28	0.831
FRANCE	16	19	35	(0.64)	1.295	24261.58	2.435
GERMANY	19	12	31	(0.56)	1.344	25040.50	1.759
HONGKONG	24	7	31	(0.56)	-1.177	25492.48	2.373
HUNGARY	1	1	2	(0.04)	11.150	11443.40	3.772
INDIA	5	8	13	(0.24)	6.087	1346.24	5.612
INDONESIA	33	29	62	(1.13)	19.627	2414.16	6.598
ISRAEL	2	2	4	(0.07)	4.635	19418.98	2.447
ITALY	9	20	29	(0.53)	2.501	22861.19	3.395
JAPAN	1041	33	1074	(19.55)	-0.494	25179.41	3.553
MALAYSIA	149	5	154	(2.80)	2.496	8684.34	3.733
MEXICO	58	67	125	(2.28)	12.983	9955.65	5.554
NETHERLANDS	12	6	18	(0.33)	2.527	27114.91	0.947
PHILIPPINES	1	1	2	(0.04)	90.901	2220.63	5.456
RUSSIA	7	4	11	(0.20)	31.374	7018.97	6.233
SINGAPORE	1	4	5	(0.09)	0.723	30527.43	1.105
SOUTHKOREA	38	14	52	(0.95)	3.535	15301.34	4.682
SPAIN	1	3	4	(0.07)	2.634	20525.54	2.571
SWEDEN	11	3	14	(0.25)	1.566	24500.51	0.829
SWITZERLAND	26	6	32	(0.58)	0.815	29551.53	0.857
TAIWAN	60	8	68	(1.24)	0.410	18540.47	3.749
THAILAND	47	36	83	(1.51)	3.778	4865.35	5.330
TURKEY	1	1	2	(0.04)	71.090	7757.52	5.698
UNITED KINGDOM	575	135	710	(12.93)	1.451	23968.61	1.587
UNITED STATES	2776	10	2786	(50.72)	2.389	32793.61	2.186
Total	5036	457	5493	(100.00)			

¹ A company is defined as politically connected if “at least one of its large shareholders (anyone controlling at least 10% of the voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister or the head of state, or is closely related to a top politician or party” (Faccio, 2006: 370 and 2010:907).

² See Table 2 for variable definitions.

Table 1 Panel B. Country distribution of firms with and without political connections per year (1997-2001)

Country	Year														
	1997			1998			1999			2000			2001		
	No. of firms with available data			No. of firms with available data			No. of firms with available data			No. of firms with available data			No. of firms with available data		
	Political connections		Tot.												
No	Yes		No	Yes		No	Yes		No	Yes		No	Yes		
AUSTRALIA	2	1	3	2	1	3	3	1	4	5	1	6	30	1	31
BELGIUM	0	3	3	0	3	3	1	3	4	2	3	5	2	4	6
CANADA	26	5	31	26	5	31	30	3	33	32	3	35	41	2	43
CHILE	2	1	3	2	1	3	1	1	2	4	1	5	0	1	1
DENMARK	0	7	7	0	7	7	0	6	6	0	5	5	2	5	7
FINLAND	2	2	4	2	2	4	1	2	3	1	2	3	1	2	3
FRANCE	6	18	24	6	18	24	8	16	24	10	15	25	11	15	26
GERMANY	2	11	13	2	11	13	1	11	12	9	9	18	11	7	18
HONGKONG	0	7	7	0	7	7	1	6	7	12	6	18	20	5	25
HUNGARY	0	1	1	0	1	1	0	1	1	1	1	2	0	1	1
INDIA	0	8	8	0	8	8	2	8	10	4	8	12	1	8	9
INDONESIA	15	29	44	15	29	44	10	27	37	22	27	49	16	26	42
ISRAEL	1	2	3	1	2	3	0	2	2	1	2	3	0	2	2
ITALY	5	19	24	5	19	24	5	15	20	6	11	17	5	11	16
JAPAN	141	33	174	141	33	174	74	32	106	919	31	950	999	31	103
MALAYSIA	0	65	65	0	65	65	1	65	66	33	66	99	36	64	100
MEXICO	1	6	7	1	6	7	2	6	8	8	5	13	6	6	12
NETHERLANDS	0	1	1	0	1	1	0	1	1	0	1	1	1	0	1
PHILIPPINES	3	4	7	3	4	7	2	4	6	2	4	6	3	4	7
RUSSIA	0	3	3	0	3	3	0	3	3	0	3	3	1	3	4
SINGAPORE	0	14	14	0	14	14	2	14	16	24	13	37	31	13	44
SOUTH KOREA	57	5	62	57	5	62	94	5	99	104	5	109	94	5	99
SPAIN	0	3	3	0	3	3	1	2	3	1	2	3	1	2	3
SWEDEN	7	3	10	7	3	10	10	3	13	9	2	11	9	2	11
SWITZERLAND	13	5	18	13	5	18	20	5	25	20	5	25	20	5	25
TAIWAN	21	7	28	21	7	28	21	8	29	21	8	29	53	7	60
THAILAND	31	33	64	31	33	64	17	28	45	11	27	38	11	27	38
TURKEY	0	1	1	0	1	1	1	0	1	1	0	1	1	0	1
UNITED STATES	285	130	415	285	130	415	290	121	411	342	108	450	367	101	468
UNITED STATES	1264	9	1273	1264	9	1273	1762	10	1772	1801	10	1811	177	8	1778
Total	1884	436	2320	2239	427	2666	2360	409	2769	3405	384	3789	3543	368	3911

