

Myopia and earnings management strategies

Abstract

In this study, we investigate how country-level myopia affects managers' willingness to engage in earnings management and choice of earnings management strategy. Using a comprehensive dataset of 47 countries for the time period from 2003 to 2015, we find that firms in short-term oriented cultures engage in more real earnings management, while firms in long-term oriented cultures rely on earnings management through accruals manipulation. Furthermore, we find a larger discontinuity around earnings benchmarks in long-term oriented cultures suggesting that utilization of AM enables benchmark beating with high precision.

Keywords: culture, earnings management, international financial reporting, myopia

1. Introduction

In this study, we investigate the relationship between myopia and earnings management (EM) in a cross-country setting. EM is commonly defined as managerial actions to alter accounting earnings towards a predetermined benchmark, and can further be divided into two categories: accrual manipulation (AM) and real earnings management (RM). The former is associated with discretion over the accrual component of earnings, while the latter involves opportunistic real business decisions. Both methods are connected to potential costs. For example, firms engaging in AM are subject to higher auditor and regulatory scrutiny if they make aggressive accrual choices, while RM can be detrimental to firm value since it increases current cash flows at the expense of future cash flows (Graham et al., 2005; Bhojraj et al., 2009; Vorst, 2016). Based on the costs associated with the respective manipulation method, Zang (2012) shows that there exists a tradeoff between AM and RM and that managers use them as substitutes.

While Zang (2012) focuses on the firm-level costs affecting the choice of EM method, such as auditor size, distress risk and market share, we highlight a broader picture of perceived costs arising from national culture. Earlier studies (e.g., Nabar et al., 2007; Han et al., 2010; Zhang et al., 2013) show that national culture has an effect on the propensity to engage in EM. Our study expands on this literature and focuses on cultural perceptions of how short- versus long-term gains are valued. We hypothesize that differences in cultural myopia will affect the engagement in AM and RM. Specifically, we expect that firms in environments characterized by a low level of myopia (i.e., long-term oriented) are more likely to engage in AM than firms in myopic environments (i.e., short-term oriented) which are more likely to engage in RM. We base our expectation on the inherent characteristics of the EM methods and the notion that firms in myopic countries emphasize current cash flows to a larger extent than firms in long-term oriented countries. In a related study, Kim et al. (2017) investigate languages and EM. They find that RM is less prevalent where the language has a weaker future time reference and argue that such languages are associated with more future oriented behavior, and are thus less likely to engage in RM. Furthermore, Ernstberger et al. (2017) find an increase in RM for firms switching towards a more frequent reporting regime. They argue

that more frequent financial reporting leads to higher managerial myopia, and consequently more RM. However, prior studies have not investigated whether a myopic culture influences the propensity of EM and the tradeoff between RM versus AM at a country-level. The purpose of this study is to fill this gap in the literature.

The majority of the EM research have been conducted on data from the United States (U.S.). An example of U.S. specific evidence is the highly cited survey finding by Graham et al. (2005), that 80 percent of executives are prepared to cut research and development (R&D), advertising, and maintenance costs in order to meet earnings benchmarks. Roychowdhury (2006) supports the survey evidence with archival U.S. data. In the context of our study, it is important to note that the U.S. culture is characterized by a higher than average emphasis on achieving quick results. Hofstede et al. (2010) characterize this behavior as short-term oriented. Naturally, heterogeneity exists in terms of the long-term orientation of individuals, firms and cultures. For example, in contrast to the U.S., countries such as South Korea and Japan are long-term oriented. Hofstede et al. (2010) characterize people in long-term oriented societies as individuals valuing thriftiness and perseverance. Based on these cross-country differences in culture, it is questionable whether findings such as Graham et al. (2005) and Roychowdhury (2006) can be generalized to the international arena.

Cross-country studies provide evidence that EM varies between countries and is influenced by national characteristics. Leuz et al. (2003) find that countries with stronger legal systems are associated with less aggregate EM. Burgstahler et al. (2006) show how private and public firms manage earnings differently. In addition, culture as a national characteristic has been shown to significantly influence EM. Nabar and Boonlert-U-Thai (2007) argue that AM is negatively related to Hofstede's (1980) culture measures of uncertainty avoidance and masculinity. Han et al. (2010) suggest that cultural values as well as institutional characteristics explain AM around the world. Callen et al. (2011) find a negative relation between aggregate EM and individualism but a positive relation with uncertainty avoidance based on the updated culture measures of Tang and Koveos (2008). Less attention has been directed towards RM and international

differences. However, Francis et al. (2016) reveal that RM increases with stronger legal systems, which contrasts Leuz et al. (2003). The fact that AM is more costly than RM in stronger legal systems is provided as a reasonable explanation to this finding. Furthermore, Paredes and Wheatley (2017) focus on RM in emerging markets and Hofstede's (1980) measures of national culture. They find a negative association between RM and individualism, masculinity, and uncertainty avoidance, but a positive association with power distance. While these studies investigate EM and country characteristics, they overlook the impact of myopic culture.

Using the Hofstede et al. (2010) long-term orientation score, we examine the association between country-level myopia and the two forms of EM. We use a large sample comprising 47 countries for the time period 2003 to 2015. We measure AM following the frequently utilized procedure in Dechow et al. (1995) and Kothari et al. (2005). We measure RM following Roychowdhury (2006) in the form of sales manipulation, overproduction, and abnormal discretionary expenditures and correct for firm-level characteristics. In contrast to prior cross-country studies on EM (e.g., Han et al., 2010; Francis et al., 2016; Paredes and Wheatley, 2017), we focus on a strong incentive for EM in all of our tests. Namely, we interact our measure of myopic culture with firm-years just meeting or beating key earnings benchmarks. According to Roychowdhury (2006), this method is crucial when capturing the actual effect of EM. Analyzing EM in the absence of a clear incentive setting may cause spurious results because the AM measures are noisy by construction and the RM measures capture both opportunistic and prudent business decisions if modeled without underlying incentives (Vorst, 2016; Siriviriyakul, 2015).

We first examine the association between RM and myopia around the world. We find that firms in myopic cultures are more prone to engage in RM to meet or beat the benchmark of zero earnings and prior year's earnings. Second, we find that firms in long-term oriented cultures engage in more AM to beat earnings benchmarks than firms in myopic cultures. These findings are consistent with the view that firms in long-term oriented cultures avoid EM methods that are detrimental to firm value. Based on the inherent characteristics of the respective EM strategy, in terms of how and when the different strategies are used,

we hypothesize that a consequence of AM is more accurate benchmark beating. Considering the sample as a whole, we observe that firms around the globe manage earnings to avoid losses and earnings decreases. However, we find that this discontinuity in the earnings distribution around benchmarks is driven by firms in long-term oriented countries and consequently that a greater reliance on AM is associated with a larger discontinuity. For robustness purposes, we consider an alternative sample and alternative measures of myopia.

In summary, we contribute to the literature by providing evidence showing that cross-country differences in myopia is associated with the choice of EM strategies in settings where there is a clear incentive to manage earnings. While prior studies have focused on a U.S. setting, where myopia is prevalent, we focus on an international setting which gives us the possibility to disentangle the effect of myopia on a country-level. Our results indicate that the Graham et al. (2005) and the Roychowdhury (2006) findings are not necessarily applicable in the international context. Furthermore, depending on the country of analysis, our results suggest that researchers should account for the various costs and benefits of different EM strategies. In undertaking our analysis, we employ a fixed-effects model to estimate RM. According to Siriviriyaikul et al. (2015) this method mitigates the omitted variable problem of previous studies. We also avoid sample attrition with this technique. Finally, our findings add to the Zang (2012) evidence in support of the tradeoff between AM and RM, relating to the costs of different EM methods.

This paper continues as follows. Section 2 reviews the related literature and develops our hypothesis. Section 3 describes our data, research method, and descriptive statistics. Section 4 presents the results of our analyses. Section 5 describe our robustness tests while the last section concludes.

2. Literature review and hypothesis development

2.1 Earnings management

Accounting earnings, defined as the sum of cash flows and accruals, are commonly known to be an important component in the pricing of debt and equity. Beginning with the seminal work of Ball and Brown (1968), it is known that the financial markets react to accounting earnings or earnings announcements based on the information content of financial statements. The accounting and finance literature has also recognized the managerial incentive to influence accounting earnings in order to ensure that earnings arrive at or above their preferred benchmarks. The most natural benchmarks are to meet or beat zero earnings and prior year's earnings. The term EM is frequently used to describe actions where managers influence accounting earnings to meet or beat benchmarks (Healy and Wahlen, 1999). A number of U.S. studies also find EM based on the underlying incentive to arrive at higher levels of earnings (Burgstahler and Dichev, 1997; Degeorge et al., 1999; Brown and Caylor, 2005). Meanwhile, Shipper (1989) recognizes that EM often incorporates both opportunistic as well as information signaling actions.

Previous accounting and finance literature has largely been interested in managerial discretion of the accrual component of earnings (AM). Namely, managers are granted a large portion of discretion in the financial reporting process by the subjectivity of the accounting rules and regulations. For example, managers have a given degree of discretion in determining various accruals, such as depreciation rates, amounts of bad debt, and asset write-offs. Evidence of AM has been documented in contexts of debt covenants (DeFond and Jiambalvo, 1994), managerial compensation (Healy, 1985), and political costs (Jones, 1991). These studies detect and use abnormal accruals as a proxy for AM. By definition, AM does not have a direct effect on future cash flow.

