


## EARNINGS MANAGEMENT TO AVOID EARNINGS DECREASES AND LOSSES: AN EXPLORATION ACROSS THE WORLD

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### ABSTRACT

This study evaluates the prevalence of earnings management to avoid losses and earnings decreases across the World. This practice was first documented by Burgstahler and Dichev (1997) for United States firms from 1976 to 1987. We replicate their study for a more recent and global sample. Firms that do not seem to manage earnings do avoid reporting earnings decreases, but we found persistent evidence of earnings management to avoid reporting losses. The results are consistent across different geographical regions, countries, and before and after International Financial Reporting Standards (IFRS) adoption. Unlike Burgstahler and Dichev (1997), however, we were not able to find evidence on which components of earnings (cash flow from operations, changes in working capital, or other accruals) firms mainly manage to increase earnings, concluding they likely use a bundle of all these components. Our results are important mainly to financial analysts and general investors, who should be careful in giving good prospects to firms who presented small profits since they are likely small losses artificially managed to look better, a practice widely spread across time and geographical regions among IFRS adopters and non-adopters.

**Keywords:** Earnings Management. Small Loss Avoidance. Global Sample.

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**Edited English.**

**Received on** 2/19/2021. **Reviewed on** 4/26/2021. **Accepted on** 5/25/2021 by the Prof. PhD Sérgio Murilo Petri (Editor-Chief) and Prof. PhD Sandro Vieira Soares (Associated Editor). **Published on** 6/11/2021.

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## 1 INTRODUCTION

In this study, we aim to evaluate the prevalence of earnings management to avoid losses and earnings decreases across the World. This practice was first documented by Burgstahler and Dichev (1997) for United States firms from 1976 to 1987. The authors found that while the statistical distribution of earnings is smooth across different intervals, there is a considerably greater frequency of firms presenting small profits than firms presenting small losses, arguing that earnings distribution should be also smooth in the zero thresholds. They also found evidence of a higher frequency of small earnings increases than of small earnings decreases. Burgstahler and Dichev (1997) argue, then, according to further analyses, that firms manage their operations to avoid disclosing small losses and earnings decreases, believing this would displease investors. We replicate Burgstahler and Dichev's (1997) analysis for a global sample relative to a more recent period.

While after Burgstahler and Dichev (1997), many studies explored this issue investigating specific elements related to it (see, e.g., Dechow, Richardson, & Tuna, 2003; Beaver, McNichols, & Nelson, 2003; Phillips, Pincus, & Rego, 2003), as well as its consequences (see, e.g., Burgstahler & Eames, 2003; Kerstein & Rai, 2007a), there is no study investigating the prevalence of the practice of earnings management to avoid losses and earnings decreases across the World. That is, across different cultural and legal contexts, different regions, and under different accounting standards. This gap is what we aim to fill. Consequently, we may expect to find different results when analyzing different economic, social, and political environments than Burgstahler and Dichev (1997).

Despite recent developments concerning sustainable and socially oriented practices, business academics and practitioners still emphasize that companies' primary objective is to deliver profits to their shareholders. Burgstahler and Dichev (1997) bring anecdotal evidence that strong incentives avoid reporting losses and earnings decreases. They show, then, empirically, that this seems to be the case, showing firms managing their operations to avoid reporting earnings decreases and losses. A few years later, Leuz, Nanda, and Wysocki (2003) include the small loss avoidance measure in a global sample analyzing the role of investor protection to earnings management practices, but since they use a compound index to measure earnings management, they do not provide evidence on the prevalence of this specific practice across the World.

Jeanjean and Stolowy (2008) follow a similar path as Leuz et al. (2003), studying small loss avoidance alongside other earnings management measures, focusing on the IFRS effects for Australia, France and the United Kingdom. The authors find that IFRS is not associated with decreases in the practice of earnings management to avoid losses. More recently, Lee, Shin, Vetter, and Kim (2017) find the zero threshold discontinuity pattern for Korean firms, while Kim, Kim, and Zhou (2017) uses the same measure as Leuz et al. (2003) for a sample of 21 countries from 2002 to 2011, relating earnings management practices to language. Therefore, this is an earnings management variable widely used in the recent accounting literature. However, there is no ample evidence of its prevalence around the World.

This gap is what we aim to fill. We analyze a sample of 38,388 listed non-financial firms from 116 countries for 1996 to 2017, the last period available at the time of data collection, yielding a total of 426,697 observations. We follow Burgstahler and Dichev's (1997) methods, analyzing the histograms of firms' earnings and changes in earnings scaled by total assets. We found a much larger frequency of earnings between 0% and 0.5% of total assets than the frequency of earnings between -0.5% and 0% of total assets, indicating that firms likely practice earnings management to turn minimal losses into minimal profits. We found no consistent evidence of earnings management to avoid earnings decreases, however. We also found firms with higher levels of the beginning of the year current assets and current liabilities and more likely to manage

earnings to avoid small losses, but we could not find if they manipulate cash flows, changes in working capital, or other accruals to achieve this.

Our results are significant for three main reasons.

1. We complement the accounting literature by providing ample evidence of the small loss avoidance practice across the World since the previous literature focus either on specific countries and periods or bundle it with other earnings management measures.
2. Our findings are important to financial analysts and general investors because we emphasize caution in giving positive prospects to firms that presented small profits.
3. Analyzing a global sample is crucial because we show this is a considerably spread practice across the World, even among different economic and financial market development levels.

The study is structured as follows. Section 2 brings a brief literature review, and Section 3 describes our sample and methodology, following Burgstahler and Dichev (1997). Section 4 discusses our results and, finally, Section 5 concludes.

## **2 THEORETICAL BACKGROUND**

We based this study on the Positive Accounting Theory (PAT) and the Economic Theory of the Firm, which argue that a firm is a nexus of contracts between different agents and accounting is an integral part of the contracts that define the firm (Coase, 1937; Scott, 2015; Watts & Zimmerman, 1986). Given this vital role that accounting plays in establishing and monitoring the contracts that define the firm, accounting practices have economic consequences, and managers will choose accounting practices in their own best interest. Therefore, the PAT is concerned with predicting actions, such as the choice of accounting practices by managers and how they will respond to proposed new accounting standards (Scott, 2015).

The PAT comprises two different perspectives: (i) the efficiency perspective and (ii) the opportunistic perspective (Watts & Zimmerman, 1986). Under the efficiency perspective, managers choose accounting practices to minimize the firm's agency cost and, therefore, increase the efficiency of contracts and the firm value (Holthausen, 1990; Scott, 2015; Watts & Zimmerman, 1986). Under the opportunistic perspective, managers can choose accounting practices according to their utility functions, even if it reduces firm value and survival chances (Scott, 2015; Watts & Zimmerman, 1986). The literature on earnings management, therefore, is based on this opportunistic perspective of the PAT.

Lo (2008, p. 350) argues that earnings management is one of the most provocative research topics in accounting and finance, given that it explicitly involves “wrongdoing, mischief, conflict, cloak and dagger, and a sense of mystery”. Therefore, the author suggests that we should analyze the detection of earnings management from the perspective of a crime scene investigator (Lo, 2008).

