The Role of National Culture and Corruption on Real Earnings Management Around the World

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Using a sample from 27 countries, this study examines whether cultural values impact managers' real earnings management (REM) behaviors. The results indicate that uncertainty avoidance and individualism can explain the variations in REM practices across countries. Building upon the study by Lewellyn and Bao (2017), this paper examines whether cultural dimensions influence the relationship between corruption and REM. Individualism does not significantly moderate the relationship between corruption and REM. I also find that the interaction between uncertainty avoidance and corruption is negative, indicating that uncertainty-avoiding managers are less likely to manage earnings in a country with a higher level of corruption.

Keywords: national culture, corruption, real earnings management

INTRODUCTION

This study investigates the impact of cultural values and corruption on real earnings management (REM). A series of literature in accounting and finance emphasizes the influence of cross-country differences in social values (culture) on global financial markets (Gray, 1988; Chui, 2002; Hope, 2003; Paredes & Wheatley, 2017). Prior studies also indicate that corruption negatively impacts economies and financial markets (La Porta et al., 1997; Mamatzakis & Bagntasarian, 2022). Lewellyn and Bao (2017) are the first to study the joint impact of cultural values and corruption on accrual-based earnings management (AEM) practices. However, AEM is not the only form of earnings management activities. Prior research indicates that managers may also use real activities earnings management, which is as "departures from normal operational practices, motivated by managers' desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations" (Roychowdhury, 2006, p.337).

Using a sample from 27 countries, I extend the study by Lewellyn and Bao (2017) to study the impact of cultural values and corruption on REM. The results indicate that individualism (uncertainty avoidance) is positively (negatively) related to both volume and direction of REM. More importantly, I study whether cultural values moderate the relationship between corruption and real earnings management activities. I find that the interaction coefficient between individualism (IND) and corruption pervasiveness (CP) is not statistically significant, showing that individualism fails to moderate the impact of corruption on real earnings management activities. I also find that the interaction between the uncertainty avoidance and corruption is positive. This indicates that uncertainty-avoiding managers are less likely to manage earnings in a country with higher corruption pervasiveness.

This paper extends the findings in Roychowdhury (2006) and Paredes and Wheatley (2017) by showing that cultural values and corruption can explain the variations in firms' REM. Additionally, this study explores the joint effect of cultural values and corruption, underscoring the complexity of how informal institutional contexts shape firm-level behaviors. Finally, this study's findings highlight the importance of considering cultural values and corruption to explain how mangers' behavior vary globally.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Real Earnings Management

Earnings management is defined by Healy and Wahlen (1999, p. 368) as "when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." In other words, accounting is not a perfect science and allows for discretion in choosing how to report companies' financial status. Therefore, a particular earning result can be achieved by using discretional choices.

There are a lot of studies addressing the issues of earnings management (Healy, 1985; Kasznik, 1999). One method of managing earnings involves manipulating accruals. For example, managers can change their estimation about bad debt expenses and delay asset write-offs. On the other hand, real earnings management can affect cash flows and, in some cases, accruals (Roychowdhury, 2006). AEM and REM represent fundamentally different approaches. AEM involves inter-temporal shifting of income, while REM alters real activity levels that may affect future performance. Therefore, REM may be more costly. For example, a firm might increase net income by reducing current advertising expenses, which could detrimentally impact future performance. In addition, AEM is considered an ex-post form of earnings management, while REM is more anticipatory. The motivation to use these two forms of earnings management is different. The accounting literature offers an abundance of evidence that firms prefer REM to achieve performance targets (Gunny, 2010; Zang, 2011). Managers may choose REM to avoid reporting losses (Roychowdhury,2006), to maintain positive earnings trends (Bartov et al., 2002), and to protect their wealth tied to equity compensation (Bens et al. 2002). Cohen and Zarowin (2010) point out that managers may prefer REM to AEM when facing a higher litigation risk. A survey of 401 financial executives about earnings reporting decisions conducted by Graham et al. (2005, p.32) find that "80% of survey participants report that they would decrease discretionary spending on R&D, advertising and maintenance to meet an earnings target." Their findings provide direct evidence of the preference for earnings management.

