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How Culture and Legal Environment affect Classification Shifting? Global Evidence.

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ABSTRACT

This study examines the interplay between various cultural characteristics and the legal environment on classification shifting using a global sample that enables variability in underlying cultural characteristics across countries while controlling for heterogeneity. Given that both culture and the legal environment tend to exhibit low variability over time, our international cross-country analysis with diverse cultural dimensions and legal frameworks enhances the robustness of our empirical findings. Our identification strategy employs several models and shows the significant impact of culture on classification shifting and the interactions between national culture and the legal environment on classification shifting behaviour, though there is variability across countries. We also find that certain traits of culture induce classification shifting. We highlight that strengthening the legal environment becomes crucial in creating an institutional framework that effectively curbs unethical practices induced by certain national culture traits and enhances transparency and accountability in financial reporting.

Keywords: Classification Shifting, National Culture, Legal Environment, International Sample.

JEL: G3, M41, K42, Z12

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1. INTRODUCTION

Multiple studies have shown that accounting information can be manipulated to conceal the true economic performance of firms (Boahen and Mamatzakis, 2019; Burgstahler et al., 2006; Fan et al., 2010; Behn et al., 2013; Malikov et al., 2018; McVay, 2006). One form of earnings management identified is classification shifting. McVay (2006) observes that US firms engage in classification shifting to manipulate core earnings by moving core expenses from the cost of goods sold and selling, general, and administrative expenses to special items that decrease reported income. Similar empirical evidence has been presented in studies involving firms from various countries. Usman et al. (2022) found that German firms engage in misclassification of core expenses, while Boahen and Mamatzakis (2021) and Nagar and Sen (2017) observed the same behaviour among Indian firms. Inoue (2021) discovered classification shifting among Japanese firms, while Athanasakou et al. (2009) and Zalata and Roberts (2016, 2017) identified this practice among UK firms. Haw et al. (2011) and Behn et al. (2013) found evidence of misclassification of core expenses as non-recurring expenses among firms in East Asia. Overall, these studies highlight that firms in different regions engage in misclassification of core expenses to artificially boost reported core earnings.

There are several motivations behind firms engaging in classification shifting. The way investors perceive and assign value to accounting information leads them to weigh certain entries on the income statement differently. For example, core earnings, due to their higher valuation relevance, tend to carry more weight in investors' assessments (Bartov and Mohanram, 2014; Boahen and Mamatzakis, 2021; Malikov et al., 2018). In fact, management may resort to classification shifting to manipulate core earnings and cater to potential investors' preferences. Moreover, firms utilise classification shifting to meet or surpass analyst benchmarks or expectations (Athanasakou et al., 2009; McVay, 2006). Financial analysts primarily focus on reported core earnings, and any manipulation through classification shifting can impact their earnings forecasts. Behn et al. (2013) and Fan et al. (2010) argue that firms engage in misclassifying expenses to artificially boost reported core earnings, thereby improving future earnings prospects. Overall, firms employ classification shifting to manipulate core earnings, primarily driven by the desire to please investors, meet analyst expectations, and enhance future earnings prospects. Despite evidence indicating the presence of classification shifting in the United States and other countries, limited research has been conducted on a global cross-country sample to examine the relationship between national

culture, legal environment and classification shifting, leaving gaps in our understanding of this phenomenon. Therefore, further investigation is necessary to comprehensively examine the global occurrence of classification shifting, national culture and legal environments across countries.

Prior research on the cultural and legal environment has primarily focused on accruals manipulations, thereby limiting our understanding of their broader impact on the accounting and financial reporting system (Acar, 2023; Callen et al, 2011; Haga et al., 2019). This study aims to address this gap by examining the influence of national culture on expense misclassification within the global accounting and financial reporting framework, considering both strong and weak legal environments worldwide. This investigation is necessary because both culture and the legal environment do not vary significantly over time within a country but vary across countries. Our analysis encompasses a diverse global sample, including developed, developing, and emerging economies. By exploring the phenomenon of classification shifting across different cultural and legal contexts, this study seeks to provide valuable insights into the broader implications of national culture and legal environments on the integrity of financial reporting practices worldwide.

This paper has several objectives. First, it examines the presence of classification shifting across different countries worldwide. Second, it investigates the impact of various national cultural dimensions on expense misclassification. Previous studies on classification shifting have mostly focused on individual countries, with limited attention given to the cross-country cultural dimension (Boahen and Mamatzakis, 2021; Inoue, 2021; Usman et al., 2022). Given that national culture does not vary over time within countries, previous studies could be subject to bias in empirical findings. The third objective of this paper is to examine the interaction between national culture and the legal environment in influencing classification shifting behaviour worldwide. The link between culture and law adds an interesting dimension to this investigation, as culture influences law and law influences culture (Varner and Varner, 2014). Our investigation aims to fill a gap in the literature because the interaction between culture and legal environment has not been previously explored at an international setting. The fourth objective is to provide global evidence on the relationship between national culture, legal environment, and expense misclassification using a sample of 63 countries worldwide. This cross-country analysis is crucial due to the dominance of single-country studies and the lack of

extensive cross-country investigations on national culture and classification shifting in the presence of strong and weak legal environments. Additionally, both culture and the legal environment do not vary significantly over time within a country. Therefore, the cross-country variability in culture and legal environment within our sample enhances the statistical significance of our findings. This research aims to address these gaps by conducting the first extensive cross-country investigation on the topic, providing more generalizable findings than previous studies.

The paper presents several key findings. It reveals that expense misclassification is a global phenomenon, and cultural dimensions such as individualism and long-term orientation mitigate expense misclassification in developed and emerging countries. In contrast, power distance, masculinity, and uncertainty avoidance have a positive effect on managers' classification shifting behaviour in developed, emerging, and developing countries. However, the presence of a strong legal environment weakens the impact of power distance, masculinity, and uncertainty avoidance on classification shifting across the world, particularly in developing countries.

Moreover, this study makes three significant contributions to the existing literature. Firstly, it emphasizes the importance of examining the interaction between various cultural characteristics and the legal environment in the context of classification shifting. While previous research has explored the role of culture in classification shifting within specific countries (Boahen and Mamatzakis, 2021; Guan et al., 2006), this study is the first to provide a comprehensive understanding of the crucial roles played by national culture and the legal environment in combating expense misclassification to improve the quality of financial reporting. Secondly, the study adopts a robust identification strategy by utilizing a comprehensive global sample that encompasses a wide range of cultural and legal environments. It is well-established that culture and the legal environment exhibit low variability over time. By incorporating cross-country variability in culture and the legal environment, this study enhances the reliability and robustness of the empirical evidence. Lastly, this study builds upon the theoretical arguments put forth by Varner and Varner (2014) and Sagay and Stuart (2008), who contend that law influences culture. Despite the evident link between law and culture, the literature has largely overlooked the joint effect of national culture and the legal environment on classification shifting in an international context. The findings of

this study highlight that the interaction between national culture and the legal environment can have a significant impact on classification shifting behaviour on a global scale. From a policy perspective, the study suggests that strengthening the legal environment should be given priority. The findings underscore the importance of creating and implementing robust legal frameworks that discourage expense misclassification and promote accurate financial reporting practices. By addressing weaknesses in the legal environment, policymakers can effectively mitigate classification shifting behaviour and enhance the integrity of financial reporting systems.

The paper proceeds as follows. Section 2 presents the literature and develops the hypotheses, section 3 provides research design and discusses empirical methodology, and section 4 describes data, sample selection and descriptive statistics. Section 5 discusses empirical results and several robustness checks. Section 6 provides conclusion.

2. THEORETICAL FRAMEWORK

Our theoretical framework builds on behavioural and cognitive-oriented multidisciplinary research because practitioners and researchers are aware that several factors, such as institutional, legal, environmental, and societal factors, affect the quality of earnings and financial reporting quality (Barth et al., 2008; Boateng et al., 2021; Gray et al., 2013; Hostede, 1980). Hofstede (1980) was the first to highlight the relationship between accounting systems and national cultural dimensions. Relatedly, Gray (1988) extends Hofstede (1980) ideas of national cultural dimensions and links them to four accounting values (professionalism vs. statutory control, uniformity vs. flexibility, conservatism vs. optimism, secrecy vs. transparency). Following Gray (1988), several studies have questioned the effect of cultural differences on financial reporting practices and behaviour (Haga et al., 2019; Paredes and Wheatley, 2017). However, the results are inconclusive, depending on the countries, periods, and earnings management practices tested.

Regarding financial reporting quality, some previous studies (Boateng et al., 2021; Gray et al., 2013; Haga et al., 2019; Han et al., 2010) have shed light on the association between national culture and international differences. For example, Gray et al., (2013) highlight the connection between systemic differences in financial reporting attributes across countries with distinct cultures and differences in financial reporting rules. Relatedly, Han et al., (2010) observe that

shared cultural values within a country influence financial reporting practice, accounting values and systems. Similarly, Gray's (1988) model posits that accounting and financial reporting outcomes are shaped by the interaction between social values and institutions.

From a theoretical point of view, there has been a growing interest in understanding how cross-national cultural differences influence financial reporting outcomes and earnings manipulations (Callen et al., 2011; Desender et al., 2011; Doupnik and Tsakumis, 2004; Elshandidy et al., 2015; Gray et al., 2013; Han et al., 2010; Tsakumis et al., 2007). Previous research suggests that national culture plays a role in resource allocation (Stulz and Williamson, 2003), corporate financing decisions (Zhao, 2008), the extent of tax evasion (Richardson, 2008), and the mitigation of corporate risk-taking (Li et al., 2013). In addition, national culture can influence how resources are allocated within firms. Cultural values such as individualism versus collectivism, power distance, and uncertainty avoidance can shape decision-making processes, including financial reporting but also investment choices. Cultural traits such as risk aversion, long-term orientation, and trust can influence the choice between debt and equity financing, the preference for internal versus external funding, and the willingness to take on financial leverage. Such choices would also affect financial reporting (Doupnik and Tsakumis, 2004; Elshandidy et al., 2015). Moreover, cultural factors such as attitudes towards authority, social norms, and perceptions of fairness can shape individuals' willingness to engage in unethical behaviours such as classification shifting or tax avoidance. Lastly, culture factors, like individualism, uncertainty avoidance, and long-term orientation, can affect the firms' risk management practices, and the extent to which they engage in risky activities that in turn could induce classification shifting to conceal the true risk exposure (Desender et al., 2011; Gray et al., 2013). To this end, our study contributes to understanding the impact of national culture on classification shifting so as to provide valuable insights into the contextual factors that shape corporate behaviour. To study such impact, we employ a global sample that encompasses various national cultures and provide significant variability necessary to the identification.

