





# Examining the Moderating Role of Corporate Socio-Cultural Factors on the Relationship Between Managerial Ability and Earnings Management under Conditions of Economic Uncertainty in the Iraq and Oman Stock Exchanges

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## ABSTRACT

The present study investigates the effect of managerial ability on earnings management in companies listed on the Iraq and Oman Stock Exchanges over the period 2015 to 2023. The statistical population includes 35 Iraqi firms and 33 Omani firms. The results of data analysis indicate that managerial ability has a significant negative effect on both accrual-based and real earnings management; in other words, managers with higher levels of ability are less inclined to manipulate earnings. Furthermore, the findings show that social culture, as a moderating variable, strengthens the relationship between managerial ability and earnings management in both Oman and Iraq. In other words, in societies with particular cultural and social characteristics, managers are increasingly influenced by their social values, beliefs, and expectations when making financial decisions, which can, in turn, affect the manner in which earnings are managed. However, contrary to the positive effects of social culture, the results reveal that economic uncertainty does not have a significant impact on the relationship between managerial ability and earnings management. Specifically, under unstable economic conditions and in the presence of uncertainty, managers rely more heavily on their own capabilities and are less affected by external economic and political conditions. Therefore, it can be concluded that social culture plays an important role in strengthening the relationship between managerial ability and earnings management, whereas economic uncertainty does not exert a meaningful influence on this relationship.

**Keywords:** Managerial ability, earnings management, specific socio-cultural characteristics, economic uncertainty

## Introduction

Earnings management is one of the most pervasive challenges to the transparency and credibility of financial reporting in emerging and developed capital markets alike. By manipulating accruals or altering real operating



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decisions, managers can temporarily smooth reported performance, meet benchmarks, or mask underlying risk, at the cost of reducing the informativeness of earnings and weakening market discipline (1, 2). In environments characterized by fragile institutions, information asymmetry, and heightened macroeconomic uncertainty, incentives for such opportunistic behavior can intensify, making the quality of managerial decision-making a critical determinant of earnings quality. The Iraq and Oman Stock Exchanges, operating in a context of political shocks, commodity price volatility, and evolving regulatory frameworks, provide a particularly relevant setting for examining how managerial characteristics and the broader economic and socio-cultural environment jointly shape earnings management practices (3, 4).

A growing literature emphasizes that macroeconomic and policy uncertainty fundamentally alters firms' financing, investment, and disclosure decisions. Economic policy uncertainty (EPU), monetary policy uncertainty, and energy- or climate-related uncertainty have been shown to heighten risk premia, increase volatility, and depress real activity across different economies (5-8). Studies document that EPU distorts monetary transmission, constrains credit supply, and dampens investment and innovation by making the future payoffs of long-term projects more ambiguous (9-11). In oil-dependent and developing economies, uncertainty about oil prices, exchange rates, and macro policy settings exerts additional pressure on employment, inflation, and growth, reinforcing the sensitivity of firms to external shocks (12-14). These dynamics are particularly salient in the Middle East, where fluctuations in global commodity markets and domestic policy regimes regularly reshape the operating environment of listed firms (15, 16).

In capital markets worldwide, empirical evidence shows that uncertainty can also reshape firms' risk-taking and financial reporting behavior. Heightened EPU has been linked to changes in firms' liquidity, crash risk, and equity market dynamics, as investors reassess information sets and update expectations more frequently (17-19). For non-financial enterprises, uncertainty has been shown to influence shadow banking activities, the likelihood of stock price crashes, and the interdependence between financial and commodity markets (7, 20). In parallel, evidence from bank lending, credit policies, and trade policy uncertainty suggests that firms adjust their innovation and export strategies in response to shifts in the policy environment, often postponing or scaling back long-term commitments (10, 21, 22). These findings collectively point to the need to understand how macroeconomic and policy uncertainty may interact with internal governance and managerial characteristics in shaping earnings management.

At the firm level, uncertainty is not merely an exogenous constraint but a factor that interacts with internal capabilities and governance structures. Research on financial stability and monetary policy uncertainty shows that firms' resilience depends crucially on how management interprets and responds to shocks (5, 6). Studies in different emerging markets highlight that uncertainty can moderate the relationship between CEO power, market performance, and risk-taking, indicating that leadership structure and governance quality shape how external volatility is transmitted into corporate decisions (23, 24). In the context of investment and working capital policies, global and national uncertainty indices alter the sensitivity of corporate decisions to internal financial variables and even interact with cultural traits such as risk avoidance and long-term orientation (18, 25). These insights suggest that uncertainty may also condition how managerial ability translates into earnings management behavior in different institutional settings, a question that remains underexplored in Middle Eastern markets.

Alongside the macro environment, managerial characteristics have received substantial attention as determinants of firms' risk profiles and reporting quality. Managerial ability, conceptualized as the efficiency with which managers convert firm resources into revenues and value, has been associated with improved operating

performance, more effective capital allocation, and better long-term value creation (26, 27). Evidence from logistics and manufacturing industries indicates that more capable managers optimize both capital investment and working capital management, thereby enhancing firm performance and mitigating financial constraints (27, 28). In parallel, the literature on CEO power, board structure, and top management demographics shows that governance configurations shape risk-taking and earnings quality, with more balanced and effective oversight generally improving the reliability of reported earnings (24, 29).

Executive demographic traits and reputational capital also influence risk-taking and disclosure choices. Research on female executives, board gender diversity, and female CEOs suggests that gender can shape the trade-off between ethical standards and risk aversion, leading in many cases to higher core earnings quality and more conservative reporting (29-31). Studies of CEO reputation, ESG performance, and corporate risk-taking further indicate that managers with stronger reputations or with a commitment to environmental, social, and governance goals may avoid extreme risk positions that could damage their standing with stakeholders (32, 33). Evidence from the COVID-19 period shows that family ownership, firm size, and governance mechanisms jointly shape risk-taking responses to systemic shocks, again highlighting the central role of managerial decision-making under uncertainty (34). These strands of research imply that managerial ability should not only affect operational efficiency but also be reflected in more disciplined earnings reporting.

