

Private Control Benefits and Earnings Management: Evidence from Insider Controlled Firms

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ABSTRACT

We examine earnings management practices of insider controlled firms across 22 countries to shed light on the link between consumption of private benefits and earnings management. Insider controlled firms are associated with *more* earnings management than noninsider controlled firms in weak investor protection countries. Consistent with the private benefits motive, insider controlled firms with greater divergence between cash-flow rights and control rights are associated with more earnings management in these countries. Growth opportunities attenuate the association between insider control and earnings management even in weak investor protection countries. We also find some weak evidence that insider controlled firms are associated with *less* earnings management in strong investor protection countries. Overall, our results highlight a strong link between private benefits consumption and earnings management.

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1. *Introduction*

Understanding the determinants of firm disclosure practices is of fundamental importance. In an influential study, Leuz, Nanda, and Wysocki [2003] advance the link between insiders' incentives to consume private control benefits and financial reporting practices. In support, they show that firms in countries with poor investor protection—where insiders have a greater ability to consume private control benefits—are associated with more earnings management (i.e., less informative financial statements). Although an important first step, it is difficult to form definitive conclusions from a country-level design because a number of determinants of firm disclosures covary with the level of investor protection. In this study, we use detailed ownership data on over 4,500 firms from 22 countries to further examine the role of private benefits consumption in firms' reporting practices. In particular, we compare earnings management practices of insider controlled firms with those of noninsider controlled firms.

It is common for firms outside the United States to be controlled by insiders—typically a family, financial institution, or the Government (LaPorta et al. [1998]). These insiders usually have concentrated ownership stakes and enjoy control rights far in excess of their cash-flow rights. Such disproportionate control, in conjunction with lack of intervention from activists outside shareholders or a market for corporate control, affords insiders significant autonomy over firm decisions even when their ownership stakes are small. In many instances, the firms are also managed by members or representatives of the controlling entity. This provides insiders added opportunities to expropriate outside shareholders through the firm's operating and financing decisions (Lins [2003], Leuz, Lins, and Warnock [2009]). Prior research provides evidence of private benefits consumption among insider controlled firms. For example, Claessens, Djankov, and Lang [2000] and Lins [2003] show that such firms have lower valuation; Leuz, Lins, and Warnock [2009] show that these firms have lower foreign portfolio holdings; Faccio, Lang, and Young [2001] show that such firms pay less dividends; and Bertrand, Mehta, and Mullainathan [2002] show that such firms tunnel cash to benefit insiders.

As Leuz, Nanda, and Wysocki [2003] argue, insiders can retain their ability to consume private benefits by keeping firm disclosures opaque. This allows them to not only extract benefits when the firm performs well but also to keep a poorly performing firm alive. Thus, we expect insider controlled firms to be associated with more earnings management than their noninsider controlled counterparts.

Insider control need not necessarily be bad in all contexts. To the extent that complex ownership structures are difficult for outsiders to comprehend, insiders may increase informativeness of financial reporting to improve transparency (e.g., Wang [2006], Ali, Chen, and Radhakrishnan [2007], Chen, Chen, and Cheng [2008]). Insiders are likely to do so only if the benefits from improved transparency (in the form of a lower cost of

capital) outweigh the costs of lost private benefits. We expect country-level investor protection to affect this trade-off. Regulations that inadequately protect outside shareholders will enhance insiders' control over firms and hence their consumption of private benefits (LaPorta et al. [1997, 1998], Dyck and Zingales [2004], Leuz, Lins, and Warnock [2009], Lins [2003]). Thus, we expect insider controlled firms to be associated with more earnings management than noninsider controlled firms, especially in countries with poor investor protection. To the extent that the benefits from reducing information asymmetry (due to complex ownership structures) are higher in strong investor protection countries, we expect the positive association between insider control and earnings management to be attenuated in such countries.

To test these predictions, we obtain ownership data for a large cross-section of 4,517 unique firms across Europe and Asia from the sources in Claessens, Djankov, and Lang [2000] and Faccio, Lang, and Young [2001]. These data allow us to identify insider controlled firms. We classify firms as insider controlled if they belong to a family group as per Claessens, Djankov, and Lang [2000] or they belong to a business group as per Faccio, Lang, and Young [2001]. Following Leuz, Nanda, and Wysocki [2003], we employ a composite measure of earnings management by combining two measures—the extent of income smoothing and the magnitude of total accruals—and use it as our proxy for the opacity of firms' financial statements. We compute these earnings management proxies for our final sample of 48,410 firm-year observations across 22 countries using financial data from *Worldscope* for the period from 1992 to 2006.

We begin our empirical analysis by comparing the extent of earnings management of insider controlled and noninsider controlled firms in our full sample, and do not find any significant differences in their earnings management outcomes. Thus, the two forces that affect reporting practices of insider controlled firms seem to offset each other in the full sample.

When we split the sample based on countries' institutional environments, we find important differences. We use two primary measures to capture a country's institutional environment. The first is the "anti-self-dealing" index constructed by Djankov et al. [2008], which captures the extent to which minority shareholders are protected against expropriation by corporate insiders. The second measure is whether the country has a common law or a code law legal origin. As legal origin is related to several institutional outcomes, we use it as a summary measure of a country's institutional framework. Countries with common law legal origin are associated with greater protection for outside shareholders as compared to those with code law legal origin (LaPorta et al. [1998]). We find that insider controlled firms are associated with more earnings management than noninsider controlled firms in low anti-self-dealing countries (i.e., in countries amenable to self-dealing) and in code law countries. Insider control is associated with 156% higher earnings management in countries that rank low on the

anti-self-dealing index. These results are consistent with an important role for private benefits in shaping firms' earnings management practices.

In high-anti-self-dealing countries and in those with common law legal origin, we find some weak evidence that insider controlled firms are associated with lower earnings management than their noninsider controlled counterparts. This result suggests that, in countries where benefits consumption is lower, insiders may provide more informative disclosures to alleviate information asymmetry arising from complex ownership structures. We explore this result further in our last set of tests. This result may also help explain why foreign investors are willing to invest in insider controlled firms in strong investor protection countries (Leuz, Lins, and Warnock [2009]).

Prior research shows that, even among insider controlled firms, those with ownership structures that enhance the insider's control rights are associated with greater benefits consumption (Claessens et al. [2001]). To further sharpen the link between private benefits and earnings management, we differentiate firms based on the extent of divergence between the insider's cash-flow rights and control rights and find that insider controlled firms in poor investor protection regimes with greater divergence are associated with more earnings management. In contrast, we do not find evidence of divergence influencing earnings management of insider controlled firms in strong investor protection countries.

Even in countries with poor investor protection, insider controlled firms may at times voluntarily improve transparency if doing so allows them to access external capital at a lower cost. Such behavior is analogous to firms from poor investor protection countries cross-listing in the United States and subjecting themselves to U.S. securities laws. The cross-listing literature identifies lower private benefits (Doidge et al. [2009], Doidge, Karolyi, and Stulz [2004], Reese and Weisbach [2002], Stulz [1999]) and a lower cost of capital (Hail and Leuz [2009]) as the main cost and benefit, respectively, of cross-listing. In an analogous fashion, while more informative financial statements may limit insiders' ability to consume private benefits, they are also likely to reduce the cost of external capital and enable firms to exploit investment opportunities.

To test this prediction, we identify investment opportunities at the industry level and find that insider controlled firms in high self-dealing and code law countries that operate in industries with greater investment opportunities are associated with lower earnings management. These results reinforce the important trade-off between private benefits consumption and access to external capital in influencing disclosure practices. Since investment opportunities are time varying, these tests allow us to employ firm fixed effects that control for *all* time invariant firm characteristics that may affect disclosures. As these tests rely on deviation in disclosure practices for an individual firm from its sample mean, they also mitigate concerns

about endogeneity of a firm's ownership structure, which is time invariant in our sample.¹ Further, to the extent that firm growth and accruals are positively associated, our finding of *less* earnings management by insider controlled firms in industries with more growth opportunities provides additional assurance that our results are not driven by differences in innate characteristics across insider controlled and noninsider controlled firms.

To ensure that our insider control measure is not merely capturing ownership concentration, we repeat our tests after confining the sample to firms with at least one block holder with more than 10% cash-flow rights. Even within this subsample, insider controlled firms are associated with more earnings management than other noninsider controlled firms with concentrated ownership structures in poor investor protection countries. This is consistent with the results in Lins [2003] and Leuz, Lins, and Warnock [2009], who find that insider control as opposed to mere block holder presence matters for market valuations and foreign portfolio investments, respectively.

A surprising finding from our analysis is the lower earnings management of insider controlled firms in countries with strong investor protection. While this finding is less robust than our other results, we perform some additional tests to shed light on its underlying drivers.² We test if this result is similar to the better disclosure among family firms in the United States. (e.g., Ali, Chen, and Radhakrishnan [2007], Chen, Chen, and Cheng [2008], Wang [2006]). To do so, we separate insider controlled firms into family and nonfamily firms and repeat our tests. We do not find any consistent evidence that the lower earnings management among insider controlled firms in strong investor protection environments is confined to family firms.

A distinctive feature of insider controlled firms outside the United States is that they generally belong to diversified business groups that have multiple firms and routinely transfer resources across those firms. Given the difficulty of monitoring (the pricing of) such transfers, investors are likely to be especially wary of diversified groups that are more prone to such transfers.³ Insiders may have incentives to improve the informativeness of member firms' financial statements to counteract this effect. However, given the inherent opaque nature of diversified groups, it is not obvious a priori if their member firms will have better disclosures than nongroup firms.

¹ This feature of our ownership data also limits us from examining if and how earnings management practices change in response to changes in insider ownership.

² We find that this result is not robust to using the measure of insider control as defined by Leuz, Lins, and Warnock [2009], and to using the private benefits measure of Dyck and Zingales [2004] to measure the level of investor protection.

³ Diversified groups are likely to have lower correlation among member firm cash flows than nondiversified groups and hence greater opportunities of and benefits from transferring cash and sharing risk across member firms.

Notwithstanding this caveat, we test if the extent of group diversification is associated with member firms' earnings management practices.

As intragroup transfers are more likely to occur across group firms that operate in different industries, we differentiate between groups based on the extent of industry diversification. Using correlation between industry cash flows of constituent firms to capture group diversification, we find that the lower earnings management outcomes of insider controlled firms in high investor protection countries are restricted to those that belong to more diversified groups. Given that group diversification is a very coarse proxy for the opacity of a group and keeping in mind the caveat mentioned earlier, we consider these results as preliminary and leave a fuller examination to future research.

Our study provides three main contributions to the literature. First, it contributes to the literature that examines the role of private benefits consumption in affecting earnings management outcomes. Using insider control to identify firms with higher perquisite consumption incentives, our study provides evidence that insider controlled firms are associated with more earnings management than noninsider controlled firms in poor investor protection countries. Further, among insider controlled firms, those with more complex ownership structures are associated with more earnings management. Our results are not merely capturing the effect of ownership concentration but rather a distinct role of insider control in earnings management.

Second, our study documents an important role for the institutional environment in affecting the relation between insider control and earnings management. Our study highlights that insider control may not always be bad. We find strong evidence of higher earnings management by insider controlled firms in weak investor protection countries and some weak evidence of lower earnings management by insider controlled firms in strong investor protection countries. In this sense, our paper complements the evidence in studies such as Lang, Raedy, and Wilson [2006], Burgstahler, Hail, and Leuz [2006], and Daske et al. [2008, 2009] that combine firm-level incentives with country-level institutions to provide a richer understanding of financial reporting practices. We present a detailed discussion of the related literature in section 2.

Third, we find that the presence of growth opportunities mitigates the association between insider control and earnings management even in poor investor protection countries, further accentuating the role of firm-level incentives in providing or concealing information. These tests allow us to include firm fixed effects that better control for time-invariant factors that might be correlated with ownership structure and our earnings management proxies.

The rest of the paper is organized as follows: Section 2 discusses the related literature and section 3 describes the earnings management proxies and the sample and provides descriptive statistics. Section 4 describes the results of our main tests and section 5 concludes.

2. *Related Literature*

The papers closest to our study are the ones that relate firm ownership structure to reporting outcomes. In particular, Fan and Wong [2002] find lower earnings informativeness (measured as weaker earnings–return relation) in firms with concentrated ownership structures and greater divergence between cash-flow rights and control rights across seven East Asian economies. Haw et al. [2004] examine the relation between abnormal accruals and ownership structures across the same 22 countries as examined by us and find that, while greater divergence between cash-flow and control rights is associated with higher abnormal accruals, the presence of strong legal and extralegal institutions attenuates this effect. In his discussion of Lang, Raedy, and Wilson [2006], Leuz [2006] shows that ownership concentration is associated with higher earnings management.

Our study improves on these studies on a number of dimensions. First, insider control, as opposed to ownership concentration or cash-flow–control rights divergence, is a more direct measure to identify firms prone to private benefits consumption. In countries with weak investor protection, insiders can control firms with very little direct cash-flow rights. For example the cash-flow rights of the largest shareholder of Sumitomo Coal Mining Company in Japan is less than 1%, although from its name it is clear that the firm belongs to the Sumitomo Group of Companies. Our tests show that, even when benchmarked against firms with concentrated ownership, insider controlled firms are associated with more earnings management. Furthermore, even without explicit divergence between control and cash-flow rights, the fact that insiders can fully control firms with 51% of the shares leads to a natural divergence between ownership and control in insider controlled firms.⁴ Second, we show how the presence of growth opportunities attenuates earnings management practices of insider controlled firms even in poor investment protection countries. Finally, we offer some initial evidence of better disclosure practices among insider controlled firms in strong investor protection regimes.