In addition, our study recognises that cultural factors are not operating in a vacuum within a country. The legal environment could interact with the cultural factors. Prior empirical evidence indicates that the legal environment has an impact on accruals-based earnings management (Leuz et al., 2003), auditing practices (Francis and Wang, 2008), and investor

confidence (Behn et al., 2013). The legal environment, including the strength of legal enforcement and investor protection, can influence the extent of accruals-based earnings management practices (Francis and Wang, 2008. Countries with strong legal systems and stricter regulations tend to have lower levels of earnings management, as legal enforcement acts as a deterrent against manipulative practices. The legal environment also plays a crucial role in shaping investor confidence in financial markets (Han et al., 2010; Richardson, 2008). Investors are more likely to have confidence and trust in markets where legal protection of investor rights is strong (Behn et al. 2013). Robust legal systems provide investors with recourse in case of financial misreporting or misconduct, which in turn encourages greater participation and investment in the market. Countries with well-developed legal systems tend to exhibit higher levels of transparency, reliability, and investor trust in their financial markets. Surprisingly, there has been no research that has examined the influence of national culture and legal environment on classification shifting in an international setting that allows variability across various countries, given that culture does not vary over time. In fact, there is paucity of studies that have examined national culture, legal environment and classification shifting at an international level. Therefore, understanding the interplay between the legal environment and national culture can help policymakers and regulators design effective measures to promote transparency, accountability, and investor protection.

2.1 HYPOTHESES DEVELOPMENT

2.1.1 Hypothesis 1a: power distance

Power distance refers to the extent to which a society accepts and expects inequality or equality among its members, organizations, and institutions (Li et al., 2013; Fidrmuc and Jacob, 2010; Hofstede et al., 2010). A higher power distance score indicates greater power inequality, while a lower score indicates a higher level of power equality. In cultures with high power distance, individuals tend to accept and anticipate unequal distribution of power. Previous studies (Callen et al., 2011; Hofstede et al., 2010) suggest that in cultures with high power distance, accounting systems are perceived as tools used by top management to exercise authority and control. Hofstede et al. (2010) note that countries in Eastern Europe, Latin America, Asia, and Africa tend to have higher power distance scores, while Scandinavian and English-speaking Western countries tend to have lower scores. In a high-power distance cultural environment, when top management seeks to present exceptional financial performance to analysts and investors, they may have a strong incentive to engage in classification shifting behaviour.

Consequently, the misclassification of core expenses as special items is more likely to occur in countries with high power distance compared to those with low power distance. Based on this rationale, we propose the following hypothesis to be tested:

H1a: Classification Shifting is positively related to the degree of power distance in a country.

2.1.2. Hypothesis 1b: Individualism (as opposed to collectivism)

Individualistic cultures are characterized by loose social ties and limited allegiance to extended family, as individuals primarily prioritize their immediate family and personal interests (Davis and Abdurazokzoda, 2015; Klasing, 2013; Hofstede, 2010). In contrast, collectivistic cultures place a strong emphasis on extended family systems and exhibit unwavering loyalty to them. Licht et al. (2005) note that individualism tends to be more prevalent in developed Western countries, reflecting the degree to which individuals assimilate into societal groups. Davis and Abdurazokzoda (2015) and Klasing (2013) find that the culture of individualism, with its loose social ties and limited allegiance to extended family, has a positive impact on the quality of financial reporting and institutional frameworks. Building on this understanding, we hypothesize that countries with high individualism scores are more likely to exhibit lower classification shifting behaviour. Therefore, we propose the following hypothesis to be tested:
H1b: Classification Shifting is negatively related to the degree of individualism in a country.

2.1.3 Hypothesis 1c: uncertainty avoidance

In cultures characterized by high uncertainty avoidance, individuals tend to be cautious, risk-averse, emotional and exert significant effort to avoid unpredictable outcomes (Han et al., 2010; Li and Zahra, 2012; Richardson, 2008). These cultures prioritize security and have a low tolerance for ambiguity (Li and Zahra, 2012). Uncertainty avoiding cultures rely on strict behavioural codes, rules, and laws, and exhibit a belief in absolute truth while disapproving of divergent views, all to mitigate uncertainty within society (Hofstede et al., 2010). Guan et al. (2006) finds a negative relationship between discretionary accruals and uncertainty avoidance, suggesting that firms in high uncertainty avoiding countries are less likely to engage in illegal business practices.

Conversely, low uncertainty avoiding cultures exhibit greater tolerance for uncertainty and ambiguity and are less focused on rigid rules and regulations (Li et al., 2013; Hofstede et al., 2010). These cultures are more adaptable to unfavourable situations. Consequently, firms operating in low uncertainty avoiding cultures may perceive expense misclassification as an opportunity to enhance financial performance or report higher core earnings. Research

indicates that classification shifting is challenging to detect for regulators and auditors, as it does not alter the bottom-line net income (Boahen and Mamatzakis, 2021; McVay, 2006). Therefore, we argue that firms in low uncertainty avoiding cultures may have a strong incentive or a higher likelihood to engage in expense misclassification to meet or surpass analyst forecasts and market expectations, thereby exerting influence or control over firm performance to mitigate uncertainty and ambiguity. Based on the above discussions, we postulate that firms in countries with low uncertainty avoidance cultures are more inclined to engage in classification shifting behaviour to increase reported core earnings. Thus, we state the following hypothesis to be tested:

H1c: Classification Shifting is positively related to the degree of uncertainty avoidance in a country.

2.1.4. Hypothesis 1d: masculinity (as opposed to femininity)

Masculinity, as defined by Hofstede et al. (2010), refers to the distribution of values between genders and measures the degree to which customary male roles emphasizing achievements, control, and power are enforced in a country. Davis and Abdurazokzoda (2015) describe masculinity culture as being characterized by aggressive behaviour, assertiveness, competitiveness, self-centeredness, and a strong desire for achievement in terms of ego boosting, wealth, and recognition. In cultures with high levels of masculinity, Herrmann-Pillatha, Libran, and Yu (2014) observe a remarkable emphasis on achieving financial goals and empire building through accounting systems. Building on this perspective, we hypothesize that in masculinity cultures, firms may utilize their control, power, assertiveness, and drive for achievement to engage in opportunistic classification shifting behaviour, aiming to achieve their financial goals and gain recognition. Therefore, we propose the following hypothesis to be tested:

H1d: Classification Shifting is positively related to the degree of masculinity in a country.

2.1.5. Hypothesis 1e: Long-term Orientation

Long-term orientation, as described by Hofstede et al. (2010), is associated with values such as perseverance towards long-term goals, thrift, resource conservation, orderliness, a sense of shame, and a strategic approach to life and business decisions. In contrast, (Callen et al., 2011) indicate that short-term orientation emphasizes respect for tradition, generosity with resources,

personal stability, reciprocal favour exchanges, and a results-oriented mindset. Klasing (2013) notes that firms operating in short-term oriented countries tend to focus on immediate gains, current reported profits, reward systems, and practices that reinforce short-term economic goals. Similarly, Li and Zahra (2012) find that the short-termism prevalent in local cultures allows businesses to exploit opportunities that cannot be ignored. Consequently, given the emphasis placed on current earnings, short-term economic goals, and immediate gains in short-term oriented countries, it is plausible that firm managers in such environments may engage in opportunistic expense misclassification to manipulate current core earnings. Based on the above discussions, we propose the following hypothesis to be tested:

H1e: Classification Shifting is negatively related to the degree of long-term orientation in a country.

2.1.6. Legal Environment and Classification Shifting: Hypothesis 2.

Previous research has consistently shown that a robust legal environment enhances investor confidence and mitigates earnings management practices (Behn et al., 2013; Callen et al., 2011; Luiz et al., 2003; La Porta et al., 1998). For instance, studies by La Porta et al. (1998) and Behn et al. (2013) highlight that a strong legal enforcement system indicates the presence of an active and well-functioning judiciary capable of protecting investors and deterring fraudulent practices by management. Developed economies typically exhibit stronger legal enforcement, whereas developing and emerging economies often lag in this aspect (La Porta et al., 1998).

Therefore, it is important to examine the variability of legal enforcement across developed, developing, and emerging economies using cross-country data. This is particularly relevant since there is a scarcity of studies that investigate classification shifting in emerging and developing economies, and none that do so using a cross-country sample to analyse the interplay between culture, legal environment, and classification shifting. Additionally, Leuz et al. (2003) explore the relationship between proxies for accruals management and investor protection in the United States, revealing that strong investor protection, as indicated by a well-functioning legal system, is associated with lower levels of accruals management.

The existing literature postulates that culture influences law, and reciprocally, law influences culture (Varner and Varner, 2014; Sagay and Stuart, 2008). The legal and institutional environment is shaped by socio-cultural norms and values (Han et al., 2010; Richardson, 2008), while a country's legal environment also affects cultural priorities. Similarly, laws can

contribute to shaping and altering cultural priorities (Doupnik and Tsakumis, 2004). Specifically, Hofstede et al. (2010) note that cultural dimensions such as power distance tend to be higher in Eastern European, Latin, Asian, and African countries compared to Scandinavian and English-speaking Western countries. Previous studies (Callen et al., 2011; Li et al., 2013; Fidrmuc and Jacob, 2010) indicate that in countries with high power distance, financial reporting serves as a tool for top management to exercise authority and control. In high power distance countries, individuals in management positions with significant power are unlikely to face scrutiny regarding the quality of their financial reporting (Hofstede et al., 2010; Callen et al., 2011; Li et al., 2013).

Therefore, exploring the interaction between law and culture is of particular interest. Despite the link between law and culture, the literature has overlooked the joint effect of national culture and legal environment on classification shifting within a broader international context. Understanding these interactions could provide insights into how cultural differences interact with strong or weak legal environments to influence classification shifting behaviour worldwide. Consistent with the arguments put forth by Behn et al. (2013) and Haw et al. (2011), we contend that the interaction between national culture and legal environment significantly impacts classification shifting behaviour in an international setting. A strong legal environment would moderate the relationship between culture and classification shifting, while a weak legal environment would amplify the relationship between culture and classification shifting behaviour. Consequently, we propose the following hypothesis:

H2: The legal environment moderates the relationship between national culture and the likelihood of a firm to engage in classification shifting in developed, emerging and developing economies.

3. DATA AND DESCRIPTIVE STATISTICS

3.1. Measuring National Culture – legal environment

We collect national dimensions of culture datasets from the updated Hofstede (1980) cultural dimension variables which include power distance scores (POWDIS), individualism scores (INDIV), uncertainty avoidance (UNCAVO), masculinity scores (MASCU) and long-term orientation scores (LONGTEO). Our dataset covers the period from 2002 to 2022, which are

the years with the latest data available. Table A3 in Appendix presents culture variables per country in our sample.

We collect legal environment scores from International Country Risk Guide (ICRG) data base, in line with previous research (Askarov and Doucouliagos, 2013, Boahen and Mamatzakis, 2021, La Porta et al., 1998, Leuz et al., 2003, Winters and Martinez, 2015) for the period of the study. International Country Risk Guide (ICRG) identified the strength of the legal enforcement or environment as the mean score across three main variables: (i) the efficiency of the judicial system, (ii) the appraisal of the rule of law and (iii) the corruption. The strength of the legal environment ranges between zero and ten for all the three main variables. We follow Boahen and Mamatzakis (2021) and Winters and Martinez (2015) to measure legal environment using the ICRG composite legal environment score. In addition, we also collect from ICRG country specific variables such as the annual per capita Gross Domestic Product (GDP), inflation, economic risk, and political risk to control for differences in countries for all the years and countries. Our data set covers the period from 2002 to 2022, which are the years with the latest data available.

