# Legal and Extra-Legal Determinants of Accounting Comparability in ASEAN Countries

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# Legal and Extra-Legal Determinants of Accounting Comparability in ASEAN Countries*

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## Abstract:

*This study investigated the role of country-level legal and extra-legal factors in accounting comparability in five Southeast Asian countries from 2014 to 2017. We found that countries with stronger investor protection, stricter enforcement of auditing and reporting standards, higher corporate tax compliance, and more public attention have more comparable financial statements reported by firms. However, accounting comparability decreased in countries with more competitive business environments. A battery of sensitivity and supplementary analysis also supports our main findings. An implication of current findings is extra-legal system is worth accounting for examining the comparability of financial statements and should be given an equal portion as the legal system when explaining the effect of a country factor on the quality of accounting information.*

Key words: Accounting comparability, Legal System, Extra-legal System

## Introduction

Comparable financial reporting among firms plays a crucial role in the accurate assessment of investments and decision-making. Informed decisions can be made when information about a company can be compared with the information from previous periods or alternative companies. Accounting comparability can be defined as the extent to which similar (dissimilar) economic transactions are accounted for in a similar (different) manner (FASB, 2010; De Franco et al., 2011). The International Accounting Standard Board's (IASB) conceptual framework for financial reporting identifies the importance of comparability of financial statements, which can enhance the quality of financial information. Prior studies have revealed the benefits of comparable financial information. Bruner (2004), Chen et al. (2018), and Rosenbaum and Paerl (2009) show the positive effects of comparable financial information on the allocation of capital. Comparable firms also have a greater

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* This paper is based on the second chapter of my Ph.D. thesis.

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analyst following (Choi et al., 2019), higher market liquidity (Roulstone, 2003), lower default risk (Cheng and Subramanyam, 2008), lower cost of capital (Leuz and Verrecchia, 2000; Imhof, 2017), and higher valuation (Lang et al., 2003).

While empirical studies have primarily investigated the effects of the comparability of financial statements, relatively few studies have explored the determinants of accounting comparability. Some studies have explored the impact of international financial reporting standards (IFRS) adoption on accounting comparability in national and international settings (Caban-Gracia et al., 2012; Callao et al., 2007; Falski, 2017; Neel, 2017; Yip and Young, 2012). While the majority of related studies have mainly focused on developed markets such as the United States and the European Union (DeFond, Hu, Hung, & Li, 2011; De Franco et al., 2011; Kim et al., 2016; Ross et al., 2020; Young & Zeng, 2015;), the evidence on the determinants of financial comparability in emerging markets remains scarce, despite the growing importance of emerging economies in the global economy.

This study attempts to fill the gaps by investigating whether and how legal and extra-legal factors may determine accounting comparability in Southeast Asian Nations (ASEAN). Dick and Zingales (2014) compiled evidence that legal and extra-legal factors can have implications for business managers and investors, such as mitigating the private benefit of controls by managers. It is plausible that different degrees of legal infrastructure, law enforcement, and compliance in emerging countries such as ASEAN may have different consequences on accounting comparability. Evidence from emerging countries can enrich and provide additional insights into the literature and fill the gap in the literature.

By examining 4776 firm-year observations in five ASEAN countries from 2014 to 2017, we find that accounting comparability is positively associated with stronger investor protection, stricter enforcement of auditing and reporting standards, stricter tax enforcement, and more public pressure; however, accounting comparability is adversely associated with greater competition. The results are robust to additional tests. In addition to legal system variables, extra-legal determinants play an important role in affecting the comparability of financial statements in a country. Considering the positive effects of greater accounting comparability, our results can also have policy implications for improving accounting comparability, and provide cues for the government to strengthen not only legal and institutional infrastructure, such as investor protection, but also extra-legal environments, such as law compliance and enforcement. As emerging countries scramble to attract foreign investments and promote freer international trade, our empirical results based on ASEAN countries reinforce the importance of legal and extra-legal reforms aimed at improving accounting comparability, which can contribute to foreign investors' decision-making.

The remainder of this paper is organized as follows. Section 2 reviews the literature and develops the hypotheses. Section 3 elaborates on the methodology followed by the results in Section 4. The final section discusses and concludes the paper.