A number of studies precede ours in comparing disclosure outcomes of family and nonfamily firms. These studies are typically single-country studies and do not shed light on how country-level institutions influence earnings management incentives of insider controlled firms. In addition, they do not examine the role of incentives stemming from investment opportunities in affecting firm disclosures. For example, Wang [2006], Ali, Chen, and Radhakrishnan [2007], and Chen, Chen, and Cheng [2008] examine financial reporting practices of family firms in the United States and generally find that family firms have better disclosures than nonfamily firms. Wang [2006] and Ali, Chen, and Radhakrishnan [2007] find that family firms have higher earnings quality and more frequent bad news warnings as compared to nonfamily firms, while Chen, Chen, and Cheng [2008] find

⁴ We thank the referee for highlighting this point.

that family-owned firms are less likely to issue management forecasts, although they are more likely to issue bad news warnings.

Other studies examine disclosure practices of family firms outside the United States. For example, Yi and Kim [2005] examine Korean firms and find that those affiliated with a business group (known as chaebols) are associated with more earnings management than nongroup firms. Similarly, Bae and Jeong [2007] also examine the relation between financial reporting outcomes and business group affiliation in Korean firms and find that earnings of business groups have lower value relevance. Jaggi, Leung, and Gul [2009] examine Hong Kong firms and find that the monitoring effect of independent corporate boards on earnings management outcomes is moderated in insider controlled firms. Beuselinck and Deloof [2006] study Belgian firms and find that those belonging to a business group manage earnings more than independent firms with an aim to reducing taxes. Bar-Yosef and Prencipe [2009] find that Italian family firms are less sensitive to income-smoothing motivations than are nonfamily firms (see Bhaumik and Gregoriou [2009] for a review of the literature).

Our study compares earnings management practices of insider- and noninsider-controlled firms across countries that vary in the level of investor protection. Our results show that a country's institutional environment determines whether insider controlled firms are associated with more or less earnings management than noninsider controlled firms. Thus, our study speaks more broadly to the relation between insiders' incentives and earnings management outcomes and how these are influenced by country and firm characteristics. In doing so, it speaks to the question posed by Armstrong, Guay, and Weber [2010, p. 212]) in their recent survey: "... it remains an open question whether ownership structures with controlling shareholders use financial reporting as a commitment mechanism that restricts the controlling shareholder's ability to extract private benefits of control, or instead use financial reporting to distort the information environment to facilitate greater extraction of private benefits." In the next sections, we define our variables and describe our results.

3. Earnings Management Proxies

We use the extent of earnings management as our measure of informativeness of financial statements. We do so because we are interested in examining the ability of reported financial statements to reveal information about the firm's economic performance that is previously unknown to outsiders. We follow Leuz, Nanda, and Wysocki [2003] and use two measures of earnings management, namely, the extent of income smoothing and the magnitude of accruals.⁵ Income smoothing captures the degree to which managers use discretion to reduce the variability of earnings relative to the

⁵ Although Leuz, Nanda, and Wysocki [2003] use four earnings management measures, we do not use their small loss avoidance measure because it needs a large sample for estimation and hence is better estimated at a country level while our analysis is at the firm level. We

variability of cash flows. Following Leuz, Nanda, and Wysocki [2003], we interpret more income smoothing and larger accruals as indicative of more earnings management, that is, less informative financial statements.

There is an ongoing debate about whether the earnings management proxies are indicative of information provision or of information manipulation. While a large literature based on U.S. firms is inconclusive on this question, we follow prior cross-country studies such as Leuz, Nanda, and Wysocki [2003] and Bhattacharya, Daouk, and Welker [2003], which show that these proxies measure the extent to which information is obscured from outsiders (see also a recent paper by Lang, Lins, and Maffett [2011]). On a related note, Jayaraman [2008] shows that income smoothing increases bid–ask spreads even for U.S. firms.

It is important to note that, apart from managerial discretion, a number of firm-level characteristics also affect the earnings management proxies. A large literature starting with Dechow [1994] shows that the earnings management measures we use are influenced by differences in firms' underlying business processes, the length of the operating cycle, and other "innate" or fundamental determinants. The two alternative approaches available to isolate the effects of managerial discretion on earnings management are to either use a discretionary accrual model such as Jones [1991] and decompose accruals into its discretionary and nondiscretionary components, or to include the innate drivers of the earnings management proxies as controls in the regression specification. We choose the latter method because of well-recognized problems with discretionary accrual models highlighted by prior studies such as Guay, Kothari, and Watts [1996]. Further, it is important to note that the earnings management proxies are informative only in a relative sense in that they help understand if one firm has better or worse disclosures than another firm.

We do not examine other metrics of financial reporting quality such as timely loss recognition as these capture the contracting role of accounting information by measuring the extent to which financial statements reflect economic reality that is already incorporated into stock prices. Finally, the cross-country sample makes it difficult to explore voluntary disclosures such as management forecasts and conference calls.

3.1 INCOME SMOOTHING (*EMI*)

We define *EMI* as the ratio of the standard deviation of operating income and the standard deviation of operating cash flow (both scaled by lagged total assets), where standard deviations are calculated each year using rolling windows of five annual observations. Cash flow from operations is defined as operating income minus accruals where accruals (*ACC*) are calculated as

use the correlation between changes in accruals and cash flows as an alternative measure of income smoothing in robustness tests and find consistent results. These results are available from the authors upon request.

$$ACC_{it} = [\Delta CA_{it} - \Delta Cash_{it}] - [\Delta CL_{it} - \Delta STD_{it}] - Dep_{it}, \quad (1)$$

where:

ΔCA_{it} = the change in total current assets for firm i in year t

$\Delta Cash_{it}$ = the change in cash/cash equivalents

ΔCL_{it} = the change in total current liabilities

ΔSTD_{it} = the change in short-term debt included in current liabilities

Dep_{it} = the depreciation and amortization expense.

Following Leuz, Nanda, and Wysocki [2003], we set missing values of short-term debt to zero. Thus, EMI is defined as

$$EMI = \frac{\sigma(Income)}{\sigma(CFO)}, \quad (2)$$

where *Income* represents operating income and CFO indicates cash flow from operations.

3.2 MAGNITUDE OF ACCRUALS ($EM2$)

The second measure of earnings management is the magnitude of accruals scaled by the magnitude of cash flows. Following Leuz, Nanda, and Wysocki [2003], we interpret greater use of accruals as more discretion used by managers to conceal true economic performance from outsiders. Thus, $EM2$ is defined as

$$EM2 = \frac{|Acc|}{|CFO|}, \quad (3)$$

where:

$|Acc|$ = absolute value of accruals

$|CFO|$ = the absolute value of cash flow from operations. Since *Acc* is likely to be affected by firm performance, scaling by CFO is also likely to control for performance.

3.3 COMPOSITE MEASURE OF EARNINGS MANAGEMENT (EM)

Similar to Leuz, Nanda, and Wysocki [2003], we combine the two earnings management proxies into a single measure (called EM) using principal component analysis. We first modify EMI such that larger values indicate more earnings management and then combine it with $EM2$ to compute EM . Following Leuz and colleagues, we interpret larger values of EM as denoting financial statements that are less informative about economic reality.

3.4 SAMPLE AND DESCRIPTIVE STATISTICS

Our data come from several sources. Data on firm ownership structure for East Asian countries come from Claessens, Djankov, and Lang [2000], while ownership data for European countries are from Faccio, Lang, and Young [2001]. As mentioned, we identify firms as insider controlled if they are identified to be affiliated with a family by Claessens et al., or identified to belong to a group by Faccio et al. As not all insider controlled firms

have a family as the ultimate controlling shareholder, especially in the case of Europe, we do not refer to the firms as family firms. In section 4, we describe additional tests that employ alternative methods to identify insider controlled firms. Financial accounting data are from the Worldscope database. The final sample is comprised of 48,410 firm-year observations across 22 countries for the period 1992 to 2006. Some of our tests have fewer observations due to missing values.

Panel A of table 1 presents descriptive statistics of the sample. The first column indicates the number of firm-year observations per country. The countries that are represented most heavily are Japan and the United Kingdom, while the fewest observations are from Ireland (499) and Portugal (466). Overall, the sample is well represented by firms from both the code law as well as the common law regimes (32,210 and 16,200 observations, respectively).⁶ The next two columns present median values of the individual earnings management measures (*EMI* and *EM2*), followed by the composite measure (*EM*) in the last column. Smaller values of *EMI* are indicative of greater income smoothing as the volatility of earnings (the numerator) is lower than the volatility of cash flows (the denominator). Larger values of *EM2* indicate more (discretionary) accruals as a percentage of cash flows. The composite measure (*EM*) is computed such that larger values indicate more earnings management. The individual measures are similar to those reported in prior studies such as Leuz, Nanda, and Wysocki [2003]. For example, the median *EMI* for Austria in our sample is 0.320 while the corresponding value in Leuz, Nanda, and Wysocki [2003] is 0.345. Similarly, median *EM2* for Belgium in our sample is 0.665, which compares closely with their value of 0.677. Consistent with prior studies, firms in code law regimes have lower values of *EMI* (more income smoothing) and higher values of *EM2* (larger accruals). Further, our composite earnings management proxy (*EM*) has higher values in the code law regimes such as Austria, Germany, and France and lower values in common law regimes such as the United Kingdom.

Panel B of table 1 presents country-wise descriptive statistics of the sample size and *EM* across insider controlled and noninsider controlled firms. The sample is well distributed across insider controlled (25,406 observations) and noninsider controlled firms (23,004 observations). There are significant differences in earnings management levels between insider controlled and noninsider controlled firms in many countries. A closer scrutiny of the difference in *EM* across the different legal origins provides a preview into the main results of our study. In the code law regime, the average value of *EM* for insider controlled firms (0.027) is higher than that for noninsider controlled firms (0.004) and the difference is statistically significant. This suggests that insider controlled firms are associated with more earnings management than their noninsider controlled counterparts in code

⁶ Our sample does not include the United States as the Claessens et al. and Faccio et al. data sets do not cover U.S. firms.

TABLE 1
Summary Statistics

Panel A: Countrywise distribution					
Country	<i>N</i>	<i>EMI</i>	<i>EM2</i>	<i>EM</i>	
Austria	576	0.320	0.735	0.050	
Belgium	570	0.561	0.665	−0.034	
Finland	980	0.565	0.589	−0.062	
France	3,793	0.428	0.692	0.000	
Germany	3,872	0.367	0.803	0.047	
Indonesia	809	0.666	0.712	−0.041	
Italy	1,135	0.349	0.756	0.042	
Japan	12,485	0.380	0.773	0.035	
Norway	911	0.687	0.664	−0.072	
Philippines	670	0.640	0.777	−0.020	
Portugal	466	0.423	0.779	0.030	
South Korea	1,783	0.386	0.802	0.034	
Spain	1,018	0.428	0.606	−0.008	
Sweden	1,255	0.673	0.539	−0.085	
Switzerland	829	0.473	0.668	−0.023	
Taiwan	1,058	0.640	0.648	−0.050	
Total (<i>Code</i>)	32,210	0.430	0.738	0.012	
Hong Kong	1,701	0.607	0.521	−0.081	
Ireland	499	0.700	0.462	−0.097	
Malaysia	1,506	0.559	0.683	−0.039	
Singapore	1,208	0.547	0.727	−0.020	
Thailand	657	0.725	0.623	−0.080	
UK	10,629	0.624	0.548	−0.074	
Total (<i>Common</i>)	16,200	0.617	0.568	−0.069	
Full Sample	48,410	0.492	0.691	−0.016	
Panel B: Insider controlled versus noninsider controlled firms					
Country	Insider Controlled		Noninsider Controlled		Difference in <i>EM</i>
	<i>N</i>	<i>EM</i>	<i>N</i>	<i>EM</i>	
Austria	291	0.078	285	0.031	0.047***
Belgium	184	−0.022	386	−0.026	0.003
Finland	312	−0.077	668	−0.045	−0.032***
France	1,620	0.025	2,173	−0.010	0.035***
Germany	1,764	0.061	2,108	0.044	0.017***
Indonesia	557	−0.031	252	−0.058	0.027*
Italy	654	0.058	481	0.023	0.035***
Japan	7,879	0.043	4,606	0.030	0.013***
Norway	472	−0.064	439	−0.075	0.011
Philippines	435	−0.039	235	−0.006	−0.033*
Portugal	143	0.047	323	0.049	−0.002
South Korea	1,028	0.061	755	−0.001	0.062***
Spain	484	−0.001	534	0.005	−0.007
Sweden	683	−0.093	572	−0.082	−0.012
Switzerland	232	−0.011	597	−0.010	−0.001
Taiwan	164	−0.035	894	−0.046	0.011
Total (<i>Code</i>)	16,902	0.027	15,308	0.004	0.023***

(Continued)

