The Accounting Review

Ending at the Wrong Time: The Financial Reporting Consequences of a Uniform Fiscal Year-End

--Manuscript Draft--

Manuscript Number:	TAR-2018-0461R4
Article Type:	Article
Full Title:	Ending at the Wrong Time: The Financial Reporting Consequences of a Uniform Fiscal Year-End
Short Title:	Uniform Fiscal Year-End and Financial Reporting Quality
Section/Category:	Archival Empirical
Manuscript Classifications:	Financial Accounting; Archival
Keywords:	accounting period; business cycle; financial reporting quality; uniformity.
Order of Authors:	Zhe Li
	Kangtao Ye
	Cheng Zeng
	Bo Zhang
Abstract:	There is an ongoing debate over uniformity versus flexibility in accounting regulation. This study examines the financial reporting consequences of a rigid accounting rule in China under which the fiscal year-end is uniform for all companies. Using extensive interviews together with large-sample archival analyses, we find that “mismatched” firms—those whose mandated financial reporting cycles are not aligned with their business cycles—exhibit higher levels of absolute abnormal accruals than their non-mismatched counterparts. Further analyses suggest that the negative association between mismatching and financial reporting quality is mainly driven by unintentional estimation errors rather than intentional earnings manipulation.

Ending at the Wrong Time: The Financial Reporting Consequences of a Uniform Fiscal Year-End

Zhe Li
School of Accountancy
Central University of Finance and Economics
E-mail: lizhewenbei@cufe.edu.cn

Kangtao Ye*
School of Business
Renmin University of China
E-mail: yekangtao@rmbs.ruc.edu.cn

Cheng (Colin) Zeng
School of Accounting and Finance
Hong Kong Polytechnic University
E-mail: chengzeng@polyu.edu.hk

Bo Zhang
School of Business
Renmin University of China
E-mail: zhangbo@rmbs.ruc.edu.cn

Editor's note: Accepted by Edward J. Riedl
Submitted August 2018
Accepted August 2022

* Corresponding author: Kangtao Ye, School of Business, Renmin University of China, 59 Zhongguancun Avenue, Beijing 100872, China. We thank Edward Riedl (the Editor) and two anonymous referees for their constructive comments. We are also grateful for the helpful comments from Henrik Andersson, Chris Chapman, Yangyang Chen, Agnes Cheng, Raluca Chiorean, Feng Gu, Christopher Humphrey, Laurence van Lent, Jeffrey Ng, Henrik Nilsson, Brendan O'Dwyer, Robert Scapens, Thomas Schleicher, Anna Simpson, Kenth Skogsvik, Albert Tsang, Stuart Turley, Martin Walker, Yong Zhang, workshop participants at Hong Kong Polytechnic University, University of Manchester, Renmin University of China, and Soochow University, and the participants at the 2018 European Accounting Association Congress, the 12th Annual LSE/AMBS/SSE Accounting and Capital Markets Conference, and the 14th International Symposium on Empirical Accounting Research in China. Ye acknowledges the financial support from the National Natural Science Foundation of China (Grant No. 71872176 and 71790602). Li acknowledges the financial support from the National Natural Science Foundation of China (Grant No. 71902210) and the Humanities Foundation of China's Ministry of Education (Grant No. 19YJC630092). Zhang acknowledges the financial support from the Fund for Building World-Class Universities (Disciplines) of Renmin University of China (Grant No. KYGJC2022011). The authors, of course, bear the responsibility for any errors in the study.

Ending at the Wrong Time:
The Financial Reporting Consequences of a Uniform Fiscal Year-End

ABSTRACT

There is an ongoing debate over uniformity versus flexibility in accounting regulation. This study examines the financial reporting consequences of a rigid accounting rule in China under which the fiscal year-end is uniform for all companies. Using extensive interviews together with large-sample archival analyses, we find that "mismatched" firms—those whose mandated financial reporting cycles are not aligned with their business cycles—exhibit higher levels of absolute abnormal accruals than their non-mismatched counterparts. Further analyses suggest that the negative association between mismatching and financial reporting quality is mainly driven by unintentional estimation errors rather than intentional earnings manipulation.

Keywords: accounting period; business cycle; financial reporting quality; uniformity.
JEL Classifications: M41, M48, K22.
Data Availability: Data are available from the public sources cited in the text.

I. INTRODUCTION

Accounting practices are subject to increasingly burdensome legislation making it even more difficult for accounting practitioners to "do things right". As a result, users of financial statements are concerned about—and will inevitably suffer from—red tape regulations. In a recent survey by Deloitte (2016), North American chief financial officers (CFOs) ranked burdensome regulation as the second most serious threat to their business, just behind the possibility of a recession. Despite this finding, little empirical evidence reveals the impact of rigid accounting regulations on firms' financial reporting quality. Our study investigates this issue by focusing on a regulation that mandates a uniform financial reporting period for all business entities.

A key assumption of generally accepted accounting principles (GAAP) is periodicity: the assumption that businesses should be divided into periodic intervals, at the end of which financial statements are prepared to show the firm's performance and financial position. Although companies often have the discretion to choose their own reporting period, many countries, especially developing countries, mandate fiscal year-ends. For instance, among the top 20 economies ranked by nominal GDP, which produced about 81 percent of the world's GDP in 2019, seven impose a uniform financial reporting period for business entities, including China, India, Mexico, Russia, Saudi Arabia, South Korea, and Turkey.[1] Specifically, India amended its Companies Act in 2013, requiring all companies to have a uniform fiscal year ending on March 31, while other countries require companies to end their fiscal year on December 31.

Uniformity in fiscal year-ends has advantages and disadvantages. On the one hand, proponents of a uniform fiscal year-end contend that the financial performance of firms with

[1] Under the uniform fiscal year-end system, firms in some countries, such as Saudi Arabia, South Korea, and Turkey, may adopt a special fiscal year with permission from the government.

different fiscal year-ends may not be comparable, especially when significant changes occur in the business environment during the non-overlapping period (Kamp 2002). The extant literature suggests that enhanced accounting comparability reduces costs of acquiring and processing a firm's information for market participants—such as investors, lenders, analysts, and regulators—(e.g., De Franco, Kothari, and Verdi 2011; Gong, Li, and Zhou 2013), and helps these stakeholders better assess a firm's fundamentals by comparing its accounting information to that of its peers. When a firm's information setting has greater similarity to that of its peers, managers have less room to engage in earnings manipulation, thereby improving the usefulness of reported earnings (Sohn 2016).

On the other hand, an argument against uniformity in fiscal year-ends is that a firm's financial reporting cycle should correspond to its business cycle. To avoid overlap of fiscal year-end and peak business activities, firms that experience major seasonal variations often choose a fiscal year that coincides with their natural business year. For example, when possible firms often choose to close their accounting books when business activities are at their lowest (e.g., Huberman and Kandel 1989). In contrast, a unified fiscal year-end that blends the accounting season with the peak of business activities makes it difficult for an entity to map its economic activities onto financial statements. Also, if the busy season is not over at the fiscal year-end, accountants and managers may find it challenging to estimate accrued gains and losses such as sales returns and bad debts, which would likely be unknown at the end of fiscal year. In addition, the significantly increased workload during the busy season places additional pressures on both accountants and external auditors, compounding the possibility of making errors. Moreover, managers may take advantage of the complexity of accounting treatments and estimates during a busy season to engage in earnings manipulation. These arguments suggest that a mismatch between the financial reporting period and the business cycle may unintentionally—or intentionally—impair the quality of financial statements.

For these reasons, the financial reporting consequences of a uniform fiscal year-end remain unclear. This study examines this issue by investigating the financial reporting quality of mismatched firms, whose mandated financial reporting cycles are not aligned with their seasonal business activities.

China offers an ideal setting for studying uniformity in fiscal year-ends. Chinese firms previously followed an accounting system based on the Soviet Union's method of uniform accounting, designed for a centrally planned socialist economy (Davidson, Gelardi, and Li 1996). Despite China's unprecedented progress toward a market-oriented economy (e.g., Ezzamel, Xiao, and Pan 2007; Chen, Chen, Lobo, and Wang 2011), and the substantial convergence of Chinese accounting standards with International Financial Reporting Standards (IFRS), uniformity remains central to the Chinese regulatory framework—largely because China's regulators consider accounting uniformity more important than relevance and reliability. Indeed, the latter two characteristics are regarded as primary qualities of accounting information in Western conceptual frameworks, such as the International Accounting Standards Committee (IASC, the predecessor to the International Accounting Standards Boards) (Davidson et al. 1996).[2] The mandated fiscal year from January to December for all business entities is a typical example of China's emphasis on uniformity and the focus of this study. In addition, as the second-largest economy and largest developing country in the world,[3] China provides a representative sample for other countries with a uniform fiscal year-end. Moreover, our focus on a single country alleviates the influence of confounding factors that arise from cross-country heterogeneity.

We investigate the impact of a uniform fiscal year-end on financial reporting quality using

[2] The IASC framework states, "The need for comparability should not be confused with mere uniformity . . . It is not appropriate for an enterprise to continue accounting in the same manner for a transaction or other events if the policy adopted is not in keeping with the qualitative characteristics of relevance and reliability" (IASC Framework, paragraph 41).

[3] China has overtaken Japan as the world's second largest economy since 2010. See: https://www.bbc.com/news/business-12427321

a combination of qualitative and quantitative techniques. As illustrated by Ittner (2014), this approach enables greater insight into statistical results and to strengthen causal inferences. To develop the study's research hypothesis, we first conduct extensive interviews with a wide range of stakeholders, including accountants, auditors, shareholders, lenders, managers, government officials, academics, and security analysts. These interviews reveal mixed opinions, with some participants applauding the homogeneous fiscal year-end and others appealing for more flexibility for firms to choose their fiscal years based on the seasonal pattern of their business activities. In particular, some participants argue that misalignment between fiscal years and business cycles increases the complexity of accounting treatments and creates managerial discretion in identifying revenues, costs, and expenses, thereby reducing the quality of financial statements.

We then carry out a large-sample empirical analysis to complement the qualitative findings from the interviews. We use two approaches to identify "mismatched" firms. First, given that firms tend to avoid the overlap of fiscal year-end and the peak of business activities (Du and Zhang 2013), we identify "mismatched" firms as those mandated to end their fiscal years during their busy season. Specifically, mismatched firms are defined as those, whose cash revenues from the fourth quarter of year t and the first quarter of year t+1 are both larger than those from the second and third quarters of year t. As such, the mismatched firms end their fiscal year during their busy season, resulting in misalignment between the fiscal year and the business cycle. Second, taking advantage of the flexible choice of fiscal year-end in Hong Kong, we construct an alternative measure of mismatch based on the percentage of Hong Kong–listed firms in the same industry not choosing December as their fiscal year-end. A higher percentage indicates a greater likelihood that firms in this industry are subject to mismatch due to the mandatory December fiscal-year end.

Using a sample of 11,887 firm-year observations during the period 2005–2017, we find

robust evidence of a higher level of absolute abnormal accruals among mismatched firms, consistent with a uniform fiscal year-end regulation having a negative effect on the financial reporting quality of mismatched firms. The effect of mismatching on financial reporting quality is also economically meaningful. On average, mismatching leads to an increase in the absolute value of abnormal accruals by about 0.3 percent of total assets, approximately 10 percent of the sample median. Our findings are robust to a battery of sensitivity analyses.

To alleviate the concern that our results are driven by differences in the accruals-generating process between the mismatched and non-mismatched firms, we estimate abnormal accruals using a firm-by-firm approach. Further, we employ several alternative measures of accounting quality. Specifically, we find that mismatched firms are associated with lower analyst forecast accuracy and higher forecast dispersion. We also find that, compared to their non-mismatched peers, mismatched firms have longer delays in external auditors' issuance of audit reports and are charged higher audit fees. These results are consistent with mismatched firms having lower financial reporting quality relative to non-mismatched firms.

A related question is whether the observed effect of mismatch on financial reporting quality is primarily due to intentional earnings manipulation or unintentional estimation errors. To explore this question, we conduct further analyses. First, we find that mismatched firms do not exhibit a higher level of signed abnormal accruals. The results are mostly consistent with the unintentional error interpretation, as unintentional errors result in both income-increasing and income-decreasing abnormal accruals, and the two types of errors may offset each other (Ashbaugh-Skaife, Collins, Kinney, and LaFond 2008). Second, we perform several cross-sectional tests based on earnings manipulation incentives and the likelihood of unintentional errors being made. We find no evidence that managers tend to take advantage of the coincidence between firms' fiscal year-ends and their business peaks to manipulate reported earnings. However, having a larger number of accounting staff and less complex business

operations in a firm appears to alleviate the adverse impact of mismatch on financial reporting quality. Third, we find that mismatch is more likely to be associated with error-related restatements than with irregularity-related restatements. These findings present consistent evidence that the adverse effect of mismatch on earnings quality primarily reflects unintentional estimation errors rather than intentional earnings manipulation.[4]

Our study contributes to the literature in the following ways. First, while some studies examine the determinants of the choice of fiscal year-end (e.g., Smith and Pourciau 1988; Huberman and Kandel 1989; Lu, Saune, and Shan 2013), little scholarship seeks to understand the consequences of adopting a uniform fiscal year-end. To the best of our knowledge, our study is the first to examine the financial reporting consequences of a rigid accounting system that limits firms' choice over their financial reporting cycle. Second, our results contribute to a longstanding debate on uniformity versus flexibility in accounting regulations (e.g., Schipper 2003; Agoglia, Doupnik, and Tsakumis 2011; Chen, Lewis, Schipper, and Zhang 2017). Although a uniform regulation over fiscal year-end may produce a beneficial social effect by facilitating financial reporting comparability across firms, our study provides evidence of the "dark side" of uniform regulation by revealing the lower financial reporting quality of mismatched firms.