## Literature Review and Hypotheses Development

Comparability can be defined as the extent to which similar (dissimilar) economic transactions are accounted for in a similar (differently) manner (FASB, 2010; De Franco et al., 2011). In other words, comparability measures the extent to which firms have similar accounting systems, and, hence, produce similar financial statements for a given set of economic events (De Franco et al., 2011). It also reflects the quality of the information that enables users to identify similarities and differences in the financial performance of two firms (Francis et al., 2014). Barth (2013) argued that comparability is not equal to consistency, nor to uniformity; consistency means that companies use the same accounting methods or principles for the same items over time, and uniformity means treating all items the same way. Consistency helps achieve comparability but does not ensure comparability. Uniformity can make different things look alike, which impairs, instead of enhancing, comparability. For example, consistency means using the same accounting method, such as the straight-line method, for the entire life of a building. Uniformity assumes an economic life of 30 years with residual value for all buildings, even though buildings have varying lifespans and residual values.

Despite its importance, comparability has received less attention in accounting literature than other qualitative characteristics, such as value relevance, persistence, and predictability. One of the reasons is that it is a relative or comparative concept, not an absolute or independent criterion like other accounting characteristics. Furthermore, the difficulty of empirically measuring accounting comparability and the lack of standard measurement of comparability also contributes to the lack of empirical studies on the topic (Schipper, 2003; Sohn, 2016). However, the development of the comparability metric by De Franco et al. (2011) has sparked interest in this topic. One central question remains: what determines firms' accounting comparability? At the national or cross-country level, the regulatory environment has been identified as a deciding factor. For instance, the adoption of international financial reporting standards (IRFS) can pressurize managers to provide an accurate and fair view of accounting information (Haque et al., 2012), thus enhancing accounting comparability. Yip and Young (2012) investigated whether mandatory IFRS adoption can improve information comparability in 17 European countries. They found that mandated IFRS implementation increases cross-country information comparability by having related items seem more alike, without having different things seem less distinctive. Barth et al. (2012) found that the adoption of IFRS, by non-US firms in over 20 countries, increased their comparability with US firms, applying the US generally accepted accounting principle (GAAP). They also found a decrease in the differences in earnings smoothing, accruals quality, and earnings timeliness between IFRS adoption and US firms. IFRS adoption likely alters the information environment, thus improving comparability (Brochet, 2013). After IFRS adoption, insider purchases of UK firms' shares exhibit lower abnormal returns than those

before adoption.

In addition to accounting standards, a country's legal environment and investor protection influence accounting information quality (Ball et al., 2000, 2003; Soderstrom & Sun, 2007). Recent research suggests that strong investor protection and enforcement and a common-law legal system are key determinants of high-quality financial statement information. Leuz et al. (2003) reported that strong investor protection at the country level reduces firms' earnings management activities, thus leading to higher accounting quality. According to Bhattacharya et al. (2003) and Bushman et al. (2004), there is greater financial transparency and less earnings management in countries with strong investor protection. For Francis et al. (2016), stronger country-level legal strength involves accrual earnings management and increases real earnings management. Kamarudin et al. (2018) showed that the quality of accounting information of cross-listed firms is associated with the strength of investor protection in the home country. More broadly, Ross et al. (2020) suggested that rule-based accounting standards, good quality of public audit, stronger enforcement of accounting standards, and greater reliance on equity market financing seem to be essential determinants of within-country comparability. Furthermore, extra-legal systems, although not directly engendering statutory protection of shareholder rights, have been documented to influence earnings quality through the reduced level of earnings management and personal control benefits (Dick and Zingales, 2014; Haw et al., 2014). However, extant empirical literature does not clarify how accounting comparability is related to extra-legal factors.

This study investigates whether and how a firm's accounting information is associated with legal, extra-legal, and related institutional environmental factors in ASEAN countries. Our research questions are related to Ross et al. (2020), but their study focused solely on the legal environments in the US and European countries. It is unclear whether the findings can be applied to less developed countries, in which legal protection and enforcement may not be as powerful as in developed countries. Therefore, we focus on ASEAN countries to provide more evidence for relevant literature. Our investigation also extends to extra-legal and related institutional environment factors, which are also relevant in determining the comparability of firms. We developed the following hypotheses.