3.2. Financial Data

We use a comprehensive international datasets to test our hypotheses. We obtain financial data from Compustat Global Database to estimate abnormal core earnings in the countries. The full sample consists of 737,990 firm-year observations for the period 2002 to 2022 across 117 countries. In line with prior studies (Boahen and Mamatzakis, 2021; Behn et al., 2013), the sample is constructed and filtered based on the following criteria. All countries require a minimum of 10 firm-year-observations to estimate abnormal core earnings. Therefore, we exclude 54 countries due to insufficient number of firm-year observations. We exclude any firm-year observation with sales revenue less than $500,000 to avoid the creation of outliers and effectively use sales as a deflator (Haw et al. 2011). We use Fama and French (1997) four-digit Industry Classification codes (SIC) in line with Behn et al. (2013) and Haw et al. (2011). The final datasets for all variables needed for the analysis consist of 63 countries, 352,087 firm-year observations. All continuous variables are winsorized at the first percentile (at the bottom) and ninety-ninth percentile (at the top) to mitigate the effect of outlier observations on the results. Table A1 in Appendix presents the list of countries grouped under International Monetary Fund (IMF) classification. There are 30 developed, 24 emerging and 9 developing countries.

(INSERT TABLES 1A AND 1C HERE)

The respective mean and median sales (in million U.S. $) for developed countries are 81112.4 and 82490 respectively, suggesting variations in firm size. For emerging countries, mean and median sales are 43628.5 and 43400 respectively, indicating heterogeneity across firms. Lastly, the mean and median figures for developing countries are 12117.4 and 12003.1 respectively. The corresponding mean (median) of reported core earnings (REP_CE) scaled by sales are: developed countries 0.0187 (0.0189), emerging 0.0135 (0.0129) and developing 0.0115 (0.0116) respectively. The mean (median) of income-decreasing special items (SPITEM) and unexpected core earnings (UNEXP_CE) are developed countries 0.021 (0.020) and 0.0152 (0.014) respectively, for emerging countries the figures are 0.013 (zero) and 0.015 (0.043), and for developing countries, 0.002 (zero) and 0.0117 (0.0118) respectively. These statistics are consistent with prior studies in the U.S, UK, and other international studies (Behn et al., 2013; Haw et al. 2011; McVay, 2006).

In addition, the respective mean (median) of legal enforcement (LEGALENF) are; in developed 8.66 (9.11), in emerging 5.96 (5.92) and in developing countries 5.11 (5.36). These figures suggest that legal enforcement is strong in the developed countries but in developing and emerging countries it is rather weak (Leuz et al., 2003, La Porta et al., 1998). There is a substantial difference in the number of firm-year observations across countries which might be due to variations in country size, the availability of financial statements and capital markets developments. Similarly, there is wide cultural variation among the countries.

We also provide descriptive statistics at country-level for our proxies of cultural dimension scores; power distance (POWDIS), individualism (INDIV), masculinity (MASCU), uncertainty avoidance (UNCAVO) and long-term orientation (LONGTEO). For developed countries, the mean (median) of POWDIS is 43 (38), INDIV is 69 (80), MASCU is 35 (14), UNCAVO is 57 (53) and LONGTEO is 63 (67) respectively. For emerging countries, the mean (median) POWDIS is 66 (68), INDIV is 31 (35), MASCU is 48 (53), UNCAVO is 66 (67) and LONGTEO is 34 (39). For developing countries, the mean (median) POWDIS is 57 (68), INDIV is 51 (46), MASCU is 27 (14), UNCAVO is 46 (53) and LONGTEO is 59 (58). The above indicates that developed countries exhibit a high mean on individualism, suggesting that individuals in most developed countries care for themselves and their immediate families only. However, high mean on long-term orientation suggest that developed countries deal with present and future challenges, encourage thrift and place a high value on future rewards

(Hofstede et al. 2010). Similarly, emerging and developing countries exhibit a high mean on power distance, suggesting that hierarchy and unequal power distribution in institutions and organizations are accepted. Table A2 in Appendix presents all variables used in the study.

4. RESEARCH DESIGN AND EMPIRICAL METHODOLOGY

4.1. Measuring normal/ expected core earnings to derive classification shifting.

We measure classification shifting in line with prior studies (Behn et al. 2013; Haw et al. 2011; Nissim and Penman 2001; Fan et al. 2010; McVay, 2006). As a first step, we develop a model for normal core earnings (NOR_CE) within each industry (Fama & French, 1997) and estimate NOR_CE from the following model:

$$NOR_CE = \beta_0 + \beta_1 CE_{t-1} + \beta_2 ATO + \beta_3 ACRUALS_{t-1} + \beta_4 \Delta SALES + \beta_5 NEG_\Delta SALES_t + \varepsilon_{t,} \quad (1)$$

where NOR_CE_t is the core earnings before non-core special items and depreciation, calculated as (Sales – Cost of Goods Sold – Selling, General and Administrative Expenses)/Sales. To estimate normal core earnings, we run model (1) and estimate variables coefficients using observations for each industry and fiscal year (industry-year) with a minimum of ten observations. Thereafter, we estimate the normal core earnings for each firm by multiplying the coefficients derived from normal core earnings model by the actual value of the variables included in the model. NOR_CE_{t-1} is the lagged normal core earnings included in the model because earlier studies indicate that core earnings are unrelenting (Fan et al., 2010, McVay's, 2006); ATO_t is the asset turnover ratio and we include this variable because the asset turnover could be inversely related to profit margin (Nissim and Penman 2001).

We include $ACCRUALS_{t-1}$, which is prior year operating accruals. Prior research shows earnings performance is found to be associated with the accruals (Fan et al., 2010, McVay, 2006). For international firms, we follow Francis and Wang (2008) to compute accruals, where accruals = (earnings before extraordinary items – operating cash flows) total assets in year t-1, where earnings before extraordinary items = net income – extraordinary items; operating cash flows = earnings before extraordinary items + depreciation and amortization + change in deferred income tax + change in untaxed reserve + change in other liabilities + minority interest – current accruals, where current accruals = change in non-cash working capital = Δ(total currents assets – cash and short-term investments – treasury stock shown as current assets - Δ(total current liabilities – total amount of debt in current liabilities – proposed dividends. In

addition, Baker et al., (2009) indicate that cost increases are associated with changes in activity level. Therefore, we include change in sales ΔSALES (and negative change in sales NEG_ΔSALES) as in the McVay (2006) model. Where $\Delta SALES$ is less than 0, otherwise zero.

As a second step, we estimate the unexpected core earnings (*UNEXP_CE*) as the difference between reported core earnings (*REP_CE*) and normal or expected core earnings (*NOR_CE*) for each firm. If firms would engage in classification shifting, then the unexpected core earnings would increase with special items (SPITEM). Therefore, in the empirical section, our main dependent variable is the unexpected core earnings (*UNEXP_CE*) while we shall include as independent variable special items (SPITEM). If the parameter estimate of the special items (SPITEM) is positive, this will imply that firms engage in classification shifting. On the other hand, if the parameter estimate of the special items (SPITEM) is negative, it implies no evidence of classification shifting.

As robustness of our classification shifting measure in the empirical section, we substitute prior year operating accruals (ACCRUALS) by working capital accruals (WC_ACC) as proposed by McVay (2006) expectation model. The aim is to eliminate bias in the expectation model resulting from depreciation expenses as reported by Athanasakou et al. (2009).

4.2 Main Panel Regression Model

The main dependent variable of our model is the unexpected core earnings (UNEXP_CE). When firms engage in classification shifting, unexpected core earnings increase with special items. We opt for the following general panel regression model:

$$UNEXP_CE = \beta_0 + \beta_1\, SPITEM + \beta_2\, SIZE + \beta_3\, MBV + \beta_4 LEV + \beta_6 ROA + \beta_7 GROWTH + \beta_8\, CAPINTEN + \beta_9 GDP + Year\ and\ Country\ Fixed\ Effects + \varepsilon_t \qquad (2)$$

where UNEXP_CE is unexpected core earnings and SPITEM is income-decreasing special items multiplied by negative one (-1). Note that when firms engage in classification shifting, unexpected core earnings increase with special items. Thus, the variable of interest is SPITEM. That is, the income-decreasing special items scaled by sales. The coefficient β_1 if positive, it would imply that firms are engaged in misclassification of core expenses into special items, insinuating that reported core earnings have been manipulated to exceed expectations. On the other hand, if the coefficient β_1 is negative, it is an indication that no classification shifting is

taking place. In line with prior studies (Behn et al. 2013, Fan et al. 2010, Boahen and Mamatzakis 2021), we include size and book to market value (MBV).[1] Consistent with Jarvinen and Myllymaki, (2016), we also include leverage (LEV) as control variable as firms could attempt to influence reported profit to meet debts covenant and secure external financing. We include the return on assets (ROA) to capture firm performance (Zalata and Roberts, 2016, McVay, 2006).[2] Following Athanasakou et al. (2009) and Leuz et al. (2003), Mamatzakis and Remoundos, (2011), Mamatzakis (2001), we control for GROWTH to capture for heterogeneity in wealth across countries.

4.2.1 Modelling the impact of national dimensions of culture on misclassification.

In this section, the general panel regression model in equation (1) would become specific to control for various dimensions of culture to test all hypotheses from 1a to 1e. This study's primary independent variable is the national cultural dimensions such as: the power distance (POWDIS), the individualism (INDIV), the uncertainty avoidance (UNCAVO), the masculinity (MASCU) and the long-term orientation (LONGTEO). Each of the five national cultural dimensions variables is tested. In some detail, we proceed with the estimation of the following specific panel regression models:

$$UNEXP_CE = \beta_0 + \beta_1\, SPITEM + \beta_2 POWDIS\ (or\ other\ cultural\ dimension\ variables) + \beta_3\, POWDIS \times SPITEM + \beta_4\, SIZE + \beta_5\, MBV + \beta_6 LEV + \beta_7 ROA + \beta_8 GROWTH + \beta_9\, CAPINTEN + \beta_{10} GDP + Year\ \&\ Country\ Fixed\ Effects + \varepsilon_t \quad (3)$$

Note that the above panel regression models also include interaction terms between the main explanatory variables: the power distance, individualism, uncertainty avoidance, masculinity and the long-term orientation cultural scores. This identification strategy would allow us to disentangle the various channels of how culture and its components would affect classification shifting. If culture helps to mitigate classification shifting, we expect a negative and significant coefficient on the interactive term between cultural dimension variables and negative special items (that is, in the coefficients of CULTURE×SPITEM; POWDIS×SPITEM, INDIV×SPITEM, UNCAVO×SPITEM, MASCU×SPITEM and LONGTEO×SPITEM). Prior studies have used Hofstede's cultural dimensions and stated that these measures have

[1] Firm size (SIZE) is also included as control variable because Callen et al. (2011) indicate that small firms are more likely to influence reported core earnings than large firms and book to market value (BMV) is included to control for the effects of market capitalisation (Haw et al. 2011).

[2] Poor performing firms are more likely to engage in classification shifting and therefore the co-efficient of ROA could be negative (Behn et al. 2013).

significant explanatory power for accounting environments (Boateng et al., 2021; El-Helaly et al., 2020).