TABLE 1 — *Continued*

Panel B: Insider controlled versus noninsider controlled firms					
Country	Insider Controlled		Noninsider Controlled		Difference in <i>EM</i>
	<i>N</i>	<i>EM</i>	<i>N</i>	<i>EM</i>	
Hong Kong	794	-0.086	907	-0.071	-0.015
Ireland	268	-0.096	231	-0.102	0.006
Malaysia	611	-0.043	895	-0.017	-0.026**
Singapore	246	-0.074	962	0.002	-0.076***
Thailand	196	-0.073	461	-0.066	-0.007
UK	6,389	-0.070	4,240	-0.065	-0.006
Total (<i>Common</i>)	8,504	-0.071	7,696	-0.053	-0.018***
Full sample	25,406	-0.00574	23,004	-0.0148	0.009***

Panel C: Summary statistics for key variables						
	Insider Controlled Firms			Noninsider Controlled Firms		
	Mean	Std.	<i>N</i>	Mean	Std.	<i>N</i>
<i>EM</i>	-0.006	0.193	25,406	-0.015	0.195	23,004
<i>Log(Total assets)</i>	15.15	3.607	25,406	14.003	3.283	23,004
<i>Cashflow rights</i>	18.735	20.776	25,270	27.587	22.401	22,850
<i>Control rights</i>	23.985	20.673	25,270	29.991	22.456	22,850
<i>Divergence</i>	0.316	0.465	25,406	0.154	0.361	23,004
<i>GDP growth</i>	0.019	0.023	25,242	0.02	0.024	22,110
<i>Inflation</i>	0.018	0.042	25,242	0.017	0.034	22,110
<i>Sales growth</i>	0.073	0.285	25,333	0.083	0.307	22,913
<i>Cash flow</i>	0.215	0.411	25,406	0.227	0.419	23,004
<i>Market to book</i>	1.938	2.442	24,940	1.863	2.427	22,528
<i>Long term debt</i>	0.136	0.137	25,385	0.13	0.139	22,984
<i>Sales volatility</i>	0.197	0.275	25,362	0.206	0.257	22,984
<i>Operating cycle</i>	0.02	0.069	24,903	0.02	0.058	22,278
<i>Days payable</i>	0.083	0.199	24,461	0.073	0.158	21,617
<i>Capital intensity</i>	0.519	0.27	25,406	0.52	0.274	23,004
<i>High anti deal</i>	0.37	0.483	25,406	0.401	0.49	23,004
<i>Code</i>	0.665	0.472	25,406	0.665	0.472	23,004
<i>Low corr</i>	0.274	0.446	25,406	0	0	23,004

Panel A: This panel reports the countrywise median values of the earnings management measures used in our analysis. *EM1* indicates the extent of income smoothing and is defined as the ratio of the standard deviation of operating income to the standard deviation of operating cash flows (both scaled by lagged total assets), where standard deviations are calculated each year using rolling windows of five annual observations. Cash flow from operations is defined as operating income minus accruals where accruals (*ACC*) are calculated as $ACC_{it} = [\Delta CA_{it} - \Delta Cash_{it}] - [\Delta CL_{it} - \Delta STD_{it}] - Dep_{it}$. *EM2* is the absolute value of accruals scaled by the absolute value of cash flows, i.e., $EM2 = \frac{|Accr|}{|CFO|}$. *EM* represents a combined measure of earnings management constructed by combining *EM1* and *EM2* using a principal component analysis. *Code* and *Common* denote economies with a code law and common law legal origin, respectively. Financial data on all firms is from the Worldscope database. Data for all countries are for the period 1992 to 2006. All variables are Winsorized at the 1st and the 99th percentile and are defined in the appendix.

Panel B: This panel reports the countrywise distribution of insider controlled and noninsider controlled firms along with the mean values of *EM* in our sample. Firms are classified as insider controlled if they belong to a family group as per Claessens et al. [2000] or they belong to a business group as per Faccio, Lang, and Young [2001]. Data on ownership structure for firms from Hong Kong, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Thailand, and Taiwan are from Claessens et al. [2000], which is available at the Web site of the *Journal of Financial Economics*; information on ownership structure for firms from other countries was graciously provided by Mara Faccio. Financial data on all firms are from the Worldscope database. All variables are Winsorized at the 1st and the 99th percentile and defined in the appendix.

(Continued)

TABLE 1 — *Continued*

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

Panel C: This panel reports the summary statistics of the key variables used in our analysis. *EM* is a composite measure of earnings management. We construct *EM* using principal component analysis by combining a measure of the extent of income smoothing *EM1* and a measure of total accruals *EM2*. Please see the caption in table 1 and the appendix for details regarding construction of *EM*. Firms are classified as insider controlled if they belong to a family group as per Claessens et al. [2000] or they belong to a business group as per Faccio, Lang, and Young [2001]. *Log(Total assets)* is the logarithm of book value of total assets. *Cashflow rights* and *Divergence* represent the aggregate shareholding of the insider and a dummy variable that identifies firms in which the divergence between the cash flow and control rights of the insider is above the 75th percentile, respectively. *GDP growth* is the annual percentage growth in per capita GDP obtained from the World Development Indicators (WDI) database. *Inflation* is the annual rate of inflation (Source: WDI). *Sales growth* represents the annual sales growth rate. *Loss* is a dummy variable that identifies years in which the firm reports a loss. *Market to book* is the ratio of market value of equity to the book value of equity, *Long term debt* is the ratio of total long term debt to the book value of total assets. *Sales volatility* is computed as the standard deviation of annual sales based on five annual observations. *Operating cycle* indicates the length of the operating cycle and is defined as the sum of days receivables and days inventory times 10^{-4} . *Days payable* is the average number of days payable times 10^{-3} . *Capital intensity* is the ratio of fixed assets to lagged total assets. *High anti deal* is a dummy variable that identifies countries with an anti-self-dealing index constructed in Djankov et al. [2008] of more than 0.5. *Code* is a dummy variable that identifies countries that have a code law legal origin. *Low Corr.* is a dummy variable that identifies firms that belong to groups with below median correlation between the industry cash flows of the largest firm and the asset-weighted industry cash flows of all the other firms. We measure industry cash flows as the median cash flows of all firms in the same two-digit SIC code industry. Data on ownership structure for firms from Hong Kong, Indonesia, Japan, South Korea, Malaysia, Philippines, Singapore, Thailand, and Taiwan are from Claessens et al. [2000], which is available at the Web site of the *Journal of Financial Economics*; information on ownership structure for firms from other countries was graciously provided by Mara Faccio. Financial data on all firms are from the Worldscope database. Data for all countries are for the period 1992 to 2006. All variables are Winsorized at the 1st and the 99th percentile.

law regimes. On the other hand, in the common law regime, the average value of *EM* for insider controlled firms (-0.071) is lower than that for noninsider controlled firms (-0.053) and the difference is statistically significant. This indicates that, in common law regimes, insider controlled firms are associated with lower earnings management than noninsider controlled firms.

Overall, the initial evidence suggests that there are significant differences in *EM* between insider controlled and noninsider controlled firms and that these differences vary depending on the legal environment in which firms operate. However, this initial evidence must be interpreted cautiously because insider controlled firms differ from noninsider controlled firms along other dimensions, which may be correlated with the measures of earnings management. In particular, panel C suggests that insider controlled firms are larger (log value of assets is 15.15 versus 14.003 for noninsider controlled firms), have lower sales growth (7.3% versus 8.3%), and have marginally higher market-to-book ratios. Although, insider controlled firms have lower insider *Cashflow rights*, the average insider holding in both insider controlled and noninsider controlled firms is higher than typically found among U.S. firms (Morck, Shleifer, and Vishny [1988]). *Divergence* is a dummy variable that identifies firms in which the divergence between the cash-flow and control rights of the insider is above the 75th percentile. We find that insider controlled firms in our sample are more likely to have a divergence between insider cash flow and control rights than noninsider controlled firms.

4. Empirical Analysis

4.1 OVERALL RELATION BETWEEN EARNINGS MANAGEMENT AND INSIDER CONTROL

In this section, we examine whether disclosure practices of insider controlled firms differ from those of noninsider controlled firms after controlling for differences in firm-specific characteristics and macroeconomic determinants. To do that we use the following model:

$$EM_{it} = \alpha + \beta \times \text{Insider control} + \gamma \times \text{Controls} + \mu_t + \mu_{ic}, \quad (4)$$

where the main explanatory variable is *Insider control*, a dummy variable that identifies insider controlled firms.

To purge the effect of underlying business processes and other fundamental drivers of the earnings management proxies, we include several firm-level as well as country-level factors as control variables. This ensures that any association between insider control and the earnings management proxies that we uncover is due to earnings management incentives and not due to differences in fundamental determinants of the proxies. As prior studies find that accruals are affected by differences in firms' operating cycles, reliance on supplier credit, volatility of the operating environment, capital intensity, and profitability, we include these variables as controls (e.g., Dechow [1994], Dechow and Dichev [2002], Hribar and Nichols [2007], Liu and Wysocki [2008]). In particular, we use the length of the operating cycle (*Operating cycle*), extent of supplier credit (*Days payable*), capital intensity (*Capital intensity*), and leverage (*Long-term debt*). To control for differences in growth opportunities, we include the market-to-book ratio (*Market to book*) and annual sales growth (*Sales growth*). We also include a dummy variable to identify firms that report a loss (*Loss*), to control for profitability. As Hribar and Nichols [2007] find that firm size and sales volatility are highly correlated with unsigned earnings management measures, we include firm size ($\text{Log}(\text{Total assets})$) and volatility of sales (*Sales volatility*) as additional controls.⁷ We also incorporate time-varying macroeconomic variables. In particular, we follow Leuz, Nanda, and Wysocki [2003] and include controls for macroeconomic growth using per capita GDP growth (*GDP growth*) and the annual rate of inflation (*Inflation*). All variables have been Winsorized at the 1% and 99% tails.⁸ Detailed variable definitions are presented in the appendix. We include year

⁷ Our research design incorporates both solutions proposed by Hribar and Nichols [2007] to alleviate the problems with using unsigned discretionary accrual measures. First, our two earnings management measures are scaled by the standard deviation of cash flows and the absolute value of cash flows, respectively. As accruals are sensitive to performance differences, scaling by cash flows helps control for differences in performance. Second, we include firm size and sales volatility as additional control variables in all our regression specifications.

⁸ Our results are robust to truncation of the variables. In particular, the coefficient on *Insider control* remains significant at the 10% level or lower in all the tests.

and within-country industry effects in all our tests (μ_t and μ_{ic}).⁹ Finally, the standard errors in all the specifications are clustered at the within-country industry level. While our specification includes a more comprehensive set of control variables than most prior studies, we acknowledge that firm ownership structures are endogenous and some unobserved factor can affect both our outcome variable and the firm's insider control status, thereby biasing our estimates. Hence, we are careful to not attribute a causal interpretation to our results.

Table 2 presents the first set of results that compare the extent of earnings management of insider controlled and noninsider controlled firms in our full sample. Models (1) and (2) do not include *Cashflow rights* and *Divergence* as additional control variables while models (3) and (4) do. We include these additional variables to estimate their effect on earnings management and also to isolate the effect of insider control on earnings management, which is not due to cash-flow rights or divergence. The coefficient on *Insider control* is insignificant in all four specifications, indicating no difference in the extent of earnings management between insider controlled and noninsider controlled firms in our full sample. We find that once we control for within country industry fixed effects, the coefficients on *Cashflow rights* and *Divergence* also become insignificant. While the insignificant effect of *Divergence* is prima facie counter to the results in Fan and Wong [2002], our subsequent tests show that, when we differentiate countries based on the level of investor protection, *Divergence* is indeed associated with higher earnings management in countries with poor investor protection. Most of the control variables are significant at conventional levels. Their coefficients indicate that larger firms, firms with more volatile sales, higher sales growth rates, lower market-to-book ratios, and higher leverage are associated with higher values of the earnings management proxy. Further, the coefficients on GDP growth and inflation rates are negative while the latter is generally insignificant. Next, we examine how the association between insider control and earnings management is affected by the institutional environment in which firms operate.

4.2 COUNTRY-LEVEL INSTITUTIONS, INSIDER CONTROL AND EARNINGS MANAGEMENT

Insider control need not always equate to rent extraction by insiders. Whether insider control is indicative of private benefits consumption or whether it merely indicates greater difficulty on the part of outsiders to understand the complex ownership structures in these firms is likely to depend on the institutional environment of the country. For example, Lins [2003] finds that the inverse relation between ownership concentration

⁹ We present results based on industry and country fixed effects as well as within-country industry fixed effects for our first set of results in table 2. In all other tests, we only report the results of the specifications that include within-country industry fixed effects as that specification is stricter.

