

“Do the organization types of audit firms matter to earnings conservatism? Evidence from China”

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ARTICLE INFO	Tzu-Ching Weng (2017). Do the organization types of audit firms matter to earnings conservatism? Evidence from China. <i>Investment Management and Financial Innovations</i> , 14(2), 116-127. doi: 10.21511/imfi.14(2).2017.11
DOI	http://dx.doi.org/10.21511/imfi.14(2).2017.11
RELEASED ON	Tuesday, 06 June 2017
RECEIVED ON	Wednesday, 15 February 2017
ACCEPTED ON	Thursday, 04 May 2017
LICENSE	 This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License
JOURNAL	"Investment Management and Financial Innovations"
ISSN PRINT	1810-4967
ISSN ONLINE	1812-9358
PUBLISHER	LLC “Consulting Publishing Company “Business Perspectives”
FOUNDER	LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

36



NUMBER OF FIGURES

0



NUMBER OF TABLES

6

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BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"
Hryhorii Skovoroda lane, 10, Sumy,
40022, Ukraine

www.businessperspectives.org

Received on: 15th of February, 2017
Accepted on: 4th of May, 2017

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DO THE ORGANIZATION TYPES OF AUDIT FIRMS MATTER TO EARNINGS CONSERVATISM? EVIDENCE FROM CHINA

Abstract

This study explores whether legal liability of audit firms is associated with client's earnings conservatism. In China, audit firms are allowed to choose between legal forms of general partnership (GP) and limited liability corporation (LLC). Because partner auditor is personally liable for all partners' service in general partnership form, that will provide an incentive for audit partners to monitor each other's audit quality. Conversely, personal assets of individual partner, under LLC, are no longer available to pay a partnership's liability, thus reducing the incentives for intrafirm monitoring by partners within an audit firm. Using several different methods for identifying earnings conservatism, this study finds that LLC audit firms are associated with reduced conservatism.

Keywords

general partnerships, Limited Liability Corporation,
earnings conservatism

JEL Classification M42

INTRODUCTION

The objective of this study is to examine whether earnings conservatism is associated with the organization types of audit firms. The law of People's Republic of China on Certified Public Accountants (hereafter CPA) stipulates that an accounting firm can be established by two or more CPAs in partnership or a legal entity with limited liability. Because the auditors' legal liability typically varies across limited and unlimited liability regimes, this study aims to examine if partners in partnership audit firms are more likely to mitigate the tendency of firms to delay the recognition of economic losses in earnings, relative to those in limited liability audit firms.

In response to the allegation that the auditing profession faced a "liability crisis", AICPA amended its by-law in 1992 and allowed audit firms to practice under any organizational form allowed by state laws (Simonetti and Andrews, 1994). Ruddock et al. (2006) suggest that the state law enables audit firms practice under either unlimited or limited liability (LL) organizational forms and many audit firms tend to converted to LL forms (Muzatko et al., 2004). By late 1994, all Big 6 audit firms converted from general partnerships (GP) to limited liabilities partnerships (LLPs).

An audit firm's liability depends on its organizational form of practice. Under a limited liability corporation (hereafter LLC), personal

assets of individual partners, who were not directly involved in a client's litigation, are no longer available to pay a partnership's liabilities. In contrast, every partner in unlimited liability audit firms is personally liable for all services provided by the audit firms. Choi et al. (2004) provide evidence of increase in risk in the Big 6 auditors' client portfolios subsequent to their shift to limited liability partnership status. However, the differential legal liability across different regime can result in differential auditor quality. Because auditors can reduce potential litigation and damages by performing higher-quality audit, the threat of litigation provides an incentive for auditor to perform high-quality audits.

The analytical models demonstrate that lower legal litigation poses a threat to auditor independence and in turn audit quality (Dye, 1993, 1995). Compared to those in LLC audit firms, auditors in partnership audit firms have greater incentive to perform high-quality audit in an attempt to avoid the potential litigation and damage associated with their organization form. Specifically, this study explores if partnership audit firms provide larger incentive for auditors to influence clients' asymmetric timeliness of earnings by constraining aggressive reporting of accruals and persuading clients to report economic losses in a timely fashion. Earnings conservatism, in particular asymmetric timeliness of earnings, has been well documented in the United States (Basu, 1997; Givoly and Hayn, 2000) and worldwide (Ball et al., 2000). Therefore this study hypothesizes that when auditors' legal liability is lower for LLC organization form, they have less incentive to constraint clients to adopt conservative accounting methods.