For several years, there were many studies on earnings management in accounting and finance. In 1985, for example, Healy (1985) discussed the effect of bonus schemes on accounting decisions since managers would tend to select specific accounting procedures that increase their compensation. Similarly, Jones (1991) analyzes earnings management during import relief investigations, and DeAngelo, DeAngelo, and Skinner (1994) investigate managers' accounting choices in firms with persistent losses and dividend reductions. Following, Burgstahler and Dichev (1997) provide evidence of earnings management to avoid earnings decreases and losses. Finally, using accruals as proxies for earnings management, Dechow, Sloan, and Sweeney (1995) evaluate the suitability of several accrual-based models for detecting earnings management.

More recently, Dechow, Ge, and Schrand (2010) review the literature on earnings quality, discussing proxies, determinants, and consequences of earnings quality. The authors argue that “higher quality earnings provide more information about the features of a firm’s financial performance that are relevant to a specific decision made by a specific decision-maker” (Dechow et al., 2010, p. 344). The definition of earnings quality proposed by Dechow et al. (2010) has three essential features: (i) the concept of earnings quality is meaningless without the context of a specific decision model; (ii) in order to be of higher quality, earnings must be informative about the firm’s financial performance; and (iii) we determine earnings quality not only based on the relevance of firm’s financial performance but also on the ability of the accounting system to measure performance (Dechow et al., 2010).

Regarding proxies for earnings quality, Dechow et al. (2010) review over 300 studies and then classified the proxies into three categories: (i) properties of earnings (earnings persistence, accruals, earnings smoothness, asymmetric timeliness, and timely loss recognition, and target beating); (ii) investor responsiveness to earnings (earnings response coefficient and the  $R^2$  from the earnings-return model); (iii) external indicators of earnings misstatements.

Some of these proxies, especially those related to earnings properties, are also used as metrics for earnings management. There is a negative relationship between earnings management and earnings quality, given that earnings management tends to erode earnings quality (Dechow et al., 2010). In this context, Healy and Wahlen (1999, p.368) define that “earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers”. Burgstahler and Dichev (1997) find firms engage in earnings management actively structuring transactions to alter financial reports, specifically, to avoid reporting earnings decreases and losses, since the earnings manipulation occurs mainly via cash flows. Therefore, firms delay expenses and anticipate revenues to disclose better earnings.

Burgstahler and Dichev (1997) focus on a U.S. sample for 1967 to 1987. Leuz et al. (2003) analyzed this earnings management measure and several others, creating an aggregate earnings management score for a global sample for 1990 to 1999, investigating the role of investor protection. Other studies explore this measure of earnings managements proposed by Burgstahler and Dichev (1997) (Dechow et al., 2003; Beaver et al., 2003; Phillips et al., 2003; Kerstein & Rai, 2007a, Kerstein & Rai, 2007b). Dechow et al. (2003), for example, investigate whether the manipulation of discretionary accruals could explain this phenomenon of too few firms reporting small losses and too many firms reporting small profits. However, the authors were unable to confirm this relation. Phillips et al. (2003) provide evidence that deferred tax expenses are more valuable than total and abnormal accruals to detect earnings management to avoid earnings decline or a loss. In addition, Kerstein and Rai (2007a) argue that the incentives to turn small losses into small profits are higher in the fourth quarter. Therefore, the previous literature focused on explaining the practice of earnings management to avoid small losses and earnings decreases, so that a demand for a more recent and broad scope analysis, mainly in a context of global convergence to the IFRS, issued by the International Accounting Standards Board (IASB), remains. We aim to fill this gap.

Earnings management is still an important research topic in accounting and finance, although the most recent studies use different perspectives. Beyer, Guttman, and Marinovic (2019), for example, argue that earnings is a dynamic process and, therefore, the authors propose a dynamic model of earnings management that takes into account the time-series properties of earnings. In addition, Kim et al. (2017) explore the relationship between the grammatical structure of languages and earnings management, and, finally, Gull, Nekhili, Nagati, and Chtioui (2018) assessed how the presence of female directors affect earnings management. In Brazil, there are also several studies on earning management under development using different approaches, such

as Cunha and Piccoli (2017), Consoni, Colauto, and Lima (2017), Paulo and Mota (2019), Santana, Santos, Carvalho Júnior, and Martinez (2020) and Santos, Guerra, Marques, and Júnior (2020).

### 3 SAMPLE AND METHODOLOGY

The data comprises 38,388 listed firms from 116 different countries from 1996 to 2017, the last period available at the time of data collection. The data is from Compustat, collected via the Wharton Research Data Service (WRDS). The sample comprises firms from all but the financial sector, as Burgstahler and Dichev (1997). We included only firms with positive equity and market capitalization. Table 1 shows the number of total observations from each region (according to the World Bank classification). The vast majority of the sample comes from East Asia and the Pacific, followed by Europe and Central Asia, North America, South Asia, Latin America and the Caribbean, Middle East and North Africa, and then by Sub-Saharan Africa.

Table 1  
**Sample Distribution by Region**

Region	Number of Observations
East Asia and the Pacific	207,172
Europe and Central Asia	90,313
North America	76,700
South Asia	22,418
Latin America and the Caribbean	13,462
Middle East and North Africa	10,443
Sub-Saharan Africa	6,189
<b>Total Sample</b>	<b>426,697</b>

Figure 1 shows the sample distribution across countries, geographical regions, and over the years. In East Asia and the Pacific, Japan and, in later years, China dominates the sample. In Europe and Central Asia, the country with the most significant number of observations is the United Kingdom, followed by France, Germany, Italy, and Greece. Several countries in the region have observations only in the last half of the sample. In Latin America and the Caribbean, Brazil has the most significant number of observations, followed by Chile, Mexico, and Peru. Israel has the most significant number of observations in the Middle-East and North Africa region. The United States dominates the North American sample, but Canada also has a considerable number. India dominates the South Asia sample, especially in the latter half of the sample, and South Africa has the most significant number of observations from the Sub-Saharan Africa region.

We computed the earnings variable as the net income scaled by the beginning of the year's total assets. All other variables in the subsequent analysis are scaled by total assets as well. Following Burgstahler and Dichev (1997), earnings management to avoid losses is likely to be reflected in the empirical distribution of earnings in the form of a much lower frequency of small losses than small profits.

In the absence of earnings management, minimal profits should be as likely as a minimal earnings increase. However, suppose a firm will present a slight loss in a given year, such as 0.25% of its total assets. Since investors look for firms with positive Earnings per Share (EPS), this firm, in particular, may, for instance, delay an ad campaign to decrease its expenses and make a minimal profit instead of a minimal loss. It is an example of real earnings management. This firm may also manage earnings via discretionary accruals, abusing the subjective discretion inherent to accounting estimations. For instance, it may delay recognizing a provision to the following year,

decreasing its recognized expenses. Analogously, the same procedures may occur to turn small earnings decreases into small earnings increases since investors prefer firms with increasing EPS.

Therefore, following Burgstahler and Dichev (1997), we test the hypotheses of earnings management to avoid losses and earnings decreases according to graphical evidence in the form of histograms of the pooled cross-sectional empirical distributions of the earnings scaled to total assets to test for the presence of earning management to avoid losses. Analogously, we analyze the empirical distribution of the scaled earnings variations to test for earnings management to avoid earnings decreases.