TABLE 2
Insider Control and Earnings Management

	(1)	(2)	(3)	(4)
<i>Insider control</i>	0.002 (0.003)	0.002 (0.004)	-0.002 (0.004)	0.003 (0.004)
<i>Log(Total assets)</i>	0.006 (0.001)***	0.007 (0.001)***	0.010 (0.0007)***	0.008 (0.001)***
<i>GDP growth</i>	-0.094 (0.056)*	-0.088 (0.055)	-0.614 (0.066)***	-0.084 (0.055)
<i>Inflation</i>	-0.035 (0.038)	-0.031 (0.038)	-0.333 (0.039)***	-0.032 (0.038)
<i>Cashflow rights</i>			0.0006 (0.0001)***	0.0001 (0.0001)
<i>Divergence</i>			0.013 (0.005)***	0.005 (0.005)
<i>Sales volatility</i>	0.019 (0.007)***	0.012 (0.007)	0.008 (0.008)	0.012 (0.007)*
<i>Operating cycle</i>	0.083 (0.032)***	0.098 (0.031)***	0.104 (0.033)***	0.100 (0.031)***
<i>Days payable</i>	-0.025 (0.013)*	-0.027 (0.012)**	-0.027 (0.013)**	-0.028 (0.012)**
<i>Capital intensity</i>	-0.058 (0.009)***	-0.050 (0.009)***	-0.071 (0.009)***	-0.050 (0.009)***
<i>Sales growth</i>	0.022 (0.006)***	0.020 (0.005)***	0.023 (0.006)***	0.021 (0.005)***
<i>Loss</i>	0.017 (0.004)***	0.018 (0.004)***	0.017 (0.004)***	0.018 (0.004)***
<i>Market to book</i>	-0.004 (0.0007)***	-0.003 (0.0007)***	-0.003 (0.0008)***	-0.003 (0.0007)***
<i>Long term debt</i>	0.090 (0.014)***	0.083 (0.015)***	0.077 (0.015)***	0.084 (0.015)***
<i>Const.</i>	0.038 (0.023)*	-0.056 (0.020)***	-0.075 (0.015)***	-0.063 (0.021)***
Obs.	43,670	43,670	43,430	43,430
R ²	0.124	0.174	0.092	0.175
Fixed effects	Ind. & Country & Year	Ind. × Country & Year	Ind. & Country & Year	Ind. × Country & Year

This table reports the results of regressions relating a firm's insider control status to the extent of earnings management. Specifically, we estimate the panel OLS regression: $EM_{it} = \alpha + \beta \times Insider\ control_{it} + \gamma \times Controls_{it} + \mu_{it} + \mu_i + \epsilon_{it}$, where *Insider control* is a dummy variable that identifies firms that we identified as being controlled by an insider. In columns (1) and (3) we include year, industry, and country fixed effects while in columns (2) and (4) we include year and within-country industry fixed effects. *Cashflow rights* is the aggregate shareholding of the controlling insider, *Divergence* is a dummy variable that identifies firms in which the divergence between the insider's control rights and cash-flow rights is above the 75th percentile. *GDP growth* is the percentage growth in GDP, *Inflation* denotes the annual rate of inflation, *Log(Total assets)* is the logarithm of book value of total assets, *Sales growth* represents the annual sales growth rate, *Loss* indicates firms that report a loss, *Market to book* is the ratio of market value of equity to the book value of equity, *Long term debt* is the ratio of total long term debt to the book value of total assets. *Sales volatility* is computed as the standard deviation of annual sales based on five annual observations. *Operating cycle* indicates the length of the operating cycle and is defined as the sum of days receivables and days inventory times 10^{-4} . *Days payable* is average number of days payable times 10^{-3} . *Capital intensity* is the ratio of fixed assets to lagged total assets. Data sources are as described in the preamble to panel C of table 1. All variables are Winsorized at the 1st and the 99th percentile and are defined in the appendix. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. We identify a firm's industry at the two-digit SIC code level.

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

and market valuations is pronounced in low investor protection countries. Similarly, Leuz, Lins, and Warnock [2009] find that insider controlled firms attract lower foreign investment but only in low investor protection environments. Further, Haw et al. [2004] find that the positive relation between ownership concentration and absolute accruals is attenuated in countries with strong investor protection. Thus, we expect the positive association between insider control and earnings management to be pronounced in poor investor protection regimes, as this is where insiders have a greater ability to consume private benefits.

To test this prediction, we use two primary measures of institutional quality. The first is the strength of regulations against self-dealing by insiders, and the second is the country's legal origin. Since the country's legal origin is correlated with several measures of institutional quality, such as shareholder rights, creditor rights, etc., we use it as a summary measure of the country's institutional environment. We also use the "outsider" and "insider" economies classification of Leuz, Nanda, and Wysocki [2003] in our robustness tests and find consistent evidence.

4.2.1. Anti-Self-Dealing Index. In this section, we explore how the association between insider control and earnings management varies with the "anti-self-dealing" index of Djankov et al. [2008]. Djankov et al. [2008] construct an anti-self-dealing index to measure the extent to which minority shareholders are protected against expropriation by corporate insiders. This index is the average of two subindexes, each of which measures *ex ante* and *ex post* mechanisms designed to control self-dealing, respectively. The former refers to disclosures and approvals required by law *before* a transaction between related parties can be entered into while the latter refers to those that are required *after* the transaction is executed. The *ex ante* measure is comprised of two variables—(1) whether or not the related transaction must be approved by disinterested shareholders and (2) average of disclosures that the buyer and the seller in the related transaction must make before the transaction, and if a positive review is required by either a financial expert or an independent auditor before the transaction is approved. The *ex post* measure is comprised of (1) index of disclosures that are required in periodic disclosures such as annual reports and (2) the ease of proving wrongdoing, which consists of the ability of a shareholder to sue if the related transaction adversely affects the firm, ease of rescinding the contract, extent to which the interested director is held liable, whether or not the members of the approving body are held liable, and several provisions that allow for access to evidence regarding the related transaction. The anti-self-dealing index is constructed such that higher values indicate lower ability of insiders to self-deal and thus to tunnel resources away from minority shareholders. In our sample, this index has the lowest value of 0.2125 for Austria and the highest value of one for Singapore.

If insider controlled firms manage earnings to make firm performance opaque and retain the insider's ability to extract private benefits, then

we expect such firms to be associated with more earnings management in countries with greater ability for insiders to self-deal (i.e., in countries with low values of the anti-self-dealing index). To test this prediction, we split our sample into two groups: *Low anti deal* and *High anti deal*, based on whether the anti-self-dealing index is below or above 0.5, and estimate equation (4) in the two subsamples. The results are presented in columns (1) and (2) of table 3. As expected, the coefficient on *Insider control* is positive (0.014) and significant in the *Low anti deal* subsample, indicating that insider controlled firms are associated with greater earnings management than noninsider controlled firms when there are fewer mechanisms to prevent self-dealing by insiders. On the other hand, in *High anti deal* regimes, insider controlled firms are associated with less earnings management (as indicated by the negative and significant coefficient on *Insider control*). The coefficient on *Insider control* across the two subsamples is significantly different at conventional levels and this is insensitive to alternate methods of clustering the standard errors. We present results of the test of significance of the difference after clustering the standard errors alternatively at the country and at the within-country industry level.¹⁰

4.2.2. Legal Origin. Next, we differentiate countries based on their legal origin and repeat our tests. Since legal origin is historically determined, it is less likely to be affected by the ownership structure of current firms in the economy.¹¹ To this extent, results based on legal origin are likely to be less biased by reverse causality problems.

Given the findings in LaPorta et al. [1997, 1998] and Lins [2003], we expect insider controlled firms in code law countries to be associated with more earnings management than noninsider controlled firms. To test this prediction, we split our sample based on legal origin into *Code* and *Common* and present the relation between insider control and earnings management for each of the subsamples. Results in columns (3) and (4) of table 3 provide strong evidence of the role of legal origin in affecting the association between insider control and earnings management. In particular, the coefficient on *Insider control* is positive and significant in the code

¹⁰ To compare the coefficients across the subsamples, we estimate one regression with a full set of interaction terms between all the independent variables and a dummy variable that identifies one of the subsamples, say *High anti deal*. We take care to include interaction terms between the dummy variable and the fixed effects as well. In this estimation, we cluster the standard errors at either the country level or the within-country industry level. To test if a coefficient is significantly different across the two subsamples, we perform a *t*-test to see if the coefficient on the relevant interaction term is significantly different from zero.

¹¹ Since insider controlled firms are generally the larger and more profitable firms in the economy, they may have a greater influence on the regulatory environment. Thus, countries with more transparent insider controlled firms may have more anti-self-dealing regulations in place while those with opaque insider controlled firms may have fewer anti-self-dealing mechanisms (see Wysocki [2004] for a similar argument on how country-level tax compliance measures may be endogenous to firms' earnings management).

TABLE 3
Insider Control, Institutional Regime, and Earnings Management

	<i>Low anti deal</i> (1)	<i>High anti deal</i> (2)	<i>Code</i> (3)	<i>Common</i> (4)
<i>Insider control</i>	0.014 (0.005)***	-0.013 (0.005)**	0.014 (0.005)***	-0.014 (0.005)***
<i>Log(Total assets)</i>	0.009 (0.002)***	0.005 (0.002)**	0.009 (0.002)***	0.005 (0.002)**
<i>GDP growth</i>	-0.191 (0.086)**	0.024 (0.073)	-0.150 (0.087)*	-0.0006 (0.075)
<i>Inflation</i>	0.518 (0.114)***	-0.091 (0.037)**	-0.045 (0.040)	-0.061 (0.107)
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00004 (0.0001)	0.0002 (0.0001)	-0.00004 (0.0001)
<i>Sales volatility</i>	0.011 (0.014)	0.012 (0.008)	0.009 (0.013)	0.014 (0.008)*
<i>Operating cycle</i>	0.031 (0.034)	0.244 (0.088)***	0.046 (0.029)	0.374 (0.058)***
<i>Days payable</i>	-0.009 (0.024)	-0.043 (0.017)**	-0.015 (0.022)	-0.059 (0.017)***
<i>Capital intensity</i>	-0.047 (0.013)***	-0.045 (0.012)***	-0.045 (0.012)***	-0.047 (0.012)***
<i>Sales growth</i>	0.013 (0.007)*	0.028 (0.008)***	0.012 (0.007)*	0.029 (0.009)***
<i>Loss</i>	0.008 (0.004)*	0.031 (0.007)***	0.009 (0.004)**	0.030 (0.007)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.004 (0.0008)***	-0.002 (0.001)**
<i>Long term debt</i>	0.092 (0.020)***	0.058 (0.020)***	0.085 (0.019)***	0.061 (0.021)***
<i>Const.</i>	-0.051 (0.032)	-0.090 (0.024)***	-0.037 (0.032)	-0.098 (0.024)***
Obs.	26,683	16,747	28,018	15,412
R^2	0.168	0.121	0.168	0.118
Δ Insider control (Country)		0.027 (0.007)***		0.028 (0.008)***
Δ Insider control (Industry \times Country)		0.027 (0.007)***		0.028 (0.007)***
Fixed effects		Industry \times Country and Year		Industry \times Country and Year

This table reports the results of regressions relating a firm's insider control status to the extent of earnings management across countries with different institutional regimes. The empirical specification and control variables are the same as in table 2, except for the exclusion of *Divergence*, which we analyze in greater detail in table 4. *Low anti deal* (*High anti deal*) represents countries with an anti-self-dealing index as defined by Djankov et al. [2008] less (more) than 0.5. *Code* is a dummy variable that identifies countries that have a code law legal origin. Data on countries' anti-self-dealing index and legal origin were obtained from the Web site of Rafael LaPorta. All variables are Winsorized at the 1st and the 99th percentile and are defined in the appendix. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. All specifications include year and within-country industry fixed effects. We identify a firm's industry at the two-digit SIC code level. Δ Insider control (Country) and Δ Insider control (Industry \times Country) denote statistical tests of the difference in the coefficient on *Insider control* between the two subsamples where the standard errors are clustered by country and by within-country industry, respectively.

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

law regime (column (3)) and negative and significant in the common law regime (column (5)). Similar to our anti-self-dealing results, these effects are economically significant. For example, insider control is associated with 120% more earnings management relative to the mean in code law countries. Similarly, insider control is associated with 20% less earnings management relative to the mean in common law regimes. Further, the coefficient on *Insider control* is significantly different across the two regimes.

Overall, in countries with fewer anti-self-dealing regulations and in code law countries, insider controlled firms are associated with more earnings management than noninsider controlled firms, consistent with insiders' incentives to preserve private benefits. On the other hand, in countries with more anti-self-dealing regulations and with common law legal origin, insider controlled firms are associated with less earnings management than their noninsider controlled counterparts. These results indicate that the association between earnings management incentives and insider control is complex and varies with the institutional environment in which firms operate. These results also go toward explaining the insignificant association between *EM* and *Insider control* for the entire sample in table 2.

4.2.3. Robustness Tests. We find that our results are robust to alternate measures of a country's institutional environment. We repeat our tests using the creditor rights index of LaPorta et al. [1998], LaPorta, Lopez DeSilanes, and Shleifer [1999], the revised shareholder rights index of Djankov et al. [2008], and the country-level measure of private control benefits developed by Dyck and Zingales [2004]. We find a positive (negative) and significant coefficient on *Insider control* in low (high) creditor rights and low (high) shareholder rights countries. While we do find a significantly positive coefficient on *Insider control* in high private control benefits regimes, the coefficient on *Insider control* is insignificant in the low private benefits regimes. Further, we classify our countries into "outsider" economies and "insider" economies based on the cluster analysis of Leuz, Nanda, and Wysocki [2003]. We find a negative and significant coefficient on *Insider control* for outsider economies, a positive and weakly significant (at the 10% level) coefficient for insider economies with strong enforcement, and a positive and significant (at the 5% level) coefficient for insider economies with weak enforcement.