To influence the cash flow component of earnings, managers need to alter operational activities. Roychowdhury (2006) defines RM as managerial actions that deviate from normal business practices, which are undertaken with the ultimate goal of meeting certain earnings benchmarks. Examples of RM

include, but are not limited to, managers departing from normal operational activities in the form of granting price discounts, or reducing discretionary expenditures such as R&D and advertising costs. Another example is overproduction to decrease cost of goods sold or underinvestment in long-term projects (i.e., myopic investment). Several researchers have examined the U.S. setting in the context of RM. For example, researchers find that managers engage in RM in order to meet financial reporting benchmarks to avoid reporting annual losses (Roychowhury, 2006), before issuing seasoned equity offerings (Cohen and Zarowin, 2010), and in order to avoid poor credit ratings (Brown et al., 2015). RM has a direct cash flow effect because it is associated with real business decisions. Similar actions might decrease firm value in the long-run. For instance, managers deciding to decrease R&D expenditures in order to increase current period earnings, might affect sales in the future due to lack of innovative products.

Vorst (2016) also provide specific evidence of the value-destroying nature of RM. The study shows that RM is associated with lower future operating performance. The findings in Ernstberger et al. (2017) are consistent with this view. Similarly, Cohen and Zarowin (2010) suggest that the costs of RM outweigh its potential benefits in a seasoned equity offering setting. Bushee (1998) and Roychowdhury (2006) both find a negative association between institutional ownership and RM, which can be explained by sophisticated institutional investors being more focused on firms' long-term interests and less on short-term actions that increase current period earnings.

While RM is found to be value-destroying, survey evidence in Graham et al. (2005) shows that 80 percent of U.S. executives are willing to cut R&D, advertising, and maintenance expenditures with the aim of meeting or beating earnings benchmarks, while accrual maneuvers to manage earnings are less preferred by the surveyed executives. There are several reasons to why managers might prefer RM actions to AM. First, aggressive accrual choices are subject to higher auditor and regulatory scrutiny. For example, auditors are more likely to challenge a firm's accounting choices than real economic actions. Second, AM is constrained by the underlying transactions in the current year and AM of previous years (Barton and Simko, 2002). Moreover, AM occurs at the end of the fiscal period while RM may be applied continuously during

the period. Therefore, Roychowdhury (2006) argues that U.S. managers use RM throughout the reporting period to beat earnings benchmarks.

Publicly listed firms are inherently motivated to meet earnings benchmarks because stakeholders often implement heuristic cut-offs to determine the performance of a firm (Burgstahler and Dichev 1997). For example, managers can avoid a reputational loss by making sure to report an accounting profit. Furthermore, managers consider meeting earnings benchmarks important because it helps to build credibility on the capital markets and maintain or increase the stock price (Graham et al. 2005). As a result, prior literature documents that the capital markets push public firms to meet earnings benchmarks such as avoiding losses and decreases in earnings (Conrad et al., 2002). Moreover, Burgstahler and Dichev (1997) provide evidence that U.S. firms have unusually high frequencies of small positive earnings in relation to small losses. Meanwhile, Gore et al. (2007) focus on U.K. firms and investigate the distribution of earnings relative to earnings benchmarks. Here, discontinuities in the earnings distribution around earnings benchmarks are interpreted as evidence of EM. They find an explicit link between AM and the discontinuity around zero and prior year's earnings. The results of Burgstahler and Dichev (1997) and Gore et al. (2007) stand in contrast to the U.S. evidence presented in Dechow et al. (2003), that the difference between average AM for small profit versus small loss firms is statistically insignificant. Dechow et al. (2003) suggest that managers achieve benchmarks via RM, without investigating this matter any further. This alternative explanation is empirically supported by Roychowdhury (2006) and Gunny (2010), who show that public firms in the U.S. avoid reporting annual losses with the help of RM. Based on these studies, we expect RM to be associated with the small profits and small profit increases reported by the firms in our international sample.

2.2 Myopia and earnings management

The majority of EM studies are limited to the U.S. market. However, based on international data, Leuz et al. (2003) find that countries with stronger legal systems are associated with less AM. Burgstahler et al.

(2006) report on international differences between public and private firms, and find more AM in private firms. Francis et al. (2008) find that stronger investor protection is negatively related to AM, but only for firms with large auditors. With respect to RM, Francis et al. (2016) conversely reveal that it increases with stronger legal systems. Meanwhile, recent studies by Nabar and Boonlert-U-Thai (2007), Han et al. (2010), and Paredes and Wheatley (2017) show that culture has an effect on managers' engagement in EM. For example, Nabar and Boonlert-U-Thai (2007) and Han et al. (2010) find that firms in countries scoring low on Hofstede's uncertainty avoidance measure engage in more AM. Based on time-adjusted cultural variables, Callen et al. (2011) find a negative relation between aggregate EM and individualism but a positive relation with uncertainty avoidance.

While the impact of cultural aspects on EM has been investigated by prior studies, the relationship between cross-country differences in cultural myopia and EM remains largely unexplored. Meanwhile, studies show that a low level of myopia or long-term orientation affects managerial decisions. Kitching et al. (2016) report that cost stickiness is less pronounced in long-term oriented countries. Furthermore, Orlova et al. (2017) show that long-term orientation is negatively related to cash holdings. Generally, management in future oriented countries provide long-term employment, honesty, and thriftiness (Newman and Nollen, 1996). Managerial long-term orientation is also affected by other factors than culture. In a theoretical model, Gigler et al. (2014) propose that a higher reporting frequency might create pressure for managerial myopia. Ernstberger et al. (2017) support this proposal with empirical evidence, by showing that firms required to increase the reporting frequency engage in more value-destroying RM.

In our study, we use the Hofstede et al. (2010) long- versus short-term orientation score as a proxy for myopia. Hofstede et al. (2010) describes the long-term orientation score as a measure of how countries and societies have to maintain some links with their past while dealing with the challenges of the present and future. More concrete, Hofstede and Minkov (2010) argue that long-term oriented cultures value learning, honesty, accountability, and self-discipline. Another aspect is that firms from short-term oriented countries put more focus on current profits and other short-term measures. There is also a more distinct view of good

and evil, right and wrong, in short-term oriented cultures. Meanwhile, long-term oriented cultures evaluate good and evil depending upon the circumstances.

2.3 Hypothesis development

Based on the cross-country differences in myopic culture and the inherent differences between the EM strategies, we formulate our hypotheses. Regardless of whether the management of a firm is influenced by a short- or long-term oriented culture, the same incentives to conduct EM to beat benchmarks apply. However, we hypothesize that culture affects the choice of ultimate EM strategy. For example, long-term oriented management is characterized by an unwillingness to jeopardize future cash flows for the benefit of current performance. In contrast, management influenced by myopia overemphasizes the impact of current earnings and underemphasizes the negative future consequences of engaging in RM. Therefore, RM remains a valid option in myopic cultures. Graham et al. (2005) correspondingly provides evidence that management in the short-term oriented U.S. prefer the RM strategy. Graham et al. (2005) and McGuire et al. (2012) also propose that managers view RM as an ethically preferable alternative to AM. Since myopic cultures are more associated with a distinction between right and wrong, we believe that myopic cultures are more prone to choose RM before AM. Based on the above arguments, we develop our first hypothesis:

H1: Long-term orientation is negatively associated with RM.

Zang (2012) argues that management considers the costs associated with the different EM strategies and correspondingly engages in the less costly alternative. Management in a long-term oriented culture will recognize that utilizing RM as their primary EM strategy will hurt future cash flows (Vorst, 2016; Ernstberger et al., 2017). Therefore, they will avoid utilizing such value-destroying methods extensively. However, since long-term orientation does not affect the underlying incentives to engage in EM, this results in an increase in the relative importance of AM. Consistent with the tradeoff argument in Zang (2012), we develop our second hypothesis:

H2: Long-term orientation is positively associated with AM.

The RM strategy includes manipulation of operating activities throughout the year (Roychowdhury, 2006). In contrast, AM is associated with accrual decisions that occur at the end of the fiscal period. Consequently, management that relies on the AM strategy is able to manage earnings at a higher level of precision. For example, it is possible to precisely calculate the effects on year-end earnings, when changing the depreciation method for fixed assets in the end of the fiscal period. It is however harder to estimate the ultimate effects on earnings, when management engages in RM during the year. For example, firms decreasing R&D, advertising, or maintenance expenditures in the middle of the fiscal period are not as likely to estimate the year-end earnings with precision since a substantial part of the transactions are not yet accounted for. Based on the characteristics of the respective EM strategy, a consequence of AM is accurate benchmark beating which will result in a discontinuity in the earnings distribution around the benchmarks. Correspondingly, RM is more likely to result in firms largely beating the benchmark, which leads to a less pronounced discontinuity around the benchmarks. Considering our expectation that RM is positively associated with myopic cultures and that AM is more pronounced in long-term oriented cultures, we formulate the third hypothesis:

H3: The discontinuity around earnings benchmarks is larger in long-term oriented countries.

3. Data and methodology

3.1 Data

We build our sample of firms based on the countries covered by Hofstede et al. (2010). For these firms, we extract annual accounting data in U.S. dollars from the Worldscope database covering the time period 2003 through 2015. We remove all observations that have missing data for any of our key variables: total assets, cost of goods sold, sales, cash flows from operations, inventory, property, plant and equipment, and earnings before interest and taxes. We also exclude all regulated and financial firms (SIC codes 4400-4899 and 6000-6399). Further, we exclude all secondary listings. Firms with negative market-to-book values and

with extreme ROA values are also excluded. To further ensure that our results are not driven by outliers, we winsorize the top and bottom at the 1 percent level for all firm-level variables in our sample. Moreover, we remove all firms in countries with less than 100 firm-year observations. After implementing these cleaning methods, we have a data set that contains 237,525 firm-year observations representing 47 countries. As expected, most of our firm-year observations originates from the U.S (36,278 firm-year observations).