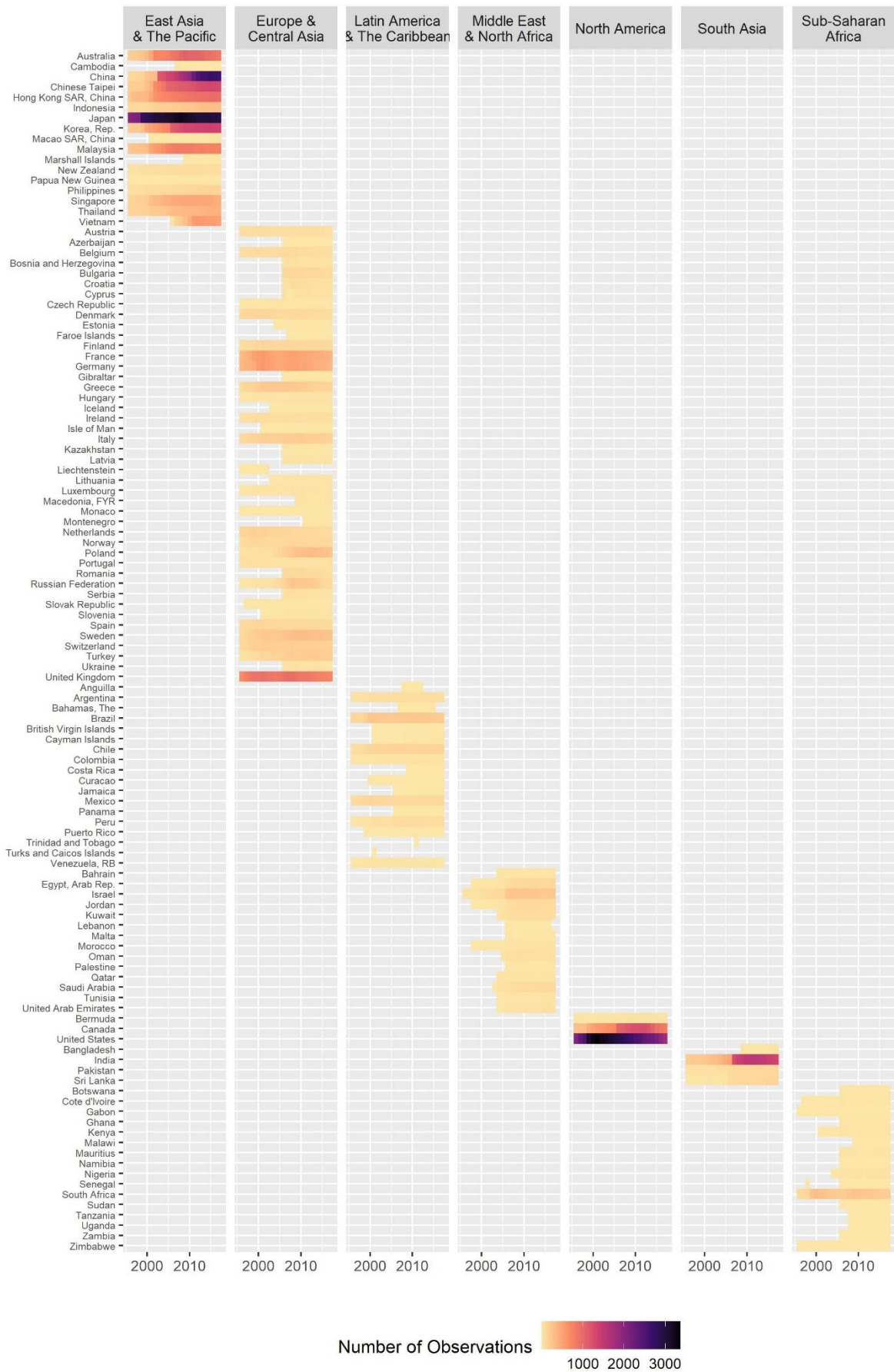


Figure 1. Sample Distribution

Further, we test for ex-ante and ex-post evidence of the methods with which firms engage to manage their earnings, also in line with Burgstahler and Dichev (1997). The ex-ante evidence stands on the firms' current assets and current liabilities at the beginning of the year. The authors explain that firms with high levels of current assets and current liabilities (relative to total assets) are likely to find it easier to manage earnings since they have a more considerable margin for working capital manipulation. If it is so, firms with minimal profits (firms more likely to have managed earnings) should have considerably more significant levels of current assets and current liabilities than firms with minimal losses (firms less likely to have managed earnings). The ex-post evidence, in turn, stands on decomposing earnings into three different components to analyze which of them is manipulated. Again, as Burgstahler and Dichev (1997), we decompose earnings into (i) cash flow from operations, (ii) changes in working capital, and (iii) other accruals.

Therefore, the methodological approach we follow in this study is a positivist one, focusing on empirical evidence of earnings management practices obtained via data description and quantitative analysis, as Burgstahler and Dichev (1997) did.

## 4 RESULTS

### 4.1 Prevalence of earnings management to avoid earnings decreases

Table 2 presents the descriptive statistics of the variables used in the analyses: earnings, changes in earnings, current assets and liabilities, cash flow from operations, changes in working capital, and other accruals. On average, both earnings levels and earnings changes amount to 0.5% of total assets. The positive average earnings are composed of positive cash flow and changes in working capital that amount to 6,2% and 1.8% of total assets, respectively, and negative other accruals. On average, half of the firms' total assets are current assets, and the total current liabilities represent around 30% of total assets. There is considerable variation in all the variables even after winsorization at 1%.

Table 2  
**Descriptive Statistics**

	N	Min	Mean	Max	Std. Dev.
Earnings	426,697	-0.893	0.005	0.351	0.166
Earnings Changes	426,524	-0.549	0.005	0.662	0.134
Current Assets	419,362	0.040	0.513	0.979	0.234
Current Liabilities	419,342	0.014	0.309	0.799	0.180
Cash Flow from Operations	424,930	-0.612	0.062	0.431	0.139
Changes in Working Capital	409,977	-0.472	0.018	0.907	0.171
Other Accruals	408,445	-1.169	-0.077	0.427	0.202

All variables are scaled by the beginning of the year total assets and winsorized at 1%.

