Evidence from China on Whether Harmonized Accounting Standards Harmonize Accounting Practices

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SYNOPSIS: While international harmonization of accounting is gaining momentum in recent years, there is little empirical evidence on whether the harmonization of accounting standards leads to harmonized accounting practices and comparable financial reports. Benefiting from a unique research opportunity in China, this study provides such evidence. Since January 1, 1998, a newly promulgated Accounting Regulation for Listed Companies is in effect. This new regulation is the most comprehensive effort at harmonizing Chinese generally accepted accounting standards (GAAP) with International Accounting Standards (IAS). Based on a sample of listed companies required to reconcile accounting earnings from Chinese GAAP to IAS, we find no evidence that the Chinese government’s efforts eliminated or significantly reduced the gap between Chinese and IAS earnings despite harmonized accounting standards. We explore reasons for the continued earnings gap after the 1998 regulation and find that a lack of adequate supporting infrastructure, manifested in excessive earnings management and low quality auditing, may explain the gap.

INTRODUCTION

International harmonization of accounting has been gaining momentum in recent years. Some studies provide evidence on the progress of harmonization by comparing accounting standards (Doupnik 1987; Street and Gray 1999). However, institutional differences in infrastructure, culture, legal requirements, and socioeconomic and political systems may lead to noncomparable accounting numbers despite similar accounting
standards (Schultz and Lopez 2001). The Securities and Exchange Commission’s Concept Release on International Accounting Standards (SEC File No. S7-04-00) specifically raises this concern when considering use of IAS by non-U.S. companies desiring to register in the U.S. However, direct empirical evidence on this issue is rare. We use a unique research opportunity in China to examine whether the harmonization of accounting standards increases the comparability of reported numbers.\footnote{Comparability may be measured in several ways (Pownall and Schipper 1999). We measure comparability by directly assessing whether two sets of accounting standards lead to more comparable reported earnings on a common set of events and transactions after harmonization.}

China fundamentally changed its accounting system after the establishment of the Shanghai and Shenzhen Stock Exchanges (SSE and SZSE) in the early 1990s. Listed companies were originally authorized to issue A-shares only to domestic investors. Some companies, most of which had issued A-shares, were allowed in 1992 to issue B-shares to overseas investors. In response to the emerging stock market, the Chinese government issued Accounting Regulation for Experimental Listed Companies in 1992. The 1992 regulation moved away from the traditional fund-based Soviet accounting model and incorporated many common Western accounting practices reflected in IAS.\footnote{An accounting regulation in China is a comprehensive document that includes all pertinent principles, methods, and procedures for listed companies to follow in financial accounting and reporting.} In addition, companies that issue B-shares must restate their earnings according to IAS, presumably to ease overseas investors’ concerns over the lack of high-quality accounting standards in China. Although the Chinese government made explicit efforts to harmonize the 1992 regulation with IAS, Chen et al. (1999) identify several areas of significant difference between the two standards. They find Chinese earnings to be significantly higher than reconciled IAS earnings using a sample of B-share companies listed on the SSE from 1994 to 1997. They also provide evidence of a lack of comparability of reported accrued expenses and revenues even though the standard requirements of the 1992 regulation and IAS were similar.

To eliminate important discrepancies between Chinese GAAP and IAS identified in the literature, a new Accounting Regulation for Listed Companies was issued in 1998. Comments from within and outside China praised the new regulation’s intent on closing the gap between Chinese GAAP and IAS (Chen et al. 1999; Ministry of Finance 1998a). Our study uses this unique institutional setting to assess directly whether harmonizing accounting standards also harmonizes accounting practices. To do so, we compare reported accounting earnings before and after the 1998 regulation.

We address three research questions. First, we evaluate whether China’s harmonization efforts in 1998 eliminated or reduced the gap between earnings based on (1) Chinese GAAP and (2) IAS. Contrary to high expectations in China and abroad, we find no significant reduction in the earnings gap after the 1998 regulation. Second, the 1998 regulation revises seven specific accounting methods to eliminate well-documented discrepancies between Chinese GAAP and IAS. We examine the earnings gap for these seven methods and find no significant reduction in the gap. Third, we investigate reasons for the continued earnings gap. We develop a clear link between the earnings gap and earnings management and find a significantly smaller earnings gap in 1999 when Big 5 firms audit both A- and B-share reports. However, we find no evidence to suggest that auditing effectiveness of local firms, which audit the majority of A-share reports, helped to reduce the earnings gap. Our findings indicate that harmonizing accounting
standards did not harmonize reported earnings in China. Moreover, our findings suggest that a lack of effective financial-reporting infrastructure may have thwarted China’s very visible and highly acclaimed efforts to harmonize its standards with IAS.

