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Earnings management and investor protection: an international comparison ☆

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Abstract

This paper examines systematic differences in earnings management across 31 countries. We propose an explanation for these differences based on the notion that insiders, in an attempt to protect their private control benefits, use earnings management to conceal firm performance from outsiders. Thus, earnings management is expected to decrease in investor protection because strong protection limits insiders' ability to acquire private control benefits, which reduces their incentives to mask firm performance. Our findings are consistent with this prediction and suggest an endogenous link between corporate governance and the quality of reported earnings.

JEL classification: G34; G38; M41

Keywords: Corporate governance; Earnings management; Investor protection; Law; Private control benefits

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1. Introduction

This paper provides comparative evidence on corporate earnings management across 31 countries. At a descriptive level, we find large international differences across several earnings management measures, including loss avoidance and earnings smoothing. Our descriptive evidence suggests that firms in countries with developed equity markets, dispersed ownership structures, strong investor rights, and legal enforcement engage in less earnings management. We then delve deeper and present an incentives-based explanation for these patterns.

Based on prior research that identifies investor protection as a key institutional factor affecting corporate policy choices (see Shleifer and Vishny, 1997; La Porta et al., 2000), we focus on investor protection as a significant determinant of earnings management activity around the world.[1] We argue that strong and well-enforced outsider rights limit insiders' acquisition of private control benefits, and consequently, mitigate insiders' incentives to manage accounting earnings because they have little to conceal from outsiders. This insight suggests that the pervasiveness of earnings management is increasing in private control benefits and decreasing in outside investor protection. Our empirical results are consistent with this prediction and suggest that investor protection plays an important role in influencing international differences in corporate earnings management.

Following Healy and Wahlen (1999), we define earnings management as the alteration of firms' reported economic performance by insiders to either mislead some stakeholders or to influence contractual outcomes. We argue that incentives to misrepresent firm performance through earnings management arise, in part, from a conflict of interest between firms' insiders and outsiders. Insiders, such as controlling owners or managers, can use their control over the firm to benefit themselves at the expense of other stakeholders. Examples of such private control benefits range from perquisite consumption to the transfer of firm assets to other firms owned by insiders or their families. The common theme, however, is that some value is enjoyed exclusively by insiders and thus not shared with non-controlling outsiders.

Insiders have incentives to conceal their private control benefits from outsiders because, if these benefits are detected, outsiders will likely take disciplinary action against them (see, e.g., Zingales, 1994; Shleifer and Vishny, 1997). Accordingly, we argue that managers and controlling owners have incentives to manage reported earnings in order to mask true firm performance and to conceal their private control benefits from outsiders. For example, insiders can use their financial reporting discretion to overstate earnings and conceal unfavorable earnings realizations (i.e., losses) that would prompt outsider interference. Insiders can also use their accounting discretion to create reserves for future periods by understating earnings in years of good performance, effectively making reported earnings less variable than the firm's true economic performance. In essence, insiders mask their private control

[1] While the investor protection literature acknowledges the importance of accounting information, it typically treats the quality of this information as exogenous and does not distinguish between stated accounting rules and firms' actual reporting practices (e.g., La Porta et al., 1998).

benefits and hence reduce the likelihood of outside intervention by managing the level and variability of reported earnings.

Legal systems protect investors by conferring on them rights to discipline insiders (e.g., to replace managers), as well as by enforcing contracts designed to limit insiders' private control benefits (e.g., La Porta et al., 1998; Nenova, 2000; Claessens et al., 2002; Dyck and Zingales, 2002).[2] As a result, legal systems that effectively protect outside investors reduce insiders' need to conceal their activities. We therefore propose that earnings management is more pervasive in countries where the legal protection of outside investors is weak, because in these countries insiders enjoy greater private control benefits and hence have stronger incentives to obfuscate firm performance.

Our analysis is based on financial accounting data from 1990 to 1999 for over 8,000 firms from 31 countries. To measure the pervasiveness of earnings management in a country, we create four proxies that capture the extent to which corporate insiders use their accounting discretion to mask their firm's economic performance. As it is difficult to specify ex ante which techniques firms use to obfuscate firm performance, our earnings management proxies are designed to capture a variety of earnings management practices such as earnings smoothing and accrual manipulations.

We begin with a descriptive country cluster analysis, which groups countries with similar legal and institutional characteristics. Three distinct country clusters are identified: (1) outsider economies with large stock markets, dispersed ownership, strong investor rights, and strong legal enforcement (e.g., United Kingdom and United States); (2) insider economies with less-developed stock markets, concentrated ownership, weak investor rights, but strong legal enforcement (e.g. Germany and Sweden); and, (3) insider economies with weak legal enforcement (e.g., Italy and India). These clusters closely parallel simple code-law and common-law as well as regional characterizations used in prior work (e.g., La Porta et al., 1997; Ball et al., 2000). We find significant differences in earnings management across these three institutional clusters. Outsider economies with strong enforcement display the lowest level of earnings management and insider economies with weak enforcement the highest level of earnings management. That is, earnings management appears to be lower in economies with large stock markets, dispersed ownership, strong investor rights, and strong legal enforcement.

To examine more explicitly whether differences in earnings management are related to private control benefits and investor protection, we undertake a multiple regression analysis. We measure outside investor protection by both the extent of minority shareholder rights as well as the quality of legal enforcement. Our results show that earnings management is negatively related to outsider rights and legal enforcement. These results remain significant after we control for the endogeneity of

[2] Outsiders are also expected to price protect themselves, leading to more internal financing, smaller arm's length financial markets and higher cost of outside capital (see, for example, La Porta et al., 1997). Bhattacharya et al. (2002) replicate our earnings management measures and provide evidence that firms' earnings management activities appear to be priced in capital markets.

investor protection as well as for differences in economic development, macroeconomic stability, industry composition, and firm characteristics. We also provide direct evidence that earnings management is positively associated with the level of private control benefits enjoyed by insiders. While these results highlight insiders' incentives to manage earnings as a way to conceal their private control benefits, we acknowledge that accounting rules may limit insiders' ability to manage earnings. We therefore attempt to control for cross-country differences in accounting rules that potentially affect insiders' ability to manage earnings and find that our results are robust to the inclusion of this control. Finally, we demonstrate that our results are not sensitive to the inclusion or exclusion of any particular country (in particular, the U.S.) in our sample.