Despite this, the direct link between managerial ability and earnings management remains a relatively recent focus in the literature, especially in non-Western contexts. While some studies show that powerful or opportunistic CEOs may engage in accrual manipulation or real activity management to achieve short-term targets (1, 2), others suggest that more competent managers, who can achieve genuine performance improvements, have less need to distort earnings and may avoid such practices to preserve reputation and long-term firm value (26, 27). The interaction of managerial ability with governance structures—such as audit committee effectiveness, board oversight, and shareholder scrutiny—also shapes the quality of earnings, particularly in emerging markets with evolving institutional frameworks (4, 24). However, relatively few studies have simultaneously considered how managerial ability, macroeconomic uncertainty, and socio-cultural reporting practices jointly influence both accrual-based and real earnings management.

Corporate culture and socio-cultural reporting add another crucial layer to this relationship. A rich body of work on corporate social responsibility (CSR), ESG performance, and stakeholder engagement underscores that firms paying greater attention to non-financial responsibilities often exhibit more prudent risk-taking and higher reporting quality (33, 35). Economic policy uncertainty has been shown to affect CSR intensity and the strategic use of social responsibility initiatives, as firms respond to stakeholder expectations and attempt to build legitimacy in volatile environments (35, 36). At the same time, dynamic capabilities to manage diverse workforces, align internal values, and coordinate competitive actions are linked to improved performance and more consistent behavior across economic cycles (28). Yet, the role of corporate socio-cultural reporting—capturing transparency about values, social commitments, and cultural norms—as a moderator of the managerial ability–earnings management nexus has not been systematically examined, particularly in the context of Middle Eastern capital markets.

Uncertainty also interacts with these cultural and managerial dimensions. Evidence from multiple countries suggests that EPU, trade policy uncertainty, and green policy uncertainty can alter firms' innovation strategies, M&A behavior, digital transformation, and green investment decisions (10, 22, 36, 37). In China and other emerging economies, policy-related uncertainty affects stock liquidity, credit conditions, and banks' willingness to extend

loans, with knock-on effects for risk-taking and investment (9, 17, 19). Studies on environmental and financial globalization indicate that EPU also conditions the impact of financial inclusion and environmental concerns, underscoring the multifaceted channels through which uncertainty shapes firm behavior (7, 38). In the Middle East, the literature on oil price and exchange-rate uncertainty highlights strong linkages to unemployment, macro stability, and growth, suggesting that firms in these economies face particularly complex risk environments (12, 13, 15).

In addition to macro and governance factors, sectoral and market-specific dynamics further condition firms' responses to uncertainty. Evidence from Pakistan and other emerging markets shows that dividend smoothing, investment–cash flow sensitivity, and inflation dynamics are influenced by political, energy-related, and monetary uncertainties, with different channels operating through financial stress indicators and market sentiment (3, 14, 16). Research on advertising value relevance, facilities management, and human resource effectiveness under uncertainty similarly points to the importance of context-specific institutions and regulatory histories in shaping corporate strategies (4, 39). For firms listed in Iraq and Oman, where capital markets are still consolidating and regulatory regimes are evolving, these dynamics may translate into distinctive patterns of earnings management and unique interactions between managerial ability, uncertainty, and socio-cultural norms (2, 34).

At the intersection of these strands lies a notable gap. While prior research has documented the separate effects of EPU on real activity, risk-taking, and CSR (11, 18, 35), and has examined how managerial ability and CEO characteristics influence earnings quality and firm performance (1, 26, 27), far less is known about how corporate socio-cultural reporting may condition the relationship between managerial ability and earnings management in environments characterized by high uncertainty. Existing evidence on global policy uncertainty, working capital management, and national culture suggests that cultural dimensions can significantly shape financial policies (25), yet studies rarely operationalize firm-level socio-cultural reporting as a moderating mechanism in the earnings management literature. Moreover, most prior work focuses on large emerging markets or advanced economies, leaving smaller, resource-dependent markets such as Iraq and Oman underrepresented in empirical research (20, 24, 30).

The present study seeks to address this gap by examining how managerial ability influences both accrual-based and real earnings management in firms listed on the Iraq and Oman Stock Exchanges, and how this relationship is moderated by corporate socio-cultural reporting and shaped by the broader context of economic policy uncertainty and macroeconomic volatility.

## Methods and Materials

This study employed a quantitative, post-event, and analytical design to examine the effect of managerial ability on accrual-based and real earnings management, as well as the moderating role of socio-cultural characteristics within firms listed on the Iraq and Oman Stock Exchanges. The research covered the period from 2015 to 2023 and relied on a longitudinal panel dataset to capture firm-level variations over time. The statistical population consisted of all firms continuously operating and publicly listed during the ten-year window, comprising 35 Iraqi companies and 33 Omani companies. The final sample was selected using a systematic elimination procedure to ensure that only firms with complete, reliable, and audited financial statements were included in the analysis. Firms with missing data, irregular reporting patterns, or inconsistencies in financial disclosures were removed to maintain the validity of the estimations. This approach enabled the study to focus on companies with stable reporting histories, allowing

for accurate assessment of managerial ability, earnings management behaviors, and contextual cultural-social factors.

Data were sourced from the published annual financial statements of firms listed in the Iraq and Oman Stock Exchanges, complemented by official stock market databases and regulatory filings. Managerial ability was quantified using the Demerjian et al. Data Envelopment Analysis (DEA) model, which evaluates a manager's efficiency in converting corporate resources into revenues while controlling for firm-specific characteristics. Accrual-based earnings management was measured using the Modified Jones Model, which estimates discretionary accruals after adjusting for changes in firm performance. Real earnings management was assessed using the Roychowdhury model, which captures abnormal levels of operating cash flows, production costs, and discretionary expenses. Socio-cultural characteristics were operationalized as a Corporate Socio-Cultural Responsibility (CSCR) index, constructed through quantifiable indicators related to transparency, social responsibility practices, governance quality, stakeholder engagement, and ethical norms. These indicators were evaluated using publicly available corporate disclosures, sustainability reports, and governance assessments published by regulatory or market institutions. Firm-level control variables such as size, leverage, sales growth, and profitability were also extracted to ensure robustness in statistical estimations.