4.2.2 Modelling the impact of interaction between national culture and legal environment.

In hypothesis 2, we opt for the following model to establish the joint effect of the interactive term between legal environment and culture, LEGALENF×CULTURE (LEGALCUL):

$$UNEXP_CE = \beta_0 + \beta_1 SPITEM + \beta_2 CULTURE + \beta_3 BCULTURE \times SPITEM + \beta_4 LEGALENF + \beta_5 LEGALENF \times SPITEM + \beta_6 CULTURE \times LEGALENF + \beta_7 SIZE + \beta_8 MBV + \beta_9 LEV + \beta_{10} ROA + \beta_{11} GROWTH + \beta_{12} CAPINTEN + \beta_{13} GDP + Year\ \&\ Country\ Fixed\ Effects + \varepsilon_t \quad (4)$$

where CULTURE denotes our proxies for national cultural dimension variables. LEGALENF is the average score across three legal variables, namely (i) the level of corruption index, (ii) an index of the assessment of rule of law and (iii) an index of the efficiency of the judicial system. A significant and negative relationship between classification shifting and the interaction between proxies of national culture and strong legal environment (CULTURE×LEGALENF) is predicted. We include these interaction terms to investigate how legal environments affect classification shifting through special items.

5. EMPIRICAL REGRESSION RESULTS AND DISCUSSIONS

In what follows, we employ panel fixed-effects regressions after conducting Hausman specification test to account for differences in countries and variations in firms' sizes (Elshandidy and Neri, 2015 Ntim et al., 2013, Behn et al., 2013; Haw et al., 2011). We opt for Wald joint-hypothesis test to streamline the number of insignificant variables in line with (Garcia-Herroro, et al., 2009, Dietrich and Wanzenried, 2014). Wald test is estimated to ensure that the coefficients of the variables that are insignificant equal to zero. That is, we reject the null hypothesis, if the p-value is less than 10% (that's significant) and include the control variable in the model. On the other hand, if the p-value is greater than 10% (insignificant), we exclude the control variable from the model. We also estimate the variance inflation factor (VIF) for the independent variables and the highest VIF among all the independent variables is below 3.4. Green (2012) indicates that a VIF of 10 or less is a good sign of non-multicollinearity problems. The correlation coefficients support the validity of the model and the multivariate regression results will further confirm the relationship.

5.1 Preliminary Testing for Endogeneity

It is worth noting that endogeneity can be a significant issue in panel data analysis. Endogeneity occurs when there is a correlation between the explanatory variables, in our case SPITEM, and the error term in the regression model. This correlation can lead to biased and inconsistent parameter estimates, making it difficult to establish causal relationships between variables. To address such issues, it is important to employ appropriate techniques to mitigate endogeneity, such as instrumental variable (IV) estimation, fixed effects models, or dynamic panel data models. Instrumental variables help address endogeneity by using variables that are correlated with the endogenous variables but are not correlated with the error term.

Moreover, in the case of classification shifting, endogeneity arises when firm-specific characteristics, managerial incentives, or market conditions affect both the decision to classify items as special items and the reported earnings. For example, managers may strategically classify certain expenses as special items to meet earnings targets or to manipulate financial ratios. At the same time, these managerial incentives and behaviours can also impact reported earnings. Endogeneity can introduce bias in the estimation of the relationship between classification shifting and reported earnings. To the best of our knowledge endogeneity has not been reported in classification shifting identification models like the one in the current study. In some detail, our classification shifting model follows from prior studies (Behn et al. 2013; Haw et al. 2011; Nissim and Penman 2001; Fan et al. 2010; McVay, 2006) that address endogeneity concerns panel fixed effects models that do not suffer from endogeneity bias.

However, to ensure that our models are not subject to endogeneity issues, we test for endogeneity using Sargan-Hansen statistic. To perform the endogeneity test, we run our panel data regression model with fixed effects and obtain the predicted values (fitted values) from the estimated equation (Koutsomanoli-Filippaki and Mamatzakis, 2011). Then, we run the second-stage regression by regressing the dependent variable on the exogenous variables, the instrumental variables, and the residuals from the first-stage regression and obtain the residuals from the second-stage regression. We calculate the Sargan-Hansen statistic by taking the sum of squared residuals from the second-stage regression. The Sargan-Hansen statistic is $X^2(1) = 0.05$ with a P-value = 0.8313. Thus, the difference in coefficients between 2SLS with fixed effects and panel fixed effects is not systematic. Therefore, we find no evidence of endogeneity in the underlying classification shifting model.

5.2 Testing Existence of Classification Shifting in Global Sub-sample

Initially, we examine whether there is classification shifting in the full sample. Next, we examine the existence of classification shifting in the sub-samples for the developed, emerging and developing countries. For the full-sample and each sub-sample, if firms engage in classification shifting, then, the coefficient on income-decreasing special items (SPITEM) should be positive and significant. Table 2 presents regression results and regardless of the sub-sample, we find a positive relationship between SPITEM and unexpected core earnings (UNEXP_CE) at 1% or 5% significant level for emerging, developing or developed countries, confirming the existence of misclassification across the world. Our results are consistent with Behn et al. (2013) and Haw et al. (2011) on classification shifting.

The results for the firm-level and country-level control variables are also consistent with expectations. In particular, SIZE, ROA, MBV and LEV are significantly negative/positive associated with the magnitude of classification shifting, suggesting that firms engage in classification shifting to improve their reported core earnings when profits are low or securing external financing. Clearly, classification shifting is pervasive management behaviour in all the sub-samples, with greater evidence of misclassification occurring in emerging and developed countries as indicated by the coefficients which are statistically significant at 1% level.

(INSERT TABLE 2 HERE)

5.3. Testing Relationship between National Cultural Dimensions Variables and Classification Shifting

To test hypotheses 1a to 1e, we employ model 3 to examine the role of national culture on classification shifting. First, classification shifting measures (UNEXP_CE) are regressed with the national cultural dimensions of the full sample. Then, the analysis is repeated on the cultural dimensions for the developed, emerging and developed countries sub-samples. Tables 3 to 7 present the regression results for the full sample and sub-samples for the baseline and augmented model results for developed, emerging and developing countries. In both the full sample and sub-samples, our results show that all national cultural dimensions variables are significant at 1% except POWDIS, MASCU, INDIV and UNCAVO (which is only weakly significant at 10%) in developed countries. In contrast, MASCU and LONGTEO cultural dimensions variables in the developing and emerging countries are insignificant. The results suggest that national cultural dimensions affect the quality of financial reporting, through the channel of expense misclassification. Note that our paper does not make a prediction about

which national cultural dimensions have a larger effect on classification shifting and financial reporting quality.

(INSERT TABLES 2-3)

However, consistent with hypothesis 1a, the results in Table 3 indicate that power distance cultural dimension is positively related to classification shifting at 1% and 5% significant level in both developing and emerging countries respectively. On the contrary, in developed countries the effect of power distance on classification shifting is statistically insignificant. Note that a higher score on power distance signifies more power inequality and a lower score indicates more power equality. Hofstede et al., (2010) observe that in high power distance cultures, individuals accept and expect unequal power distribution. Li et al. (2013) indicate that in countries with high power distance, financial reporting is used by top management as a power holders' tool to usurp authority and control. Consistent with this view, our findings contribute to the extant literature and support the notion that in countries with high levels of power distance (e.g., developing, and emerging economies), management resorts to classification shifting as a tool to enhance their managerial power by portraying outstanding financial performance as they would face little challenge by less powerful individuals (Callen et al., 2011, Han et al. 2010).[3] It is worth noting that power distance measures power inequality and shows that individuals with low power within a country would not challenge more powerful individuals like firm managers. This would imply that individuals of subordinate occupations would not object opportunistic classification shifting behaviour of top management. In countries with high power distance, individuals in management (with managerial power) will be less likely to be challenged for the quality of their financial reporting decisions.

Next, we test hypothesis 1b. Results in Table 4 show a significantly negative association between the individualism dimensions and the magnitude of classification shifting in developed and emerging countries, suggesting that individualist cultures emphasize justice, fairness, and the universal application of rules and law more than collectivist cultures, which erect barriers to classification shifting practices (Zhang et al., 2013). On the contrary, we show a significantly positive association between individualism cultural dimensions and classification shifting in developing countries, suggesting that developing countries exhibit

[3] Hofstede et al. (2010) and Han et al (2010) confirm that power inequality exists in developing and emerging countries.

higher degree of close family ties that would put pressure on individuals to engage in nepotism, bribery, corrupt practices, and misclassification of core expenses. The findings are consistent with Callen et al. (2011) and Desender et al. (2011) who observe a negative relationship between high individualism and accruals manipulation. However, they did not indicate the positive impact of individualism on classification shifting in developing countries.

(INSERT TABLES 4-5)

We also test hypothesis 1c. Table 5 presents the results and indicate that uncertainty avoidance is positive and significantly related to classification shifting for all sub-samples. Low uncertainty avoiding culture is characterised by more tolerance for uncertainty or ambiguity and less focus on stern rules and regulations (Boahen and Mamatzakis, 2021; Hofstede et al., 2010, Li et al., 2013). Our results confirm that classification shifting increases in low uncertainty avoiding cultures because of limited regulation, vigilance and rules. Doupnik, (2008) observes that low uncertainty avoidance cultures are expected to keep earnings and profits predictable and stable, and the desire "to control the future, and earnings smoothing is consistent with this desire". Consistent with this assertion, a positive association is observed between the uncertainty avoidance cultural dimension and the magnitude of classification shifting, which supports deterioration in financial reporting quality. Again, our result is consistent with Guan et al. (2006) who report a negative relationship between discretionary accruals and high uncertainty avoiding cultures, suggesting that firms in low uncertainty avoiding cultures are more likely to engage in illegal and unethical business practices.

In addition, we test hypothesis 1d. Table 6 presents the results and indicate that there is a positive and significant relationship between masculinity and classification shifting in developing, emerging and developed countries. Davis and Abdurazokzoda (2015) and Klasing (2013) indicate that high masculinity countries are associated with a masculine work role model, high control, power, assertiveness, and a strong strive for achievement in terms of ego boasting and wealth recognition. Our results suggest that in high masculinity cultures, firm managers' incentive to engage in misclassification is high to gain further control, power, recognition, and wealth consistent with Abdurazokzoda (2015) and Klasing (2013).

(INSERT TABLES 6-8)

At the same time, the results in Table 7 show a negative and significant relationship between long-term oriented cultures and classification shifting (LONGSPI and UNEXP_CE) in developed and emerging countries, suggesting that short-term oriented cultures emphasize

truth over virtue to a much larger degree. Again, the incentive to misclassify core expenses to boost reported core earnings is subdued in developed and emerging countries because they are long-term oriented and are not focussed on current earnings (Hans et al. 2010). On the contrary, the positive and significant relationship between long-term orientation dimension and classification shifting in developing countries, suggest that developing countries emphasize virtue over truth, meaning that what works is more important than what is right, leading to a different notion of ethical activity (Haga et al., 2019; Han et al., 2010). Finally, we include all cultural dimension variables in Table 8 as part of specific to general identification strategy. Results and our inferences remain consistent with previous results in Tables 3 to 7 where we employ individual cultural dimension variables, thus providing strong support for our findings.

5.4. Testing the relationship between Legal Environment and Classification Shifting

To test hypothesis 2, we employ model 4 to examine the relationship between legal environment and classification shifting. Tables 9 and 10 present our regression results. In Table 10, we control for all national cultural dimensions' and show that the relationship between legal environment (LEGALENF) and classification shifting (UNEXP_CE) is negative and significant at 1% in the sub-samples for emerging and developed countries. However, the relationship is negative and only weakly significant at 10% in developing countries. The results suggest that strong country-wide legal environment subdues expense misclassification in developed and emerging countries, confirming the findings of prior studies (Behn et al. 2013; Haw et al. 2011).

(INSERT TABLES 9-10 HERE)

Furthermore, we examine the impact of the interactive term between the legal environment and national dimensions of culture dimensions on classification shifting. We proceed with the estimation of several panel regressions for all the sub-samples but in the interest of parsimony, we combine all into Table 11 which shows only one regression result for each sub-sample. Specifically, we examine POWD×LEG×SPI, INDIV×LEG×SPI, MASCU×LEG×SPI, UNCAV×LEG×SPI and LONGT×LEG×SPI on UNEXP_CE. The results for developed, emerging and developing countries indicate that all the interactive terms are negatively related to UNEXP_CE in the sub-samples. This suggests that strong legal environment moderates power distance, individualism, masculinity, uncertainty avoidance and long-term orientation cultural dimensions to improve the quality of financial reporting and mitigate classification shifting behaviour around the world.

(INSERT TABLES 11 HERE)

The results confirm that law influences culture and culture influences law (Varner and Varner, 2014, Sagay and Stuart, 2008). Therefore, the interaction terms between individualism, masculinity, long-term orientation, and strong legal environment in developed, emerging and developing countries have the potential to subjugate managerial opportunistic expense misclassification to improve financial reporting quality. Thus, strong legal environment in developed, emerging and developing countries complements the culture of individualism, long-term orientation, and masculinity to quell unethical expense misclassification behaviour. With developing countries, all the interactive terms are negatively and significantly related to classification shifting. Therefore, we document evidence of a negative impact of national culture on classification shifting when a strong legal environment interacts with national culture in developed, emerging and developing countries. We report that the legal environment should be strengthened by governments, authorities, and policy makers in developing countries to subdue misclassification because of the prevailing cultural dimensions. Overall, we demonstrate that the legal environment interacts strongly with national culture and that these factors have a joint impact on classification shifting behaviour world-wide. The legal environment moderates the impact of culture on expense misclassification. This shows that culture influences law and law influences culture (Varner and Varner, 2014, Sagay and Stuart, 2008). A strong legal environment moderates the impact of national culture on classification shifting.

5. 5. Robustness Analysis: Validity of the Expectation Model

As robustness, we examine the impact of classification shifting on normal core earnings (NOR_CE) as the dependent variable. Thus, we replace the prior year operating accruals (ACCRUALS) with working capital accruals (WC_ACC), following McVay (2006) expectation model. This substitution addresses any bias that may arise from depreciation expenses, as highlighted by Athanasakou et al. (2009).

(INSERT TABLES 12 HERE)

Table 12 reports that the coefficient on SPITEM remains positive and statistically significant across all sub-samples. These findings provide further confirmation that firms engage in the misclassification of expenses to artificially inflate reported core earnings on a global scale. This robustness analysis strengthens our understanding of the prevalence and significance of

classification shifting practices and reinforces the conclusions drawn from our main analysis. Please refer to Table 12 for detailed regression results.

Furthermore, in response to the argument by Fan et al. (2010) regarding model bias resulting from the inclusion of special items accruals, we follow the approach of prior studies (Haw et al., 2011; McVay, 2008) and exclude accruals from the expectation model (1). Despite excluding accruals, the results remain consistent in column (2), indicating a positive and significant relationship between SPITEM and UNEXP_CE. This finding confirms the existence of expense misclassification across different regions. We present additional regression results to illustrate the associations between POWDSPI, INDIVSPI, MASCUSPI, UNCAVSPI, LONGSPI, LEGALSPI, and UNEXP_CE when working capital accruals or no accruals are included in the expectation model. Moreover, in line with the studies by Li and Zahra (2012) and Herrmann-Pillatha et al. (2014), our results confirm that POWDSPI, MASCUSPI, and UNCAVSPI remain positively and significantly related to classification shifting. Consistent with the main findings, INDIVSPI and LONGSPI exhibit negative and significant associations with classification behaviour. We also investigate the moderating role of the legal environment on the relationship between cultural variables and expense misclassification, and the results align with the main findings, reaffirming our conclusions. The interaction terms between the legal environment and national culture dimensions demonstrate a significant negative impact on classification shifting. Overall, our inferences remain consistent, providing strong support for our main findings.

Given the heterogeneous nature of the sample, and in line with Dietrich and Wanzenried (2014) (Koutsomanoli-Filippaki and Mamatzakis, 2011), we proceed with further robustness tests to ensure that the findings are not driven by large number of firm year observations of some countries, by extreme values in the data or by specific data characteristics. Leuz et al. (2003) indicate that the results might be influenced by firm-year observations across countries due to variations in country size, the availability of financial information and capital markets developments. Behn et al. (2013) excluded U.S., Japan, and U.K. firm year observations to avoid a situation where the results are driven by extreme large or low data from these countries. We report all the results of the censored data in Table 12. Initially, we estimate panel regression models to exclude U.S, Japan, and U.K. firm year observations. Results are in line with one reported earlier.

6. CONCLUSION

We present comprehensive international evidence on the phenomenon of classification shifting across 63 countries worldwide. Our analysis uncovers that power distance, masculinity, and uncertainty avoidance exhibit positive and significant associations with classification shifting behaviour in developed, emerging, and developing countries. Notably, the impact of masculinity and power distance on classification shifting is more pronounced in emerging and developing countries compared to developed countries. Conversely, we find that individualism and long-term orientation act as deterrents to classification shifting behaviour in developed and emerging countries, with a more profound effect observed in developed countries. However, contrary to expectations, we find that developing countries, despite being low on individualism (leaning more towards collectivism), demonstrate a positive relationship between individualism and classification shifting. Furthermore, our analysis reveals that the legal environment plays a restraining role in classification shifting behaviour in both developed and emerging countries. However, in developing countries, we observe a weakly significant negative relationship between the legal environment and classification shifting behaviour. To strengthen the robustness of our findings, we explore the interaction between the legal environment and national cultural dimensions. Our results indicate that the legal environment complements national culture in curbing classification shifting behaviour. Moreover, we find that the joint effect of the legal environment and national culture neutralizes the positive relationship observed between power distance, masculinity, uncertainty avoidance, and expense misclassification. Additionally, we identify that the interactive term between individualism, long-term orientation, and the legal environment has a negative impact on classification shifting behaviour in developing countries. Consequently, the positive relationship between individualism, long-term orientation, and classification shifting can no longer be observed in developing countries.

It is worth noting that in measuring classification shifting, we rely on information provided in financial statements. However, financial statements may be subject to measurement errors. To count for such measurement errors, we consider robustness analysis with alternative definitions of key variables. In addition, cultural differences could be present at the firm level. Future research should explore such measurement issues as well as focus on assembling new data sets of culture at the firm level. It is imperative to collect data on cultural variables at the firm level across the world. Global organisations such as World Bank could assist with this direction.

The implications of our research for policymakers and countries are evident. It is crucial for countries to prioritize the strengthening of their institutional framework, particularly the legal environment, to combat classification shifting behaviour and discourage unethical financial reporting practices such as earnings management. Our study reveals that a robust legal environment serves as a deterrent against classification shifting by establishing mechanisms to ensure the quality of financial reporting. Furthermore, our findings underscore the importance of moderating certain cultural dimensions, such as power distance, masculinity, and uncertainty avoidance, through the influence of a strong legal environment. For instance, in countries characterized by high power distance, where management is less likely to be challenged regarding the quality of their financial reporting, strengthening the legal environment becomes crucial. By doing so, the legal framework can safeguard the interests of individuals who hold less power within organizations, enabling them to expose practices such as classification shifting. In conclusion, our research highlights the necessity of bolstering institutional frameworks and legal environments to effectively curb classification shifting behaviour. By fostering a strong legal environment that interacts synergistically with national cultural dimensions, countries can enhance the quality of financial reporting and mitigate unethical practices, ultimately fostering transparency and accountability in corporate reporting.

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Table 1a: Descriptive Statistics (Developed Countries)

Variables	Count	Mean	Median	Std Dev	Min	Max
SALE	189,173	81112.4	82490	230596	0.000	3033899
REP_CE	189,173	0.0187	0.0189	0.011	0.003	0.210
UNEXP_CE	189,173	0.0152	0.014	0.124	0.000	0.667
SPITEM	189,173	0.0209	0.0201	0.059	0.000	0.264
ATO	189,173	3.7171	2.321	8.707	0.700	5.673
ACCRUALS	189,173	0.1742	0.163	0.168	-0.104	0.591
ΔSALES	189,173	0.1090	0.043	0.396	0.053	0.170
NEG_ΔSALES	189,173	-0.0781	0.032	0.350	-0.039	0.146
		Control Variables				
SIZE	189,173	7.6969	7.6128	3.3822	0.0576	15.802
ROA	189,173	0.0779	0.0351	0.2080	0.0092	0.3968
MBV	189,173	2.7691	2.0271	3.3681	1.4691	2.9862
LEV	189,173	0.5075	0.4902	0.3276	0.0067	2.1398
CAPINTEN	189,173	0.091	0.043	0.3032	-0.0532	0.1701
GDP	189,173	26199	26310	5519.8	641.584	87131
GROWTH	189,173	0.735	0.651	0.5521	0.6182	0.9761
		Cultural Variables				
LEGALENF	189,173	8.663	9.109	1.119	6.752	9.901
POWDIS	189,173	43.371	38	12.735	11	100
INDIV	189,173	68.641	80	20.865	13	91
MASCU	189,173	34.619	14	26.938	5	95
UNCAVO	189,173	57.072	53	18.691	8	100
LONGTEO	189,173	63.504	67	16.836	13	100

Table 1b: Descriptive Statistics (Emerging Countries)

Variables	Count	Mean	Median	Std Dev	Min	Max
SALE	152,001	43628.5	43400	36144	0.000	111316
REP_CE	152,001	0.0135	0.0129	0.0102	0.005	0.415
UNEXP_CE	152,001	0.0151	0.0431	0.181	-0.008	0.589
SPITEM	152,001	0.0113	0.000	0.043	0.000	0.264
ATO	152,001	2.1501	1.953	2.322	-1.984	5.011
ACCRUALS	152,001	-0.0341	-0.028	0.324	0.152	0.455
ΔSALES	152,001	0.1640	0.110	0.380	-0.023	0.273
NEG_ΔSALES	152,001	0.1370	0.071	0.360	-0.012	0.212
		Control Variables				
SIZE	152,001	6.6740	6.3863	2.89612	-0.05762	12.8026
ROA	152,001	0.0531	0.05178	0.12121	-0.92246	0.39680
MBV	152,001	2.8553	1.92054	3.65729	-5.71811	27.2529
LEV	152,001	0.5036	0.48210	0.32411	0.00677	2.1398
CAPINTEN	152,001	140.867	1.58681	20953.9	-615493.	9791341
GDP	152,001	19034	11087	5013	247	61926
GROWTH	152,001	0.1265	0.0762	0.1810	0.00047	1.4360
		Cultural Variables				
LEGALENF	152,001	5.96	5.92	1.22	3.44	8.11
POWDIS	152,001	66.34	68.32	16.83	30.69	99.01

INDIV	152,001	30.69	34.65	18.81	11.88	79.21
MASCU	152,001	47.52	52.48	17.82	12.87	87.13
UNCAVO	152,001	66.34	67.33	20.79	29.70	94.06
LONGTEO	152,001	33.66	38.61	28.71	12.87	100

Table 1c: Descriptive Statistics (Developing Countries)

Variables	Count	Mean	Median	Std Dev	Min	Max
SALE	10,913	12117.4	12003.1	5696.0	0.000	103266
REP_CE	10,913	0.0115	0.0116	0.0735	0.004	0.909
UNEXP_CE	10,913	0.0117	0.0118	0.558	0.009	0.633
SPITEM	10,913	0.0016	0.0015	0.032	0.000	0.265
ATO	10,913	0.560	1.724	29.055	-6.672	128.850
ACCRUALS	10,913	0.274	0.246	0.175	-0.105	0.591
ΔSALES	10,913	0.161	0.126	0.213	-0.114	0.311
NEG_ΔSALES	10,913	0.114	0.101	0.119	-0.021	0.341
			Control Variables			
SIZE	10,913	5.474	5.578	3.439	-0.058	10.803
ROA	10,913	0.075	0.065	0.099	-0.922	0.397
MBV	10,913	3.545	2.167	4.143	-5.718	27.253
LEV	10,913	0.537	0.533	0.291	0.007	2.140
CAPINTEN	10,913	0.404	0.460	0.259	0.075	0.593
GDP	10,913	7870	4984.5	3127	135	22163
GROWTH	10,913	0.107	0.062	0.162	0.000	1.436
			Cultural Variables			
LEGALENF	10,913	5.109	5.355	0.709	3.800	6.373
POWDIS	10,913	56.589	68.000	17.703	18.000	100.000
INDIV	10,913	50.605	46.000	26.876	13.000	90.000
MASCU	10,913	27.190	14.000	15.327	5.000	69.000
UNCAVO	10,913	45.677	53.000	13.339	23.000	99.000
LONGTEO	10,913	59.426	58.000	12.318	0.000	100.000

Notes: Authors' estimations.

Table 2: Testing Existence of Misclassification in the Global sub-Samples

	Full Sample	Developed	Emerging	Developing
SPITEM	0.282***	0.382***	0.481***	0.265*
	(0.0432)	(0.0693)	(0.0517)	(0.145)
SIZE	-0.0313***	-0.0504***	-0.0221***	-0.0101*
	(0.00236)	(0.00516)	(0.00230)	(0.00578)
ROA	-0.501***	-0.859***	-0.00623	-0.279***
	(0.0211)	(0.0341)	(0.0256)	(0.0637)
MBV	0.00223***	0.00253**	0.000469	0.00674***
	(0.000648)	(0.00116)	(0.000700)	(0.00158)
LEV	0.608***	0.318***	0.879***	0.616***
	(0.0105)	(0.0192)	(0.0108)	(0.0301)
GDP	0.00825	0.0258	-0.00113	-0.0124
	(0.0118)	(0.0205)	(0.0126)	(0.0301)
CAPINTEN	0.0705***	0.0548***	0.0465***	0.0225***
	(0.000443)	(0.000822)	(0.000303)	(0.000779)
GROWTH	0.0183***	0.115***	-0.0600***	-0.158***
	(0.00636)	(0.0117)	(0.00658)	(0.0146)
Constant	0.144***	-0.148***	0.401***	0.681***
	(0.0189)	(0.0377)	(0.0193)	(0.0595)
Observations	352,087	189,173	152,001	10,913
R-squared	0.31	0.32	0.38	0.28
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 3: Regression of Power Distance Cultural Dimension on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.399***	0.299***	0.557***	0.359***
	(0.132)	(0.0245)	(0.203)	(0.048)
POWDIS	0.000840***	0.00745***	0.00163***	0.000870***
	(0.000153)	(0.000455)	(0.000120)	(0.000275)
POWDSPI	0.00540**	0.00419	0.00653**	0.0326***
	(0.00223)	(0.00522)	(0.00278)	(0.00768)
SIZE	-0.0453***	-0.101***	-0.0108***	-0.0285***
	(0.00286)	(0.00629)	(0.00245)	(0.00701)
ROA	-0.685***	-0.193***	0.0100	-0.435***
	(0.0232)	(0.0385)	(0.0257)	(0.0609)
MBV	0.00211***	0.00294**	0.000629	-0.00478***
	(0.000701)	(0.00127)	(0.000705)	(0.00148)
LEV	0.614***	0.247***	0.883***	0.761***
	(0.0116)	(0.0226)	(0.0108)	(0.0296)
GDP	0.00454	0.0439*	0.00611	-0.0345
	(0.0128)	(0.0229)	(0.0127)	(0.0300)
CAPINTEN	0.00069***	0.000534***	0.00465***	0.0221***
	(0.000046)	(0.000056)	(0.00037)	(0.000743)
GROWTH	0.0324***	0.167***	-0.0547***	-0.158***
	(0.00688)	(0.0132)	(0.00661)	(0.0138)
Constant	-0.0172	-0.526***	0.382***	0.998***
	(0.0221)	(0.0494)	(0.0194)	(0.0675)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.38	0.45	0.33
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 4: Regression of Individualism Cultural Dimension on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.547***	0.752***	0.579***	0.696***
	(0.108)	(0.241)	(0.103)	(0.317)
INDIV	-0.000594***	0.000732**	-0.00132***	0.000875***
	(0.000122)	(0.000303)	(9.95e-05)	(0.000249)
INDIVSPI	-0.00959***	-0.00519**	-0.0108***	0.0292***
	(0.00168)	(0.00327)	(0.00216)	(0.00597)
SIZE	-0.0454***	-0.102***	-0.00970***	-0.0286***
	(0.00287)	(0.00633)	(0.00247)	(0.00690)
ROA	-0.685***	-0.190***	-0.0115	-0.437***
	(0.0232)	(0.0385)	(0.0257)	(0.0609)
MBV	0.00209***	0.00294**	0.000554	-0.00487***
	(0.000701)	(0.00127)	(0.000705)	(0.00148)
LEV	0.614***	0.247***	0.883***	0.761***
	(0.0116)	(0.0226)	(0.0108)	(0.0296)
GDP	0.00484	0.0429*	0.00521	-0.0343
	(0.0128)	(0.0229)	(0.0127)	(0.0300)
CAPINTEN	0.0095***	0.0034***	0.00405***	0.00221***
	(0.0007)	(0.0006)	(0.0007)	(0.0004)
GROWTH	0.0328***	0.167***	-0.0548***	-0.158***
	(0.00688)	(0.0132)	(0.00661)	(0.0138)
CONSTANT	0.0622**	-0.618***	0.561***	0.909***
	(0.0255)	(0.0529)	(0.0226)	(0.0750)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.38	0.35	0.27
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 5: Regression of Uncertainty Avoidance on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.577***	0.618***	0.731***	0.886**
	(0.129)	(0.225)	(0.131)	(0.445)
UNCAVO	0.0967***	0.0608*	0.0161***	0.0438***
	(0.0019)	(0.00319)	(0.00204)	(0.00374)
UNCAVOSPI	0.00168	0.00405	0.00290	0.00811
	(0.00244)	(0.00416)	(0.00262)	(0.00724)
SIZE	-0.0489***	-0.101***	-0.0192***	-0.0348***
	(0.00275)	(0.00628)	(0.00234)	(0.00657)
ROA	-0.680***	-0.194***	-0.000956	-0.430***
	(0.0232)	(0.0385)	(0.0257)	(0.0610)
MBV	0.00203***	0.00293**	0.000571	-0.00486***
	(0.000701)	(0.00127)	(0.000706)	(0.00149)
LEV	0.611***	0.247***	0.878***	0.762***
	(0.0116)	(0.0226)	(0.0108)	(0.0297)
GDP	0.00155	0.0438*	0.00146	-0.0294
	(0.0128)	(0.0229)	(0.0127)	(0.0300)
CAPINTEN	0.06***	0.034***	0.05***	0.0221***
	(0.007)	(0.006)	(0.0037)	(0.000745)
GROWTH	0.0306***	0.168***	-0.0582***	-0.156***
	(0.00688)	(0.0131)	(0.00661)	(0.0138)
CONSTANT	0.0520**	-0.524***	0.499***	0.987***
	(0.0246)	(0.0490)	(0.0230)	(0.0719)
Observations	352,087	189,173	152,001	10,913
R-squared	0.36	0.35	0.43	0.29
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

*** ** *** **

Table 6: Regression of Masculinity Cultural Dimensions on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.648***	0.596***	0.778***	0.796***
	(0.0937)	(0.137)	(0.138)	(0.175)
MASCU	0.000547***	0.000402*	0.00162***	0.000361
	(0.000117)	(0.000215)	(0.000111)	(0.000476)
MASCUSPI	0.0109***	0.0171***	0.00479*	0.0307***
	(0.00195)	(0.00315)	(0.00253)	(0.00816)
SIZE	-0.0463***	-0.105***	-0.0916***	-0.0363***
	(0.00289)	(0.00649)	(0.00247)	(0.00651)
ROA	-0.684***	-0.091***	-0.0115	-0.429***
	(0.0232)	(0.0386)	(0.0257)	(0.0609)
MBV	0.00208***	0.00285**	0.000636	-0.00510***
	(0.000701)	(0.00127)	(0.000705)	(0.00148)
LEV	0.611***	0.243***	0.884***	0.760***
	(0.0116)	(0.0226)	(0.0108)	(0.0296)
GDP	0.00334	0.0384*	0.00639	-0.0297
	(0.0128)	(0.0230)	(0.0127)	(0.0300)
CAPINTEN	0.04***	0.028***	0.045***	0.013***
	(0.009)	(0.01)	(0.004)	(0.0037)
GROWTH	0.030***	0.164***	-0.0547***	-0.156***
	(0.00689)	(0.0132)	(0.00661)	(0.0138)
CONSTANT	-0.000283	-0.577***	0.428***	1.032***
	(0.0220)	(0.0465)	(0.0194)	(0.0690)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.38	0.31	0.27
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 7: Regression of Long-term Orientation Score and Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.720***	0.553***	0.604***	0.763***
	(0.141)	(0.139)	(0.159)	(0.169)
LONGTEO	-0.00611	-0.000671**	-0.000531***	-0.000312
	(0.000173)	(0.000311)	(0.000174)	(0.000372)
LONGSPI	-0.0307***	-0.0409***	-0.0175***	-0.0226**
	(0.00222)	(0.00394)	(0.00235)	(0.0110)
SIZE	-0.0502***	-0.102***	-0.0221***	-0.0342***
	(0.00274)	(0.00628)	(0.00230)	(0.00709)
ROA	-0.681***	-0.187***	-0.00326	-0.428***
	(0.0231)	(0.0385)	(0.0257)	(0.0611)
MBV	0.00192***	0.00280**	0.000407	-0.00504***
	(0.000701)	(0.00126)	(0.000706)	(0.00148)
LEV	0.611***	0.243***	0.880***	0.757***
	(0.0116)	(0.0226)	(0.0108)	(0.0296)
GDP	-0.00101	0.0409*	-0.00298	-0.0314
	(0.0128)	(0.0229)	(0.0127)	(0.0301)
CAPINTEN	0.0051***	0.000533***	-0.0036***	-0.0221***
	(0.0007)	(8.49e-06)	(0.0007)	(0.000745)
GROWTH	0.0305***	0.167***	-0.0595***	-0.156***
	(0.00687)	(0.0131)	(0.00660)	(0.0138)
Constant	-0.00266	-0.526***	0.369***	0.981***
	(0.0247)	(0.0509)	(0.0222)	(0.0834)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.54	0.43	0.26
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 8: Regression of National Culture Dimensions on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.308***	0.424***	0.784*	0.402***
	(0.135)	(0.0634)	(0.174)	(0.095)
INDIV	-0.000222	0.000371	-0.000219	0.00130***
	(0.000180)	(0.000407)	(0.000249)	(0.000344)
INDIVSPI	-0.00850***	-0.0114***	-0.0331***	-0.0281***
	(0.00220)	(0.00420)	(0.00349)	(0.0100)
UNCAVO	-0.00118***	-7.41e-05	0.000144	0.000261
	(0.000192)	(0.000409)	(0.000267)	(0.000388)
UNCAVOSPI	0.00920***	-0.00470	0.0236***	0.00820
	(0.00260)	(0.00436)	(0.00348)	(0.00729)
MASCU	0.000516***	-0.000294	0.00154***	0.000724
	(0.000174)	(0.000275)	(0.000290)	(0.000546)
MASCUSPI	-0.00941***	0.00199	-0.0305***	0.00453
	(0.00248)	(0.00416)	(0.00402)	(0.0122)
LONGTEO	-0.0153***	-0.000578	-0.00111***	-0.000762*
	(0.0077)	(0.000352)	(0.000213)	(0.000461)
LONGSPI	0.0275***	0.0470***	0.0247***	0.00699
	(0.00262)	(0.00556)	(0.00295)	(0.0130)
SIZE	-0.0436***	-0.105***	-0.0741***	-0.0288***
	(0.00292)	(0.00654)	(0.00249)	(0.00727)
ROA	-0.689***	0.187***	-0.0115	-0.433***
	(0.0232)	(0.0386)	(0.0257)	(0.0609)
MBV	0.002***	0.00268**	0.000462	-0.00470***
	(0.000701)	(0.00127)	(0.000705)	(0.00149)
LEV	0.612***	0.241***	0.881***	0.765***
	(0.0116)	(0.0226)	(0.0108)	(0.0297)
GDP	0.00177	0.0364	0.00298	-0.0306
	(0.0128)	(0.0230)	(0.0126)	(0.0300)
CAPINTEN	0.031***	0.036***	0.041***	0.028***
	(0.009)	(0.01)	(0.004)	(0.0037)
GROWTH	0.0332***	0.164***	-0.0546***	-0.158***
	(0.00689)	(0.0132)	(0.00660)	(0.0138)
Constant	0.101***	-0.563***	0.378***	0.906***
	(0.0329)	(0.0725)	(0.0408)	(0.0908)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.41	0.40	0.27
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 9: Regression of Legal Environment and Classification Shifting

	Full sample	Developed	Emerging	Developing
SPITEM	0.633***	0.752***	0.144***	0.771***
	(0.164)	(0.150)	(0.111)	(0.077)
LEGALENF	-0.0784***	-0.0535***	-0.0944***	-0.216**
	(0.0117)	(0.0186)	(0.0102)	(0.0981)
LEGALSPI	-0.0439***	-0.0755	-0.0531	-0.0740
	(0.0181)	(0.0142)	(0.0123)	(0.452)
SIZE	-0.0738***	-0.136***	-0.00285	-0.0219*
	(0.00706)	(0.0107)	(0.00482)	(0.0124)
ROA	-0.194***	-0.463***	-0.621***	-0.620***
	(0.0471)	(0.0593)	(0.0509)	(0.115)
MBV	0.00235	0.00343*	0.000873	-0.0102***
	(0.00161)	(0.00207)	(0.00156)	(0.00274)
LEV	0.241***	0.0749**	0.650***	0.640***
	(0.0285)	(0.0378)	(0.0252)	(0.0572)
GDP	0.151***	0.177***	0.0156	-0.114*
	(0.0255)	(0.0329)	(0.0243)	(0.0674)
CAPINTEN	0.0341***	0.0751***	0.0431***	0.0381***
	(0.010)	(0.012)	(0.005)	(0.0024)
GROWTH	0.210***	0.324***	-0.116***	-0.188***
	(0.0158)	(0.0211)	(0.0141)	(0.0260)
Constant	-0.174	-0.881	0.769***	1.383***
	(0.371)	(0.561)	(0.276)	(0.279)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.41	0.40	0.27
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: Authors' estimations. We use *,**,*** in a two tailed test to respectively indicate statistical significance at 10 percent, 5 percent and 1 percent levels.

Table 10: Regression of Interaction between Legal Environment and National Culture on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.357***	0.434***	0.463***	0.491***
	(0.127)	(0.086)	(0.113)	(0.192)
LEGALENF	-0.0813***	-0.0539***	-0.0819***	-0.202**
	(0.0127)	(0.0186)	(0.0102)	(0.0981)
LEGALSPI	-0.203***	-0.102***	-0.0786***	-0.275*
	(0.0180)	(0.184)	(0.016)	(0.014)
POWDIS	0.00511***	0.00619***	0.00326***	0.00560***
	(0.00103)	(0.00105)	(0.0011)	(0.00015)
POWDSPI	0.0165***	0.0429***	0.00198	0.0723*
	(0.00101)	(0.0054)	(0.1014)	(0.0139)
INDIV	-0.0198***	-0.0210*	-0.0101***	0.0544***
	(0.00508)	(0.0111)	(0.00463)	(0.0153)
INDIVSPI	-0.0228**	-0.0431***	-0.0127*	0.116**
	(0.00951)	(0.0105)	(0.0102)	(0.0495)
UNCAVO	0.0140***	0.0135***	0.0258***	0.0339***
	(0.00497)	(0.00989)	(0.00474)	(0.00208)
UNCAVOSPI	0.0622***	0.0619***	0.00474	0.0423*
	(0.00834)	(0.0140)	(0.00998)	(0.0227)
MASCU	0.00462***	0.00679***	0.00118**	0.00965***
	(0.00102)	(0.00144)	(0.000572)	(0.00118)
MASCUSPI	0.0215**	0.0202*	0.0132	0.148**
	(0.00863)	(0.0122)	(0.0121)	(0.0695)
LONGTEO	-0.0111***	-0.00721	-0.00340***	-0.01211***
	(0.0023)	(0.0352)	(0.00101)	(0.0020)
LONGSPI	-0.0275***	-0.0470***	-0.00568**	-0.00043
	(0.00262)	(0.00556)	(0.0129)	(0.0013)
SIZE	-0.0737***	-0.137***	-0.00454	-0.0212*
	(0.00713)	(0.0108)	(0.00488)	(0.0125)
ROA	-0.093***	-0.461***	-0.618***	-0.633***
	(0.0471)	(0.0593)	(0.0511)	(0.115)
MBV	0.00228	0.00337	0.000711	-0.0101***
	(0.00161)	(0.00207)	(0.00157)	(0.00276)
LEV	0.237***	0.0715*	0.644***	0.643***
	(0.0285)	(0.0378)	(0.0253)	(0.0573)
GDP	0.151***	0.175***	0.0137	-0.122*
	(0.0255)	(0.0329)	(0.0243)	(0.0676)
CAPINTEN	0.113***	0.0534***	0.0514***	0.0411***
	(0.010)	(0.012)	(0.012)	(0.012)
GROWTH	0.210***	0.322***	-0.114***	-0.189***
	(0.0159)	(0.0211)	(0.0141)	(0.0261)
Constant	-0.180	-1.023*	0.702**	1.285***
	(0.376)	(0.571)	(0.284)	(0.463)
Observations	352,087	189,173	152,001	10,913
R-squared	0.25	0.28	0.31	0.34
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: We use *,** and *** in a two tailed test to indicate statistical significance at 10 percent, 5 percent and 1 percent levels respectively. We show co-efficient estimates above and t-statistics below in brackets. All variables are as defined above.

Table 11: Regression of Interaction between National Culture and Legal Environment on Classification Shifting

	Full Sample	Developed	Emerging	Developing
SPITEM	0.6842***	0.3101***	0.3094***	0.8233***
	(0.021)	(0.175)	(0.119)	(0.249)
POWDIS	0.0014*	0.0011***	0.00003	0.0078***
	(0.000843)	(0.000109)	(0.000931)	(0.000153)
INDIV	-0.00879***	-0.00201*	-0.0015***	0.00576***
	(0.0001)	(0.00111)	(0.00016)	(0.00115)
MASCU	0.00299***	0.000585	0.00712***	0.00727***
	(0.00012)	(0.000771)	(0.000140)	(0.00140)
UNCAVO	-0.0583***	-0.00404***	-0.000252	0.00405***
	(0.00156)	(0.00013)	(0.000534)	(0.00012)
LONGTEO	-0.0201***	-0.0311***	-0.0431***	-0.0111***
	(0.0041)	(0.0112)	(0.011)	(0.001)
LEGALENF	-0.1786***	-0.0554***	-0.0822***	-0.203**
	(0.017)	(0.0186)	(0.002)	(0.0982)
POWD×LEG×SPI	-0.00445***	0.000751	-0.00631	-0.562**
	(0.00112)	(0.0109)	(0.00600)	(0.277)
INDIV×LEG×SPI	-0.00424	-0.0111***	-0.00684*	0.104**
	(0.00340)	(0.0012)	(0.00412)	(0.0447)
MASCU×LEG×SPI	-0.00394	-0.000268	-0.00265	-0.0923**
	(0.00379)	(0.00880)	(0.00392)	(0.0428)
UNCAV×LEG×SPI	-0.00763**	-0.00671	-0.00133	-0.568**
	(0.00320)	(0.00411)	(0.00597)	(0.272)
LONGT×LEG×SPI	-0.0136***	-0.0537***	0.0218	-0.043***
	(0.0010)	(0.0031)	(0.0229)	(0.0011)
SIZE	-0.0733***	-0.137***	-0.00452	-0.0213*
	(0.00713)	(0.0108)	(0.00488)	(0.0125)
ROA	-0.194***	-0.461***	-0.618***	-0.633***
	(0.0471)	(0.0593)	(0.0511)	(0.115)
MBV	0.00229	0.00338	0.000703	-0.0101***
	(0.00161)	(0.00207)	(0.00157)	(0.00276)
LEV	0.236***	0.0715*	0.644***	0.643***
	(0.0285)	(0.0378)	(0.0253)	(0.0573)
GDP	0.151***	0.175***	0.0138	-0.121*
	(0.0255)	(0.0329)	(0.0243)	(0.0677)
CAPINTEN	0.00225***	0.00711***	0.1075***	0.0186***
	(0.0008)	(0.00058)	(0.0097)	(0.000869)
GROWTH	0.210***	0.322***	-0.114***	-0.189***
	(0.0159)	(0.0211)	(0.0141)	(0.0261)
Constant	-0.254	-1.024*	0.704**	1.305***
	(0.379)	(0.570)	(0.295)	(0.474)
Observations	352,087	189,173	152,001	10,913
R-squared	0.33	0.41	0.40	0.27
Country Fixed Effects	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES

Notes: We use *,** and *** in a two tailed test to indicate statistical significance at 10 percent, 5 percent and 1 percent levels respectively. We show co-efficient estimates above and t-statistics below in brackets. All variables are as defined above.

Table 12: Regression of Interaction between National Culture and Legal Environment on Classification Shifting

	Working Capital Accruals	Without Accruals	Excluding Large Countries
SPITEM	0.645***	0.471***	0.167***
	(0.114)	(0.111)	(0.093)
POWDIS	0.012*	0.011*	0.354**
	(0.007)	(0.007)	(0.169)
INDIV	0.173**	0.124***	0.153***
	(0.084)	(0.034)	(0.079)
MASCU	0.019**	0.019**	0.016*
	(0.0088)	(0.0084)	(0.0091)
UNCAVO	-0.061**	-0.022**	-0.074**
	(0.0277)	(0.0098)	(0.0330)
LONGTEO	-0.261**	-0.122**	-0.196**
	(0.104)	(0.049)	(-0.082)
LEGALENF	-0.022**	-0.022**	-0.017**
	(0.0109)	(0.0109)	(0.008)
POWD×LEG×SPI	-0.068***	-0.057**	-0.058**
	(0.00118)	(0.0027)	(0.0017)
INDIV×LEG×SPI	-0.224***	-0.257**	-0.308**
	(0.026)	(0.0764)	(0.1249)
MASCU×LEG×SPI	-0.036**	-0.056***	-0.041**
	(0.017)	(0.0026)	(2.220)
UNCAV×LEG×SPI	-0.029**	-0.022*	-0.041*
	(0.013)	(0.123)	(1.749)
LONGT×LEG×SPI	-0.129**	-0.123***	-0.381***
	(0.058)	(0.0073)	(0.083)
SIZE	-0.019**	-0.018**	-0.023**
	(0.008)	(0.090)	(0.011)
ROA	-0.026***	-0.024**	-0.021***
	(0.008)	(0.012)	(0.011)
MBV	-0.129***	-0.126**	-0.418***
	(0.031)	(-2.451)	(0.001)
LEV	0.027**	0.025**	-0.030
	(0.013)	(0.012)	(1.503)
GDP	-0.041**	-0.012**	-0.046**
	(0.025)	(0.0061)	(0.021)
CAPINTEN	0.030**	-0.182	-0.393***
	(0.014)	(0.504)	(0.112)
GROWTH	0.055***	0.246	-0.108***
	(0.0021)	(0.891)	(0.051)
Constant	3.361***	1.154***	2.399***
	(1.18)	(0.073)	(0.106)
Observations	352,087	352,087	254,916
R-squared	0.33	0.41	0.36
Country Fixed Effects	YES	YES	YES
Year Fixed Effects	YES	YES	YES

Notes: We use *,** and *** in a two tailed test to indicate statistical significance at 10 percent, 5 percent and 1 percent levels respectively. We show co-efficient estimates above and t-statistics below in brackets. All variables are as defined above.

Appendix Table A1: List of Developed, Emerging and Developing Economies/Countries

Developed	Emerging	Developing
Australia	Argentina	Croatia
Austria	Brazil	Lebanon
Belgium	Chile	Lithuania
Canada	China	Malawi
Czech Republic	Colombia	Morocco
Denmark	Estonia	Sri Lanka
Finland	Hungary	Tanzania
France	India	Vietnam
Germany	Korea (South)	Zambia
Greece	Kuwait	
Honk Kong	Malaysia	
Iceland		
Ireland	Mexico	
Italy	Namibia	
Israel	Nigeria	
Japan		
Latvia	Peru	
Luxembourg	Philippines	
Malta	Poland	
Netherlands	Russian Federation	
New Zealand	South Africa	
Norway	Thailand	
Portugal	Tunisia	
Spain	Turkey	
Singapore	United Arab Emirates	
Sweden		
Switzerland	Venezuela	
Taiwan		
United Kingdom		
United States of America		

Source: IMF World Outlook Groupings and Classification.

Appendix Table A2: - Variables definitions and source of data

Variable Name	Variable Acronym	Definitions	Source
Reported Core Earnings	REP_CE	Estimated as sales-cost of goods sold (COGS)-selling, general and administration expenses (SG&A) scaled by sales. Consistent with Behn et al. (2013), where firms fail to disclose COGS and SG&A, R EP_CE is calculated as (sales -total operating expenses)/sales.	Global Compustat
Unexpected Core Earnings	UNEXP_CE	Calculated as the difference between expected core earnings (estimated from model 1) and reported core earnings by industry and fiscal year. A minimum of 10 firm year observations are required per industry group.	Global Compustat
Special Items	SPITEM	Income-decreasing special items scaled by sales.	Global Compustat
Asset Turnover	ATO	Calculated as $Sales_t$ scaled by average net operating assets $[NOA_t+NOA_{t-1}]/2$; average NOA is required to be > 0.	Global Compustat
Net Operating Assets	NOA	Calculated as the difference between operating assets (OA) and operating liabilities (OL).	Global Compustat
Operating Liabilities	OL	Calculated as total assets – total debt (debt in current liabilities + long-term debt) – book value of common and preferred equity – minority interests.	Global Compustat
Operating Assets	OA	Calculated as total assets- cash and short-term investments.	Global Compustat
Accruals	$ACCRUALS_{t-1}$	Calculated as in Francis and Wang (2008), as detailed above.	Global Compustat
Total Accruals	TACC	Difference between earnings before extraordinary items and discontinued operations and the cash flow from operational activities scaled by lagged total assets, similar to Behn et al (2013).	Global Compustat
Working Capital Accruals	WC_ACC	Calculated as a change in current assets net of a change in cash, minus a change in current liabilities net of a change in the current portion of long-term debt, similar to Behn et al (2013).	Global Compustat
Change in Sales	$\Delta SALES_t$	Calculated as $(Sales_t–Sales_{t-1})/Sales_{t-1}$	Global Compustat
Neg. Change in Sales	$NEG_\Delta SALES_t$	Indicator variable equal to 1 if change in sales < 0, and 0 otherwise.	Global Compustat
Legal Enforcement/Environment	LEGALENF	Legal enforcement score	Leuz et al. (2003) and La Porta et al. (1998)
Legal Enforcement/Environment X Special Items	LEGALSPI	Interaction term between legal enforcement and income-decreasing special items	Leuz et al. (2003) and Global Compustat
Power Distance	POWDIS	Ranking of the index by country	Hofstede (1980, 2001), Hofstede et al. (2010)
Individualism	INDIV	Ranking of the index by country	Hofstede (1980, 2001), Hofstede et al. (2010)
Masculinity	MASCU	Ranking of the index by country	Hofstede (1980, 2001), Hofstede et al. (2010)
Uncertainty Avoidance	UNCAVO	Ranking of the index by country	Hofstede (1980, 2001), Hofstede et al. (2010)
Long-term Orientation	LONGTEO	Ranking of the index by country	Hofstede (1980, 2001), Hofstede et al. (2010)
Power Distance X Special Items	POWDSPI	Interaction term between power distance and income-decreasing special items	Hofstede et al. (2010) and Global Compustat
Individualism X Special Items	INDIVSPI	Interaction term between individualism and income-decreasing special items	Hofstede et al. (2010) and Global Compustat
Masculinity X Special Items	MASCUSPI	Interaction term between masculinity and income-decreasing special items	Hofstede et al. (2010) and Global Compustat

Uncertainty Avoidance X Special Items	UNCAVOSPI	Interaction term between uncertainty avoidance and income-decreasing special items	Hofstede et al. (2010) and Global Compustat
Long-term Orientation X Special Items	LONGSPI	Interaction term between long-term orientation and income-decreasing special items	Hofstede et al. (2010) and Global Compustat
Size of Firms	SIZE	Natural log of market value of equity (Behn et al., 2013).	Global Compustat
Return on Assets	ROA	Calculated as net income plus interest expenses scaled by total assets at the beginning of the period (Behn et al., 2013).	Global Compustat
Market Book Value	MBV	Natural log of book value of equity scaled by market value of equity (Behn et al., 2013).	Global Compustat
Leverage	LEV	Calculated as total liabilities scaled by total assets (Behn et al., 2013).	Global Compustat
Capital Intensity	CAPINTEN	Computed as long-term assets scaled by total assets (Leuz et al., 2003; Behn et al., 2013).	Global Compustat
Growth	GROWTH	Calculated as market value of outstanding shares at the end of the year scaled by book value of common equity at the end of the year, similar to Athanasakou et al. (2009) and Skinner & Sloan (2002).	Global Compustat
Gross Domestic Product	GDP	Annual GDP Per Capita	World Bank, World Development Indicators database

Appendix Table A3: Cultural Variables Measures by Countries

COUNTRY	POWDIS	INDIV	MASCU	UNCAVO	LONGTEO
Argentina	49	48	58	86	20
Australia	38	90	61	51	21
Austria	11	55	79	70	60
Belgium	65	75	54	94	82
Brazil	69	38	49	76	44
Canada	39	80	52	48	36
Chile	63	23	28	86	31
China	80	20	66	30	87
Colombia	67	13	64	80	13
Croatia	73	33	40	80	58
Czech Republic	57	58	57	74	70
Denmark	18	74	16	23	35
Estonia	40	60	30	60	82
Finland	33	63	26	59	38
France	68	71	43	86	63
Germany	35	67	66	65	83
Greece	60	35	57	100	45
Hong Kong	68	25	57	29	61
Hungary	46	80	88	82	58
Iceland	28	70	68	35	24
India	77	48	56	40	51
Ireland	28	70	68	35	24
Israel	13	54	47	81	38
Italy	50	76	70	75	61
Japan	54	46	95	92	88
Korea (South)	60	18	39	85	100
Kuwait	90	25	40	80	0
Latvia	44	70	9	63	69
Lebanon	75	40	65	50	14
Lithuania	42	60	19	65	82
Luxembourg	40	60	50	70	64
Malawi	70	30	40	50	0

Malaysia	100	26	50	36	41
Malta	56	59	47	96	47
Mexico	81	30	69	82	24
Morocco	70	46	53	68	14
Namibia	65	30	40	45	35
Netherlands	38	80	14	53	67
New Zealand	22	79	58	49	33
Nigeria	80	30	60	55	13
Norway	31	69	8	50	35
Peru	64	16	42	87	25
Philippines	94	32	64	44	27
Poland	68	60	64	93	38
Portugal	63	27	31	99	28
Russian Federation	93	39	36	95	81
Singapore	74	20	48	8	72
South Africa	49	65	63	49	34
Spain	57	51	42	86	48
Sri Lanka	80	35	10	45	45
Sweden	31	71	5	29	53
Switzerland	34	68	70	58	74
Taiwan	58	17	45	69	93
Tanzania	70	25	40	50	34
Thailand	64	20	34	64	32
Tunisia	70	40	40	75	0
Turkey	66	37	45	85	46
United Arab Emirates	74	36	52	66	22
United Kingdom	35	89	66	35	51
United State of America	40	91	62	46	26
Venezuela	81	12	73	76	16
Vietnam	70	20	40	30	57
Zambia	60	35	40	50	30