Further, our results are also robust to using alternate measures of earnings management, namely the correlation between changes in accruals and changes in cash flows to measure income smoothing, and to recalculating *EM2* based on five-year rolling windows. Our results are also robust to estimating a cross-sectional regression using one observation per firm and to clustering the standard-errors at the industry level (using two-digit SIC codes). While our earnings management measures are estimated over the period 1992 to 2006, insider control, cash-flow rights, and some of the investor protection variables are measured at one point in time in the mid-1990s. Although firm ownership characteristics are likely to be sticky across

time and some of our measures of investor protection such as a country's legal origin are time invariant, we perform robustness tests by restricting the sample to the period 1992 to 1999. We find that the coefficient on *Insider control* remains positive and significant in low investor protection countries and remains negative in the high investor protection environments, although the statistical significance drops marginally below the 10% cutoff.

4.3 FIRM-LEVEL INCENTIVES: DIVERGENCE AND INVESTMENT OPPORTUNITIES

In this section, we attempt to get more directly at insiders' incentives to disclose information in different institutional environments. To do so, we use firm-level variables that capture the incentives to consume private benefits and to access external capital. Finally, we verify that our results are not driven by ownership concentration.

4.3.1. Divergence Between Cash-Flow Rights and Control Rights. Prior research argues that insiders' incentives to consume private benefits are enhanced by the firm's ownership structure, which lets insiders control firms with little direct cash-flow rights. We expect insiders in firms with a greater divergence between cash-flow rights and control rights to have greater incentives to consume private benefits and consequently to be associated with more earnings management, especially in countries with low investor protection.¹²

To test this prediction, we estimate the relation between *Divergence* and *EM* separately for *Low anti deal* and *High anti deal* countries in panel A of table 4. Since *Divergence* is more relevant for insider controlled firms, we initially confine our sample to such firms. Consistent with the private benefits of control incentive for earnings management, the coefficient on *Divergence* in column (1) is positive and significant. This suggests that insider controlled firms with greater divergence between cash-flow rights and control rights are associated with more earnings management in *Low anti deal* countries. Equally important is the insignificant coefficient on *Divergence* in column (2). This suggests that divergence between cash-flow and control rights per se is not associated with higher earnings management among insider controlled firms in *High anti deal* countries. One possible concern with our tests is the issue of statistical power. If insider controlled firms in high-anti-self-dealing regimes are less likely to have divergence between cash-flow rights and control rights, then that could affect the power of our tests. We find that this is not a serious problem in our sample as about 25% of the insider controlled firms in *High anti deal* countries have

¹² Fan and Wong [2002] test a similar prediction and find that the earnings of firms that have a greater divergence between control and cash-flow rights of the largest block holder are less informative. We highlight the difference between our results and those of Fan and Wong [2002] when we discuss our results.

TABLE 4
Divergence, Insider Control, and Earnings Management

Panel A: Low- versus high-anti-self-dealing countries				
	<i>Low anti deal</i>	<i>High anti deal</i>	<i>Low anti deal</i>	<i>High anti deal</i>
	(1)	(2)	(3)	(4)
<i>Divergence</i>	0.019 (0.007)***	-0.006 (0.012)	0.014 (0.006)**	-0.011 (0.009)
<i>Insider control</i>			0.012 (0.005)**	-0.011 (0.005)**
<i>Log(Total assets)</i>	0.010 (0.002)***	0.005 (0.002)**	0.009 (0.002)***	0.004 (0.002)**
<i>GDP growth</i>	-0.138 (0.112)	0.045 (0.110)	-0.192 (0.085)**	0.024 (0.067)
<i>Inflation</i>	0.567 (0.152)***	-0.103 (0.049)**	0.518 (0.114)***	-0.091 (0.041)**
<i>Cashflow rights</i>	0.0003 (0.0002)	-0.00008 (0.0002)	0.0003 (0.0002)*	-0.00009 (0.0001)
<i>Sales volatility</i>	0.039 (0.015)***	0.002 (0.011)	0.011 (0.014)	0.012 (0.008)
<i>Operating cycle</i>	0.039 (0.039)	0.520 (0.073)***	0.034 (0.034)	0.245 (0.076)***
<i>Days payable</i>	-0.014 (0.020)	-0.094 (0.020)***	-0.010 (0.024)	-0.043 (0.019)**
<i>Capital intensity</i>	-0.064 (0.015)***	-0.036 (0.014)**	-0.047 (0.013)***	-0.045 (0.012)***
<i>Sales growth</i>	0.011 (0.010)	0.025 (0.009)***	0.013 (0.007)*	0.028 (0.008)***
<i>Loss</i>	0.007 (0.006)	0.023 (0.007)***	0.008 (0.004)*	0.031 (0.007)***
<i>Market to book</i>	-0.004 (0.001)***	-0.003 (0.001)**	-0.004 (0.0008)***	-0.002 (0.001)**
<i>Long term debt</i>	0.100 (0.031)***	0.055 (0.025)**	0.093 (0.020)***	0.058 (0.020)***
<i>Const.</i>	-0.066 (0.039)*	-0.101 (0.027)***	-0.060 (0.031)*	-0.084 (0.025)***
Obs.	14641	8891	26683	16747
R ²	0.188	0.126	0.168	0.121
Δ Divergence (Country)		0.025 (0.012)*		0.025 (0.012)*
Δ Divergence (Industry × Country)		0.025 (0.012)**		0.025 (0.01)**
Fixed effects	Industry × Country and Year			
Sample	Insider-controlled firms		All firms	

Panel B: Code versus common law countries				
	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)
<i>Divergence</i>	0.018 (0.007)***	-0.006 (0.013)	0.013 (0.006)**	-0.011 (0.010)
<i>Insider control</i>			0.012 (0.005)**	-0.012 (0.005)**
<i>Log(Total assets)</i>	0.010 (0.002)***	0.004 (0.002)**	0.009 (0.002)***	0.005 (0.002)**

(Continued)

TABLE 4 — *Continued*

Panel B: Code versus common law countries				
	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)
<i>GDP growth</i>	-0.094 (0.111)	0.011 (0.114)	-0.150 (0.086)*	-0.0006 (0.072)
<i>Inflation</i>	-0.050 (0.050)	-0.228 (0.123)*	-0.046 (0.039)	-0.061 (0.087)
<i>Cashflow rights</i>	0.0003 (0.0002)	-0.0001 (0.0002)	0.0003 (0.0002)*	-0.00009 (0.0001)
<i>Sales volatility</i>	0.032 (0.015)**	0.006 (0.011)	0.009 (0.013)	0.014 (0.008)*
<i>Operating cycle</i>	0.041 (0.038)	0.510 (0.073)***	0.048 (0.028)*	0.376 (0.059)***
<i>Days payable</i>	-0.015 (0.020)	-0.092 (0.019)***	-0.016 (0.021)	-0.059 (0.018)***
<i>Capital intensity</i>	-0.058 (0.014)***	-0.041 (0.015)***	-0.045 (0.012)***	-0.047 (0.013)***
<i>Sales growth</i>	0.010 (0.009)	0.026 (0.010)***	0.012 (0.007)*	0.029 (0.009)***
<i>Loss</i>	0.008 (0.005)	0.021 (0.007)***	0.009 (0.004)**	0.030 (0.007)***
<i>Market to book</i>	-0.004 (0.001)***	-0.003 (0.001)**	-0.004 (0.0008)***	-0.002 (0.001)**
<i>Long term debt</i>	0.088 (0.029)***	0.066 (0.027)**	0.086 (0.019)***	0.061 (0.021)***
<i>Const.</i>	-0.052 (0.039)	-0.098 (0.027)***	-0.045 (0.031)	-0.091 (0.025)***
Obs.	15,357	8,175	28,018	15,412
R^2	0.187	0.122	0.169	0.119
Δ Divergence (Country)		0.024 (0.012)*		0.025 (0.012)*
Δ Divergence (Industry \times Country)		0.024 (0.013)*		0.025 (0.011)**
Fixed effects	Industry \times Country and Year			
Sample	Insider controlled firms		All firms	
Panel C: Are the effects driven by ownership concentration?				
	<i>Low anti deal</i>	<i>High anti deal</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)
<i>Insider control</i>	0.025 (0.007)***	-0.010 (0.007)	0.024 (0.007)***	-0.011 (0.007)*
<i>Log(Total assets)</i>	0.007 (0.002)***	0.007 (0.003)***	0.006 (0.002)***	0.008 (0.003)***
<i>GDP growth</i>	-0.173 (0.096)*	0.046 (0.081)	-0.096 (0.098)	0.029 (0.082)
<i>Inflation</i>	0.469 (0.133)***	-0.096 (0.039)**	-0.063 (0.038)*	-0.076 (0.117)
<i>Cashflow rights</i>	0.0001 (0.0002)	-0.00007 (0.0002)	0.0002 (0.0002)	-0.0001 (0.0002)
<i>Sales volatility</i>	0.010 (0.015)	0.009 (0.010)	0.009 (0.014)	0.011 (0.010)

(Continued)

TABLE 4 — Continued

Panel C: Are the effects driven by ownership concentration?				
	<i>Low anti deal</i>	<i>High anti deal</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)
<i>Operating cycle</i>	0.060 (0.037)	0.234 (0.088)***	0.072 (0.027)***	0.362 (0.064)***
<i>Days payable</i>	-0.024 (0.027)	-0.042 (0.017)**	-0.028 (0.023)	-0.057 (0.016)***
<i>Capital intensity</i>	-0.040 (0.013)***	-0.049 (0.012)***	-0.036 (0.013)***	-0.052 (0.012)***
<i>Sales growth</i>	0.017 (0.009)*	0.024 (0.008)***	0.015 (0.008)*	0.025 (0.009)***
<i>Loss</i>	0.014 (0.006)**	0.027 (0.007)***	0.016 (0.005)***	0.025 (0.007)***
<i>Market to book</i>	-0.004 (0.001)***	-0.002 (0.001)*	-0.003 (0.001)***	-0.002 (0.001)**
<i>Long term debt</i>	0.093 (0.023)***	0.043 (0.023)*	0.081 (0.021)***	0.047 (0.025)*
<i>Const.</i>	-0.041 (0.036)	-0.111 (0.031)***	-0.025 (0.035)	-0.120 (0.031)***
Obs.	15,587	12,686	16,774	11,499
R^2	0.179	0.13	0.18	0.128
Δ Insider control (Country)		0.035 (0.014)**		0.035 (0.014)**
Δ Insider control (Ind. \times Country)		0.035 (0.01)***		0.035 (0.010)***
Fixed Effects		Ind. \times Country and Year		

Panels A and B report the results of regressions relating a firm’s insider control status, the extent of divergence between insider cash flow and control rights, and the extent of earnings management. Specifically, we estimate the panel OLS regression: $EM_{it} = \alpha + \beta_1 \times Divergence_{it} + \beta_2 \times Insider\ control_{it} + \gamma \times Controls_{it} + \mu_{it} + \mu_i + \epsilon_{it}$, where *Divergence* is a dummy variable that identifies firms with divergence between insider cash flow and control rights above the 75th percentile. In panel A, we estimate separate regressions for firms in countries with high- and low levels of anti-self-dealing index while in panel B we estimate separate regressions for firms in code and common law legal origin countries. The first two specifications are estimated only for the subsample of insider controlled firms and therefore exclude the dummy *Insider control*. The focal variable here is *Divergence*. The sample in columns (3) and (4) has both insider controlled and noninsider controlled firms and hence we include *Insider control*. All variables are Winsorized at the 1st and the 99th percentile and are defined in the appendix. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. All specifications include year and within-country industry fixed effects. We identify a firm’s industry at the two-digit SIC code level. Δ Divergence (Country) and Δ Divergence (Industry \times Country) denote statistical tests of the difference in the coefficient on *Divergence* between the two subsamples where the standard errors are clustered by country and by within-country industry, respectively. The data sources are as described in the preamble to panel C of table 1.

Panel C: This panel reports the results of regressions relating a firm’s insider control status to the extent of earnings management across countries with different institutional regimes. The sample in this table is restricted to insider controlled firms and noninsider controlled firms with at least one block holder with more than 10% cash-flow rights. The empirical specification and control variables are the same as in table 3. In the first two columns, we estimate separate regressions for firms in countries with high and low levels of anti-self-dealing while in the next two we estimate separate regressions for firms in code and common law legal origin countries. We include year and within-country industry fixed effects in all columns. We identify a firm’s industry at a level equivalent to the two-digit SIC code. Data sources are as described in the preamble to panel C of table 1. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. Δ Insider control (Country) and Δ Insider control (Industry \times Country) denote statistical tests of the difference in the coefficient on *Insider control* between the two subsamples where the standard errors are clustered by country and by within-country industry, respectively.

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

a divergence between insider cash-flow rights and control rights. Thus, our results extend the inferences of Fan and Wong [2002] by highlighting the importance of a country's institutional environment in affecting the relation between divergence and firm disclosures.

We expand our sample to include both insider controlled and noninsider controlled firms and repeat our tests after including both *Divergence* and *Insider control*. We perform these tests to see if *Divergence* fully captures the incentives of insider controlled firms to engage in greater earnings management in *Low anti deal* regimes. The results provided in columns (3) and (4) show that insider controlled firms are associated with greater (lower) earnings management in *Low anti deal* (*High anti deal*) countries even after we control for *Divergence*. This suggests that insider control, as opposed to divergence, is a more comprehensive measure of the insider's incentives to consume private benefits.