This study builds on recent advances in the corporate governance literature on the role of legal protection for financial market development, ownership structure, and private control benefits (e.g., Shleifer and Vishny, 1997; La Porta et al., 2000). We extend this literature by presenting evidence that the level of outside investor protection endogenously determines the quality of financial information reported to outsiders. These results add to our understanding of how legal protection influences the agency conflict between outside investors and controlling insiders. Weak legal protection appears to result in poor-quality financial reporting, which likely undermines the development of arm's length financial markets.

Our work also contributes to a growing literature on international differences in firms' financial reporting. Prior research has analyzed the relation between earnings and stock prices around the world, only implicitly accounting for international differences in institutional factors (e.g., Alford et al., 1993; Joos and Lang, 1994; Land and Lang, 2002). Our results suggest that a country's legal and institutional environment influences the properties of reported earnings. In this regard, our study complements recent work by Ali and Hwang (2000), Ball et al. (2000), Fan and Wong (2001), and Hung (2001), which documents that various institutional factors explain differences in the price-earnings association across countries.[3] However, the price-earnings relation of a country reflects both its prevailing pricing mechanism and earnings quality. Consequently, it is important to understand the effect of institutional factors on *reported* earnings when examining the relation between stock prices and *managed* earnings.

Our empirical findings are subject to several caveats. First, earnings management is difficult to measure, especially as it manifests itself in different forms. We attempt to address this issue by computing several proxies for earnings management and we obtain consistent results across all measures. However, our findings are contingent on the ability of these measures to appropriately and consistently capture earnings management activities around the world. Second, we acknowledge that other institutional factors correlated with investor protection may also affect insiders' earnings management incentives. Since institutional factors are often complementary, it is difficult to fully control for the potential impact of other factors and to

[3] See also Basu et al. (1998) and Hope (2003) relating the properties of analyst forecasts to institutional factors.

disentangle them from the direct effect of investor protection. Moreover, the existence of complementarities raises concerns about endogeneity bias. We attempt to address these concerns with two-stage least squares (2SLS) estimation. However, as the relations among the institutional factors are difficult to model, we acknowledge that other endogenous interactions may still exist. Finally, we note that, holding private control benefits constant, strong investor protection potentially encourages earnings management because insiders have greater incentives to hide their control benefits when faced with higher penalties. While we acknowledge the potential existence of such a penalty effect, the empirical evidence suggests that it is dominated by international differences in private control benefits, and thus the negative relation between investor protection and earnings management prevails.

The remainder of the paper is organized as follows. Section 2 describes the construction of our earnings management measures. In Section 3, we describe the sample and provide descriptive statistics. Empirical tests and results are presented in Section 4. Section 5 concludes.

2. Earnings management measures

This section describes the earnings management measures used in our empirical analysis. Drawing on the existing earnings management literature (see Healy and Wahlen, 1999; Dechow and Skinner, 2000), we develop four different country-level measures of earnings management that capture various dimensions along which insiders can exercise their discretion to manage reported earnings. The four measures capture outcomes of insiders' earnings management activities and avoid the problem that stated accounting rules can be (and often are) circumvented by insiders and hence do not reflect firms' actual reporting practices (see also Ball et al., 2003).

2.1. Smoothing reported operating earnings using accruals

Insiders can conceal changes in their firm's economic performance using both real operating decisions and financial reporting choices. Focusing on insiders' reporting choices, our first earnings management measure captures the degree to which insiders "smooth", i.e., reduce the variability of reported earnings by altering the accounting component of earnings, namely accruals. The measure is a country's median ratio of the firm-level standard deviation of operating earnings divided by the firm-level standard deviation of cash flow from operations. Scaling by the cash flow from operations controls for differences in the variability of economic performance across firms. Low values of this measure indicate that, ceteris paribus, insiders exercise accounting discretion to smooth reported earnings.

Cash flow from operations is computed indirectly by subtracting the accrual component from earnings because direct information on firms' cash flows is not widely available in many countries. Following Dechow et al. (1995), we compute the accrual component of earnings as

$$Accruals_{it} = (\Delta CA_{it} - \Delta Cash_{it}) - (\Delta CL_{it} - \Delta STD_{it} - \Delta TP_{it}) - Dep_{it}, \quad (1)$$

where ΔCA_{it} = change in total current assets, $\Delta Cash_{it}$ = change in cash/cash equivalents, ΔCL_{it} = change in total current liabilities, ΔSTD_{it} = change in short-term debt included in current liabilities, ΔTP_{it} = change in income taxes payable, and Dep_{it} = depreciation and amortization expense for firm i in year t. Changes in short-term debt are excluded from accruals because they relate to financing transactions as opposed to operating activities. If a firm does not report information on taxes payable or short-term debt, then the change in both variables is assumed to be zero.

2.2. Smoothing and the correlation between changes in accounting accruals and operating cash flows

Insiders can also use their accounting discretion to conceal economic shocks to the firm's operating cash flow. For example, they may accelerate the reporting of future revenues or delay the reporting of current costs to hide poor current performance. Conversely, insiders underreport strong current performance to create reserves for the future. In either case, accounting accruals buffer cash flow shocks and result in a negative correlation between changes in accruals and operating cash flows. A negative correlation is a natural result of accrual accounting (see, e.g., Dechow, 1994). However, larger magnitudes of this correlation indicate, ceteris paribus, smoothing of reported earnings that does not reflect a firm's underlying economic performance (see Skinner and Myers, 1999).[4] Consequently, the contemporaneous correlation between changes in accounting accruals and changes in operating cash flows is our second measure of earnings smoothing. The accrual and operating cash flow components of earnings are computed as in equation (1) and the correlation is computed over the pooled set of firms in each country.

2.3. Discretion in reported earnings: The magnitude of accruals

Apart from dampening fluctuations in firm performance, insiders can use their reporting discretion to misstate their firm's economic performance. For instance, insiders can overstate reported earnings to achieve certain earnings targets or report extraordinary performance in specific instances, such as an equity issuance (see, e.g., Dechow and Skinner, 2000). Accordingly, our third earnings management measure uses the magnitude of accruals as a proxy for the extent to which insiders exercise discretion in reporting earnings. It is computed as a country's median of the absolute value of firms' accruals scaled by the absolute value of firms' cash flow from operations. The scaling controls for differences in firm size and performance. It should be noted that managers can sometimes use discretionary accruals to increase the informativeness of financial reports. In fact, the evidence for the U.S. suggests that, on average, managers use their discretion in a way that increases the informativeness of earnings (e.g., Watts and Zimmerman, 1986). These findings,

[4] As accounting systems likely underreact to economic shocks, insiders using accruals to signal firm performance induce on average a less negative (and in specific cases even positive) correlation with cash flows.

however, may be the result of effective outside investor protection and therefore may not extend to countries with weak investor protection.