Table 1 Panel C. Firm characteristics

Industry (U.S. SIC codes) ¹	Number of firm-year observations		Political connections		Total assets		Market-to Book	
	n	%	No	Yes	Mean	Std. dev.	Mean	Std. dev.
Mining and construction (10-17)	932	5.28	799	133	1.509.975	1.11e+07	1.444.541	1.143.701
Manufacturing (20-39)	9,767	55.29	8,894	873	408543.4	2547749	6.629.771	6.087.362
Transportation & pub. utilities (40-49)	578	3.27	274	304	3.445.219	2.40e+07	238.194	1.343.418
Trade (50-59)	186	1.05	76	110	948.036	1654974	1.174.678	2.509.783
Finance, insurance, & real estate (60-67)	705	3.99	93	612	1.04e+07	5.54e+07	1.611.719	5.727.437
Services (70-89)	5,496	31.11	5,072	424	384978.6	4160755	1.714.615	2.541.185
Total	17,664	100.00	15,208	2,456	813612.1	1.10e+07	1.134.873	1.743.247

¹ Our sample is composed of publicly traded firms operating in 27 different industries. Because we had less than 30 observations in 4 industries and for presentation purposes, we present our sample in six main industry groups.

Table 1 Panel D. Firms across year and industry

Year	Industry						
	Mining and construction	Manufacturing	Transportation & Pub. utilities	Trade	Finance, insurance & real estate	Services	Total
1996	111	1,211	89	25	121	652	2,209
1997	118	1,253	86	27	121	715	2,320
1998	148	1,409	88	25	121	875	2,666
1999	124	1,434	88	20	110	993	2,769
2000	196	2,178	112	43	112	1,148	3,789
2001	235	2,282	115	46	120	1,113	3,911
Total	932	9,767	578	186	705	5,496	17,664

