

Centralized Electronic Disclosure System and Financial Statement Comparability

Liuchuang Li

Xi'an Jiaotong University

liuchuanglei@xjtu.edu.cn

Jieying Zhang

The University of Texas at Dallas

jieying@utdallas.edu

Yang Zhang

The University of Texas at Dallas

yang.zhang15@utdallas.edu

Jan 2023

Centralized Electronic Disclosure System and Financial Statement Comparability

ABSTRACT

Prior studies focus on the role of accounting standards and economic agents (e.g., auditors or institutional investors) in shaping financial statement comparability. In this study, we examine whether information technology, such as the adoptions of centralized electronic disclosure systems (CEDDS), improves comparability. Using the staggered adoption of CEDDS around the world, we find that financial statement comparability increases significantly after the implementation of these systems. Cross-sectional tests show that the increases in comparability are more pronounced in markets, where the CEDDS is operated by regulators, regulatory environments are better, pre-existing financial markets are more efficient, and pre-existing Internet usages are higher. Moreover, the improvement in comparability is also stronger in highly competitive industries and more financially dependent industries, consistent with that learning from peers and competing for investor attention are two potential mechanisms through which CEDDS adoptions might increase comparability. Our study is the first to document that the worldwide adoption of CEDDS improves financial statement comparability.

JEL codes: G15, G18, M41, M48

Keywords: centralized electronic disclosure system (CEDDS); financial statement comparability; disclosure processing costs; information technologies

1. Introduction

Financial statement comparability is essential to the usefulness of accounting information (Financial Accounting Standards Board, 2010). Despite its importance, relatively little is known about the factors that shape the financial statement comparability. Prior studies that examine these factors mainly focus on the role of accounting standards such as the adoption of IFRS and economic agents such as auditors or institutional investors (e.g., Lang, Maffett, and Owens, 2010; Barth, Landsman, Lang, and Williams, 2012; Francis, Pinnuck, and Watanabe, 2014; Fang, Maffett, and Zhang, 2015). In this study, we propose that information technologies could enhance financial statement comparability. Specifically, we examine whether the adoption of centralized electronic disclosure systems (CEDS) improves financial statement comparability.

These centralized electronic disclosure systems, such as the SEC's EDGAR (i.e., Electronic Data Gathering, Analysis, and Retrieval system), gather documents from companies into a central database, which allows users to retrieve and analyze data conveniently. By digitizing and centralizing firms' financial disclosures, CEDS reduces the costs to search and obtain various firms' financial disclosures (Sran, Tuijn, and Vollon, 2021). The introduction of CEDS is likely to increase financial statement comparability for several reasons. First, CEDS lowers firms' costs in collecting and analyzing peers' financial information and allows firms to benchmark against more peers timely and efficiently. Since firms have incentives to learn from and mimic peers (e.g., Manski, 1993; De Franco, Hou, and Ma, 2022), CEDS increases firms' capabilities in mimicking peers and thus become more comparable to peers (McClure et al., 2021; Sran et al., 2021). Second, CEDS lowers investors' information processing costs and

allows investors to analyze more firms (e.g., industry peers, firms along the supply chains) more timely and efficiently. This increases investors' opportunity set and in turn increases firms' pressure to compete for financing. Since a firm with low accounting comparability is difficult to value, CEDS could increase firms' incentives to be more comparable to peers to facilitate external financing.

There are several reasons why CEDS could lower accounting comparability, lending tension to our prediction. One reason is that CEDS may increase the cost of leaking proprietary information and the risk of market entry or hostile takeover, and to defend against these threats firms may lower the attractiveness of the business by reducing comparability with others (e.g., Chircop, Collins, Hass, and Nguyen, 2020; Chen, Collins, Kravet, and Mergenthaler, 2018). Another reason is that some firms may identify a niche and choose to differentiate from others after acquiring more information on peers. Therefore, the ultimate effect of CEDS on financial statement comparability is an empirical question.

To examine how CEDS affects financial statement comparability, we exploit a relatively new setting, i.e., the staggered adoption of CEDS platforms around the world. The international setting allows us to use a difference-in-difference design to examine the accounting comparability before and after a country adopts CEDS, using countries that have not adopted CEDS as the control group. In a single-country study (e.g., the U.S.), a control firm that has not adopted the EDGAR may still be a peer to the treatment and thus affect the comparability of the treatment firm, confounding the treatment effect.

Our sample consists of 28 countries/regions starting from 1992 to 2017, three years before the first CEDS adoption in Taiwan and three years after the last CEDS adoption in Singapore.

We obtain the adoption dates of CEDS from McClure et al. (2021). The adoption dates and the institutional characteristics vary significantly across countries/regions. Our final sample consists of 259,775 firm-years, representing 25,362 unique firms.

Following Francis et al. (2014), we measure financial statement comparability using the closeness of accruals. Using a difference-in-difference approach, we find robust evidence that financial statement comparability increases significantly after the implementation of CEDS. The magnitude of the estimated effect suggests that the result is economically significant. Based on our measure, the increase in comparability after CEDS adoptions is over 20% of the sample mean.

Next, we examine the heterogeneous effects of CEDS adoption across country/region. We expect the effects of the CEDS to vary with regulatory environment and pre-existing infrastructure (e.g., Daske, Hail, Leuz, and Verdi, 2008; Christensen, Hail, and Leuz, 2016). First, we find that the effects of CEDS are stronger for those operated by regulators than by third parties. Second, we find that the effects of CEDS on comparability are more pronounced in countries/regions with better regulatory environments. Third, we find that the effects of CEDS adoptions are more pronounced in countries/regions with higher initial financial market efficiency and higher initial Internet usage.

Next, we explore two potential mechanisms that might drive the effect of CEDS on comparability. First, we argue that the adoption of CEDS allows firms to learn from and mimic peers, thus increasing comparability. We expect a firm's incentive to learn and mimic its industry peers to vary with industry competition. Consistent with this learning and mimicking being a potential channel through which CEDS affects comparability, we find that the effects

of CEDS adoptions on financial statement comparability are more pronounced for firms in highly competitive industries. Second, we also argue that CEDS could increase firms' incentives to be more comparable to peers to facilitate external financing. Thus, we examine whether the estimated effects are more pronounced for firms in industries that are financially dependent. Consistent with the need for external financing being a potential mechanism through which CEDS affects comparability, we find that the effects of CEDS on comparability are more pronounced for firms in financially dependent industries.

Our paper makes several contributions. First, it extends the relatively small but growing literature on the determinants of financial statement comparability. Prior research mainly focuses on the role of accounting standards such as IFRS and economic agents such as auditors or institutional investors (e.g., Barth et al., 2012; Lang et al., 2010; Francis et al., 2014; Li et al., 2021; Fang et al., 2015). This paper is one of the first papers to study the role of modern financial disclosure technology in improving financial statement comparability.¹

Second, our paper adds to the literature on the economic impacts of CEDS. Existing studies focus on the capital market effects of CEDS, such as stock price efficiency (Gao and Huang, 2020), stock price crash risk (Chang, Hsian, Ljungqvist, and Tseng, 2022), or investment efficiency (Goldstein, Yang, and Zuo, 2022; Bird, Karolyi, Ruchti, and Truong, 2021; McClure et al., 2021).² Note that most of these studies use the EDGAR adoption with the exception of

¹ Dhole, Lobo, Mishra, and Pal (2015) find that comparability decreases after the implementation of XBRL mandate in the U.S. Our study differs from Dhole et al. (2015) in three ways. First, CEDS adoption has a larger impact on the information processing costs than XBRL mandate, which is based on existing CEDS infrastructure. Second, Dhole et al. (2015) study the effects of XBRL mandate on U.S. firms, while our analyses are based on a cross-country/region sample, which allows us to exploit more cross-country/region characteristics (e.g., institutional environment). Third, Dhole et al. (2015) focus on a relatively short period, while our sample consist of CEDS events with significant heterogeneity in their adoption dates.

² Chang et al. (2022) attribute their finding to the reduced disagreement among investors. Our study may suggest an additional channel to the findings of Chang et al. (2022), i.e., EDGAR inclusion reduces stock price crash risk by improving comparability between stocks (Kim, Li, Lu, and Yu, 2016).

McClure et al. (2021) which examine the worldwide adoption of CEDS. In comparison, our paper focuses on the accounting implication of CEDS and documents the effects of CEDS on an essential qualitative characteristic of financial reporting, i.e., financial statement comparability.

Third, this study adds to the emerging literature on how financial reporting and the associated characteristics evolve with modern information technologies. For example, Cao, Jiang, Yang, and Zhang (2022) find that firms are motivated to prepare more “machine-friendly” filings with the increasing AI readership. Li, Zhu, and Zuo (2021) find that the SEC’s XBRL mandate reduces the readability of the initial adopters’ financial reports. In contrast, we leverage the cross-country/region variations and examine how the interaction of technology and other country/region-level characteristics such as regulatory environment or pre-existing market and technology development impact the effects of implementing such technology (Blankespoor, deHaan, and Marinovic, 2020).³

The remainder of the paper proceeds as follows. Section 2 introduces the institutional background of CEDS and the related literature and develops hypotheses. Section 3 discusses the empirical methodology, including variable construction and research design. Section 4 describes the sample and presents the summary statistics. Section 5 presents the empirical results of the paper. Section 6 concludes.

2. Motivation and Hypothesis Development

2.1. Institutional Background

With the development of modern information technologies like World Wide Web (WWW)

³ The cross-country/region and long-period of sample also increases generalizability of our findings, which receives increased attention in recent years (e.g., Glaeser and Guay, 2017; Hail, Lang, and Leuz, 2020).

and web browsers (e.g., Netscape), countries/regions started to launch and implement CEDS to facilitate timely dissemination of corporate disclosures, aiming to benefit more investor groups. These electronic filing systems are arguably one of the most significant innovations in financial disclosure technology in the history (McClure, Shi, and Watts 2021). In this section, we briefly introduce the institutional background of the CEDS platforms and focus on features of these platforms that are most related to our research question.⁴

The first notable feature of CEDS is “electronic”. Before the adoption of these electronic platforms, access to firms’ financial information is challenging for most market participants. Under the old regulatory regimes, although public companies were required to file financial disclosures periodically, those filings were typically in paper format and disseminated by regulators or few designated media. As a result, the breadth and timeliness of corporate disclosures in the pre-CEDS age were quite limited, making it difficult for investors and managers to obtain timely information. For example, in the pre-EDGAR era in the U.S., the only central public source of corporate filings was the SEC’s reference rooms in Washington, D.C., which were far from most investors and used primarily by commercial services (Blankespoor et al., 2020).⁵ Procedural inefficiencies at the SEC not only caused delays between filing dates and publicly available dates, but also allow commercial data providers to access filings faster (GAO, 1989). The direct and indirect costs of acquiring public companies’ financial information are non-trivial, and the high information acquisition costs may deter the potential investors (Grossman and Stiglitz, 1980).