II. INSTITUTIONAL BACKGROUND AND LITERATURE REVIEW

Institutional Background

In many countries, firms are allowed to choose their fiscal year, leading to a diversity of fiscal year-ends. For example, while the majority of listed companies in the United States choose to end their fiscal year on December 31 (Gunny and Hermis 2020), many large companies, such as Apple, Microsoft, and Adobe, select non-December fiscal year-ends. The

[4] We appreciate the editor's and two anonymous reviewers' suggestions of these tests.

argument for heterogeneous fiscal year-ends is that the financial reporting year should coincide with the natural business cycle of the firm. However, the choice of fiscal year-end can be affected by accounting legislation, and many firms choose fiscal year-ends that comply with regulatory needs (Foster 1986). For instance, from 1989 to 2010, 81 percent of Australian firms closed their books on June 30 to align with the national tax period (Lu et al. 2013). In addition, when the government is a major customer, firms are inclined to align their financial reporting with the tax period (Sinha and Fried 2008). While some companies may change their fiscal year-ends according to changes in corporate control, in accounting regulations, or due to cost constraints (Sinha and Fried 2008; Lu et al. 2013), the frequency of changes in fiscal years is quite low (Kamp 2002).

In the past few decades in China, enormous efforts have been made to shift the national accounting system to better suit the needs of the "socialist market economy." In 1992, the Chinese Ministry of Finance (MOF) released the "Accounting Standards for Business Enterprises" to guide the production of accounting information. Nevertheless, the Soviet-style accounting system that China had adopted in the 1950s still had a profound impact on accounting practices. For example, the government continued to play a dominant role in the macroeconomic management of the economy and the allocation of resources such as capital and land. Because the government was the most important user of accounting information, the key objective of financial information was to serve the needs of the macroeconomic administration. Consequently, to facilitate regulatory oversight, the Chinese government ranked uniformity over relevance and reliability, unlike in Western countries (Davidson et al. 1996).

To further accommodate economic growth, accounting regulations and practices in China have undergone significant changes—from primarily serving macroeconomic planning to increasingly supplying outside shareholders and creditors with useful information. On

February 15, 2006, the MOF officially announced new Chinese accounting standards, which would cover almost all aspects of IFRS. The International Accounting Standards Board (IASB) recognized that these new standards had achieved "substantial convergence" with the IFRS (IASB 2006). This convergence is significant for the financial reporting practices of Chinese firms because it is a shift toward a principles-based accounting regime, and away from the previous, highly prescriptive rules-based one (Institute of Chartered Accountants of Scotland [ICAS] 2010).

Notwithstanding these changes, the Chinese government insisted on synchronizing the fiscal year-ends of all business entities. Traditionally, due to the presence of integrated collectivism in China's political-economic system, Chinese companies have used the calendar year to prepare their annual reports.[5] This practice is codified and officially recognized by the Chinese government. Article 11 of China's Accounting Law requires that fiscal years "start on January 1 and end on December 31".[6] Changing the fiscal year-end is not allowed. However, given growing opposition to the uniform fiscal year-end, many members of China's National People's Congress (NPC) and the Chinese People's Political Consultative Conference (CPPCC) have, in recent years, advocated for a more flexible fiscal year-end. For example, in her proposal submitted to the CPPCC, Ping Zhang, the chairman of the board of Gansu Maoyuan Certified Public Accountants, expressed her concern about auditors' "death by overwork at year's end" due to the rigid fiscal year-end system. On June 6, 2018, China's MOF issued Circular No.18 [2018] to solicit public opinion about revising the Accounting Law of China. One of the agenda topics is whether the unified January-December financial year rule should be abandoned and replaced with a flexible financial year system.[7]

[5] China has a strict hierarchical government system in which information is reported level by level, from the lower to the upper echelons of the system (Fan, Rui, and Zhao 2008).
[6] On October 31, 1999, the 12th meeting of the ninth National People's Congress voted to pass a newly revised Accounting Law, which was formally implemented on January 1, 2000.
[7] See http://kjs.mof.gov.cn/zhengwuxinxi/gongzuotongzhi/201806/t20180607_2921669.html (in Chinese).

Prior Literature

The accounting research regarding firms' fiscal year-ends is surprisingly limited, with extant work largely focusing on determinants of the choice and change of fiscal year-end. Smith and Pourciau (1988) and Huberman and Kandel (1989) find that firms with a December year-end are larger in size and have smaller betas than firms with non-December year-ends. This difference is due to the fact that large firms usually have more subsidiaries and more complex organizational structures—and thus stronger incentives than small firms—to synchronize all of their units by adopting a uniform fiscal year. In addition, Kamp (2002) investigates the determinants and dynamics of fiscal year-end choices in 13 countries and documents that country of origin has a greater influence on a firm's choice of fiscal year-end than its underlying business seasonality. Sinha and Fried (2008) suggest that firms tend to control the information environment in the context of industry competition through their choice of fiscal year-end. Based on their analytical model, Sinha and Fried (2008) indicate that strategic concerns such as intra-industry information spillover and proprietary disclosure costs may cause a firm's fiscal year to deviate from the natural business cycle.

Other studies investigate the economic consequences of firms' fiscal year-end choices. Rozeff and Kinney (1976) present evidence of seasonality in the market return, with January having a peak return. One explanation is that January is the period in which preliminary announcements of the previous fiscal year's accounting earnings are made. Apart from its influence on stock returns, the fiscal year-end can affect the real business activities of firms. Oyer (1998) argues that, due to a nonlinear relationship between firm revenues and managerial compensation, managers have incentives to manipulate product prices, influence the timing of customer purchases, and vary efforts over their firms' fiscal years.

The question of how financial reporting quality is affected by firms' choice of reporting period is much less examined. Johnston, Leone, Ramnath, and Yang (2012) suggest that, due

to limited attention and insufficient incentives, security analysts tend to ignore the extra week in 14-week quarters and systematically underestimate both revenues and earnings. Du and Zhang (2013) find that firms manipulate earnings downward during the missing months that are induced by fiscal year changes and not covered by regular quarters. Our study differs from these studies in that we directly investigate the impact of a uniform fiscal year-end on the financial reporting practices of firms. This study complements the literature on firms' voluntary choice of fiscal year-end.

III. INTERVIEW STUDY

Interview Design

To gain insights about China's fiscal year-end system and to motivate our hypothesis for the large-sample empirical analyses, we conducted one-on-one interviews with 44 individuals, including both preparers and users of financial statements. Specifically, the preparers included accountants (13) and managers (3), while the users comprised government officials from finance, taxation, and securities regulatory departments (8), external auditors (7), sell-side financial analysts (2), investors (4), lenders (2), and accounting professors (5). Our personal contacts arranged the interviews to guarantee the reliability and validity of the responses. Our interviewees were well distributed across industries (e.g., manufacturing, agriculture, and services) and regions (11 provinces and direct-controlled municipalities in China). The interviews took place during 2015–2017 via telephone or face-to-face meetings. The interviewees were asked several open-ended questions related to the fiscal year-end and encouraged to contribute as much detailed information as possible. Panel A of Appendix 1 presents the list of interviewees by occupation, and Panel B provides the list of interview questions.

Interview Results

Q1: If you could choose, which quarter would you prefer as the fiscal year-end?

This question was only posed to the preparers of financial statements (i.e., accountants and managers). Panel C1 of Appendix 1 reveals that 75 percent of the respondents would choose a non-December fiscal year-end. For example, one accountant from the real estate industry stated that the sales of real estate firms followed a seasonal pattern. Commercial housing turnover was high in September and October, followed by delivery of properties in the subsequent few months, especially in December. To avoid the peak season of sales, the accountant preferred a non-December fiscal year-end.

Nevertheless, four respondents (25 percent) said they would choose the December fiscal year-end. For instance, one accountant from the financial industry noted that their businesses were largely concentrated in May, June, and July. However, he felt much more relaxed in December and could close the accounting books more easily then. These responses suggest that accountants would choose to avoid the peak of the business cycle if they could choose the fiscal year-end.

Q2: What factors would you consider when choosing a fiscal year-end?

We asked accountants and managers this question. Panel C2 provides key responses. Consistent with the first question, 14 of 16 respondents (88 percent) indicated that the business cycle was the most important factor in choosing a fiscal year-end. Other factors include: ownership (31 percent), customers and suppliers (25 percent), festivals and holidays (19 percent), and business complexity (19 percent).

Q3: What are the costs and benefits of a uniform fiscal year-end?

We asked this question of all interviewees. Panel C3 summarizes the main responses. Interviewees from audit firms expressed the greatest interest in a more flexible fiscal year-end system. Five out of seven strongly opposed a uniform fiscal year-end for two primary reasons. First, clustering a December fiscal year-end leads auditors to be overstretched. Second, closing the books in December may produce a failure to uncover material errors in the financial

statements and result in low-quality audits. For example, one auditor highlighted the overwork during the period from December 31 through April 30 next year as well as the limitations of time and energy. Collectively, this auditor suggested this can lead to increased subjectivity in applied audit procedures.

Another potential cost of the uniform fiscal year-end is that it may impair the timeliness and usefulness of accounting information. For instance, one investor, who attended general meetings of shareholders, complained that he could not receive the relevant papers on time before the meetings simply because the staff accountants were tied up with closing the books during the busy season. Consequently, he found it difficult to understand the annual report information promptly.

While the appeal of diversity in fiscal year-ends is growing, some interviewees have argued that this arrangement would not be costless. For instance, the free-choice mode may go against strengthening macro-level management. One official stressed that if firms could choose their own fiscal year-ends, regulators would find it difficult to provide macro-level economic statistics. Also, such diversity might reduce the comparability of the reported accounting information across firms. One academic explained that as the financial reports of all companies covered the same fiscal year period, their accounting information was largely comparable.

Q4: Does the choice of fiscal year-end matter for the quality of reported earnings?

We posed this question to all interviewees. As seen in Panel C4, 18 participants either explicitly or implicitly answered the question. Among the respondents, 15 (83 percent) maintained that closing the books during the busy season affected the quality of reported earnings. Some interviewees explained that closing the books during peak season might impair the informativeness of financial statements and provide managers room to manipulate accounting earnings. As one accountant pointed out, mandatory use of the calendar year as the accounting period—without considering the business cycle of an enterprise—can potentially

impair the accounting information's ability to effectively reflect the operational activities of the enterprise, and thus possibly mislead information users. However, three respondents suggested that the choice of fiscal year-end might not impact earnings quality. Indeed, one official noted that, although closing books in the peak season might increase the likelihood of accounting errors, most accountants, as experienced professionals, should be able to prevent the occurrence of such errors.

Summary of Interview Results

The interview results suggest that the majority of the interviewed financial statement preparers would choose not to close their books in December, thereby avoiding the peak of the business cycle. However, in firms with closer relationships to the government and those with more complex business operations, managers and accountants would opt for the December fiscal year-end to maintain alignment with the government and strengthen centralized management.

With regard to the costs and benefits of a uniform fiscal year-end, the different types of interviewees present various views. Specifically, capital market participants such as auditors, analysts, and investors tend to believe that the costs outweigh the benefits. In contrast, the interviewees, who worked in the government or at universities, put more emphasis on the positive impact of a unified fiscal year system on macroeconomic management and accounting comparability.

Lastly, a majority of interviewees expressed that closing the books during the peak season might impair earnings quality either directly—by reducing the reliability and timeliness of reported earnings—or indirectly—through weakened monitoring from external auditors due to time pressure and work burnout. However, some interviewees argued that most accountants, as experienced professionals, would be able to alleviate the negative effect of a uniform fiscal year-end on earnings quality. Given these mixed views, the relationship between a uniform

fiscal year-end and reporting quality remains an open question.

IV. HYPOTHESIS DEVELOPMENT

Based on the aforementioned institutional background and interview results, we formulate a testable hypothesis regarding the impact of the mismatch between the financial reporting period and the business cycle on financial reporting quality.

We expect that the mismatch between the financial reporting period and the business cycle may impair financial reporting quality through unintentional or intentional actions. On the one hand, a fiscal year-end that is misaligned with the business cycle may lead to *unintentional* misstatements. First, accountants in the mismatched firms may be pressured and overworked due to the relatively high level of transactions carried out during the peak period, inevitably increasing the possibility of errors being made. Sweeney and Summers (2002) suggest that the escalated workload in busy seasons is a major contributor to accountant burnout. Second, scheduling the fiscal year-end in a business's peak season makes it difficult for an entity to identify which revenues, costs, and expenses go into which accounting period, adding noise to the recognition of gains and losses (Lev 1989; Lev and Thiagarajan 1993). Third, if the busy season is not over by the fiscal year-end, accountants and managers have to rely heavily on estimates of accrued gains and losses such as sales returns and bad debts, as most of the sales returns and bad debts arising from their peak season would likely be unknown at that point. As a result, estimation errors in accruals may increase, leading to lower accruals quality (Palepu, Healy, and Bernard 2000; Dechow and Dichev 2002). Fourth, the significantly increased workload during the busy season is a critical stressor for external auditors. These factors substantially increase the costs for the auditing firms and reduce their effectiveness in monitoring the earnings quality of their clients.

On the other hand, when a firm's fiscal year-end coincides with the peak season of its

business cycle, managers might engage in *intentional* earnings management by taking advantage of the complexity of accounting treatments and estimates that occur at this time. As one of our interviewees suggested, closing the books during peak season gives managers the flexibility to window-dress their reported earnings by altering the timing of contracts made with their clients and suppliers. Taken together, we posit the following hypothesis:

***Hypothesis*:** Earnings quality is negatively related to the mismatch between firms' financial reporting cycles and business cycles.

Despite the above arguments, the mismatch between the financial reporting period and the business cycle may not adversely impact earnings quality for the following reasons. The fraud triangle theory posits that managers' decisions to misreport will depend on their incentives, opportunities, and rationalization. For misreporting to occur, all three elements must be present.[8] To the extent that unintentional errors result in market participants placing a lower weight on accounting information for valuation and contracting, they may also depress managers' incentives to engage in opportunistic earnings management (Dye and Sridhar 2004; Fang, Huang, and Wang 2017).[9] Following this line of reasoning, while the increased accounting complexity among the mismatched firms provides managers the opportunity to manipulate earnings, the increased unintentional errors may also depress managers' intentional earnings management incentives. As a consequence, the earnings quality of mismatched firms remains uncertain.