### *Hypotheses on accounting comparability and legal factors*

Existing research has documented that the legal protection of investors is a key determinant in explaining cross-country differences in earnings quality, financial markets, and the quality of accounting information (Cahan et al., 2008; Francis et al., 2016; Halabi et al., 2019; Haw et al., 2004; Houque et al., 2012; Jeanjen, 2012; Nabar and Boonlert-U-Thai, 2007; Kamarudin et al., 2020; Zhoung et al., 2017). Investor protection requires high audit standards and quality, thus enhancing the quality of accounting information (Sarhan et al., 2019). Investor protection also improves accounting

information quality by requiring timely information disclosure (Zhang et al., 2017). Greater transparency and quality imply that accounting information in financial statements is more accurate based on underlying economic events and, thus, is more comparable among peer firms. Furthermore, firms in strong investor-protection countries have higher reporting and litigation costs (Haw et al., 2014). This severe punishment serves as an incentive for managers to comply with accounting standards, contributing to more comparability among firms. Thus, we hypothesize a positive relationship between investor protection and accounting comparability.

*H1a. Comparability is higher when investor protection is stronger.*

Another legal factor is the enforcement of auditing and reporting standards, resulting in minor variations in accounting practices for similar economic transactions. Stricter auditing enforcement also facilitates compliance with reporting standards. Ross et al. (2020) showed that the enforcement of accounting standards led to more comparable accounting information in the US and European countries after IFRS adoption.

*H1b. Comparability is higher when enforcement of auditing and reporting standards is stronger.*

### *Hypotheses on accounting comparability and extra-legal factors*

Although extra-legal institutions are not directly associated with shareholder rights protection, they can reduce managers' engagement in private control benefits and earnings manipulation (Dick and Zingales, 2014; Haw et al., 2014). When accounting information in financial statements is less likely to be managed, accounting figures more faithfully represent true underlying economic events (Barth, 2013).[1)] We use tax law enforcement as our extra-legal factor because the tax authority can directly constrain private control benefits through its disciplinary powers in tax enforcement (Dyck and Zingales, 2004).[2)] In addition, the verification role performed by the tax authorities provides an assurance of investors' truthfulness when the enforcement of tax regulations is strong (Haw et al., 2014).

*H2a. Comparability is higher when tax law enforcement is stronger.*

Another extra-legal factor pertains to competition. There are two possible opposing explanations for the relationship between competition and accounting comparability. In a competitive market, competition among firms will effectively reduce private control benefits because firms are more willing to disclose more information, making it difficult for insiders to manipulate information (Wasiuzzaman et al., 2015). In addition, it is costlier to manage accounting information because the

1) For example, consider an accounting rule specifying that all machines be depreciated on a straight-line basis using a 20-year economic useful life and assuming a 5% residual value. If the residual value of a particular machine is 10%, not 5%, then depreciating the building assuming a 5% residual value would not result in a faithful representation of the machine.

2) Dick and Zingales (2014) suggested that tax law enforcement deserves further study since tax enforcement is one of the most important features of extra-legal system.

consequent penalty can be severe for firms in a highly competitive market. This eventually leads to greater accounting comparability among firms. On the other hand, it can also be argued that higher competition in an industry may cause firms to disclose less information (Verecchia, 1983; Gertner et al., 1998) or biased information to mislead competitors (Data et al., 2013). The resulting information asymmetry deters comparability among peer firms. Therefore, we state our hypothesis in a neutral fashion.

*H2b. Comparability can be positively or adversely related to competition.*

The third extra-legal factor is press or media coverage. On the one hand, media attention may pressurize managers to achieve short-term financial results, causing them to participate in earnings management (Chen et al., 2020). Consequently, greater media attention could result in lower accounting comparability. On the other hand, financial journalists consider monitoring companies as one of their most important objectives (Call et al., 2018), taking it upon themselves to expose corporate scandals or accounting malpractice (Dyck et al., 2010; Miller, 2006). It can also be argued that managers, under greater media attention and, thus, scrutiny, tend to avoid manipulation of earnings. Therefore, we state our hypothesis in a neutral fashion.

*H2c. Comparability can be positively or adversely related to media coverage.*

## Data and Methodology

### 3.1. Measurement of accounting comparability

We followed De Franco et al. (2011) to measure accounting comparability. For firm $i$, the following regression is estimated, using data from the preceding 16 quarters:

$$Earnings_i = \alpha_i + \beta_i\, Return_i + \varepsilon_i \tag{1}$$

*Earnings* refer to the quarterly net income before extraordinary items are deflated by the market value of equity at the beginning of the quarter, and *Return* is the raw stock return during the quarter. The predicted earnings are then calculated for each firm $i$ using the estimated coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$.

$$\widehat{Earning}_{ii} = \hat{\alpha}_i + \hat{\beta}_i\, Return_i \tag{2}$$

Another type of predicted earnings for each firm $i$ is calculated using the estimated coefficients $\hat{\alpha}_j$ and $\hat{\beta}_j$ of firm $j$ in the same industry, classified by the four-digit Global Industry Classification Standard (GSIC).