3.2 Measures of earnings management

In our analyses, we utilize two measures of EM. We follow Dechow et al. (1995) and Kothari et al. (2005) in our calculations of AM. By doing so, we regress total accruals (TACC) calculated with the cash flow approach on the reciprocal of lagged total assets (A), change in sales less change in receivables ($\Delta S - \Delta AR$), gross property, plant, and equipment (GPPE), and return on assets (ROA). These variables are expected to explain the normal level of accruals. For example, the level of fixed assets is expected to explain the amount of depreciation. By subtracting the normal accruals from TACC, we obtain the abnormal accruals which are interpreted as AM. We formulate Equation (1) as follows:

$$\frac{TACC_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{\Delta S_{i,t} - \Delta AR_{i,t}}{A_{i,t-1}} \right) + \beta_2 \left(\frac{GPPE_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{ROA_{i,t}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (1)$$

All variables are scaled by lagged total assets. We use the residuals (ε) from the industry-year regressions of Equation (1) as our proxy for AM.

Following Roychowdhury (2006), we investigate three RM activities: sales manipulation, overproduction, and decreasing discretionary expenditures. However, we implement one change to the estimation technique. Instead of estimating RM separately for each year and industry (2-digit SIC level), we use panel regressions with year and firm fixed-effects. The reason for this approach is the recent criticism of the original RM measures. Siriviriyakul (2015) shows that the original RM measures are highly persistent over time. For example, firms with observed high abnormal cash flow from operations at time t-1 are likely to have high

abnormal cash flow from operations also at time t . The persistence of the Roychowdhury (2006) measures suggests an omitted variable problem (Gunny 2010, Siriviriyakul 2015). As a result, recent studies present three approaches to mitigate the problem. First, Cohen et al. (2016) suggest an alternative RM measure based on performance matching. The authors argue that managers' choices regarding discounts, production and discretionary expenses are likely not only a function of their need to manage earnings, but also of the firms' underlying economic performance. A consequence will be severely miss-specified RM measures and their suggestion is an estimation approach based on performance matching to mitigate the misspecification. Second, Vorst (2016) presents a REM measure for investments that incorporates reversals. Logically, abnormal investment levels can be caused by either EM or changes in business dynamics. If EM is the cause of the abnormal investment levels, there should be a reversal effect. Therefore, adjusting the RM measures for reversals should improve the measures by mitigating the omitted variable problem. Third, Kothari et al. (2016) use a fixed-effects first-order autoregressive model to mitigate the issue that certain firms are constantly misclassified as exhibiting RM because of fundamental differences in operating and business activities. Siriviriyakul (2015) compares these three approaches. According to the results, measures of RM estimated with year and firm fixed-effects show the most desirable features.

Following the discussion on the measurement of RM, we estimate the RM measures developed by Roychowdhury (2006) with fixed year and firm effects. To generate the first measure, we express normal cash flow from operations (CFO) as a linear function of sales and change in sales in the current period:

$$\frac{CFO_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{S_{i,t}}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta S_{i,t}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (2)$$

For the first RM measure, the abnormal level (ACFO) is calculated by subtracting the normal CFO, calculated using estimated coefficients from the corresponding model, from the actual CFO. Thus, the error term represents the abnormal level of CFO. ACFO is multiplied by negative one so that a positive number is associated with income-increasing RM.

The second RM measure, abnormal production costs, consists of two separate estimates including cost of goods sold (COGS) and change in inventory (ΔINV). Normal production costs ($PROD = COGS + \Delta INV$) are expressed as a linear function of sales, change in sales, and the one-year lagged change in sales:

$$\frac{PROD_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{S_{i,t}}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta S_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{\Delta S_{i,t-1}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (3)$$

In the third RM measure, DISEXP is defined as the sum of R&D expenses, advertising expenses, and SG&A expenses. The following regression estimates the normal level of DISEXP:

$$\frac{DISEXP_{i,t}}{A_{i,t-1}} = \alpha_0 + \alpha_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_1 \left(\frac{S_{i,t-1}}{A_{i,t-1}} \right) + \varepsilon_{i,t} \quad (4)$$

Again, the error term represents the abnormal level of DISEXP (ADISEXP). This measure is multiplied by negative one so that a positive number is associated with income-increasing RM.

In accordance with Cohen et al. (2008) and Cohen and Zarowin (2010), we construct a composite measure by standardizing and aggregating the three measures into one metric (RM) which captures the total effect of RM.

3.3 Descriptive statistics

Table 1 provides country-level descriptive statistics for our sample, including firm-level variables and the long-term orientation score (LTO) from Hofstede et al. (2010), which is our measure of country-level myopia. The short-term oriented U.S. (LTO: 26) dominates the sample structure with regards to firm-years, followed closely by the long-term oriented country Japan (LTO: 88). Column (4) and (5) report the median of signed and absolute RM measures. Here, the signed values are close to zero and the absolute values indicate abnormal operating activities that include both opportunistic and prudent business decisions. Correspondingly, Column (6) and (7) report the AM measures in signed and absolute forms. Positive signed values indicate income-increasing behavior and Portuguese firms have most upward AM (0.023). Absolute values indicate financial reporting quality and Venezuelan firms have the poorest quality (0.061). Column

(8), (9), and (10) report median firm size, profitability, and leverage. Here we find that countries such as Mexico and Brazil have a substantial proportion of large firms. One partial explanation is that Worldscope has only coverage of large firms in some emerging markets. In terms of leverage, the Mediterranean countries share the highest ratios.

[TABLE 1 HERE]

In addition to the EM and LTO variable, we include a number of control variables following the established literature on country factors and EM (e.g., Leuz et al., 2003; Francis et al., 2016; Kitching et al., 2016; Paredes and Wheatley, 2017). First, we include three firm-level variables to control for firm size, profitability and leverage (SIZE, ROA, and LEV). Second, we include the following culture variables of Hofstede (1980): power distance (PDI) and masculinity (MAS). The remaining Hofstede measures, uncertainty avoidance, individuality and indulgence are not included in the main results due to high correlations with LTO (0.56, -0.64, -0.61). Third, we include other country-level controls such as the Transparency International corruption index (CORR), the Human Development Index (HDI), judicial efficiency (JUD), shareholder rights (RIGHTS_SH), creditor rights (RIGHTS_CR), ownership concentration (OWN), and the change in gross domestic product (GPD). Appendix A reports the variable definitions.

Table 2 reports a Pearson correlation matrix for all variables included in our full model (Equation 5). There is a positive relation between the two EM measures. We also observe LTO to be more positively related to AM, which lends preliminary support to the reasoning that high LTO countries rely more on AM. The correlations, although significant, are not high enough to raise concerns about correlation bias and issues of multicollinearity. Due to high correlations with LTO, we exclude several control variables used in prior literature (Leuz et al., 2003; Francis et al., 2016; Kitching et al., 2016; Paredes and Wheatley, 2017) such as the Hofstede (1980) scores for individualism, uncertainty avoidance, and indulgence, a common law dummy and the anti-self-dealing index of Djankov et al. (2008). However, the omission of these control variables do not change our results (untabulated).

[TABLE 2 HERE]

3.4 Empirical model

To investigate the relationship between EM and long-term orientation (H1 and H2) we employ the following regression model:

$$\begin{aligned} EM_{c,i,t} = & \alpha_0 + \beta_1(LTO_c) \times (BENCH_{c,i,t}) + \beta_2(BENCH_{c,i,t}) + \beta_3(LTO_c) + \beta_4(SIZE_{c,i,t}) + \\ & \beta_5(ROA_{c,i,t}) + \beta_6(LEV_{c,i,t}) + \beta_7(PDI_c) + \beta_8(MAS_c) + \beta_9(CORR_{c,t}) + \beta_{10}(HDI_c) + \\ & \beta_{11}(JUD_c) + \beta_{12}(RIGHTS_SH_c) + \beta_{13}(RIGHTS_CR_c) + \beta_{14}(OWN_c) + \beta_{15}(GDP_{c,t}) + \varepsilon_{c,i,t} \end{aligned} \quad (5)$$

We test the relationship between the EM strategies (AM and RM) and the Hofstede et al. (2010) measure for cultural long-term orientation (LTO) in separate regressions. According to Siriviriyakul (2015), the EM measures are suffering from noise and omitted variable problems. Therefore, testing signed EM measures in an incentive setting is key for achieving reliable results. Furthermore, the Roychowdhury (2006) measures may detect other than opportunistic behavior if they are used outside a specific incentive setting. Thus, we incorporate the incentive setting by using two variations of the BENCH dummy variable. In one specification we test for loss avoidance, where BENCH_A takes the value one if the ROA (net income scaled by total assets) is in the closed interval 0 to 0.01, while otherwise being zero. In another specification we test the benchmark of prior year's earnings, where BENCH_B equals one if the net income in relation to prior year's net income scaled by total assets is in the closed interval 0 to 0.01. We follow Gunny (2010) in our choice of interval widths. Our variable of interest in Equation (5) is the interaction of BENCH and LTO. The coefficient (β_1) on this variable measures the incremental difference in EM between levels of LTO among firms suspect of having engaged in EM. A positive sign on this coefficient indicates that more income-increasing EM is associated with a higher level of LTO.