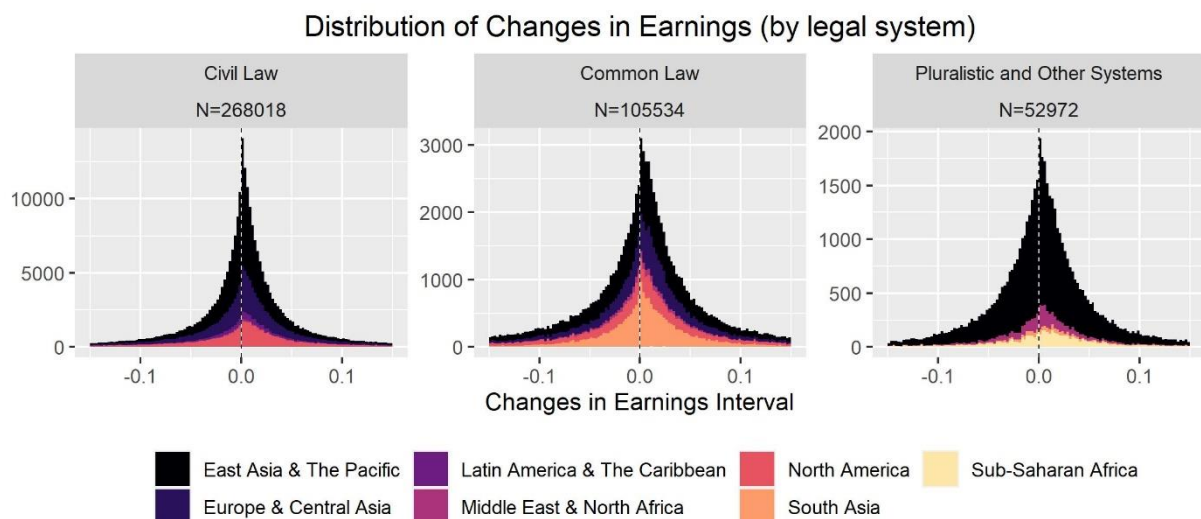
Figure 2 shows our replication of Burgstahler and Dichev's (1997) Figure 1, depicting the histogram of earnings changes from -0.15 (-15% of total assets) to 0.15 (15% of total assets) at 0.25% intervals. Burgstahler and Dichev's (1997) Figure 1 shows a break in the zero thresholds, indicating, as the authors hypothesized, a greater frequency of small earnings increases relative to small earnings decreases, indicating firms manage earnings avoid disclosing earnings decreases. Here, however, the distribution is very smooth across all intervals, including at the zero thresholds. Therefore, there is no evidence that firms manage earnings for the more recent global sample to avoid earnings decreases. Figure 2 also indicates no different patterns across geographical regions since there is no apparent discontinuity for the distributions for different colors.





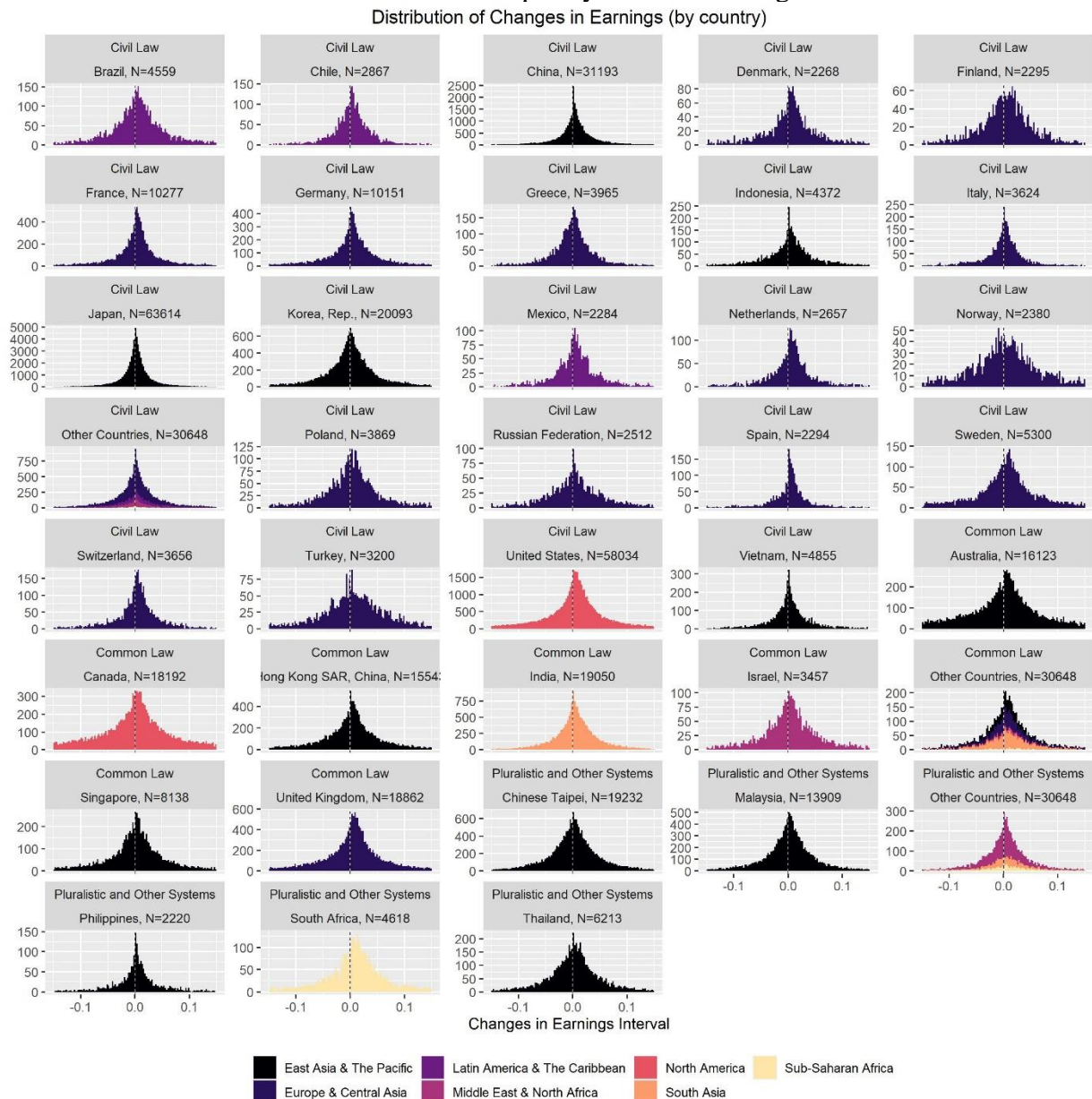
**Figure 2.** Earnings Management to Avoid Earnings Decreases  
Number of observations: 426,524

The Accounting literature shows different patterns of earnings management among emerging and developing countries and different legal systems (see, e.g., Leuz et al., 2003; Francis, Hasan, & Li, 2016; Douppnik, 2008). Thus, we investigate whether separating by legal systems yields different results. Using information from the World Bank, we classified countries among three different legal systems: civil law, common law, and pluralistic and other systems (including mixes of civil, common, and Islamic law). Figure 3 shows the results, also indicating geographical regions by colors, in which one also cannot find any discontinuity around the zero thresholds. Therefore, regardless of legal systems, no evidence that firms manage earnings to avoid earnings decreases is found. Separating the sample by income level (classification from the World Bank) also yields no different results (unreported, for the sake of space).



**Figure 3.** Earnings Management to Avoid Earnings Decreases (by legal system)  
Each plot's caption shows the number of observations

We also performed an independent analysis by country. We selected the countries with the most significant samples and analyzed them individually, as presented in Figure 4, showing countries' legal systems classifications. Again, we found no unusual behavior. We also analyzed the distribution of earnings changes per year, but the results (unreported, for the sake of space) also do not show evidence of the abnormal frequency of small earnings increases and decreases.