[8] The fraud triangle theory, developed by Cressey (1973), provides a theoretical framework for understanding why a fraud occurs. As prior research indicates (e.g., Boyle, DeZoort, and Hermanson 2015; Albrecht, Mauldin, and Newton 2018), we expect the elements of the fraud triangle to apply to various types of financial reporting misconduct.

[9] Dye and Sridhar (2004) refer to unintentional errors as "relevance," and intentional manipulation as "reliability." Their theoretical framework suggests that a trade-off exists between the two. That is, when investors place lower weight on a firm's disclosure (i.e., lower relevance), managers tend to have less incentive to manipulate earnings (i.e., higher reliability). We thank an anonymous reviewer for bringing this to our attention.

V. SAMPLE, DATA, AND VARIABLES

Measurement of Mismatch

We identify mismatched firms as those with an overlap of fiscal year-end and peak season of business activities. Thus, our independent variable of interest, *MisMatch*, is an indicator variable that equals one if the cash revenues from the fourth quarter of year t ($CR_{q4,t}$) and the first quarter of year t+1 ($CR_{q1,t+1}$) are each larger than those from the second and third quarters of year t ($CR_{q2,t}$ and $CR_{q3,t}$), and zero otherwise. Specifically, *MisMatch* firms are those for which $CR_{q4,t}>CR_{q2,t}$ and $CR_{q4,t}>CR_{q3,t}$, and $CR_{q1,t+1}>CR_{q2,t}$ and $CR_{q1,t+1}>CR_{q3,t}$.[10]

In addition, taking advantage of the flexible choice of fiscal year-ends in Hong Kong, we construct an alternative industry-specific measure of mismatch based on the firms listed on the Hong Kong Stock Exchange.[11] Specifically, *Ind_Non-Dec* is the percentage of Hong Kong–listed firms in the same industry not choosing December 31 as their fiscal year-end.[12] A higher value of *Ind_Non-Dec* indicates a greater likelihood that Chinese firms in this industry are subject to mismatch due to mandatory fiscal-year ending in December.[13]

Measurement of Earnings Quality

[10] To validate our measurement from the perspective of practitioners, we employ an online survey through wjx.cn. A total of 536 managers (including top- and middle-level managers) answered the questions. We exclude respondents from the financial industry and those with unidentified industry information, leaving us with a valid sample of 291 respondents. The key question is: which month(s) is (are) the busiest time of year for your company's business? The survey results reveal that the two industries with the highest percentage of respondents that consider both the first quarter and the fourth quarter peak seasons are agriculture (66.67%) and wholesale and retail (66.67%) industries. This pattern is similar to the results based on *MisMatch*. The correlation coefficient between the two ratios (i.e., *MisMatch* and the survey-based measure of mismatch) is 0.549 (p-value = 0.015). The untabulated survey results are available upon request.

[11] We thank an anonymous reviewer for this suggestion.

[12] We match Chinese firms to Hong Kong firms based on the GICS (Global Industry Classification Standard) code because the GICS codes are available for both Chinese firms and Hong Kong firms. It is worth noting that the GICS classification may disagree with the CSRC (China Securities Regulatory Commission) industry classification used for Chinese listed firms. Specifically, the CSRC classification (analogous to the SIC code used for U.S.-listed firms) is constructed based on a firm's operational characteristics, while the GICS classification is based not only on a firm's business operation, but also on information about investors' perceptions of the firm's main line of business (Chan, Lakonishok, and Swaminathan 2007). While the disagreement between the two industry classification schemes may introduce noise into the industry-specific measure, the noise should bias against finding significant results.

[13] We match Chinese firms to Hong Kong firms based on the four-digit GICS code. We also match the two groups based on the six-digit code and obtain qualitatively similar results.

As discussed in the hypothesis development section, mismatch may result in greater estimation errors for accounting accruals. Managers in mismatched firms may also leverage discretion to alter reported earnings by shifting accruals across periods (Zang 2012). Therefore, we use abnormal accruals as our key proxy for earnings quality. Specifically, we estimate abnormal accruals using two different models. First, we employ the performance-adjusted discretionary accruals model (Kothari, Leone, and Wasley 2005) as follows:

$$TCA_{i,t} = \alpha_0 + \alpha_1\left(\Delta REV_{i,t} - \Delta REC_{i,t}\right) + \alpha_2 PPE_{i,t} + \alpha_3 NI_{i,t} + \varepsilon_{i,t} \quad (1),$$

where *TCA* is total current accruals measured as the change in non-cash current assets less the change in (current liabilities – short-term borrowings); Δ*REV* is the change in sales revenues; Δ*REC* is the change in receivables; *PPE* is gross property, plant, and equipment; and *NI* is net income. All terms in Model (1) are scaled by average total assets. We then calculate the normal accruals using the estimates α_0, α_1, α_2, and α_3 from Model (1). The differences between total accruals and normal accruals are abnormal accruals (*DA_KLW*).[14]

Second, we calculate abnormal accruals following the modified Dechow and Dichev (2002) model proposed by Francis, LaFond, Olsson, and Schipper (2005) (the modified DD model for abbreviation) as follows:

$$TCA_{j,t} = \beta_0 + \beta_1 CF_{j,t-1} + \beta_2 CF_{j,t} + \beta_3 CF_{j,t+1} + \beta_4 \Delta REV_{j,t} + \beta_5 PPE_{j,t} + \varepsilon_{j,t} \quad (2),$$

where *TCA* is total current accruals; *CF* is operating cash flows; Δ*REV* is the change in revenue; and *PPE* is property, plant, and equipment. All terms in Model (2) are scaled by average total assets. The residual from Model (2) is, by definition, the difference between the amount accrued and the amount realized (*DA_DD*).

We estimate the above accruals models firm by firm using an eight-year rolling window.[15]

[14] Our results are robust to estimating abnormal accruals from Dechow, Sloan, and Sweeney's (1995) modification of Jones's (1991) model.

[15] As estimating the Dechow and Dichev's (2002) model requires lagged cash flow information and Chinese-listed

Applying a firm-by-firm estimation mitigates the concern that the differences in abnormal accruals are driven by differences in accruals-generating processes across firms.[16] Following prior research (e.g., Leuz, Nanda, and Wysocki 2003; Hribar and Nichols 2007), we use the absolute value of abnormal accruals to proxy for earnings quality, with higher values indicating poorer quality earnings.

Sample and Data

The data used in this study are obtained from multiple databases, including the China Stock Market and Accounting Research (CSMAR) database, the RESSET Financial Research Database (RESSET), the Wind Financial Database (WIND), the China Center for Economic Research (CCER) database, Chinese Research Data Services (CNRDS) database, and the Compustat Global database. Appendix 2 provides the data sources used to construct each variable in our analyses. We begin our sample selection with all Chinese firms listed on the Shanghai and Shenzhen Stock Exchanges from 2005 to 2017. After obtaining all firm-year observations, we eliminate financial firms and observations with insufficient data to calculate the required variables. This procedure leaves us with a sample of 11,887 firm-year observations (1,377 unique firms) for the main regressions. In the additional analyses, we use all available observations for each of the tests, leading to variation in sample size across tests (e.g., Bradshaw, Brown, and Huang 2013; Bova, Kolev, Thomas, and Zhang 2015; Aobdia 2018).

Table 1 presents the sample distribution. Panel A reports the sample distribution by year and shows that the highest percentage of mismatched firms appears in the year 2007 (13.89 percent) and the lowest (7.82 percent) in 2008.[17] Panel B reports the sample distribution across

firms did not disclose cash flow information until 1998, we estimate the DD model for observations in 2005 using a seven-year window. As a sensitivity test, following Kang, Liu, and Qi (2010), we estimate abnormal accruals by firm over the entire sample period and obtain even stronger results.

[16] We thank an anonymous reviewer for the helpful comment about this subject.

[17] The variation in the distribution of mismatched firms across years might be due to economic fluctuations, as a year-end economic boom (recession) would boost (reduce) firms' year-end revenues and thereby increase (decrease) the likelihood of mismatch. Consistent with this conjecture, we find that *MisMatch* is significantly associated with year-end GDP boom (correlation = 0.019, $p<0.05$).

industries. The machinery industry accounts for the largest proportion of the total sample. The construction industry has the highest ratio of mismatch (28.14 percent), followed by the wholesale and retail industry (24.69 percent), and the agriculture industry (18.57 percent), whose sales are heavily affected by seasonal patterns.[18]

[Insert Table 1 here]

Table 2 reports the descriptive statistics of the variables used in the main regressions. The mean of *MisMatch* is 0.111, which suggests that 11.1 percent of our sample firms have a fiscal year-end during their peak season of operation. The industry-based measure of mismatch, *Ind_Non-Dec*, has a mean of 0.266, suggesting that approximately 26.6 percent of Hong Kong–listed firms do not choose December as their fiscal year-ends. The mean of the absolute value of abnormal accruals as a percentage of total assets, the dependent variable of primary interest, is about 0.044 and 0.045 for *AB_DD* and *AB_KLW*, respectively.

[Insert Table 2 here]

Table 3 presents the Pearson and Spearman correlation matrices. The two key mismatch measures, i.e., *MisMatch* and *Ind_Non-Dec*, are significantly correlated with each other (correlation = 0.045 or 0.036, $p < 0.01$). Moreover, both *MisMatch* and *Ind_Non-Dec* are significantly and positively correlated with the two abnormal accrual variables (*AB_DD* and *AB_KLW*), providing initial evidence consistent with mismatched firms exhibiting a lower level of financial reporting quality. The correlations between the key independent variables and the control variables are less than 0.1, mitigating multicollinearity concerns.

[Insert Table 3 here]

[18] For the construction industry, December and January are usually the peak months of recognizing revenues and operating income because construction workers typically ask to settle their wages by the end of January and go home to celebrate Chinese lunar new year (usually at the beginning of February). The wholesale and retail and agriculture industries have peak sales in the first and fourth quarters because of surging demand around the calendar new year and Chinese lunar new year.

VI. EMPIRICAL RESULTS

The Impact of Mismatch on Accruals Quality

We examine the influence of mismatch on accruals quality by estimating the following model:

$$AQ_{i,t} = \alpha + \beta_1 MISVAR_{i,t} + \sum Control\ Variables_{i,t} + \varepsilon_{i,t} \qquad (3),$$

where *AQ* denotes our proxies for abnormal accruals (*AB_DD* and *AB_KLW*). *MISVAR* is the independent variable of interest, measured as either *MisMatch* or *Ind_Non-Dec*. The control variables are selected based on the literature (e.g., Hazarika, Karpoff, and Nahata 2012; Massa, Zhang, and Zhang 2015), including *SIZE* (natural logarithm of total assets), *LEV* (total liabilities divided by total assets), *ROA* (income before extraordinary items scaled by total assets), *VOL* (standard deviation of monthly stock returns in a year), *RET* (annual stock return considering cash dividends), *Turnover* (the mean monthly stock turnover in a year), *Instown* (percentage of shares held by institutional investors), *Dual* (an indicator variable that equals one if the CEO chairs the board, and zero otherwise), *Indir* (percentage of independent directors), *SOE* (an indicator variable that equals one if the firm is state-owned, and zero otherwise), *Big4* (an indicator variable that equals one if the firm is an international Big-4 client, and zero otherwise), and *Rev_Q4* (the fourth-quarter revenues scaled by total assets).[19] Appendix 2 presents the definitions of all the variables.

Table 4 presents the results. In Column (1), where the dependent variable is *AB_DD*, the coefficient on *MisMatch* is 0.003 (*t-stat* = 2.11); in Column (2), the coefficient on *Ind_Non-Dec* is 0.005 (*t-stat* = 1.86). Both are consistent with a positive association between the two mismatch proxies and absolute abnormal accruals. In Columns (3) and (4), where *AB_KLW* is

[19] One potential concern is that high fourth-quarter revenues could result in high fourth-quarter accruals. To the extent that annual accruals may mostly reflect the fourth-quarter accruals, the observed relation between mismatch (which is a revenue-based measure) and abnormal accruals could be mechanical. As such, we include the fourth-quarter revenues as an additional control variable to address this concern. We appreciate an anonymous reviewer for pointing out this issue.

employed, our main inference remains qualitatively unaffected. The mismatch effect is not only statistically significant but also economically meaningful. Taking Column (1), *MisMatch* leads to an increase in the absolute value of abnormal accruals by about 0.3 percent of the total assets, representing approximately 10 percent of the sample median. Overall, the results provide evidence that abnormal accruals are higher for firms with a misalignment of fiscal year-end and business cycle.

The signs of the coefficients on the control variables are generally consistent with our expectations. For instance, the coefficients on *SIZE* are significantly negative, which suggests that large firms have lower abnormal accruals than small ones (e.g., Chen et al. 2011). The coefficients on *LEV* are significantly positive, which suggests that highly levered firms tend to manipulate earnings more than others. We also find that firms audited by international Big-4 auditors have lower abnormal accruals. The coefficients on *VOL* are significantly positive in Columns (1) and (2) but insignificant in Columns (3) and (4), providing modest evidence that risky firms exhibit poor earnings quality. Moreover, consistent with Wang and Yung (2011) and Chen et al. (2011), we find that state-owned firms manage earnings less than non-state-owned firms, where the latter face greater incentive to manipulate earnings to attract outside investors. The literature indicates mixed results on the impact of institutional investors on earnings quality. On the one hand, some studies suggest that institutional investors are sophisticated, with advantages in acquiring and processing information, leading to a lower level of earnings management (e.g., Cheng, Lee, and Shevlin 2016). On the other hand, several studies suggest that institutional investors may pressure managers to achieve short-term profit goals, incentivizing the latter to engage in earnings management (e.g., Bushee 2001; Chung, Firth, and Kim 2002). Consistent with the latter view, we find that institutional ownership is positively associated with accruals management in Columns (1) and (2). Lastly, the coefficients on *Rev_Q4* are significantly negative, suggesting that higher fourth-quarter revenues do not

necessarily lead to larger absolute abnormal accruals,[20] which helps rule out the possibility that our results are a manifestation of a mechanically positive relation between mismatch and abnormal accruals.