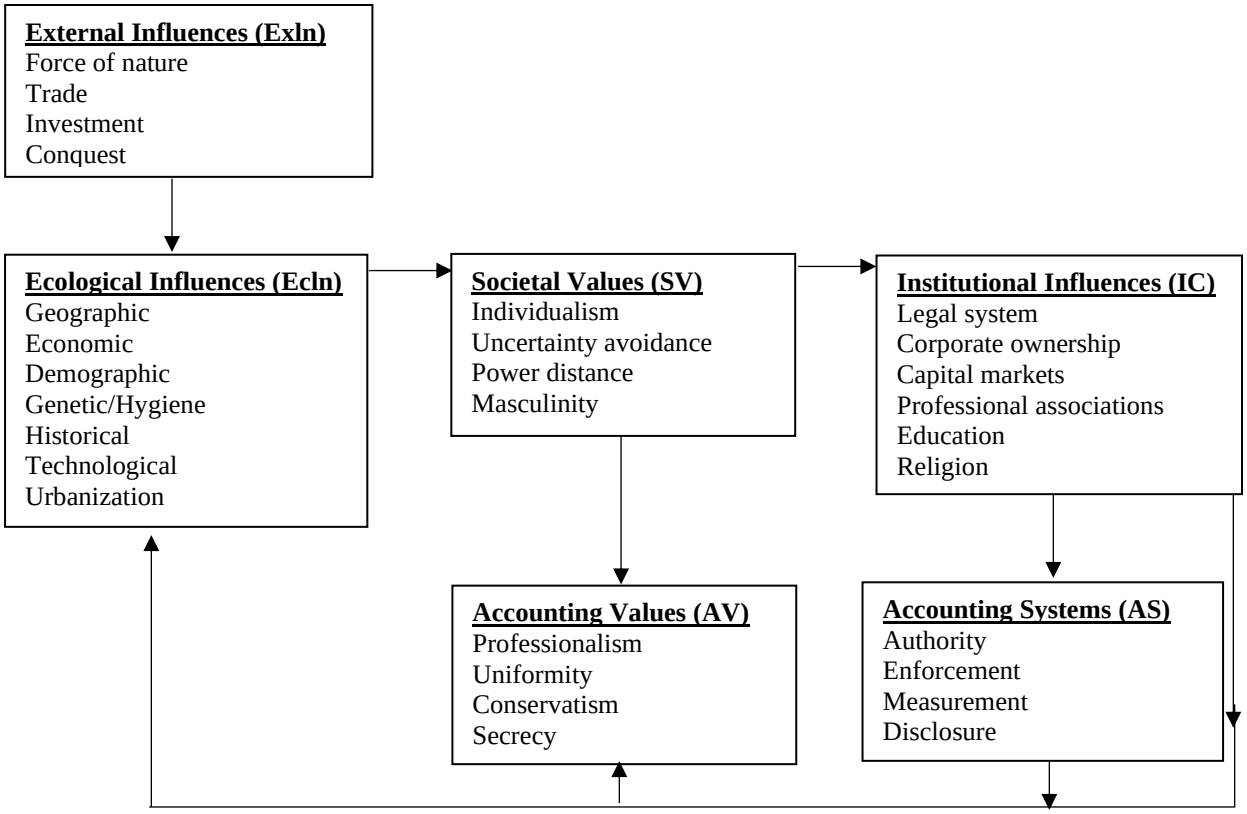
Given the managerial preference for REM, researchers mustn't neglect REM in studies focused on earnings management. To fill this gap and build upon Lewellyn and Bao (2017), this paper studies the impact of cultural values and corruption on REM.

Culture and Earnings Management

Hofstede (1980) defines four dimensions of culture worldwide: power distance, individualism versus collectivism, masculinity versus femininity, and uncertainty avoidance. Gray's model (1988) expands Hofstede's model to include the accounting subsystem and accounting values, introducing four accounting values: Professionalism, Uniformity, Conservatism, and Secrecy.

Numerous studies have explored the role of culture in accounting practices (Doupnik & Tsakumis, 2004; Gray, 1988; Jaggi & Low, 2000). Hope (2003) shows that culture values are important in explaining disclosure behaviors across countries. Modified Gray's model by Doupnik and Tsakumis' extension (MGM) (2004, p.41; see figure 1) provides a much clearer idea of how social values, accounting values, the legal system and accounting choices are linked. Accounting outcomes are the product of social values and legal factors. On the other hand, social values can influence accounting outcomes through accounting values. Prior studies (Han et al., 2010; Paredes & Wheatley, 2017) use social values, such as national cultures, to represent accounting values.

FIGURE 1
GRAY'S (1988) MODEL WITH DOUPNIK AND TSAKUMIS'S (2004) EXTENSION



Note. Reprinted from "A critical review of tests of gray's theory of cultural relevance and suggestions for future research," by T. S. Doupnik, G. Tsakumis, 2004, *Journal of Accounting Literature, 23*, p. 42, Copyright 2004 by Emerald Publishing.

Gray (1988) points out that only individualism and uncertainty avoidance are fully linked to all four accounting values. Doupnik (2008) finds that uncertainty avoidance and individualism are significantly related to earnings discretion out of the four Hofstede dimensions after controlling for other institutional factors. Han et al. (2010) also show that uncertainty avoidance and individualism dimensions of national culture explain managers' earnings discretion across countries. Therefore, in this paper, I will only address the relationship between REM and uncertainty avoidance and individualism.