Table 2. Variable Definitions

Variable name	Definition
<i>TEM_DUMMY</i> ¹ =	A composite measure to assess a firm's level of total earnings management, coded as 1 if one or both dummy variables <i>ACC_DUMMY</i> and <i>RM_DUMMY</i> are equal to 1, and 0 otherwise.
<i>ACC_DUMMY</i> ¹ =	A dummy variable that is equal to one if a firm's DA1 or DA2 are above industry-year median, and zero otherwise (consistent with Cohen and Zarowin (2010).
<i>RM_DUMMY</i> ¹ =	An aggregated dummy variable of real earnings that is equal to one if one of the individual real earnings management measures is above the industry-year median, and 0 otherwise (Cohen and Zarowin, 2010).
<i>HRMLAM</i> =	A dummy variable that is equal to one if <i>RM_DUMMY</i> is 1 and <i>ACC_DUMMY</i> is zero, and zero otherwise.
<i>LRMHAM</i> =	A dummy variable that is equal to one if <i>ACC_DUMMY</i> is 1 and <i>RM_DUMMY</i> is zero, and zero otherwise.
<i>DA1</i> =	Discretionary accruals computed using the Modified Jones Model (Dechow et al., 1995; Cohen et al., 2008; Cohen and Zarowin, 2010). ¹
<i>DA2</i> =	Discretionary accruals computed using the Modified Jones Model including the change in accountants receivable (Dechow et al., 1995; Cohen et al., 2008; Cohen and Zarowin, 2010). ¹
<i>RM_CFO</i> =	The level of abnormal cash flows from operations (Roychowdhury, 2006). ²
<i>RM_PROD</i> =	The level of abnormal production costs, where production costs are defined as the sum of the cost of goods sold and the change in inventories (Roychowdhury, 2006). ¹
<i>RM_DISX</i> =	The level of abnormal discretionary expenses, where discretionary expenses are the sum of R&D expenses and SG&A expenses. The lower value of this variable indicates more real earnings management (Roychowdhury, 2006). ²
<i>CONNECT</i> =	A dummy variable that takes the value of 1 if a firm is politically connected and a value of 0 otherwise (Faccio, 2006 and 2010).
<i>PRESS_FREEDOM</i> =	A proxy for countries' levels of public monitoring based on the press freedom index used by Faccio (2006). This transparency variable assesses the extent of freedom that journalists and the media have in each country and the efforts made by government to ensure this freedom (Faccio, 2006, p. 379).
<i>CORRUPTION</i> =	Average of three indexes (Faccio, 2006): the Kaufmann, Kraay and Zoido-Lobaton index (Kaufmann et al., 1999a and 1999b); the International Country Risk index (Faccio, 2006 and 2010); and the German corruption index (Neumann, 1994).

GDP/CAP = Log normal of the changes in gross domestic product per capita (International Monetary Fund's World Economic Outlook Database, April 2009: www.imf.org/external/pubs/ft/weo/2009/01/weodata/index.aspx.) (Chaney et al., 2011).

INFLATION = A country's average percentage change in consumer prices (Leuz et al., 2003).

¹A higher value of this variable indicates more earnings management.

²A lower value of this variable indicates more earnings management.

Table 3. Summary statistics for the variables in the analysis

Variables	Obs.	Mean	Std. Dev.	Min	Max
<i>Dependent variables (Earnings management proxies)</i>					
TEM_DUMMY	17664	0.867	0.339	0	1
ACC_DUMMY	17664	0.674	0.468	0	1
RM_DUMMY	17664	0.557	0.497	0	1
DA1	11525	0.122	0.101	0.014	0.340
DA2	11248	0.210	0.791	0.000	34.240
RM_CFO	11530	-0.057	0.149	-0.281	0.223
RM_PROD	5861	-0.008	0.352	-8.438	2.915
RM_DISX	10071	-0.062	0.427	-1.052	2.355
<i>Independent variables</i>					
CONNECT	17664	0.046	0.210	0	1
PRESS_FREEDOM	17523	5.887	3.239	0.500	37.832
<i>Control variables</i>					
CORRUPTION	17645	0.109	0.892	-1.155	4.565
GDP/CAP	17645	0.238	0.911	-5.907	2.851
INFLATION	17664	2.225	4.81	-3.561	104.500

See Table 2 for variable definitions.

Table 4. Pearson correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. TEM_DUMMY	1.000												
2. ACC_DUMMY	0.563**	1.000											
3. RM_DUMMY	0.439**	-0.048**	1.000										
4. DA1	0.265**	0.441**	-0.048*	1.000									
5. DA2	0.256**	0.126**	-0.056*	0.378***	1.000								
6. RM_CFO (R)	0.059**	-0.024**	0.034**	-0.128**	-0.333**	1.000							
7. RM_PROD	0.227**	-0.013	0.487**	-0.007	-0.219**	-0.378**	1.000						
8. RM_DISX (R)	0.174**	-0.073**	0.573**	-0.113**	-0.167**	-0.359**	-0.437**	1.000					
9. CONNECT	0.015**	-0.006**	0.066**	-0.025**	-0.029**	0.089**	0.023**	0.075**	1.000				
10. PRESS_FREEDOM	0.016	-0.012*	0.0865**	-0.057**	-0.033**	0.117**	0.029**	0.096**	0.234**	1.000			
11. CORRUPTION	0.019	0.001*	0.071**	0.042**	-0.031**	0.125**	0.027**	0.081**	0.126**	0.822**	1.000		
12. GDP/CAP	-0.006**	-0.032**	0.079**	-0.047**	-0.027**	0.011	0.002	0.078**	0.144**	0.091**	-0.318	1.000	
13. INFLATION	-0.008**	0.355*	-0.048**	0.035*	0.011	0.010*	-0.039**	-0.037**	0.014**	0.324**	0.327**	-0.068**	1.000