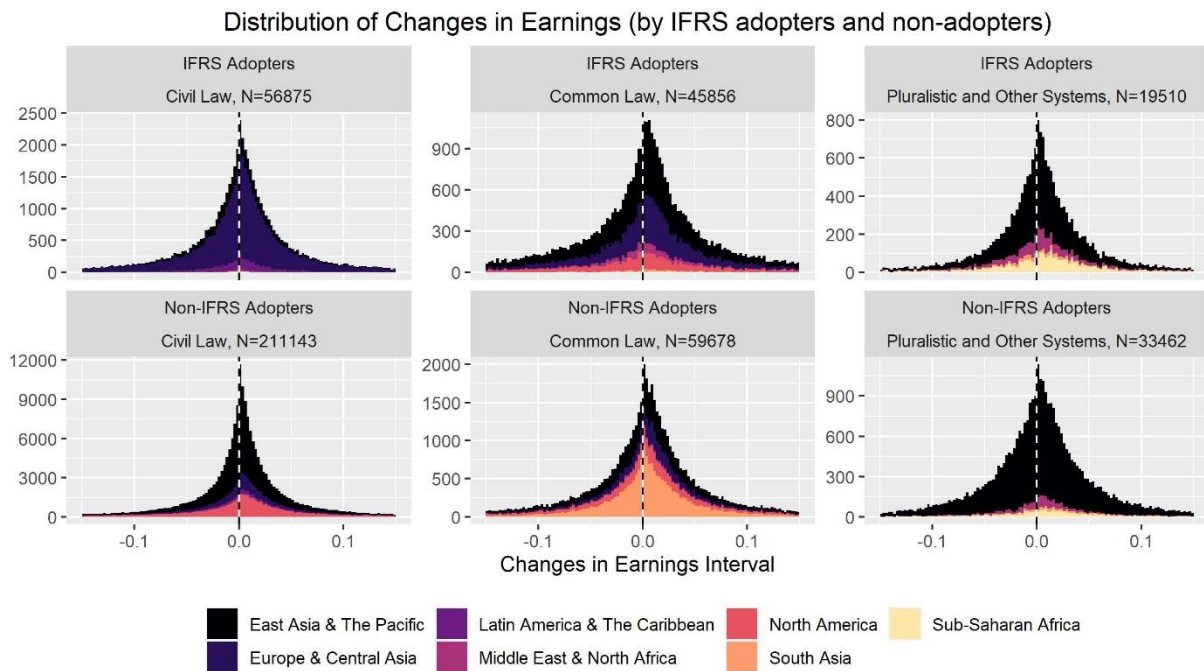


**Figure 4.** Earnings Management to Avoid Earnings Decreases (by country and legal system)  
Each plot's caption shows the number of observations

The Accounting literature also shows earnings quality (measured, for instance, as earnings management) is related to better quality financial information (see, e.g., Ahmed, Neel, & Wang, 2013; Barth, Landsman, & Lang, 2008; Christensen, Hail, & Leuz, 2013; Daske, Hail, Leuz, & Verdi, 2008; Li, 2010; Tarca, 2012). Therefore, we also analyze whether the adoption of the IFRS seems to affect the practice of earnings management to avoid earnings decreases. To do so, we separate the sample among IFRS adopters and non-adopters (again, also considering the legal systems' classifications). The IFRS adoption variable is built according to hand-collected data on

the IFRS Foundation website (IFRS Foundation, 2018) in August 2018, in which we examined all the 166 available jurisdiction profiles at the time. We consider a particular firm in a specific country as an IFRS adopter from the year in which it mandatorily applied the international standards on its consolidated financial statements according to the country's financial regulation. Figure 5 shows the results. Since, again, no discontinuity can be observed around the zero thresholds, we conclude there are no differences between IFRS adopters and non-adopters, even after considering different legal systems.

Therefore, we show systematic evidence of no practice of earnings management to avoid reporting earnings decreases. This result is significant because it shows firms from different contexts and periods from Burgstahler and Dichev (1997) present different behavior regarding this earnings management practice.