To provide justification for our choice of incentive settings described above, we illustrate that the sample firms show a discontinuity around the zero earnings benchmark as well as around prior year's earnings.

Figure 1 shows the discontinuity in the distribution both around zero (Panel A) and around prior year's earnings (Panel B) for the sample as a whole. The discontinuity is most pronounced in Panel A, where the interval to the immediate left of zero has an unusually low frequency, while the interval to the immediate right of zero has an unusually high frequency. In Panel B, there is a distinct peak in the distribution in the interval from 0 to 0.01. Consistent with Burgstahler and Dichev (1997), we interpret this as evidence of EM. As such, we find support for the use of the BENCH_A and BENCH_B dummy variables in our tests.

[FIGURE 1 HERE]

We assess the statistical significance of the discontinuities around the benchmarks based on the asymmetry measure (ASM) of Glaum et al. (2004), which is defined as:

$$ASM = \frac{(n_r - n_l)}{n_{rl}} \quad (6)$$

where n_r is the number of observations in the interval directly to the right of the benchmark (BENCH firms); n_l is the number of observations in the interval directly to the left of the benchmark; and n_{rl} is the number of observations in both intervals. ASM can take values between -1 and 1 where a higher absolute value indicates a higher level of discontinuity. Following Gunny (2010), the distributions' interval widths are 0.01 . We calculate two ASM measures, one for the zero earnings benchmark (ASM_A) and one for the prior year's earnings benchmark (ASM_B). Further, we regress the country-level ASM on LTO to test H3. A positive coefficient on the LTO variable indicates a larger discontinuity in more long-term oriented countries.

4. Results

4.1 Long-termism and earnings management

To test the first hypothesis (H1) whether RM is negatively related to long-termism, we utilize the incentive setting and regress RM on LTO, LTO×BENCH, and controls (Equation 5). Table 3 presents the results

from the main regression, in the context of beating zero earnings in Panel A and beating prior year's earnings in Panel B. The first regression in Panel A is a baseline specification, which only includes the variable of interest (LTO×BENCH) with main effects and the firm-level controls. The second regression in Panel A corresponds with Equation (5), which includes industry and year fixed-effects, to control for variation in EM driven by a given industry or a given year. Due to missing country-level control variables, the number of observations decreases from 237,525 to 186,617 in the second regression. The coefficient on the interaction between LTO and the BENCH_A dummy is negative (−0.0003) and significant at the one percent level (t-stat: −3.04) in the first regression and also negative (−0.0001) and significant at the five percent level (t-stat: −2.00) in the full regression. A negative and significant coefficient on the interaction variable indicates that managers in long-term oriented countries engage in less RM to avoid losses, which is consistent with H1. Panel B of Table 3 follows the same structure as Panel A. The coefficient of the variable of interest is negative and statistically significant in both regressions, which is in line with the result in Panel A in the context of beating prior year's earnings. The R-squared in the full regression is 0.057, which is similar to that in Panel A. This explanatory power is acceptable when signed RM measures are used. In unreported results, we apply absolute measures and achieve a higher explanatory power, consistent with Francis et al. (2016) and Kim et al. (2017). In summary, the results in Table 3 indicate that firms in cultures that emphasize future rewards and long-term thinking engage in significantly less RM than firms existing in myopic cultures that are oriented towards current gains. Thus, we find evidence consistent with H1.

In order to get a better understanding of the economic significance, we observe the three separate measures that underlie our total RM measure. Appendix B reports the regression results with the individual components as dependent variables. These results are driven by ACFO (coef: −0.0008, t-stat: −3.28) and APROD (coef: −0.0008, t-stat: −2.02). This suggests that for each ten point decrease in LTO, the average firm manages their earnings through sales manipulation by 0.08 percent of total assets and by

overproduction by 0.08 percent of total assets, in order to beat the zero earnings benchmark. We find similar results with prior year's earnings.

[TABLE 3 HERE]

We test the second hypothesis (H2) by utilizing AM as the dependent variable. The results are shown in Table 4, with the same structure as in Table 3. In Panel A of Table 4, the coefficient of the interaction term is 0.0001 (t-stat: 3.87) in the full regression. This suggests that for each ten score increase in LTO, the average firm manages their earnings through accruals by 0.1 percent of total assets, in order to beat the zero earnings benchmark. In Panel B of Table 4, the coefficient of the interaction term is also positive and statistically significant. These results are consistent with H2, i.e. long-term orientation is positively associated with the propensity to use AM to meet or beat earnings benchmarks.

[TABLE 4 HERE]

Our findings in Table 3 and Table 4 are consistent with the tradeoff argument in Zang (2012). Management in cultures characterized by long-termism are hesitant to rely on RM based on the perceived long-run costs associated with this EM strategy. Consequently, and in line with Zang (2012), firms in these countries show a larger reliance on AM, which is an EM strategy that doesn't produce such costs. Our findings are also consistent with the view in Hofstede et al. (2010) that myopic cultures are more associated with absolute right and wrong which results in utilization of the more ethically perceived EM strategy, which according to Graham et al. (2005) and McGuire et al. (2012) is RM.

4.2 Long-termism and earnings discontinuities

We begin our test of H3 by replicating Figure 1 for the top and bottom tertile of countries with respect to the level of LTO. Figure 2 shows the discontinuity around zero earnings for the bottom LTO countries (Panel A) and the top LTO countries (Panel B). The discontinuity is clearly larger for the top LTO countries. The less pronounced discontinuity in the bottom LTO countries is consistent with Gilliam et al. (2015) who argue that the zero earnings discontinuity in the short-term oriented U.S. have disappeared after the passage

of the Sarbanes-Oxley Act (SOX) in 2002. Furthermore, the pronounced discontinuity in the top LTO countries is in line with Enomoto and Yamaguchi (2017), who show that the discontinuity around the zero earnings benchmark did not disappear after the implementation of the Japanese version of SOX. Our finding is also in agreement with Cohen et al. (2008) who document a switch from a reliance on AM to costly RM among U.S. firms post SOX, which should lead to more inaccurate benchmark beating. With regards to the discontinuity around prior year's earnings, Figure 3 shows a less pronounced difference in the discontinuity between the bottom LTO countries (Panel A) and the top LTO countries (Panel B). As such, these results provide indicative evidence consistent with H3 that firms in countries scoring high on LTO avoid losses to a larger degree.

[FIGURE 2 HERE]

[FIGURE 3 HERE]

To formally test H3, we regress ASM on LTO and the results are reported in Table 5. We present OLS country-regression results, as well as results from the corresponding WLS regression, where the number of firm-years in each country weights the observations. The OLS regression results show a statistically significant and positive relationship between LTO and the size of the discontinuity around the zero earnings benchmark (ASM_A), while the relationship between LTO and the benchmark for marginally beating previous year's earnings (ASM_B) is positive but insignificant. The WLS regression results provide similar evidence. However, both coefficients on LTO are positive and statistically significant with this approach. Based on these findings, we conclude that the global discontinuity around earnings benchmark illustrated in Figure 1 is driven by the top LTO countries, which is consistent with H3. Our interpretation of the results is that a larger reliance on AM enables more accurate benchmark beating.

[TABLE 5 HERE]

5. Robustness tests

In this section, we provide robustness checks of our main findings by considering an alternative sample and alternative measures of LTO. In our full sample, the U.S. and Japan account for the largest number of observations, comprising 29.7 percent of the total sample. To ensure that firms in these countries do not drive our main findings, we exclude them from the sample and re-estimate the regressions. Table 6 presents the results where Panel A shows regressions for the zero earnings benchmark, while Panel B shows the regressions for prior year's earnings benchmark. The conclusions from our main tests remain unchanged. In the case of RM, the coefficients for the interaction terms are negative for both earnings benchmarks (zero earnings: -0.00002 and prior year's earnings: -0.00020). However, only the coefficient for prior year's earnings is significant (t-stat: -3.15). With respect to AM, Panel A shows a positive and significant association (coef: 0.00009 , t-stat: 2.32) for the zero earnings benchmark. Panel B shows a similar relationship between AM and the interaction term. Taken together, Table 6 shows that our results are not solely driven by the observations from the U.S. and Japan.

[TABLE 6 HERE]

In our main analysis, we utilize the Hofstede et al. (2010) LTO score as a proxy for long-term orientation. Next, we examine if our results are robust to alternative measures of long-termism. As a first variation, we re-estimate our regressions with a continuous variable that ranks countries in ascending order from minimum (Egypt: 1) to maximum (South Korea: 47) long-term orientation (LTO_RANK). This approach reduces the impact of the irregular distances of the LTO scores between countries. Since culture may change over time, we utilize a second variation, by adopting a time-adjusted LTO dimension (LTO_TIME) developed by Tang and Koveos (2008). In a third variation, we use a survey-based patience measure (LTO_WAIT) as a proxy for long-term orientation. This measure, which is unrelated to the Hofstede methodology, is developed in Wang et al. (2016). In their study, participants from different countries were asked whether they would wait one month and receive \$3800, or receive \$3400 immediately, to generate a measure of long-term thinking and time discounting. Based on the wide range of variation in the answers

at the country-level, we define countries with a higher wait rate as more long-term oriented. For the countries in our sample, Germany is the most long-term oriented country where 89 percent of the participants chose to wait and Chile is the least long-term oriented country where 37 percent of the participants chose to wait. In a final variation in how we measure long-termism, we use the future-time reference of the main language in a country by following Chen et al. (2013) and Kim et al. (2017). Countries with languages that grammatically associate the future and the present are defined as short-term oriented or myopic while countries with languages that generally do not differentiate between present and future events are categorized as long-term oriented. For example, English (short-term oriented) requires speakers to use a grammatical marker for future events when predicting rain by saying “It will rain tomorrow” whereas a German (long-term oriented) speaker can express the same in present tense with the expression “Morgen regnet es”, which translates into “It rains tomorrow”. Compared to English speakers, German speakers are likely to perceive the future as imminent due to this disassociation of time. Therefore, we replace LTO with a dummy variable indicating the long-term orientation of the main language of the country (LTO_FTR). The correlation between the LTO measure and the four alternative measures are all positive and significant (0.988, 0.778, 0.498, and 0.634 for LTO_RANK, LTO_TIME, LTO_WAIT, and LTO_FTR, respectively). Table 7 reports the regression results for Equation (5) using the alternative measures. To improve readability, only the variable of interest is reported.