$$\widehat{Earning}_{ij} = \hat{\alpha}_j + \hat{\beta}_j Return_i \tag{3}$$

The comparability (*CP*) between firm $i$ and $j$ at time point $t$, denoted by $CP_{ijt}$, is defined as the negative of the average absolute difference of the above two earning predictions, using the preceding 16 quarterly data.

$$CP_{ijt} = -\frac{1}{16}\sum_{t=-15}^{t=0}\left|\widehat{Earning}_{iit} - \widehat{Earning}_{ijt}\right| \tag{4}$$

A negative sign is attached for convenience of interpretation: the larger (closer to zero) the CP is, the more comparable the accounting information of the two firms is.

To measure how firm *i*'s accounting information is comparable to its peers in the same industry at time point *t*, we used two alternative measures. First, after ranking $CP_{ijt}$ for different $(i, j)$ pairs belonging to the same industry, we calculated the average of the four largest $CP_{ijt}$ as the first measurement, denoted by $CP4_{it}$. The second one, denoted by $CPIND_{it}$, is the median $CP_{ijt}$ for different $(i, j)$ pairs belonging to the same industry.

### 3.2. Legal and Extra-legal Measurements

Legal and extra-legal measurements were constructed as country-level variables. The two legal factors were based on information from the *Global Competitiveness Report* by the World Economic Forum[3] from 2014-2017. The investor protection index is a combination of the disclosure index (transparency of transactions), director liability index (liability for self-dealing), and shareholder suit index (shareholders' ability to sue officers and directors for misconduct). The investor protection index ranges from 1 to 10, with higher scores indicating stronger investor protection. Enforcement of auditing and reporting standards is measured by "the strength of auditing and reporting standards." The measure is based on responses to a survey question—"In your country, how strong are financial auditing and reporting standards?"—on a scale of 1 (extremely weak) to 7 (extremely strong). Higher values of this measurement indicate stronger enforcement of auditing and reporting standards.

For extra-legal factors, tax law enforcement is measured by "the degree of score of paying tax" drawn from *Doing Business*, published by the World Bank (for our investigation period 2014-2017, the relevant data are reported in *Doing Business Report* 2016-2019). It reflects the compliance of paying tax, which includes three indicator measurements: tax payment, times required to comply with three major taxes, and total tax and contribution.

Market competition data are drawn from *the Global Competitiveness Report* from 2014 to 2017, which measures the extent of market dominance by a survey question—"In your country, how do you characterize corporate activity?"—on a scale of 1 (dominated by a few business groups) to 7 (spread among many firms). Higher scores indicated higher levels of competition.

Media coverage is measured by the circulation of daily newspapers divided by population, following Dyck and Zingales (2004). Data were drawn from the findings of Dyck and Zingales in 2004. However, due to data availability, we use a time-invariant media coverage variable in the empirical analysis.

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3) For more details about the methodology employed and the assumptions made to compute this indicator, visit http://www.doingbusiness.org/methodologyysurveys/.

### 3.3. Model Specification

The following regression is estimated to test the hypotheses.

$$CP4_{it}=\alpha_0+\alpha_1 Audit_{it}+\alpha_2 Protect_{it}+\alpha_3 Tax_{it}+\alpha_4 Compete_{it}+\alpha_5 Media_i+Control_{it}+\varepsilon_{it} \quad (5)$$

*CP4* is a firm's accounting comparability, as defined earlier. *Audit* is the strength of the auditing and reporting standards index. *Protect* is the strength of the investor protection index. *Tax* is the degree of tax compliance. *Compete* is the index of the extent of market competition. *Media* denotes market coverage, computed as the circulation of daily newspapers divided by population. All these variables, except *media*, are time-variant.

We also include a set of control variables that are expected to influence a firm's accounting comparability.

(1) Firm size may matter. Larger firms tend to hire one of the Big Four auditors, and share the same auditor (Ross et al., 2020). The Big Four apply higher quality auditing with a more consistent audit process and interpretation and stricter accounting standards. Consequently, reported accounting earnings and accruals in financial statements are more consistent and comparable in larger firms than in smaller firms (Francis et al., 2014). Firm size (*Size*) is computed as the natural logarithm of total assets.

(2) Composition of assets is also important. Capital intensive firms have more physical assets with greater information disclosure (Clarckson et al., 2008). Such firms are also motivated to disclose more information because the entry barrier is high (Darrough & Stoughton, 1990; Leuzz (1999). We included a variable for capital intensity (*CapIntensive*), calculated as net Property, Plant, and Equipment divided by total assets.