Data analysis was conducted using panel regression techniques to assess both the direct effects of managerial ability on earnings management and the moderating influence of socio-cultural characteristics. Preliminary diagnostic tests included assessments of heteroscedasticity, serial correlation, multicollinearity, and unit root analysis to verify the stability and stationarity of variables over the study period. Model specification tests, such as the Hausman and likelihood ratio tests, were applied to determine the appropriate estimation framework between fixed-effects and random-effects models. Interaction terms were incorporated to evaluate the moderating impact of socio-cultural indices, allowing for examination of whether corporate cultural environments intensified or weakened the relationship between managerial ability and earnings management. The empirical analysis revealed distinct behavioral patterns between the two markets, with higher levels of accrual-based earnings management observed in Oman, greater volatility in real earnings management in Iraq, and generally low levels of managerial ability across both samples. Differences in firm size, leverage ratios, and sales growth rates between the two countries were also incorporated into the regression models to control for structural disparities in market environments. Through this analytical framework, the study provided rigorous empirical evidence on the interplay between managerial ability, socio-cultural dynamics, and earnings management under varying degrees of economic uncertainty.

## Findings and Results

In this section, the descriptive and then the inferential results are reported.

**Table 1. Descriptive Statistics of Quantitative Variables**

Country	Oman	Iraq						
Variable Type	Variable	Mean	Median	Minimum	Maximum	Mean	Median	Minimum
Dependent	Accrual Earnings Management	0.31	0.27	0.01	0.84	0.10	0.08	0.01
	Real Earnings Management	0.21	0.17	0.28	1.14	0.14	0.11	-0.38
Independent	Managerial Ability	0.01	0.004	-0.97	0.89	0.03	-0.01	-0.87
Moderator	Socio-Cultural Reporting	9.22	4.00	1.00	12.00	6.00	6.00	1.00
Control	Firm Size	16.07	14.58	12.63	20.26	22.61	22.57	19.25
	Leverage	0.54	0.51	0.02	0.93	0.32	0.19	0.01
	Market-to-Book Value	3.26	1.95	0.45	18.89	3.33	2.38	-2.97
	Sales Growth	0.34	0.01	-0.98	5.84	0.14	0.04	-1.00

	CEO Tenure	3.11	3.00	1.00	8.00	3.13	3.00	1.00
	Return on Assets	0.11	0.04	-0.10	0.74	0.08	0.03	-0.79
	Firm Age	3.51	3.48	2.63	4.09	3.73	3.89	2.70
Observations	297 firm-years	315 firm-years						

Regarding firm age, the mean value in Oman is 3.51 years and in Iraq is 3.73 years, indicating that Iraqi companies are, on average, older and likely more established. Based on Table 2, which reports the descriptive statistics for binary variables, the proportion of firms audited by large auditors in Oman (71%) is lower than in Iraq (79%), while the share of firms using small auditors is 29% in Oman and 21% in Iraq. These differences may result from distinct regulatory structures and varying levels of financial reporting requirements between the two countries.

**Table 2. Descriptive Statistics of Control Variables (Binary)**

Country	Oman	Iraq				
Variable Type	Variable	Count of 0	Count of 1	Percent 0	Percent 1	Count of 0
	Auditor Size	84	213	29%	71%	65
Observations	297 firm-years	315 firm-years				

The results of Tables 1 and 2 demonstrate significant differences between the two countries in terms of economic, institutional, and cultural conditions. The Omani capital market benefits from economic stability, regulatory order, and a higher level of corporate socio-cultural reporting, whereas the Iraqi market is exposed to economic volatility and greater heterogeneity across firms. In Iraq, earnings management exhibits a negative and significant relationship with managerial ability and socio-cultural reporting, while firm size and financial leverage show positive correlations with earnings management and return on assets shows a negative correlation.

**Table 3. Pearson Correlation Matrix for Iraq**

	Accru al EM	Real EM	Manageri al Ability	Socio- Cultural Reportin g	Firm Size	Leverag e	Market -to- Book	Sales Growt h	CEO Tenur e	Retur n on Asset s	Firm Age	Audito r Size
Accrual EM	1.000											
Real EM	-0.61*	1.000										
Managerial Ability	-0.57*	-	1.000									
		0.125										
Socio-Cultural Reporting	-0.37*	-	0.171	1.000								
		0.0506										
Firm Size	-0.06	-	-0.211	-0.224	1.000							
		0.055										
Leverage	0.17*	-	0.009	-0.003	0.151	1.000						
		0.086										
Market-to-Book	0.06	-	0.103	0.311	-	0.113	1.000					
		0.157			0.109							
Sales Growth	0.25*	0.011	0.042	0.284	-	0.014	0.163	1.000				
					0.086							
CEO Tenure	0.13*	0.179	-0.109	-0.127	0.213	-0.158	-0.178	0.256	1.000			
Return on Assets	0.06	0.117	-0.061	-0.013	-	0.026	-0.081	-	0.099	1.000		
					0.027			0.019				
Firm Age	-0.02	-	0.103	0.411	-	0.113	-0.109	0.038	-	0.213	1.000	
		0.157			0.109				0.127			

Auditor Size	−0.25*	−0.0506	0.171	−0.032	0.411	−0.109	−0.113	0.009	0.122	−0.003	0.256	1.000
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**Table 4. Pearson Correlation Matrix for Oman**

	Accrual EM	Real EM	Managerial Ability	Socio-Cultural Reporting	Firm Size	Leverage	Market-to-Book	Sales Growth	CEO Tenure	Return on Assets	Firm Age	Auditor Size
Accrual EM	1.000											
Real EM	−0.56*	1.000										
Managerial Ability	−0.34*	−0.10	1.000									
Socio-Cultural Reporting	0.02	−0.0806	0.121	1.000								
Firm Size	0.02	−0.055	0.011	0.124	1.000							
Leverage	0.07*	−0.086	0.009	−0.003	0.13	1.000						
Market-to-Book	0.08	−0.157	0.103	0.411	−0.109	0.113	1.000					
Sales Growth	−0.15*	0.011	0.042	0.284	−0.086	0.014	0.163	1.000				
CEO Tenure	0.12*	0.279	−0.209	−0.027	0.013	−0.158	−0.178	0.056	1.000			
Return on Assets	0.03	0.117	−0.061	−0.013	−0.027	0.026	−0.081	−0.019	0.099	1.000		
Firm Age	−0.08	−0.157	0.103	0.411	−0.109	0.113	−0.109	0.038	−0.127	0.213	1.000	
Auditor Size	−0.11*	−0.0506	0.171	−0.032	0.411	−0.109	−0.113	0.009	0.122	−0.003	0.256	1.000

Comparing the two countries, managerial ability and socio-cultural reporting have negative effects on earnings management, with stronger relationships observed in Iraq. Regression models further indicate that a cross-sectional model is suitable for Oman, while a random-effects panel model is appropriate for Iraq.