⁴ The Internet Appendix of McClure et al. (2021) provides a detailed introduction of the most notable features of the CEDS platforms.

⁵ “In the late 1970's, the commission took 12 to 18 business days for 10-K forms to get from the commission's mailroom to the reference room” (<https://www.nytimes.com/1982/05/19/business/sec-data-difficult-hunt.html>).

The electronic files under CEDS significantly reduced the costs for market participants to obtain companies' public disclosures, thus attracting investors that were previously deterred by the high information processing costs. For example, after the EDGAR was launched, anyone interested in a U.S. firm can find and download the latest filing of that firm as long as she has access to the Internet, instead of waiting for copies of paper-based annual reports or searching for information from newspapers.

Another notable feature of CEDS is "centralized". CEDS collects and archives all firms' disclosures in one location, with consistent formats and in a timely manner. This centralized design is unique, which makes it easier for market participants to cover and compare multiple firms at the same time. In absence of such a centralized platform, even if firms disclose their annual reports on their own websites, searching individual firms' websites and locating their disclosures are not cost-efficient. In addition, each firm may present inconsistent formats and disclosures which makes comparison among them difficult.

The "electronic" and "centralized" feature of CEDS significantly reduces market participants' disclosure processing costs. Information disclosure processing costs include (1) awareness costs, i.e., the costs of knowing the existence of a disclosure; (2) acquisition costs, i.e., the costs of accessing or obtaining a disclosure; and (3) integration costs, i.e., the costs of analyzing a disclosure (Blankespoor et al., 2020). Based on the discussion above, CEDS directly reduces market participants' disclosure awareness and acquisition costs, and indirectly reduces their disclosure integration costs. As such, CEDS effectively improves the breadth and timeliness of corporate disclosures, and significantly reduces the disclosure processing costs faced by market participants.

CEDS platforms in different countries/regions share many common features, which makes it reasonable to examine the consequences of CEDS in a cross-country/region setting. For example, the filed documents are almost in machine-readable formats (e.g., PDFs or HTMLs), and are freely accessible, which do not need user registration.⁶ Also, these platforms have search functions, which permit searching for documents using firm names or identifiers (e.g., ticker). Most of them also allow users to search based on date range or other firm characteristics (e.g., firm type, industry, size). However, the heterogeneity across different CEDS platforms is also significant. First, in some countries/regions the CEDS are managed by the regulators themselves, while in other countries/regions regulators delegate the authorities to the exchanges. Second, in several countries or regions (e.g., Australia, Germany, Japan), voluntarily filing to CEDS was allowed before the CEDS adoptions. Finally, unlike many other international disclosure regulation events such as IFRS, the regulation leading to CEDS adoptions in each country or region is specific, along with other institutional characteristics. The significant heterogeneity in the timing of the adoption partially reflects this fact.

2.2.Prior Literature and Motivation

Financial statement comparability is an important concept in financial accounting. The FASB defines comparability as “the qualitative characteristic that enables users to identify and understand similarities in, and differences among, items” (Concept Statement 8, p. 19). It is the most frequently cited reason for FASB to add a project to its agenda (Jiang, Wang, and Wangerin, 2018).⁷ Our study is related to the literature that identifies the factors that shape

⁶ Some documents, especially in older filings, are scanned PDFs, which are non-machine readable. However, as McClure et al. (2021) suggest, the distribution pattern of this type of documents across firms or countries/regions is largely idiosyncratic.

⁷ Jiang et al. (2018) find that the goal of enhancing comparability explains more than half of the accounting standards issued over the past 40 years. Among the 211 SFAS and ASU, 42% state that FASB undertakes the

financial statement comparability. Financial statement comparability is governed by accounting standards, e.g., GAAP or IFRS. Early studies that examine the determinants of financial statement comparability focus on the role of accounting standards such as the adoption of IFRS (e.g., Lang et al., 2010; Barth et al., 2012). However, mandating the use of a common set of accounting standards alone is not enough to achieve reporting convergence (e.g., Daske et al., 2008; Christensen, Hail, and Leuz, 2013). This is because a firm's observed level of comparability, similar to other attributes of financial reporting, is a trade-off between costs and benefits that are ultimately shaped by "the underlying economic and political factors influencing managers' and auditors' incentives, and not by accounting standards per se" (Ball, Robin, and Wu 2003, p. 236). Thus, institutional incentives and economic agents also play an important role in improving comparability. For example, Francis et al. (2014) find that each Big 4 audit firm has its own audit style and companies audited by the same Big 4 audit firms have more comparable financial statements than companies audited by different Big 4 firms. Following Francis et al. (2014), Chen et al. (2019) and Li et al. (2021) find that engagement auditors have an incremental effect on financial statement comparability than audit firms and audit offices. Our paper is one of the first papers to study the role of modern financial disclosure technology in improving financial statement comparability, thus adding an important factor that shapes financial statement comparability.

Our study is also related to a growing literature on the economic consequences of CEDS. Existing literature focuses on capital market consequences of CEDS. For example, Gao and

project because of diverse practices or inconsistent treatment for similar transactions. In addition, another 10% are added to the agenda to improve international comparability with IFRS.

Huang (2020) find that EDGAR increases information production by individual investors and financial analysts, which leads to higher stock pricing efficiency. Chang, Ljungqvist, and Tseng (2020) find that after the introduction of EDGAR, analysts make less optimistic and more accurate earnings forecasts, and market quality improves. Chang et al. (2022) find that EDGAR inclusion reduces stock price crash risk by reducing disagreement among investors. In contrast, Goldstein et al. (2022) and Bird et al. (2021) document negative real consequences of EDGAR. Specifically, they find that the introduction of EDGAR reduces firms' investment efficiency, potentially due to less new information in stock prices available to the managers. McClure et al. (2021) find that the CEDS adoptions reduce firms' investment-to-price sensitivity in an international setting. In comparison, our paper focuses on the accounting implication of CEDS and adds to this literature by documenting the effects of CEDS on financial statement comparability.

Finally, our study is related to the emerging literature on how financial reporting and the associated characteristics are reshaped by modern information technologies. Modern technologies like computational linguistic or machine learning classification algorithms are able to capture qualitative disclosure properties (Blankespoor et al., 2020). These advancements may also have feedback effects and alter the incentives of disclosure preparers. Consistent with this idea, Cao et al. (2022) find that increasing AI readership motivates firms to prepare their corporate filings that are easier for machines to parse and process. Li et al. (2021) find that the SEC's XBRL mandate induces a decrease in the readability of the initial adopters' annual reports. In contrast, we examine how the interaction of technology and other country/region-level characteristics impact the effects of implementing such technology.

2.3.Hypothesis Development

The introduction of CEDS is likely to increase financial statement comparability for at least two reasons. First, firms have incentives to learn from or mimic their peers' behaviors. For example, De Franco et al. (2022) find a firm has higher financial statement comparability with industry leaders after a new CEO assumes office, consistent with the idea that managers mimic the accounting of industry leading companies to gain legitimacy. The peer effects literature also suggests that a firm's behavior is influenced by the average behavior of its peers (e.g., Manski, 1993). In the accounting context, a recent paper by Seo (2021) finds that industry peer firms' disclosures induce focal firm's disclosure.⁸ CEDS lowers firms' costs in collecting and analyzing peers' financial information and allows firms to benchmark against more peers timely and efficiently. Thus, CEDS is likely to increase firms' capabilities in mimicking peers and thus become more comparable to peers (McClure et al., 2021; Sran et al., 2021).

Second, firms have incentives to attract more investors, because an expanded investor base can reduce the cost of capital and increase firm value (e.g., Merton, 1987). Investors are economic agents with limited resources, attentions, and information processing capacities (Blankespoor et al., 2020). After the introduction of CEDS, investors on average are able to cover more firms due to the reduced disclosure processing costs. As a result, the demand for comparability is likely to increase. For example, an investor with very limited resources that covers only one firm in the pre-CEDS age does not demand comparability. After the CEDS is introduced, this investor can cover multiple firms at the same time with even lower costs. Even

⁸ Prior studies document peer effects in other capital market constructs, including capital structure choice (Leary and Roberts, 2014; Bernard, Kaya, and Wertz, 2021), financial misconduct (Parsons, Sulaeman, and Titman, 2018), corporate investment (Bernard, Blackburne, and Thornock, 2020), etc.

if she still only has one firm in her portfolio, she is able to find and compare it with its industry peers more easily. Anticipating the increased demand for comparability, firms may provide more comparable financial reports to keep investors' interests and attentions. Therefore, CEDS could increase firms' incentives to be more comparable to peers to facilitate external financing.

Taken together, these arguments lead to our first hypothesis, which is stated in the null form:

H1: Ceteris paribus, financial statement comparability does not change following the adoption and implementation of CEDS.

There are several reasons why we may not observe an increase in accounting comparability after the introduction of CEDS. One reason is that CEDS also makes a firm's financial information widely available to all other firms, including its existing and potential competitors. This increases the cost of leaking proprietary information and the risk of market entry or hostile takeover. One way to defend against these threats is to lower the attractiveness of the business by reducing comparability with others (e.g., Chircop et al., 2020; Chen et al., 2018). In addition, when it is easier for a firm to acquire peers' financial information, some firms may choose to differentiate themselves from peers to increase their competitiveness. Therefore, the ultimate effect of CEDS on financial statement comparability is an empirical question.