(3) Firm's profitability is controlled, since profitable firms have less incentive to modify their earnings, resulting in greater comparability. Profitability is proxied by return on assets using net income (*ROA*).

(4) We also control for a firm's potential litigation risk, since litigation penalties may curb firms from engaging in earnings management (Cohen and Zarowin, 2010). We defined a dummy (*Litigation*) for litigious industries with 4-digit SIC falling in 2833-2836 (biotech), 3570-3577, 7370-7374 (computer), 3600-3674 (electronics), or 5200-5961 (retailing), following Sohn (2016).

(5) Growth opportunity is included because it reflects a firm's need to raise capital, thus, possibly motivating managers to enhance the quality of accounting information, to attract funding at a lower cost. Prior studies documented a positive association between earnings quality and a firm's growth opportunity (Cohen and Zarowin, 2008; Cohen and Zarowin, 2010; Gaio, 2010). Growth opportunity is proxied by book-to-market ratio (BM), calculated as the book value of equity divided by the market value of equity.

(6) Leverage is included because prior studies have documented that firms tend to increase the

reported earnings to mitigate covenant violation (Cohen and Zarowin, 2008; Francis and Wang, 2008), causing difficulties in mapping similar economic events and lowering the comparability of financial statements. *Leverage* is defined as the ratio of liability to total asset.

(7) Prior studies suggested that loss-making firms are more likely to engage income-increasing earnings management to reduce reported losses (Roychowdurry, 2016), thus lowering the comparability of financial statements. A dummy (*Loss*) for loss-making firms is defined for firms with negative net income during the fiscal year.

(8) Legal tradition in a country also influences the quality of financial reporting. Market-oriented common-law countries have greater demand for quality financial reporting (Ball et al., 2003). We define a dummy variable (*Common-law*) for common law countries using the finding of La Porta et al. (1998).

(9) Dummy variables for country, industry, and year are also included.

## Empirical Results

### 4.1. Primary Results

We investigated publicly listed non-financial firms in five ASEAN countries: Indonesia, Malaysia, Singapore, the Philippines, and Thailand. We collected financial data from the OSIRIS database from 2011 to 2017, where the data needed for computing comparability from 2014 to 2017 are available in OSIRIS. Following Kouaib and Jarboui (2017), we substituted the missing values with zero. All variables are winsorized at the 1% and 99% levels to mitigate the influence of outliers. Eventually, 4780 firm-year observations remained. Table 1 summarizes the descriptive statistics for the full sample of the five countries.

Table 2 summarizes the country-level index descriptive statistics for each sample country.

Table 1: Descriptive statistics for firm-level variables

| | No. | Mean | Median | Standard deviation |
|---|---|---|---|---|
| Accounting comparability (CP4) | 4780 | −6.485 | −0.075 | 62.348 |
| Accounting comparability (CPIND) | 4780 | −7.985 | −0.132 | 68.348 |
| Firm size (natural logarithm) | 4780 | 4.709 | 4.972 | 1.496 |
| Capital intensity | 4780 | 0.266 | 0.059 | 0.809 |
| ROA | 4780 | 2.322 | 2.735 | 8.482 |
| Growth | 4780 | 0.161 | 0.001 | 2.744 |
| Leverage | 4780 | 0.396 | 0.397 | 0.225 |

Note: Sample are publicly listed non-financial firms in five ASEAN countries from 2014-2017.