2.4. Discretion in reported earnings: Small loss avoidance

Degeorge et al. (1999) and Burgstahler and Dichev (1997) present evidence that U.S. managers use accounting discretion to avoid reporting small losses. While one may argue that managers have incentives to avoid losses of any magnitude, they only have limited reporting discretion and are consequently unable to report profits in the presence of large losses. Small losses, however, are more likely to lie within the bounds of insiders' reporting discretion. Thus, in each country, the ratio of small reported profits to small reported losses reflects the extent to which insiders manage earnings to avoid reporting losses.

Following Burgstahler and Dichev (1997), the ratio of "small profits" to "small losses" is computed, for each country, using after-tax earnings scaled by total assets. Small losses are defined to be in the range $[-0.01, 0.00)$ and small profits are defined to be in the range $[0.00, 0.01]$. In order to reliably compute this ratio, we require at least five observations of small losses for a country to be included in the sample.

2.5. Aggregate measure of earnings management

Finally, to mitigate potential measurement error, we construct an overall summary measure of earnings management for each country. For each of the four earnings management measures, countries are ranked such that a higher score suggests a higher level of earnings management. The aggregate earnings management score is computed by averaging the country rankings for the four individual earnings management measures.

3. Sample selection and descriptive statistics

Our data are obtained from the Worldscope Database, which contains up to ten years of historical financial data from annual reports of publicly traded companies around the world. Banks and financial institutions are excluded from the empirical analysis. To be included in the sample, a country must have at least 300 firm-year observations for a number of accounting variables, including total assets, sales, net income, and operating income. Each firm must have income statement and balance sheet information for at least three consecutive years. Finally, Argentina, Brazil, and Mexico experienced hyperinflation over the sample period and are excluded from the main sample because high inflation may unduly affect our earnings management measures. However, the results are qualitatively unchanged if these countries remain in the sample. The final sample consists of 70,955 firm-year observations, across 31 countries and 8,616 non-financial firms for the fiscal years 1990 to 1999.

Table 1 presents the number of firm-year observations per country as well as descriptive statistics for the sample firms and countries. There is significant variation

Table 1
Descriptive statistics of sample firms and countries
The full sample consists of 70,955 firm-year observations for the fiscal years 1990 to 1999 across 31 countries and 8,616 non-financial firms. Financial accounting information is obtained from the November 2000 version of the Worldscope Database. To be included in our sample, countries must have at least 300 firm-year observations for a number of accounting variables, including total assets, sales, net income, and operating income. For each firm, we require income statement and balance sheet information for at least three consecutive years. We discard three countries (Chile, New Zealand, Turkey) because of an insufficient number of observations to compute the loss avoidance measure, and three countries (Argentina, Brazil, Mexico) due to hyperinflation. Firm size is measured as total US$ sales (in thousands). Capital intensity is measured as the ratio of long-term assets over total assets. The fraction of manufacturing firms is the percentage of firm-year observations with SIC 2000 to 3999. Average per capita GDP in constant 1995 US$ is computed from 1990 to 1999. Inflation is measured as the average percentage change in consumer prices from 1990 to 1998. Volatility of GDP growth is measured as the standard deviation of the growth rate in real per capita GDP from 1990 to 1998.

Country	# Firm-years	Median firm size in US$	Median capital intensity	Fraction of mfg. firms	Per-capita GDP in US$	Inflation (%)	Volatility of GDP growth (%)
AUSTRALIA	1,483	233,344	0.425	0.319	20,642	2.62	2.01
AUSTRIA	564	213,101	0.313	0.710	29,287	2.62	1.22
BELGIUM	727	277,510	0.280	0.563	27,357	2.26	1.45
CANADA	3,322	271,287	0.465	0.381	19,687	2.25	1.92
DENMARK	1,235	119,113	0.344	0.573	34,163	2.07	1.23
FINLAND	854	308,974	0.345	0.618	26,296	2.25	4.69
FRANCE	4,404	178,163	0.187	0.548	26,960	2.04	1.42
GERMANY	4,440	336,894	0.282	0.637	30,166	2.51	1.46
GREECE	858	38,305	0.295	0.568	11,393	12.06	1.48
HONG KONG	1,483	167,754	0.376	0.513	21,610	4.10	3.89
INDIA	2,064	63,027	0.409	0.859	374	10.09	2.32
INDONESIA	787	75,502	0.361	0.694	961	13.86	7.26
IRELAND	436	124,021	0.386	0.438	18,707	2.38	3.03
ITALY	1,213	350,380	0.280	0.721	19,025	4.40	1.25
JAPAN	16,475	463,191	0.289	0.583	41,200	1.38	2.29
KOREA (SOUTH)	1,692	452,349	0.382	0.724	10,250	6.28	4.64
MALAYSIA	2,036	81,407	0.403	0.557	4,043	3.97	4.35
NETHERLANDS	1,561	349,909	0.333	0.503	27,037	2.48	1.07
NORWAY	988	104,483	0.356	0.410	33,189	2.46	1.28
PAKISTAN	508	24,907	0.432	0.913	488	10.34	2.25
PHILIPPINES	429	60,814	0.460	0.500	1,093	9.80	2.42
PORTUGAL	460	97,229	0.412	0.545	10,942	6.40	1.68
SINGAPORE	1,100	104,187	0.377	0.472	22,721	2.15	2.66
SOUTH AFRICA	1,043	380,644	0.327	0.445	3,914	10.41	1.92
SPAIN	1,082	333,207	0.424	0.492	15,092	4.43	1.64
SWEDEN	1,384	261,343	0.295	0.505	27,350	3.59	2.29
SWITZERLAND	1,320	377,488	0.394	0.626	44,485	2.51	1.65
TAIWAN	1,001	208,798	0.357	0.809	11,893	3.37	0.80
THAILAND	1,529	55,344	0.433	0.578	2,570	5.50	3.28
UNITED KINGDOM	10,685	109,337	0.335	0.430	19,126	3.95	2.03
UNITED STATES	3,792	3,597,429	0.333	0.556	27,836	3.09	1.64
Mean	2,289	316,756	0.358	0.574	19,028	4.76	2.34
Median	1,235	208,798	0.357	0.557	19,687	3.37	1.92
Min	429	24,907	0.187	0.319	374	1.38	0.80
Max	16,475	3,597,429	0.465	0.913	44,485	13.86	7.26

in the number of firm-year observations across countries due to differences in capital market development, country size, and the availability of complete financial accounting data. Note that the U.S. version of the Worldscope Database includes only U.S. firms belonging to the S&P 500 index. However, our results are not sensitive to the inclusion of the U.S. (or any particular country). To allow for direct firm size comparisons across countries, the median firm's sales in US$ is reported for each country. Based on the large differences in the median firm size across countries, we scale all financial variables by the lagged value of total assets. Scaling by other variables such as lagged sales or market value of equity does not affect the results. Table 1 also shows a substantial cross-country variation in capital intensity, the fraction of manufacturing firms, per capita GDP, inflation and volatility of growth. We address the potentially confounding effects of cross-country differences in these variables in subsequent multiple regressions.