In a society with a high individualism score, individuals are expected to stand up for themselves and are motivated to prioritize personal achievement and rights. Regarding earnings reporting, managers in such society are expected to report the most optimistic numbers within legal constraints. Therefore, to meet investors' expectations, managers in such society are more willing to manage earnings. This leads to the first hypothesis:

Hypothesis 1: *There will be a positive relationship between the individualism dimension of national culture and the magnitude of real earnings management behaviors.*

In a society with high uncertainty avoidance, there is a preference to minimize the occurrence of unknowns. Accountants in these societies face demands for more uniformity by adhering to numerous rules and exhibit less professionalism due to reduced flexibility. Gray (1988) finds a positive relationship between uncertainty avoidance and conservatism. Therefore, managers in such society are less likely to report optimistic numbers, and the rules favor a conservative approach to manage earnings. Both Doupnik

(2008) and Han et al. (2010) point out the negative relationship between uncertainty avoidance and AEM. Therefore, the second hypothesis is as follows:

Hypothesis 2: *There will be a negative relationship between the uncertainty avoidance of national culture and the magnitude of real earnings management behaviors.*

Corruption and Earnings Management

Corruption is "the abuse of entrusted power for private gain" (Cuervo-Cazurra, 2016, p. 36). Both the International Monetary Fund (IMF) and the World Bank have highlighted the negative economic consequences of corruption, indicating that corruption hampers economic growth by increasing costs, limiting investment, and distorting government spending (Mauro and Driscoll, 1997; World Bank, 1997). The relationship between corruption and accrual-based earnings management is well-documented in academic literature, with numerous studies highlighting how corruption influences corporate behavior and financial practices. For example, González and García-Meca (2014) document that improvements in a country's governance, such as reducing corruption, lead to a reduction in firms' discretionary accruals. Lourenço et al. (2018) report that higher corruption perception is related to higher incentives for firms to manipulate earnings in the case of emerging countries. Lewellyn and Bao (2017) demonstrate that corruption acting as an informal institution directly impacts firms' AEM. However, since REM is more difficult to detect, managers might be more inclined to choose REM. The relationship between corruption and REM is still unclear, and I expect corruption to have a similar impact on REM. Therefore, I hypothesize the following:

Hypothesis 3: *There will be a positive relationship between corruption and the magnitude of real earnings management behaviors.*

Figure 1 shows that institutional factors have direct impact on accounting outcomes, such as earnings management behaviors. For example, Leuz et al. (2003) note that in the presence of positive institutional factors, such as stronger investor protection. This is consistent with MGM, presented in Figure 1, which suggests that social values can influence accounting outcomes via institutions. In addition, Han et al. (2010) propose that culture and other institutions jointly influence earnings management. Lewellyn and Bao (2017) indicate corruption, which is an informal institution that interacts with national cultural values to affect AEM. The empirical evidence suggests that cultural values play a crucial role in shaping the extent to which corruption influences earnings management. Following Lewellyn and Bao (2017), I expect that the extent to which managers engage in earnings management in response to corruption will be influenced by societal attitudes towards uncertainty avoidance and individualism.

Individualistic societies emphasize personal achievements and individual rights, leading to lose ties between individuals. Conversely, collectivist societies are characterized by strong group cohesion and a greater emphasis on group over individual achievement. Lewellyn and Bao (2017) find that the impact of pervasive corruption on earnings management is less in collectivist societies, since managers prioritize the interests of the collective group of stakeholders more significantly. Individualistic managers are likely to place their own interests ahead of others'. Therefore, I expect individualistic managers' tendency to exercise earnings discretion will be more pronounced in corrupt societies. Hence, I propose the following:

Hypothesis 4: *The interaction between the individualism dimension of national culture and corruption will have a positive effect on the magnitude of REM.*

In highly uncertainty-avoidant societies, where managers tend to be conservative and unwillingness to manage earnings (Doupnik, 2008; Han et al., 2010), I anticipate that the influence of corruption to be less. Therefore, I expect that uncertainty avoidance will serve as a negative moderator, reducing the positive impact of corruption on earnings management activities. Thus, I hypothesize the following:

Hypothesis 5: *The interaction between the uncertainty avoidance dimension of national culture and corruption will have a negative effect on the magnitude of REM.*

EMPIRICAL MODELS AND SAMPLE

Measuring Real Earnings Management

Following Roychowdhury (2006), I employ cross-sectional regression for each country to estimate abnormal level of cash flow from operation (CFO), discretionary expenses (DISX), and production costs (PROD). Previous research, such as Gunny (2006) and Cohen and Zarowin (2010), has highlighted the impact of CFO, DISX, and PROD:

1. Managers may boost sales volume by offering price discounts or more lenient credit terms. However, the increased sales will disappear once the sale discounts are over. Therefore, earnings will be higher due to higher sales. But this will also lead to lower cash flows in the current period. CFO is defined as cash flow from operations.
2. Managers may report lower discretional expenses to boost current earnings. For example, a company can reduce research and development expenses or advertising expenses to reach higher current earnings. DISX is defined as the sum of advertising expenses, R&D expenses, and SG&A expenses.
3. Managers may also increase current earnings reducing the cost of goods sold through increased production. By doing this, manager can choose to produce more units, thus the fixed overhead costs are spread over a larger number of units. However, this may lead to higher ending inventory. And PROD is defined as the sum of change in inventory and cost of goods sold in the same period.

Therefore, if managers aim to manage current earnings upwards, one should expect lower CFO, lower DISX, and higher PROD.

Roychowdhury (2006) indicates that CFO can be expressed as a linear function of sales:

$$\frac{\text{CFO}_{i,j,t}}{\text{Assets}_{i,j,t-1}} = \text{k}_1 \frac{1}{\text{Assets}_{i,j,t-1}} + \text{k}_2 \frac{\text{SALES}_{i,j,t}}{\text{Assets}_{i,j,t-1}} + \varepsilon_{i,j,t} \quad (1)$$

where, i, j, t denotes firm i, in country j, in year t, respectively. The abnormal operating cash flows (REM1) is measured by the difference between actual CFO and estimated CFO by using equation (1) and then multiplied by –1, so a higher REM1 indicates firms use operating cash flows to manage current earnings upward.

DISX is expressed as a linear function of change in sales and current sales:

$$\frac{\text{DISX}_{i,j,t}}{\text{Assets}_{i,j,t-1}} = \text{k}_1 \frac{1}{\text{Assets}_{i,j,t-1}} + \text{k}_2 \frac{\text{SALES}_{i,j,t}}{\text{Assets}_{i,j,t-1}} + \text{k}_3 \frac{\Delta SALES_{i,j,t}}{\text{Assets}_{i,j,t-1}} + \varepsilon_{i,j,t} \quad (2)$$

where, i, j, t denotes firm i, in country j, in year t, respectively. The abnormal discretionary expense (REM2) is measured by the difference between actual DISX and estimated DISX by using equation (2) and then multiplied by –1, so a higher REM2 indicates firms use discretionary expenses to manage current earnings upward.

Similarly, PROD is estimated by using sale, change in sale, and lagged change in sale:

$$\frac{\text{PROD}_{i,j,t}}{\text{Assets}_{i,j,t-1}} = \text{k}_1 \frac{1}{\text{Assets}_{i,j,t-1}} + \text{k}_2 \frac{\text{SALES}_{i,j,t}}{\text{Assets}_{i,j,t-1}} + \text{k}_3 \frac{\Delta\text{SALES}_{i,j,t}}{\text{Assets}_{i,j,t-1}} + \text{k}_4 \frac{\Delta\text{SALES}_{i,j,t-1}}{\text{Assets}_{i,j,t-1}} + \varepsilon_{i,j,t} \quad (3)$$

where, i, j, t denotes firm i, in country j, in year t, respectively. The abnormal production cost (REM3) is measured by the difference between actual PROD and estimated PROD by using equation (3).

Following Cohen and Zarowin (2010), I create a composite measure of unexpected REM, which is the sum of abnormal operating cash flows (REM1), abnormal discretionary expense (REM2) and abnormal production costs (REM3).

$$REM_{i,j,t} = REMl_{i,j,t} + REM2_{i,j,t} + REM3_{i,j,t} \quad (4)$$

Corruption Measure and Cultural Dimensions Measure

Following Lewellyn and Bao (2017), I collect the Control of Corruption index from the World Bank's Worldwide Governance Indicators (WGI) database and multiply it by -1 to serve as the measure of corruption pervasiveness (CP), so that higher values of CP indicate higher levels of corruption. The World Bank defines this index as 'the extent of control over the exercise of public power for private gain, encompassing both petty and grand forms of corruption, as well as the state being captured by elites and private interests.' CP varies over time throughout the entire sample period of this study.

Following previous studies (Han et al., 2010; Jaggi & Low, 2000), cultural values are collected from Hofstede (1980) for 27 countries and are assumed to remain constant over time. Hofstede identified four dimensions: Uncertainty Avoidance (UA), measuring a culture's tolerance for ambiguity; Individualism (IND), assessing the degree of group integration; Power Distance (PDI), measuring the acceptance of unequal power distribution; and Masculinity (MAS), contrasting societal preferences for achievement and assertiveness against cooperation and modesty.