BACKGROUND AND RESEARCH QUESTIONS

Prior Literature on Harmonization

Despite rising pressure for and interest in international harmonization of accounting, due to the increasing globalization of capital markets, there is no consensus on the exact meaning of accounting harmonization. This study defines accounting harmonization as (1) the harmonization of accounting standards and (2) the harmonization of accounting practices. Similar classifications appeared earlier in terms of de jure vs. de facto harmonization (Tay and Parker 1990), but a proper distinction is often not explicit in the literature. As pointed out in Meek and Saudagaran (1990) and Pownall and Schipper (1999), many discussions and studies focus on comparing standards, and implicitly assume that harmonized accounting standards lead to harmonized accounting practices and comparable financial reports.

Many studies assess the first aspect of harmonization by comparing accounting standards across nations or with IAS, such as Doupnik (1987), Nair and Frank (1981), and Street and Gray (1999). Overall, these studies find increasing similarities between IAS and accounting standards in both developed and developing nations over the last three decades.

However, the second aspect of harmonization receives less attention. Several studies examine the harmonization of accounting practices by comparing whether companies in different countries adopt similar accounting policies as a result of harmonization efforts. Evans and Taylor (1982) study the impact of five IASs on the accounting policies of 50 companies in France, Japan, the U.K., the U.S., and West Germany from 1975 to 1980 and conclude that the International Accounting Standards Committee (IASC) had little effect on harmonizing accounting policies. Emenyonu and Gray (1992) investigate whether the European Community’s harmonization effort produced similar accounting policies in France, Germany, and the U.K. in 1989. They find the overall level of “policies harmonization” across the three countries to be low (see also Herrmann and Thomas 1995). All these studies use cross-sectional similarities in accounting policies as evidence of comparability. For instance, practices are said to be harmonized when two firms both use the allowance method for bad debts. However, if one firm uses unrealistically low default rates, then comparable policies do not produce comparable earnings.

This study directly examines whether harmonized accounting standards lead to comparable accounting earnings being reported by the same company. Evidence on this point is rare because few companies report two sets of accounting numbers that are subjected

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3 A third dimension of international harmonization relates to underlying events in different countries. Even if a single set of rules is applied consistently, comparable financial reports do not result if dissimilar events/transactions are accounted for as if they are similar (Pownall and Schipper 1999). This aspect is beyond our study, and we are unaware of any studies in the literature that explicitly examine this dimension of accounting harmonization.

4 The harmonization of accounting practices may also refer to proper implementation of accounting standards. Thus, some may view our results as an indication that Chinese companies do not properly apply accounting standards.
to harmonization efforts. Many studies examine SEC Form 20-F reconciliations by foreign registrants in the U.S. However, the results do not address the success or failure of harmonization because the standards were not subjected to harmonization efforts. An exception is Street et al. (2000) who study the change in 20-F reconciliation amounts following the IASC’s Comparability Project. Their findings suggest improved comparability of accounting earnings under IAS and U.S. GAAP in 1997 over that of 1995 and 1996.

China’s unique research opportunity is due to the combination of efforts to harmonize Chinese accounting standards with IAS in 1998 and the required reconciliation by B-share companies. This allows us to quantify the comparability of reported earnings before and after the 1998 regulation. In a study of earlier harmonization efforts by the Chinese government, Chen et al. (1999) document significant differences between the 1992 regulation and IAS, and find a lack of comparability in accrued expenses and revenues despite harmonization of standards on these topics. We analyze additional standards harmonized in 1998 using a before-and-after-harmonization sample design and statistically test for a reduction in the earnings gap to assess whether harmonizing accounting standards leads to harmonized accounting practices.

**Recent Harmonization Efforts in China**

The 1998 regulation was issued specifically to eliminate discrepancies between Chinese GAAP and IAS in the 1992 regulation. This new regulation took effect on January 1, 1998, replacing the 1992 regulation. The official view of the Chinese government was that the 1998 regulation was in harmony with IAS in all major aspects and that the accounting practices of listed companies in China should be largely harmonized with the requirements under IAS (Ministry of Finance 1998a, 21).

The 1998 regulation made many changes in order to harmonize Chinese GAAP with IAS. For example, before the 1998 regulation, listed companies in China could provide for bad debts up to a government-approved percentage from 0.3 percent to 0.5 percent. In reality, Chinese companies carried much greater bad debts. Consequently, the 1998 regulation mimicked IAS by allowing companies to use their best judgement to decide the level of bad debts provision. Table 1 summarizes and compares seven accounting methods under the 1992 regulation, the 1998 regulation, and IAS. In almost every case, the 1998 regulation is the same as IAS. Consequently, Table 1 supports the claim that the 1998 regulation made significant progress in harmonizing Chinese accounting standards with IAS.