Panel A of Table 2 provides descriptive statistics for the four individual earnings management measures as well as the aggregate earnings management score. The countries are sorted in descending order based on their aggregate score. The four individual earnings management measures exhibit striking differences across countries, but similar patterns in terms of their relative magnitudes. The statistics of the first measure (EM1) show that earnings are smoother in Continental Europe and Asia than in Anglo-American countries, after controlling for the volatility of cash flows. Similarly, large negative correlations between changes in firms' accruals and cash flows (EM2) indicate that earnings smoothing is more pervasive in, for instance, Greece and Japan than in Canada and the U.S. With regard to accounting discretion, the third measure (EM3) shows that the magnitude of firms' accruals, relative to the magnitude of their operating cash flows, is small in the U.K. and the U.S. compared to Austria, Germany, and South Korea. Similarly, the fourth measure (EM4) reveals that European and Asian firms exhibit a greater degree of loss avoidance than Anglo-American firms.[5]

The earnings management measures are highly correlated and the rankings corresponding to the four individual measures and the aggregate earnings management score are similar. Factor analysis suggests that a single factor represents the four individual measures. Thus, it seems appropriate to combine the four measures into a single summary measure of earnings management. Our results hold for the smoothing and discretion measures separately, as well as for the single factor identified by factor analysis. The last column of Table 2 Panel A presents a country ranking based on this aggregate earnings management score, showing high ranks for countries such as Austria, Italy, and South Korea, and low ranks for countries such as Australia, the U.K. and the U.S.

[5] Our loss avoidance results may appear to contradict the finding of Brown and Higgins (2001) that earnings *surprise* management is more pronounced in the US than in other countries. However, the two findings are compatible. Brown and Higgins (2002) show that US firms engage in more *expectations* management, i.e., downward guidance of analysts, to meet or beat analysts' earnings forecasts, rather than earnings management.

Table 2
The variables are computed from 70,955 firm-year observations for fiscal years 1990 to 1999 across 31 countries and 8,616 non-financial firms. Data are obtained from the Worldscope Database (November 2000). EM1 is the country's median ratio of the firm-level standard deviations of operating income and operating cash flow (both scaled by *lagged* total assets). The *cash* flow from operations is equal to operating income minus accruals, where accruals are calculated as: (Δtotal current assets − Δcash)−(Δtotal current liabilities − Δshort-term debt −Δtaxes payable) − depreciation expense. EM2 is the country's Spearman correlation between the change in accruals and the change in cash flow from operations (both scaled by lagged total assets). EM3 is the country's median ratio of the absolute value of accruals and the absolute value of the cash flow from operations. EM4 is the number of "small profits" divided by the number of "small losses" for each country. A firm-year observation is classified as a small profit if net earnings (scaled by lagged total assets) are in the range [0,0.01]. A firm-year observation is classified as a small loss if net earnings (scaled by lagged total assets) are in the range [−0.01,0). Net earnings are bottom-line reported income after interest, taxes, special items, extraordinary items, reserves, and any other item. The aggregate earnings management score is the average rank across all four measures, EM1-EM4. The sign in the column heading indicates whether *higher* scores for the respective EM measure imply *more* earnings management (+) or *less* earnings management (−).

Panel A: Country scores for earnings management measures (Sorted by aggregate earnings management)

	Earnings smoothing measures		Earnings discretion measures		
	EM1 σ(OpInc)/ σ(CFO) (–)	EM2 ρ(ΔAcc, ΔCFO) (–)	EM3 |Acc|/| CFO| (+)	EM4 # of SmProfit/ # of SmLoss (+)	Aggregate earnings management score
AUSTRIA	0.345	−0.921	0.783	3.563	28.3
GREECE	0.415	−0.928	0.721	4.077	28.3
KOREA (SOUTH)	0.399	−0.922	0.685	3.295	26.8
PORTUGAL	0.402	−0.911	0.745	3.000	25.1
ITALY	0.488	−0.912	0.630	4.154	24.8
TAIWAN	0.431	−0.898	0.646	2.765	22.5
SWITZERLAND	0.473	−0.873	0.547	5.591	22.0
SINGAPORE	0.455	−0.882	0.627	3.000	21.6
GERMANY	0.510	−0.867	0.848	3.006	21.5
JAPAN	0.560	−0.905	0.567	3.996	20.5
BELGIUM	0.526	−0.831	0.677	3.571	19.5
HONG KONG	0.451	−0.850	0.552	3.545	19.5

INDIA	0.523	−0.867	0.509	6.000	19.1
SPAIN	0.539	−0.865	0.514	6.000	18.6
INDONESIA	0.481	−0.825	0.506	7.200	18.3
THAILAND	0.602	−0.868	0.671	3.136	18.3
PAKISTAN	0.508	−0.913	0.513	2.643	17.8
NETHERLANDS	0.491	−0.861	0.480	3.313	16.5
DENMARK	0.559	−0.875	0.526	2.708	16.0
MALAYSIA	0.569	−0.857	0.578	2.658	14.8
FRANCE	0.561	−0.845	0.579	2.370	13.5
FINLAND	0.555	−0.818	0.517	2.633	12.0
PHILIPPINES	0.722	−0.804	0.555	2.455	8.8
UNITED KINGDOM	0.574	−0.807	0.397	1.802	7.0
SWEDEN	0.621	−0.764	0.466	2.568	6.8
NORWAY	0.713	−0.722	0.556	1.235	5.8
SOUTH AFRICA	0.643	−0.840	0.297	1.667	5.6
CANADA	0.649	−0.759	0.478	2.338	5.3
IRELAND	0.607	−0.788	0.371	1.667	5.1
AUSTRALIA	0.625	−0.790	0.450	1.486	4.8
UNITED STATES	0.765	−0.740	0.311	1.631	2.0
Mean	0.541	−0.849	0.558	3.196	
Median	0.539	−0.861	0.552	3.000	
Standard Deviation	0.100	0.056	0.128	1.413	
Min	0.345	−0.928	0.297	1.235	
Max	0.765	−0.722	0.848	7.200	