[TABLE 7 HERE]

Panel A of Table 7 presents results where RM is regressed on the different proxy variables for long-term orientation utilizing the zero earnings benchmark as incentive setting. In all specifications, the coefficients of interest are negative. However, only LTO_RANK is statistically significant. Panel B show results for RM and the different proxy variables for LTO, based on the context of beating prior year’s earnings. The interaction coefficients are negative and highly significant (t-stats ranging from -6.45 to -2.91). Panel C focuses on AM and the zero earnings benchmark. All interaction term coefficients are positive and significant in the case of LTO_RANK, LTO_TIME and LTO_FTR. Panel D shows the results from the

specifications where we regress AM on the interaction between the different proxies and BENCH_B. Here, the coefficients of interest are all positive and three out of four significant.

The findings in Table 7 are consistent with H1 and H2. In other words, the robustness test confirms a negative relationship between RM and long-termism and a positive relationship between AM and long-termism. For the 16 regressions in this robustness test, the coefficient of interest is in the direction that supports this statement in all 16 specifications and statistically significant in 11 of 16 specifications. In addition, we also test H3 with the alternative measures for long-termism. The results, which we do not tabulate, are consistent with the results reported in Table 5.

6. Conclusions

Myopic managerial behavior always draws attention and passionate arguments. We provide evidence of a robust association between myopia and the different EM strategies used to beat earnings benchmarks. We use a large sample of firms from 47 countries for the time period 2003 to 2015. As a proxy for myopic cultures, we utilize the long-term orientation score of Hofstede et al. (2010). First, we find a negative association between the engagement of RM and country-level long-termism. Second, we find the opposite association for AM. Finally, we observe that long-term oriented countries are more prone to precisely beat earnings benchmarks.

Our results contribute to the literature on EM by providing country-level evidence consistent with the Zang (2012) tradeoff argument of firm-level costs associated with different EM strategies. In line with our findings, management in long-term oriented countries perceive RM as a costly alternative due to its negative effect on future cash flows. Consequently, and consistent with the tradeoff argument, management in long-term oriented countries engage in more AM to beat earnings benchmarks. Furthermore, the utilization of AM enables firms to beat earnings benchmarks with higher precision than through RM and this provides an explanation for our third finding.

A majority of the prior literature on EM arises from the U.S. setting, where myopia is prevalent. Graham et al. (2005) find a preference for RM in the U.S. setting, our international sample results highlight country differences in the reliance of RM. Specifically, myopic countries (e.g., the U.S.) are more prone to use RM, whereas long-term oriented (e.g., South Korea) rely more on AM. Thus, we suggest that researchers should be aware of the differences in perceived costs and benefits of the different EM strategies, arising from the degree of long-termism.

Finally, our study is subject to one major limitation. Both EM and myopia are abstract concepts which are difficult to measure directly. In our study, we capture these phenomena through the utilization of proxy variables, which by construction can include a bias. If the bias is unsystematic, it would only decrease the statistical significance. In addition, we analyze EM in a clear incentive setting which further mitigates concerns regarding the EM measurement errors. For robustness purposes, we also mitigate concerns regarding the measurement errors for myopia by analyzing four alternative measures.

References

- Ball, R., and Brown, P., 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research*, 6 (2), 159–178.
- Barton, J., and Simko, P., 2002. The balance sheet as an earnings management constraint. *The Accounting Review*, 77 (Supplement), 1–27.
- Bhojraj, S., Hribar, J., McInnis, J., and Picconi, M., 2009. Making sense of cents: an examination of firms that marginally miss or beat analyst forecasts. *The Journal of Finance*, 64 (5), 2361–2388.
- Brown, K., Chen, V. Y. and Kim, M., 2015. Earnings management through real activities choices of firms near the investment–speculative grade borderline. *Journal of Accounting and Public Policy*, 34 (1), 74–94.
- Brown, L. D., and Caylor, M. L., 2005. A temporal analysis of quarterly earnings thresholds: Propensities and valuation consequences. *The Accounting Review*, 80 (2), 423–440
- Burgstahler, D., and Dichev I., 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, 24 (1), 99–126.
- Burgstahler, D.C., Hail, L. and Leuz, C., 2006. The importance of reporting incentives: Earnings management in European private and public firms. *The Accounting Review* 81 (5), 983–1016.
- Bushee, B.J., 1998. The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review*, 73 (3), 305–333.
- Callen, J.L., Morel, M., and Richardson, G., 2011. Do culture and religion mitigate earnings management? Evidence from a cross-country analysis. *International Journal of Disclosure and Governance*, 8 (2), 103–121.
- Chen, M., 2013. The effect of language on economic behavior: evidence from savings rates, health behaviors, and retirement assets. *American Economic Review*, 103 (2), 690–731.
- Cohen, D., Dey, A., and Lys, T., 2008. Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley period. *The Accounting Review*, 83 (3), 757–787.
- Cohen, D.A, Pandit, S., Wasley, C.E., Zach, T., 2016. Measuring Real Activity Management. Working paper. Available at SSRN: <http://ssrn.com/abstract=1792639>.
- Cohen, D.A., and Zarowin, P., 2010. Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50 (1), 2–19.
- Conrad, J., Cornell, B., and Landsman, W., 2002. When is bad news really bad news? *Journal of Finance*, 57 (6), 2507–2532.
- Dechow, P.M., Richardson, S.A., and Tuna, I., 2003. Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies*, 8 (2), 355–384.
- Dechow, P.M., Sloan, R.G., and Sweeney, A.P., 1995. Detecting earnings management. *The Accounting Review*, 70 (2), 193–225.

- DeFond, M.L., and Jiambalvo, J., 1994. Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics* 17 (1–2), 145–176.
- Degeorge, F., Patel, J., and Zeckhauser, R., 1999. Earnings management to exceed thresholds. *Journal of Business* 72 (1), 1–33.
- Djankov, S., La Porta, R.F., Lopez-de-Silanes, F., and Shleifer, A., 2008. The law and economics of self-dealing. *Journal of Financial Economics*, 88 (3), 430–465.
- Enomoto, M., and Yamaguchi, T., 2017. Discontinuities in earnings and earnings change distributions after J-SOX implementation: Empirical evidence from Japan. *Journal of Accounting and Public Policy*, 36 (1), 82–98.
- Ernstberger, J., Link, B., Stich, M., and Vogler O., 2017. The real effects of mandatory quarterly reporting. Forthcoming in *The Accounting Review*.
- Francis, B., Hasan, I., and Li, L., 2016. A cross-country study of legal-system strength and real earnings management. *Journal of Accounting and Public Policy*, 35(5), 477–512.
- Gigler, F., Kanodia, C., Sapiro, H., and Venugopalan, R., 2014. How Frequent Financial Reporting Can Cause Managerial Short-Termism: An Analysis of the Costs and Benefits of Increasing Reporting Frequency. *Journal of Accounting Research*, 52 (2), 357–387.
- Gilliam, T., Heflin, F., and Jefferey, S., 2015. Evidence that the zero-earnings discontinuity has disappeared. *Journal of Accounting and Economics*, 60 (1), 117–132.
- Glaum, M., Lichtblau, K., and Lindemann, J., 2004. The extent of earnings management in the US and Germany. *Journal of International Accounting Research*, 3 (2), 45–77.
- Gore, P., Pope, P.F., and Singh, A.K., 2007. Earnings management and the distribution of earnings relative to targets: UK evidence. *Accounting and Business Research*, 37 (2), 123–150.
- Graham, J.R., Harvey, C.R., and Rajgopal, S., 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40 (1–3), 3–73.
- Gunny, K.A., 2010. The relation between earnings management using real activities manipulation and future performance: evidence from meeting earnings benchmarks. *Contemporary Accounting Research*, 27 (3), 855–888.
- Han, S., Kang, T., Salter, S., and Yoo, Y.K., 2010. A cross-country study on the effects of national culture on earnings management. *Journal of International Business Studies*, 41 (1), 123–141.
- Healy, P.M., and Wahlen, J.M., 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13 (4), 365–383.
- Hofstede, G., 1980. Motivation, leadership, and organization: do American theories apply abroad? *Organizational Dynamics*, 9(1), 42–63.
- Hofstede, G., and Minkov, M. 2010. Long-versus short-term orientation: new perspectives. *Asia Pacific Business Review*, 16 (4), 493–504.
- Hofstede, G., Hofstede, G. J., and Minkov, M. 2010. *Cultures and organizations: Software of the mind*. Revised and expanded. McGraw-Hill, New York.