**Research Questions**

We examine empirically these three research questions:

- **RQ1:** Does the 1998 accounting regulation for listed companies eliminate or reduce the earnings gap between Chinese GAAP and IAS?
- **RQ2:** Do the seven revised accounting methods summarized in Table 1 eliminate or reduce the earnings gap between Chinese GAAP and IAS?
- **RQ3:** Is the size of the earnings gap after the 1998 regulation related to preparer and auditor characteristics that reflect financial-reporting infrastructure?

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Some show significant earnings differences between U.S. GAAP and foreign GAAP (e.g., Weetman and Gray 1991), while others investigate the value-relevance of earnings based on U.S. GAAP vs. foreign GAAP (e.g., Amir et al. 1993). Harris and Muller (1999) examine reconciliation differences between IAS and U.S. GAAP and assess the value relevance of U.S. GAAP reconciliations.
TABLE 1
Summary and Comparison of Seven Revised Accounting Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>1992 Regulation</th>
<th>1998 Regulation</th>
<th>IAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bad Debt Allowance</td>
<td>Allowance based on a government-approved percentage from 0.3% to 0.5%.</td>
<td>Allowance determined by the company.</td>
<td>Same as the 1998 regulation.</td>
</tr>
<tr>
<td>Inventory Valuation</td>
<td>Historical cost.</td>
<td>Revaluation required based on lower of cost or net realizable value.</td>
<td>Same as the 1998 regulation.</td>
</tr>
<tr>
<td>Investment Valuation</td>
<td>Both current and long-term investments based on historical cost.</td>
<td>Current and long-term investments revalued based on lower of cost or market.</td>
<td>Same as the 1998 regulation in terms of earnings effect, though upward revaluations allowed to increase equity.</td>
</tr>
<tr>
<td>Equity/Cost Method</td>
<td>Equity method used for more than 50% ownership.</td>
<td>Equity method required for 20–50% ownership.</td>
<td>Same as the 1998 regulation.</td>
</tr>
<tr>
<td>Organization Costs</td>
<td>Amortized over more than 5 years.</td>
<td>Amortized over less than 5 years.</td>
<td>Amortized over less than 20 years, but with amortization over less than 5 years common.</td>
</tr>
<tr>
<td>Revenue Recognition</td>
<td>Revenue recognized when goods shipped and payments or promises of payments received.</td>
<td>Revenue recognized when risks and rewards of ownership of goods transferred to buyer, no continuing managerial involvement and control over the goods, payments or promises of payments received, and costs are reliably measurable.</td>
<td>Same as the 1998 regulation.</td>
</tr>
<tr>
<td>Consolidation</td>
<td>Consolidation when more than 50% ownership.</td>
<td>Consolidation when more than 50% ownership or control over an enterprise including joint ventures.</td>
<td>Same as the 1998 regulation.</td>
</tr>
</tbody>
</table>

RESULTS AND ANALYSES
Sample, Data, and Statistical Analysis

Data from listed companies in China that offer A- and B-shares provide an opportunity to analyze the three research questions. Not only must these companies issue financial statements based on both sets of accounting standards, they must provide line-item reconciliations of earnings between the two standards. We examine differences between Chinese and IAS earnings over a three-year period from 1997 to 1999.
Comparing earnings differences one year before the 1998 regulation to differences two years after should reduce any potential impact of transition rules.\textsuperscript{6}

We collected data for 75 companies over the three years from the following sources: Collection of 1999 Annual Reports for Listed Companies, published by Economic Science Press; Complete Data Collection of Listed Companies in 1999, published by Shanghai Education Press; and Database of Listed Companies in China: 1990–1998, published by People’s University Press. Figure 1 describes sample firms along two dimensions.

Panel A of Figure 1 compares the percentages of firms whose Chinese earnings are more or less than IAS earnings. Previous studies (Chen et al. 1999) find that Chinese earnings are higher than IAS earnings. In our sample, Chinese earnings exceed IAS earnings in 80 percent of the sample in 1997, 58.67 percent in 1998, and 69.34 percent in 1999. Although the number of firms reporting no reconciliation doubled after the 1998 regulation, 95 percent of the sample still reported differences in earnings, suggesting that the harmonization effort did not immediately make reported figures comparable. Although we observe fewer cases where a company reports a profit under Chinese GAAP and a loss under IAS in 1998 (9.33 percent) than in 1997 (12 percent), the percentage is higher in 1999 (13.33 percent). Panel B compares mean earnings under the two standards. In all three years, mean Chinese earnings are greater than mean IAS earnings. Although the difference is visibly smaller in 1998 than in 1997, the greatest difference in means occurs in 1999.