3. Research Design

3.1. Measuring Comparability

Following Francis et al. (2014) and Li et al. (2021), we measure comparability as the closeness of accruals between firms. We first calculate the closeness of accruals for firm-pairs in the same industry and the same year. This approach mitigates the impact of industry- (e.g.,

economic fundamentals) and time-specific (e.g., common shocks) factors on accruals structure. The intuition behind this measure is that the accruals structure of two firms that are more likely make the same set of accounting choices or judgments in implementing accounting standards will be more similar than that of two firms that are randomly selected. Specifically, we measure the cross-sectional similarities of accruals as follows:

$$Diff_Total_Accruals_{ii't} = |Total_Accruals_{it} - Total_Accruals_{i't}|, \quad (1)$$

where $Diff_Total_Accruals_{ii't}$ is the absolute value of the difference between signed total accruals of firm i and firm i' in the same two-digit SIC industry in year t . Total accruals is calculated as the difference between income before extraordinary items (IB) and cash flows from operations (OANCF) adjusted for cash flows from extraordinary items (XIDOC), divided by the total assets (AT) at the beginning of year.

Then we measure comparability at the firm-level as the negative average of closeness of accruals between a firm and its industry in the same year, formulated as:

$$CompAcct_{it} = -1 \times \frac{1}{J} \sum_{i'=1}^J Diff_Total_Accruals_{ii't}, \quad (2)$$

where J is the total number of firms in firm i 's industry. We multiply the measure by -1 for easier interpretation and comparison, so that a higher value of $CompAcct_{it}$ suggests higher comparability of a firm with its industry peers.

3.2. Regression Specification

To identify the effects of CEDS on financial statement comparability, we exploit the staggered adoption of CEDS platforms by 28 countries or regions over 26 years. The timing of CEDS adoption is plausibly exogenous, and our identification strategy employs CEDS events distributed over a long time period, which mitigates the concern that a confounding event may

drive the results.⁹ If our results can be explained by a confounding event, it has to be corresponding to each CEDS event and affecting firms in that country/region in that year. To test our hypothesis, we employ a generalized difference-in-difference approach and estimate the following regression model:

$$CompAcct_{ijkt} = \beta_1 Post_{kt} + \gamma X_{it} + \delta_i + \delta_t + \epsilon_{ijkt}. \quad (3)$$

The dependent variable, $CompAcct_{ijct}$ is our proxy for financial statement comparability, where i represents a firm, j represents an industry, k represents a country/region, and t represents a year. Our main variable of interest $Post_{kt}$ is equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region. The main coefficient of interest is β_1 , which measures the effects of CEDS adoption on financial statement comparability. Our hypothesis predicts that β_1 is positive.

X_{it} is a set of linear covariates, which are included to account for time-varying firm characteristics that may be correlated with comparability.¹⁰ As Lang et al. (2010) point out, there is no theoretical or empirical guidance concerning appropriate control variables to include in a regression that explains accounting comparability. In their study they control for firm size and market-to-book ratio because these two variables are widely used to capture many unobserved firm-specific characteristics. We control for a set of variables identified in the prior literature that may affect financial statement comparability due to factors such as underlying economic fundamentals, managers' earnings management incentives, or auditor style (e.g., Ege, Kim, and Wang, 2021; Li et al., 2021). The full set of control variables are: firm size (*Size*),

⁹ In their untabulated tests, McClure et al. (2021) find that the adoption dates are uncorrelated with various country/region-level institutional factors.

¹⁰ Consistent with prior studies, industry is classified based on two-digit SIC codes, which provides both reasonable granularity and conditional support for our comparability measure construction, and fixed effects and standard error clustering specification choice (e.g., De Franco et al., 2011; Francis et al., 2014; Neel, 2017).

age of firm (*Age*), profitability (*ROA*), net cash flow from operating activities (*CFO*), leverage ratio (*Leverage*), level of total accruals (*Total Accruals*), loss condition (*Loss*), and auditor type (*Big5*).¹¹ All variable definitions can be found in Appendix A.

We also include firm and year fixed effects to further eliminate the impact of potential omitted variables. Firm fixed effects, represented by δ_i , are included to control for unobserved time-invariant firm characteristics. Year fixed effects, represented by δ_t , are included to control for common shocks that affect all firms in a given year.¹² To mitigate the concern that high-dimensional fixed effects may bias our estimates, we also replace firm fixed effects with country/region-industry fixed effects (deHaan, 2021; Jennings, Kim, Lee, and Taylor, 2022). As suggested by Jayaraman and Verdi (2014), country/region-industry fixed effects are finer compared with including country/region fixed effects and industry fixed effects separately. Finally, in all of our tests we cluster standard errors at country/region-industry level to control for potential dependence in residuals.¹³

4. Data

4.1. CEDS Adoption Dates

We obtain the adoption dates of CEDS from McClure et al. (2021). They construct their sample from several sources, including email survey, web searching, and news retrieval. Their

11 Our results are robust if we further include market-to-book ratio and *CompCFO*, which is constructed in the same way as *CompAcct* but replacing total accruals with operating cash flows.

12 Our results are robust to a set of other fixed effects specifications, we provide more discussions about this issue in Section 6.

13 Due to the limited number of countries/regions (28) and years (26) in sample, we did not base our inference on standard errors clustered at the country/region or year level, because too few clusters may induce small sample bias to the estimates, which is particularly severe for unbalanced panels (Petersen, 2009). Consistent with McClure et al. (2021), we choose to cluster by country/region-industry to cluster at the most aggregate level while having sufficient clusters for reliable inference. Our results remain largely consistent to standard errors clustered by country/region, year, industry, firm, and country/region-year. More discussions are provided in Section 6.

efforts resulted in a sample of 28 countries/regions.¹⁴ The CEDS adoption dates for each country/region are presented in Table 1.

4.2. Sample Selection

We obtain data on firm fundamentals in each of the above countries/regions from Compustat Global database. We retain only firm-year observations with sufficient information to calculate our primary variables. We restrict our sample period from 1992 to 2017, which begins three years before the first adoption date in Taiwan and three years after the last adoption date in Singapore. As shown in Table 1, our final sample consists of 259,775 firm-years and 25,362 unique firms. The distribution of the number of firms across countries/regions is largely consistent with that in McClure et al. (2021). All continuous variables are winsorized at 1% and 99% levels.

4.3. Summary Statistics

Table 2 presents summary statistics for the variables used in our main analyses. The mean and median values of our comparability measure *CompAcct* are -0.203 and -0.093, respectively. These values are comparable e with prior studies employing similar measures (e.g., Li et al., 2021). Seventy-six percent of firm-years are in countries/regions where CEDS has been adopted. The average *Log(Assets)* is 7.29. On average, a firm has a leverage ratio of 20.5%, net operating cash flow of 2.8%, profitability of -2.5%, and total accruals of -4.4%. Twenty-two percent of firms have a loss, and thirty-five percent of firms are audited by Big 5 audit firms.

5. Empirical Results

5.1. CEDS Adoptions and Financial Statement Comparability

¹⁴ Our sample does not include Canada, for which data is not provided in the Compustat Global database.

Table 3 presents the results of our main analysis. We examine the impacts of CEDS adoptions on financial statement comparability by estimating Equation (3) using the full sample described in Section 4. The coefficient on *Post* captures the difference-in-difference estimate of the effect of CEDS adoption on comparability. Column (1) - (3) indicate that the coefficients on *Post* are significantly positive in models without control variables and models using country/region-year fixed effects. Column (4) shows that the estimated coefficient on *Post* is still significantly positive (0.046, *t*-statistic = 3.36) after including control variables and firm- and year- fixed effects. This increase in comparability is also economically significant, which accounts for approximately 22.7% ($= \frac{0.046}{|-0.203|}$) of the (absolute value of) sample mean of *CompAcct*. To put this estimate into perspective, Chen, Chen, Chin, and Lobo (2020) find that having the same signing auditor (audit office) leads to a decrease of 11.9% (5.5%) from the mean value of differences in total accruals for firm-pairs in their sample, which is approximately half (quarter) the magnitude of our estimate.

The estimated coefficients on control variables are largely consistent with prior literature (e.g., Lang et al., 2010; Ege et al., 2021; Li et al., 2021). For example, the significantly positive coefficient on *Size* has been consistently documented in the prior literature. Overall, findings in Table 3 suggest that after the adoption of CEDS, firms' financial statements become more comparable with their industry peers'.

A common threat to Difference-in-Differences estimation is the violation of the parallel trend assumption. Following prior studies, we verify this assumption by splitting *Post* by year relative to the adoption date and plotting the dynamics of the effects of CEDS adoptions over time (e.g., Jayaraman and Wu, 2019). As we can see in Figure 2, the estimated coefficients for

the pre-adoption periods are not statistically significant, with small magnitudes and relatively narrower confidence intervals, and there appears no apparent trend. In the year of CEDS adoption, there is an improvement in comparability and this improvement persists into post-adoption periods.

5.2. Cross-sectional Analyses

The effects of any disclosure regulation are likely to be affected by the design of the technology, regulatory characteristics, and the technology and market condition at the time the regulation was adopted (e.g., Christensen et al., 2016; Blankespoor et al., 2020). Examining the interaction between CEDS and these institutional factors could further our understanding of the effectiveness of information technologies on improving comparability.

5.2.1. Platform Characteristics

We first examine whether heterogeneities in the CEDS platform will lead to different effects. As discussed in Section 2.1, while different CEDS platforms share many common characteristics, there are several significant differences. One difference is the type of operating entities. In some countries/regions, the CEDS are managed by the regulators themselves or government agencies, while in other countries/regions, regulators delegate the authorities to third-parties such as exchanges. We expect the effects to be stronger for CEDS operated by regulators, because the regulators have authorities to enforce the regulations and may regulate these platforms more effectively (e.g., Christensen et al., 2016).

To examine this, we augment Equation (3) by adding an interaction term between *Post* and *Regulator*, which is a dummy variable equal to one if the CEDS is operated by a regulator, and zero otherwise. Consistent with our prediction, Column (4) of Table 4 reports that the estimated

coefficient on $Post \times Regulator$ is significant and positive (0.042, t -statistic = 2.38).¹⁵ This suggests that the type of operator does have a significant impact on the overall effect of CEDS on financial statement comparability, consistent with the findings of Sran et al. (2021), who find that the liquidity effects of CEDS are more pronounced in countries where a regulator operates the CEDS.

5.2.2. Regulatory Environment

Next, we examine how a country/region's regulatory environment impacts the effects of CEDS adoptions on comparability. The effectiveness of a disclosure regulation likely depends on the regulatory and enforcement environments, as suggested by prior studies on IFRS adoption (e.g., Daske et al., 2008; Armstrong, Barth, Jagolinzer, and Riedl, 2010). Thus, we expect the effects of CEDS on comparability to be more pronounced in countries/regions with stronger regulatory environments.