Table 2: Descriptive statistics for country-level variables

| | 2017 | 2016 | 2015 | 2014 |
|---|---|---|---|---|
| Indonesia | | | | |
| Auditing and reporting standards | 4.6 | 4.4 | 4.3 | 4.6 |
| Investor protection | 5.7 | 5.3 | 6.1 | 6 |
| Tax law compliance | 68.03 | 68.04 | 69.25 | 69.46 |
| Fair competition | 4.3 | 3.9 | 4 | 4.1 |
| Media (Newspaper circulation) | 0.2 | 0.2 | 0.2 | 0.2 |
| Malaysia | | | | |
| Auditing and reporting standards | 5.5 | 5.3 | 5.5 | 5.7 |
| Investor protection | 8 | 7.8 | 7.4 | 8.7 |
| Tax law compliance | 76.06 | 76.07 | 79.02 | 84.31 |
| Fair competition | 4.7 | 4.7 | 4.9 | 5 |
| Media (Newspaper circulation) | I,6 | I,6 | I,6 | I,6 |
| Singapore | | | | |
| Auditing and reporting standards | 6.6 | 6.3 | 6.2 | 6.2 |
| Investor protection | 5.7 | 8.3 | 8 | 9.3 |
| Tax law compliance | 91.58 | 91.57 | 91.58 | 91.56 |
| Fair competition | 5.3 | 5.5 | 5.4 | 5.3 |
| Media (Newspaper circulation) | 3.2 | 3.2 | 3.2 | 3.2 |
| Philippines | | | | |
| Auditing and reporting standards | 5 | 5.1 | 5 | 5.1 |
| Investor protection | 4.2 | 3.8 | 4.2 | 4.3 |
| Tax law compliance | 71.8 | 69.27 | 65.74 | 66.23 |
| Fair competition | 3.2 | 3.2 | 3.7 | 4 |
| Media (Newspaper circulation) | 0.8 | 0.8 | 0.8 | 0.8 |
| Thailand | | | | |
| Auditing and reporting standards | 5 | 4.9 | 5.1 | 5.1 |
| Investor protection | 6.7 | 6.3 | 6.6 | 7.7 |
| Tax law compliance | 77.72 | 76.73 | 68.68 | 77.7 |
| Fair competition | 4.9 | 3.7 | 3.8 | 4.1 |
| Media (Newspaper circulation) | 0.6 | 0.6 | 0.6 | 0.6 |

Note: Sample are publicly listed non-financial firms in five ASEAN countries from 2014-2017.

Compared to previous studies, our sample displays different firm characteristics. The sample firms have lower accounting comparability than those of Rose et al. (2019), suggesting that ASEAN countries lag behind Western countries in terms of accounting comparability.

Table 3 presents the pooled OSL regression results for estimating Equation (5). Column (1) shows the results of including only legal and control variables. The coefficients for the enforcement of auditing and reporting standards and investor protection are 2,2031 and 0,634, respectively, at a significance level of 5% and 1%. In column (2), where the set of extra-legal variables is included, all three extra-legal variables are significant. Tax compliance and media coverage variables have a positive and significant effect at the 1% level. In contrast, competition has a negative impact (-0,7360), significant at a 1% level. In column (3), all legal and extra-legal variables are included, and all legal and extra-legal variables are significant with the same sign as in columns (1) and (2).

The results on legal factors are consistent with our hypotheses, that accounting comparability is higher when investor protection and auditing enforcement are stronger. Our results are consistent with those of Ross et al. (2019), who found positive effects of legal factors on the comparability of financial statements for firms in the United States and European countries. Moreover, accounting comparability is higher when extra-legal factors, such as tax compliance and media attention, are greater. Our findings support previous studies suggesting that media coverage plays a role in enhancing the quality of accounting numbers (Chen et al., 2020; Haw et al., 2014; Dyck and Jingales; 2004). On the other hand, while the hypothesis on the effect of competition predicts alternative effects, the results show that competition leads to less comparable financial statements among peer firms. The results support the theory that fierce competition causes firms to abstain from disclosing (accurate) information, as argued by Data et al. (2013), Gertner et al. (1998), and Verecchia (1983). This explanation is consistent with Dyck and Zingales (2004) and Haw et al. (2004), who reported a negative effect of competition on the quality of financial reporting in the United States. It seems that ASEAN firms, in the face of competition pressure, may resort to information manipulation in a similar manner.

For control variables, firm growth and the common-law country dummy show positive and significant coefficients, while the coefficients of profitability and firm's loss dummy variable are negative and significant. The results are consistent with the prediction that a firm's growth and common-law origin can enhance the quality of accounting information, while loss-making firms tend to produce less comparable financial statements. However, the findings show that higher profitability is associated with less comparable financial statements.

Additional tests

We conducted several additional tests as a robustness check. First, we used an alternative measure of accounting comparability variable, the industry median of accounting comparability