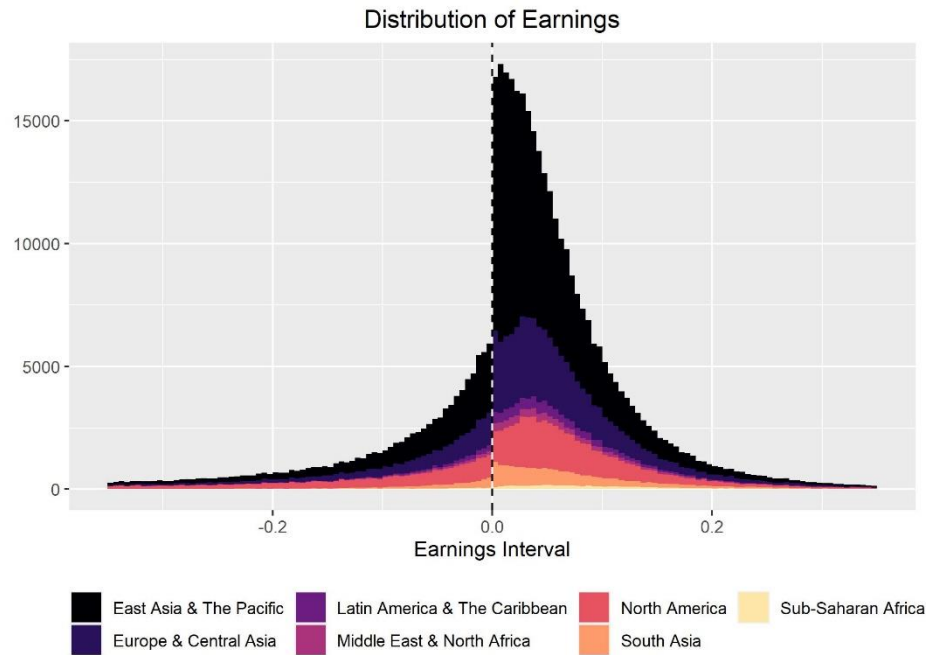


**Figure 5.** Earnings Management to Avoid Earnings Decreases (by IFRS adopters and non-adopters and by legal system)

Each plot's caption shows the number of observations

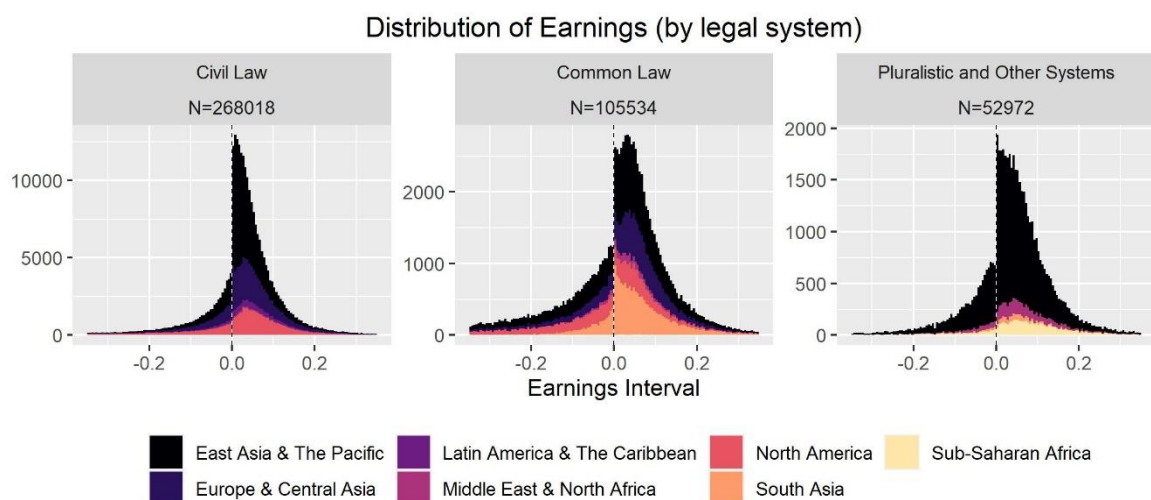
#### 4.2 Prevalence of earnings management to avoid losses

Next, we move to the practice of earnings management to avoid losses. Figure 6 shows our replication of Burgstahler and Dichev (1997)'s Figure 3, depicting the histogram of earnings levels from  $-0.35$  ( $-35\%$  of total assets) to  $0.35$  ( $35\%$  of total assets) at  $0.5\%$  intervals. Burgstahler and Dichev's (1997) Figure 3 shows a clear break at the zero thresholds, indicating, as the authors hypothesized, a greater frequency of small earnings relative to small losses, indicating firms manage earnings to avoid disclosing losses. We find the same result. Therefore, for the more recent global sample, which comprises firms from different contexts and periods than those analyzed by Burgstahler and Dichev (1997), there is also strong evidence that firms manage earnings to avoid reporting small losses. Figure 6 also indicates that this pattern is repeated across different regions since the discontinuity is seen across the different depicted colors.

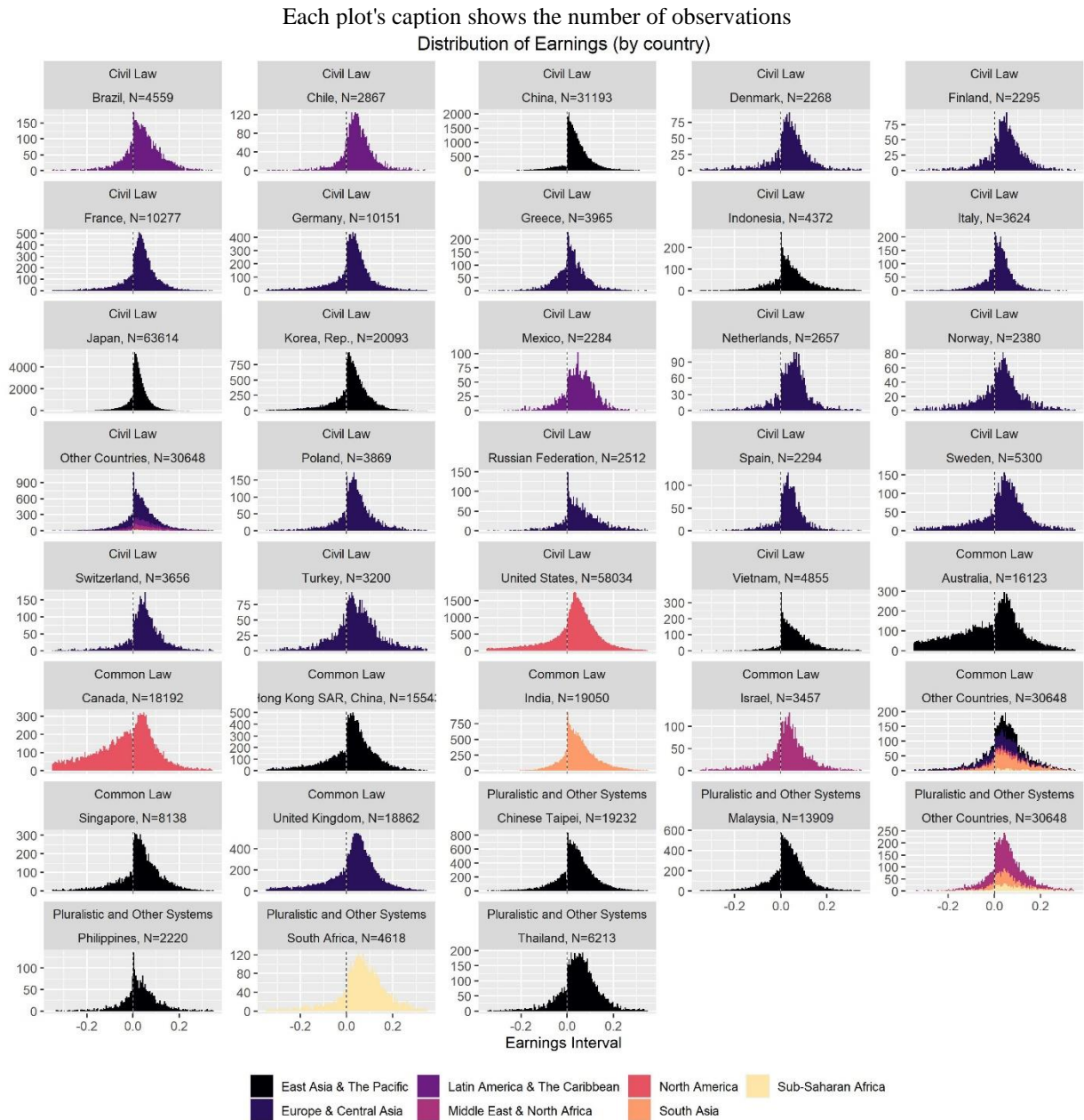


**Figure 6.** Earnings Management to Avoid Losses

Figure 7 shows the analysis considering firms from countries with different legal systems. The break in the zero thresholds is evident regardless of the legal systems' classification, showing that managing earnings to avoid losses is shared among different legal contexts. Unreported results (for the sake of space) also show the pattern among firms in countries with different income levels. Figure 8 shows the analysis considering the countries with the most significant samples (also depicting their legal system classification), and we can see this practice is widely spread among them since the histograms show clear breaks at the zero thresholds. We also analyzed the evidence of small loss avoidance across the World per year, but the (unreported, for the sake of space) results are also consistent over the year, not showing a particular trend of increase or decrease in this practice.