We consider two measures of the strength of regulatory environment, the government effectiveness index *Gov Efficacy*, and the rule of law index *Rule of Law*, which are commonly used in the prior literature. The government effectiveness index measures the quality of policy formulation and implementation (e.g., De Simone, Lester, and Markle, 2020). The rule of law index measures the perceptions of contract enforcement and property rights quality (e.g., Bushman 2005). We obtain these two measures from the World Bank Worldwide Governance Indicators database (Kaufmann, Kraay, and Mastruzzi, 2009).

We re-estimate Equation (3) after adding the interaction terms $Post \times Gov Efficacy$ and $Post \times Rule of Law$. Table 5 presents the estimation results. Panel A shows that the estimate

¹⁵ The Regulator dummy is time-invariant in the country-level so it is absorbed by the fixed effects.

coefficients of $Post \times Gov\ Efficacy$ are significantly positive across different specifications. Similarly, Panel B finds that the estimated coefficients of $Post \times Rule\ of\ Law$ are also significant and positive. These findings are consistent with our prediction that stronger regulatory and enforcement environments amplify the effectiveness of a regulation.

5.2.3. Pre-Existing Market and Technology Developments

The impact of new regulation will vary with the pre-existing infrastructure, such as financial market condition or technology development. It is unclear, *ex ante*, what impacts the pre-existing infrastructure will have on CEDS adoptions. For example, it is possible that the effects of CEDS adoption in a country/region with an already highly developed and efficient financial market may be less pronounced, where the information is provided and disseminated in other efficient ways.

We first consider how the pre-existing financial market condition affects the effects of CEDS adoptions. We use the Financial Markets Efficiency index (FME) obtained from the International Monetary Fund to measure the development of a country/region's financial market. We define a dummy variable *Fin Mkt Efficacy*, which is equal to one if the FME of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise. We re-estimate Equation (3) by including $Post \times Fin\ Mkt\ Efficacy$ and the results are presented in Panel A of Table 6. The estimated coefficients on $Post \times Fin\ Mkt\ Efficacy$ are significant and positive across all four specifications, suggesting that the pre-existing financial market development condition strengthens the effects of CEDS adoptions on comparability.

Next, we explore how the effects of CEDS adoption are related to the prevalence of Internet usage in a country/region. As discussed above, it is not clear how the Internet usage

interacts with CEDS adoptions. On the one hand, Internet usage is a necessary condition for CEDS to take effect, in this case, the effects of CEDS adoptions will be more pronounced in high-Internet-usage countries/regions. On the other hand, high Internet usage may suggest that the amount of electronic information is sufficient, especially given that plenty of observations in our sample are in years after 2000, in this case, high Internet usage will mute the effects of CEDS adoptions.

To examine this issue, we obtain country/region-year-level Internet usage data from the World Bank website, which represents the percentage of a country/region's population that has access to the Internet. We define a dummy variable *Internet Use*, which is equal to one if the Internet usage of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise. We augment Equation (3) with $Post \times Internet Use$ and re-estimate it. Panel B of Table 6 presents the estimation results. The estimated coefficients of $Post \times Internet Use$ are significant and positive in all specifications, consistent with that high Internet usage amplifies the effects of CEDS adoptions. Overall, the findings in this section suggest that the pre-existing market and technology development enhance the effectiveness of the CEDS adoptions on financial statement comparability.

5.3. Mechanism Analysis

In this section, we explore two possible mechanisms through which the CEDS adoptions could improve financial statement comparability.

5.3.1. Learning from Peers

Firms have incentives to learn from or mimic their peers' behaviors. The peer effects literature suggests that a firm's behavior is influenced by the average behavior of its peers (e.g.,

Manski, 1993). For example, Seo (2021) finds that industry peer firms' disclosures induce focal firm's disclosure. The adoptions of CEDS lower the costs faced by the firms to learn from or mimic their peers' financial disclosures and thus increase in comparability. We expect the effects will vary with industry competition if learning from peers is one mechanism through which CEDS affects comparability. On the one hand, firms may have stronger incentives to learn from each other in highly competitive industries. For example, De Franco et al. (2022) find a firm has higher financial statement comparability with industry leaders after a new CEO assumes office, consistent with the idea that managers mimic the accounting of industry leading companies to gain legitimacy. On the other hand, the incentives may be weaker for firms in highly competitive industries, because being comparable may increase proprietary costs (Chircop et al., 2020).

We define a dummy variable *Competition* which is equal to one if the HHI index of a firm's industry is below the sample median, and zero otherwise. We re-estimate Equation (3) by adding *Competition* and its interaction with *Post*, and the results are presented in Panel A of Table 7. The estimated coefficients on $Post \times Competition$ are significant and positive in all four columns. The results suggest that the increase in comparability is more pronounced for firms in highly competitive industries, supporting the notion that CEDS increases comparability by allowing firms to learn from their peers more easily.

5.3.2. Competing for Investor Attention

Another possible mechanism through which CEDS improves comparability is that firms compete for investor attention. As discussed in Section 3.3, investors can access more financial disclosures with lower costs after the CEDS is adopted and thus the demand for comparability

may increase.¹⁶ To keep existing investors and attract potential investors, firms may improve their comparability with peers. If attracting investors is a potential mechanism through which the adoption of CEDS affects comparability, we expect the treatment effect to be more pronounced for firms in industries that have a higher dependence on external financing.

We measure financial dependence following Rajan and Zingales (1998) and define a dummy variable *Fin Dep* which is equal to one if an industry's financial dependence is above the median in a country/region-year.¹⁷ We re-estimate Equation (3) by adding *Fin Dep* and its interaction with *Post*, and the results are presented in Panel B of Table 7. The estimated coefficients on $Post \times Fin Dep$ are significant and positive in all four columns, suggesting that the increase in comparability is more pronounced for firms in more financially dependent industries. Overall, the results support the mechanism that firms increase comparability to attract investor attention.

5.3.3. 2×2 Subsample Analysis

To provide more evidence for the two mechanisms suggested above. We further divide our sample into four subsamples, i.e., (1) highly competitive and high financial dependence industries, (2) lowly competitive but high financial dependence industries, (3) highly competitive but low financial dependence industries, and (4) lowly competitive and low financial dependence industries. If the two mechanisms exist at the same time, firms in the first sub-group should have the strongest incentives to increase their comparability, while the incentives for firms in the fourth sub-group should be the weakest.

¹⁶ Investors may not explicitly demand for comparability, but the demand will be revealed by their preferences.

¹⁷ Following Rajan and Zingales (1998), industry's financial dependence is defined as the median of financial dependence of firms in an industry-year. We use the industry median to summarize ratios firms to avoid the scale effect, i.e., large firms swamp the information from small firms. For example, Apple Inc.'s cash flow does not alleviate possible cash flow shortages of small technology firms.

Panel C of Table 6 presents the results for the four sub-groups. Consistent with our prediction, the estimated coefficients on *Post* are largest in Column (1), i.e., the first sub-group (0.182, *t*-statistic = 2.62), while insignificant and negative in Column (4), i.e., the fourth sub-group (-0.019, *t*-statistic = -0.94). The effects for the other two sub-groups (0.104, *t*-statistic = 3.07 for the second sub-group, and 0.034, *t*-statistic = 2.09 for the third subgroup, respectively) lie between the spectrums. This provides further evidence to support the two mechanisms we suggest, i.e., learning from peers and competing for investor attention.

5.4. Stacked regression

Recent development in econometric literature suggests that the staggered difference-in-differences design might cause estimation bias because already treated units are not “clean” control for later treated units (Baker, Larcker, and Wang, 2022; Barrios, 2021). To address this concern that our results could be driven by such bias, we follow Baker et al. (2022)’s suggestions and modify our model specification by using a cohort-based stacked regression method. Table 8 presents the results from this analysis. We find that the results are consistent with our main results.

5.5. Robustness Tests

5.5.1. Including the U.S. and Canada

Our main sample excludes the U.S. and Canada because otherwise the sample will be dominated by these two countries and the results will be largely driven by these two countries. However, in robustness test we include the U.S. and Canada. Table 9 reports the results from this analysis. We find that our main result remains qualitatively similar. In untabulated analyses, we also find that the findings in the cross-sectional analyses remain unchanged.

5.5.2. Dropping Observations with Constant Treatment Status

There are a number of observations in our sample that are never treated or always treated. For example, some firms may delist before the adoptions of CEDS in their countries/regions, and some may go public after the adoptions. In firm fixed effects models, there will be groups of observations with no variation in their dependent values. To mitigate the concern that our results may be potentially biased by these observations, we drop them and re-estimate Equation (3).¹⁸ In Table 10, Column (1) reports the baseline results, and Column (2) reports the results for a sample with changed treatment status. The estimated coefficient of *Post* (0.031, *t*-statistic = 3.37, *N* = 143,622) in Column (2) is smaller than the baseline results (0.046, *t*-statistic = 3.36, *N* = 258,412) in Column (1), but is slightly more significant even with a much smaller sample size. Overall, the findings indicate that our results are not sensitive to observations with constant treatment status.

5.5.3. Entropy Balanced Sample

Although we have controlled a set of linear covariates, it is possible that they may take effect in a nonlinear form. We address this concern by using the entropy balancing method to control for observed covariates that may bias our results. Entropy balancing works by reweighting the control sample observations such that the control sample and treatment sample become “more balanced”. One virtue of entropy balancing is that the reweighting scheme avoids significant loss of observations in the subsequent analysis (Hainmueller, 2012). In addition, compared with traditional matching methods, entropy balancing is an easy-to-implement method (Hainmueller and Xu, 2013). It requires fewer discretionary empirical

¹⁸ Our results remain significant and positive if we only drop never treated or always treated observations.

choices by researchers, which increases the transparency and replicability of research called on by several academic communities recently (e.g., Hail et al., 2020).

Column (3) of Table 10 presents the results of estimating Equation (3) based on an entropy balanced sample. Comparing Column (3) with Column (1), the magnitude and the significance of control variables become smaller and lower, and the R^2 also declines (0.406 vs. 0.411), suggesting that the sample does become more “balanced” after entropy balancing. The estimated coefficient of our main variable of interest *Post* (0.044, t -statistic = 3.70, R^2 = 0.406) in Column (3) is significant and positive, the significance is larger compared with the unbalanced sample (3.70 vs. 3.36). Overall, our main results are robust to the nonlinear effects of our control variables.