To further examine the effect of the 1998 regulation, we compute the following:

\[
\text{GAP}_{it} = |E_{it}^{\text{IAS}} - E_{it}^{\text{CN}}| \\
\Delta\text{GAP}_{it} = \text{GAP}_{it} - \text{GAP}_{i97}
\]

where \(E_{it}^{\text{CN}}\) is firm \(i\)'s earnings for period \(t\) reported under Chinese GAAP and \(E_{it}^{\text{IAS}}\) is earnings restated to comply with IAS.\textsuperscript{7} All earnings figures are scaled by total assets based on IAS. For notational simplicity, the firm subscript, \(i\), is omitted in the remainder of the paper. If the 1998 regulation immediately eliminates the earnings gap, then \(\text{GAP}_{i98}\) should be zero. Even if harmonization is incomplete, \(\Delta\text{GAP}\), should be significantly negative if the 1998 regulation harmonizes some practices. The gaps are calculated for total earnings and aggregate earnings related to the seven revised accounting methods. We test for a reduction of earnings gap (\(\Delta\text{GAP}\)) using a parametric t-test of mean and a nonparametric Wilcoxon test of median. In the t-test, \(\Delta\text{GAP}\) are assumed to normally distributed, whereas the Wilcoxon test requires only that \(\Delta\text{GAP}\) are independent of each other. The Wilcoxon test is useful because it is not influenced by extreme values.

\textsuperscript{6} In Document No. 7 issued on January 27, 1998, the Ministry of Finance specified January 1, 1998 as the effective date for the 1998 regulation without providing any guidelines for transition (Ministry of Finance 1998b). On July 27, 1998, the Ministry of Finance released Document No. 29 on issues of transition and required that changes in accounting policies caused by the 1998 regulation be implemented retroactively with the cumulative effect adjusted to the beginning equity (Ministry of Finance 1998c). However, if the cumulative effect of a new policy could not be reasonably determined, then companies were allowed to implement the new policy in the current and future periods (Ministry of Finance 1998c). The actual practice of transition may vary in 1998, which may confound the effectiveness of the 1998 regulation in eliminating or reducing the earnings gap in 1998. However, such transitional impact on the earnings gap in 1999 should be minimal.

\textsuperscript{7} Since companies with both A- and B-shares must report line-item reconciliations between Chinese GAAP and IAS earnings, we are able to measure the earnings gap directly from reported numbers.
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Effectiveness of 1998 Regulation in Harmonizing Earnings

Panel A of Table 2 presents descriptive statistics on earnings gaps (GAP). As a percentage of total assets, the mean earnings gap is 1.8 percent in 1998 and 1.5 percent in 1999, compared to 1.4 percent in 1997. The median gaps indicate that 50 percent of the sample companies report earnings gaps greater than 0.5 percent of total assets during the testing period. Auditing practice guidelines often suggest 5 percent of earnings as a materiality threshold (Arens and Loebbecke 1997, 251; Shi and Lu 1998, 35). If normal ROA is 10 percent, then a change in earnings in excess of 0.5 percent of assets is a material effect. In fact, 0.5 percent of assets is also recommended as an alternative for assessing the materiality of earnings in published auditing guidelines in China (Shi and Lu 1998, 35). Thus, we conclude that earnings gaps after the new regulation are still economically significant.

FIGURE 1
Sample Description: Chinese GAAP Earnings vs. IAS Earnings
(n = 75)

Panel A: Sample Distribution

Panel B: Mean Chinese GAAP Earnings vs. Mean IAS Earnings

GT = Chinese earnings greater than IAS earnings;
EQ = Chinese earnings equal to IAS earnings;
LT = Chinese earnings less than IAS earnings; and
EXTR = profit under Chinese GAAP but loss under IAS.

CN = mean earnings based on Chinese GAAP; and
IAS = mean earnings based on IAS.
Panel B of Table 2 examines the change in the earnings gaps between 1997 and 1998 or 1999. If the 1998 regulation significantly reduces a firm’s earnings gap, then \( \Delta GAP_{98} \) and/or \( \Delta GAP_{99} \) should be less than zero. Both the mean and the median test are presented in bar charts based on three different samples. Using the full sample, the mean and median of \( \Delta GAP_t \) are 0.005 and −0.007 for 1998 and 0.001 and −0.000 for 1999, and all are insignificantly different from zero. We then divide the sample into two

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>25th Percentile</th>
<th>Median</th>
<th>75th Percentile</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>0.014</td>
<td>0.002</td>
<td>0.009</td>
<td>0.021</td>
<td>0.082</td>
</tr>
<tr>
<td>1998</td>
<td>0.018</td>
<td>0.001</td>
<td>0.006</td>
<td>0.018</td>
<td>0.171</td>
</tr>
<tr>
<td>1999</td>
<td>0.015</td>
<td>0.002</td>
<td>0.005</td>
<td>0.015</td>
<td>0.140</td>
</tr>
</tbody>
</table>

### Panel B: \( \Delta GAP_t \) – Change in Earnings Gap

<table>
<thead>
<tr>
<th>Year</th>
<th>( \Delta GAP_{97} )</th>
<th>( \Delta GAP_{98} )</th>
<th>( \Delta GAP_{99} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>0.005***</td>
<td>−0.007</td>
<td>−0.012**</td>
</tr>
<tr>
<td>1998</td>
<td>0.009***</td>
<td>0.000</td>
<td>0.001***</td>
</tr>
<tr>
<td>1999</td>
<td>0.000</td>
<td>−0.005</td>
<td>−0.010</td>
</tr>
</tbody>
</table>

\( \ast, \ast\ast, \ast\ast\ast \) Denote significance at the 0.10, 0.05, and 0.01 levels, respectively, based on two-tailed tests.

\( GAP_t \) = absolute value of difference between IAS earnings and Chinese earnings deflated by total IAS assets in year \( t \); and

\( \Delta GAP_t \) = difference between \( GAP_{98} \) or \( GAP_{99} \) and \( GAP_{97} \).
groups based on the median of GAP₉⁷ to test whether the effectiveness of the 1998 regulation depends on the magnitude of the gap prior to the regulation. When comparing 1998 with 1997, ΔGAP₉₈ means and medians are statistically insignificant for both subsets of firms. However, comparing the earnings gaps in 1999 and 1997, we observe opposite results for the two subsamples. For firms with larger earnings gaps in 1997, the test of medians reveals a significantly smaller earnings gap in 1999 although the test of means is still insignificant. But for firms with smaller earnings gaps in 1997, both tests indicate a significant increase in earnings gaps between 1997 and 1999.

Effectiveness of Revised Accounting Methods in Harmonizing Earnings
Tests above are based on the overall gap between Chinese and IAS earnings. It is possible that the gaps related to a subset of the revised accounting methods in the 1998 regulation are eliminated or reduced. If China’s harmonization efforts are successful, then we should at least observe that the seven revised accounting methods listed in Table 1 harmonized reported earnings because they are virtually identical to IAS. We therefore compute GAPrm, and ΔGAPrm, in which the earnings gaps are measured as the sum of the line-item reconciliations for the seven revised accounting methods. Table 3 reports tests of means and medians of these two variables.

Panel A of Table 3 presents descriptive statistics for GAPrm, with results similar to those based on total earnings in Table 2. The mean (median) gap in reported earnings caused by the seven revised methods is 0.9 percent (0.4 percent) of total assets in 1997, 1.2 percent (0.4 percent) in 1998 and 1.2 percent (0.3 percent) in 1999. These statistics indicate that harmonizing the seven revised accounting methods with IAS in 1998 did not immediately eliminate the earnings gap.

Panel B tests for the reduction of earnings gap over two years. Again, we fail to observe any systematic reduction in earnings gaps of the full sample for either 1998 or 1999. However, when we divide the sample into two groups based on the median earnings gap in 1997, both tests reveal a significant increase in earnings gaps from 1997 to 1998 and from 1997 to 1999, for firms with smaller earnings gaps in 1997. For firms with larger earnings gaps in 1997, the mean (median) earnings gaps in 1998 and 1999 are not significantly different from those in 1997. Consequently, we find no evidence to support the claim that the combined effect of the seven harmonized accounting standards successfully harmonized accounting earnings. On the contrary, we find significantly larger earnings gaps related to the seven revised methods among a subset of our sample firms.

We also conduct a separate analysis of each of the seven revised methods, not reported here. Although the earnings gap for bad debt allowance is most pronounced as it produces the largest mean and median from 1997 to 1999 (0.019, 0.014, 0.016 for the means and 0.006, 0.007, 0.006 for the medians for 1997, 1998, and 1999, respectively), no particular method dominates the tests of gap reduction reported in Panel B of Table 3. Tests of earnings gap reduction for each method, also not reported here, provide supporting and corroborating evidence. Except for the equity vs. cost method where the mean earnings gap reduction from 1997 to 1999 is statistically significant at the 5 percent level, we find no evidence of earnings gap reduction for any of the other six methods after the 1998 regulation.⁸

⁸ Among these seven revised methods, investment valuation deserves additional analysis. Note that the 1998 regulation and IAS have identical lower-of-cost-or-market rules, which can be applied on the individual or portfolio basis for current investments, but only at the individual level for long-term investments. However, the upward revaluations allowed under IAS (see Table 1) are potential sources of incomparability. Although our test of ΔGAP for investment valuation indicates a significant increase in the earnings gap in 1999, the reported results of Table 3 are qualitatively unchanged after excluding this method from the test statistics.
Reasons for the Continuing Earnings Gap

Given the degree of harmonization of the revised accounting standards with IAS, the lack of significant gap reduction or the contrary evidence of significant gap increase is cause for further investigation. Although the 1998 earnings gap may be affected by ambiguous transition rules, such transition effects should be minimal in 1999 (see footnote 6). Our results over the two years suggest that a lack of rigorous implementation explains the continued earnings gap.\(^9\) Rigorous implementation of quality accounting

\(^9\) While we only include two-year data after the 1998 regulation in this study, anecdotal evidence in Chinese newspapers suggests continued earnings gaps after 1999. For example, bad debt allowance, inventory valuation, and investment valuation were still reported as the primary factors for the earnings gap in 2000 (Guo 2001).

TABLE 3

Effectiveness of Revised Accounting Methods in Harmonizing Earnings between Chinese GAAP and IAS

\((n = 75)\)

| Panel A: \(\text{GAP}_{\text{rm97}}\) – Earnings Gap |
|-----------|----------------|
| **Year** | **Mean** | **25th | **Median** | **75th** | **Maximum** |
| 1997     | .009     | .001   | .004      | .013     | .061      |
| 1998     | .012     | .000   | .004      | .010     | .115      |
| 1999     | .012     | .001   | .003      | .013     | .166      |

<table>
<thead>
<tr>
<th>Panel B: (\Delta \text{GAP}_{\text{rm97}}) – Change in Earnings Gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>**GAP}_{\text{rm97}}\text{Median}</td>
</tr>
<tr>
<td>98 vs. 97</td>
</tr>
</tbody>
</table>

\*\*\*** Denote significance at the 0.10, 0.05, and 0.01 levels, respectively, based on two-tailed tests.

\(\text{GAP}_{\text{rm97}}\) = absolute value of difference between IAS earnings and Chinese earnings related to the seven revised accounting methods deflated by total IAS assets in year \(t\); and

\(\Delta \text{GAP}_{\text{rm97}}\) = difference between \(\text{GAP}_{\text{rm97}}^{98}\) or \(\text{GAP}_{\text{rm97}}^{99}\) and \(\text{GAP}_{\text{rm97}}^{97}\).
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standards requires an effective financial-reporting infrastructure, including preparer professionalism, quality auditing, and effective enforcement (AAA FASC 2000). Developing countries often lack such infrastructure to make accounting standards work as originally intended (Saudagaran and Diga 1997). China is unlikely to be an exception (Chen et al. 1999; Xiao et al. 2000; Xiang 1998).

The new regulation in general and the seven revised methods in particular better reflect accrual accounting, which demands a higher level of professionalism on the part of both preparers and auditors. For example, the previous rules mandated a narrow range of 0.3 percent to 0.5 percent provision for bad debts, whereas the revised method dictates that a firm’s receivable balance should reflect economic reality. Although the revised approach can convey more accurate information, it provides management with more discretion to manipulate the balance. Without preparer professionalism and quality auditing, companies may utilize the flexibility in the 1998 regulation to manage their earnings under Chinese GAAP. Chen et al. (1999) report a lack of comparability of accrued expenses and revenues despite similar standards in the 1992 regulation and IAS, and they interpret their result as evidence of opportunistic applications of Chinese GAAP. We provide further evidence by investigating the differences in earnings gaps based on several preparer and auditor characteristics that measure elements of financial-reporting infrastructure.

Earnings Management

First, we examine whether the observed gaps are consistent with earnings management. Chinese GAAP earnings are more likely to be managed than IAS earnings for various reasons. The controlling shareholders of listed companies in China are either state-owned enterprises or government agencies. Both entities evaluate management of their listed companies based on earnings as reported in A-share statements. The tenure, promotion, and political future of top management depend on earnings performance in the eyes of controlling shareholders (Chen et al. 2001; DeFond et al. 2000; Xiao et al. 2000). In addition, security regulations contain profitability targets that govern the eligibility for raising additional capital or determining delisting, both of which create strong incentives for earnings management (Chen et al. 2001; DeFond et al. 2000). A documented lack of quality auditing (DeFond et al. 2000; Xiao et al. 2000; Xiang 1998) may further exacerbate earnings management. In comparison, B-share reporting operates in a different environment. Management has fewer incentives to manipulate IAS earnings because all important performance evaluation mechanisms depend on A-share earnings. Also, our interviews with Chinese auditors and Big 5 auditors in China reveal that it is both easier and more likely for auditors to hold a high standard for B-share than for A-share reports.

Panel A of Table 4 reports mean and median tests for DGAPrm, separately for firms with Chinese earnings greater or less than IAS earnings in 1998 and 1999. If a firm manages its A-share earnings upward, then it will fall into the subsample with \( E^{CN} > E^{IAS} \). Panel A shows that 38 and 41 of the sample firms have \( E^{CN} > E^{IAS} \) in 1998 and 1999, respectively. Interestingly, \( \Delta G A P r m \), for these 79 firm-years are significantly positive, indicating that these firms experienced an increase in the earnings gap after the 1998 regulation. These results are consistent with the earnings gaps reflecting upward earnings management in 1998 and 1999. Panel B further examines whether the earnings gap is larger when the “true” profitability as measured by IAS earnings (ROAIAS) is lower. If managers intentionally overstate Chinese earnings to hit earnings targets in bad years, then we expect a negative correlation between the earnings gap and ROAIAS.
for companies reporting greater Chinese earnings. As shown in Panel B, the correlations are significantly negative for both years based on the nonparametric Spearman correlation.

**Types of Audit Opinions**

Next, we investigate the relation between the earnings gap and audit opinions. Suppose excessive earnings management is a primary reason for the continued earnings gap. If so, then one expects that A-share reports with material earnings gaps are more likely to receive modified audit opinions—unqualified opinions with explanatory notes, and qualified, disclaimed, and adverse opinions—when auditing is of high quality. To increase statistical power, we conduct Chi-square tests only for firms with $E_{CN}^{\text{CN}} > E_{IAS}^{\text{IAS}}$, the same 38 firms in 1998 and 41 firms in 1999 reported in Table 4. For each year, we split the sample into four groups based on whether a firm receives a modified opinion and whether GAPrm is greater or less than the .005 materiality level. We then test for an association between firms reporting material earnings gaps and firms receiving modified audit opinions. For both years, the Chi-square tests fail to reveal any significant association; p-values are .615 for 1998 and .479 for 1999.10

Finally, we analyze whether the size of earnings gap depends on the quality of auditors. The majority of our sample firms hire two different CPA firms, with the domestic GAAP-based statements audited by a local firm and the IAS-based statements audited by an international (usually Big 5) firm. For about 20 percent of our sample, Big 5 firms audit both A and B reports. If Big 5 auditors are of higher quality and hold the same standards for A- and B-share reports, then one expects A-share reports audited by the same Big 5 auditors to contain smaller earnings gaps. We also classify firms into two

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10 The Chi-square test result for 1998 needs to be interpreted with caution because one cell contains an expected count of less than 5.

**TABLE 4**

**Earnings Gap and Earnings Management**

**Panel A: Impact of Chinese GAAP Earnings Over- and Understatement**

<table>
<thead>
<tr>
<th>ΔGAPrm</th>
<th>n</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998 vs. 1997</td>
<td>38</td>
<td>.009**</td>
<td>.002*</td>
</tr>
<tr>
<td>1999 vs. 1997</td>
<td>41</td>
<td>.007**</td>
<td>.004**</td>
</tr>
</tbody>
</table>

**Panel B: Correlation of Earnings Gaps and Profitability**

<table>
<thead>
<tr>
<th>GAPrm (n = 38)</th>
<th>GAPrm (n = 41)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA _IAS _98</td>
<td>Pearson</td>
</tr>
<tr>
<td>-.797***</td>
<td>-.510***</td>
</tr>
<tr>
<td>-.128</td>
<td>-.530***</td>
</tr>
</tbody>
</table>

*, **, *** Denote significance at the 0.10, 0.05, and 0.01 levels, respectively, based on two-tailed tests.

GAPrm = absolute value of difference between IAS earnings and Chinese earnings related to the seven revised accounting methods deflated by total IAS assets in year t;

ΔGAPrm = difference between GAPrm or GAPrm and GAPrm; and

ROA \_IAS \_t = return on assets under IAS in year t.
groups based on whether A-share reports are audited by a Big 10 or a non-Big 10 local auditor in China, as ranked by number of clients after excluding the Big 5 from the sample. If large firms perform high-quality audits, then one might expect smaller earnings gaps for A-share reports audited by Big 10 auditors. Again, we conduct the mean and median tests of earnings gap differences only for firms with $E^{CN} > E^{IAS}$.

Although the results are insignificant in 1998, we find consistent evidence that A-share reports audited by Big 5 auditors have significantly smaller mean and median earnings gaps in 1999; p-values are .000 for the mean difference and .024 for the median difference. In fact, both the mean and median gaps of .0015 and .0016, respectively, for Big 5 auditors are considerably smaller than the .005 materiality level, compared with the mean and median gaps of .0154 and .0066, respectively, for local auditors. This suggests a relationship between size of the earnings gap and the quality of auditors in China. As for auditor size, the results are generally insignificant, but we have some contradictory evidence that A-share reports audited by Big 10 local auditors show a larger mean earnings gap in 1998 than those audited by non-Big 10 (p-value is .034). These results may be due to a specific situation in China that makes auditor size an inappropriate proxy for auditor quality. In 1998, the government launched a nationwide campaign to merge CPA firms to improve audit quality. Some firms may be classified as Big 10 due to recent mergers, but they may not have finished the internal reorganizations needed to reap the benefits of the mergers.

In sum, we present consistent evidence suggesting upward earnings management as one reason for the continued earnings gap. Since Big 5 auditors seem effective in reducing the earnings gap, we consider low-quality auditing by local firms to be another reason. Admittedly, we only use a limited number of proxy variables to measure preparer and auditor characteristics. Given this caveat, together with existing evidence on the financial-reporting environment in China (DeFond et al. 2000; Xiao et al. 2000; Xiang 1998), our analyses suggest that a lack of adequate supporting infrastructure, including preparer professionalism and quality auditing, is an important contributing factor for the continued earnings gap after the 1998 regulation.

Although we do not have direct evidence in this study, the notion that weak enforcement contributes to the continued earnings gap is hardly unfounded speculation. If regulators really want harmonized accounting numbers, then they could take enforcement actions against companies reporting material earnings gaps. However, on November 7, 2000, the China Securities Regulatory Commission (2000) issued an official document on earnings reconciliation, which effectively bans reporting earnings differences for fully harmonized accounting standards in the future. On the one hand, we interpret this new regulatory rule as an indirect admission of insufficient enforcement in the past. On the other hand, we hope the earnings gaps documented in this study will be significantly reduced, if not totally eliminated, after effective implementation of this new rule. Once the gaps are no longer reported, verifying their reduction becomes difficult.

SUMMARY AND CONCLUSION

Our investigation of whether the new accounting regulation for listed companies in China eliminated or reduced differences between Chinese earnings and IAS earnings produces three primary findings. First, contrary to the high expectations both in China and abroad, we find that harmonization under the 1998 regulation did not immediately eliminate or significantly reduce the earnings gaps. Second, the seven revised accounting methods in the 1998 regulation specifically intended to eliminate differences between
Chinese GAAP and IAS also failed to eliminate or significantly reduce the earnings gaps. Given the similarity of these seven revised methods with IAS, our results support the claim that the harmonization of Chinese accounting standards with IAS is not sufficient to harmonize accounting practices. Third, our investigation of possible reasons for the continued earnings gaps develops links with a lack of supporting infrastructure.

Because our sample companies must report a reconciliation between Chinese earnings and IAS earnings, these companies have an incentive to minimize the earnings gaps. Thus, this study is likely to have a downward-biased measure of the earnings gap. If reconciliations are not required, then the observed gaps could be larger. However, a precise quantification of this bias is not possible in the current research setting.

Because our research design holds constant the reporting entity and varies the reporting system, our finding of noncomparable earnings from harmonized standards is not confounded by factors such as differences in economic environments, underlying events and transactions, and enforcement mechanisms. However, our results cannot be automatically generalized to cross-national comparability in financial reports if both the reporting entity and the reporting system are allowed to vary. Such cross-national studies of harmonization consequence are often not feasible due to a lack of data. Even with this limitation, our findings may be of use to regulators, standard setters, researchers, and others who are involved in efforts toward accounting harmonization as long as the comparability of financial reports is considered the ultimate goal of such efforts.

REFERENCES