[Insert Table 4 here]

Robustness Checks

We conduct the following three robustness tests. First, the characteristics of mismatched firms may differ systematically from those of non-mismatched firms. To alleviate this concern, we create a sample of non-mismatched firms using entropy balancing (Hainmueller 2012). Entropy balancing uses a maximum entropy reweighting scheme to identify weights for the control firms to equalize the distribution of determinants across treatment and control firms.[21] Table 5 reports the results. Panel A shows that the mean and variance of firm characteristics are comparable between the two groups after relative to before entropy balancing. Panel B reports the regression results using the entropy balancing approach, which are largely consistent with those from the baseline regressions.

[Insert Table 5 here]

Second, we correspond a mismatched Chinese firm with a similarly sized Hong Kong firm that belongs to the same industry but has a non-December fiscal year-end. Untabulated results show that Chinese mismatched firms have significantly larger absolute abnormal accruals relative to their Hong Kong counterparts, corroborating our main findings.

Third, to check whether our results are driven by specific industries with a high percentage of mismatched firms, we remove the three industries with the highest percentages of mismatched firms (i.e., construction, wholesale and retail, and agriculture). Untabulated results remain unchanged.

[20] Higher fourth-quarter revenues may lead to larger positive accruals and smaller negative accruals. As such, higher fourth-quarter revenues may not necessarily lead to larger absolute abnormal accruals.
[21] A major advantage of entropy balancing is that no observations are lost, unlike other matching methods such as propensity score matching (PSM). Our results remain qualitatively similar using PSM.

Further Analysis: Alternative Measures of Accounting Quality

The primary analyses use abnormal accruals as the proxy for accounting quality. We now consider two alternative measures of accounting quality to corroborate our main findings: analyst forecast properties and auditor effort.

We first investigate the impact of mismatch on the quality of financial reporting from the perspective of financial analysts, the primary external users of accounting information. Following prior studies (e.g., Chan and Hameed 2006; Chen, Ding, and Kim 2010), we focus on two properties of analyst forecasts: *Forecast Accuracy*, measured as the negative of the mean absolute value of the analyst forecast error; and *Forecast Divergence*, measured as the relative variation in the analyst forecast errors. The control variables reflect prior research (e.g., Keung 2010; Dhaliwal, Radhakrishnan, Tsang, and Yang 2012; Litov, Moreton, and Zenger 2012). The results, reported in Table 6 Columns (1)-(4), suggest that mismatch significantly decreases forecast accuracy and increases forecast dispersion. This finding is consistent with the misalignment of financial reporting and business cycles increasing the complexity of analyst forecasting.

Next, we examine the financial reporting consequences of mismatched firms from the perspective of auditors. We conjecture that fiscal year ends coinciding with a firm's busy season lead to more complex accounting treatments and greater managerial discretion, which can adversely affect audit engagement and timeliness. As such, we expect to find incrementally larger audit delay for mismatched firms. To test this conjecture, we define a measure of audit delay (*Audit Delay*), which is the decile rank of *Audelay_days* (the number of days between a firm's fiscal year-end and the date of the audit report). We regress *Audit Delay* on mismatch and the control variables, which are selected based on prior studies (e.g., Fung, Gul, and Krishnan 2012; Badertscher, Jorgensen, Katz, and Kinney 2014; Donohoe and Knechel 2014).

Table 6 Columns (5)-(6) show that the misalignment of fiscal year and business cycle significantly increases audit report lag, consistent with the prediction that mismatch leads to greater audit complexity.

Additionally, we conjecture that the greater audit complexity among mismatched firms will drive higher audit fees. In particular, auditors are expected to expend more effort in auditing mismatched firms. Meanwhile, auditors are also likely to perceive mismatched firms as having higher audit risk due to either unintentional errors or intentional manipulation risk. As such, auditors may charge higher fees to compensate for the increased effort and risk. To empirically examine this prediction, we regress audit fees on mismatch as well as on the control variables. Columns (7) and (8) present the regression results, showing that the mismatch of fiscal year and business cycle leads to a significant increase in audit fees. Overall, the results in Table 6 Columns (5)-(8) provide consistent evidence that a fiscal year-end that coincides with the busy season increases audit complexity and risk, and therefore imposes an additional demand for auditor effort as well as an audit risk premium.[22]

[Insert Table 6 here]

VII. ADDITIONAL ANALYSES: UNINTENTIONAL ESTIMATION ERRORS VERSUS INTENTIONAL MANIPULATION

The results of the main analyses suggest that mismatch impairs financial reporting quality. A related question is whether the observed negative impact on financial reporting quality is primarily due to intentional earnings manipulation or to unintentional estimation errors. To test this question, we conduct the following three analyses.

Signed Abnormal Accruals

[22] We also use abnormal audit fees, estimated following prior studies such as Blankley, Hurtt, and MacGregor (2012) and Eshleman and Guo (2014), as the dependent variable. Untabulated results show that mismatch is significantly and positively associated with abnormal audit fees.

Ashbaugh-Skaife et al. (2008) investigate the impact of internal control deficiencies (ICDs) on accruals quality. They find that ICD firms have larger absolute, larger positive, and larger negative abnormal accruals relative to non-ICD firms. However, ICDs are not statistically associated with signed abnormal accruals. Their interpretation is that, if an intentional misstatement that results in income-increasing accruals dominates their ICD sample, then they would expect a significantly positive association between ICDs and signed abnormal accruals. If, on the other hand, ICDs result in unintentional errors that introduce both income-increasing and income-decreasing errors, which offset each other across ICD firms, then they would expect an insignificant relationship between ICDs and signed abnormal accruals. As such, they conclude that internal control weaknesses are more likely to lead to unintentional errors that add noise to accruals than to intentional misstatements that bias earnings upward.

Following Ashbaugh-Skaife et al. (2008), we distinguish between abnormal accruals that are due to unintentional errors and those that involve intentional manipulation by repeating our baseline regression using signed abnormal accruals as the dependent variable. Untabulated results show that mismatch is not associated with signed abnormal accruals. The results are mostly consistent with the unintentional error interpretation, as unintentional errors result in both income-increasing and income-decreasing abnormal accruals, and the two types of errors offset each other. However, this inference should be interpreted with caution because (i) the inferences reflect a failure to reject, and (ii) this analysis is premised on the assumption that firms attempt to manage earnings upward only. We now turn to following cross-sectional analyses that regress signed abnormal accruals on the interactions between mismatch and the incentives for upward earnings management to better differentiate intentional manipulation from unintentional errors.

Cross-Sectional Variation Tests

To identify whether the effect of mismatch on earnings quality reflects intentional manipulation, we perform cross-sectional variation tests based on earnings manipulation incentives. Given that the earnings-based regulations in China motivate listed firms to manipulate earnings upward to avoid reporting a loss or being delisted (e.g., Jiang and Wang 2008; Chen, Wang, and Zhao 2009; Aharony, Wang, and Yuan 2010; Jian and Wong 2010), we employ the following two measures to capture managers' incentives for upward earnings manipulation. First, *Turning Profit* is an indicator variable that equals one if the firm turns loss into profit from year *t*-1 to year *t*, and zero otherwise. The China Securities Regulatory Commission (CSRC) mandates that, if a listed firm reports a loss for two consecutive years, its stock trading shall be specially treated (ST). As such, firms reporting a loss in year *t-1* have strong incentives to avoid a loss in year *t*. Firms aiming to turn a loss into a profit are incentivized to use accruals to manipulate earnings upward. Second, *Delisting Risk* is an indicator variable that equals one if the firm has been ST in year *t*-1, and zero otherwise. An ST firm will be delisted if one more annual loss is reported. To avoid being delisted, ST firms have stronger incentives to manipulate earnings upward than other firms.

We interact mismatch measures with the two earnings management incentives separately. If mismatch provides managers incremental opportunities to employ reporting discretion, then we would expect the coefficients on the interaction terms between mismatch and earnings management incentives to be significantly positive. We use signed abnormal accruals as the dependent variable because both *Turning Profit* and *Delisting Risk* result in upward earnings management. The results are reported in Panel A of Table 7. Both *Turning Profit* and *Delisting Risk* are positively and significantly associated with signed abnormal accruals, consistent with firms that intend to avoid reporting losses and being delisted having greater incentives to manipulate earnings upward. However, the interaction terms between mismatch and earnings manipulation incentives are statistically insignificant. Thus, the results fail to support managers

taking advantage of the coincidence between firms' fiscal year-ends and their business peaks to manipulate reported earnings.

[Insert Table 7 here]

We also test the unintentional error interpretation by interacting mismatch with conditioning variables that are related to the likelihood of making unintentional errors. We use two conditioning variables: the accountants' work burnout and business complexity. First, Sweeney and Summers (2002) argue that the escalated workload in busy seasons is a major contributor to accountants' work burnout. As such, the number of accounting staff in the firm should be negatively associated with the probability of errors being made in the financial statements. To test this prediction, we define *ACCEMP*, which is the number of accounting staff scaled by total assets. The data on the number of accounting staff are manually collected from firms' annual reports. Second, when business is complex, managers and accountants are more likely to err when applying standards to transactions (Peterson 2012). In addition, greater business complexity overstretches busy auditors, increasing the likelihood of unintentional misreporting due to mistakes. We follow Gul, Chen, and Tsui (2003) and use the number of subsidiaries to measure business complexity (*Subsidiaries*).

We then interact mismatch measures with *ACCEMP* and *Subsidiaries*, respectively. We use the absolute value of abnormal accruals as the dependent variable because unintentional errors result in both upward and downward errors. Panel B of Table 7 reports the results. In Column (1), the coefficient on *ACCEMP* is significantly negative, suggesting that firms with more accounting staff have a higher degree of earnings quality. Moreover, the coefficient on *MisMatch*×*ACCEMP* is significantly negative (coefficient = -0.140, *t*-stat = -2.43), suggesting that a larger number of accounting staff in the firm alleviates the adverse impact of mismatch on earnings quality. The results are consistent with the unintentional error interpretation. In Column (2), the coefficient on *MisMatch*×*Subsidiaries* is significantly positive (coefficient =

0.004, *t*-stat = 3.02), consistent with more complex firms exacerbating the adverse impact of mismatch on earnings quality, and thus providing further support to the unintentional error explanation. In Columns (3) and (4), where mismatch is proxied by the industry-based measure, we find similar, albeit weaker, evidence consistent with the unintentional error interpretation. Taken together, the cross-sectional analyses largely support the unintentional error interpretation instead of the intentional manipulation conjecture.

Impact of Mismatch on Intentional and Unintentional Restatements

Finally, we use restatement data to differentiate intentional earnings manipulation from unintentional estimation errors related to mismatched firms. We first download financial reports restatements from several databases, including the WIND database and the CNRDS database. We also hand-collect restatements from the CNINFO website (www.cninfo.com.cn), an official disclosure platform for Chinese-listed companies. We exclude those unrelated to the financial statements.[23] We then classify the remaining restatements as either error or irregularity. Following Hennes, Leone, and Miller (2008), we classify restatements as likely to have been caused by irregularities if the restatement meets at least one of the following five criteria: (1) the firm explicitly used variants of "fraud" or "irregularity" in the discussion of the restatement; (2) there was a related investigation by the CSRC, or a penalty from the industrial and commercial bureau or the tax bureau; (3) the firm received an inquiry letter from the Shanghai Stock Exchange or the Shenzhen Stock Exchange; (4) the auditor issued a modified opinion in the year of or one year before the restatement announcement; and (5) the restatement was mentioned in analysts' reports, or the firm received any media coverage about its restatement. We consider a restatement not meeting these criteria to be an error.

Panel A of Table 8 reports the descriptive statistics of intentional and unintentional

[23] We find that some restatements are unrelated to the financial statements, such as neglecting certain disclosures, mistakes on shareholder information, or errors in management discussion and analysis (MD&A).

restatements. Using the above classification scheme, 1,171 (84.12 percent) of the restatements in our sample are classified as errors and 221 (15.88 percent) as irregularities.[24] Moreover, 9.52 percent (7.82 percent) of the mismatched (non-mismatched) firms experience restatements. Specifically, 8.13 percent (6.57 percent) of the mismatched (non-mismatched) firms experience error-related restatements, whereas 1.38 percent (1.26 percent) of the mismatched (non-mismatched) firms experience irregularity-related restatements. While the difference in the percentage of irregularity-related restatements is statistically insignificant between mismatched and non-mismatched firms (*F*-stat=0.21), we do find a significant difference in the percentage of error-related restatements between the two groups (*F*-stat=6.57).

In Panel B of Table 8, we perform a logistic regression analysis to examine the impact of mismatch on unintentional and intentional restatements. The control variables are selected based on prior research on the determinants of restatements (e.g., Beasley 1996; Fang et al. 2017). The results show that mismatch significantly increases the likelihood of error-related restatements (for *MisMatch*: coefficient = 0.200, *z*-stat = 1.97; for *Ind_Non-Dec*: coefficient = 0.644, *z*-stat = 4.71). Contrarily, the effect of mismatch on irregularity-related restatements is statistically insignificant (for *MisMatch*: coefficient = 0.014, *z*-stat = 0.06; for *Ind_Non-Dec*: coefficient = 0.465, *z*-stat = 1.03). The above results again suggest that mismatch is more likely to be associated with unintentional errors than with intentional manipulation. [25]

[Insert Table 8 here]

[24] Hennes et al. (2008) reveal a similar pattern for U.S. firms, with 26.4 percent of restatements caused by irregularities and 73.6 percent by errors.