Empirical Models

Following the methodologies of Gunny (2010) and Han et al. (2010), I estimate the following regression using the measure of earnings management from equations (1) to (4), controlling for firm-level variables such as firm size, profitability, and risk factors:

$$REM_{i,j,t} = \alpha_0 + \alpha_1 UA + \alpha_2 IND + \alpha_3 PDI + \alpha_4 MAS + \alpha_5 CP_{j,t} + \alpha_6 ROA_{i,j,t} + \alpha_7 BM_{i,j,t} + \alpha_8 SIZE_{i,j,t} + \alpha_9 LEV_{i,j,t} + \alpha_{10} LOSS_{i,j,t} + \alpha_{11} LITIGATION_{i,j,t} + \alpha_{12} BIG4_{i,j,t} + \varepsilon_{i,j,t} \quad (5)$$

where REM is the aggregate measure of Real earnings management; UA is the uncertainty avoidance score from Hofstede (1980);IND is the individualism score from Hofstede (1980); PDI is the power distance score from Hofstede (1980); MAS is the masculinity score from Hofstede (1980); CP is the measure of corruption pervasiveness; ROA is measured as net income divided by assets; BM is the book to market ratio; SIZE is the natural log of market value of equity; LEV is the total liability to total assets ratio; LOSS is a dummy variable coded as one if the firm reports loss in year t, 0 otherwise; LITIGATION is a dummy variable coded as one if the firm operates in a high-litigation risk industry (SIC codes: 2833–2836, 8731–8734, 7371–7379, 3570–3577 and 3600–3674), and 0 otherwise; BIG4 is a dummy variable coded as one if the auditor is one of the following: PricewaterhouseCoopers, Ernst & Young, Deloitte & Touche, or KPMG.

Next, I extend the previous equation by adding an interaction term between corruption and cultural dimensions. Specifically, I examine whether IND (Individualism) and UA (Uncertainty Avoidance) interact with corruption, as follows:

$$REM_{i,j,t} = \alpha_0 + \alpha_1 UA + \alpha_2 IND + \alpha_3 PDI + \alpha_4 MAS + \alpha_5 CP_{j,t} + \alpha_6 ROA_{i,j,t} + \alpha_7 BM_{i,j,t} + \alpha_8 SIZE_{i,j,t} + \alpha_9 LEV_{i,j,t} + \alpha_{10} LOSS_{i,j,t} + \alpha_{11} LITIGATION_{i,j,t} + \alpha_{12} BIG4_{i,j,t} + \alpha_{13} UA * CP_{j,t} \left(or\ IND * \alpha_5 CP_{j,t}\right) + \varepsilon_{i,j,t} \quad (6)$$

Sample

The sample is obtained from Global Compustat, covering the period from 2009 to 2019. I collect the Control of Corruption index from the World Bank's Worldwide Governance Indicators (WGI) database and multiply it by -1 to measure corruption pervasiveness (CP). Firm-years are chosen based on the

following criteria: (1) non-financial and non-utility firms; (2) firms with the necessary financial data available for regression; and (3) a minimum of 10 observations per country-industry-year. To limit the influence of outliers, I winsorize continuous variables at the 1st and 99th percentiles. The final sample comprises 128,776 firm-year observations from 27 countries.

RESULTS

Descriptive Statistics

Table 1 presents the number of firm-year observations per country and descriptive statistics (the mean) for the sample. Among all the observations, Japan records the most firm-year observations, whereas Mexico has the fewest observations. The mean of CP for the entire sample is -0.820, while the mean of REM is -0.155. The means of REM and other control variables are comparable to those found in previous studies.

Table 2 presents the correlations between REM and the variables of interest. REM is positively correlated with CP, as evidenced by the coefficients 0.0475 ($p<0.05$). This finding is consistent with the notion that firms in countries with higher levels of corruption are associated with more real earnings management activities. REM is also significantly correlated with measures of cultural dimensions and with all the firm-level control variables. These include firm size (SIZE), profitability (ROA), growth (BM), debt (LEV), auditors (BIG4), and litigation risk (LITIGATION). Notably, CP is significantly correlated with all the control variables. This suggests a need to control for these variables in a regression framework to make a valid conclusion.