Following Basu (1997), this study regresses corporate earnings on contemporaneous market return, which represents a timely measurement of news reflected in corporate earnings. Interpretation of the results is dependent on the earnings-return relation (Dietrick et al., 2002), indicating that market return is a timely reflection of news for less accounting conservatism (Givoly and Hemmer, 2001; Ruddock et al., 2006). Hence, this study also examines a time series measure of earnings and time series relation between accruals and operating cash flow.

This study explores this proposition by utilizing China data for the following reason. In the U.S., all the Big 4 audit firms and most of the mid-tiers made switches to LLP form shortly after the regulatory changes¹. In contrast, even after the enactment of China's CPA Law, the partnership form still has a considerable market share². Thus, the intriguing feature in China audit market provides a unique setting to empirically test whether earnings conservatism, in particular asymmetric timeliness of earnings, is more pronounced for the partnership audit firms.

The empirical results indicate that GP's audit firm is positively associated with the extent to which client adopts conservative accounting. This study is able to identify incremental increase in earnings conservatism associated with GP's audit firm. Additional tests indicate that the results are robust to alternative measures of earnings conservative. This study contributes to the literature in several ways. First, Although Basu et al. (2001) and Krishnan (2005) have found that earnings of clients audited by Big N audit firm are more conservative than those of clients audited by Non-Big N audit firm, this study further extends this line of research by providing evidence that this phenomenon even varies across organization types of audit firms. Second, this study also contributes to the extant literature on the organizational form. Due to the strong dominance of limited liability form, extant literature on audit firm focuses on the effect of audit firm size (Becker et al., 1998) and industry audit expertise (Balsam et al., 2003; Krishnan, 2003). However, this study empirically examines and

1 The term "Big 4" dates back from 2002 and refers to the remaining four large international audit firms after the collapse of Arthur Andersen, i.e., Deloitte, Ernst & Young, KPMG, and PricewaterhouseCoopers.

2 For example, the statistics for 2004 reveal that: (1) among the top 100 audit firms, 30 are partnerships; (2) near 20 percent of the listed companies are audited by partnerships; (3) near 18 percent of the audit firms that provide audit services to the listed companies are partnerships.

provides evidence of the differential effect on audit quality across organization types, at least in terms of earnings conservatism or asymmetric timeliness of earnings. Finally, this study has policy implication for regulators in China and other countries. While AICPA amended its by-law in 1992 and allowed audit firms to practice under LLC form, it should take additional and more stringent measures to alleviate decreased earnings conservatism arising from the adopting of LLC audit firms.

The remainder of this study proceeds as follows. In section 1, I briefly review audit market development in China, and draw on the hypothesis. In section 2, I discuss the measure of organization type and its impact on auditor-client economic bonds, as well as the proxies for conservatism. I also provide a summary of the data. Section 3 presents the primary results and many additional tests. Section Final presents conclusions.

1. BACKGROUND AND HYPOTHESIS

1.1. Background

In China, CPAs as a profession was revived in 1980 when the government issued the first regulation on practicing accountants to meet the needs for independent accounting services caused by direct foreign investments (Chen et al., 2001). The regulation was followed by a rapid growth in the number of audit firms and CPAs nationwide. The demand for independent accounting services was further increased when the Shanghai and Shenzhen Stock Exchanges were established in 1990 and 1991, respectively³.