- Jones, J.J., 1991. Earnings management during import relief investigation. *Journal of Accounting Research*, 29 (2), 193–228.
- Kim, J., Kim, Y., and Zhou, J., 2017. Languages and earnings management. *Journal of Accounting and Economics*, 63 (2–3), 288–306
- Kitching, K., Mashruwala, R., and Pevzner, M., 2016. Culture and Cost Stickiness: A Cross-country Study. *The International Journal of Accounting*, 51 (3), 402–417.
- Kothari, S. P., Leone, A.J., and Wasley, C.E., 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39 (1), 163–197.
- Kothari, S. P., Mizik, N., and Roychowdhury, S., 2016. Managing for the moment: The role of earnings management via real activities versus accruals in SEO valuation. *The Accounting Review*, 91 (2), 559–586.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R.W., 1998. Law and Finance, *Journal of Political Economy*, 106 (6), 1113–1155.
- Leuz, C., Nanda, D., and Wysocki, P.D., 2003. Earnings management and investor protection: an international comparison. *Journal of Financial Economics*, 69 (3), 505–527.
- McGuire, S.T., Omer, T.C., and Sharp, N.Y., 2012. The Impact of Religion on Financial Reporting Irregularities. *The Accounting Review*, 87 (2), 645–673.
- Nabar, S., and Boonlert-U-Thai, K.K., 2007. Earnings management, investor protection, and national culture. *Journal of International Accounting Research*, 6 (2), 35–54.
- Newman, K.L., and Nollen, S.D., 1996. Culture and congruence: The fit between management practices and national culture. *Journal of international business studies*, 27 (4), 753–779.
- Orlova, S., Rao, R., and Kang, T., 2017. National culture and the valuation of cash holdings. *Journal of Business Finance & Accounting*, 44 (1), 236–270.
- Paredes, A.A.P., and Wheatley, C., 2017. The influence of culture on real earnings management. *International Journal of Emerging Markets*, 12 (1), 38–57.
- Roychowdhury, S., 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42 (3), 335–370.
- Schipper, K., 1989. Commentary on earnings management. *Accounting Horizons*, 3 (4), 91–102.
- Siriviriyakul, S., 2015. A detailed analysis of empirical measures for real activities manipulation. Working paper. Available at SSRN: <http://ssrn.com/abstract=2359813>.
- Tang, L., and Koveos, P.E., 2008. A framework to update Hofstede’s cultural value indices: Economic dynamics and institutional stability. *Journal of International Business Studies* 39 (6), 1045–1063.
- Vorst, P., 2016. Real earnings management and long-term operating performance: the role of reversals in discretionary investment cuts. *The Accounting Review*, 91 (4), 1219–1256.
- Wang, M., Rieger, M.O., and Hens, T., 2016. How time preferences differ: Evidence from 53 countries. *Journal of Economic Psychology*, 52 (1), 115–135.

- Zang, A.Y., 2012. Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), 675–703.
- Zhang, X., Liang, X., and Sun, H., 2013. Individualism–Collectivism, Private Benefits of Control, and Earnings Management: A Cross-Culture Comparison. *Journal of Business Ethics*, 114 (4), 655–664.

Appendix A. Variable definitions

Firm variables

<i>ACFO</i>	Abnormal cash flow from operations
<i>ADISEXP</i>	Abnormal discretionary expenses
<i>AM</i>	Accrual manipulation measured as discretionary accruals
<i>APROD</i>	Abnormal production costs
<i>BENCH_A</i>	Indicator variable for firm-years with small earnings (ROA in the closed interval 0 and 1 percent)
<i>BENCH_B</i>	Indicator variable for firm-years with small increases in earnings (Increases in the closed interval 0 to 1 percent of total assets)
<i>LEV</i>	Financial leverage, total debt divided by total assets
<i>RM</i>	Composite measure of real earnings management ($APROD+ACFO+ADISEXP$)
<i>ROA</i>	Return on assets
<i>SIZE</i>	Natural logarithm of total assets

Country variables

<i>LTO</i>	Hofstede's long-term orientation score. All Hofstede's measures are obtained from his website: http://geert-hofstede.com/-dimensions.html
<i>LTO_RANK</i>	Country-ranked LTO variable ranging from 1 to 47
<i>LTO_TIME</i>	Long-term orientation score from Tang and Koveos (2008)
<i>LTO_WAIT</i>	Patience measure based on Wang et al. (2016)
<i>LTO_FTR</i>	Future-time reference of the main language in a country following Chen et al. (2013) and Kim et al. (2017)
<i>ASM_A</i>	Asymmetry measure of Glaum et al. (2004) around the zero earnings benchmark
<i>ASM_B</i>	Asymmetry measure of Glaum et al. (2004) around the prior year's earnings benchmark
<i>PDI</i>	Hofstede's power distance score
<i>MAS</i>	Hofstede's masculinity score
<i>CORR</i>	Transparency international corruption index
<i>HDI</i>	A country's human development index; available from http://hdr.undp.org/en/content/human-development-index-hdi
<i>JUD</i>	A country's judicial efficiency index obtained from Andrei Shleifer's website
<i>RIGHTS_SH</i>	Shareholder's rights from La Porta et al. (1998)

RIGHTS_CR Creditor's rights from La Porta et al. (1998)

OWN Ownership concentration from La Porta et al. (1998)

GDP Percentage change in a country's gross domestic product, obtained from the World Bank.
<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>

Appendix B. Long-termism and individual RM measures

Panel A: Zero earnings benchmark						Panel B: Prior year's earnings benchmark							
	ACFO	t-stat	APROD	t-stat	ADISEXP	t-stat		ACFO	t-stat	APROD	t-stat	ADISEXP	t-stat
<i>Main variable</i>						<i>Main variable</i>							
BENCH_A * LTO	-0.00008***	(-3.28)	-0.00008**	(-2.02)	0.00003	(0.76)	BENCH_B * LTO	-0.00008***	(-4.35)	-0.00014***	(-5.76)	-0.00003	(-1.47)
<i>Control variables</i>						<i>Control variables</i>							
BENCH_A	0.0092***	(4.68)	0.0164***	(4.94)	0.0022	(0.81)	BENCH_B	0.0053***	(3.77)	0.0115***	(5.17)	0.0033**	(2.01)
LTO	0.0001**	(2.65)	0.0000	(1.41)	-0.0000*	(-1.71)	LTO	0.0001***	(3.04)	0.0001**	(2.28)	-0.0000	(-0.81)
SIZE	0.0037***	(8.77)	0.0032***	(12.02)	-0.0009***	(-3.71)	SIZE	0.0037***	(8.72)	0.0031***	(12.48)	-0.0010***	(-3.77)
ROA	-0.1446***	(-16.79)	-0.1532***	(-16.83)	0.0016	(0.32)	ROA	-0.1448***	(-16.74)	-0.1538***	(-16.74)	0.0014	(0.26)
LEV	-0.0016	(-1.03)	0.0007	(0.38)	0.0055**	(2.28)	LEV	-0.0013	(-0.88)	0.0014	(0.71)	0.0058**	(2.32)
INTERCEPT	-0.0554***	(-9.02)	-0.0342***	(-8.56)	0.0255***	(6.27)	INTERCEPT	-0.0554***	(-9.03)	-0.0335***	(-8.79)	0.0258***	(6.19)
Industry FE	Yes		Yes		Yes		Industry FE	Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Year FE	Yes		Yes		Yes	
R-squared	0.075		0.030		0.004		R-squared	0.075		0.030		0.004	
No of obs.	237,525		237,525		237,525		No of obs.	237,525		237,525		237,525	

This table presents estimates from a OLS regression of individual real earnings management measures (ACFO, APROD and ADISEXP) on our variable of interest, the interaction between BENCH (BENCH_A and BENCH_B) and LTO, controlling for firm characteristics. Panel A presents the results with BENCH_A, which is a dummy variable with the value 1 if ROA is larger than zero and smaller than 0.01, otherwise BENCH_A has the value 0. Panel B presents the results with BENCH_B, which is a dummy variable with the value 1 if the change in earnings divided by total assets is larger than zero and smaller than 0.01, otherwise BENCH_B has the value 0. LTO is the long-term orientation score from Hofstede et al. (2010). The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.