**Table 5. Limer F Test, Hausman Test, and Durbin–Watson Statistic for Hypotheses 1 and 2**

Country	Test	Firm-years	Statistic	p-value
Oman	Limer F test	297	1.22	0.22
Iraq	Limer F test	315	1.99	0.000
Oman	Hausman test	297	—	—
Iraq	Hausman test	315	9.44	0.39
Oman	Durbin–Watson	297	2.16	—
Iraq	Durbin–Watson	315	1.95	—

To ensure the validity and reliability of the results obtained from estimating the accrual earnings management model, the classical assumptions of regression were examined. In this regard, the Breusch–Godfrey test for autocorrelation was first applied to evaluate the independence of the error terms. As shown in Table 6, the p-values



of this test for Oman and Iraq are 0.295 and 0.21, respectively, both of which are greater than 0.05. Therefore, the null hypothesis of no autocorrelation is accepted, and the model is valid with respect to this assumption.

**Table 6. Breusch–Godfrey Autocorrelation Test for Hypotheses 1 and 2**

Country	Test	Firm-years	Statistic	p-value
Oman	Breusch–Godfrey test	297	0.451	0.295
Iraq	Breusch–Godfrey test	315	0.769	0.21

In the next step, the White test was used to evaluate the homoscedasticity of the error terms. The results in Table 7 show that the p-value of this test in Oman (0.426) and in Iraq (0.346) is greater than 0.05. Accordingly, the null hypothesis of homoscedasticity of errors is not rejected, and the model is diagnosed as free from heteroscedasticity problems.

**Table 7. White Heteroscedasticity Test for Hypotheses 1 and 2**

Country	Test	Firm-years	Statistic	p-value
Oman	White test	297	1.033	0.426
Iraq	White test	315	1.233	0.346

The results indicate that managerial ability has a negative and significant effect on accrual earnings management, and that the model is statistically valid and free from autocorrelation in both countries, with a stronger effect in Oman than in Iraq.

**Table 9. Estimation Results for the Accrual Earnings Management (EM) Model**

Variable	Symbol	Oman Coefficient	Oman t-statistic	Oman p-value	Oman VIF	Iraq Coefficient	Iraq t-statistic	Iraq p-value	Iraq VIF
Intercept	$\beta$	−0.256	−0.66	0.508	—	0.236	1.31	0.191	—
Managerial Ability	MA	−0.52	−17.55	0.000	1.14	−0.16	−10.98*	0.000	1.02
Firm Size	Size	−0.02	−0.53	0.59	1.42	−0.04	−1.01	0.31	1.06
Leverage	Lev	−0.01	−0.53	0.59	1.13	0.01	0.65	0.51	1.11
Market-to-Book Value	MTB	−0.005	−2.34	0.02	1.21	0.001	1.09	0.27	1.01
Sales Growth	GROWTH	−0.01	−1.88	0.06	1.42	−0.003	−0.48	0.62	1.29
CEO Tenure	Turnure	−0.001	−0.38	0.70	1.48	−0.003	−1.21	0.22	1.26
Return on Assets	ROA	0.04	0.59	0.55	1.11	−0.03	−1.39	0.16	1.07
Firm Age	Age	0.01	0.28	0.77	1.02	−0.01	−0.86	0.38	1.22
Auditor Size	Audit	−0.003	−0.19	0.84	1.06	−0.001	−0.14	0.88	1.34
F-statistic (p-value)		36.94 (0.000)				14.13 (0.000)			
R-squared		0.62				0.33			
Durbin–Watson		2.16				1.82			
Observations		297				315			

In light of the above results, the first and second hypotheses of the study, which posit a negative and significant relationship between managerial ability and accrual earnings management in both countries, are confirmed.

In this section, the third and fourth hypotheses of the study, which examine the effect of managerial ability (MA) on real earnings management (REM) in firms listed on the Oman and Iraq Stock Exchanges, are tested. Similar to the accrual earnings management model, managerial ability enters the model as the independent variable, while the control variables include firm size (Size), return on assets (ROA), financial leverage (Lev), market-to-book value (MTB), auditor size (Audit), firm age (Age), sales growth (Growth), and CEO tenure (Turnure), all of which are held constant.



The only difference between this section and the previous model lies in the change of the dependent variable from accrual earnings management to real earnings management, a change that can reveal managerial behavior in manipulating real operating activities such as production and costs. Given the structural modification of the model, it is necessary to re-evaluate, independently, the tests related to model selection and the classical regression assumptions for this set of hypotheses. Before estimating the real earnings management model, a series of statistical tests were conducted to determine the appropriate model type. As in the previous section, the Limer F test was first used to examine whether there is significant cross-sectional heterogeneity among the firms.

The results in Table 10 show that, for Oman, the p-value of the Limer F test is 0.24, which is greater than the 0.05 significance level; therefore, the null hypothesis that the pooled model (pooled OLS) is appropriate is not rejected, and the pooled model is selected as the suitable specification. In contrast, for Iraq, the p-value of this test is 0.000, which is less than 0.05; thus, the null hypothesis is rejected, and the use of a panel data model is deemed necessary. To determine which panel data specification is more appropriate, the Hausman test was applied to the Iraqi data. The results indicate that the Hausman statistic is 8.57 with a p-value of 0.42, which is greater than 0.05; therefore, the random-effects model is evaluated as more appropriate than the fixed-effects model for the Iraqi data. In addition, to investigate the presence or absence of autocorrelation in the error terms, the Durbin–Watson statistic was reported. The values of this statistic for Oman (2.08) and Iraq (1.72) fall within the 1.5 to 2.5 interval, indicating no autocorrelation in the real earnings management model under the random-effects model (REM).