Panel B: Institutional characteristics of the sample countries (Sorted by aggregate earnings management)
Countries are sorted based on the aggregate earnings management score tabulated in Panel A of Table 2. The classification of the Legal Origin and the Legal Tradition are based on La Porta et al., (1998). CD (CM) indicates a code-law (common-law) country. The Outside Investor Rights variable is the anti-director rights index created by La Porta et al. (1998); it is an aggregate measure of minority shareholder rights and ranges from zero to five. Legal Enforcement is measured as the mean score across three legal variables used in La Porta et al. (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten. The Importance of Equity Market is measured by the mean rank across three variables used in La Porta et al. (1997): (1) the ratio of the aggregate stock market capitalization held by minorities to gross national product, (2) the number of listed domestic firms relative to the population, and (3) the number of IPOs relative to the population. Each variable is ranked such that higher scores indicate a greater importance of the stock market. Ownership Concentration is measured as the median percentage of common shares owned by the largest three shareholders in the ten largest privately owned non-financial firms (La Porta et al., 1998). The Disclosure Index measures the inclusion or omission of 90 items in the 1990 annual reports (La Porta et al., 1998); it is not available (NA) for three countries in our sample.

Country	Legal Origin	Legal Tradition	Outside Investor Rights	Legal Enforcement	Important of Equity Market	Ownership Concentration	Disclosure Index
AUSTRIA	German	CD	2	9.4	7.0	0.51	54
GREECE	French	CD	2	6.8	11.5	0.68	55
KOREA (SOUTH)	German	CD	2	5.6	11.7	0.20	62
PORTUGAL	French	CD	3	7.2	11.8	0.59	36
ITALY	French	CD	1	7.1	6.5	0.60	62
TAIWAN	German	CD	3	7.4	13.3	0.14	65
SWITZERLAND	German	CD	2	10.0	24.8	0.48	68
SINGAPORE	English	CM	4	8.9	28.8	0.53	78
GERMANY	German	CD	1	9.1	5.0	0.50	62
JAPAN	German	CD	4	9.2	16.8	0.13	65
BELGIUM	French	CD	0	9.4	11.3	0.62	61
HONG KONG	English	CM	5	8.9	28.8	0.54	69
INDIA	English	CM	5	5.6	14.0	0.43	57
SPAIN	French	CD	4	7.1	7.2	0.50	64
INDONESIA	French	CD	2	2.9	4.7	0.62	NA
THAILAND	English	CM	2	4.9	14.3	0.48	64
PAKISTAN	English	CM	5	3.7	7.5	0.41	NA
NETHERLANDS	French	CD	2	10.0	19.3	0.31	64
DENMARK	Scandinavian	CD	2	10.0	20.0	0.40	62
MALAYSIA	English	CM	4	7.7	25.3	0.52	76
FRANCE	French	CD	3	8.7	9.3	0.24	69
FINLAND	Scandinavian	CD	3	10.0	13.7	0.34	77
PHILIPPINES	French	CD	3	3.5	5.7	0.51	65
UNITED KINGDOM	English	CM	5	9.2	25.0	0.15	78

SWEDEN	Scandinavian	CD	3	10.0	16.7	0.28	83
NORWAY	Scandinavian	CD	4	10.0	20.3	0.31	74
SOUTH AFRICA	English	CM	5	6.4	16.3	0.52	70
CANADA	English	CM	5	9.8	23.3	0.24	74
IRELAND	English	CM	4	8.4	17.3	0.36	NA
AUSTRALIA	English	CM	4	9.5	24.0	0.28	75
UNITED STATES	English	CM	5	9.5	23.3	0.12	71

Panel C: Correlation between earnings management and institutional characteristics

The table presents Spearman correlations and significance levels (in parentheses) between the following measures. The aggregate earnings management score is the average rank of all four earnings management measures, EM1–EM4. Outside Investor Rights is the anti-director rights index from La Porta et al. (1998). It is an aggregate measure of (minority) shareholder rights and ranges from zero to six. Legal Enforcement is measured as the mean score across three legal variables used in La Porta et al. (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten. The Importance of the Equity Market is measured by the mean rank across three variables used in La Porta et al. (1997): (1) the ratio of the aggregate stock market capitalization held by minorities to gross national product, (2) the number of listed domestic firms relative to the population, and (3) the number of IPOs relative to the population. Each variable is ranked such that higher scores indicate a greater importance of the stock market. Ownership Concentration is measured as the median percentage of common shares owned by the largest three shareholders in the ten largest privately owned non-financial firms (La Porta et al., 1998). The Disclosure Index measures the inclusion or omission of 90 items in the 1990 annual reports (La Porta et al., 1998).

	Outside Investor Rights	Legal Enforcement	Importance of Equity Market	Ownership Concentration	Disclosure Index
Aggregate Earnings Management	−0.538	−0.291	−0.418	0.434	−0.686
	(0.002)	(0.112)	(0.019)	(0.015)	(0.000)
Outside Investor Rights		−0.026	0.515	−0.344	0.568
		(0.888)	(0.003)	(0.058)	(0.002)
Legal Enforcement			0.522	−0.396	0.393
			(0.003)	(0.028)	(0.038)
Importance of Stock Market				−0.315	0.647
				(0.084)	(0.000)
Ownership Concentration					−0.398
					(0.036)

Panel B of Table 2 provides descriptive statistics on the institutional characteristics of each country in the sample and is sorted based on countries' aggregate earnings management scores presented in Panel A. The institutional variables are drawn from La Porta et al. (1997, 1998). The Legal Origin and Legal Tradition assignments are presented in columns 2 and 3 of Panel B. The proxy for Outside Investor Rights is an anti-director rights index that captures the voting rights of minority shareholders. The Legal Enforcement measure for each country is the average score across three variables: (1) an index of the legal system's efficiency; (2) an index of the rule of law; and, (3) the level of corruption. The Importance of Equity Markets is measured by a country's average rank based on: (1) the ratio of the aggregate stock market held by minorities to gross national product; (2) the number of listed domestic stocks relative to the population; and, (3) the number of IPOs relative to the population. Ownership Concentration is measured as the median percentage of common shares owned by the largest three shareholders, in the ten largest privately owned non-financial firms. Finally, the Disclosure Index measures the inclusion or omission of 90 accounting items in firms' 1990 annual reports, and hence captures firms' disclosure policies at the country level.

Simple correlations among institutional variables and the aggregate earnings management score for each country are presented in Panel C of Table 2. Consistent with our hypothesis, there is a strong negative correlation between the aggregate earnings management measure and both the outside investor rights and enforcement proxies. However, there are also significant correlations between the earnings management measure and other institutional factors, suggesting that earnings management is more pervasive in countries characterized by less developed stock markets, more concentrated ownership and lower disclosure levels. The latter correlation suggests that firms engaging in earnings management also provide fewer disclosures. This finding questions the use of disclosure indices as exogenous variables in prior research.

4. Empirical results

4.1. Descriptive cluster analysis

To provide descriptive evidence on the systematic patterns in earnings management across groups of countries with similar institutional characteristics, we begin with a cluster analysis. Our aim is to first identify country clusters with similar institutional features such as the level of investor protection, stock market development, and ownership concentration, and then to examine whether earnings management varies across these clusters. This approach, while descriptive in nature, captures interactions among institutional factors and documents systematic patterns in earnings management without relying on specific hypotheses.

The cluster analysis is based on nine institutional variables from La Porta et al. (1997, 1998). We use those variables prior to the aggregation presented in

Table 2 because it is preferable for cluster analysis to have a large set of variables. However, the results are similar if only the five variables from Table 2 are used. The variables are standardized to z-scores, and a k-means cluster analysis with three distinct country clusters is conducted. Panel A of Table 3 reports the means of each institutional variable for each of the three clusters. The first cluster is characterized by large stock markets, low ownership concentration, extensive outsider rights, high disclosure, and strong legal enforcement. The second and third clusters show markedly smaller stock markets, higher ownership concentration, weaker investor protection, lower disclosure levels, and weaker enforcement. Based on institutional characteristics, we refer to countries in the first cluster as "outsider economies." The countries in the second and third clusters are referred to as "insider economies," with the distinction that countries in the second cluster have significantly better legal enforcement than countries in the third cluster. While cluster 2 seems "in-between" cluster 1 and 3, a comparison of the Euclidean distances between the cluster centers supports our interpretation that clusters 2 and 3 are closer to each other than clusters 1 and 2. Overall, the results in Table 3, Panel A are consistent with the existence of institutional complementarities.

Table 3, Panel B shows the cluster membership of the sample countries. Groupings are consistent with the common- and code-law as well as regional distinctions used in prior research to classify countries (see, e.g., Ball et al., 2000; Ball et al., 2003). As indicated in Panel B, all countries in the first cluster with the exception of Norway have a common-law tradition. The three Southeast Asian countries (Hong Kong, Malaysia, and Singapore) in this cluster were formerly under British rule and have inherited parts of the Anglo-Saxon institutional framework. The fact that the three East Asian countries have by far the worst earnings management ratings in this group is consistent with Ball et al. (2003) who argue that, despite the common-law influence, reported earnings do not exhibit common-law properties (i.e., asymmetric timeliness). Fan and Wong (2001) present similar findings. In the second cluster, all countries except Ireland and South Africa have a code-law tradition. This cluster contains most of the Northern European and Scandinavian countries. The third cluster consists of several Asian and Southern European countries with both common- and code-law traditions. Thus, the cluster approach suggests that the common- and code-law distinction matters only when legal enforcement is relatively high, as in the first and second clusters. In the third cluster, for which the quality of legal enforcement is low, legal tradition seems unrelated to cluster membership.

Panel C of Table 3 shows that differences between the clusters' average earnings management scores are statistically significant. Outsider economies (cluster 1) exhibit lower levels of earnings management than insider economies (clusters 2 and 3). Thus, even after controlling for interactions among various institutional factors, earnings management appears to be lower in economies with strong investor protection, large stock markets and dispersed ownership. The third cluster exhibits significantly higher earnings management than the second cluster, highlighting the salient importance of legal enforcement.

Table 3
Earnings management and institutional clusters
The table presents results from a k-means cluster analysis using three distinct clusters and nine institutional variables from La Porta et al., (1997, 1998). See Panel B of Table 2 for details. The variables are standardized to *z*-scores. Panel A reports the means of the institutional variables by cluster. Panel B reports the cluster membership for the 31 sample countries based on the cluster analysis performed on the variables in panel A. Countries in each cluster are sorted by the aggregate earnings management score from Panel A in Table 2. CD (CM) indicates a code-law (common-law) tradition. This variable is *not* used in the cluster analysis. Panel C reports the mean aggregate earnings management score for each cluster. The last row reports one-sided p-values for differences in the means of the aggregate earnings management across clusters using a *t*-test.

Panel A: Mean values of institutional characteristics by cluster

Institutional Variables	Cluster 1	Cluster 2	Cluster 3
Stock Market Capitalization	0.82	0.46	0.21
Listed Firms	49.56	18.58	9.50
IPOs	4.04	0.55	0.37
Ownership Concentration	0.34	0.37	0.50
Anti-Director Rights	4.50	2.62	2.90
Disclosure Index	74.38	66.67	58.13
Efficiency of Judicial System	9.78	9.04	5.50
Rule of law	9.02	9.07	5.65
Corruption Index	8.80	9.09	5.13
	Outsider features	↔	Insider Features

Panel B: Cluster membership of countries

Institutional variables	Cluster 1	Cluster 2	Cluster 3
Countries Sorted by Aggregate Earnings Management Score	Singapore (CM)	Austria (CD)	Greece (CD)
	Hong Kong (CM)	Taiwan (CD)	Korea (CD)
	Malaysia (CM)	Switzerland (CD)	Portugal (CD)
	UK (CM)	Germany (CD)	Italy (CD)
	Norway (CD)	Japan (CD)	India (CM)
	Canada (CM)	Belgium (CD)	Spain (CD)
	Australia (CM)	Netherlands (CD)	Indonesia (CD)
	USA (CM)	Denmark (CD)	Thailand (CM)
		France (CD)	Pakistan (CM)
		Finland (CD)	Philippines (CD)
		Sweden (CD)	
		South Africa (CM)	
		Ireland (CM)	

Panel C: Pervasiveness of earnings management by cluster

	Cluster 1	Cluster 2	Cluster 3
Mean Aggregate Earnings Management Score	10.1	16.1	20.6
Tests of EM differences between clusters	C1 vs. C2	C2 vs. C3	C1 vs. C3
(*p*-values)	(0.044)	(0.059)	(0.003)

4.2. The role of investor protection: multiple regression analysis

The previous analyses suggest that the pervasiveness of earnings management is systematically related to a country's institutional characteristics. A key question, however, is: Which institutional factors are primary determinants of earnings management and which are correlated outcomes? We posit that better investor protection results in less earnings management because insiders enjoy fewer private control benefits and hence have lower incentives to conceal firm performance from outside investors. This hypothesis ties in closely with findings in Nenova (2000) and Dyck and Zingales (2002), suggesting that private control benefits decrease in the level of investor protection. The notion of investor protection as a key primitive is also reinforced by recent work relating to capital market development (e.g., Beck et al., 2003), corporate policy choices around the world (e.g., La Porta et al., 2000), and cross-listing in the U.S. (e.g., Doidge et al., 2003; Lang et al., 2003). Consistent with this literature, we view low earnings management, large equity markets, and dispersed ownership patterns as complements and joint outcomes of strong investor protection. This view is in contrast to La Porta et al. (1997, 1999) who treat the level of disclosure as an exogenous factor in explaining financing and ownership patterns. Our results suggest, however, that the quality of reported earnings and financial disclosure is endogenous and hence a joint outcome.

Our multiple regressions examine the relation between earnings management and investor protection. Column 1 of Table 4 reports a rank regression using the aggregate earnings management measure as the dependent variable. Results show that outside investor protection explains a substantial portion (39%) of the variation in earnings management. Outsider rights and legal enforcement both exhibit a significant negative association with earnings management. Ordinary least squares (OLS) regressions of the aggregate earnings management score on the unranked variables yield similar results in this and in subsequent regressions.

The multiple regressions assume, however, that outside investor rights and legal enforcement are exogenous variables. If, on the other hand, outsider protection and earnings management are simultaneously determined, our results suffer from an endogeneity bias. We address this concern by using countries' legal origins and wealth as instruments for the investor protection variables as suggested by Levine (1999). While related to the level of investor protection (see La Porta et al., 1998), a country's legal origin can be considered as predetermined and exogenous to our analysis because the origins of most legal systems are several centuries old and many countries obtained their legal system through occupation and colonization. We use three dummy variables, indicating English, French, German, and Scandinavian legal origins, as instrumental variables. In addition, we use a country's average per capita GDP — measured prior to our sample period, 1980 to 1989 — as an instrument because an effective legal infrastructure is costly to create and maintain, and hence a country's wealth potentially influences the level of legal enforcement.

Column 2 of Table 4 reports results of a 2SLS regression using ranked variables. The regression results support our hypothesis that the pervasiveness of earnings

Table 4
Earnings management, outside investor protection and private control benefits
The table presents coefficients and two-sided *p*-values (in parentheses) from rank regressions with the Aggregate Earnings Management Measure as the dependent variable, which is created by averaging the ranks of all four earnings management measures, EM1–EM4 (see Table 2). Outside Investor Rights are measured by the anti-director rights index from La Porta et al., (1998), which ranges from zero to five. Legal Enforcement is measured as the average score across three legal variables used in La Porta et al., (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten. Private Control Benefits are measured at the country level as the average block premium estimated by Dyck and Zingales (2002) based on transfers of controlling blocks of shares. The first column presents a simple rank regression. The second regression is estimated using two-stage least squares. Instrumental variables are the rank of the country's real per capita GDP averaged from 1980 to 1989, and three binary variables indicating an English, German, French, or Scandinavian legal origin based on the classification in La Porta et al., (1998). The third regression is also estimated using two-stage least squares. The instrumental variables are the Outsider Rights Index and the Legal Enforcement.

	Aggregate Earnings Management Measure	Aggregate Earnings Management Measure - 2SLS -	Aggregate Earnings Management Measure - 2SLS -
Constant	28.605	31.421	3.128
	(<0.001)	(<0.001)	(0.463)
Outside Investor Rights	−0.499	−0.641	—
	(<0.001)	(0.001)	
Legal Enforcement	−0.289	−0.322	—
	(0.025)	(0.025)	
Private Control Benefits	—	—	0.931
			(0.004)
Adjusted R^2	0.389	0.359	0.272
Number of Observations	31	31	26

management decreases in the level of investor protection, and suggest that this relation is not driven by the potential endogeneity of investor protection.

Finally, we attempt to provide more direct evidence on the hypothesis that insiders' private control benefits are positively related to earnings management. In the previous regressions, we employ an indirect approach by using the investor protection variables. An alternative approach is to directly estimate the relation between earnings management and private control benefits, explicitly accounting for the effect of investor protection on the level of private control benefits. We use a country's average block premium estimated by Dyck and Zingales (2002) as a proxy for the level of private control benefits. We estimate a 2SLS regression of the aggregate earnings management score on the control benefits proxy using the level of outsider rights and legal enforcement as instruments. The results presented in column 3 of Table 4 show that earnings management and private control benefits exhibit a significantly positive association as predicted by our hypothesis. Similar results are obtained if the legal origins and per capita GDP are used as instruments (as in column 2).

4.3. Robustness Checks

Prior work shows that per capita GDP explains differences in financing, ownership, and payout policies across countries. Consequently, we re-estimate our primary regressions using *contemporaneous* per capita GDP as an additional explanatory variable (not reported). While GDP is marginally significant in this regression ($p = 0.140$), the negative relation between investor protection and earnings management is robust to the inclusion of this proxy.

Another potential concern is that our results are driven by economic heterogeneity across countries. Although we control for economic differences across firms by scaling our earnings management measures by firms' operating cash flows, variation in industry composition and firm size across countries can potentially affect our results. Since Table 1 shows that the fraction of manufacturing firms and median firm size vary considerably across countries, the regressions are re-estimated using two subsamples comprised exclusively of manufacturing firms (SIC 2000-3999) and medium-size firms from each country, respectively. The medium-size firm subsample also eliminates many multinationals operating in several institutional settings. The regression results for these subsamples (not reported) are essentially the same as those presented in Table 4, alleviating concerns that international differences in firm size and industry composition drive our findings.

Finally, we are concerned that differences in firm characteristics and macroeconomic stability affect our inferences. For instance, larger firms have smoother earnings, and operating leverage is positively related to earnings volatility. Similarly, inflation rates and growth rate volatility influence the variability of accounting earnings. Consequently, we re-estimate the regressions using median firm size, median capital intensity, a country's average yearly inflation rate, and the standard deviation of the real GDP growth rate as additional controls. The results (not reported) are consistent with our original findings in Table 4. In particular, outside investor rights and legal enforcement continue to have a significantly negative relation with earnings management.

4.4. The role of other institutional factors

While the robustness checks in the previous section suggest that our findings are not driven by economic heterogeneity across countries, we must still address the concern that other institutional variables, which are correlated with investor protection, are responsible for our main findings. In particular, we are concerned about the influence of accounting rules and firms' ownership structures on earnings management.