[25] Another unintended cost of a uniform fiscal year-end regulation is that it may prevent a manager from signaling their forecasting ability. Intuitively, a manager needs to make estimates about the firm's future performance. If the market punishes managers whose estimates deviate significantly from the actual results, then only those with superior forecasting abilities will choose to close their books in their firms' busy season to signal their quality. However, under a uniform fiscal year-end regime, becoming a mismatched firm is not a choice and thus ceases to convey any information to investors. Using a sample of U.S.-listed companies, we document that managers with a superior forecasting ability are more likely to choose a fiscal year-end that coincides with the peak of the business cycle, consistent with the signaling conjecture. In the interest of space, this result is not included in the main text, but is available upon request. We thank an anonymous reviewer for the insightful comment about this.

VIII. CONCLUSION

This study examines the financial reporting outcomes of a rigid accounting rule in China that mandates all business entities close their books on December 31. To improve our understanding of China's fiscal year system and to motivate our research hypothesis, we carry out interviews with a number of preparers and users of financial statements in China. The results from the interviews suggest that most of the preparers and users of financial information consider the current uniform fiscal year-end to be a rigid regulation that imposes an undesirable impact on financial reporting practices.

Empirical results from a large-sample analysis confirm the interview findings by showing that misalignment between the financial reporting period and the business cycle has adverse effects on earnings quality. Corroborating this finding, the paper shows that mismatched firms have lower analyst forecast accuracy, higher forecast dispersion, longer audit reporting delays, and higher audit fees relative to non-mismatched firms. Further analyses suggest that the observed adverse effect of mismatch on earnings quality appears more consistent with unintentional estimation errors rather than intentional earnings manipulation.

Our study contributes to a longstanding debate on tradeoff between uniformity and flexibility in accounting regulations (e.g., Schipper 2003; Agoglia et al. 2011; Chen et al. 2017). The results suggest that a shift away from rigid to more flexible rules on firms' fiscal year-ends may improve financial reporting quality by better aligning the financial reporting cycle with the business cycle.

One caveat to our results is potential endogeneity. Since firms' choices of fiscal-year ends, if they could choose, are unobservable in our context, we have to rely on observed revenues to construct our mismatch measure, possibly leading to measurement errors. Although this issue is somewhat alleviated by using the measure based on Hong Kong firms, endogeneity concerns remain. Thus, we do not claim that the observed relation between mismatch and financial

reporting quality is causal. In addition, our study mainly focuses on the costs of a uniform fiscal year-end in terms of financial reporting consequences. However, as suggested by the interview evidence, a uniform fiscal year-end has potential benefits: it is conducive to macro-level management and facilitates the comparability of accounting information across firms. Future research can investigate the benefits of a uniform fiscal year end. Finally, our study is subject to the limitation that a firm's business cycle, and thereby the quarterly-revenue-based mismatch measure, may be influenced by economic fluctuations. Notwithstanding the limitation noted above, we find robust evidence that the misalignment of the fiscal year and the business cycle is negatively associated with financial reporting quality.

References

Agoglia, C. P., T. S. Doupnik, and G. T. Tsakumis. 2011. Principles-based versus rules-based accounting standards: The influence of standard precision and audit committee strength on financial reporting decisions. *The Accounting Review* 86 (3): 747–767.

Aharony, J., J. Wang, and H. Yuan. 2010. Tunneling as an incentive for earnings management during the IPO process in China. *Journal of Accounting and Public Policy* 29 (1): 1–26.

Albrecht, A., E. G. Mauldin, and N. J. Newton. 2018. Do auditors recognize the potential dark side of executives' accounting competence? *The Accounting Review* 93 (6): 1–28.

Aobdia, D. 2018. The impact of the PCAOB individual engagement inspection process—Preliminary evidence. *The Accounting Review* 93(4): 53–80.

Ashbaugh-Skaife, H., D. W. Collins, W. R. Kinney, Jr., and R. LaFond. 2008. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review* 83 (1): 217–250.

Badertscher, B., B. Jorgensen, S. Katz, and W. Kinney. 2014. Public equity and audit pricing in the United States. *Journal of Accounting Research* 52 (2): 303–339.

Beasley, M. S. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review* 71 (4): 443–465.

Blankley, A. I., D. N. Hurtt, and J. E. MacGregor. 2012. Abnormal audit fees and restatements. *Auditing: A Journal of Practice & Theory* 31(1): 79–96.

Bova, F., K. Kolev, J. K. Thomas, and X. F. Zhang. 2015. Non-executive employee ownership and corporate risk. *The Accounting Review* 90(1): 115–145.

Boyle, D. M., F. T. DeZoort, and D. R. Hermanson. 2015. The effect of alternative fraud model use on auditors' fraud risk judgments. *Journal of Accounting and Public Policy* 34 (6): 578–596.

Bradshaw, M. T., L. D. Brown, and K. Huang. 2013. Do sell-side analysts exhibit differential target price forecasting ability?. *Review of Accounting Studies* 18(4): 930–955.

Bushee, B. J. 2001. Do institutional investors prefer near-term earnings over long-run value? *Contemporary Accounting Research* 18 (2): 207–246.

Chan, K., and A. Hameed. 2006. Stock price synchronicity and analyst coverage in emerging markets. *Journal of Financial Economics* 80 (1): 115–147.

Chan, L., J. Lakonishok, and B. Swaminathan. 2007. Industry classifications and return comovement. *Financial Analysts Journal* 63 (6): 56–70.

Chen, C. J., Y. Ding, and C. F. Kim. 2010. High-level politically connected firms, corruption, and analyst forecast accuracy around the world. *Journal of International Business Studies* 41 (9): 1505–1524.

Chen, H., J. Z. Chen, G. J. Lobo, and Y. Wang. 2011. Effects of audit quality on earnings management and cost of equity capital: Evidence from China. *Contemporary Accounting Research* 28(3): 892–925.

Chen, Q., T. R. Lewis, K. Schipper, and Y. Zhang. 2017. Uniform versus discretionary regimes in reporting information with unverifiable precision and a coordination role. *Journal of Accounting Research* 55 (1): 153–196.

Chen, S., Y. Wang, and Z. Zhao. 2009. Regulatory incentives for earnings management through asset impairment reversals in China. *Journal of Accounting, Auditing and Finance* 24 (4): 589–620.

Cheng, Q., J. Lee, and T. Shevlin. 2016. Internal governance and real earnings management. *The Accounting Review* 91 (4): 1051–1085.

Chung, R., M. Firth, and J. B. Kim. 2002. Institutional monitoring and opportunistic earnings management. *Journal of Corporate Finance* 8 (1): 29–48.

Cressey, D. R. 1973. *Other people's money*. Montclair, NJ: Patterson Smith.

Davidson, R. A., A. M. Gelardi, and F. Li. 1996. Analysis of the conceptual framework of China's new accounting system. *Accounting Horizons* 10 (1): 58–74.
De Franco, G., S. P. Kothari, and R. S. Verdi. 2011. The benefits of financial statement comparability. *Journal of Accounting Research* 49 (4): 895–931.
Dechow, P. M., and I. D. Dichev. 2002. The quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77 (1): 35–59.
Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 72 (2): 193–225.
Deloitte. 2016. Fourth quarter CFO Signals Survey. Available at: https://www2.deloitte.com/lk/en/pages/finance/articles/2016-q4-global-cfo-signals.html
Dhaliwal, D. S., S. Radhakrishnan, A. Tsang, and Y. G. Yang. 2012. Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review* 87 (3): 723–759.
Donohoe, M. P., and R. W. Knechel. 2014. Does corporate tax aggressiveness influence audit pricing? *Contemporary Accounting Research* 31 (1): 284–308.
Du, K., and X. F. Zhang. 2013. Orphans deserve attention: Financial reporting in the missing months when corporations change fiscal year. *The Accounting Review* 88 (3): 945–975.
Dye, R. A., and S. S. Sridhar. 2004. Reliability-relevance trade-offs and the efficiency of aggregation. *Journal of Accounting Research* 42 (1): 51–88.
Eshleman, J. D., and P. Guo. 2014. Abnormal audit fees and audit quality: The importance of considering managerial incentives in tests of earnings management. *Auditing: A Journal of Practice & Theory* 33 (1): 117–138.
Ezzamel, M., J. Z. Xiao, and A. Pan. 2007. Political ideology and accounting regulation in China. *Accounting, Organizations and Society* 32(7–8): 669–700.
Fan, J., O. Rui, and M. Zhao. 2008. Public governance and corporate finance: Evidence from corruption cases. *Journal of Comparative Economics* 36(3): 343–364.
Fang, V. W., A. H. Huang, and W. Wang. 2017. Imperfect accounting and reporting bias. *Journal of Accounting Research* 55 (4): 919–962.
Foster, G. 1986. Financial statement analysis (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39 (2): 295–327.
Fung, S. Y. K., F. A. Gul, and J. Krishnan. 2012. City-level auditor industry specialization, economies of scale, and audit pricing. *The Accounting Review* 87 (4): 1281–1307.
Gong, G., L. Y. Li, and L. Zhou. 2013. Earnings non-synchronicity and voluntary disclosure. *Contemporary Accounting Research* 30 (4): 1560–1589.
Gul, F. A., C. J. Chen, and J. S. Tsui. 2003. Discretionary accounting accruals, managers' incentives, and audit fees. *Contemporary Accounting Research* 20 (3): 441–464.
Gunny, K. A., and J. M. Hermis. 2020. How busyness influences SEC compliance activities: Evidence from the filing review process and comment letters. *Contemporary Accounting Research* 37 (1): 7–32.
Hainmueller, J. 2012. Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis* 20 (1): 25–46.
Hazarika, S., J. M. Karpoff, and R. Nahata. 2012. Internal corporate governance, CEO turnover, and earnings management. *Journal of Financial Economics* 104 (1): 44–69.
Hennes, K. M., A. J. Leone, and B. P. Miller. 2008. The importance of distinguishing errors from irregularities in restatement research: The case of restatements and CEO/CFO turnover. *The Accounting Review* 83 (6): 1487–1519.
Hribar, P., and C. Nichols. 2007. The use of unsigned earnings quality measures in tests of earnings management. *Journal of Accounting Research* 45 (5): 1017–1053.

Huberman, G., and S. Kandel. 1989. Firms' fiscal years, size and industry. *Economics Letters* 29 (1): 69–75.

Institute of Chartered Accountants of Scotland (ICAS). 2010. Chinese accounting reform: Towards a principle-based global regime. Available at: https://www.iasplus.com/en/binary/china/1006icaschinaaccountingreform.pdf

International Accounting Standards Board (IASB). 2006. China affirms commitment to converge with IFRSs. IASB News: Announcements and Speeches.

Ittner, C. D. 2014. Strengthening causal inferences in positivist field studies. *Accounting, Organizations and Society* 39 (7): 545–549.

Jian, M., and J. T. Wong. 2010. Propping through related party transactions. *Review of Accounting Studies* 15 (1): 70–105.

Jiang, G., and H. Wang. 2008. Should earnings thresholds be used as delisting criteria in stock market? *Journal of Accounting and Public Policy* 27 (5): 409–419.

Johnston, R., A. J. Leone, S. Ramnath, and Y. W. Yang. 2012. 14-week quarters. *Journal of Accounting and Economics* 53 (1–2): 271–289.

Jones, J. J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (2): 193–228.

Kamp, B. 2002. Fiscal year-end choice: Determinants and dynamics. *International Journal of Accounting* 37 (4): 421–427.

Kang, Q., Q. Liu, and R. Qi. 2010. Predicting stock market returns with aggregate discretionary accruals. *Journal of Accounting Research* 48 (4): 815–858.

Keung, E. C. 2010. Do supplementary sales forecasts increase the credibility of financial analysts' earnings forecasts? *The Accounting Review* 85 (6): 2047–2074.

Kothari, S. P., A. J. Leone, and C. E. Wasley. 2005. Performance matched discretionary accrual measures. *Journal of Accounting and Economics* 39 (1): 163–197.

Leuz, C., D. Nanda, and P. D. Wysocki. 2003. Earnings management and investor protection: An international comparison. *Journal of Financial Economics* 69 (3): 505–527.

Lev, B. 1989. On the usefulness of earnings and earnings research: Lessons and directions from two decades of empirical research. *Journal of Accounting Research* 27: 153–192.

Lev, B., and S. R. Thiagarajan. 1993. Fundamental information analysis. *Journal of Accounting Research* 31 (3): 190–215.

Litov, L. P., P. Moreton, and T. R. Zenger. 2012. Corporate strategy, analyst coverage, and the uniqueness paradox. *Management Science* 58 (10): 1797–1815.

Lu, M., N. Saune, and Y. Shan. 2013. The choice of fiscal year-end in Australia. *Australian Accounting Review* 23 (3): 244–251.

Massa, M., B. Zhang, and H. Zhang. 2015. The invisible hand of short selling: Does short selling discipline earnings management? *Review of Financial Studies* 28 (6): 1701–1736.

Oyer, P. 1998. Fiscal year ends and nonlinear incentive contracts: The effect on business seasonality. *Quarterly Journal of Economics* 113 (1): 149–185.

Palepu, K. G., P. M. Healy, and V. L. Bernard. 2000. *Business Analysis and Valuation.* OH: South-Western College Publishing.

Peterson, K. 2012. Accounting complexity, misreporting, and the consequences of misreporting. *Review of Accounting Studies* 17 (1): 72–95.

Rozeff, M. S., and W. R. Kinney. 1976. Capital market seasonality: The case of stock returns. *Journal of Financial Economics* 3 (4): 379–402.

Schipper, K. 2003. Principles-based accounting standards. *Accounting Horizons* 17 (1): 61–72.

Sinha, N., and D. Fried. 2008. Clustered disclosures by competing firms: The choice of fiscal year-ends. *Journal of Accounting, Auditing & Finance* 23 (4): 493–516.