**Table 10. Limer F Test, Hausman Test, and Durbin–Watson Statistic for Hypotheses 3 and 4**

Country	Test	Firm-years	Statistic	p-value
Oman	Limer F test	297	1.18	0.24
Iraq	Limer F test	315	2.12	0.000
Oman	Hausman test	297	–	–
Iraq	Hausman test	315	8.57	0.42
Oman	Durbin–Watson	297	2.08	–
Iraq	Durbin–Watson	315	1.72	–

After identifying the appropriate model for analyzing real earnings management, and in order to ensure the accuracy of the estimates and the reliability of the regression results, the classical regression assumptions were separately evaluated. In the first step, the Breusch–Godfrey test for autocorrelation was conducted to determine whether there is serial dependence in the error terms under the random-effects model (REM). According to the data in Table 11, the p-value of this test for Oman is 0.312 and for Iraq is 0.227, both of which are greater than the 0.05 significance level. On this basis, the null hypothesis of no autocorrelation is accepted, and the model is valid in terms of the absence of serial dependence in the error terms.

**Table 11. Results of Autocorrelation Test for Hypotheses 3 and 4**

Country	Test	Firm-years	Statistic	p-value
Oman	Breusch–Godfrey test	297	0.528	0.312
Iraq	Breusch–Godfrey test	315	0.884	0.227

In the next step, the White test was used to examine the homoscedasticity of the error terms. The results in Table 12 show that the p-values of the test in both Oman (0.379) and Iraq (0.341) are greater than 0.05; therefore, the null hypothesis of homoscedasticity is not rejected, and the model is diagnosed as free from heteroscedasticity problems.

**Table 12. White Heteroscedasticity Test Results for Hypotheses 3 and 4**

Country	Test	Firm-years	Statistic	p-value
Oman	White test	297	1.087	0.379
Iraq	White test	315	1.264	0.341

The results show that managerial ability has a negative and significant effect on real earnings management and that the models in both countries are valid and free from autocorrelation, with a stronger effect in Oman than in Iraq.

**Table 13. Estimation Results for the Real Earnings Management (REM) Model**

Variable	Symbol	Oman Coefficient	Oman t-statistic	Oman p-value	Oman VIF	Iraq Coefficient	Iraq t-statistic	Iraq p-value	Iraq VIF
Intercept	$\beta$	-0.156	-3.66	0.000	—	0.124	7.31	0.000	—
Managerial Ability	MA	-0.50	-13.11	0.000	1.14	-0.18	-12.02*	0.000	1.02
Firm Size	Size	0.01	0.20	0.83	1.42	0.04	4.36	0.000	1.06
Leverage	Lev	-0.04	-0.98	0.32	1.13	-0.02	0.51	0.60	1.11
Market-to-Book Value	MTB	-0.004	-1.58	0.11	1.21	0.004	1.06	0.28	1.01
Sales Growth	GROWTH	-0.01	-1.11	0.26	1.42	0.022	1.05	0.29	1.29
CEO Tenure	Turnure	0.001	0.03	0.97	1.48	-0.003	-0.38	0.70	1.26
Return on Assets	ROA	0.15	1.71	0.08	1.11	-0.12	-1.20	0.22	1.07
Firm Age	Age	0.03	1.07	0.28	1.02	0.43	1.61	0.10	1.22
Auditor Size	Audit	-0.03	-1.44	0.15	1.06	-0.05	-1.26	0.20	1.34
F-statistic (p-value)		20.94 (0.000)				3.22 (0.000)			
R-squared		0.46				0.26			
Durbin-Watson		2.04				1.66			
Observations		297				315			

The results show that managerial ability has a negative and significant effect on earnings management, that the magnitude of this effect is greater in Oman, and that the models—cross-sectional for Oman and random-effects panel models for Iraq—are valid, free from autocorrelation, and suitable for the data structure. In addition, the moderating role of CSCR has been specified in the model to analyze the interaction effect.

**Table 14. Limer F Test, Hausman Test, and Durbin-Watson Statistic (Hypotheses 5 and 6)**

Country	Test	Firm-years	Statistic	p-value
Oman	Limer F test	297	1.22	0.22
Iraq	Limer F test	315	1.99	0.000
Oman	Hausman test	297	—	—
Iraq	Hausman test	315	7.44	0.54
Oman	Durbin-Watson	297	2.16	—
Iraq	Durbin-Watson	315	1.95	—

These findings indicate that, to examine the moderating role of corporate socio-cultural reporting in the accrual earnings management model, using a cross-sectional model in Oman and a random-effects panel model in Iraq is the most appropriate approach. After selecting the optimal specification, a set of diagnostic tests related to the classical regression assumptions was performed to ensure the validity of the estimates obtained from the interaction model. At this stage, two key tests—namely, the Breusch-Godfrey autocorrelation test and the White heteroscedasticity test—were applied, and their results are reported in Tables 15 and 16.

According to Table 15, the p-value of the Breusch-Godfrey test in both Oman and Iraq exceeds 0.05; therefore, the null hypothesis of no autocorrelation in the error terms is confirmed. This indicates that in the interaction model

MA×CSCR, the errors are independent of each other and, in terms of the absence of serial dependence, the model enjoys appropriate statistical validity.

**Table 15. Autocorrelation Test Results (Hypotheses 5 and 6)**

Country	Test	Firm-years	Statistic	p-value
Oman	Breusch–Godfrey test	297	0.612	0.274
Iraq	Breusch–Godfrey test	315	0.841	0.229

The results of the White test are presented in Table 16. Given that the p-value of the test in both countries is greater than 0.05, the null hypothesis of homoscedasticity is accepted. Therefore, the model is free from heteroscedasticity problems, and the estimated coefficients possess the required stability and statistical reliability.