In panel B, we split our sample into code and common law legal origin and repeat our tests. Consistent with the results in panel A, we find that, among insider controlled firms, those with greater divergence between cash-flow rights and control rights are associated with higher earnings management in code law countries (positive and significant coefficient on *Divergence* in column (1)). We do not find divergence to be associated with more earnings management in common law countries. Furthermore, when we include both insider controlled and noninsider controlled firms, we find that insider controlled firms are associated with more (less) earnings management in code (common) law countries even after we control for *Divergence*.

4.3.2. Are the Results Driven Merely by Ownership Concentration? One could argue that, as insiders generally own a large stake in their firms, our measure of insider control merely captures ownership concentration, and, therefore, does not represent a distinct role for insider control in affecting earnings management. Our ownership data are rich enough to identify whether the largest shareholder is an insider or an outsider. To ensure that we are identifying an "insider control" effect, we estimate the association between *EM* and *Insider control* within a subsample of firms where the largest block holder has at least 10% cash-flow rights. Results in panel C of table 4 indicate that the coefficient on *Insider control* remains positive and significant in *Low anti deal* and *Code* subsamples even when we confine the sample to firms with concentrated ownership stakes. Thus, insider controlled firms have more earnings management even when benchmarked against other firms with concentrated ownership structures. The coefficient on *Insider control* is also significantly different across investor protection regimes. Overall, our results appear to document a distinct insider effect.

4.4 THE ROLE OF INVESTMENT OPPORTUNITIES

Our results thus far indicate that insider controlled firms are associated with more earnings management in countries with low investor protection

and especially when the divergence between cash-flow rights and control rights is higher. In this section, we explore how the need for external capital may mitigate insider controlled firms' earnings management incentives.

Prior studies in the cross-listing literature analyze a trade-off similar to ours (e.g., Doidge et al. [2009], Doidge, Karolyi, and Stulz [2004], Hail and Leuz [2009], Reese and Weisbach [2002], Stulz [1999]). These studies find that firms from countries with weak investor protection are willing to cross-list and subject themselves to stringent U.S. listing requirements if they have good investment opportunities. In an analogous fashion, we expect insider controlled firms with greater growth opportunities to be associated with less earnings management. To test this prediction, we employ two industry-level measures of growth opportunities. We classify industries with above median sales growth rate and those with above median profitability as having more growth opportunities and examine the association between earnings management and insider control across high- and low-growth opportunity industries.

We re-estimate equation (4) after including two additional terms—a dummy variable *High growth ind.* to identify firms in industries with above median annual sales growth and an interaction term *Insider control* \times *High growth ind.* We estimate these interaction effects separately for *Low anti deal* and *High anti deal* as well as *Code* and *Common* countries.¹³ If firms with more growth opportunities are associated with lower earnings management, the coefficient on the interaction term will be negative. Since our measure of growth opportunities is time varying, these tests also allow us to include firm fixed effects to control for *all* time-invariant firm characteristics. Since firm ownership structure is time invariant in our sample, we will not be able to estimate its effect on earnings management when we include firm fixed effects. Thus, in addition to our standard specification, we also estimate two other specifications both with firm fixed effects—one in the entire sample and another in the subsample of insider controlled firms.

Results based on the anti-self-dealing index (legal origin) are presented in panel A (panel B) of table 5. As predicted, the coefficient on the interaction term *Insider control* \times *High growth ind.* is negative and significant in column (1), suggesting that insider controlled firms in low-anti-self-dealing countries are associated with lower earnings management when they operate in high growth industries. Inclusion of *High growth ind.* in our specification ensures that we control for average differences in the extent of earnings management of firms in high- versus low-growth industries.¹⁴ Comparing the coefficient on *Insider control* \times *High growth ind.* (-0.012) with that on *Insider control* (0.018) in column (1) indicates that a higher industry growth rate bridges about two-thirds of the difference in earnings

¹³ Our results are robust to estimating a triple interaction of *Insider control*, *High growth ind.*, and *Low anti deal* in our full sample.

¹⁴ We verify that our results are robust to excluding the market-to-book ratio from the regression.

TABLE 5
Insider Control, Investment Opportunities, and Earnings Management

Panel A: Industry sales growth: low- versus high-anti-self-dealing countries						
	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Insider control</i>	0.018 (0.006)***	-0.019 (0.005)***				
<i>High growth ind.</i>	-0.009 (0.004)**	-0.006 (0.005)	-0.009 (0.004)**	-0.006 (0.005)	-0.018 (0.004)***	0.003 (0.006)
<i>Insider control</i> × <i>High growth ind.</i>	-0.011 (0.005)**	0.011 (0.005)**	-0.011 (0.005)**	0.009 (0.006)		
<i>Log(Total assets)</i>	0.009 (0.002)***	0.005 (0.002)**	0.050 (0.006)***	0.021 (0.005)***	0.050 (0.008)***	0.018 (0.007)**
<i>GDP growth</i>	-0.149 (0.084)*	0.027 (0.073)	-0.132 (0.080)	0.047 (0.072)	-0.037 (0.112)	0.064 (0.108)
<i>Inflation</i>	0.545 (0.112)***	-0.091 (0.037)**	0.484 (0.111)***	-0.096 (0.035)***	0.548 (0.160)***	-0.112 (0.050)**
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00005 (0.0001)				
<i>Sales volatility</i>	0.010 (0.014)	0.012 (0.008)	-0.037 (0.012)***	0.003 (0.008)	-0.019 (0.017)	0.005 (0.012)
<i>Operating cycle</i>	0.033 (0.035)	0.245 (0.088)***	0.008 (0.038)	0.250 (0.059)***	-0.019 (0.033)	0.332 (0.092)***
<i>Days payable</i>	-0.010 (0.024)	-0.043 (0.018)**	-0.008 (0.030)	-0.043 (0.012)***	0.013 (0.026)	-0.058 (0.025)**
<i>Capital intensity</i>	-0.047 (0.013)***	-0.045 (0.012)***	-0.019 (0.012)	0.003 (0.009)	-0.031 (0.016)*	-0.003 (0.013)
<i>Sales growth</i>	0.019 (0.007)**	0.028 (0.008)***	0.008 (0.006)	0.018 (0.006)***	0.004 (0.009)	0.013 (0.007)*
<i>Loss</i>	0.007 (0.004)	0.031 (0.007)***	0.022 (0.004)***	0.041 (0.006)***	0.020 (0.005)***	0.036 (0.009)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.002 (0.0008)*	-0.0001 (0.0007)	-0.002 (0.001)**	-0.001 (0.001)
<i>Long term debt</i>	0.092 (0.020)***	0.058 (0.020)***	0.036 (0.021)*	0.019 (0.021)	0.075 (0.029)***	0.023 (0.028)
<i>Const.</i>	-0.050 (0.032)	-0.086 (0.024)***	-0.689 (0.090)***	-0.321 (0.055)***	-0.722 (0.122)***	-0.288 (0.085)***
Obs.	26,683	16,747	26,923	16,747	14,763	8891
R^2	0.169	0.121	0.389	0.333	0.377	0.313
Δ Insider control × High growth ind. or Δ High growth ind. (Country)	-0.022 (0.007)***		-0.020 (0.009)**		-0.021 (0.007)***	
Δ Insider control × High growth ind. or Δ High growth ind. (Industry × Country)	-0.022 (0.007)***		-0.020 (0.008)***		-0.021 (0.007)***	
Fixed effects	Industry × Country and Year			Firm and Year		
Sample	All firms			Insider controlled firms		

(Continued)

TABLE 5 — *Continued*

Panel B: Industry sales growth—code law versus common law countries						
	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Insider control</i>	0.018 (0.006)***	-0.021 (0.006)***				
<i>High growth ind.</i>	-0.008 (0.004)*	-0.006 (0.005)	-0.007 (0.004)*	-0.008 (0.005)	-0.017 (0.004)***	0.005 (0.006)
<i>Insider control</i> × <i>High growth ind.</i>	-0.010 (0.005)**	0.012 (0.005)**	-0.011 (0.005)**	0.011 (0.006)*		
<i>Log(Total assets)</i>	0.008 (0.002)***	0.005 (0.002)**	0.049 (0.006)***	0.022 (0.005)***	0.049 (0.007)***	0.019 (0.008)**
<i>GDP growth</i>	-0.109 (0.086)	0.003 (0.074)	-0.087 (0.081)	0.026 (0.073)	0.012 (0.110)	0.034 (0.110)
<i>Inflation</i>	-0.030 (0.039)	-0.054 (0.106)	-0.045 (0.036)	-0.070 (0.101)	-0.036 (0.048)	-0.290 (0.161)*
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00004 (0.0001)				
<i>Sales volatility</i>	0.008 (0.014)	0.014 (0.008)*	-0.041 (0.012)***	0.008 (0.008)	-0.026 (0.016)	0.012 (0.012)
<i>Operating cycle</i>	0.047 (0.029)	0.374 (0.058)***	0.008 (0.038)	0.240 (0.059)***	-0.016 (0.033)	0.302 (0.088)***
<i>Days payable</i>	-0.015 (0.022)	-0.058 (0.017)***	-0.007 (0.030)	-0.042 (0.012)***	0.011 (0.026)	-0.054 (0.025)**
<i>Capital intensity</i>	-0.045 (0.012)***	-0.047 (0.012)***	-0.019 (0.011)*	0.003 (0.010)	-0.028 (0.015)*	-0.005 (0.014)
<i>Sales growth</i>	0.017 (0.007)**	0.029 (0.009)***	0.007 (0.006)	0.018 (0.006)***	0.004 (0.008)	0.013 (0.007)*
<i>Loss</i>	0.008 (0.004)*	0.030 (0.007)***	0.022 (0.004)***	0.041 (0.007)***	0.021 (0.005)***	0.035 (0.010)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.001 (0.0008)	-0.0004 (0.0007)	-0.002 (0.001)*	-0.001 (0.001)
<i>Long term debt</i>	0.085 (0.019)***	0.062 (0.021)***	0.031 (0.020)	0.022 (0.022)	0.055 (0.027)**	0.039 (0.031)
<i>Const.</i>	-0.036 (0.032)	-0.094 (0.025)***	-0.663 (0.086)***	-0.329 (0.057)***	-0.685 (0.113)***	-0.291 (0.088)***
Obs.	28,018	15,412	28,258	15,412	15,479	8,175
R^2	0.169	0.118	0.386	0.336	0.37	0.319
Δ <i>Insider control</i> × <i>High growth ind.</i> or Δ <i>High growth</i> <i>ind. (Country)</i>		-0.023 (0.006)***		-0.022 (0.008)***		-0.021 (0.007)***
Δ <i>Insider control</i> × <i>High growth ind.</i> or Δ <i>High growth</i> <i>ind. (Industry ×</i> <i>Country)</i>		-0.023 (0.007)***		-0.022 (0.008)***		-0.021 (0.007)***
Fixed Effects	Industry × Country and Year			Firm and Year		
Sample	All firms			Insider controlled firms		

(Continued)

TABLE 5 — *Continued*

Panel C: Industry profitability: low versus high anti-self-dealing countries						
	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>	<i>Low</i> <i>Anti deal</i>	<i>High</i> <i>Anti deal</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Insider control</i>	0.020 (0.006)***	-0.025 (0.007)***				
<i>High prof. ind.</i>	-0.022 (0.005)***	-0.022 (0.007)***	-0.024 (0.006)***	-0.016 (0.007)**	-0.026 (0.005)***	-0.007 (0.008)
<i>Insider control</i> × <i>High prof. ind.</i>	-0.017 (0.007)**	0.020 (0.008)**	-0.003 (0.008)	0.010 (0.008)		
<i>Log(Total assets)</i>	0.009 (0.002)***	0.004 (0.002)**	0.050 (0.006)***	0.020 (0.005)***	0.050 (0.008)***	0.018 (0.007)**
<i>GDP growth</i>	-0.146 (0.087)*	0.033 (0.073)	-0.137 (0.082)*	0.048 (0.073)	-0.058 (0.113)	0.074 (0.109)
<i>Inflation</i>	0.500 (0.111)***	-0.092 (0.037)**	0.442 (0.111)***	-0.099 (0.036)***	0.502 (0.160)***	-0.111 (0.050)**
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00004 (0.0001)				
<i>Sales volatility</i>	0.011 (0.014)	0.012 (0.008)	-0.037 (0.012)***	0.002 (0.008)	-0.018 (0.016)	0.005 (0.012)
<i>Operating cycle</i>	0.029 (0.033)	0.244 (0.088)***	0.006 (0.039)	0.251 (0.058)***	-0.021 (0.034)	0.330 (0.091)***
<i>Days payable</i>	-0.009 (0.024)	-0.043 (0.017)**	-0.007 (0.030)	-0.044 (0.012)***	0.014 (0.026)	-0.058 (0.025)**
<i>Capital intensity</i>	-0.047 (0.013)***	-0.045 (0.011)***	-0.022 (0.012)*	0.003 (0.009)	-0.034 (0.016)**	-0.003 (0.013)
<i>Sales growth</i>	0.014 (0.007)*	0.028 (0.008)***	0.003 (0.006)	0.018 (0.006)***	-0.002 (0.008)	0.014 (0.007)**
<i>Loss</i>	0.004 (0.004)	0.029 (0.006)***	0.019 (0.004)***	0.039 (0.006)***	0.018 (0.005)***	0.034 (0.009)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.002 (0.0008)*	-0.0001 (0.0007)	-0.002 (0.001)**	-0.001 (0.001)
<i>Long term debt</i>	0.088 (0.020)***	0.058 (0.019)***	0.031 (0.021)	0.018 (0.021)	0.068 (0.030)**	0.022 (0.028)
<i>Const.</i>	-0.041 (0.032)	-0.075 (0.026)***	-0.676 (0.089)***	-0.307 (0.057)***	-0.710 (0.121)***	-0.281 (0.089)***
Obs.	26,670	16,742	26,910	16,742	14,753	8,887
R^2	0.171	0.122	0.39	0.333	0.378	0.313
Δ <i>Insider control</i> × <i>High prof. ind.</i> or Δ <i>High prof.</i> <i>ind. (Country)</i>		-0.037 (0.013)***		-0.013 (0.011)		-0.018 (0.009)**
Δ <i>Insider control</i> × <i>High prof. ind.</i> or Δ <i>High prof.</i> <i>ind. (Industry ×</i> <i>Country)</i>		-0.037 (0.011)***		-0.013 (0.011)		-0.018 (0.010)*
Fixed effects	Industry × Country and Year			Firm and Year		
Sample.	All firms			Insider controlled firms		