Smith, D. B., and S. Pourciau. 1988. A comparison of the financial characteristics of December and non-December year-end companies. *Journal of Accounting and Economics* 10 (4): 335–344.

Sohn, B. C. 2016. The effect of accounting comparability on the accrual-based and real earnings management. *Journal of Accounting and Public Policy* 35 (5): 513–539.

Sweeney, J. T., and S. L. Summers. 2002. The effect of the busy season workload on public accountants' job burnout. *Behavioral Research in Accounting* 14 (1): 223–245.

Wang, L., and K. Yung. 2011. Do state enterprises manage earnings more than privately owned firms? The case of China. *Journal of Business Finance and Accounting* 38 (7–8): 794–812.

Zang, A. Y. 2012. Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review* 87 (2): 675–703.

Appendix 1: Interview Details

Panel A: List of Interviewees by Category

Category of Interviewees	Number	Region	Format
Academics	5	Beijing	Face-to-face
Accountants	13	Anhui; Beijing; Guangdong; Henan; Hubei; Liaoning; Shandong; Tianjin	Face-to-face; Telephone
Auditors	7	Beijing; Zhejiang	Face-to-face; Telephone
Financial analysts	2	Beijing; Shanghai	Telephone
Government officials	8	Beijing; Guangdong; Hubei	Face-to-face; Telephone
Investors	4	Beijing	Telephone
Lenders	2	Beijing; Shandong	Telephone
Managers	3	Beijing; Liaoning; Yunnan	Telephone
Total	44		

Panel B: Interview Questions

Q1. If you could choose, which quarter would you prefer as the fiscal year-end? (Ask accountants and managers)

Q2. What factors would you consider when choosing a fiscal year-end? (Ask accountants and managers)

Q3. What are the costs and benefits of a uniform fiscal year-end? (Ask all interviewees)

Q4. Does the choice of fiscal year-end matter for the quality of reported earnings? (Ask all interviewees)

Panel C: Summarized Responses to the Interview Questions

Panel C1: Responses to the question: If you could choose, which quarter would you prefer as the fiscal year-end? (*Ask accountants and managers*)

Choices	Percentage	Examples
Non-December fiscal year-end	12/16=75%	Accountant-D "There is a business slang in China's real estate industry, 'Golden Nine Silver Ten,' suggesting that commercial housing turnover remains high in September and October. In the subsequent few months, new apartments will be delivered to our customers. The peak of new apartment delivery appears around December 31. Thus, I would like to choose a fiscal year-end after the peak season of sales."
December fiscal year-end	4/16=25%	Accountant-H "Our main businesses include securities trusts, real estate, small and microenterprise financing, family trusts, as well as some international businesses. The peak seasons of our businesses are largely concentrated in May, June, and July, during which trust agreements are frequently signed and there is a shortage of manpower for valuation and cost estimation for financial products. However, we feel much more relaxed in December, and thus can close our books more easily then."

Panel C2: Responses to the question: What factors would you consider when choosing a fiscal year-end? (*Ask accountants and managers*)

Factors	Percentage	Example
Business cycle	14/16=88%	Accountant-D "There is not much business being conducted in May, so closing the books in May would be more convenient. In contrast, the task of apartment delivery is heavy from November to December. Closing the books at this point would make us overstretched."
Ownership	5/16=31%	Manager-C "Our company has received many government contracts. Therefore, we have no choice other than December 31, so as to coincide with the government's year-end."
Customers and suppliers	4/16=25%	Accountant-B "Our upstream businesses are manufacturing firms, which are extremely busy at the end of the year. Therefore, we would prefer not to close our books at that time."
Festivals and holidays	3/16=19%	Accountant-M "Nearly all organizations stay closed during the Chinese Spring Festival, and the workload in the period following the vacation is always manageable. Thus, taking March as the fiscal year-end would be in line with our national situation."
Business complexity	3/16=19%	Accountant-G "Owning several subsidiaries, including eight listed firms, we would stick with December 31 as our fiscal year-end to strengthen the centralized management. If the parent firm chooses a non-December year-end but other branch offices close their books in December, then the subsidiaries would struggle to keep pace with the parent firm."

Panel C3: Responses to the question: How do you weigh up the advantages and disadvantages of a uniform fiscal year-end? (*Ask all interviewees*)

Costs	**Examples**
(1) It is not good for business decision-making.	Investor-A "According to the requirement of the China Securities Regulatory Commission (CSRC), participants at shareholder meetings ought to be provided with relevant discussion papers at least half a month in advance. However, in many cases, the company fails to send us the relevant papers on time, simply because the staff accountants are tied up with closing the books during the busy season and run short of time to prepare the required documents. As a result, it turns out to be difficult for people attending the meetings to understand the annual report information promptly, let alone have a sound understanding of the numerous figures. This inevitably impedes our ability to make decisions in the best interests of the shareholders."
(2) It is detrimental to audit quality.	Auditor-A "A uniform fiscal year-end only gives rise to complaints. Due to limitations of time and energy, we end up nearly exhausting ourselves during the period from December 31 through April 30. Under these exhausting work conditions, we may have to add some degree of subjectivity to the audit procedures."
(3) It impairs the timeliness and usefulness of accounting information.	Analyst-B "Because of the Chinese Spring Festival and the concentrated auditing work, the period between firms' fiscal year-ends and reporting dates is often prolonged. For firms that close their books during the peak season, it will be more difficult to guarantee timeliness of reporting and hence the usefulness of the accounting information."
Benefits	
(1) It is conducive to macro-level management, especially for taxation purposes.	Government-Official-E "If firms chose various fiscal year-ends, it would be difficult for us to provide macro-level economic statistics. In addition, a free-choice mode would make it impossible for us to accurately report the amount of annual tax revenues to local governments."
(2) It ensures the comparability of accounting information.	Academic-B "While a uniform fiscal year-end hinders the timeliness of accounting information for outside users, it remains highly compatible with the institutional context of 'a strong Ministry of Finance' in China. Moreover, it ensures the comparability of accounting information across companies since the financial reports of all companies cover the same fiscal-year period."

Panel C4: Responses to the question: Does the choice of fiscal year-end matter for the quality of reported earnings? (*Ask all interviewees*)

Views	**Percentage**	**Examples**
Yes	15/18*=83%	Accountant-L "In practice, the business cycle of an enterprise has strong industry characteristics and is very likely to be different from the calendar year. Therefore, the mandatory use of the calendar year as the accounting period will artificially cut the operational cycle of the business, impairing the ability of the accounting information to truly reflect the operational outcomes of the enterprise, and thus possibly misleading information users."
No	3/18=17%	Government-Official-B "Closing the books in the peak season may increase the likelihood of accounting errors, but I believe that most accountants, as experienced professionals, are able to prevent the occurrence of such errors."

* Only 18 out of 44 interviewees explicitly or implicitly answered this question.

Appendix 2: Variable Definitions

Variable	Definition	Source
Independent variables		
MisMatch	An indicator variable equal to 1 if the cash revenues from the fourth quarter of year *t* ($CR_{q4,t}$) and the first quarter of year *t+1* ($CR_{q1,t+1}$) are each larger than those from the second and third quarters of year *t* ($CR_{q2,t}$ and $CR_{q3,t}$), and 0 otherwise. Specifically, mismatched firms are those for which $CR_{q4,t}>CR_{q2,t}$ and $CR_{q4,t}>CR_{q3,t}$, and $CR_{q1,t+1}>CR_{q2,t}$ and $CR_{q1,t+1}>CR_{q3,t}$.	CSMAR, RESSET
Ind_Non-Dec	The percentage of Hong Kong listed firms in the same industry (based on the 4-digit GICS code) not choosing December as their fiscal year-end.	CCER, Compustat Global
Dependent variables		
DA_DD	Abnormal accruals estimated from Dechow and Dichev's (2002) model. We estimate abnormal accruals by firm over an eight-year rolling window.	CSMAR, RESSET
DA_KLW	Abnormal accruals estimated from Kothari, Leone, and Wasley's (2005) model. We estimate abnormal accruals by firm over an eight-year rolling window.	CSMAR
DACC	Average of *DA_KLW* and *DA_DD*.	CSMAR, RESSET
AB_DD	Absolute value of *DA_DD*.	CSMAR, RESSET
AB_KLW	Absolute value of *DA_KLW*.	CSMAR
AB_DACC	Average of *AB_KLW* and *AB_DD*.	CSMAR, RESSET
Forecast Accuracy	The mean absolute value of the analyst forecast errors, multiplied by (-1). Analyst forecast error is defined as $(|EPS_t-AF_t|)/EPS_t$, where EPS_t and AF_t are earnings per share and individual analyst forecast of earnings per share, respectively.	CSMAR
Forecast Divergence	The relative variation of the analyst forecast errors, i.e., the standard deviation of $(EPS_t-AF_t)/EPS_t$, where EPS_t, *and* AF_t are earnings per share and individual analyst forecast of earnings per share, respectively. We require a firm-year to have at least two analysts when calculating this measure.	CSMAR
Audelay_days	The number of days between a firm's fiscal year-end and the date the audit report is released.	CSMAR
Audit Delay	The decile rank of *Audelay_days*, divided by 10. A higher *Audit Delay* indicates a longer audit delay.	CSMAR
Audit Fee	Audit fees scaled by revenue, multiplied by 100.	CSMAR
Intentional_restate	An indicator variable equal to 1 if the restatement meets at least one of the following five criteria: (1) the firm explicitly used variants of "fraud" or "irregularity" in the discussion of the restatement; (2) there was a related investigation by the CSRC, or a punishment from the industrial and commercial bureau or the tax bureau; (3) the firm received an inquiry letter from the Shanghai Stock Exchange or the Shenzhen Stock Exchange; (4) the auditor issued a modified opinion in the year of or one year before the restatement announcement; and (5) the restatement was mentioned in analysts' reports or the firm received any media coverage about its restatement, and 0 otherwise.	CNRDS, WIND, and manual collection
Unintentional_restate	An indicator variable equal to 1 for restatements not meeting any of the criteria for *Intentional_restate,* and 0 otherwise.	CNRDS, WIND, and manual collection
Control and conditioning variables		
SIZE	The natural logarithm of total assets.	
LEV	Financial leverage, calculated as the total liabilities divided by total assets of a firm.	CSMAR
ROA	Return on assets, calculated as the net income before extraordinary items scaled by total assets.	CSMAR
VOL	Stock return volatility, calculated as the standard deviation of monthly stock returns in a year.	CSMAR
RET	Annual stock return considering cash dividends.	CSMAR
Turnover	Annual stock turnover, measured as the mean of monthly stock turnover.	CSMAR

Instown	Institutional ownership, calculated as the shareholding of institutional investors.	CSMAR
Dual	An indicator variable equal to 1 if the CEO chairs the board, and 0 otherwise.	CSMAR
Indir	Proportion of independent directors, calculated as the number of independent directors divided by the number of directors.	CSMAR
SOE	An indicator variable equal to 1 if the firm is a state-owned enterprise, and 0 otherwise.	CSMAR
Big4	An indicator variable equal to 1 if the firm is audited by an international Big-4 accounting firm, and 0 otherwise.	CCER
Rev_Q4	The fourth-quarter revenues scaled by total assets.	CSMAR
BM	The book value of shareholders' equity over the market value of equity.	CSMAR
STD_Earnings	The standard deviation of earnings from year *t*-5 to year *t*, divided by the average value of earnings from year *t*-5 to year *t*.	CSMAR
# of Firms in Industry	The natural logarithm of one plus the number of firms in the same industry.	CSMAR
Analyst Coverage	The natural logarithm of one plus the number of analysts following the firm during the year.	CSMAR
ETR	Effective tax rate, calculated as income tax paid divided by earnings before tax.	CSMAR
Intangible	Intangible assets divided by total assets.	CSMAR
Turning Profit	An indicator variable equal to 1 if the firm turns loss into profit from year *t*-1 to year *t*, and 0 otherwise.	CSMAR
Delisting Risk	An indicator variable equal to 1 if the firm was specially treated in year *t*-1 and thus faces delisting risk in year *t*, and 0 otherwise.	CSMAR
ACCEMP	The number of accounting staff scaled by total assets (in million Chinese Yuan).	Manual collection
Subsidiaries	The natural logarithm of one plus the number of wholly owned subsidiaries.	CSMAR

Table 1: Sample Distribution

This table presents the sample distribution across years and industries. Panel A presents the distribution by year, and Panel B shows the distribution by industry. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise.

Panel A: Sample Distribution by Year

Year	Observations	% of *MisMatch*
2005	484	9.92%
2006	558	9.86%
2007	648	13.89%
2008	729	7.82%
2009	805	10.81%
2010	864	13.31%
2011	941	8.93%
2012	1,015	11.13%
2013	1,034	11.03%
2014	1,098	10.29%
2015	1,185	10.21%
2016	1,237	13.42%
2017	1,289	11.79%
Total	11,887	11.06%

Panel B: Sample Distribution by Industry

Industry	Observations	% of *MisMatch*
Agriculture	237	18.57%
Mining	250	8.40%
Food & Beverage	583	17.15%
Textiles & Apparel	427	12.65%
Paper & Printing	205	7.32%
Petrochemicals	1,263	6.97%
Electronics	661	11.20%
Metal & Non-metals	1,008	6.45%
Machinery	1,824	8.77%
Pharmaceuticals	794	8.44%
Other Manufacturing	143	12.59%
Utilities	613	12.07%
Construction	231	28.14%
Wholesale & Retail	571	24.69%
Transportation	431	9.51%
IT	542	10.15%
Real Estate	938	11.30%
Conglomerates	958	10.86%
Media	116	7.76%
Social Services	92	15.22%
Total	11,887	11.06%

Table 2: Descriptive Statistics

This table presents the descriptive statistics of the empirical variables. We winsorize all continuous variables at the 1st and 99th percentiles. All variables are defined in Appendix 2.