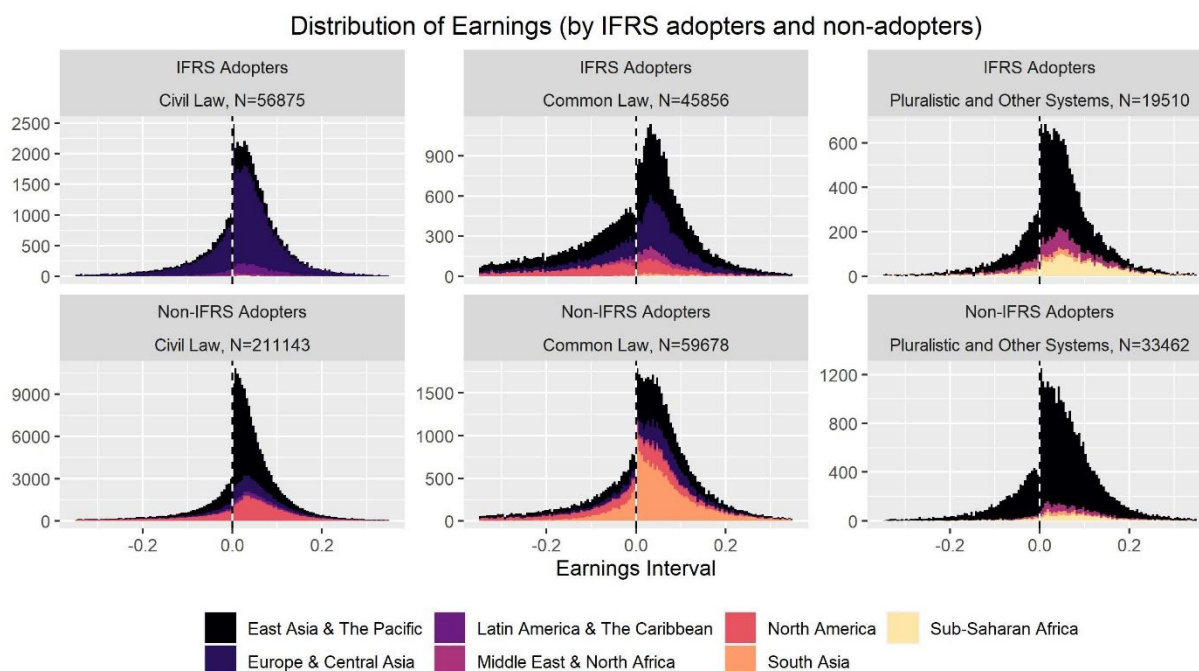


**Figure 7.** Earnings Management to Avoid Losses (by legal systems)



**Figure 8.** Earnings Management to Avoid Losses (by country and legal system)  
Each plot's caption shows the number of observations

Finally, we also analyzed whether adopting the IFRS could have affected this practice, separating the sample between adopters and non-adopters, as when analyzing earnings management to avoid earnings decreases. We also consider countries' legal systems. However, as Figure 9 shows, there is no difference in the pattern of earnings distributions between the samples of adopters and the samples of non-adopters.



**Figure 9.** Earnings Management to Avoid Losses (by IFRS adopters and non-adopters and by legal system)

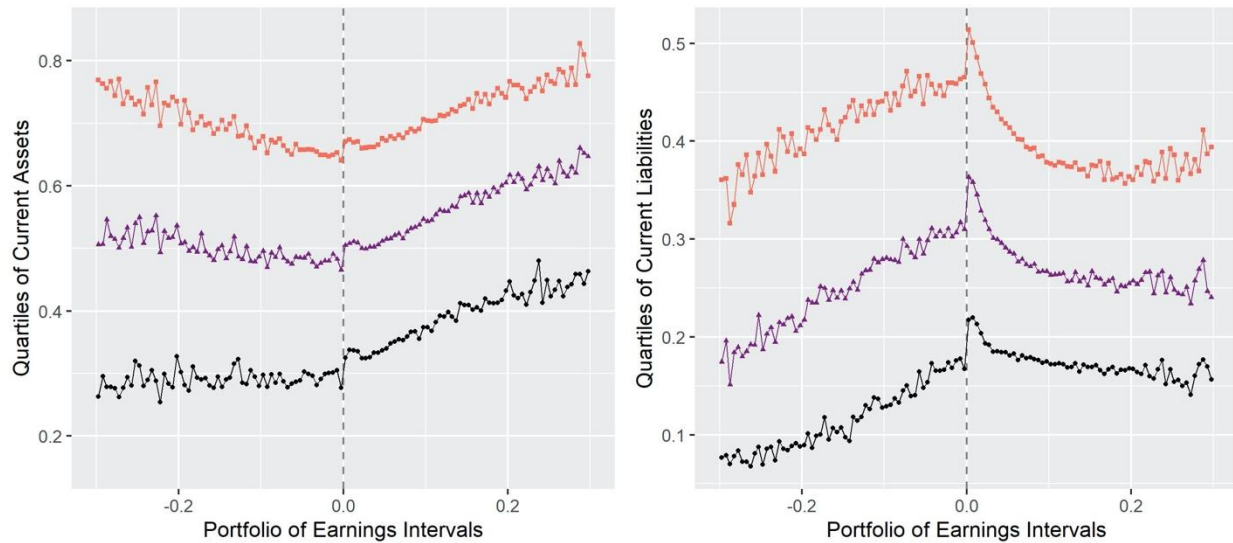
Each plot's caption shows the number of observations

### 4.3 Ex-ante and ex-post evidence on the methods of earnings management to avoid losses

The results show a clear pattern of earnings management to avoid disclosing small losses, turning them into small profits. The evidence is consistent among different geographical regions, legal systems, over time, and between IFRS adopters and non-adopters. Following Burgstahler and Dichev (1997), we examine the ex-ante and ex-post evidence on the methods firms use to conduct such practice. For the ex-ante evidence, we evaluate the firms' beginning of the year current assets and liabilities. If firms with higher levels of current assets and current liabilities find it easier to manage earnings to turn small losses into small profits, we expect firms that presented small profits to have begun the year with higher levels of both current assets and current liabilities.

Burgstahler and Dichev (1997) examined the distribution of beginning of the year (pre-manipulation) current assets and current liabilities conditional on the level of earnings. To do so, they built portfolios of 1,000 observations, each parting from the zero thresholds towards positive earnings and then towards negative earnings. Then, they calculated the first quartile, the median, and the third quartile of current assets and current liabilities for each portfolio, plotting the values against the median values of earnings for each portfolio. The authors' Figures 5 and 6 show the amount of pre-manipulation current assets and current liabilities jump higher for the first positive earnings portfolio and return to their trend in the following portfolios. Since the first portfolio is more likely comprised of firms that managed earnings to avoid losses, they conclude these firms indeed find it easier to do so when they have higher levels of current assets and current liabilities.