(Continued)

TABLE 5 — *Continued*

Panel D: Industry profitability: code law versus common law countries						
	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Insider control</i>	0.019 (0.006)***	-0.025 (0.007)***				
<i>High prof. ind.</i>	-0.024 (0.005)***	-0.020 (0.008)***	-0.026 (0.005)***	-0.014 (0.007)**	-0.026 (0.005)***	-0.006 (0.008)
<i>Insider control</i> × <i>High prof. ind.</i>	-0.014 (0.007)**	0.019 (0.008)**	-0.000 (0.007)	0.008 (0.009)		
<i>Log(Total assets)</i>	0.008 (0.002)***	0.005 (0.002)**	0.049 (0.006)***	0.021 (0.005)***	0.048 (0.007)***	0.019 (0.008)**
<i>GDP growth</i>	-0.110 (0.088)	0.010 (0.074)	-0.095 (0.082)	0.029 (0.075)	-0.015 (0.110)	0.047 (0.111)
<i>Inflation</i>	-0.052 (0.040)	-0.062 (0.108)	-0.065 (0.037)*	-0.078 (0.102)	-0.060 (0.049)	-0.290 (0.162)*
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00004 (0.0001)				
<i>Sales volatility</i>	0.008 (0.013)	0.014 (0.008)*	-0.041 (0.012)***	0.008 (0.008)	-0.025 (0.016)	0.012 (0.012)
<i>Operating cycle</i>	0.043 (0.028)	0.375 (0.058)***	0.006 (0.039)	0.242 (0.059)***	-0.019 (0.034)	0.301 (0.087)***
<i>Days payable</i>	-0.014 (0.022)	-0.059 (0.017)***	-0.006 (0.030)	-0.044 (0.012)***	0.013 (0.026)	-0.054 (0.025)**
<i>Capital intensity</i>	-0.046 (0.012)***	-0.047 (0.012)***	-0.022 (0.011)*	0.003 (0.009)	-0.030 (0.015)**	-0.005 (0.014)
<i>Sales growth</i>	0.013 (0.007)*	0.029 (0.009)***	0.003 (0.006)	0.018 (0.006)***	-0.002 (0.008)	0.014 (0.007)*
<i>Loss</i>	0.005 (0.004)	0.028 (0.007)***	0.019 (0.004)***	0.039 (0.007)***	0.018 (0.005)***	0.034 (0.010)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.001 (0.0008)	-0.0004 (0.0007)	-0.002 (0.001)**	-0.001 (0.001)
<i>Long term debt</i>	0.082 (0.019)***	0.061 (0.021)***	0.026 (0.020)	0.021 (0.022)	0.048 (0.027)*	0.037 (0.031)
<i>Const.</i>	-0.026 (0.031)	-0.084 (0.026)***	-0.647 (0.086)***	-0.318 (0.059)***	-0.669 (0.113)***	-0.286 (0.092)***
Obs.	28,001	15,411	28,241	15,411	15,465	8,175
R^2	0.172	0.119	0.387	0.336	0.371	0.319
Δ <i>Inside control</i> × <i>High prof. ind.</i> or Δ <i>High prof.</i> <i>ind. (Country)</i>		-.033 (.012)**		-.008 (.011)		-.018 (.008)**
Δ <i>Inside control</i> × <i>High prof. ind.</i> or Δ <i>High prof.</i> <i>ind. (Industry ×</i> <i>Country)</i>		-.033 (.011)***		-.008 (.011)		-.018 (.01)*
Fixed effects	Industry × Country and Year			Firm and Year		
Sample.	All firms			Insider controlled firms		

(Continued)

TABLE 5 — *Continued*

Panel E: Alternate definition of Insider control				
	<i>Low anti deal</i>	<i>High anti deal</i>	<i>Code</i>	<i>Common</i>
	(1)	(2)	(3)	(4)
<i>Insider control (alt)</i>	0.017 (0.006)***	-0.002 (0.005)	0.017 (0.006)***	-0.003 (0.005)
<i>Log(Total assets)</i>	0.010 (0.002)***	0.004 (0.002)**	0.010 (0.002)***	0.004 (0.002)**
<i>GDP growth</i>	-0.183 (0.085)**	0.022 (0.073)	-0.142 (0.086)*	-0.003 (0.075)
<i>Inflation</i>	0.518 (0.114)***	-0.092 (0.037)**	-0.045 (0.039)	-0.060 (0.107)
<i>Cashflow rights</i>	0.00009 (0.0001)	-0.00003 (0.0002)	0.00009 (0.0001)	-0.00002 (0.0002)
<i>Sales volatility</i>	0.010 (0.014)	0.012 (0.008)	0.009 (0.014)	0.014 (0.008)*
<i>Operating cycle</i>	0.035 (0.033)	0.244 (0.087)***	0.049 (0.027)*	0.373 (0.057)***
<i>Days payable</i>	-0.012 (0.024)	-0.044 (0.017)**	-0.017 (0.022)	-0.059 (0.017)***
<i>Capital intensity</i>	-0.048 (0.013)***	-0.044 (0.011)***	-0.046 (0.012)***	-0.046 (0.012)***
<i>Sales growth</i>	0.012 (0.007)*	0.028 (0.008)***	0.011 (0.007)*	0.029 (0.009)***
<i>Loss</i>	0.008 (0.004)*	0.031 (0.007)***	0.010 (0.004)**	0.030 (0.007)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.004 (0.0008)***	-0.003 (0.001)**
<i>Long term debt</i>	0.089 (0.020)***	0.059 (0.019)***	0.083 (0.019)***	0.063 (0.021)***
<i>Const.</i>	-0.073 (0.032)**	-0.091 (0.024)***	-0.059 (0.032)*	-0.097 (0.024)***
Obs.	26,683	16,747	28,018	15,412
R^2	0.168	0.12	0.169	0.117
Δ Insider control (alt)		.019		.02
(Country)		(.010)*		(.010)*
Δ Insider control (alt)		.019		.02
(Industry \times Country)		(.008)**		(.008)**
Fixed Effects	Industry \times Country and Year			

Panels A and B report the results of regressions relating a firm’s insider control status and the extent of investment opportunities to earnings management. Specifically, we estimate the panel corrected OLS regression: $EM_{it} = \alpha + \beta \times Insider\ control_{it} \times High\ growth\ ind. + \gamma \times Controls_{it} + \mu_{ic} + \mu_t + \epsilon_{it}$, where *High growth ind.* is a dummy variable that takes a value of one for firms belonging to industries with above median sales growth. All the variables are as described in the appendix. In panel A we estimate separate regressions for firms in countries with high and low levels of anti-self-dealing index while in panel B we estimate separate regressions for firms in code and common law legal origin countries. The sample in columns (1) to (4) includes all firms while it is confined to insider controlled firms in columns (5) and (6), and, therefore, in those we omit *Insider control* and *High Growth Ind \times Insider control*. The focal variable here is *High growth ind.* In columns (1) and (2) we include year and within-country industry fixed effects while in columns (3) to (6) we include year and firm fixed effects. We identify a firm’s industry at the two-digit SIC code level. The data sources are as described in the preamble to panel C of table 1. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. Δ Insider control \times High growth ind. (Country) and Δ Insider control \times High growth ind. (Industry \times Country) denote statistical tests of the difference in the coefficient on *Insider control \times High growth ind.* between the two subsamples, where the standard errors are clustered by country and by within-country industry, respectively.

(Continued)

TABLE 5 — *Continued*

Panels C and D report results of regressions relating a firm's insider control status and the extent of investment opportunities to earnings management. Specifically, we estimate the panel corrected OLS regression: $EM_{it} = \alpha + \beta \times Insider\ control_{it} \times High\ prof.\ ind. + \gamma \times Controls_{it} + \mu_{ic} + \mu_t + \epsilon_{it}$, where *High prof. ind.* is a dummy variable that identifies firms belonging to industries with above median profitability. All other variables are as described in the appendix. In panel C we estimate separate regressions for firms in countries with high and low levels of anti-self-dealing while in panel D we estimate separate regressions for firms in code and common law legal origin countries. The sample in columns (1) to (4) includes all firms while it is confined to insider controlled firms in columns (5) and (6), and, therefore, in those we omit *Insider control* and *Insider control* \times *High prof ind.* The focal variable here is *High prof ind.* In columns (1) and (2) we include year and within-country industry fixed effects while in columns (3) to (6) we include year and firm fixed effects. We identify a firm's industry at the two-digit SIC code level. The data sources are as described in the preamble to panel C of table 1. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. Δ *Insider control* \times *High prof ind.* (Country) and Δ *Insider control* \times *High prof ind.* (Industry \times Country) denote statistical tests of the difference in the coefficient on *Insider control* \times *High prof ind.* between the two subsamples, where the standard errors are clustered by country and by within country industry respectively.

Panel E: This panel reports the results of regressions relating a firm's insider control status to the extent of earnings management across countries with different institutional regimes. *Insider control (alt)* indicates an alternate definition of insider control based on the level of control rights of the insider and follows the definition in Leuz, Lins, and Warnock [2009]. The empirical specification and control variables are the same as in table 3. In the first two columns, we estimate separate regressions for firms in countries with high and low levels of anti-self-dealing while in the next two we estimate separate regressions for firms in code and common law legal origin countries. We include year and within-country industry fixed effects in all columns. We identify a firm's industry at a level equivalent to the two-digit SIC code. Data sources are as described in the preamble to panel C of table 1. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. Δ *Insider control (alt)* (Country) and Δ *Insider control (alt)* (Industry \times Country) denote statistical tests of the difference in the coefficient on *Insider control (alt)* between the two subsamples, where the standard errors are clustered by country and by within-country industry, respectively.

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

management between insider controlled and noninsider controlled firms. Our results are robust to inclusion of firm fixed effects (column (3)). Since *Insider control* is not time varying, it drops out of the estimation. Further, we find that, among insider controlled firms, those in industries with high growth opportunities are associated with lower earnings management in *Low anti deal* countries. This is evident from the negative and significant coefficient on *High growth ind.* in column (5), where we confine our sample to just insider controlled firms.

In contrast to these results for *Low anti deal* countries, growth opportunities do not have a consistent association with earnings management of insider controlled firms in *High anti deal* regimes. In particular, the coefficient on the interaction term *Insider control* \times *High growth ind.* is positive and significant in column (2) while the coefficient on *High growth ind.* is insignificant in columns (4) and (6).

In panel B, we repeat our analysis after dividing our sample into countries with code and common law legal origin and obtain similar results. In particular, we find that insider controlled firms in code law countries in high growth industries are associated with significantly less earnings management. This result is also robust to the inclusion of firm fixed effects and to confining the sample to insider controlled firms. We also fail to find a consistent association between growth opportunities and earnings management of insider controlled firms in common law countries.

In panels C and D, we repeat our analysis using industry profitability (instead of industry sales growth) to identify growth opportunities. We do this by constructing a dummy variable *High prof. Ind* that identifies firms in industries with above median profitability. The results from this estimation are consistent with our earlier results based on industry sales growth and indicate that insider controlled firms in *Low anti deal* and *Code* countries in high profitability industries are associated with significantly less earnings management. These results are robust to the inclusion of firm fixed effects and to confining the sample to insider controlled firms.

In addition to documenting the role of growth opportunities on insider controlled firms' earnings management practices, these tests also enable us to include a more comprehensive set of controls including firm fixed effects. Also, to the extent that growth opportunities and accruals are positively correlated, our finding of less earnings management by insider controlled firms in industries with high growth opportunities ensures that unobserved differences in growth opportunities across insider- and noninsider controlled firms are not biasing our results.¹⁵

Overall, these results suggest that insider controlled firms in countries with weak investor protection are associated with relatively less earnings management when they operate in industries with more growth opportunities, albeit growth opportunities do not affect the extent of earnings management of insider controlled firms in countries with strong investor protection. Similar to the cross-listing literature, these results point to the role of growth opportunities in attenuating private benefits consumption by corporate insiders.