5.5.4. Placebo Adoption Dates

To mitigate the concern of confounding events and that the adoptions of CEDS may be correlated to some omitted country/region-level variables, we conduct a placebo test using a set of placebo adoption dates. Then we use these dates to create a *Placebo Post* dummy and re-estimate Equation (3). The estimated coefficient of *Placebo Post* (-0.060, t -statistic = -1.15) in Column (4) of Table 10 is insignificant and negative. When putting *Post* and *Placebo Post* together, the estimated coefficient of *Post* (0.500, t -statistic = 3.13) in Column (5) is consistent with the baseline result, while the estimated coefficient of *Placebo Post* (-0.062, t -statistic = -1.18) is still insignificant and negative. The results of this placebo test alleviate the concern about the endogeneity of adoption timing.

5.5.5. Specification Curve Analysis

To further assess the robustness of our results, we conduct a specification curve analysis,

which allows us to consider a wide range of model specifications at the same time (Simonsohn, Simmons, and Nelson, 2020). Specifically, we consider the combination of a set of fixed effects and standard error clustering choices (detailed in Figure 3), and we use both the full sample and the changed treatment sample in discussed in Section 5.4.1.

We present the results in Figure 3. We can see that for all 56 different specifications, the estimated coefficient of *Post* is significant and positive (ranging from 0.04 to 0.05), speaking to the robustness of our results. We can also see that (1) the impacts of different standard error clustering choices are not apparent, (2) different fixed effects choices may have modest impacts on the magnitude of the estimates, and (3) the distribution of the full sample estimates is towards to the right of the spectrum, i.e., generally with smaller magnitudes. Overall, the findings suggest that our main results are robust to a wide range of different model specifications.

6. Conclusion

In this study we examine the impact of the disclosure technology on financial statement comparability. Specifically, we examine how the adoption of CEDS affects comparability. Exploiting a novel sample of these worldwide adoptions, we find robust evidence that the CEDS adoptions increase financial statement comparability. We perform several cross-sectional tests, we find that the effects of CEDS are more pronounced in countries/regions where the CEDS are operated by regulators, with stronger regulatory environments, with higher initial financial market efficiency, and with higher initial Internet usage. We also find that the effects of CEDS adoptions on financial statement comparability are more pronounced for firms in highly competitive industries and more financially dependent industries, suggesting that

learning from peers and competing for investor attention are two potential mechanisms through which CEDS adoptions might increase comparability.

Financial statement comparability is a quintessential qualitative characteristic of financial reporting. Our study is the first to document that disclosure technology has a distinctive effect on financial statement comparability, thus adding to our understanding of what shapes comparability.

References

- Armstrong, C. S., Barth, M. E., Jagolinzer, A. D., & Riedl, E. J. (2010). Market reaction to the adoption of IFRS in Europe. *The Accounting Review*, 85(1), 31-61.
- Baker, A. C., Larcker, D. F., & Wang, C. C. (2022). How much should we trust staggered difference-in-differences estimates?. *Journal of Financial Economics*, 144(2), 370-395.
- Ball, R., Robin, A., & Wu, J. S. (2003). Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of Accounting and Economics*, 36(1-3), 235-270.
- Barth, M. E., Landsman, W. R., Lang, M., & Williams, C. (2012). Are IFRS-based and US GAAP-based accounting amounts comparable?. *Journal of Accounting and Economics*, 54(1), 68-93.
- Bernard, D., Blackburne, T., & Thornock, J. (2020). Information flows among rivals and corporate investment. *Journal of Financial Economics*, 136(3), 760-779.
- Bernard, D., Kaya, D., & Wertz, J. (2021). Entry and capital structure mimicking in concentrated markets: the role of incumbents' financial disclosures. *Journal of Accounting and Economics*, 71(2-3), 101379.
- Bird, A., Karolyi, S. A., Ruchti, T. G., & Truong, P. (2021). More is less: Publicizing information and market feedback. *Review of Finance*, 25(3), 745-775.
- Blankespoor, E., deHaan, E., & Marinovic, I. (2020). Disclosure processing costs, investors' information choice, and equity market outcomes: A review. *Journal of Accounting and Economics*, 70(2-3), 101344.
- Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2005). Insider trading restrictions and analysts' incentives to follow firms. *The Journal of Finance*, 60(1), 35-66.
- Cao, S., Jiang, W., Yang, B., & Zhang, A. L. (2022). How to talk when a machine is listening: Corporate disclosure in the age of AI. Working paper.
- Chang, Y. C., Hsiao, P. J., Ljungqvist, A., & Tseng, K. (2022). Testing disagreement models. *The Journal of Finance*, 77(4), 2239-2285.
- Chang, Y. C., Ljungqvist, A., & Tseng, K. (2022). Do corporate disclosures constrain strategic analyst behavior?. Working paper.
- Chen, J. Z., Chen, M. H., Chin, C. L., & Lobo, G. J. (2020). Do firms that have a common signing auditor exhibit higher earnings comparability?. *The Accounting Review*, 95(3), 115-143.
- Chen, C. W., Collins, D. W., Kravet, T. D., & Mergenthaler, R. D. (2018). Financial statement comparability and the efficiency of acquisition decisions. *Contemporary Accounting Research*, 35(1), 164-202.
- Chircop, J., Collins, D. W., Hass, L. H., & Nguyen, N. N. Q. (2020). Accounting comparability and corporate innovative efficiency. *The Accounting Review*, 95(4), 127-151.
- Christensen, H. B., Hail, L., & Leuz, C. (2013). Mandatory IFRS reporting and changes in enforcement. *Journal of Accounting and Economics*, 56(2-3), 147-177.

- Christensen, H. B., Hail, L., & Leuz, C. (2016). Capital-market effects of securities regulation: Prior conditions, implementation, and enforcement. *The Review of Financial Studies*, 29(11), 2885-2924.
- Daske, H., Hail, L., Leuz, C., & Verdi, R. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research*, 46(5), 1085-1142.
- De Franco, G., Hou, Y., & Ma, M. S. (2022). Do firms mimic industry leaders' accounting? Evidence from financial statement comparability. Working paper.
- De Franco, G., Kothari, S. P., & Verdi, R. S. (2011). The benefits of financial statement comparability. *Journal of Accounting Research*, 49(4), 895-931.
- De Simone, L., Lester, R., & Markle, K. (2020). Transparency and tax evasion: Evidence from the foreign account tax compliance act (FATCA). *Journal of Accounting Research*, 58(1), 105-153.
- deHaan, E. (2021). Using and interpreting fixed effects models. Working paper.
- Dhole, S., Lobo, G. J., Mishra, S., & Pal, A. M. (2015). Effects of the SEC's XBRL mandate on financial reporting comparability. *International Journal of Accounting Information Systems*, 19, 29-44.
- Ege, M., Kim, Y. H., & Wang, D. (2021). Do PCAOB inspections of foreign auditors affect global financial reporting comparability?. *Contemporary Accounting Research*, 38(4), 2659-2690.
- Fang, V. W., Maffett, M., & Zhang, B. (2015). Foreign institutional ownership and the global convergence of financial reporting practices. *Journal of Accounting Research*, 53(3), 593-631.
- Francis, J. R., Pinnuck, M. L., & Watanabe, O. (2014). Auditor style and financial statement comparability. *The Accounting Review*, 89(2), 605-633.
- Gao, M., & Huang, J. (2020). Informing the market: The effect of modern information technologies on information production. *The Review of Financial Studies*, 33(4), 1367-1411.
- Glaeser, S., & Guay, W. R. (2017). Identification and generalizability in accounting research: A discussion of Christensen, Floyd, Liu, and Maffett (2017). *Journal of Accounting and Economics*, 64(2-3), 305-312.
- Goldstein, I., Yang, S., & Zuo, L. (2022). The real effects of modern information technologies: Evidence from the EDGAR implementation. Working paper.
- Grossman, S. J., & Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *The American Economic Review*, 70(3), 393-408.
- Hail, L., Lang, M., & Leuz, C. (2020). Reproducibility in accounting research: Views of the research community. *Journal of Accounting Research*, 58(2), 519-543.
- Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, 25-46.
- Hainmueller, J., & Xu, Y. (2013). Ebalance: A Stata package for entropy balancing. *Journal of*

Statistical Software, 54(7).

- Jayaraman, S., & Verdi, R. S. (2014). Are reporting incentives and accounting standards substitutes or complements in achieving accounting comparability?. Working paper.
- Jayaraman, S., & Wu, J. S. (2019). Is silence golden? Real effects of mandatory disclosure. *The Review of Financial Studies*, 32(6), 2225-2259.
- Jennings, J. N., Kim, J. M., Lee, J. A., & Taylor, D. J. (2022). Measurement error, fixed effects, and false positives in accounting research. Working paper.
- Jiang, J. X., Wang, I. Y., & Wangerin, D. D. (2018). How does the FASB make decisions? A descriptive study of agenda-setting and the role of individual board members. *Accounting, Organizations and Society*, 71, 30-46.
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2009). Governance matters VIII: Aggregate and individual governance indicators, 1996-2008. Working paper.
- Kim, J. B., Li, L., Lu, L. Y., & Yu, Y. (2016). Financial statement comparability and expected crash risk. *Journal of Accounting and Economics*, 61(2-3), 294-312.
- Lang, M. H., Maffett, M. G., & Owens, E. (2010). Earnings comovement and accounting comparability: The effects of mandatory IFRS adoption. Working paper.
- Leary, M. T., & Roberts, M. R. (2014). Do peer firms affect corporate financial policy?. *The Journal of Finance*, 69(1), 139-178.
- Li, L., Qi, B., & Zhang, J. (2021). The effect of engagement auditors on financial statement comparability. *Auditing: A Journal of Practice & Theory*, 40(3), 73-104.
- Li, X., Zhu, H., & Zuo, L. (2021). Reporting technologies and textual readability: Evidence from the XBRL mandate. *Information Systems Research*, 32(3), 1025-1042.
- Manski, C. F. (1993). Identification of endogenous social effects: The reflection problem. *The Review of Economic Studies*, 60(3), 531-542.
- McClure, C., Shi, S. X., & Watts, E. M. (2021). Disclosure processing costs and market feedback around the world. Working paper.
- Merton, R. C. (1987). A simple model of capital market equilibrium with incomplete information. *The Journal of Finance*, 42(3), 483-510.
- Neel, M. (2017). Accounting comparability and economic outcomes of mandatory IFRS adoption. *Contemporary Accounting Research*, 34(1), 658-690.
- Parsons, C. A., Sulaeman, J., & Titman, S. (2018). The geography of financial misconduct. *The Journal of Finance*, 73(5), 2087-2137.
- Petersen, M. A. (2009). Estimating standard errors in finance panel data sets: Comparing approaches. *The Review of Financial Studies*, 22(1), 435-480.
- Rajan, R., & Zingales, L. (1998). Financial development and growth. *The American Economic Review*, 88(3), 559-586.