One step taken by the CPA Law in China is to change the legal structure of audit firms. Specifically, the CPA Law requires that an audit firm be organized in the form of either partnership or LLC. In the meantime, the Chinese authority also takes further steps to disaffiliate audit firms from their founding organizations. The move toward disaffiliation has created a more level yet competitive playing field for the auditors as they no longer have affiliated organizations to bring in the clients. The increased competitiveness of Chinese audit market also is driven by the increasing demand for audit quality. Like regulations in the U.S., the auditor legal liability in China depends partially on the audit firm's organizational

form. Most of the audit firms auditing the Chinese listed companies are LLCs. This study finds that (i) among the top 100 audit firms in China, 70 are LLCs and 30 are partnerships; (ii) among the 1,189 listed non-financial companies with sufficient auditor data, 963 (81 percent) are audited by LLCs and 226 (19 percent) are audited by partnerships; (iii) among the 86 audit firms that provide audit services to the listed companies, 82.6 percent is LLCs and 17.4 percent is partnerships⁴. Those statistics indicate that the market share of the partnership form of audit firms is substantially higher in China than in the U.S.

Although two organizational forms of audit firms are allowed, partnership and LLC, the Chinese regulators appear to lean on partnerships by arguing that partnerships have better mechanisms and incentives for the partners to monitor each other and have stronger motivations to pursue higher quality of services⁵. However, the LLC form could have other controls to maintain the audit quality (e.g., concurring partner review). To the extent that those controls are effective, there could be no discrepancy in audit quality between the partnership form and LLC form of audit firms despite audit partners' different incentives associated with different auditor liability. Indeed, the academic research has not provided empirical evidence showing that the firm audited by partnership form of audit firms provides more earnings conservatism than that audited by LLC form.

3 As of October 2004, the Chinese Institute of Certified Public Accountants (CICPA) had 61,000 practicing members and 70,000 non-practicing members. Please see China Audit Education Net, <http://www.shenji.org/news/shownews.asp?newsid=3470>.

4 This study also finds that on average, the LLC form of audit firms is larger in terms of number of employees and total audit fee revenues.

5 For example, a CICPA official made a similar argument in year 2002. See <http://www.farsight.com.cn/FarsightBBS/boke.asp?4nlnn4o9.showtopic.134>. CICPA is essentially a government-sponsored organization.

1.2. Studies on auditor liability and audit quality

To empirically investigate the relation between auditor liability and audit quality, it is necessary to find a proxy variable for audit quality. DeAngelo (1981) defines audit quality as “the market-assessed joint probability that a given auditor will both (a) discover a breach in the client’s accounting system, and (b) report the breach.” Prior studies have used a variety of variables to proxy for audit quality. Those proxies include auditor litigation, earnings response coefficients (Teoh and Wong, 1993), accruals (Becker et al., 1998), going-concern opinions (DeFond et al., 2002), cited fraudulent financial reporting (Carcello and Nagy, 2004), and earnings restatements. However, despite a number of empirical studies on audit quality, few of them have linked audit quality directly with the legal regimes of auditor liability.

In the U.S. general partnership was the only organizational form for audit firms before the AICPA’s by-law changes in 1992 that allowed audit firms to practice under other organizational forms. Since the regulatory change, most audit firms have made switches from general partnership to limited liability partnership (LLP) form. This regulatory change provides a context that allows for an investigation of changes in audit quality following the change in the audit firm’s organizational form.

Muzatko et al. (2004) examine the association between the U.S. audit firms’ switches to LLP status and underpricing in the IPO market. While Muzatko et al. (2004) find an increased level of IPO underpricing after the Big 6 audit firms made switches to the LLP organizational form in 1994, they are unable to distinguish the explanation of implicit insurance and audit quality from audit firms. Choi et al. (2004) find that the riskiness of Big-6 client portfolios tend to change in response to the different audit litigation liability environment. Additionally, Chin and Chi (2005) suggest that unlimited liability partnership audit firms provide better audit quality for their clients.

1.3. Hypothesis

Prior research suggests that increasing litigation risk encourages accounting conservatism due to overstated earnings and net assets causing higher litigation cost (Beaver, 1993; Watts, 1993). Watts (1993, 2003a)

further indicates that auditors tend to report conservative earnings and net assets when they perceive higher litigation cost of accounting overstatement.

Therefore, the adoption of earnings conservatism, in particular the timely recognition of publicly available bad news, by auditor serves as an effective and defensive mechanism in protecting them from subsequent litigation. Presenting analytical model, Dye (1993) suggests that audit quality has a negative relationship with auditor’s wealth suffering from litigation risk. Prior studies also find a negative association between audit liability and audit quality (Dye, 1995; Nelson et al., 1988; Chi and Weng, 2014). Since auditors could reduce their litigation risk and potential damage by inputting more efforts, they have more incentive to perform high-quality audit under the threat of litigation.