Variable	Obs	Mean	Std	Median	P25	P75
MisMatch	11,887	0.111	0.314	0.000	0.000	0.000
Ind_Non-Dec	11,263	0.266	0.235	0.243	0.000	0.382
DA_DD	11,887	0.005	0.063	0.002	-0.025	0.034
DA_KLW	11,887	0.002	0.064	0.000	-0.029	0.031
DACC	11,887	0.003	0.053	0.002	-0.025	0.030
AB_DD	11,887	0.044	0.044	0.030	0.013	0.061
AB_KLW	11,887	0.045	0.045	0.030	0.012	0.063
AB_DACC	11,887	0.045	0.037	0.034	0.018	0.060
Forecast Accuracy	12,204	-1.816	5.202	-0.521	-1.484	-0.227
Forecast Divergence	11,580	1.504	3.372	0.496	0.223	1.210
Audelay_days	13,696	89.840	21.270	89.000	78.000	109.000
Audit Delay	13,696	0.440	0.290	0.400	0.200	0.700
Audit Fee	13,696	0.087	0.211	0.040	0.020	0.078
Unintentional_restate	17,385	0.067	0.251	0.000	0.000	0.000
Intentional_restate	17,385	0.013	0.112	0.000	0.000	0.000
SIZE	11,887	22.030	1.284	21.930	21.140	22.800
LEV	11,887	0.515	0.198	0.526	0.374	0.663
ROA	11,887	0.025	0.069	0.023	0.003	0.052
VOL	11,887	0.141	0.101	0.125	0.095	0.167
Instown	11,887	0.233	0.226	0.154	0.041	0.380
RET	11,887	0.308	0.866	0.059	-0.223	0.574
Turnover	11,887	21.140	1.166	21.190	20.460	21.910
Dual	11,887	0.157	0.364	0.000	0.000	0.000
Indir	11,887	0.368	0.054	0.333	0.333	0.400
SOE	11,887	0.584	0.493	1.000	0.000	1.000
Big4	11,887	0.064	0.246	0.000	0.000	0.000
Rev_Q4	11,887	0.195	0.186	0.156	0.094	0.242
BM	12,204	0.423	0.341	0.356	0.226	0.548
# of Firms in Industry	12,204	4.755	0.827	4.812	4.143	5.394
STD_Earnings	12,204	0.135	1.211	0.137	0.051	0.301
Analyst Coverage	12,204	3.246	1.277	3.296	2.197	4.263
ETR	13,696	0.200	0.284	0.181	0.089	0.284
Intangible	13,696	0.048	0.058	0.032	0.013	0.060
Turning Profit	11,887	0.090	0.286	0.000	0.000	0.000
Delisting Risk	11,887	0.114	0.318	0.000	0.000	0.000
ACCEMP	9,809	0.021	0.021	0.015	0.008	0.027
Subsidiaries	11,887	1.543	0.994	1.609	0.693	2.303

Table 3: Correlation Matrices

This table presents the correlation coefficients among the main variables. Spearman (Pearson) correlation coefficients are reported above (below) the diagonal. All variables are defined in Appendix 2. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
MisMatch	(1)		0.045***	0.019**	0.017*	-0.042***	0.017*	0.003	0.025***	0.006	-0.015*	0.001	0.018**	0.005	-0.029***	-0.031***	0.017*	-0.007	0.004	0.037***	0.028***	0.019**	0.003
Ind_Non-Dec	(2)	0.036***		0.025***	0.047***	-0.097***	0.068***	0.110***	-0.059***	-0.016*	-0.039***	-0.085***	0.014	0.010	-0.071***	-0.066***	0.034***	-0.051***	0.066***	0.035***	0.032***	0.059***	0.016**
AB_DD	(3)	0.028***	0.047***		0.244***	-0.061***	0.052***	0.032***	0.011	-0.005	-0.023**	-0.012	0.036***	0.025***	-0.101***	-0.050***	-0.083***	-0.022**	0.043***	0.028***	0.089***	0.015*	0.024***
AB_KLW	(4)	0.026***	0.083***	0.325***		-0.046***	0.061***	0.024***	-0.013	-0.026***	-0.040***	-0.040***	0.033***	0.026***	-0.082***	-0.055***	-0.059***	-0.053***	0.061***	-0.001	0.082***	0.014	0.008
SIZE	(5)	-0.041***	-0.094***	-0.105***	-0.085***		0.287***	-0.217***	0.264***	-0.098***	0.445***	0.081***	-0.074***	0.047***	0.118***	0.273***	0.001	0.036***	-0.038***	0.066***	-0.623***	-0.045***	-0.020***
LEV	(6)	0.016*	0.096***	0.037***	0.048***	0.282***		0.045***	-0.053***	-0.004	-0.070***	-0.339***	-0.050***	-0.005	0.108***	0.015*	0.061***	0.052***	-0.002	0.042***	-0.316***	0.025***	0.019**
VOL	(7)	-0.001	0.058***	0.043***	0.016*	-0.170***	0.024***		-0.141***	0.293***	0.260***	-0.085***	-0.003	-0.011	-0.004	-0.086***	-0.012	-0.049***	0.065***	-0.004	0.118***	0.028***	0.004
Instown	(8)	0.025***	-0.066***	0.021**	-0.012	0.263***	-0.047***	-0.107***		-0.079***	0.233***	0.188***	0.005	0.044***	-0.059***	0.094***	-0.015	0.087***	-0.129***	0.020**	-0.097***	-0.030***	0.010
RET	(9)	0.006	0.030***	0.007	0.003	-0.140***	0.016*	0.441***	-0.106***		0.188***	0.117***	-0.005	-0.020**	-0.010	-0.002	0.053***	0.118***	-0.148***	-0.065***	0.046***	-0.001	0.004
Turnover	(10)	-0.014	-0.089***	-0.038***	-0.053***	0.463***	-0.077***	0.152***	0.184***	0.149***		0.187***	0.019**	0.093***	-0.081***	0.089***	0.012	-0.032***	0.034***	0.063***	-0.252***	-0.023***	0.010
ROA	(11)	0.008	-0.069***	-0.008	-0.031***	0.074***	-0.327***	-0.009	0.136***	0.106***	0.187***		-0.006	-0.035***	-0.057***	0.104***	0.212***	0.244***	-0.479***	-0.184***	-0.165***	-0.055***	-0.043***
Dual	(12)	0.018**	0.008	0.033***	0.035***	-0.073***	-0.048***	0.003	-0.002	-0.007	0.019**	-0.004		0.073***	-0.172***	-0.046***	-0.042***	-0.066***	0.087***	0.045***	0.099***	-0.007	0.008
Indir	(13)	0.007	0.021**	0.024***	0.028***	0.039***	-0.010	0.018*	0.040***	-0.026***	0.099***	-0.024***	0.081***		-0.090***	-0.001	-0.048***	-0.043***	0.056***	0.037***	0.032***	0.002	0.001
SOE	(14)	-0.029***	-0.069***	-0.115***	-0.092***	0.131***	0.107***	-0.023**	-0.043***	0.006	-0.079***	-0.054***	-0.172***	-0.086***		0.050***	0.092***	0.140***	-0.155***	-0.054***	-0.213***	-0.017**	0.008
Big4	(15)	-0.031***	-0.048***	-0.054***	-0.055***	0.312***	0.018*	-0.055***	0.102***	-0.020**	0.094***	0.085***	-0.046***	0.010	0.050***		0.017*	0.096***	-0.107***	-0.047***	-0.094***	-0.038***	-0.014*
Rev_Q4	(16)	0.006	-0.002	-0.057***	-0.032***	-0.009	0.071***	0.014	0.000	0.045***	0.000	0.165***	-0.015	-0.028***	0.051***	0.013		0.092***	-0.147***	-0.083***	-0.530***	0.007	-0.026***
Forecast Accuracy	(17)	-0.011	-0.027***	-0.020**	-0.018	0.013	0.008	-0.006	0.054***	0.062***	-0.006	0.128***	-0.024***	-0.025***	0.044***	0.049***	0.065***		-0.752***	-0.032***	-0.080***	-0.013	0.008
Forecast Divergence	(18)	0.014	0.025***	0.027**	0.019*	-0.001	0.022**	0.018*	-0.070***	-0.058***	0.026***	-0.242***	0.025***	0.025***	-0.040***	-0.044***	-0.082***	-0.813***		0.079***	0.124***	0.030***	0.012
Audit Delay	(19)	0.038***	0.026***	0.029***	0.003	0.065***	0.041***	0.015*	0.035***	-0.075***	0.064***	-0.168***	0.045***	0.023***	-0.055***	-0.048***	-0.032***	-0.039***	0.057***		0.062***	-0.006	0.013
Audit Fee	(20)	0.049***	0.073***	0.076***	0.097***	-0.311***	-0.073***	0.062***	-0.033***	0.029***	-0.107***	-0.160***	0.044***	0.038***	-0.134***	-0.036***	-0.210***	-0.042***	0.073***	0.067***		0.015*	0.037***
Unintentional_restate	(21)	0.019**	0.045***	0.015*	0.016*	-0.046***	0.025***	0.021***	-0.029***	0.008	-0.027***	-0.050***	-0.007	0.007	-0.017**	-0.038***	0.005	0.001	0.009	-0.006	0.001		-0.030***
Intentional_restate	(22)	0.003	0.016**	0.024***	0.008	-0.022***	0.022***	-0.001	-0.009	-0.005	-0.014*	-0.050***	0.008	-0.006	-0.008	-0.014*	-0.014*	-0.015*	0.019**	0.013	0.058***	-0.030***	

Table 4: The Impact of Mismatch on Accruals Quality: Baseline Regressions

This table presents the regression results on the impact of mismatch on accruals quality. Accruals quality is measured as the absolute value of discretionary accruals. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise. *Ind_Non-Dec* is the percentage of Hong Kong listed firms in the same industry not choosing December as their fiscal year-ends. All other variables are defined in Appendix 2. Industry and year fixed effects (*IY*) are included in Columns (1) and (3). Year fixed effects (*Y*) are included in Columns (2) and (4) (since *Ind_Non-Dec* is an industry-specific variable, which takes the same value for all firms in the same industry, we exclude the industry fixed effect from the model to avoid perfect collinearity). The *t*-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Predicted sign	*AB_DD*		*AB_KLW*	
		(1)	(2)	(3)	(4)
MisMatch	+	**0.003****		**0.003***	
		(2.11)		**(1.71)**	
Ind_Non-Dec	+		**0.005***		**0.012*****
			(1.86)		**(4.74)**
SIZE	-	-0.005***	-0.005***	-0.004***	-0.003***
		(-8.33)	(-7.45)	(-6.38)	(-5.23)
LEV	+	0.023***	0.021***	0.017***	0.018***
		(6.50)	(5.79)	(5.25)	(5.47)
VOL	+	0.012**	0.014***	-0.002	-0.001
		(2.29)	(2.61)	(-0.35)	(-0.32)
Instown	?	0.007**	0.007**	0.003	0.003
		(2.49)	(2.48)	(0.96)	(0.87)
RET	?	-0.001	-0.001	0.000	0.000
		(-0.81)	(-1.36)	(0.47)	(0.50)
Turnover	?	-0.000	-0.001	-0.001	-0.001*
		(-0.41)	(-0.85)	(-0.98)	(-1.69)
ROA	?	0.017**	0.016*	0.008	0.012
		(1.98)	(1.80)	(1.01)	(1.59)
Dual	+	0.001	0.001	0.002	0.002
		(0.51)	(0.83)	(1.30)	(1.18)
Indir	-	0.009	0.010	0.014	0.018*
		(0.96)	(0.96)	(1.60)	(1.90)
SOE	-	-0.007***	-0.007***	-0.007***	-0.007***
		(-5.95)	(-5.83)	(-5.56)	(-5.40)
Big4	-	-0.002	-0.001	-0.005**	-0.004*
		(-1.03)	(-0.73)	(-2.37)	(-1.82)
Rev_Q4	?	-0.011***	-0.014***	-0.004	-0.007**
		(-3.58)	(-4.36)	(-1.20)	(-2.12)
Constant		0.161***	0.147***	0.141***	0.122***
		(10.08)	(10.05)	(8.79)	(8.67)
Fixed Effects		IY	Y	IY	Y
Obs.		11,887	11,263	11,887	11,263
Adj. R^2		0.047	0.036	0.041	0.027

Table 5: Regressions Using Entropy Balancing

We match the treated group (*MisMatch*=1) using an entropy balancing approach to create a highly comparable control group (*MisMatch*=0). Panel A is the balance check for entropy balancing. Figures reported in parentheses are *t*-statistics of the mean differences between the treated and control groups before and after entropy balancing. Panel B is the regression results using the entropy matching sample. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise. *Ind_Non-Dec* is the percentage of Hong Kong listed firms in the same industry not choosing December as their fiscal year-ends. All other variables are defined in Appendix 2. Controls represents the control variables used in Table 4. Industry and year fixed effects (*IY*) are included in Columns (1) and (3); year fixed effects (*Y*) are included in Columns (2) and (4) (since *Ind_Non-Dec* is an industry-specific variable, which takes the same value for all firms in the same industry, we exclude the industry fixed effect from the model to avoid perfect collinearity). The *t*-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Balance Check for Entropy Balancing