4.5 WHY ARE INSIDER CONTROLLED FIRMS ASSOCIATED WITH LOWER EARNINGS MANAGEMENT IN STRONG INVESTOR PROTECTION COUNTRIES?

A surprising finding from our analysis is the lower earnings management of insider controlled firms in countries with strong investor protection. Although this result is sensitive to the way we measure country-level investor protection,¹⁶ in this section we perform some exploratory analysis to determine its underlying drivers. One interpretation of the result is that it is similar to the better disclosure among family firms in the United States (e.g., Wang [2006], Ali, Chen, and Radhakrishnan [2007], Chen, Chen, and Cheng [2008]). To see if this is the case, in unreported tests, we differentiate insider controlled firms in *High anti deal* and *Common* countries into family and nonfamily firms and repeat our tests. We find that while the coefficient on *Insider control* for nonfamily firms in *High anti deal* (*Common*) countries is -0.013 (-0.014), and strongly significant, the coefficient

¹⁵ Since the positive association between accruals and growth opportunities is especially true for *EM2*, in unreported tests, we verify that our results are robust to using only *EM2* as a measure of earnings management.

¹⁶ We find this result is not robust to using the private benefits measure of Dyck and Zingales [2006] to measure the quality of a country's institutions.

on *Insider control* for family firms is similar in magnitude, -0.011 (-0.013), in *High anti deal (Common)* countries but significant only for common law countries. Thus, we do not have consistent evidence that the lower earnings management practices of insider controlled firms in high investor protection environments is confined to family firms.

Next, we examine if the lower earnings management of insider controlled firms in high investor protection environments is an artifact of the way we identify insider controlled firms. Note that, while we classify all firms that belong to a family group as per Classens et al. [2002] and a business group as per Faccio et al. [2002] as insider controlled, Leuz, Lins, and Warnock [2009] classify firms as insider controlled only if the largest shareholder is either a family or a member of management and has at least 10% of the control rights.¹⁷ To test if our results are robust to alternate ways to identify insider controlled firms, we construct a dummy variable, *Insider control(alt)*, to identify insider controlled firms as per the Leuz, Lins, and Warnock [2009] definition and repeat our tests in panel E of table 5. Consistent with our previous results for low investor protection countries, we find that the coefficient on *Insider control(alt)* is positive and significant in both the *Low anti deal* and the *Code* subsamples. Turning to the high investor protection countries, the coefficient on *Insider control(alt)* is insignificant in both the *High anti deal* as well as the *Common* subsamples. This suggests that the lower earnings management of insider controlled firms in high investor protection countries may be due to our classification of “group” firms as insider controlled.

An interesting feature of business groups outside the United States is that many of them involve multiple firms commonly controlled by an insider who transfers resources across the firms (Gopalan, Nanda, and Seru [2007]). Monitoring the pricing of such transfers is very difficult for outside investors. Thus, firms that belong to groups that provide opportunities for such transfers are likely to be perceived as opaque by outside investors. It is reasonable to expect the extent of group diversification across industries to affect both the ability and willingness of insiders to transfer resources across member firms. A greater degree of diversification implies less correlated cash flows and hence greater opportunities and benefits from sharing risk.

Insiders may have incentives to improve the informativeness of member firms’ financial statements in order to counteract the perceived opacity from belonging to a diversified group.¹⁸ However, given the inherently

¹⁷ Our results are robust to alternate cutoffs of 5% or 20%.

¹⁸ It is pertinent to note that the prediction of lower earnings management in more diversified groups is distinct from the prediction of less income smoothing in more diversified firms. The latter effect arises because more diversified firms are likely to have less volatile cash flows. Since the constituents of a business group are independent firms, there is no comparable relation between the extent of group diversification and the volatility of a member firm’s cash flows.

TABLE 6
Insider Control, Group Diversification, and Earnings Management

	<i>Low anti deal</i> (1)	<i>High anti deal</i> (2)	<i>Code</i> (3)	<i>Common</i> (4)
<i>Low Corr.</i>	0.014 (0.009)	-0.019 (0.007)***	0.014 (0.009)	-0.020 (0.007)***
<i>High Corr.</i>	0.015 (0.006)***	-0.008 (0.006)	0.014 (0.005)***	-0.008 (0.006)
<i>Log(Total assets)</i>	0.009 (0.002)***	0.005 (0.002)**	0.009 (0.002)***	0.005 (0.002)**
<i>GDP growth</i>	-0.191 (0.086)**	0.024 (0.073)	-0.149 (0.087)*	-0.0009 (0.074)
<i>Inflation</i>	0.518 (0.114)***	-0.092 (0.037)**	-0.045 (0.040)	-0.062 (0.107)
<i>Cashflow rights</i>	0.0002 (0.0001)	-0.00008 (0.0001)	0.0002 (0.0001)	-0.00008 (0.0001)
<i>Sales volatility</i>	0.011 (0.014)	0.012 (0.008)	0.009 (0.013)	0.014 (0.008)*
<i>Operating cycle</i>	0.031 (0.034)	0.244 (0.087)***	0.046 (0.029)	0.372 (0.057)***
<i>Days payable</i>	-0.009 (0.024)	-0.043 (0.017)**	-0.015 (0.022)	-0.059 (0.017)***
<i>Capital intensity</i>	-0.047 (0.013)***	-0.045 (0.011)***	-0.045 (0.012)***	-0.046 (0.012)***
<i>Sales growth</i>	0.013 (0.007)*	0.028 (0.008)***	0.012 (0.007)*	0.029 (0.009)***
<i>Loss</i>	0.008 (0.004)*	0.031 (0.007)***	0.009 (0.004)**	0.030 (0.007)***
<i>Market to book</i>	-0.004 (0.0008)***	-0.002 (0.001)**	-0.004 (0.0008)***	-0.002 (0.001)**
<i>Long term debt</i>	0.092 (0.020)***	0.057 (0.019)***	0.085 (0.019)***	0.060 (0.021)***
<i>Const.</i>	-0.051 (0.032)	-0.089 (0.024)***	-0.037 (0.031)	-0.096 (0.024)***
Obs.	26,683	16,747	28,018	15,412
R^2	0.168	0.121	0.168	0.119
Δ Low corr. (Country)		.033 (.011)***		.034 (.011)***
Δ Low corr. (Industry \times Country)		.033 (.008)***		.034 (.009)***
Fixed effects		Industry \times Country and Year		

This table reports the results of regressions relating the extent of group diversification of insider controlled firms and earnings management. Specifically, we estimate the panel OLS regression: $EM_{it} = \alpha + \beta \times Low\ Corr_i + \beta \times High\ Corr_{.it} + \gamma \times Controls_{it} + \mu_{ic} + \mu_i + \epsilon_{it}$, where *Low Corr.* (*High Corr.*) is a dummy variable that identifies groups in which the correlation between the industry cash flows of the largest firm and the asset-weighted industry cash flows of all the other firms is less (more) than the sample median. We measure industry cash flows as the median cash flows of all firms in the same two-digit SIC code industry. Both *Low Corr.* and *High Corr.* take a value of zero for noninsider controlled firms. All other variables are described in the appendix. In the first two columns, we estimate separate regressions for firms in countries with high and low levels of anti-self-dealing while in the next two we estimate separate regressions for firms in code and common law legal origin countries. We include year and within-country industry fixed effects in all columns. We identify a firm's industry at a level equivalent to the two-digit SIC code. Data sources are as described in the preamble to panel C of table 1. The standard errors are clustered at the level of industry within each country and are reported under the coefficients in parentheses. Δ Low corr. (Country) and Δ Low corr. (Industry \times Country) denote statistical tests of the difference in the coefficient on *Low corr.* between the two subsamples where the standard errors are clustered by country and by within-country industry, respectively.

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

opaque nature of diversified groups, it is not obvious if the overall impact would be less earnings management. Notwithstanding this caveat, we test if the extent of group diversification is associated with member firm earnings management practices.

We measure group diversification using the correlation between the industry cash flows of the constituent firms. Specifically, we calculate the correlation between the industry cash flows of the largest firm and the weighted industry cash flows of all other firms in the group. We use the book value of total assets to compute the weights. We create a dummy variable *Low Corr.* (*High Corr.*) that identifies groups with a correlation below (above) the sample median. We code *Low Corr.* and *High Corr.* as zero for noninsider controlled firms. We repeat our tests after replacing *Insider control* with *Low Corr.* and *High Corr.* and present the results in table 6.

We find that the coefficient on *Low Corr.* is negative and significant in the *High anti deal* and *Common* subsamples, while it is insignificant in the *Low anti deal* and the *Code* subsamples. The coefficient on *Low Corr.* is significantly different across the high and low investor protection subsamples. This suggests that the lower earnings management of insider controlled firms in high investor protection countries is confined to firms that belong to diversified groups. We also find that focused groups (*High Corr.* = 1) do not have significantly lower earnings management in high investor protection countries. Given that group diversification is a very coarse proxy for the opaqueness of a group and keeping in mind the caveat mentioned earlier, we consider these results as preliminary.

5. Conclusion

We examine differences in earnings management between insider controlled and noninsider controlled firms across 22 countries to substantiate the link between private benefits consumption and earnings management proposed by prior studies such as Leuz, Nanda, and Wysocki [2003]. Consistent with this link, we find that insider controlled firms that operate in low investor protection countries are associated with more earnings management than their noninsider controlled counterparts. Additional tests indicate that the extent of earnings management within insider controlled firms is increasing in the extent of divergence between cash-flow rights and control rights. The presence of growth opportunities attenuates the higher earnings management practices of insider controlled firms even in poor investor protection countries. Our results are not merely capturing the role of ownership concentration but rather a distinct role of insiders in perquisites consumption.

On the other hand, we find some weak evidence that insider controlled firms that operate in high investor protection countries are associated with less earnings management than noninsider controlled firms. Additional exploratory tests suggest that this relation is driven by firms that belong to more diversified business groups, which are likely to be more complex.

Overall, our results contribute to the growing literature on the link between private benefits consumption and firms' earnings management practices.

Our study raises several interesting questions for future studies. One possible path is to more fully explore why insider controlled firms in strong investor protection countries are associated with lower earnings management. Do information intermediaries such as financial analysts play a role? Are these reporting outcomes related to differences in the sources of capital in these countries (arms-length versus informed lending)? Another path is to examine the capital market implications of these reporting outcomes. While Leuz, Lins, and Warnock [2009] show that these reporting practices influence foreign investor participation, other interesting avenues are to explore cost of capital and portfolio diversification effects. We leave these questions to future research.

APPENDIX

Variable Definitions

The variables used in the empirical analysis are defined below:

- *Capital intensity*: Long-term assets divided by lagged total assets.
- *Cashflow rights*: The aggregate shareholding of the insider.
- *Code*: Indicator variable denoting firms from a code law regime.
- *Common*: Indicator variable that takes a value of 1 for firms in a common law regime.
- *Days payable*: Days payable is defined as 360 divided by the ratio of average accounts payable to cost of goods sold. Days payable is scaled by 1,000 for exposition.
- *Divergence*: A dummy variable that identifies firms in which the divergence between the cash-flow and control rights of the insider is above the 75th percentile.
- *EM1*: Measure of income smoothing defined as the ratio of the standard deviation of operating income (scaled by lagged total assets) to the standard deviation of cash flows (scaled by lagged total assets). Cash flows are computed by deducting accruals from earnings. Accruals is computed as change in current assets minus change in cash on hand less change in current liabilities (net of change in short-term debt) less depreciation. Standard deviations are calculated based on rolling windows of five annual observations.
- *EM2*: Measure of the magnitude of accruals defined as the absolute value of accruals scaled by lagged total assets divided by the absolute value of cash flow scaled by lagged total assets. Accruals are computed as above.
- *EM*: Composite measure of earnings management based on a principal component analysis of *EM1* and *EM2*. Higher values of *EM* indicate greater earnings management.

- *GDP growth*: The annual percentage growth in per capita GDP obtained from the World Development Indicators (WDI) database.
- *High anti deal*: Economies with high anti-self-dealing mechanisms in place. These countries have an above median value of the anti-self-dealing index of Djankov et al. [2008].
- *High Corr*: A dummy variable that identifies groups in which the correlation between the industry cash flows of the largest firm and the asset weighted industry cash flows of all the other firms is more than the sample median. We measure industry cash flows as the median cash flows of all firms in the same two-digit SIC code industry.
- *Inflation*: The annual rate of inflation (Source: WDI).
- *Insider control*: An indicator variable to denote insider controlled firms. Firms are classified as insider controlled if they belong to a family group as per Claessens et al. [2000] or they belong to a business group as per Faccio, Lang, and Young [2001].
- *Log(Total assets)*: The logarithm of book value of total assets.
- *Long term debt*: The ratio of total long-term debt to the book value of total assets.
- *Loss*: A dummy variable that identifies years in which the firm reports a loss.
- *Low anti deal*: Economies with low anti-self-dealing mechanisms in place. These countries have a below median value of the anti-self-dealing index of Djankov et al. [2008].
- *Low Corr*: A dummy variable that identifies groups in which the correlation between the industry cash flows of the largest firm and the asset-weighted industry cash flows of all the other firms is less than the sample median. We measure industry cash flows as the median cash flows of all firms in the same two-digit SIC code industry.
- *Market to book*: The ratio of market value of equity to the book value of equity.
- *Operating cycle*: Length of the firm's operating cycle, defined as the number of days receivables plus the number of days inventory. Days receivables is computed as 360 divided by the ratio of average receivables to sales. Days inventory is similarly defined as 360 divided by the ratio of average inventory to cost of goods sold. Operating cycle is scaled by 10,000 for exposition.
- *Sales growth*: The percentage sales growth rate.
- *Sales volatility*: Standard deviation of sales (scaled by lagged total assets). Standard deviations are calculated based on rolling windows of five annual observations.

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