Table 3: Effect of legal and extra-legal system on accounting comparability

| | (1) | (2) | (3) |
|---|---|---|---|
| Auditing and reporting standards | 2.2031** | | 1.8019* |
| | (1.1053) | | (1.0279) |
| Investor protection | .634*** | | .4328** |
| | (.2272) | | (.1803) |
| Tax law compliance | | .1543*** | .1475*** |
| | | (.0441) | (.0421) |
| Fair competition | | -.736*** | -.6923** |
| | | (.282) | (.2736) |
| Media (Newspaper circulation) | | 67.251*** | 63.7788*** |
| | | (20.7642) | (20.9074) |
| Firm size | .3607 | .3593 | .3592 |
| | (.2769) | (.2765) | (.2771) |
| Capital intensity | 1.6232* | 1.6336* | 1.634* |
| | (.8632) | (.8645) | (.8652) |
| ROA | -.259* | -.2586* | -.2587* |
| | (.1388) | (.1388) | (.1388) |
| Growth | -.1355 | -.1356 | -.1352 |
| | (.1807) | (.1805) | (.1805) |
| Leverage | -5.4897 | -5.5122 | -5.5175 |
| | (11.3115) | (11.3141) | (11.3163) |
| Loss | -2.6297 | -2.6214 | -2.6172 |
| | (1.7412) | (1.7409) | (1.7408) |
| Litigation | 1.6816 | 1.6711 | 1.6717 |
| | (7.2914) | (7.2913) | (7.2933) |
| Common-law county | 13.2498** | 13.2478** | 13.2477** |
| | (6.0298) | (6.0295) | (6.0308) |
| Constant | -42.6594*** | -49.3789*** | -59.4955*** |
| | (12.6526) | (14.8178) | (16.3722) |
| Observations | 4780 | 4780 | 4780 |
| R-squared | .0748 | .0749 | .0749 |

Note: Sample are publicly listed non-financial firms in five ASEAN countries from 2014-2017. The regressions are estimated by pooled ordinary least squares regressions with standard errors clustered by firm. All regressions include dummies for country, industry and year. Dependent variable is accounting comparability. The estimated coefficients are reported as well as the standard errors (in parentheses).

***$p<.01$, **$p<.05$, *$p<.1$

Table 4: Effect of legal and extra-legal system on accounting comparability using alternative measures.

| | (1) | (2) |
|---|---|---|
| Auditing and reporting standards | 3.1796*** | |
| | (1.2195) | |
| Auditing and reporting standards by Brown et al. (2004) | | 18.4551* |
| | | (11.2134) |
| Investor protection | .8617*** | .2063** |
| | (.2799) | (.103) |
| Tax law compliance | .2342*** | .1504*** |
| | (.0791) | (.0432) |
| Fair competition | -1.0452** | -.7394*** |
| | (.4433) | (.283) |
| Media (Newspaper circulation) | 79.8461*** | -348.4474 |
| | (21.3591) | (238.0465) |
| Firm size | .4219 | .3578 |
| | (.3246) | (.2768) |
| Capital intensity | 1.7681* | 1.632* |
| | (.9594) | (.8648) |
| ROA | -.3035* | -.2585* |
| | (.1565) | (.1388) |
| Growth | -.1142 | -.1356 |
| | (.1774) | (.1804) |
| Leverage | -4.8099 | -5.5121 |
| | (12.1238) | (11.3153) |
| Loss | -2.7985 | -2.6219 |
| | (2.002) | (1.741) |
| Litigation | .4626 | 1.6734 |
| | (8.3972) | (7.2924) |
| Common-law county | 14.1194** | 13.2486** |
| | (6.5886) | (6.0302) |
| Constant | -84.1489*** | -225.663* |
| | (22.0828) | (117.3837) |
| Observations | 4780 | 4780 |
| R-squared | .0865 | .0749 |

Note: Sample are publicly listed non-financial firms in five ASEAN countries from 2014-2017. The regressions are estimated by pooled ordinary least squares regressions with standard errors clustered by firm. All regressions include dummies for country, industry and year. Dependent variable in (1) is an alternative measure of accounting comparability based on industry median. The estimated coefficients are reported as well as the standard errors (in parentheses).
***$p<.01$, **$p<.05$, *$p<.1$

Table 5: Effect of legal and extra-legal system on accounting comparability for post-AEC period (2016-2017) and pre-AEC Period (2014-2015).