TABLE 1
DESCRIPTIVE STATISTICS

Country	No.	UA	IND	PDI	MAS	CP	REM	ROA	BM	SIZE	LEV	LOSS	LITIGATION	BIG4
Australia	14,024	51	90	36	61	-1.87	-0.063	-0.334	0.861	3.088	0.17	0.759	0.177	0.351
Belgium	161	94	75	65	54	-1.499	-0.203	-0.112	0.732	5.399	0.186	0.478	0.795	0.547
Chile	181	86	23	63	28	-1.257	-0.156	0.033	1.111	4.906	0.207	0.21	0.000	0.652
Denmark	355	23	74	18	16	-2.327	-0.315	-0.049	0.695	3.091	0.1	0.535	0.91	0.741
Finland	503	59	63	33	26	-2.184	-0.246	-0.004	0.412	4.599	0.259	0.35	0.581	0.901
France	3,443	86	71	68	43	-1.352	-0.235	-0.047	0.673	4.761	0.217	0.357	0.454	0.388
Germany	3,406	65	67	35	66	-1.796	-0.249	-0.008	0.748	4.936	0.192	0.3	0.439	0.521
Greece	673	112	35	60	57	0.087	-0.051	-0.029	2.006	2.563	0.381	0.594	0.248	0.16
India	30,503	40	48	77	56	0.402	-0.159	0.01	1.095	2.619	0.371	0.328	0.201	0.071
Indonesia	1,606	48	14	78	46	0.567	-0.17	0.044	1.089	4.403	0.322	0.227	0.085	0.002
Israel	1,081	81	54	13	47	-0.866	-0.112	-0.137	0.717	3.573	0.267	0.377	0.387	0.002
Italy	922	75	76	50	70	-0.158	-0.133	0.003	0.788	4.851	0.305	0.37	0.441	0.564
Japan	28,276	92	46	54	95	-1.521	-0.192	0.026	1.273	5.19	0.194	0.142	0.297	0.000
Malaysia	10,233	36	26	104	50	-0.164	-0.083	-0.012	1.361	3.451	0.199	0.406	0.261	0.312
Mexico	114	82	30	81	69	0.699	-0.101	0.071	0.815	6.901	0.2	0.079	0.000	0.377
Netherlands	230	53	80	38	14	-1.955	-0.225	-0.088	0.592	5.205	0.173	0.4	0.643	0.735
Norway	406	50	69	31	8	-2.137	-0.059	-0.116	0.876	4.735	0.243	0.48	0.544	0.879
Pakistan	2,116	70	14	55	50	0.916	-0.065	0.034	1.557	2.688	0.389	0.299	0.046	0.305
Philippines	733	44	32	94	64	0.57	-0.07	0.018	0.813	4.89	0.236	0.348	0.203	0.000
Singapore	4,016	8	20	74	48	-2.104	-0.144	-0.009	1.13	3.98	0.222	0.312	0.193	0.601
South Africa	997	49	65	49	63	0.043	-0.114	0.04	1.07	4.201	0.236	0.29	0.298	0.503
South Korea	8,556	85	18	60	39	-0.507	-0.105	0.004	1.239	4.857	0.254	0.316	0.305	0.000
Spain	318	86	51	57	42	-0.788	-0.107	0.009	0.596	5.245	0.325	0.349	0.494	0.733
Sweden	3,925	29	71	31	5	-2.149	-0.263	-0.182	0.543	3.393	0.155	0.522	0.553	0.501
Switzerland	747	58	68	34	70	-2.045	-0.203	0.005	0.645	6.239	0.167	0.217	0.304	0.937
Thailand	3,488	64	20	64	34	0.433	-0.083	0.049	0.831	4.277	0.236	0.21	0.108	0.538
United Kingdom	7,763	35	89	35	66	-1.718	-0.261	-0.097	0.812	4.024	0.177	0.436	0.323	0.426
Total Sample	128,776					-0.820	-0.155	-0.041	1.074	3.894	0.246	0.349	0.267	0.211

*This table presents the mean of each variable

TABLE 2
CORRELATION ANALYSIS

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) REM	1												
(2) UA	-0.014*	1											
(3) IND	-0.037*	-0.150*	1										
(4) PDI	0.043*	-0.283*	-0.666*	1									
(5) MAS	-0.032*	0.560*	0.098*	-0.135*	1								
(6) CP	0.047*	-0.230*	-0.529*	0.706*	-0.271*	1							
(7) ROA	-0.156*	0.107*	-0.315*	0.228*	0.087*	0.208*	1						
(8) BM	0.071*	0.048*	-0.100*	0.079*	0.063*	0.053*	0.133*	1					
(9) SIZE	-0.139*	0.346*	-0.074*	-0.142*	0.222*	-0.244*	0.275*	-0.124*	1				
(10) LEV	0.017*	-0.064*	-0.089*	0.127*	-0.055*	0.216*	-0.117*	-0.239*	-0.139*	1			
(11) LOSS	0.127*	-0.178*	0.226*	-0.103*	-0.167*	-0.076*	-0.553*	-0.067*	-0.380*	0.108*	1		
(12) LITIGATION	-0.144*	0.050*	0.062*	-0.088*	-0.029*	-0.122*	-0.028*	-0.080*	0.009*	-0.070*	0.052*	1	
(13) BIG4	-0.051*	-0.249*	0.190*	-0.145*	-0.263*	-0.186*	0.023*	-0.066*	0.216*	-0.066*	-0.012*	-0.003	1