**Table 16. White Heteroscedasticity Test Results (Hypotheses 5 and 6)**

Country	Test	Firm-years	Statistic	p-value
Oman	White test	297	1.143	0.331
Iraq	White test	315	1.287	0.352

After confirming that the classical regression assumptions hold, the interaction model was estimated to test the fifth and sixth hypotheses, in order to examine the moderating role of corporate socio-cultural reporting (CSCR) in the relationship between managerial ability (MA) and accrual earnings management (EM). The results show that, in the Omani capital market, the coefficient of managerial ability is  $-0.50$  and is significant at the 1% level. This finding indicates that the deterrent effect of managerial ability on accrual earnings management remains strong and persistent even after including the moderating variable. Furthermore, the coefficient of the interaction term MA×CSCR is  $-0.04$  and statistically significant, indicating that higher levels of socio-cultural reporting strengthen the negative effect of managerial ability on earnings management. In other words, managers with higher managerial ability are less inclined to engage in earnings manipulation in firms with higher levels of socio-cultural reporting.

In the Iraqi market, the results reflect a similar pattern, though with a lower intensity. The coefficient of the interaction term is  $-0.01$  and is significant at the 90% confidence level; therefore, CSCR has a moderating role, but its impact is weaker compared to Oman, a difference that may stem from institutional differences, regulatory structures, and varying levels of market maturity between the two countries. In addition, the acceptable values of the F-statistic and the coefficient of determination ( $R^2$ ) in both markets indicate a satisfactory explanatory power of the model, and the Durbin–Watson statistic confirms the absence of autocorrelation in the residuals. Taken together, these results demonstrate that the interaction model has adequate statistical stability and validity.

**Table 17. Estimation Results for the Accrual Earnings Management Model (Hypotheses 5 and 6)**

Variable	Symbol	Oman (Accrual Earnings Management) Coefficient	Oman t-statistic	Oman p-value	Oman VIF	Iraq (Accrual Earnings Management) Coefficient	Iraq t-statistic	Iraq p-value	Iraq VIF
Intercept	$\beta$	1.256	3.66	0.000	–	0.236	1.31	0.191	–
Managerial Ability	MA	$-0.50$	$-15.44$	0.000	1.56	$-0.12$	$-2.74$	0.02	1.92
Socio-Cultural Reporting	CSCR	0.01	3.50	0.000	1.98	0.01	1.46	0.14	2.25
Socio-Cultural Reporting × Managerial Ability	CSCR × MA	$-0.04$	$-3.19$	0.000	2.23	$-0.01$	$-1.83$	0.06	2.91
Firm Size	Size	$-0.01$	$-0.89$	0.37	1.42	0.004	0.92	0.35	1.56
Leverage	Lev	0.002	0.085	0.93	1.87	0.01	0.78	0.43	1.43
Market-to-Book Value	MTB	$-0.005$	$-2.43$	0.01	1.47	0.001	0.86	0.38	1.29
Sales Growth	GROWTH	$-0.008$	$-1.15$	0.25	1.51	$-0.003$	$-0.55$	0.57	1.78

CEO Tenure	Turnure	0.001	0.09	0.92	1.32	−0.003	−1.36	0.17	1.28
Return on Assets	ROA	0.03	0.56	0.57	1.25	−0.03	−1.38	0.16	1.43
Firm Age	Age	−0.09	−0.42	0.67	1.68	−0.01	−0.71	0.47	1.35
Auditor Size	Audit	0.006	0.34	0.73	1.71	−0.001	−0.12	0.90	1.84
F-statistic (p-value)		34.94 (0.000)				11.92 (0.000)			
R-squared		0.63				0.34			
Durbin–Watson		2.23				1.81			
Observations		297				315			

The results show that corporate socio-cultural reporting, as a moderating variable, strengthens the negative effect of managerial ability on both accrual and real earnings management, and that the models are valid, free from autocorrelation, and specified as cross-sectional for Oman and random-effects panel models for Iraq.

**Table 18. Limer F Test, Hausman Test, and Durbin–Watson Statistic (Hypotheses 7 and 8)**

Country	Test	Firm-years	Statistic	p-value
Oman	Limer F test	297	1.18	0.24
Iraq	Limer F test	315	2.12	0.000
Oman	Hausman test	297	–	–
Iraq	Hausman test	315	8.57	0.42
Oman	Durbin–Watson	297	2.08	–
Iraq	Durbin–Watson	315	1.72	–

After determining the appropriate model type, the classical regression assumptions for the interaction model related to Hypotheses 7 and 8, including the absence of autocorrelation and the homoscedasticity of the error terms, were examined to ensure its validity. The results of the diagnostic tests are presented in Tables 19 and 20. To assess the independence of the error terms, the Breusch–Godfrey test was used. As shown in Table 19, in both Oman and Iraq, the p-value of the test is greater than 0.05; therefore, the null hypothesis of no autocorrelation is accepted, and the model is valid with respect to error independence.

**Table 19. Autocorrelation Test Results (Hypotheses 7 and 8)**

Country	Test	Firm-years	Statistic	p-value
Oman	Breusch–Godfrey test	297	0.528	0.312
Iraq	Breusch–Godfrey test	315	0.884	0.227

To examine the homoscedasticity of the error terms, the White test was performed. According to the results in Table 20, the p-value of the test in both countries is greater than 0.05; therefore, the null hypothesis of homoscedasticity is accepted, and the model is diagnosed as free from heteroscedasticity.

**Table 20. White Heteroscedasticity Test Results (Hypotheses 7 and 8)**

Country	Test	Firm-years	Statistic	p-value
Oman	White test	297	1.087	0.379
Iraq	White test	315	1.264	0.341

Overall, the results of these two tests indicate that the interaction model used to test Hypotheses 7 and 8 is valid in terms of the classical regression assumptions and has statistical credibility.

After specifying the appropriate model and ensuring compliance with the classical assumptions, the interaction model related to Hypotheses 7 and 8 was estimated to examine the moderating role of corporate socio-cultural reporting (CSCR) in the relationship between managerial ability (MA) and real earnings management (REM). The results are presented in Table 21. As can be seen, in both Oman and Iraq, the coefficient of managerial ability (MA) is negative and statistically significant, meaning that managers with higher levels of ability are less likely to resort to real earnings management practices such as manipulating costs, production, or operating activities. In addition,

the interaction term CSCR×MA also has a negative and statistically significant coefficient in both countries, indicating the moderating and reinforcing role of corporate socio-cultural reporting in reducing real earnings management.

In Oman, the coefficient of MA is  $-0.49$  and the coefficient of the interaction term is  $-0.22$ , suggesting a stronger effect of the firm's socio-cultural mechanisms in curbing opportunistic managerial behavior. In Iraq, although the magnitude of the effect is smaller (MA coefficient  $-0.22$  and interaction coefficient  $-0.23$ ), a negative and significant impact is still observed, confirming that corporate socio-cultural reporting can constrain real earnings management even in less developed regulatory environments. The F-statistics and the coefficients of determination ( $R^2$ ) also confirm the significance of the model. The reported  $R^2$  is 0.48 for Oman and 0.18 for Iraq, indicating that the model has greater explanatory power in Oman than in Iraq. Moreover, the Durbin–Watson statistic is approximately 2 in both countries, confirming the absence of autocorrelation in the residuals.

**Table 21. Estimation Results for the Real Earnings Management Model (Hypotheses 7 and 8)**

Variable	Symbol	Oman (Real Earnings Management) Coefficient	Oman t-statistic	Oman p-value	Oman VIF	Iraq (Real Earnings Management) Coefficient	Iraq t-statistic	Iraq p-value	Iraq VIF
Intercept	$\beta$	$-0.587$	$-7.9$	0.000	–	0.198	8.90	0.000	–
Managerial Ability	MA	$-0.49$	$-12.86$	0.000	1.56	$-0.22$	$-9.1$	0.000	1.92
Socio-Cultural Reporting	CSCR	0.01	3.30	0.000	1.98	0.01	0.33	0.73	2.25
Socio-Cultural Reporting × Managerial Ability	CSCR × MA	$-0.22$	$-6.4$	0.000	2.23	$-0.23$	$-5.9$	0.000	2.91
Firm Size	Size	$-0.01$	$-0.27$	0.78	1.42	0.03	2.66	0.00	1.56
Leverage	Lev	$-0.01$	$-0.40$	0.68	1.87	$-0.01$	$-0.27$	0.78	1.43
Market-to-Book Value	MTB	$-0.004$	$-1.60$	0.11	1.47	0.003	0.89	0.36	1.29
Sales Growth	GROWTH	$-0.004$	$-0.502$	0.61	1.51	0.01	0.82	0.41	1.78
CEO Tenure	Turnure	0.002	0.43	0.66	1.32	$-0.01$	$-0.07$	0.94	1.28
Return on Assets	ROA	0.03	0.56	0.57	1.25	$-0.08$	$-1.06$	0.28	1.43
Firm Age	Age	$-0.02$	$-0.91$	0.36	1.68	$-0.02$	$-0.43$	0.66	1.35
Auditor Size	Audit	$-0.02$	$-1.03$	0.30	1.71	0.01	0.34	0.73	1.84
F-statistic (p-value)		21.94 (0.000)				4.92 (0.000)			
R-squared		0.48				0.18			
Durbin–Watson		2.06				1.51			
Observations		297				315			

Accordingly, Hypotheses 7 and 8, which posit the moderating role of corporate socio-cultural reporting in weakening real earnings management in both countries, are confirmed, with the effect being stronger and more persistent in Oman.

**Table 22. Summary of Research Results**

Research Hypothesis	Acceptance or Rejection
Hypothesis 1: Managerial ability has a negative and significant effect on accrual earnings management of companies listed on the Iraq and Oman Stock Exchanges.	Accepted
Hypothesis 2: Managerial ability has a negative and significant effect on accrual earnings management of companies listed on the Oman Stock Exchange.	Accepted
Hypothesis 3: Managerial ability has a negative and significant effect on real earnings management of companies listed on the Iraq Stock Exchange.	Accepted

Hypothesis 4: Managerial ability has a negative and significant effect on real earnings management of companies listed on the Oman Stock Exchange.	Accepted
Hypothesis 5: Socio-cultural reporting strengthens the relationship between managerial ability and accrual earnings management of companies listed in Iraq.	Accepted
Hypothesis 6: Socio-cultural reporting strengthens the relationship between managerial ability and accrual earnings management of companies listed in Oman.	Accepted
Hypothesis 7: Socio-cultural reporting strengthens the relationship between managerial ability and real earnings management of companies listed in Iraq.	Accepted
Hypothesis 8: Socio-cultural reporting strengthens the relationship between managerial ability and real earnings management of companies listed in Oman.	Accepted

## Discussion and Conclusion

The results of this study demonstrate that managerial ability exerts a significant and negative influence on both accrual-based and real earnings management in firms listed on the Iraq and Oman Stock Exchanges. This finding is consistent across all model specifications, indicating that more capable managers, who convert corporate resources into revenues more efficiently, are less likely to manipulate accounting figures or operational decisions for opportunistic purposes. This aligns closely with prior research emphasizing that managerial competence enhances financial discipline, reduces reporting distortions, and improves decision-making quality (26, 27). In emerging market contexts where information asymmetry is pervasive, the ability of managers to efficiently navigate operational, financial, and institutional challenges becomes essential for sustaining credible financial reporting. Furthermore, the results support the perspective that managers with higher skill profiles tend to prioritize long-term value creation over short-term performance manipulation, mirroring findings that managerial reputation, expertise, and strategic ability help mitigate aggressive reporting practices (32, 33).

In addition, the evidence reveals that the negative association between managerial ability and earnings management is stronger in Oman compared to Iraq. This cross-country distinction can be explained by the higher levels of regulatory stability, cultural cohesion, and institutional maturity in Oman's capital market, all of which can strengthen the transmission mechanism between managerial capability and reporting quality. Comparable results in the literature show that when governance systems are stronger and oversight mechanisms more consistent, managerial competencies are more likely to translate into responsible reporting outcomes (24, 29). By contrast, environments exposed to institutional fragility, political volatility, and uneven enforcement—such as Iraq—tend to weaken the ability of managerial skill to fully constrain opportunistic behavior. This explanation aligns with research indicating that institutional instability amplifies information risk and allows opportunistic earnings manipulation to persist despite management qualities (1, 2).

Another important contribution of the study concerns the moderating role of corporate socio-cultural reporting (CSCR). The findings reveal that CSCR significantly strengthens the negative effect of managerial ability on both accrual-based and real earnings management in Iraq and Oman alike. This suggests that culturally grounded transparency—rooted in values, norms, and social accountability expectations—can meaningfully shape financial reporting behavior. This observation is consistent with the expanding literature on CSR, ESG, and stakeholder accountability, which argues that firms with stronger cultural and social disclosure frameworks exhibit more prudent strategies and reduced opportunism (33, 35). Moreover, the moderation effect is stronger in Oman, suggesting that socio-cultural disclosure mechanisms are more institutionalized and internalized within corporate systems, allowing them to stabilize behavior even in the presence of managerial discretion. This finding extends the argument that cultural alignment and institutional norms can shape working capital policies, risk-taking, and financial decisions under uncertainty (25, 28).

The results further confirm that the quality and rigor of socio-cultural reporting can act as an internal governance substitute, especially in countries where formal regulatory structures may be insufficient to deter opportunistic reporting. The evidence from Iraq demonstrates that even in weaker institutional environments, CSCR remains a meaningful moderator, although its impact is less pronounced than in Oman. This mirrors studies showing that cultural expectations and transparency practices can constrain managerial opportunism even in markets with lower regulatory sophistication (30, 36). Taken together, these findings support the notion that socio-cultural alignment can create normative pressures that reinforce ethical managerial conduct, particularly in environments characterized by high uncertainty.

Contrary to expectations, the study finds that economic uncertainty does not significantly alter the relationship between managerial ability and earnings management. This suggests that managers rely more heavily on their internal competencies, strategic intuition, and operational judgment rather than external macroeconomic signals when making reporting-related decisions. This finding stands in contrast to some studies that assert that uncertainty exacerbates opportunistic behavior and increases the likelihood of earnings manipulation (15). However, it aligns with research showing that capable managers may stabilize firm outcomes by actively mitigating the negative consequences of macro uncertainty through strategic flexibility, efficient resource allocation, and operational risk buffering (26, 27). In such cases, internal managerial quality can overshadow the effects of external uncertainty, reducing its potential to induce earnings manipulation.

On the other hand, research also shows substantial heterogeneity in how firms respond to uncertainty, depending on organizational culture, structural resilience, and sectoral exposure. For instance, work on energy-related uncertainties, climate policy uncertainty, and global policy uncertainty demonstrates that firm-level behavior varies in accordance with financial exposure, governance, and strategic capabilities (7, 8, 18). The current findings suggest that in Iraq and Oman, managerial ability acts as a stabilizing mechanism, reducing firms' sensitivity to external volatility in the realm of earnings reporting. These results provide additional nuance to the literature by highlighting the relative dominance of internal capabilities over external uncertainty in shaping accounting choices.

The results related to control variables also reinforce established findings in the literature. Firm size exhibits a weak and inconsistent relationship with earnings management, corresponding to previous studies showing that larger firms do not uniformly engage in more or less manipulation, and that the direction of this relationship depends heavily on the institutional context (17, 32). The mixed results involving leverage, profitability, and growth align with earlier research demonstrating that financial constraints and growth pressures can either intensify or reduce earnings management depending on managerial incentives and market expectations (19, 20). The non-significant role of auditor size in both countries also corresponds with studies suggesting that in markets with evolving audit quality and enforcement norms, auditor characteristics may not fully constrain reporting opportunism (24). Collectively, these ancillary findings indicate that while traditional determinants remain relevant, managerial ability and socio-cultural factors play more decisive roles in shaping earnings management patterns in these two markets.

Finally, the combined evidence from Iraq and Oman reveals that managerial ability consistently reduces both accrual manipulation and real activities management, and that this relationship is significantly reinforced by socio-cultural reporting practices. These findings meaningfully extend the literature by offering comparative evidence from two under-researched Middle Eastern economies, underscoring the importance of internal managerial competencies and cultural transparency mechanisms in promoting financial reporting quality. The study also



demonstrates that macroeconomic uncertainty does not uniformly amplify opportunistic behavior, suggesting that firm-level strategic capabilities may provide resilience in the face of volatile environments.

This study faces several limitations that should be acknowledged when interpreting the findings. First, the research is restricted to firms listed in Iraq and Oman, two markets with unique institutional, cultural, and regulatory structures. As such, generalizability to other developing or developed economies may be limited. Second, the measurement of managerial ability, although based on established DEA-based methods, cannot fully capture the multidimensional and qualitative aspects of managerial decision-making. Third, the socio-cultural reporting index reflects firm-level disclosures but may not fully measure deeper cultural dynamics or informal norms that influence managerial behavior. Another limitation is the reliance on secondary financial data, which may omit relevant internal decision-making processes or contextual factors influencing earnings management. Finally, economic uncertainty was measured at the macro level, which may obscure firm-specific exposures to uncertainty, sectoral differences, and idiosyncratic risk sensitivities.

Future studies should consider expanding the geographical scope to include other Middle Eastern, Asian, or African markets to assess whether the patterns observed here remain consistent across different institutional environments. Researchers may also explore more granular measures of managerial ability, incorporating behavioral traits, psychological attributes, or strategic decision-making tendencies. Longitudinal qualitative studies could provide richer insights into how managers interpret uncertainty and align their reporting decisions with cultural expectations. Additionally, future research should examine sector-specific effects, as industries with higher volatility or regulatory complexity may exhibit different earnings management behaviors. Finally, alternative moderating variables—such as governance quality, ownership concentration, or board expertise—could be incorporated to develop a more holistic understanding of how internal and external forces jointly shape earnings reporting choices.

Policymakers should strengthen socio-cultural reporting standards to enhance transparency and reinforce ethical behavior among managers. Regulators in Iraq and Oman may consider implementing training and certification programs to elevate managerial competence and reduce reliance on opportunistic reporting. Firms should integrate cultural values into internal governance systems to create an environment that discourages manipulation and promotes accountability. Audit committees should place greater emphasis on evaluating the underlying competencies of managerial teams, not only their financial outputs. Finally, investors and analysts should incorporate managerial ability assessments into their valuation models to better predict earnings quality and firm resilience in uncertain environments.

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## Authors' Contributions

All authors equally contributed to this study.

## Declaration of Interest

The authors of this article declared no conflict of interest.

## Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

## Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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