| | (1)<br>Post-AEC (2016-2017) | (2)<br>Pre-AEC (2014-2015) |
|---|---|---|
| Auditing and reporting standards | 13.0245* | 5.6961 |
| | (6.9182) | (4.7198) |
| Investor protection | -7.22* | -.0611 |
| | (3.8167) | (.2416) |
| Tax law compliance | 1.0467** | .9787** |
| | (.4718) | (.4863) |
| Fair competition | -14.602** | -.3785 |
| | (6.5056) | (.4091) |
| Media attention | 46.5834* | 39.4728** |
| | (25.1201) | (15.742) |
| Firm size | -.3196 | 1.1286** |
| | (.3529) | (.4756) |
| Capital intensity | 2.2422** | 1.2823 |
| | (1.1098) | (.9832) |
| ROA | -.3965** | -.1351 |
| | (.193) | (.1233) |
| Growth | -.0506 | -.4971 |
| | (.0974) | (.8126) |
| Leverage | -7.9883 | -3.1764 |
| | (12.1728) | (11.0655) |
| Loss | -4.5169** | -.8353 |
| | (2.2888) | (1.9039) |
| Litigation | .9561 | 2.1357 |
| | (7.0566) | (7.7406) |
| Common-law county | 12.9121** | 13.5116** |
| | (5.9523) | (6.1757) |
| Constant | -53.9657*** | -130.9498** |
| | (15.601) | (57.0787) |
| Observations | 2390 | 2390 |
| R-squared | 13.2879** | 5.1906 |

Note: Sample are publicly listed non-financial firms in five ASEAN countries from 2014-2017. The regressions are estimated by pooled ordinary least squares regressions with standard errors clustered by firm. All regressions include dummies for country, industry and year. Dependent variable is accounting comparability. The estimated coefficients are reported as well as the standard errors (in parentheses).

(CPIND), instead of *CP4*. The results are reported in column (1) of Table 3, which remain unchanged. Second, we replaced the measurement of auditing and accounting standards enforcement by the time-invariant indices developed by Brown et al. (2014). Column (2) reports the results in Table 4, where both legal and extra-legal variables are included. Although the variables for media coverage become insignificant, the measurement of auditing and accounting standards, investor protection, tax compliance, and competition show the same sign of direction as indicated in Table 3 at a significant level.

Starting in 2015, the ASEAN Economic Community (hereafter AEC) was launched, strengthening the effects of legal and extra-legal factors. For example, among the four pillars of the blueprint, Pillars 1 and 2 addressed issues regarding the free flow of investment, services, skilled labor, competition policy, taxation, and intellectual property rights. Implementing these pillars involves stringent and effective policies related to tax regulation and competition laws among ASEAN countries. As a result, it is expected that the effect of legal and extra-legal determinants on accounting comparability will be more pronounced in the post-AEC period. To test this, we divided the sample into two groups, one for the year 2016-2017 (post-AEC period) and the other for 2014-2015 (pre-AEC period). Regressions were performed separately for the two sub-samples. Table 5 shows the results. The legal and extra-legal variables in the post-AEC period indicate similar results as in Table 3, and the coefficients were larger than those in the pre-AEC period, where the legal and extra-legal variables are insignificant, except tax compliance and media attention variable. The exception is investor protection, which becomes negative and significant in post-AEC but insignificant in pre-AEC.

## Discussion and conclusion

The comparability of financial statements among firms provides valuable information to the companies' stakeholders. Many existing studies focus on the effect of IFRS adoption on accounting comparability. In this study, we attempted to identify other legal and extra-legal factors that may influence accounting comparability for companies in five ASEAN countries. Legal factors such as investor protection and the enforcement of auditing and reporting standards contribute to greater accounting comparability. Laws that aim to protect investors put pressure on companies to reveal sufficient financial information that is valuable for investors' decision-making. Enforcement of auditing and reporting standards requires firms to comply with the same set of standards, ensuring a consistent representation of accounting information.

Moreover, extra-legal factors also matter. In particular, compliance with tax laws via the tax authority's enforcement pressurizes firms to report earnings in a legally appropriate manner, leading to better accounting comparability. Companies receiving greater attention from the markets

through media reports are more likely to draw comparisons with their peers; therefore, they are pressured to report economic events in a similar way.

Another relevant extra-legal factor is competition, which has been found to reduce accounting comparability. Pressure from competition may motivate companies to report less or biased information, for instance, to mislead competitors or investors. Investors or auditors may need to exercise greater scrutiny when assessing the financial statements of firms in highly competitive industries.

Our results are based on data from five ASEAN countries, which distinguish our results from the majority of prior research that focused on more developed markets such as the United States or Western European countries. Emerging markets usually lag behind developed countries in terms of corporate governance and investor protection. Emerging countries may need to improve their business environments to attract foreign investments and promote freer international trade. Our results, based on ASEAN countries, reinforce the importance of legal and extra-legal reforms aimed at improving accounting comparability; that is, governments need to strengthen not only legal and institutional infrastructure, such as investor protection or auditing standards, but also extra-legal environments, such as law compliance and enforcement.

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