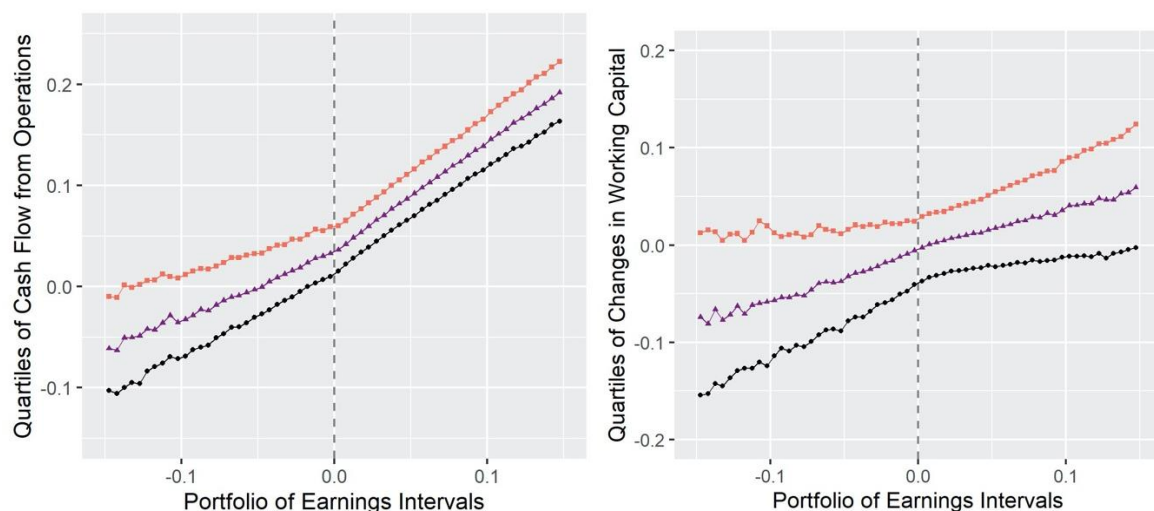
We conduct the same analysis, but we build the earnings portfolios consisting of all observations in the equally-spaced earnings intervals shown in Figure 6. Burgstahler and Dichev (1997) suggest this approach, but it results in too much variation because the portfolios are too small. Since we have much more observations than Burgstahler and Dichev (1997), our analyses were not a problem.

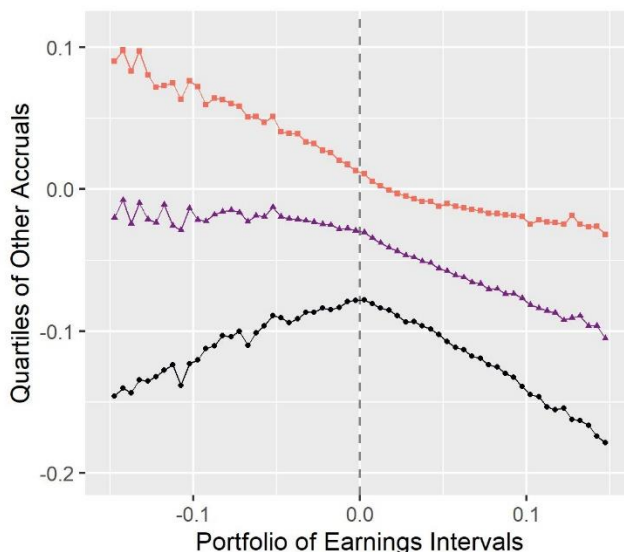


**Figure 10.** Distribution of Current Assets Conditional to Earnings

Figure 10 shows the results of this analysis. From negative decreasing earnings toward zero, the level of current assets decreases, and the levels of current liabilities increase. The trend reverts from zero towards increasing positive earnings levels. Most important, as in Burgstahler and Dichev (1997), the first positive earnings portfolios show a prominent jump in the level of current liabilities, reverting fast in the following portfolios. The current assets also increase after the zero thresholds, but not so prominently and not so fast reverting.

Therefore, results show that firms with higher levels of, mainly, current liabilities find it easier to manage earnings to avoid losses. Thus, Burgstahler and Dichev (1997) found that the ex-ante methods are still valid for our sample, which comprises firms from different contexts and periods. We also run the analysis using the 1,000 observations portfolios presented by Burgstahler and Dichev (1997), and the conclusions remain the same (unreported results for the sake of space).





**Figure 11.** Distribution of Cash Flow, Changes in Working Capital, and Other Accruals Conditional to Earnings

Next, for the ex-post evidence, following Burgstahler and Dichev (1997), we decompose earnings into three components: (i) cash flow from operations, (ii) changes in working capital, and (iii) other accruals. We calculate the first quartile, the median, and the third quartile of each of these components for each of the earnings portfolios and plot their values against the portfolios' median earnings. The results are in Figure 11. In general, cash flow from operations increases with increasing earnings, faster when earnings are positive. Changes in working capital behave similarly, but they tend to be negative for firms with losses and to grow slower for profit firms. Other accruals tend to be negative. Negative accruals become less negative for smaller losses, becoming more negative for more significant profits. Positive accruals decrease with growing earnings. This behavior is consistent with other accruals being negatively correlated to cash flow, as pointed by Burgstahler and Dichev (1997).

Burgstahler and Dichev (1997) find a sharp increase in cash flow from operations for firms with small profits relative to firms with small losses, concluding that firms manage their operations to increase earnings, also increasing their cash flows. When analyzing the accruals, they find a simply mirroring behavior, arguing that firms do not resort to managing earnings to avoid disclosing losses. They find no evidence for the changes in working capital distribution. Therefore, the authors conclude that their sample firms resort to real earnings management to avoid reporting losses, turning them into small profits.

However, Figure 11 shows no unusual behavior of neither variable around the zero thresholds, even if we analyze (unreported results) separately by region or year. We also analyzed earnings divided into gross and operating income, but we found no results. Therefore, we cannot find evidence on the ex-post methods firms from the more recent global sample use to manage earnings to avoid reporting losses. Dechow et al. (2003) found that firms do not use discretionary accruals to conduct this earnings management practice, suggesting they should rely on real earnings management. However, we could not specifically separate the evidence regarding accruals or cash flows, not being able to classify the practice between accruals or real earnings management. They likely use a mix of these components so that no pattern is found for each component separately.



## 5 CONCLUDING REMARKS

This study aimed to search for evidence of earnings management to avoid earnings decreases and losses across the World, replicating Burgstahler and Dichev's (1997) study for a more recent and global sample, incorporating firms from different cultural and legal contexts as well as from different periods. We found persistent evidence of earnings management to avoid reporting losses, but we found no consistent evidence of earnings management to avoid earnings decreases. Next, we found that firms with the beginning of the year current assets and, mainly, current liabilities are more likely to manage earnings to avoid losses, consistent with Burgstahler and Dichev (1997).

However, we could not find evidence on which components of earnings (cash flow from operations, changes in working capital, or other accruals) firms mainly manage to increase earnings. It is our main limitation. Future research, therefore, could explore this issue further, evaluating, for instance, the role of specific earnings components, such as deferred taxes, as in Phillips et al. (2003), loss reserves, as in Beaver et al. (2003), and the role of interim reports, as in Kerstein and Rai (2007a). Future research can also explore the consequences of this earnings management practice, such as Kerstein and Rai (2007b), who explored Earnings Response Coefficients (ERC). Notwithstanding, our results are important for both the Accounting literature and for the practice. We extend the literature bringing evidence of the small loss avoidance earnings practice for firms in the different cultural and legal contexts, different regions, and under different accounting standards. It is also important to notice that, since we analyzed different economic, social, and political environments, different results from Burgstahler and Dichev (1997) could be expected. We share one of their main conclusions: firms manage earnings to avoid reporting small losses. Our results are important mainly to financial analysts and general investors, who should be careful in giving good prospects to firms who presented small profits, since they are likely small losses artificially managed to look better, a practice widely spread across time and geographical regions, legal systems, and among IFRS adopters and non-adopters.

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