Pre-balancing	Treated		Control		Mean Difference
	Mean	Variance	Mean	Variance	
SIZE	21.88	1.63	22.05	1.65	-0.170*** (-3.12)
LEV	0.52	0.04	0.51	0.04	0.010 (1.20)
VOL	0.14	0.01	0.14	0.01	-0.000 (-0.13)
Instown	0.25	0.05	0.23	0.05	0.018** (2.29)
RET	0.32	0.73	0.31	0.75	0.018 (0.78)
Turnover	21.10	1.33	21.15	1.36	-0.054 (-1.31)
ROA	0.03	0.00	0.02	0.00	0.002 (0.61)
Dual	0.18	0.14	0.15	0.13	0.021 (1.24)
Indir	0.37	0.00	0.37	0.00	0.001 (0.53)
SOE	0.54	0.25	0.59	0.24	-0.045** (-2.07)
Big4	0.04	0.04	0.07	0.06	-0.025** (-2.47)
Rev_Q4	0.20	0.03	0.20	0.03	0.003 (0.42)
Post-balancing	Treated		Control		Mean Difference
	Mean	Variance	Mean	Variance	
SIZE	21.88	1.63	21.87	1.63	0.003 (0.05)
LEV	0.52	0.04	0.52	0.04	0.000 (0.01)
VOL	0.14	0.01	0.14	0.01	0.000 (0.00)
Instown	0.25	0.05	0.25	0.05	0.000 (0.00)
RET	0.32	0.73	0.32	0.73	-0.000 (-0.00)
Turnover	21.10	1.33	21.09	1.33	0.003 (0.07)
ROA	0.03	0.00	0.03	0.00	0.000 (0.00)

Dual	0.18	0.14	0.18	0.14	-0.000 (-0.01)
Indir	0.37	0.00	0.37	0.00	0.000 (0.02)
SOE	0.54	0.25	0.54	0.25	0.000 (0.00)
Big4	0.04	0.04	0.04	0.04	-0.000 (-0.00)
Rev_Q4	0.20	0.03	0.20	0.03	0.000 (0.00)

Panel B: Regressions Using Entropy Balancing

	AB_DD		*AB_KLW*	
	(1)	(2)	(3)	(4)
MisMatch	**0.003****		**0.003***	
	(2.22)		**(1.68)**	
Ind_Non-Dec		**0.005**		**0.012*****
		(1.32)		**(3.21)**
Control variables	Yes	Yes	Yes	Yes
Fixed Effects	IY	Y	IY	Y
Obs.	11,887	11,263	11,887	11,263
Adj. R^2	0.065	0.043	0.043	0.031

Table 6: Alternative Measures of Accounting Quality

This table examines the impact of mismatch on alternative measures of accounting quality. Columns (1)–(4) examine the impact of mismatch on analyst earnings forecast properties. The dependent variables are *Forecast Accuracy* (the mean absolute value of the analyst forecast errors, multiplied by -1), and *Forecast Divergence* (the relative variation of the analyst forecast errors). Columns (5)–(8) examine the impact of mismatch on auditor efforts. *Audit Delay* is the decile rank of *Audelay_days*, which is the number of days between a firm's fiscal year-end and the date of release of its audit report. *Audit Fee* is the ratio of audit fee to a firm's revenue. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise. *Ind_Non-Dec* is the percentage of Hong Kong listed firms in the same industry not choosing December as their fiscal year-ends. All other variables are defined in Appendix 2. Year and industry fixed effects (*IY*) are included in the regressions when mismatch is measured by *Mismatch*; year fixed effects (*Y*) are included in the regressions when mismatch is measured by *Ind_Non-Dec* (since *Ind_Non-Dec* is an industry-specific variable, which takes the same value for all firms in the same industry, we exclude the industry fixed effect from the model to avoid perfect collinearity). The *t*-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Forecast Accuracy		***Forecast Divergence***		***Audit Delay***		***Audit Fee***	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
MisMatch	**-0.297***		**0.236****		**0.027*****		**0.020****	
	(-1.73)		**(2.02)**		**(2.85)**		**(2.14)**	
Ind_Non-Dec		**-0.655*****		**0.282***		**0.043****		**0.058*****
		(-2.71)		**(1.72)**		**(2.24)**		**(4.00)**
SIZE	0.132*	0.144*	-0.015	-0.027	0.020***	0.017***	-0.057***	-0.050***
	(1.69)	(1.86)	(-0.27)	(-0.48)	(4.53)	(3.98)	(-12.10)	(-12.50)
LEV	0.927**	1.010***	-0.794***	-0.999***	-0.028	-0.040	-0.028	-0.019
	(2.57)	(2.77)	(-3.03)	(-3.84)	(-1.11)	(-1.60)	(-1.05)	(-0.87)
ROA	9.168***	9.852***	-12.576***	-13.557***	-0.680***	-0.677***	-0.396***	-0.374***
	(8.12)	(8.36)	(-13.92)	(-14.48)	(-10.85)	(-10.46)	(-5.67)	(-6.60)
Dual	-0.229*	-0.226	0.156*	0.159*	0.029***	0.030***	0.001	0.002
	(-1.68)	(-1.64)	(1.69)	(1.69)	(3.12)	(3.11)	(0.16)	(0.29)
Indir	-1.188	-1.218	0.410	0.298	-0.021	0.001	0.068	0.051
	(-1.26)	(-1.25)	(0.60)	(0.42)	(-0.29)	(0.02)	(1.46)	(1.07)
Instown	0.383	0.456*	-0.371**	-0.439**	-0.014	-0.013	0.029*	0.032**
	(1.53)	(1.75)	(-2.14)	(-2.44)	(-0.66)	(-0.59)	(1.85)	(2.23)
Rev_Q4	1.252***	1.109***	-0.963***	-0.726***	-0.012	0.003	-0.201***	-0.192***
	(4.57)	(4.16)	(-4.83)	(-3.85)	(-0.48)	(0.12)	(-6.67)	(-7.05)
VOL	-1.119***	-1.169***	0.961**	1.010**				
	(-2.92)	(-2.94)	(2.25)	(2.28)				
Turnover	-0.376***	-0.433***	0.278***	0.346***				
	(-4.26)	(-4.91)	(4.38)	(5.40)				
# of Firms in Industry	-0.179	-0.217***	0.101	0.072				
	(-0.79)	(-3.08)	(0.59)	(1.47)				
STD_Earnings	-0.155***	-0.170***	0.154***	0.161***				
	(-3.87)	(-4.15)	(6.81)	(7.00)				
Analyst Coverage	0.264***	0.247***	-0.193***	-0.172***				
	(5.03)	(4.74)	(-5.09)	(-4.59)				
BM	-0.832***	-0.813***	0.019	0.006				
	(-2.74)	(-2.68)	(0.08)	(0.03)				
RET	0.428***	0.431***	-0.270***	-0.278***				
	(4.96)	(4.85)	(-4.63)	(-4.64)				
Big4					-0.073***	-0.073***	0.077***	0.075***
					(-4.11)	(-3.97)	(6.23)	(5.93)
Intangible					0.053	0.093	0.028	0.092
					(0.78)	(1.29)	(0.35)	(1.26)
ETR					0.002	0.003	-0.029***	-0.017*
					(0.26)	(0.26)	(-3.29)	(-1.86)

Turning Profit					-0.008	-0.008	0.030***	0.021***
					(-0.75)	(-0.78)	(3.55)	(2.76)
Delisting Risk					0.015	0.016	0.119***	0.118***
					(1.13)	(1.16)	(6.02)	(5.89)
Constant	3.719*	4.657***	-3.402**	-4.102***	0.066	0.037	1.384***	1.137***
	(1.94)	(2.70)	(-2.23)	(-3.52)	(0.63)	(0.39)	(12.69)	(14.07)
Fixed Effects	IY	Y	IY	Y	IY	Y	IY	Y
Obs.	12,204	11,732	11,580	11,127	13,696	13,094	13,696	13,094
Adj. R^2	0.041	0.039	0.091	0.087	0.063	0.054	0.232	0.215

Table 7: Cross-Sectional Variation Tests

Panel A presents the regression results on the impact of mismatch on accruals quality, conditioned on earnings management incentives (*Turning Profit* and *Delisting Risk*). The dependent variable in Panel A, *DACC,* is the signed abnormal accruals. Panel B presents the regression results on the impact of mismatch on accruals quality, conditioned on the likelihood of unintentional errors (*ACCEMP* and *Subsidiaries*). The dependent variable in Panel B, *AB_DACC*, is the absolute value of *DACC*. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise. *Ind_Non-Dec* is the percentage of Hong Kong listed firms in the same industry not choosing December as their fiscal year-ends. All other variables are defined in Appendix 2. Industry and year fixed effects (*IY*) are included in Columns (1)–(2); year fixed effects (*Y*) are included in Columns (3)–(4) (since *Ind_Non-Dec* is an industry-specific variable, which takes the same value for all firms in the same industry, we exclude the industry fixed effect from the model to avoid perfect collinearity). The *t*-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Intentional Manipulation Tests

Conditioning variable =	Dependent = *DACC*			
	Turning Profit	*Delisting Risk*	*Turning Profit*	*Delisting Risk*
	(1)	(2)	(3)	(4)
Mismatch	0.000	-0.000		
	(0.20)	(-0.15)		
Mismatch×Conditioning variable	**-0.007**	**-0.001**		
	(-1.16)	**(-0.28)**		
Ind_Non-Dec			-0.001	-0.002
			(-0.28)	(-0.78)
Ind_Non-Dec ×Conditioning variable			**-0.014**	**-0.000**
			(-1.53)	**(-0.01)**
Conditioning variable	0.010***	0.006***	0.014***	0.006**
	(5.45)	(3.17)	(5.01)	(2.14)
Control variables	Yes	Yes	Yes	Yes
Fixed Effects	IY	IY	Y	Y
Obs.	11,887	11,887	11,263	11,263
Adj. R^2	0.015	0.014	0.018	0.016

Panel B: Unintentional Error Tests

Conditioning variable =	Dependent = *AB_DACC*			
	ACCEMP	*Subsidiaries*	*ACCEMP*	*Subsidiaries*
	(1)	(2)	(3)	(4)
MisMatch	0.007***	-0.003		
	(3.45)	(-1.36)		
MisMatch×Conditioning variable	**-0.140****	**0.004*****		
	(-2.43)	**(3.02)**		
Ind_Non-Dec			0.011***	0.003
			(3.18)	(0.90)
Ind_Non-Dec ×Conditioning variable			**-0.199**	**0.003***
			(-1.51)	**(1.77)**
Conditioning variable	-0.159***	0.000	-0.122***	-0.000
	(-5.83)	(0.17)	(-2.93)	(-0.26)
Control variables	Yes	Yes	Yes	Yes
Fixed Effects	IY	IY	Y	Y
Obs.	9,809	11,887	9,230	11,263
Adj. R^2	0.070	0.065	0.050	0.046

Table 8: Impact of Mismatch on Intentional and Unintentional Restatements

Panel A provides descriptive statistics of intentional and unintentional restatements. Figures reported in parentheses are the percentages of restatements for mismatched or non-mismatched firms, respectively. Panel B examines the impact of mismatch on financial restatements. *Unintentional_restate* is an indicator variable that equals 1 if the restatement is classified as an error, and 0 otherwise. *Intentional_restate* is an indicator variable that equals 1 if the restatement is classified as an irregularity, and 0 otherwise. *MisMatch* is an indicator variable that equals 1 if the cash revenues from the fourth quarter of year *t* and the first quarter of year *t*+1 are larger than those from the second and third quarters of year *t*, and 0 otherwise. *Ind_Non-Dec* is the percentage of Hong Kong listed firms in the same industry not choosing December as their fiscal year-ends. All other variables are defined in Appendix 2. Industry and year fixed effects (*IY*) are included in Columns (1) and (3); year fixed effects (*Y*) are included in Columns (2) and (4) (since *Ind_Non-Dec* is an industry-specific variable, which takes the same value for all firms in the same industry, we exclude the industry fixed effect from the model to avoid perfect collinearity). The sample size in Panel B is slightly smaller than that in Panel A, because some observations are dropped from the logistic regressions due to perfect collinearity if there are no within-industry or within-year variances for the dependent variables. The *z*-statistics reported in parentheses are based on standard errors clustered by firm. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Descriptive Statistics of Intentional and Unintentional Restatements

	No. of obs.	No. of restatements	Irregularity-related restatements	Error-related restatements
Mismatched firms	1,881	179	26	153
		(9.52%)	(1.38%)	(8.13%)
Non-mismatched firms	15,504	1,213	195	1,018
		(7.82%)	(1.26%)	(6.57%)
F-statistics for testing the equality of mean values		6.52***	0.21	6.57***

Panel B: Impact of Mismatch on Financial Restatements

	Unintentional_restate		*Intentional_restate*	
	(1)	(2)	(3)	(4)
MisMatch	**0.200****		**0.014**	
	(1.97)		**(0.06)**	
Ind_Non-Dec		**0.644*****		**0.465**
		(4.71)		**(1.03)**
SIZE	-0.140***	-0.137***	-0.167*	-0.151*
	(-3.69)	(-3.54)	(-1.86)	(-1.66)
LEV	0.534**	0.395*	0.779	0.697
	(2.55)	(1.86)	(1.62)	(1.42)
ROA	-1.705***	-2.124***	-5.094***	-5.116***
	(-2.99)	(-3.75)	(-4.34)	(-4.41)
Dual	-0.094	-0.109	0.131	0.184
	(-1.09)	(-1.24)	(0.63)	(0.88)
Indir	0.937	0.838	-1.736	-2.156
	(1.31)	(1.14)	(-1.20)	(-1.38)
Big4	-0.642***	-0.644***	-0.368	-0.270
	(-2.73)	(-2.78)	(-0.71)	(-0.49)
Turning Profit	0.300***	0.354***	0.881***	0.775***
	(3.08)	(3.56)	(4.76)	(4.05)
Delisting Risk	-0.222*	-0.206	-0.068	-0.091
	(-1.79)	(-1.62)	(-0.26)	(-0.34)
Rev_Q4	0.032	0.174	-0.562	-0.186
	(0.15)	(0.95)	(-0.73)	(-0.29)
Constant	-0.638	-0.285	-0.220	-0.701
	(-0.65)	(-0.31)	(-0.10)	(-0.36)
Fixed Effects	IY	Y	IY	Y
Obs.	17,385	16,690	17,112	16,690
Pseudo R^2	0.029	0.019	0.049	0.037