Table 1: Descriptive statistics

Country	Firm-Year Obs.	LTO	RM	RM	AM	AM	TA	ROA	LEV
Australia	9,775	21	0.000	0.130	0.003	0.055	43196	-0.023	0.044
Austria	605	60	0.010	0.080	0.000	0.024	464003	0.034	0.253
Belgium	908	82	0.004	0.067	-0.003	0.025	316121	0.034	0.219
Brazil	1,857	44	0.012	0.095	-0.014	0.035	711288	0.037	0.270
Bulgaria	1,034	69	0.004	0.104	0.019	0.049	14393	0.006	0.082
Canada	11,384	36	0.000	0.100	-0.002	0.052	65758	-0.040	0.065
Chile	1,052	31	0.001	0.077	0.007	0.034	330201	0.038	0.221
China	19,093	87	0.002	0.071	-0.004	0.022	361830	0.031	0.226
Colombia	263	13	0.004	0.050	0.017	0.029	387398	0.028	0.119
Croatia	175	58	0.000	0.047	0.006	0.026	198912	0.013	0.272
Denmark	1,004	35	0.003	0.101	-0.003	0.033	156825	0.030	0.199
Egypt	659	7	0.002	0.086	-0.010	0.038	220817	0.066	0.104
Finland	1,098	38	0.011	0.115	-0.002	0.027	257156	0.040	0.249
France	5,798	63	0.000	0.064	0.004	0.026	173632	0.029	0.193
Germany	5,625	83	0.008	0.123	0.001	0.032	158947	0.032	0.169
Great Britain	11,246	51	0.003	0.104	0.000	0.040	111136	0.032	0.126
Greece	1,596	45	0.003	0.067	0.016	0.030	160370	0.004	0.332
Hong Kong	10,562	61	0.007	0.097	0.005	0.033	256692	0.040	0.153
Hungary	186	58	-0.010	0.080	-0.018	0.032	109298	0.023	0.184
India	14,408	51	0.004	0.081	0.007	0.026	78412	0.040	0.291
Indonesia	2,889	62	0.002	0.106	0.018	0.053	144975	0.036	0.216
Ireland	375	24	0.010	0.078	-0.007	0.033	275802	0.034	0.144
Israel	1,202	38	0.005	0.090	0.011	0.032	126509	0.019	0.249
Japan	34,444	88	0.002	0.062	0.013	0.025	269646	0.024	0.171
Malaysia	7,748	41	0.002	0.068	0.004	0.025	85135	0.033	0.177
Mexico	883	24	0.003	0.077	-0.006	0.027	1245634	0.040	0.217
Netherlands	1,054	67	0.002	0.102	-0.004	0.027	872264	0.042	0.230
New Zealand	741	33	0.000	0.107	-0.004	0.030	147202	0.041	0.211
Norway	1,372	35	0.004	0.109	0.002	0.041	371729	0.025	0.269
Pakistan	966	50	0.004	0.096	0.004	0.034	118694	0.066	0.244
Peru	608	25	0.005	0.118	-0.009	0.044	175240	0.063	0.199
Philippines	1,241	27	0.002	0.079	0.000	0.033	111269	0.037	0.123
Poland	2,638	38	0.008	0.097	0.006	0.030	73159	0.035	0.164
Portugal	368	28	0.000	0.059	0.023	0.034	641620	0.016	0.400
Singapore	5,573	72	0.005	0.098	0.001	0.030	117203	0.043	0.169
Slovenia	214	49	0.011	0.061	0.007	0.027	124049	0.009	0.294
South Africa	2,132	34	0.008	0.107	-0.010	0.040	221819	0.069	0.155
South Korea	13,754	100	0.007	0.086	-0.006	0.029	119386	0.027	0.216
Spain	1,088	48	0.002	0.067	0.006	0.026	788227	0.023	0.327
Sweden	3,220	53	0.001	0.107	0.001	0.036	100523	0.040	0.152
Switzerland	1,739	74	0.007	0.102	0.000	0.025	428540	0.045	0.180
Taiwan	8,730	93	0.006	0.070	-0.001	0.024	192550	0.039	0.192
Thailand	4,205	32	0.004	0.087	-0.002	0.030	76836	0.054	0.215
Turkey	2,019	46	0.005	0.092	0.007	0.032	175775	0.034	0.163
U.S.A.	36,278	26	0.004	0.102	-0.014	0.037	337373	0.030	0.169
Venezuela	117	16	0.030	0.130	0.021	0.061	208560	0.038	0.154
Vietnam	3,599	57	0.001	0.115	0.003	0.044	20910	0.043	0.229

This table presents LTO and country-level median values of variables for our firm-year observations. The data sample covers 47 countries for the time period from 2003 to 2015 and contains 237,535 firm-year observations. The variable definitions are presented in Appendix A.

Table 2: Correlation matrix

	RM	AM	LTO	SIZE	ROA	LEV	PDI	MAS	CORR	HDI	JUD	RIGHTS_SH	RIGHTS_CR	OWN
AM	0.1658													
LTO	0.0003	0.0451												
SIZE	0.0085	-0.0915	0.0664											
ROA	-0.2101	-0.0910	0.1268	0.2970										
LEV	0.0350	0.0287	0.0033	0.1332	-0.0754									
PDI	-0.0029	0.0233	0.2168	-0.0679	0.1682	0.0251								
MAS	0.0028	0.0400	0.3279	0.1117	0.0140	-0.0230	-0.0687							
CORR	0.0013	0.0016	0.0048	0.0715	-0.1478	-0.0845	-0.6349	0.1855						
HDI	0.0041	-0.0240	0.0690	0.1179	-0.1540	-0.0753	-0.6307	0.1393	0.8570					
JUD	0.0039	0.0037	-0.1094	0.0757	-0.1044	-0.0473	-0.4161	0.4314	0.7531	0.5525				
RIGHTS_SH	0.0015	-0.0157	-0.4576	-0.0079	-0.0833	-0.0066	-0.0537	0.2518	0.1946	-0.0190	0.5512			
RIGHTS_CR	-0.0025	0.0287	0.3842	-0.0763	0.0625	-0.0323	0.2814	-0.0260	0.0255	0.0270	-0.0174	-0.2067		
OWN	-0.0040	0.0209	-0.1740	-0.0873	0.0753	0.0080	0.4704	-0.4558	-0.3283	-0.4034	-0.3994	-0.2666	0.3055	
GDP	-0.0341	-0.0015	-0.0738	-0.1174	0.1079	0.0116	0.4133	-0.2662	-0.3905	-0.4821	-0.2670	0.0513	0.2335	0.3312

This table presents a Pearson correlation matrix where the correlations are calculated between the variables included in our full regression model. The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A.

Table 3: Long-termism and real earnings management

Panel A: Zero earnings benchmark					Panel B: Prior year's earnings benchmark				
	RM	t-stat	RM	t-stat		RM	t-stat	RM	t-stat
<i>Main variable</i>					<i>Main variable</i>				
BENCH_A * LTO	-0.0003***	(-3.04)	-0.0001**	(-2.00)	BENCH_B * LTO	-0.0004***	(-6.42)	-0.0003***	(-5.88)
<i>Control variables</i>					<i>Control variables</i>				
BENCH_A	0.0375***	(5.18)	0.0243***	(5.04)	BENCH_B	0.0291***	(5.99)	0.0214***	(5.33)
LTO	0.0002***	(2.88)	0.0001	(1.54)	LTO	0.0002***	(3.56)	0.0001**	(2.35)
SIZE	0.0083***	(10.38)	0.0101***	(11.32)	SIZE	0.0081***	(10.58)	0.0099***	(11.72)
ROA	-0.3821***	(-14.51)	-0.4071***	(-16.95)	ROA	-0.3834***	(-14.41)	-0.4080***	(-16.91)
LEV	0.0049	(0.85)	-0.0004	(-0.13)	LEV	0.0062	(1.04)	0.0003	(0.08)
PDI			0.0002***	(4.92)	PDI			0.0003***	(4.86)
MAS			-0.0002***	(-4.68)	MAS			-0.0001***	(-4.40)
CORR			0.0002	(1.66)	CORR			0.0002*	(1.71)
HDI			-0.1563***	(-7.88)	HDI			-0.1593***	(-8.00)
JUD			0.0004	(0.58)	JUD			0.0005	(0.62)
RIGHTS_SH			-0.0014	(-1.19)	RIGHTS_SH			-0.0015	(-1.29)
RIGHTS_CR			0.0049***	(5.39)	RIGHTS_CR			0.0049***	(5.36)
OWN			-0.0002	(-0.03)	OWN			-0.0004	(-0.09)
GDP			-0.0029***	(-5.45)	GDP			-0.0030***	(-5.54)
INTERCEPT	-0.1110***	(-7.84)	0.0000	(0.00)	INTERCEPT	-0.11081***	(-7.95)	0.0027	(0.16)
Industry FE	No		Yes		Industry FE	No		Yes	
Year FE	No		Yes		Year FE	No		Yes	
R-squared	0.050		0.058		R-squared	0.049		0.057	
No of obs.	237,525		187,819		No of obs.	237,525		187,819	

This table presents estimates from a OLS regression of real earnings management (RM) on our variable of interest, the interaction between BENCH (BENCH_A and BENCH_B) and LTO, controlling for firm characteristics and country characteristics. Panel A presents the results with BENCH_A, which is a dummy variable with the value 1 if ROA is larger than zero and smaller than 0.01, otherwise BENCH_A has the value 0. Panel B presents the results with BENCH_B, which is a dummy variable with the value 1 if the change in earnings divided by total assets is larger than zero and smaller than 0.01, otherwise BENCH_B has the value 0. LTO is the long-term orientation score from Hofstede et al. (2010). The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.