- Seo, H. (2021). Peer effects in corporate disclosure decisions. *Journal of Accounting and Economics*, 71(1), 101364.
- Simonsohn, U., Simmons, J. P., & Nelson, L. D. (2020). Specification curve analysis. *Nature Human Behaviour*, 4(11), 1208-1214.
- Sran, G., Tuijn, M., & Vollen, L. (2021). The capital market effects of centralizing regulated financial information. Working paper.

Appendix A. Variable Definitions

Variable	Definition	Data Source
<i>Independent Variable</i>		
<i>CompAcct</i>	The negative value of the average absolute difference between the total accruals of a firm and its industry peers. Total accruals is defined below.	Compustat Global
<i>Main Independent Variables</i>		
<i>Post</i>	A dummy equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise.	McClure et al. (2020)
<i>Placebo Post</i>	A dummy equal to one if a firm's fiscal year is in or after a random year assigned to that firm's country/region, and zero otherwise.	Own Creation
<i>Regulator</i>	A dummy equal to one if the CEDS is operated by regulators, and zero otherwise.	McClure et al. (2020), Sran et al. (2020)
<i>Govt Effcy</i>	The government effectiveness index in Kaufmann et al. (2009).	World Bank
<i>Rule of Law</i>	The rule of law index obtained in Kaufmann et al. (2009).	World Bank
<i>Fin Mkt Effcy</i>	A dummy equal to one if the financial markets efficiency index of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise.	IMF
<i>Internet Use</i>	A dummy equal to one if the Internet usage of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise.	World Bank
<i>Competition</i>	A dummy equal to one if the Herfindahl–Hirschman Index (HHI) index of a firm's industry is below the sample median, and zero otherwise.	Compustat Global
<i>Fin Dep</i>	A dummy equal to one if an industry's financial dependence is above the median in a country/region-year, and zero otherwise. Financial dependence is defined following Rajan and Zingales (1998).	Compustat Global
<i>Firm Characteristics</i>		
<i>Age</i>	The log of (1 + the number of years since the company appears in Compustat Global)	Compustat Global
<i>Size</i>	The log of total assets.	Compustat Global
<i>Leverage</i>	Total liability divided by total assets.	Compustat Global
<i>Loss</i>	A dummy equal to one if the income before extraordinary items is negative and zero otherwise.	Compustat Global

<i>ROA</i>	The return on assets.	Compustat Global
<i>CFO</i>	Net cash flow from operating activities.	Compustat Global
<i>Total Accruals</i>	The difference between income before extraordinary items and cash flows from operations adjusted for cash flows from extraordinary items, divided by the total assets at the beginning of year.	Compustat Global
<i>Loss</i>	A dummy equal to one if the income before extraordinary items is negative and zero otherwise.	Compustat Global
<i>Big5</i>	A dummy equal to one if the financial statement is audited by a big five auditor, and zero otherwise.	Compustat Global

Figure 1: An Example of Corporate Financial Disclosure Channels

Panel A: Firm Disclosures on CEDS (Hong Kong CEDS)

Search Type: Current Securities | Stock Code/Stock Name: 00700 TENCENT | Headline Category and Document Type: Financial Statements/ESG Information | From: 2007/06/25 | To: 2021/09/30 | News Title: Keyword(s) | Clear All | SEARCH

Note: Headline Category is available since 25 June 2007

LISTED COMPANY INFORMATION SEARCH RESULTS

Total records found: 29 | Disclosure of Interests > | Listing Category: Primary Listing | Disclaimer

Release Time	Stock Code	Stock Short Name	Document	Hide Headline
31/08/2021 18:30	00700	TENCENT	Financial Statements/ESG Information - [Interim/Half-Year Report] INTERIM REPORT 2021 (5MB)	
08/04/2021 21:36	00700	TENCENT	Financial Statements/ESG Information - [Annual Report / Environmental, Social and Governance Information/Report] ANNUAL REPORT 2020 (2MB)	
26/08/2020 20:38	00700	TENCENT	Financial Statements/ESG Information - [Interim/Half-Year Report] INTERIM REPORT 2020 (4MB)	
02/04/2020 17:51	00700	TENCENT	Financial Statements/ESG Information - [Annual Report / Environmental, Social and Governance Information/Report] ANNUAL REPORT 2019 (2MB)	
26/08/2019 18:21	00700	TENCENT	Financial Statements/ESG Information - [Interim/Half-Year Report] INTERIM REPORT 2019 (2085KB)	
01/04/2019 17:46	00700	TENCENT	Financial Statements/ESG Information - [Annual Report / Environmental, Social and	

Panel B: Firm Disclosures on Firm’s Website (Tencent)

Home > Investors > Financial Reports

2021

2021 Interim Report

2020

2020 Annual Report | 2020 Interim Report

2019

Figure 1 presents an example of two Corporate Financial Disclosure Channels. Panel A shows how Tencent, a publicly-listed firm in Hong Kong, discloses its financial statements on HKEXnews, the Hong Kong version of CEDS. Panel B shows the same disclosures by Tencent on its own website.

Figure 2. Effects of CEDS Adoptions on Financial Statement Comparability over Time

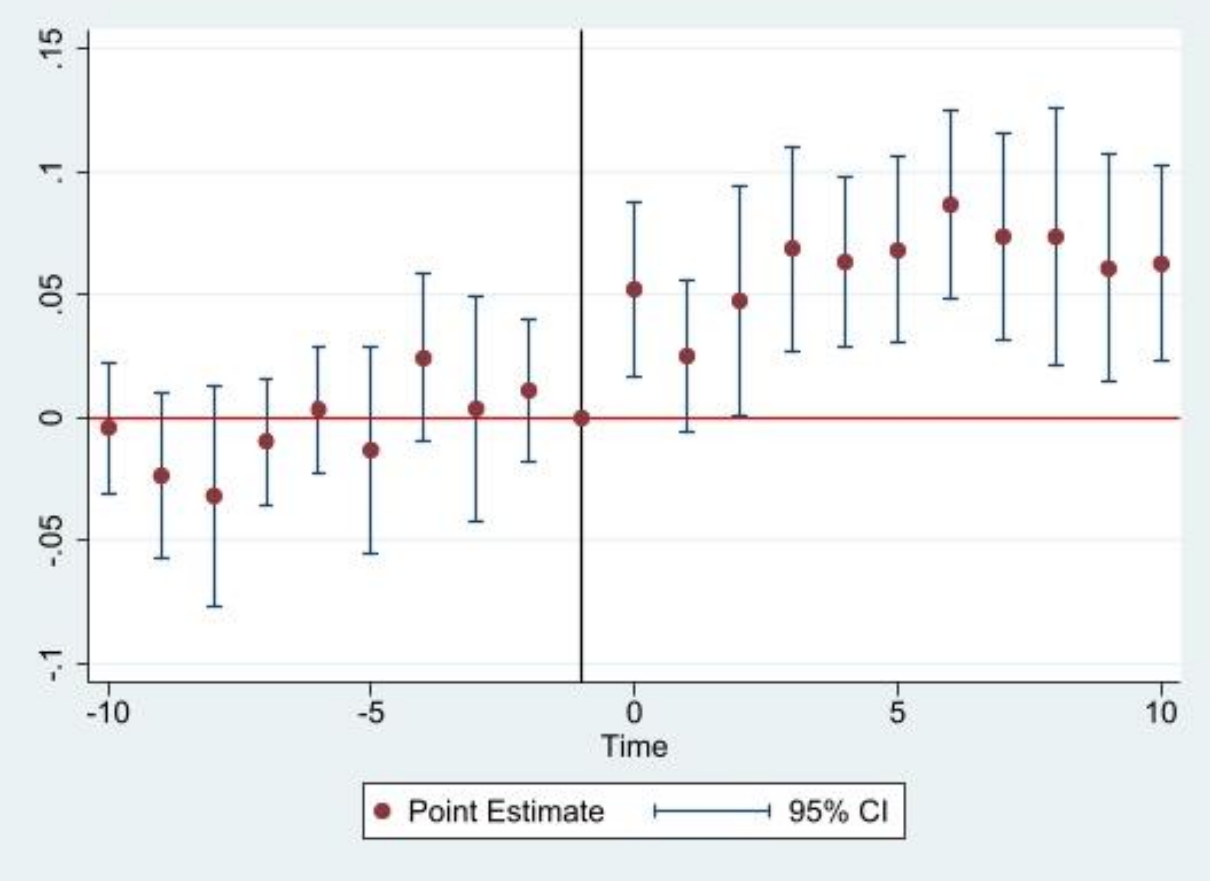


Figure 2 presents the dynamics of the effects of CEDS adoptions on financial statement comparability over time. All estimated coefficients are benchmarked to the years prior to the adoptions. Estimated coefficients (dots) and 95% confidence intervals (bars) are presented for each coefficient.