First, accounting rules can both limit a manager's ability to distort reported earnings, and affect the properties of reported earnings. But the extent to which accounting rules influence reported earnings and curb earnings management depends on how well these rules are enforced. Moreover, accounting rules likely reflect the influence of a country's legal and institutional framework and are therefore endogenous in our analysis. Countries with strong outsider protection are expected

to enact and enforce accounting and securities laws that limit the manipulation of accounting information reported to outsiders. Consistent with this view, Enriques (2000) argues that U.K. and the U.S. laws on director self-dealing are stricter and are more reliant on disclosure than those in Germany or Italy. Similarly, d' Arcy (2000) shows that Anglo-American countries have stricter accounting rules with respect to explicit accounting choices than Continental European countries with less effective investor protection.

Ultimately, however, it is an empirical matter whether our results are robust to the inclusion of controls for countries' stated accounting rules. To address this issue, we re-estimate the main regression and include an accrual rules index constructed by Hung (2001) as a control variable. This index captures the use of accrual rules to accelerate the recognition of economic transactions (e.g., R&D activities or pension plans) in accounting, and it proxies for the extent to which a country's stated accounting rules are intended to produce timely and informative reported earnings.

The results presented in Table 5, column 1, show that the coefficients on the accounting rules variable and the outsider rights and legal enforcement variables are significant. However, as shown in column 2, the coefficient on the accounting rules variable is insignificant in the 2SLS regression specification, whereas the investor protection variables remain significant. These results support our view that accounting rules are endogenous and suggest that investor protection is a more fundamental determinant of earnings management across countries. A related concern is that the use of earnings for tax and financial accounting purposes may introduce earnings management and in particular smoothing incentives unrelated to investor protection. We therefore re-run the main regression including a proxy for the degree of a country's tax-book conformity (e.g., Alford et al., 1993; Hung, 2001). In this regression (not reported), the tax variable is not significant while the results for the investor protection variables are similar to those reported in Table 4.

Finally, we examine the incremental impact of ownership concentration on insiders' earnings management incentives since prior research highlights the relation between firms' ownership structures and the properties of reported earnings (e.g., Fan and Wong, 2001; Ball et al., 2003). We re-estimate our main regressions using a proxy for ownership concentration constructed by La Porta et al. (1998) as an additional control variable. Neither the rank regression nor the 2SLS regression presented in columns 3 and 4 of Table 5 indicate any incremental explanatory power of the ownership variable. Thus, while differences in ownership concentration may be related to cross-sectional variation in earnings management *within* a country, our country-level tests suggest that average ownership patterns are not a primary determinant of systematic earnings management *across* countries.

In summary, the regression results are consistent with the hypothesis that weak outsider protection and private control benefits create incentives to manage earnings. We acknowledge, however, that institutional factors are complementary and hence difficult to isolate.

Table 5
Earnings management and outside investor protection: Controlling for differences in the accounting rules and ownership concentration
The table presents coefficients and two-sided *p*-values (in parentheses) from rank regressions of the Aggregate Earnings Management Measure on Outside Investor Rights and Legal Enforcement controlling for other institutional factors. Outside Investor Rights is the anti-director rights index from La Porta et al., (1998), which ranges from zero to five. Legal Enforcement is measured as the average score across three legal variables used in La Porta et al. (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten. The Accrual Rules variable captures the extent to which accrual rules accelerate the recognition of economic transactions (e.g., R&D activities or pension obligations) in accounting. It is constructed by Hung (2001). Ownership concentration is measured as the median percentage of common shares owned by the largest three shareholders in the ten largest privately owned non-financial firms (La Porta et al., 1998). The regressions in columns 2 and 4 are estimated using two-stage least squares. Instrumental variables are the rank of the country's real per capita GDP averaged from 1980 to 1989, and three binary variables indicating an English, German, French, or Scandinavian legal origin based on the classification in La Porta et al. (1998).

	Aggregate Earnings Management *Controlling for Accounting Rules*	Aggregate Earnings Management *Controlling for Accounting Rules* - 2SLS -	Aggregate Earnings Management *Controlling for Ownership*	Aggregate Earnings Management *Controlling for Ownership* - 2SLS -
Constant	30.974	34.591	24.333	47.261
	(<0.001)	(<0.001)	(<0.001)	(0.002)
Outside Investor Rights	−0.285	−0.501	−0.444	−0.774
	(0.079)	(0.044)	(0.003)	(0.007)
Legal Enforcement	−0.297	−0.420	−0.228	−0.571
	(0.080)	(0.048)	(0.101)	(0.048)
Accrual Rules	−0.689	−0.425	—	—
	(0.016)	(0.313)		
Ownership Concentration	—	—	0.151	−0.609
			(0.302)	(0.225)
Adjusted R^2	0.584	0.468	0.392	0.214
Number of Observations	20	20	31	31

5. Conclusion

This paper documents systematic differences in the level of earnings management across 31 countries. We perform a descriptive cluster analysis to identify groupings of countries with similar institutional characteristics and then show that earnings management varies systematically across these institutional clusters. The analysis suggests that outsider economies with relatively dispersed ownership, strong investor protection, and large stock markets exhibit lower levels of earnings management than insider countries with relatively concentrated ownership, weak investor protection, and less developed stock markets.

As prior work shows that investor protection is a key primitive driving corporate choices such as firms' financing and dividend policies as well as ownership structures,

we explore the relation of legal investor protection and firms' earnings management practices. The analysis is based on the notion that insiders, i.e., managers and controlling shareholders, have incentives to acquire private control benefits. However, the ability of insiders to divert resources for their own benefit is limited by legal systems that protect the rights of outside investors. As outsiders can only take disciplinary actions against insiders if outsiders detect the private benefits, insiders have an incentive to manipulate accounting reports in order to conceal their diversion activities. Thus, we expect that earnings management decreases in legal protection because, when investor protection is strong, insiders enjoy fewer private control benefits and consequently incentives to mask firm performance are moderated.

Consistent with this hypothesis, the regression results show that earnings management is negatively associated with the quality of minority shareholder rights and legal enforcement. The findings highlight an important link between investor protection and the quality of accounting earnings reported to market participants, and complement both finance research that treats the quality of corporate reporting as exogenous and accounting research that documents systematic patterns in the relation between stock returns and accounting numbers.

Our findings are robust to the inclusion of controls for country wealth, economic heterogeneity across countries, and international differences in accounting rules and ownership concentration. They should nevertheless be interpreted cautiously as earnings management is difficult to measure and the theoretical relations among institutional factors are not yet well understood and hence difficult to disentangle.

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