*shows significance at the .01 level

Multiple Regression Analysis

Table 3 presents the results for the relationships between REM and cultural dimensions, as well as between REM and CP. In line with Han et al. (2010), the findings show that the coefficient for UA is significantly negative (-0.002, t-statistic = -4.420). Furthermore, IND is positively associated with the magnitude of REM, significant at 1 percent level (0.004, t-statistic = 16.260). These results support Hypotheses 1 and 2. Regarding the impact of CP, the results support Hypothesis 3 by demonstrating that CP is positively associated with REM (0.059, t-statistic = 6.310). This indicates that firms located in countries with higher levels of corruption are more likely to engage in real activities earnings management. Furthermore, the coefficients for the control variables are significant. For example, we find that REM increases in corruption pervasiveness (CP), book to market ratio (BM), the natural log of market value of equity (SIZE), and the total liability to total assets ratio (LEV), but decreases in firm's return on assets (ROA) and litigation risk (LITIGATION).

TABLE 3
CULTURE VALUES AND EARNINGS MANAGEMENT

	Dependent variable=REM	
	Coeff.	t-value
UA	-0.002	-4.420***
IND	0.004	16.260***
PDI	0.003	5.430***
MAS	-0.005	-15.370***
CP	0.059	6.310***
ROA	-0.723	-63.510***
BM	0.007	10.580***
SIZE	0.007	11.900***
LEV	0.036	5.620***
LOSS	-0.031	-10.530***
LITIGATION	-0.016	-4.020***
BIG4	0.019	6.050***
CONSTANT	0.027	0.470
Obs.	128,776	
R-squared	0.2531	
Country Dummy	Yes	
Industry Dummy	Yes	
Year Dummy	Yes	

*** p<0.01, ** p<0.05, * p<0.1

Table 4 presents the results of the interaction between cultural dimensions and corruption. Column (1) indicates that IND is generally positively associated with real earnings management (REM). However, the interaction coefficient between individualism (IND) and corruption pervasiveness (CP) is not statistically significant, failing to support Hypothesis 4. This implies that individualism fails to moderate the impact of corruption on real earnings management activities. Column (2) of table 4 shows that the main effect of uncertainty avoidance (UA) on real earnings management (REM) is negative, while the interaction between uncertainty avoidance and corruption is positive, suggesting that uncertainty-avoiding managers tend to exercise less earnings discretion in corrupt environments. This finding supports Hypothesis 5.

TABLE 4
INTERACTION BETWEEN CULTURAL DIMENSIONS AND CORRUPTION

	Dependent variable=REM			
	(1)		(2)	
	Coeff.	t-value	Coeff.	t-value
UA	-0.003	-5.75***	-0.005	-4.25***
IND	0.003	3.80***	0.003	6.30***
PDI	0.001	1.57	0.001	1.78
MAS	-0.003	-3.87***	-0.005	-15.29***
CP	0.098	4.71	0.123	4.64***
ROA	-0.723	-63.51***	-0.722	-63.48***
BM	0.007	10.61***	0.006	10.57***
SIZE	0.007	11.91***	0.007	11.90***
LEV	0.036	5.62***	0.036	5.61***
LOSS	-0.031	-10.52***	-0.031	-10.47***
LITIGATION	-0.016	-4.01***	-0.016	-4.04***
BIG4	0.019	5.98***	0.019	6.06***
CP*IND	-0.001	-1.61		
CP*UA			-0.001	-2.900***
CONSTANT	0.145	2.02**	0.288	2.410**
Obs.	128,776		128,776	
R-squared	0.2532		0.2532	
Country Dummy	Yes		Yes	
Industry Dummy	Yes		Yes	
Year Dummy	Yes		Yes	

*** p<0.01, ** p<0.05, * p<0.1

CONCLUSIONS

This study utilizes a sample from 27 countries to investigate the impact of cultural values and corruption on real earnings management (REM). After controlling for firm-specific characteristics, the findings indicate that individualism (uncertainty avoidance) is positively (negatively) related to REM.

Following Lewellyn and Bao (2017), this research also examines whether cultural dimensions influence the relationship between corruption and REM. I find that individualism does not significantly moderate the relationship between corruption and REM. I find that the interaction between uncertainty avoidance and corruption is negative, indicating that uncertainty-avoiding managers are less inclined to engage in earnings management in countries with higher levels of corruption.