As mentioned previously, partners in partnership audit firm are personally liable for all services provided by the audit firm, while partners in LLC audit firm are absolve of personal liability. Thus, this study hypothesizes that a partnership firm is more likely to require their clients to adopt conservative accounting to compensate for the higher risk and liability risk and liability exposure that is implicitly linked with its organization form of audit firm.

2. DATA AND METHOD

2.1. Data sources

The sample consists of all the non-financial companies in China that have A-shares traded on the Shanghai and Shenzhen Stock Exchanges during 2010-2014. Financial data are from the TEJ Database. Data of audit firm organizational form are hand collected from the CICPA website and the Chinese Center of Economic Research (CCER). Panel A in Table 1 shows that after excluding extreme observations for any of the accounting variables (Ball et al., 2000), this study is left with a final sample of 4,097 firm-years in Table 1 for which I have all necessary data. Panel B reveals the number of observations by year. It can be seen that 20.7 percent of the 4,097 firm-year observations are audited by GP’s auditors, and the remaining (79.3 percent) are audited by LLC audit firms, consistent with LLC’s auditors having a larger number organization type of audit firm on China capital markets.

Table 1. Sample selection and distribution of audit firm legal forms**Panel A: Sample selection**

Number of company-years that have A-shares traded on the stock exchanges from 2010 to 2014	6,660
Less: Observations with missing data	
Audit firm's name	(173)
Audit firm's legal form	(298)
Financial data (EP/RET)	(2,092)
Number of observations	4,097

Panel B: Distribution by year

Year	2010	2011	2012	2013	2014	Total
All sample	654	760	845	916	922	4,097
General partner	140 (21.4%)	156 (20.5%)	177 (20.9%)	190 (20.7%)	187 (20.3%)	850 (20.7%)
Limited Liabilities of Corporation	514 (78.6%)	604 (79.5%)	668 (79.1%)	726 (79.3%)	735 (79.7%)	3,247 (79.3%)

2.2. Measuring earnings conservatism: earnings return model

This study uses two mainly methods to explore the association between organization types and earnings conservatism. First, following Basu (1997)⁶, I use a “reverse” regression of corporate earnings on market return. Accounting conservatism is defined as accounting earnings asymmetrically reflecting economic news, which implies the imposition of stricter verification standards for recording good news as gains than for recording bad news as losses (Watts, 2003a). While positive market return represents good news, negative one implies bad news. To capture the incremental effect of organization type, this study estimates the firm-specific timeliness measure of conservatism in the following regression model:

$$\begin{aligned}
 EP_{it} = & \beta_0 + \beta_1 \cdot RET_{it} + \beta_2 \cdot DRET_{it} + \\
 & + \beta_3 \cdot DRET_{it} \cdot RET_{it} + \beta_4 \cdot TYPE_{it} + \\
 & + \beta_5 \cdot TYPE_{it} \cdot DRET_{it} + \beta_6 \cdot AU_TYPE_{it} \times \\
 & \times RET_{it} + \beta_7 \cdot AU_TYPE_{it} \times \\
 & \times DRET_{it} \cdot RET_{it} + e_{it},
 \end{aligned}
 \quad (1)$$

where:

EP – per share earnings after tax for firm *i* in year *t* deflated by per share market price.

RET – market adjusted annual stock return for firm *i* in fiscal year *t*.

DRET – 1 if *RET* < 0 ; and 0 otherwise.

AU_TYPE – 1 if audit firm type of organization is general partner; and 0 if audit firm type of organization is limited liability corporation.

To be consistent with the predictions, β_7 is expected to be positive.

2.3. Measuring earnings conservatism: accrual based model

The second set of conservatism measures is based on accruals based model developed by Givoly and Hayn (2000). Because, they suggest that a firm's mean accrual over a reasonably long period provides a firm-specific proxy for conservatism, I use the sum of total accruals excluding depreciation deflated by assets as a proxy for conservative accounting and multiply it by -1, which is referred as *CONACC*. This study expects more conservative accounting yield

⁶ Except for Basu's (1997) accounting conservative model, there are several studies, which use another proxies for corporate earnings. For the robustness, I also use net income and comprehensive income and confirm that all the inferences are robust.

higher measures of *CONACC*. The regression is shown as follows:

$$\begin{aligned} CONACC_{it} = & \beta_0 + \beta_1 \cdot AU_TYPE_{it} + \\ & + \beta_2 \cdot LEV_{it} + \beta_3 \cdot ROA_{it} + \beta_4 \cdot SIZE_{it} + \\ & + \beta_5 \cdot SG_{it} + e_{it}, \end{aligned} \quad (2)$$

where:

CONACC – the accruals for firm *i* in year *t* is calculated as the difference between operating income after tax plus depreciated expense and cash operations, deflated by beginning of period total asset, then to multiply (–1).

AU_TYPE – 1 if audit firm is a partnership firm; and 0 if audit firm is a limited liability corporation.

LEV – Leverage ratio is total liabilities to total assets.

ROA – net income divided by total assets.

SIZE – log of the total assets.

SG – growth in sales from year *t* – 1 to year *t* deflated by sales revenue $_{t-1}$.

Following Ahmed et al. (2002), this study includes several control variables in the regression (2). I include firm size (*SIZE*), proxied by natural log of total assets, in the model since large firms use more conservative accounting methods. Firm profitability (*ROA*) is included since

higher *ROA* is expected to use more conservative accounting (Ahmed et al., 2002). Next, this study also controls for firm leverage (*LEV*) since firms with more severe bondholder-shareholder conflicts over dividend policy adopt more conservative accounting (Ahmed et al., 2002). Finally, I control for sale growth (*SG*) because sales growth is not only related to business operation, but also affects the changes in receivables and inventory (Penman and Zhang, 2002). To be consistent with the predictions, β_5 is expected to be positive.

2.4. Descriptive statistics

Table 2 reports descriptive statistics for the final pooled sample and for audit form subsamples. Panel A reveals that the mean (median) of *EP* and *SG*, is 0.009 (0.013) and 3.599% (0.071%). Panel B presents a univariate test for the dependent and control variables, tabulated by firms audited by GP's audit firm and LLC's audit firm during the sample period. Panel B also presents *p*-values from *t*-tests and Wilcoxon Z-tests for the difference in means and medians. It can be seen that clients audited by limited liability audit firms have a significantly higher mean and medium earning to price than those audited by partnership audit firms, as predicted. Panel B also shows that clients audited by GP's audit firms have lower accruals and have greater accruals than those audited by LLC's audit firm.

Table 2. Descriptive statistics

Panel A: All samples

Variables	Mean	Std. Dev.	Quartile		
			0.25	0.5	0.75
EP	0.009	0.059	0.003	0.013	0.026
RET%	-3.548	42.723	-28.950	-17.100	7.905
CONACC	0.036	0.257	-0.032	0.011	0.061
AU_TYPE	0.208	0.406	0.000	0.000	0.000
LEV	0.540	0.353	0.389	0.521	0.647
ROA	0.007	0.188	0.008	0.028	0.049
SIZE	6.139	0.366	5.901	6.115	6.372
SG	3.599	151.759	-0.151	0.071	0.286

Table 2 (cont). Descriptive statistics**Panel B: Sub-samples**

Variables	Audit firm of LLC (n = 3.247)		Audit firm of GP (n = 850)		Mean Difference t-value	Median Difference z-value
	Mean	Median	Mean	Median		
EP	0.013	0.014	-0.001	0.008	5.838***	5.744***
RET	-3.814	-17.310	-2.531	-16.275	-0.780	-0.856
CONACC	0.029	0.008	0.063	0.023	-3.532***	-2.875***
LEV	0.526	0.517	0.597	0.534	-5.249***	-1.373**
ROA	0.011	0.029	-0.007	0.023	2.458***	2.309***
SIZE	6.138	6.113	6.142	6.129	-0.270	-0.843
SG	4.156	0.076	1.474	0.056	0.459	1.545**

Notes: a. Definition of all variables

EP – per share earnings after tax for firm *i* in year *t* deflated by beginning of period per share market price.

CONACC – the accruals for firm *i* in year *t*, calculated as the difference between operating income after tax plus depreciated expense and cash operations, deflated by total asset, then multiplied by (-1).

RET – market adjusted annual stock return for firm *i* in fiscal year *t*.

AU_TYPE – 1 if audit firm is a partnership firm; and 0 if audit firm is a limited liability corporation.

LEV – Leverage ratio is total liabilities to total assets.

ROA – net income divided by total assets.

SIZE – log of the total assets.

SG – growth in sales from year *t*-1 to year *t* deflated by sales revenue_{*t*-1}.

b. *** 1% significance level, ** 5% significance level, * 10% significance level, on basis of two-tailed tests.

Table 3 presents correlations among the variables. It reveals that although there are some significant correlations among the independent variables, they are relatively small. Table 3 shows significant negative correlation between with organization

type of audit firm (AU_TYPE) and earnings to price (EP). It also shows significant positive correlation AU_TYPE and CONACC. The results provide preliminary evidence supporting the hypothesis.

Table 3. Pearson correlations

Variables	EP	RET	AU_TYPE	CONACC	LEV	ROA	SIZE	SG
EP								
RET	0.191*** (0.000)							
AU_TYPE	-0.091*** (0.000)	0.012 (0.436)						
CONACC	-0.023 (0.145)	-0.100*** (0.000)	0.055*** (0.000)					
LEV	-0.080*** (0.000)	-0.074 (0.000)	0.082*** (0.000)	0.475*** (0.000)				
ROA	0.127*** (0.000)	0.139 (0.000)	-0.038** (0.014)	-0.791*** (0.000)	-0.503*** (0.000)			
SIZE	0.135*** (0.000)	0.004 (0.814)	0.004 (0.787)	-0.156*** (0.000)	-0.077*** (0.000)	0.179*** (0.000)		
SG	-0.002 (0.905)	-0.014 (0.386)	-0.007 (0.647)	-0.008 (0.629)	0.008 (0.587)	0.001 (0.969)	-0.009 (0.552)	

Notes: a. All the variable definitions are presented in Table 2. b. *** 1% significance level, ** 5% significance level, * 10% significance level, on basis of two-tailed tests.

3. RESULT

3.1. Regressions of earnings on returns

Table 4 reports results for the first set of tests, based on the relation between annual earnings and contemporaneous stock returns. Using the full sample of firm years, it can be seen in Table 4 that although coefficient on positive earnings (β_1) is positive and significant, the incremental coefficient on negative stock returns (β_3) is positive and significant, consistent with prior studies. The coefficient on $RET \times DRET$ is greater than the coefficient on RET , indicating that earnings is more asymmetrically responsive to contemporaneous bad news. Additionally, combined two coefficient, (i.e., $\beta_1 + \beta_3$), this study finds that it is significantly different from zero, indicating asymmetric responsiveness of earnings to negative market return/bad news.

Moreover, this study separates GP's and LLC's audit firm into two subsamples in models (2) and (3). The results are shown in Table 4 that the coefficients on $AU_TYPE \times DRET$ in models (2) and (3) are both positively significant, supporting that corporate earnings is asymmetrically responsive

to negative market return, which proxies for bad news, irrespective of the organization types of audit firms.

This study also reports the results that include intercept and slope coefficients for those instances where organization type is general partnership (GP). If conservatism is increasing in those instances where organization type is GP, this study would expect to see a statistically significant positive coefficient for β_7 which measures the incremental responsiveness of earnings to bad news when organization type of audit firm is GP. Conversely, if the responsiveness of earnings to good news is increased where organization type of audit firm is GP, this study would expect β_6 to be significantly negative.

The results continue to observe asymmetrically higher responsiveness to bad news (β_3 positive and significant). However, the coefficient on β_6 is actually negative, but not significant at conventional levels. Indeed, coefficient on β_7 is actually significantly positive. Hence, GP's auditors are widely believed to provide higher quality audits (Chin and Chi, 2005) and in turn there is evidence that their clients adopt more conservative earnings.

Table 4. Earnings conservatism and organization type: Earnings return model

Variables	PredictedSign	Model (1)	Model (2)	Model (3)	Model (4)
β_0	+	0.024(10.370)***	0.025(5.845)***	0.024(8.893)***	0.024(9.218)***
RET	+	0.000(1.284)*	0.000(0.059)	0.000(1.356)*	0.000(1.405)*
DRET	?	0.000(0.005)	-0.007(-1.159)	0.001(0.367)	0.001(0.380)
RET×DRET	+	0.001(9.044)***	0.001(7.502)***	0.001(6.646)***	0.001(6.889)***
AU_TYPE	?				0.001(0.232)
AU_TYPE×DRET	?				-0.001(-1.046)
AU_TYPE×RET	+				-0.000(-0.558)
AU_TYPE×RET×DRET	+				0.001(2.501)***
N		4097	850	3247	4097
F value		84.545	62.278	45.845	45.383
Adj R ²		0.058	0.178	0.040	0.071

Notes: a. All the variable definitions are presented in Table 2. b. *** 1% significance level, ** 5% significance level, * 10% significance level, on basis of two-tailed tests

3.2. Regressions of accruals model

Table 5 presents the results of the regression with the accrual-based measure of conservatism (CONACC). The results of Panel A are based on the OLS regression. The coefficient on AU_TYPE is statistically positive, suggesting that earnings conservatism is more pronounced for clients of GP's audit firm than for those of limited liability audit firms. As described above, a plausible explanation for the results is that GP's audit firms perform higher audit quality than LLC's audit firms. Regarding control variables, consistent with prior research, firm profitability (ROA), size (SIZE), and leverage (LEV) are all positive and significant. In summary, the result suggests that firms in China adopt earnings conservatism, and the conservatism is more pronounced for firms audited by partnership audit firms.

Table 5. Earnings conservatism and organization type: Accrual based model

Variables	Predicted sign	Coef.	Std. Error.	t value	p value
β_0		0.074	0.042	1.762	0.039
AU_TYPE	+	0.012	0.006	1.955	0.026
LEV	+	0.074	0.008	9.291	0.000
ROA	+	1.008	0.015	66.353	0.000
SIZE	+	0.012	0.007	1.758	0.040
SG	+	-0.000	0.000	-0.845	0.199
N	4097				
F value	1417.007				
Adjusted R ²	0.634				

Notes: a. All the variable definitions are presented in Table 2. b. *** 1% significance level, ** 5% significance level, * 10% significance level, on basis of two-tailed tests.

3.3. Time series behavior of earnings changes

Although Busu's (1997) model captures the firm's accounting conservatism using the reverse regression approach, Gigler and Hemmer (2001) indicate that more conservative firms have less intention to

make timely voluntary disclosures. Thus, this study uses alternative approach namely the time series behavior of earnings changes⁷ to capture accounting conservatism. Reversal of earnings changes is an indication of the transitory component in income. This study posits that lately recognition of good news implied by accounting conservatism leads to positive changes in income. If conservatism is increased in those instances where audit firm's type is GP, the faster reversal of negative earnings changes will be increased. This study estimates the incremental effect of audit firm's type on the reversal of negative income changes via the following model:

$$\begin{aligned} \Delta EP_{it} = & \psi_0 + \psi_1 \cdot \Delta EP_{it-1} + \psi_2 \cdot DEP_{it-1} + \\ & + \psi_3 \cdot \Delta EP_{it-1} \cdot DEP_{it-1} + \psi_4 \cdot AU_TYPE_{it} + \\ & + \psi_5 \cdot DEP_{it-1} \cdot AU_TYPE_{it} + \psi_6 \cdot \Delta EP_{it-1} \times \\ & \times AU_TYPE_{it} + \psi_7 \cdot \Delta EP_{it-1} \cdot DEP_{it-1} \times \\ & \times DAU_TYPE_{it} + e_{it}, \end{aligned} \quad (3)$$

where:

ΔEP_{it} – Change in per share earnings after tax for firm *i* in year *t* deflated by beginning of period per share market price.

ΔEP_{it-1} – Change in per share earnings after tax for firm *i* in year *t-1* deflated by beginning of period per share market price.

$DEP_{it-1} = 1$ if change in operating income in year *t-1* < 0; and 0 otherwise.

$AU_TYPE_{it} = 1$ if audit firm is a partnership firm; and 0 if audit firm is a limited liability corporation.

Table 6 shows the results of second set of tests identifying the relationship between accounting conservatism and organization form. Conservative accounting is expected to lead to a significantly negative coefficient on the incremental slope coefficient for negative last earnings change (ψ_3). Accounting Conservatism represents that the changes in negative earnings tend to reverse than changes in positive earnings (Basu, 1997). The likelihood of repeated changes in positive earnings is higher than that of repeated changes in negative earnings, when good news needs to take several periods to be realized (Ruddock et al., 2006).

7 This approach is also utilized by Ball et al. (2003) and Basu et al. (2001).

Table 6 presents the estimation results of equation (3). In general, it shows that earnings continue to be conservative⁸. I also examine the incremental effect of organization type of audit firm (AU_TYPE) by including additional intercept and slope coefficients. If partnership audit firms are associated with increased earnings conser-

vatism, this study expects a negative and significant coefficient on ψ_7 . Consistent with the prediction, the results show that the coefficient of $\Delta EP \cdot DEP \cdot DAU_TYPE$, ψ_7 , is significantly negative, supporting the allegation that GP's audit firms are associated with increased earnings conservatism.

Table 6. Persistence of price-deflated earnings changes and organization type

Variables	Predicted sign	Coef.	Std. Error.	t value	p value
ψ_0	?	-0.006	0.002	-3.075	0.002
ΔEP_{it-1}	-	0.019	0.029	0.640	0.523
DEP_{it-1}	?	-0.012	0.003	-4.714	0.000
$\Delta EP_{it-1} \cdot DEP_{it-1}$	-	-1.000	0.044	-22.820	0.000
AU_TYPE	?	0.001	0.004	0.375	0.721
$DEP_{it-1} \cdot AU_TYPE_{it}$	?	-0.014	0.006	-2.460	0.014
$\Delta EP_{it-1} \cdot AU_TYPE_{it}$	-	-0.040	0.059	-0.677	0.499
$\Delta EP_{it-1} \cdot DEP_{it-1} \cdot DAU_TYPE_{it}$	-	-0.891	0.099	-9.007	0.000
N	3551				
F value	232.270				
Adjusted R ²	0.313				

Notes: a. Variable definition:

ΔEP_{it} – Change in per share earnings after tax for firm i in year t deflated by beginning of period per share market price.

ΔEP_{it-1} – Change in per share earnings after tax for firm i in year t-1 deflated by beginning of period per share market price.

$DEP_{it-1} = 1$ if change in operating income in year t-1 < 0, and 0 otherwise.

$AU_TYPE_{it} = 1$ if audit firm is a partnership firm; and 0 if audit firm is a limited liability corporation.

b. *** 1% significance level, ** 5% significance level, * 10% significance level, on basis of one-tailed tests.

CONCLUSION

This study provides evidence on the association between legal liability of audit firms and earnings conservatism, in particular asymmetric timeliness of bad news. The CPA Law in China allows an audit firm to practice under either unlimited legal liability partnership or a legal entity with limited liability. This rule results in approximately 20 percent of listed firms in China are audited by partnership audit firms. Differential liability across audit firms naturally raises question as to whether LLC firms results in partners accepting less conservative earnings. This study focuses on earnings conservatism and employs several different measures, such as contemporaneous stock price changes, the accumulation of accruals, and the differential persistence of negative versus positive earnings changes. Using a sample in China, the results provide consistent evidences supporting the notion that GP's audit firms are associated with more conservative earnings.

The findings have policy implication for regulators and standards setters in China and other countries. When AICPA amended its by-law in 1992 and allowed audit firms to practice under limited liability organizational form, these findings suggest that regulators and standards setters should take supplementary measures to mitigate decreased earnings conservatism arising from the adoption of LLC audit firms.

8 I also rerun from separate estimates for GP's audit firm and LLC's audit firm subsamples, the result that this pattern is evident in both groups. Hence, irrespective of whether liability type from their auditor, the evidence shows serial correlation in earnings changes suggests that earnings continue to be conservative.

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