Table 4: Long-termism and accrual manipulation

Panel A: Zero earnings benchmark					Panel B: Prior year's earnings benchmark				
	AM	t-stat	AM	t-stat		AM	t-stat	AM	t-stat
<i>Main variable</i>					<i>Main variable</i>				
BENCH_A * LTO	0.00003	(0.78)	0.00010***	(3.87)	BENCH_B * LTO	0.00007***	(3.37)	0.00008***	(3.85)
<i>Control variables</i>					<i>Control variables</i>				
BENCH_A	0.0072**	(2.56)	0.0024	(0.92)	BENCH_B	-0.0017	(-0.93)	-0.0012	(-0.62)
LTO	0.0001***	(6.23)	0.0001***	(2.89)	LTO	0.0001***	(5.95)	0.0001***	(2.90)
SIZE	-0.0033***	(-4.67)	-0.0034***	(-3.54)	SIZE	-0.0034***	(-4.54)	-0.0035***	(-3.49)
ROA	-0.0458***	(-5.29)	-0.0479***	(-4.64)	ROA	-0.0460***	(-5.36)	-0.0482***	(-4.69)
LEV	0.0096***	(3.19)	0.0094**	(2.39)	LEV	0.0103***	(3.23)	0.0099**	(2.41)
PDI			0.0000	(1.16)	PDI			0.0000	(1.17)
MAS			0.0002***	(4.82)	MAS			0.0002***	(4.88)
CORR			0.0005***	(5.41)	CORR			0.0005***	(5.37)
HDI			-0.1072***	(-6.51)	HDI			-0.1070***	(-6.55)
JUD			-0.0005	(-0.92)	JUD			-0.0005	(-0.91)
RIGHTS_SH			-0.0013	(-1.33)	RIGHTS_SH			-0.0013	(-1.33)
RIGHTS_CR			0.0009	(1.14)	RIGHTS_CR			0.0009	(1.15)
OWN			0.0196**	(2.38)	OWN			0.0196**	(2.40)
GDP			-0.0011***	(-5.31)	GDP			-0.0011***	(-5.34)
INTERCEPT	0.03147***	(4.19)	0.0903***	(4.42)	INTERCEPT	0.0323***	(4.16)	0.0918***	(4.46)
Industry FE	No		Yes		Industry FE	No		Yes	
Year FE	No		Yes		Year FE	No		Yes	
R-squared	0.018		0.027		R-squared	0.017		0.026	
No of obs.	237,525		187,819		No of obs.	237,525		187,819	

This table presents estimates from a OLS regression of accrual manipulation (AM) on our variable of interest, the interaction between BENCH (BENCH_A and BENCH_B) and LTO, controlling for firm characteristics and country characteristics. Panel A presents the results with BENCH_A, which is a dummy variable with the value 1 if ROA is larger than zero and smaller than 0.01, otherwise BENCH_A has the value 0. Panel B presents the results with BENCH_B, which is a dummy variable with the value 1 if the change in earnings divided by total assets is larger than zero and smaller than 0.01, otherwise BENCH_B has the value 0. LTO is the long-term orientation score from Hofstede et al. (2010). The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.

Table 5: Long-termism and benchmark beating

	OLS				WLS			
	ASM_A	t-stat	ASM_B	t-stat	ASM_A	t-stat	ASM_B	t-stat
LTO	0.0039***	(3.96)	0.0001	(0.22)	0.0066***	(4.19)	0.0016***	(2.73)
INTERCEPT	0.2245***	(4.53)	0.0283	(0.78)	0.0517	(0.59)	-0.0425	(-1.34)
R-squared	0.259		0.001		0.546		0.288	
No of obs.	47		47		47		47	

This table presents estimates from a OLS and WLS regression of benchmark beating measures (ASM_A and ASM_B) on our variable of interest, LTO, which is the long-term orientation score from Hofstede et al. (2010). The weights in the WLS regression is the number of firm-year observations per country. The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.

Table 6: Long-termism and earnings management in regressions excluding U.S. and Japan

Panel A: Zero earnings benchmark					Panel B: Prior year's earnings benchmark				
	RM	t-stat	AM	t-stat		RM	t-stat	AM	t-stat
<i>Main variable</i>					<i>Main variable</i>				
BENCH_A * LTO	-0.00002	(-0.17)	0.00009**	(2.32)	BENCH_B * LTO	-0.00020***	(-3.15)	0.00014***	(4.48)
<i>Control variables</i>					<i>Control variables</i>				
BENCH_A	0.0188***	(2.82)	0.0027	(0.83)	BENCH_B	0.0147***	(3.16)	-0.0059**	(-2.44)
LTO	0.0001**	(2.13)	-0.0001	(-0.92)	LTO	0.0001***	(2.78)	-0.0001	(-1.01)
SIZE	0.0103***	(11.02)	-0.0034***	(-2.84)	SIZE	0.0102***	(11.20)	-0.0035***	(-2.80)
ROA	-0.4049***	(-15.87)	-0.0464***	(-4.48)	ROA	-0.4056***	(-15.82)	-0.0466***	(-4.51)
LEV	0.0027	(0.51)	0.0153***	(4.41)	LEV	0.0040	(0.77)	0.0159***	(4.47)
PDI	0.0003***	(5.67)	-0.0000	(-1.24)	PDI	0.0003***	(5.52)	-0.0000	(-1.21)
MAS	-0.0001**	(-2.51)	0.0000	(0.21)	MAS	-0.0001**	(-2.48)	0.0000	(0.18)
CORR	0.0004***	(2.97)	0.0002**	(2.06)	CORR	0.0004***	(2.87)	0.0002*	(1.99)
HDI	-0.1954***	(-6.49)	-0.0428***	(-3.68)	HDI	-0.1954***	(-6.46)	-0.0425***	(-3.64)
JUD	-0.0004	(-0.56)	0.0002	(0.27)	JUD	-0.0004	(-0.48)	0.0002	(0.28)
RIGHTS_SH	-0.0019*	(-1.78)	-0.0005	(-0.45)	RIGHTS_SH	-0.0020*	(-1.86)	-0.0005	(-0.44)
RIGHTS_CR	0.0059***	(7.89)	-0.0000	(-0.01)	RIGHTS_CR	0.0059***	(7.83)	-0.0000	(-0.01)
OWN	0.0011	(0.15)	0.0251***	(2.91)	OWN	0.0014	(0.19)	0.0254***	(2.96)
GDP	-0.0034***	(-5.02)	-0.0002	(-0.58)	GDP	-0.0034***	(-5.01)	-0.0002	(-0.58)
INTERCEPT	0.0060	(0.27)	0.0604***	(2.94)	INTERCEPT	0.0070	(0.32)	0.0615***	(2.96)
Industry FE	Yes		Yes		Industry FE	Yes		Yes	
Year FE	Yes		Yes		Year FE	Yes		Yes	
R-squared	0.055		0.022		R-squared	0.055		0.022	
No of obs.	117,097		117,097		No of obs.	117,097		117,098	

This table presents estimates from OLS regressions of earnings management (RM and AM) on our variable of interest the interaction between BENCH (BENCH_A and BENCH_B) and LTO, controlling for firm characteristics and country characteristics. Panel A presents the results with BENCH_A, which is a dummy variable with the value 1 if ROA is larger than zero and smaller than 0.01, otherwise BENCH_A has the value 0. Panel B presents the results with BENCH_B, which is a dummy variable with the value 1 if the change in earnings divided by total assets is larger than zero and smaller than 0.01, otherwise BENCH_B has the value 0. LTO is the long-term orientation score from Hofstede et al. (2010). The data sample covers 47 countries for the time period from 2003 to 2015. Firm-year observations from the U.S. and Japan are excluded in this regression. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.

Table 7: Alternative long-termism measures and earnings management

Panel A: RM and the zero earnings benchmark				Panel B: RM and prior year's earnings benchmark			
	RM	t-stat	t-stat	RM	t-stat	t-stat	t-stat
<i>Main variable</i>							
BENCH_A * LTO_RANK	-0.0002*	(-1.77)		BENCH_B * LTO_RANK	-0.0005***	(-6.45)	
BENCH_A * LTO_TIME	-0.0000	(-0.05)		BENCH_B * LTO_TIME	-0.0002***	(-2.91)	
BENCH_A * LTO_FTR			-0.0039	BENCH_B * LTO_FTR			-0.0118***
BENCH_A * LTO_WAIT				BENCH_B * LTO_WAIT			-0.0008***
							(-4.33)
Control variables	Yes	Yes	Yes	Control variables	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Year FE	Yes	Yes	Yes
R-squared	0.058	0.058	0.058	R-squared	0.057	0.057	0.058
No of obs.	186,617	186,500	150,100	No of obs.	186,617	186,500	150,100
Panel C: AM and the zero earnings benchmark				Panel D: AM and prior year's earnings benchmark			
	AM	t-stat	t-stat	AM	t-stat	t-stat	t-stat
<i>Main variable</i>							
BENCH_A * LTO_RANK	0.0002***	(4.29)		BENCH_B * LTO_RANK	0.0001***	(3.60)	
BENCH_A * LTO_TIME			0.0002***	BENCH_B * LTO_TIME			0.0001***
BENCH_A * LTO_FTR				BENCH_B * LTO_FTR			0.0010
BENCH_A * LTO_WAIT				BENCH_B * LTO_WAIT			0.0002**
							(2.25)
Control variables	Yes	Yes	Yes	Control variables	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Year FE	Yes	Yes	Yes
R-squared	0.029	0.030	0.032	R-squared	0.029	0.029	0.032
No of obs.	186,617	186,617	150,100	No of obs.	186,617	186,500	150,100

This table presents estimates from OLS regressions of earnings management (RM and AM) on our variable of interest, the interaction between BENCH (BENCH_A and BENCH_B) and our alternative measures of long-term orientation (LTO_RANK, LTO_TIME, LTO_FTR, and LTO_WAIT), controlling for firm characteristics and country characteristics. Panel A and B present the results with RM as the dependent variable. Panel C and D present the results with AM as the dependent variable. BENCH_A is a dummy variable with the value 1 if ROA is larger than zero and smaller than 0.01, otherwise BENCH_A has the value 0. BENCH_B is a dummy variable with the value 1 if the change in earnings divided by total assets is larger than zero and smaller than 0.01, otherwise BENCH_B has the value 0. The data sample covers 47 countries for the time period from 2003 to 2015. The variable definitions are presented in Appendix A. *10% significance; **5% significance; ***1% significance.