Future research could explore the influence of cultural values on the choice between accrual-based earnings management and real earnings management. Moreover, the role of international accounting standards in harmonizing practices across cultures and different institutions for earnings management warrants further exploration.

REFERENCES

Bartov, E., Givoly, D., & Hayn, C. (2002). The rewards to meeting or beating earnings expectations. *Journal of Accounting and Economics*, *33*(2), 173–204.

Bens, D.A., Nagar, V., & Wong, M.H.F. (2002). Real investment implications of employee stock option exercises. *Journal of Accounting Research*, *40*(2), 359–393.

Chui, A.C.W., Lloyd, A.E., & Kwok, C.C.Y. (2002). The determination of capital structure: Is national culture a missing piece to the puzzle? *Journal of International Business Studies*, *33*(1), 99–127.

Cohen, D.A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting & Economics*, *50*(1), 2–19. doi:10.1016/j.jacceco.2010.01.002

Cuervo-Cazurra, A. (2006). Who cares about corruption? *Journal of International Business Studies*, *37*, 807–822.

Doupnik, T.S. (2008). Influence of culture on earnings management: A note. *Abacus*, *44*(3), 317–340. doi:10.1111/j.1467-6281.2008.00265.x

Doupnik, T.S., & Tsakumis, G. (2004). A critical review of tests of gray's theory of cultural relevance and suggestions for future research. *Journal of Accounting Literature*, *23*, 1–48.

Graham, J.R., Harvey, C.R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting & Economics*, *40*(1–3), 3–73. doi:10.1016/j.jacceco.2005.01.002

Gray, S.J. (1988). Towards a theory of cultural on the development of accounting influence systems internationally. *Abacus*, *24*(1), 1–15.

Guan, L., Pourjalali, H., Sengupta, P., & Teruya, J. (2006). Effect of cultural environment an accounting regulation on earnings manipulation: A five Asian-Pacific country analysis. *Multinational Business Review*, Forthcoming.

Gunny, K.A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary Accounting Research*, *27*(3), 855–888. doi:10.1111/j.1911-3846.2010.01029.x

Han, S., Kang, T., Salter, S., & Yong, K.Y. (2010). A cross-country study on the effects of national culture on earnings management. *Journal of International Business Studies*, *41*(1), 123–141. doi:10.1057/jibs.2008.78

Healy, P.M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting & Economics*, *7*(1), 85–107.

Healy, P.M., & Wahlen, J.M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, *13*(4), 365–383.

Hofstede, G. (Ed.). (1980). *Culture's consequences: International differences in work-related values*.

Hope, O. (2003). Disclosure practices, enforcement of accounting standards, and analysts' forecast accuracy: An international study. *Journal of Accounting Research, 41*(2), 235–272. doi:10.1111/1475-679X.00102

Jaggi, B., & Low, P.Y. (2000). Impact of culture, market forces, and legal system on financial disclosures. *The International Journal of Accounting, 35*(4), 495–519. doi:10.1016/S0020-7063(00)00076-5

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1998). Law and finance. *Journal of Political Economy*, *106*(6), 1113.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R.W. (1997). Legal determinants of external finance. *The Journal of Finance, 52*(3), 1131–1150.

Leuz, C., Nanda, D., & Wysocki, P.D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, *69*(3), 505–527. doi:10.1016/S0304-405X(03)00121-1

Lewellyn, K.B. (2017). The role of national culture and corruption on managing earnings around the world. *Journal of World Business, 52*(6), 798–808.

Lourenço, I.C., Rathke, A., Santana, V., & Branco, M.C. (2018). Corruption and earnings management in developed and emerging countries. *Corporate Governance: The International Journal of Business in Society, 18*(1), 35–51.

Mamatzakis, E. (2022). An international study on the impact of corruption on analysts' forecasts. *Journal of International Accounting, Auditing and Taxation*, *48*, 100486.

Mauro, P., & Driscoll, D.D. (1997). *Why worry about corruption?* Washington, DC: International Monetary Fund.

Paredes, A.A.P., & Wheatley, C. (2017). The influence of culture on real earnings management. *International Journal of Emerging Markets, 12*(1), 38–57.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting & Economics*, *42*(3), 335–370. doi: 10.1016/j.jacceco.2006.01.002

Sáenz González, J., & García-Meca, E. (2014). Does corporate governance influence earnings management in latin american markets? *Journal of Business Ethics, 121*, 419–440.

World Bank. (1997). *Helping Countries Combat Corruption: The Role of the World Bank*. Washington, D.C.: The World Bank.

Zang, A. (2011). *Evidence on the tradeoff between real manipulation and accruals manipulation* [Working paper, University of Rochester].