Figure 3. Robustness Tests Using Specification Curve Analysis

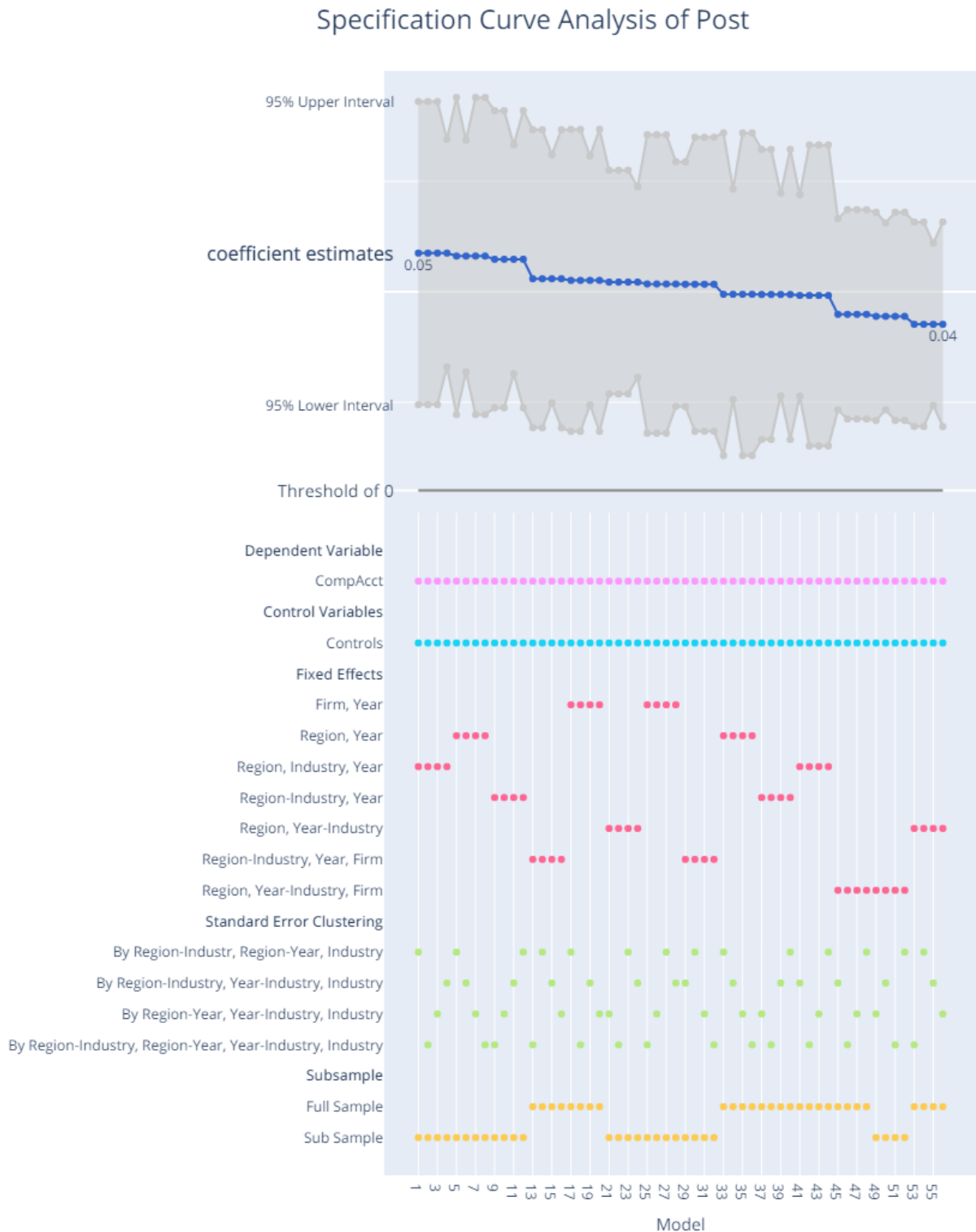


Figure 3 presents the results of specification curve analysis of the effects of CEDS adoptions on comparability. The specification curve analysis allows us to consider a wide range of model specifications at the same time (Simonsohn, Simmons, and Nelson, 2020). “Sub Sample” represents the varied treatment samples discussed in Section 5.4.1.

Table 1. Sample Composition, Adoption Dates, and Operator Type

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Country/Region	Unique Firms	Unique Firms (%)	Observations	Observations (%)	Adoption Date	Operator Type
Australia	2,485	9.80%	23,814	9.17%	2000	Third Party
Austria	99	0.39%	1,036	0.40%	2007	Regulator
Belgium	132	0.52%	1,361	0.52%	2011	Regulator
China	3,798	14.98%	40,410	15.56%	2000	Third Party
Denmark	208	0.82%	2,177	0.84%	2007	Regulator
Finland	191	0.75%	2,167	0.83%	2008	Third Party
France	1,030	4.06%	10,458	4.03%	2008	Regulator
Germany	1,035	4.08%	10,860	4.18%	2007	Regulator
Hong Kong	301	1.19%	2,639	1.02%	2001	Third Party
Iceland	10	0.04%	36	0.01%	2008	Third Party
Ireland	104	0.41%	936	0.36%	2007	Third Party
Israel	446	1.76%	4,111	1.58%	2000	Third Party
Japan	4,116	16.23%	51,862	19.96%	2004	Regulator
South Korea	1,741	6.86%	12,420	4.78%	1999	Regulator
Latvia	21	0.08%	191	0.07%	2007	Regulator
Lithuania	34	0.13%	286	0.11%	2007	Third Party
Netherlands	270	1.06%	2,723	1.05%	2009	Regulator
Norway	357	1.41%	2,866	1.10%	2005	Third Party
Philippines	198	0.78%	2,630	1.01%	2005	Third Party
Poland	777	3.06%	6,398	2.46%	2009	Regulator
Portugal	63	0.25%	594	0.23%	2005	Regulator
Singapore	816	3.22%	9,586	3.69%	2015	Third Party
Spain	164	0.65%	1,395	0.54%	1998	Regulator
Sweden	929	3.66%	7,779	2.99%	2007	Regulator

Taiwan	2,062	8.13%	22,781	8.77%	1995	Third Party
Thailand	681	2.69%	7,911	3.05%	2014	Third Party
Turkey	328	1.29%	2,905	1.12%	2009	Third Party
United Kingdom	2,966	11.69%	27,443	10.56%	2003	Regulator
Total	25,362	100.00%	259,775	100.00%		

This table presents the basic sample distribution across countries, as well as the adoption date and operator type for each country. Column (1) presents country/region name. Column (2) presents the number of unique firms for each country/region. Column (3) presents the percentage of unique firms for each country/region. Column (4) presents the number of firm-year observations for each country/region. Column (5) presents the percentage of firm-year observations for each country/region. Column (6) presents the mandatory adoption dates of the CEDS platforms for each country/region. Column (7) presents the CEDS operator type for each country/region.

Table 2: Summary Statistics

VARIABLES	N	Mean	Std. Dev.	Q25	Median	Q75
<i>CompAcct</i>	259,775	-0.203	0.370	-0.166	-0.093	-0.061
<i>Post</i>	259,775	0.764	0.424	1	1	1
<i>Age</i>	259,775	2.191	0.687	1.792	2.303	2.708
<i>Size</i>	259,775	7.288	3.250	4.914	7.323	9.616
<i>Leverage</i>	259,775	0.205	0.193	0.032	0.170	0.321
<i>ROA</i>	259,775	-0.025	0.249	-0.009	0.027	0.063
<i>CFO</i>	259,775	0.028	0.173	-0.001	0.054	0.105
<i>Total Accruals</i>	259,775	-0.044	0.145	-0.084	-0.036	0.008
<i>Loss</i>	259,775	0.272	0.445	0	0	1
<i>Big5</i>	259,775	0.349	0.477	0	0	1

This table presents summary statistics for our sample of 259,775 observations over the time period of 1992-2017. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 3. Centralized Electronic Filing System and Financial Statement Comparability

VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.041*** (2.97)	0.040*** (3.09)	0.043*** (3.30)	0.046*** (3.36)
<i>Age</i>			0.017*** (5.75)	0.060*** (5.03)
<i>Size</i>			0.008*** (4.65)	0.016** (2.10)
<i>Leverage</i>			-0.032*** (-2.88)	-0.035* (-1.75)
<i>ROA</i>			-0.032 (-0.83)	-0.078** (-2.21)
<i>CFO</i>			0.346*** (7.29)	0.295*** (6.33)
<i>Total Accruals</i>			0.289*** (4.63)	0.278*** (4.43)
<i>Loss</i>			0.034*** (5.56)	0.037*** (4.47)
<i>Big5</i>			0.015*** (4.59)	0.009** (1.97)
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.329	0.341	0.356	0.351
Observations	259,775	258,412	259,775	258,412

This table presents our main results for the effects of CEDS adoptions on financial statement comparability. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest is *Post*, which is equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). *t*-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 4. Cross-sectional Analysis: Platform Characteristics

VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.003 (0.24)	0.015 (1.23)	0.008 (0.57)	0.018 (1.45)
<i>Post</i> × <i>Regulator</i>	0.053* (1.92)	0.036** (2.20)	0.049** (1.97)	0.042** (2.38)
<i>Age</i>			0.017*** (5.62)	0.061*** (5.12)
<i>Size</i>			0.008*** (4.61)	0.016** (2.10)
<i>Leverage</i>			-0.032*** (-2.84)	-0.034* (-1.71)
<i>ROA</i>			-0.032 (-0.83)	-0.078** (-2.20)
<i>CFO</i>			0.346*** (7.33)	0.295*** (6.32)
<i>Total Accruals</i>			0.289*** (4.64)	0.277*** (4.43)
<i>Loss</i>			0.034*** (5.50)	0.038*** (4.47)
<i>Big5</i>			0.015*** (4.49)	0.009* (1.83)
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.329	0.341	0.356	0.351
Observations	259,775	258,412	259,775	258,412

This table presents results for cross-sectional variations with respect to CEDS's operating entity. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest is *Post* × *Regulator*. *Regulator* is an indicator variable equal to one if the CEDS is operated by regulators, and zero otherwise. *Post* equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). t-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 5. Cross-sectional Analysis: Regulatory Environment

Panel A. Government Effectiveness				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.006 (0.39)	0.004 (0.22)	0.006 (0.38)	0.006 (0.37)
<i>Govt Effcy</i>	0.089** (2.51)	0.071** (2.10)	0.067** (2.09)	0.072** (2.26)
<i>Post</i> × <i>Govt Effcy</i>	0.032** (2.30)	0.032** (2.03)	0.034** (2.49)	0.035** (2.23)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.340	0.343	0.365	0.353
Observations	238,407	236,538	238,407	236,538
Panel B. Rule of Law				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	-0.015 (-0.79)	-0.011 (-0.68)	-0.013 (-0.68)	-0.008 (-0.44)
<i>Rule of Law</i>	0.065* (1.89)	0.050 (1.52)	0.044 (1.39)	0.050 (1.61)
<i>Post</i> × <i>Rule of Law</i>	0.046*** (3.42)	0.041*** (3.61)	0.045*** (3.46)	0.043*** (3.78)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.340	0.343	0.365	0.353
Observations	238,407	236,538	238,407	236,538