***, ** and * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively.

(R): Indicates reversed score.

See Table 2 for variable definitions.

Table 5 Panel A. Multilevel logistic and logistic regression results of RM_DUMMY

Dependent variable:	RM_DUMMY				
	Multilevel logistic regression		Logistic regression		
	Model 1	Model 2	Model 3	Model 4	Model 5
Connect	1.793*** (5.18)	1.239** (2.51)	1.177*** (4.12)	1.263*** (5.29)	1.415*** (4.63)
Press freedom				0.015 (1.17)	0.029 (1.21)
Connection x press freedom		0.055 (1.54)	0.036* (1.82)		-0.018 (-0.79)
Corruption				0.427*** (3.96)	0.395*** (3.72)
GDP/CAP				-0.346*** (-4.19)	-0.353*** (-4.11)
Inflation				-0.046*** (-6.67)	-0.045* (-6.99)
Industry dummies ^{1,2}	Y (310.76***)	Y (311.32***)	Y (397.87***)	Y (318.34***)	Y (352.03***)
Fixed country effects ^{1,2}	Y (336.49***)	Y (335.00***)	Y (301.77***)	N	N
Year dummies ^{1,2}	Y (392.40***)	Y (392.231***)	Y (515.48***)	Y (584.70***)	Y (584.62***)
Random firm effects ¹	Y	Y	Y	Y	Y
Intercept	0.996 (0.83)	1.011*** (0.84)	0.162 (0.27)	1.421** (2.20)	1.327*** (2.00)
N	14662	14662	15193	15296	15296
Wald- χ^2	767.66***	399.90***	1177.16***	936.20***	989.24***
Pseudo R ²			0.147	0.104	0.104

***, ** and * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively (t-values below the regression coefficients in parentheses).

See Table 2 for variable definitions.

¹ Individual coefficients of the year dummies, country dummies, industry dummies and random fixed firm effects are not reported for parsimony.

² Chi-square and statistical significance of joint variables tests in parentheses.

Table 5 Panel B. Multilevel linear regression results of real earnings management

Dependent variable:	RM_CFO		RM_PROD		RM_DISX	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Connect	-0.038** (-2.75)	-0.042*** (-3.21)	0.124*** (2.58)	0.105*** (3.04)	-0.100 (-1.35)	-0.115 (-1.60)
Press freedom		-0.03*** (-3.45)		-0.056** (-2.14)		-0.000 (-0.05)
Connection x press freedom	0.001 (1.30)	0.002* (1.87)	-0.003 (-0.63)	-0.001 (-0.25)	-0.005 (-0.09)	-0.007 (-0.13)
Industry dummies ^{1,2}	Y*** (231.65)	Y*** (209.19)	Y*** (149.16)	Y*** (145.76)	Y*** (143.87)	Y*** (141.73)
Fixed country effects ^{1,2}	Y*** (135.44)	N	Y*** (49.16)	N	Y*** (249.49)	N
Random country effects ¹	N	Y	N	Y	N	Y
Random firm effects ¹	Y	Y	Y	Y	Y	Y
Year dummies ^{1,2}	Y *** (106.09)	Y *** (106.13)	Y *** (115.91)	Y *** (113.09)	Y *** (107.08)	Y *** (106.98)
Intercept	0.022 (0.03)	-0.039** (-2.54)	0.067 (0.28)	0.268 (0.71)	-0.145 (-0.56)	-0.17*** (-3.19)
N	11444	11444	5820	5820	10051	10051
Wald- χ^2	430.55 ***	325.34 ***	63.68 ***	48.94 ***	456.61 ***	250.67 ***

***, ** and * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively (t-values below the regression coefficients in parentheses).

See Table 2 for variable definitions.

¹ Individual coefficients of the year dummies, country dummies, industry dummies and random fixed firm effects are not reported for parsimony.

² Chi-square and statistical significance of joint variables tests in parentheses.

Table 6 Multilevel logistic and logistic regression results of HRMLAM and LRMHAM

Dependent variable:	HRMLAM		LRMHAM			
	Multilevel logistic regression		Logistic regression	Multilevel logistic regression		Logistic regression
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Connect	0.919*** (7.54)	0.497*** (2.68)	0.588*** (4.47)	-1.304*** (-5.03)	-0.765** (-2.06)	-1.389*** (-4.26)
Press freedom			-0.015* (-1.85)			-0.039 (-1.27)
Connection x press freedom		0.040*** (2.74)	0.039 (1.47)		-0.053** (-1.97)	0.028 (1.02)
Corruption			0.092** (2.27)			-0.409*** (3.13)
GDP/CAP			-0.089** (-2.30)			0.354*** (3.82)
Inflation			-0.012** (-2.52)			0.050*** (-7.46)
Industry dummies ^{1,2}	Y (74.85***)	Y (73.83***)	Y (70.04***)	Y (307.92***)	Y (309.27***)	Y (252.64***)
Fixed country effects ^{1,2}	Y (121.33***)	Y (122.21***)	N	Y (335.44***)	Y (335.01***)	N
Year dummies ^{1,2}	Y (180.53***)	Y (179.92***)	Y (155.81***)	Y (258.80***)	Y (258.72***)	Y (353.86***)
Random firm effects ¹	Y	Y	Y	Y	Y	Y
Intercept	-1.748*** (-3.82)	-1.717*** (-3.73)	-0.991** (-2.16)	-1.569* (-1.73)	-1.576* (-1.75)	-1.956** (-3.27)
N	15455	15330	15131	15455	15330	15209
Wald- χ^2	437.72***	437.73***	305.97***	733.39***	732.67***	721.82***
Pseudo R ²			0.049			0.091

***, ** and * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively (t-values below the regression coefficients in parentheses).

See Table 2 for variable definitions.

¹ Individual coefficients of the year dummies, country dummies, industry dummies and random fixed firm effects are not reported for parsimony.

² Chi-square and statistical significance of joint variables tests in parentheses.

Table 7 Multilevel logistic and logistic regression results of TEM_DUMMY

Dependent variable:	TEM-DUMMY				
	Multilevel logistic regression		Logistic regression		
	Model 1	Model 2	Model 3	Model 4	Model 5
Connect	0.920*** (3.12)	0.751* (1.75)	0.832** (2.02)	1.047*** (3.86)	1.041*** (3.13)
Press freedom				0.015 (1.13)	0.015 (0.74)
Connection x press freedom		0.018 (0.56)	0.015 (0.54)		-0.006 (0.03)
Corruption				0.100 (0.92)	0.100 (0.99)
GDP/CAP				-0.158* (-1.88)	-0.158* (-1.92)
Inflation				-0.015* (-1.89)	-0.015** (-1.98)
Industry dummies ^{1,2}	Y (129.34***)	Y (93.67***)	Y (135.41***)	Y (125.51***)	Y (123.20***)
Fixed country effects ^{1,2}	Y (87.51***)	Y (84.68***)	Y (57.62***)	N	N
Year dummies ^{1,2}	Y (93.75**)	Y (129.52***)	Y (115.42***)	Y (142.81***)	Y (142.58***)
Random firm effects ¹	Y	Y	Y	Y	Y
Intercept	2.714*** (2.82)	2.723*** (2.83)	1.657** (2.31)	2.078*** (2.68)	2.081*** (2.67)
N	14475	14475	14745	14910	14910
Wald- χ^2	281.15***	281.13***	382.15***	333.86***	346.35***
Pseudo R ²			0.070	0.067	0.067

***, ** and * indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels respectively (t-values below the regression coefficients in parentheses).

See Table 2 for variable definitions.

¹ Individual coefficients of the year dummies, country dummies, industry dummies and random fixed firm effects are not reported for parsimony.

² Chi-square and statistical significance of joint variables tests in parentheses.