This table presents results for cross-sectional variations with respect to a country/region's regulatory environments. Panel A presents cross-sectional heterogeneity in treatment effects related to government effectiveness. Panel B presents cross-sectional heterogeneity in treatment effects related to rule of law. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest for Panel A is *Post* × *Govt Effcy*. *Govt Effcy* is the government effectiveness index in Kaufmann et al. (2009). The main variable of interest for Panel B is *Post* ×

Rule of Law. *Rule of Law* is the government effectiveness index in Kaufmann et al. (2009). *Post* equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). t-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 6. Cross-sectional Analysis: Pre-Existing Market and Technology Developments

Panel A. Financial Market Efficiency				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.009 (0.49)	0.018 (1.18)	0.016 (0.92)	0.017 (1.16)
<i>Post</i> × <i>Fin Mkt Effcy</i>	0.063*** (2.86)	0.043** (2.55)	0.054** (2.55)	0.057*** (3.03)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region-Industry	Region-Industry	Region-Industry	Region-Industry
Adjusted R ²	0.330	0.341	0.356	0.351
Observations	259,775	258,412	259,775	258,412
Panel B. Internet Use				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	-0.036* (-1.79)	-0.012 (-0.91)	-0.028 (-1.51)	-0.012 (-0.92)
<i>Post</i> × <i>Internet Use</i>	0.102*** (3.02)	0.070*** (3.42)	0.094*** (3.13)	0.078*** (3.65)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region-Industry	Region-Industry	Region-Industry	Region-Industry
Adjusted-R ²	0.330	0.342	0.357	0.352
Observations	259,775	258,412	259,775	258,412

This table presents results for cross-sectional variations with respect to a country/region's pre-existing financial market and technology development. Panel A presents cross-sectional heterogeneity in treatment effects related to the pre-existing financial markets efficiency. Panel B presents cross-sectional heterogeneity in treatment effects related to the pre-existing Internet usage. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest for Panel A is *Post* × *Fin Mkt Effcy*. *Fin Mkt Effcy* is a dummy equal to one if the financial markets efficiency index of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise. The main variable of interest for Panel B is *Post* × *Internet Use*. *Internet Use* is a dummy equal to one if the Internet usage of a firm's country/region in the year of its CEDS adoption is above the sample median, and zero otherwise. *Post* is a dummy equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). t-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 7. Mechanism Analysis

Panel A. Learning from Peers				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.029*	0.031**	0.033**	0.036**
	(1.87)	(2.28)	(2.33)	(2.57)
<i>Competition</i>	-0.019*	-0.004	-0.012	-0.007
	(-1.84)	(-0.38)	(-1.27)	(-0.72)
<i>Post × Competition</i>	0.033***	0.024**	0.027**	0.026***
	(2.84)	(2.36)	(2.46)	(2.56)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.329	0.341	0.356	0.351
Observations	259,775	258,412	259,775	258,412
Panel B. Competing for Investor Attention				
VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.025*	0.027*	0.029**	0.033**
	(1.74)	(1.91)	(2.06)	(2.19)
<i>Fin Dep</i>	-0.053***	-0.043***	-0.048***	-0.042***
	(-3.37)	(-2.98)	(-3.09)	(-2.94)
<i>Post × Fin Dep</i>	0.046**	0.038**	0.042**	0.040**
	(2.34)	(2.05)	(2.17)	(2.18)
Controls	NO	NO	YES	YES
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.330	0.342	0.357	0.351
Observations	259,775	258,412	259,775	258,412

Panel C. 2×2 Subsample Analysis

VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.182*** (2.62)	0.104*** (3.07)	0.034** (2.09)	-0.019 (-0.94)
<i>Competition</i> =	1	0	1	0
<i>Fin Dep</i> =	1	1	0	0
Controls	YES	YES	YES	YES
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry
Adjusted- R^2	0.279	0.203	0.422	0.403
Observations	35,218	40,260	89,802	84,720

This table presents results for the analyses exploring the mechanisms through which CEDS adoptions affect comparability. Panel A examines product market competition and Panel B examines financial dependence. Panel C presents results for the effects of CEDS adoptions on financial statement comparability for sub-samples with different levels of product market competition and financial dependence. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest for Panel A is $Post \times Competition$. *Competition* is a dummy equal to one if the Herfindahl–Hirschman Index (HHI) index of a firm’s industry is below the sample median, and zero otherwise. The main variable of interest for Panel B is $Post \times Fin Dev$. *Fin Dev* is a dummy equal to one if an industry’s financial dependence is above the median in a country/region-year, and zero otherwise. The main variable of interest for Panel C is *Post*, a dummy equal to one if a firm’s fiscal year is in or after the CEDS adoption year of that firm’s country/region, and zero otherwise. In Panel A and B, regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects, and regressions in Column (3) - (4) include firm fixed effects and year fixed effects. In Panel C, all regressions include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). t-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 8. Stacked Regression Results

VARIABLES	(1)	(2)
<i>Post</i>	0.022*** (4.05)	0.036*** (6.50)
<i>Age</i>		0.068*** (22.23)
<i>Size</i>		0.007*** (5.83)
<i>Leverage</i>		0.063*** (9.29)
<i>ROA</i>		-0.013 (-1.12)
<i>CFO</i>		0.248*** (14.85)
<i>Total Accruals</i>		0.234*** (14.00)
<i>Loss</i>		0.032*** (20.62)
<i>Big5</i>		0.008*** (4.48)
Group Firm FE	YES	YES
Group Year FE	YES	YES
Cluster	Group Firm	Group Firm
Adjusted- R^2	0.290	0.300
Observations	521,423	521,212

This table presents results from stacked regression approach suggested by Baker et al. (2022). The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest is *Post*, a dummy equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). *t*-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 9. Including U.S. and Canada

VARIABLES	(1)	(2)	(3)	(4)
	<i>CompAcct</i>			
<i>Post</i>	0.0214* (1.96)	0.0232** (2.38)	0.0251** (2.46)	0.0274*** (2.68)
<i>Age</i>			0.0087*** (2.81)	0.0328*** (3.28)
<i>Size</i>			0.0096*** (6.24)	0.0161** (2.55)
<i>Leverage</i>			-0.0300*** (-3.61)	-0.0291** (-2.03)
<i>ROA</i>			0.0782* (1.85)	0.0256 (0.55)
<i>CFO</i>			0.1494** (2.38)	0.1531*** (2.66)
<i>Total Accruals</i>			0.1479*** (2.67)	0.1707*** (2.95)
<i>Loss</i>			0.0262*** (5.05)	0.0296*** (4.80)
<i>Big5</i>			0.0093*** (4.01)	0.0006 (0.16)
Region-Industry FE	YES	NO	YES	NO
Firm FE	NO	YES	NO	YES
Year FE	YES	YES	YES	YES
Cluster	Region-Industry	Region-Industry	Region-Industry	Region-Industry
Adjusted- R^2	0.331	0.413	0.360	0.422
Observations	337,837	337,837	337,837	337,837

This table replicates Table 3 with an alternative sample including firms in US and Canada. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest is *Post*, a dummy equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. Regressions in Column (1) - (2) include country/region-industry (two-digit SIC) fixed effects and year fixed effects. Regressions in Column (3) - (4) include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). *t*-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.

Table 10. Robustness Tests

VARIABLES	(1)	(2)	(3)	(4)	(5)
	Baseline Model	Changed Treatment	Entropy Balanced	Placebo Dates	Placebo Dates
	<i>CompAcct</i>				
<i>Post</i>	0.046*** (3.36)	0.031*** (3.37)	0.044*** (3.70)		0.050*** (3.13)
<i>Placebo Post</i>				-0.060 (-1.15)	-0.062 (-1.18)
<i>Age</i>	0.060*** (5.03)	0.039*** (3.92)	0.058*** (4.65)	0.050*** (3.78)	0.053*** (4.21)
<i>Size</i>	0.016** (2.10)	0.004* (1.67)	0.009 (1.38)	0.015** (2.20)	0.015** (2.21)
<i>Leverage</i>	-0.035* (-1.75)	0.001 (0.08)	-0.027 (-1.12)	-0.035* (-1.80)	-0.035* (-1.83)
<i>ROA</i>	-0.078** (-2.21)	0.064* (1.93)	-0.082* (-1.81)	-0.079** (-2.22)	-0.079** (-2.21)
<i>CFO</i>	0.295*** (6.33)	0.163*** (4.09)	0.311*** (6.06)	0.294*** (6.44)	0.293*** (6.43)
<i>Total Accruals</i>	0.278*** (4.43)	0.064 (1.54)	0.329*** (6.13)	0.275*** (4.52)	0.276*** (4.52)
<i>Loss</i>	0.037*** (4.47)	0.021*** (5.98)	0.038*** (6.01)	0.038*** (4.54)	0.038*** (4.58)
<i>Big5</i>	0.009** (1.97)	0.017*** (3.29)	0.009** (2.19)	0.011** (2.22)	0.010** (2.01)
Firm FE	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES
Cluster	Region- Industry	Region- Industry	Region- Industry	Region- Industry	Region- Industry
<i>R</i> ²	0.411		0.406		
Adjusted- <i>R</i> ²	0.351	0.192	0.358	0.352	0.353
Observations	258,412	143,622	258,412	258,412	258,412

This table presents results for the robustness tests. Column (1) presents the baseline results in Column (4) of Table 3. Column (2) presents results for the changed treatment sample. Column (1) presents results for an entropy balanced sample. Column (4) and Column (5) present results using placebo adoption dates. The dependent variable is calculated as the negative value of the average absolute difference between the total accruals of a firm and its industry peers (*CompAcct*). The main variable of interest is *Post*, a dummy equal to one if a firm's fiscal year is in or after the CEDS adoption year of that firm's country/region, and zero otherwise. All regressions include firm fixed effects and year fixed effects. Standard errors are clustered by country/region-industry (two-digit SIC). t-statistics are in parentheses below parameter estimates. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A provides variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles.