

## Legal liability, audit manpower allocation and audit quality: Evidence from Japan

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### Abstract

This study investigates the consequences of an audit firm switching its organizational structure from an unlimited liability general partnership (GP) to a limited liability partnership (LLP). We do this by taking advantage of a unique characteristic of audit practice in Japan, whereby audit firms conventionally assign two or more signing partners for each audit engagement, and the data for audit fees and the composition of the engagement team are also available. The empirical results show that the number of signing partners decreases whereas audit fees increase after audit firms switch from a GP to an LLP. In addition, the number of experienced staff with CPA licenses assigned to an audit engagement increases after the organizational structure change. Finally, we identify no consequences for measures used in prior studies to proxy for audit quality after audit firms switch to an LLP.

## 1 INTRODUCTION

This study examines the consequences of audit firms switching from an unlimited liability general partnership (GP) to a limited liability partnership (LLP). Lennox and Li (2012) argue that ‘... theoretically, the impact of LLP adoption on audit quality is ambiguous’ and find no evidence indicating that audit firms supply either lower quality audits or charge lower audit fees after switching from a GP to an LLP. Instead, the auditing literature concludes that insurance and reputation incentives are the main driving forces motivating auditors to deliver quality audits. Changes to legal liability for auditors may also have consequences. In this analysis, like Lennox and Li (2012), we consider the consequences of audit firms switching from a GP to an LLP. However, unlike Lennox and Li (2012), we employ data on audit staff from only listed client firms and take advantage of the unique practice of Japanese audit firms in assigning three or more signing partners to an audit engagement. This enables us to better examine the implications for audit quality in terms of audit manpower allocation after the audit firm has become an LLP.

In a GP audit firm, all partners could lose their entire wealth from audits in which they are not directly involved because of the negligent actions of some partners in the audit firm. Hence, partners have an incentive to monitor the actions of their fellow partners, and this mutual monitoring mechanism plays a role in maintaining audit quality. Some arguments in favour of unlimited liability suggest that partners have a greater incentive to invest in quality control systems (e.g. staff hiring and training) to maintain high quality audits (Aobdia, 2000; Bedard et al., 2008; Lennox & Li, 2012). However, as all partners in a GP must assume collective liability, the damage caused by a single partner's negligent actions is shared by all other partners in the firm and thus minimizes the liability borne by the negligent partner. As a result, a GP lowers the costs for an individual partner to be negligent.

Conversely, from an organizational perspective, an LLP is a legal form that *decreases* overall legal liability for the entire partnership. However, LLPs do not limit the liability for all audit firm partners. Rather, they merely limit the liability exposure of partners not directly involved in any negligent audits (so-called non-engagement partners). Accordingly, when an audit firm switches its organizational structure from a GP to an LLP, the non-engagement partners assume no legal liability arising from the negligent actions of the signing partners in those audits in which they are not directly involved. In contrast, the signing partners assume unlimited liability for any audits in which they are directly involved, regardless of the legal form of

their affiliated audit firm. Hence, although limited liability may limit the organization's liability exposure, it actually *increases* the potential liability for each individual signing partner by removing the financial support of other partners in the partnership.

Using UK data, Lennox and Li (2012) investigate the consequences of audit firms switching from a GP to an LLP. In the case of an audit with only one signing partner, Lennox and Li (2012) theorize that audit fees and audit quality may *increase* or *decrease* because of the adoption of an LLP. Specifically, if audit quality decreases following the adoption of an LLP, then the demand for the LLP audit firm's services will also fall, and the auditor will need to reduce its audit fees to retain existing clients. Conversely, if the auditors exert greater efforts to increase audit quality following the adoption of the LLP, then the client firms may be willing to pay higher audit fees for this additional audit effort. Lastly, Lennox and Li (2012) predict that there is also a possibility that audit quality could remain unchanged. However, although Lennox and Li (2012) identify no significant influence of LLP adoption on audit fees and audit quality using proxies such as discretionary accruals and modified audit opinions, the evidence provided may not represent the definitive findings on the matter, and we believe that there is ample room for further exploration.

Accordingly, using Japanese data, we revisit the consequences of audit firms switching from a GP to an LLP from a somewhat different perspective. Although Lennox and Li (2012) provide similar evidence of the possible consequences of audit firms switching from a GP to an LLP, this does not rule out other possible findings. We attempt to explore some of the hitherto unaddressed aspects by taking full advantage of the high level of disclosure of audit information and the unique practices of audit firms in Japan.

In this regard, in 2008, audit firms in Japan were given the option of switching from a GP to an LLP,<sup>1</sup> thus making possible a before-and-after comparison. Using data from Japan provides this study with the following advantages. A first advantage is that in light of a unique characteristic of audit practices in Japan, whereby audit firms conventionally assign at least two (often three or more) signing partners for each audit engagement,<sup>2</sup> we are able to examine the mechanisms for mutual monitoring among partners before and after LLP adoption in terms of the increase or decrease in the number of partners assigned to an audit.<sup>3</sup>

A second advantage of using Japanese data is that data on the fees paid to audit firms for both audit and non-audit services, as well as the audit manpower for each engagement (i.e. the composition and numbers of signing partners,<sup>4</sup> CPA-licensed and non-CPA-licensed supporting staff<sup>5</sup>) are publicly and simultaneously available. Using the information on the number of professional audit staff in the engagement team, we can directly examine the intention of the signing partners to increase or decrease audit inputs in the way they allocate manpower to an audit before and after LLP adoption.

A third and final advantage is that in addition to the widely used discretionary accruals and modified audit opinions, the allocation of audit manpower (signing partners and CPA-licensed staff) provides us with an alternative measure to proxy for audit quality.<sup>6</sup> We are then able to examine the influence of the change in the legal form of the audit firm on its manpower allocation in terms of audit quality. Overall, the use of Japanese audit data readily allows us to address a number of previously unexplored but important aspects of auditing behaviour.

The results we obtain in this analysis are comparable to those of Lennox and Li (2012). We find that audit fees increase whereas the number of signing partners decreases after LLP adoption. In addition, we also obtain evidence indicating that the number of licensed staff increases following LLP adoption. These results, taken together, suggest that audit firms allocate more CPA-licensed staff subsequent to LLP adoption to the extent that client firms are willing to pay higher audit fees for the additional audit effort exerted, even when there are fewer signing partners for an audit after the LLP adoption. This is consistent with one of the possible positive consequences that Lennox and Li (2012) predict for audit quality following LLP adoption. We also examine the consequences of audit quality using measures in Lennox and Li (2012), that is, discretionary accruals and modified audit opinion, and find no consequences after the adoption of an LLP by the audit firm. This result is, however, consistent with Lennox and Li (2012).

This study contributes to the literature in the following ways. First, it adds new insights to the literature concerning the influence of LLP adoption on the allocation of audit manpower. We provide evidence showing that signing partners purposefully limit their liability exposure by engaging in fewer audit assignments after their firms become LLPs. When switching from unlimited to limited liability, some signing partners choose to decline some audits, suggesting that signing partners are sensitive to legal liability, even in an environment where litigation essentially plays no role (Skinner & Srinivasan, 2012).

Second, this study also contributes to the literature by examining how increasing legal liability influences the allocation of audit manpower. By analysing the number of signing partners and CPA-licensed and supporting staff, we provide new evidence on the way auditors change the manner in which they allocate audit inputs for the audits in which they are directly involved following LLP adoption. Collectively, evidence on the changes in the allocation of audit manpower presented in this study also increases our understanding of the role that audit quality plays before and after audit firms switch to an LLP organizational structure.

An additional contribution of this study is that we provide some evidence that echoes what Lennox and Wu (2018) advocate in their study. Lennox and Wu (2018) argue that the allocation of partners to clients is unlikely to be random. We show in this study that not only is the partner allocation not random, even the allocation of experienced staff with a CPA license is not random.

Overall, the evidence we provide suggests that CPA-licensed staff are able to complement the role of signing partners in delivering and maintaining audit quality. The evidence we provide is also consistent with Aobdia et al. (2019) who find that other more experienced members, rather than the lead partner, in the audit team are associated with efficiency. This study and Aobdia et al. (2019) together show that although audit partners may play an important role in the audit, the experience of those who actually engage in the first line work fulfils an important role from an audit quality standpoint.

Further, the client firms are willing to pay for the extra effort exerted. On this basis, we trust that our findings will thus provide solid evidence on the influence on audit fees of individual signing partners and serve as a useful building block for future research in audit quality and audit partners. The organization of the remainder of the study is as follows. Section 2 explains the institutional background of the Japanese audit market and addresses our working research questions. Section 3 details the research design used. Section 4 discusses the main results and findings. Section 5 presents additional analyses. Section 6 concludes.

## 2 INSTITUTIONAL BACKGROUND AND RESEARCH QUESTIONS

### 2.1 Changes in audit firm organizational structure and legal liability

The literature includes a few studies that examine the consequences of organizational structure changes by audit firms. For example, Muzatko et al. (2004) and Lennox and Li (2012) examine the consequences of audit firms switching from a GP to an LLP organizational structure in the United States in 1994 and the United Kingdom in 2001, respectively. Likewise, Firth et al. (2012) examine the differences between audit firms that either adopt an unlimited liability partnership or limited liability company (LLC)<sup>7</sup> in China in 2000–2004, whereas He et al. (2017) examine audit firm transitions from LLC to LLP in China by the end of 2013.

Among these studies, only the UK setting in Lennox and Li (2012) is similar to the Japanese setting we examine in this study. Although Muzatko et al. (2004) also consider the setting of switching from a GP to an LLP, all of the audit firms in their sample eventually adopt the latter. Conversely, both Lennox and Li (2012) and this study examine the transition of audit firms from a GP to an LLP in a sample in which at least some audit firms remain as the former.

### 2.2 Audit firm organizational structure and legal liability in Japan

The CPA Act requires that audit firms must have at least five members registered as CPAs (CPA Act 34-7-1). Since 1 April 2008, audit firms in Japan have enjoyed the option of switching from a GP to an LLP. To date, there are 84 active audit firms in Japan,<sup>8</sup> of which 28 are LLPs.<sup>9</sup>

The legal liability structures for audit firms that adopt either the GP or LLP structure in Japan are identical to those in the United Kingdom and United States, and to LLP audit firms in many other countries. The organizational structure of LLPs in Japan is the same as that for similar partnerships in the United Kingdom, as per Lennox and Li (2012), in that audit firms have partners that have contributed 'inside' wealth and also personal wealth 'outside' of the audit firm. In Japan, in both GPs and LLPs, a partners' wealth inside the audit firm is subject to the threat of litigation. In an unlimited liability partnership, the outside wealth of all partners is open to litigation risks, whereas in an LLP only signing partners may lose their outside wealth through litigation (CPA Act 34-10-6).

As a result, a lawsuit against an audit firm with an unlimited liability partnership can cause all partners in the audit firm to lose their entire wealth, both inside and outside of the firm. Therefore, switching from a GP to an LLP reduces the legal liability of any non-engagement partners in the audit firm by protecting their personal wealth outside the firm. Conversely, signing partners in the LLP still have to assume all legal liability for audits in which they are directly involved. Therefore,

signing partners are still subject to losing their entire wealth regardless of the legal structure of the audit firm with which they are affiliated. Hence, the de facto legal liability for signing partners actually increases under an LLP.

## 2.3 Japan's detailed disclosure of audit engagement personnel

The most distinct characteristic of the audit market in Japan is its unique practice of assigning multiple signing partners for a single engagement. In major audit markets around the world, audit firms typically assign only one (e.g. Australia, India, Italy, the Netherlands, Spain, the United Kingdom and the United States) or two (China, France, Germany, South Africa, Sweden and Taiwan) signing partners for a single audit engagement. Japan is the only country where it is common for audit firms to assign multiple (two or more) signing partners to a single audit engagement. In addition to the names of signing audit partners, audit manpower information (the numbers of CPA-licensed and supporting staff in the audit engagement) also began to appear in the annual filings of listed firms after March 2005. Thus, among major industrial countries, Japan requires listed firms to make a relatively large number of disclosures on audit-related information (audit and non-audit fees, numbers of licensed and supporting staff, and signing partners and their names).

## 2.4 Audit fee pricing and disclosure

Listed firms in Japan began to disclose their audit fees (audit and non-audit fees) in their March 2004 filings. In March 2005, the JICPA set up a new audit fee pricing guideline known as 'time charge' pricing to replace the previous 'standard fee schedule' (*hyojun kansa hoshu*) pricing. Under the latter, audit fee pricing primarily depends on a fixed rate plus the number of days auditors spend auditing the firm. The new time charge pricing guideline requires auditors to also assess the audit risks and price these into their audit fees. Therefore, audit fees under the time charge method are priced according to the required profits of the audit firm plus audit costs. The JICPA fee guidelines state that an estimation of the time needed for auditing should consider client size, complexity and audit risks. Therefore, the audit fee pricing in Japan has a direct association with estimated auditing risks.

## 2.5 Data availability and research questions

It is well documented that audit fee pricing is determined by a mix of audit costs and audit profits (e.g. Houston et al., [1999](#); Johnstone & Bedard, [2001](#); Pratt & Stice, [1994](#); Simunic, [1980](#)). However, effort and fee data are not usually jointly available. To overcome these data limitations, many studies use proprietary data (e.g. Bell et al., [2001](#); Johnstone & Bedard, [2001](#); O'Keefe et al., [1994](#)), but these data are not available to the public. In its place, we employ publicly available Japanese data on audit staff manpower, obtained from the annual filings (*yukashoken hokokusho*) of firms listed on the Tokyo Stock Exchange (TSE). The high level of disclosure of audit-related information in Japan is globally unique. Firms listed on the TSE are required to disclose in their annual filings the amounts of audit and non-audit fees paid to audit firms, along with the names of the signing partners (both the lead and other concurring auditors), and the number of CPA-licensed staff and supporting staff in the audit team.<sup>10</sup>

The use of audit staff data from Japan in this study provides evidence of the relevant differences before and after organizational structure change (i.e. an increase or decrease in the numbers of CPA-licensed and supporting staff, or bringing in more or fewer signing partners for each engagement). In addition, because both audit fee and audit staff data are available at the same time, the association between audit fees and effort becomes more clear in this study.

Unlike the UK setting (Lennox & Li, [2012](#)) that involves only a single signing partner for each engagement, audit firms in Japan sometimes assign three or more partners for each engagement. We start by examining the likelihood of an increase or decrease in the number of signing partners assigned to each engagement, especially for those with three or more signing partners, after the audit firms switch from a GP to an LLP.

First, assume that each signing partner has an equal probability of committing audit failure in each audit engagement. Once an audit failure occurs in a GP, the wealth of every partner in the firm is at risk, regardless of the number of partners on the audit. In contrast, in an LLP, only the wealth of signing partners is at risk for those audit failures in which they are directly involved. Consequently, partners will rationally want to decline those audits to which they are unable to devote best efforts in order to reduce the total numbers of audits in which they are directly involved. As an illustration, if the probability of an audit failure taking place is constant, the possibility for a partner losing his or her wealth by signing two audits will be higher than when signing only one audit. As a result, the number of signing partners assigned to each audit should rationally fall if partners have the choice to either concentrate 100% of their time on one audit or split their time equally between two audits. Therefore, we expect the number of partners signing an audit will decrease, especially for those engagements that previously had three or more partners. Our first research question (hereafter, RQ) is:

**RQ1:** Will the number of signing partners for each audit decrease after LLP adoption?

Lennox and Li (2012) indicate that, theoretically, the influence of the audit firm organizational structure on audit quality is complicated and ambiguous. Audit quality can increase or decrease or remain unchanged after the LLP adoption. When an audit firm converts its organizational structure to an LLP, only the signing partners need assume liability. When other partners will not lose their personal wealth for those audits in which they are not directly involved, they will have less incentive to monitor each other's work and have less incentives to assure high quality audit by investing in staff training and hiring. This could lead to a possible decline in audit quality in an LLP (Chan & Pae, 1998; Dye, 1993, 1995).

Conversely, from the perspective of protecting partners' personal wealth, Lennox and Li (2012) argue that it is also possible that switching to an LLP could result in higher audit quality. As the partners in an LLP audit firm are not liable for those audits in which they are not directly involved, signing partners have a stronger incentive to work harder and concentrate on their own audits because they know that they are on their own if they become negligent. In this case, audit quality may actually improve after an audit firm becomes an LLP.

As a result, if audit quality declines after an audit firm becomes an LLP, then it is very possible for the client firms to switch to other audit firms to obtain higher quality audits, especially in Japan where reputation plays an important role in delivering audit quality. If not, the audit firms may have to lower their fees to retain these client firms. In this case, we can expect a decrease in audit fees after LLP adoption. Another possible scenario is that the signing partners work harder on their own audits after the audit firm becomes an LLP and therefore also help increase audit quality. In this case, the client firms may be willing to pay higher audit fees for the extra efforts exerted. However, it is also very possible that the various effects may offset each other, and audit quality is unchanged.

In this study, we expect that signing partners have an incentive to increase audit effort even when we predict that the numbers of signing partners assigned to each audit engagement will decrease after LLP adoption. In such a case, our research questions will be:

**RQ2:** Will the client firms be willing to pay more audit fees for the extra effort exerted by the auditors if more experienced CPA-licensed staff are assigned to the audit after LLP adoption?

**RQ3:** Will the audit quality increase in terms of more experienced CPA-licensed staff being assigned to the engagement team after LLP adoption?

As to the supporting staff, we provide no strong prediction. Supporting staff usually consist of personnel in clerical positions who assist licensed staff,<sup>11</sup> CPA exam passers<sup>12</sup> and sometimes personnel with other specialties (e.g. IT systems or international taxation). The influence of LLP adoption on the total number of support staff may depend on the overall level of the engaging audit team's need for audit manpower:

**RQ4:** Will the number of supporting staff increase or decrease after LLP adoption?

## 3 RESEARCH DESIGN

### 3.1 Model specification

Drawing on existing studies (e.g. Choi et al., 2008; Fukukawa, 2011; Gul et al., 2003; He et al., 2017; Hogan & Wilkins, 2008; Lennox & Li, 2012), we formulate the following regression models to examine the differences in audit fees, audit staff and audit quality before and after LLP adoption (firm and year subscripts omitted for simplicity):

(1)

(2)

(3)

We first examine the determinants of an engagement to be audited by three or more signing partners by estimating regression (1) using logistic regression. The dependent variable, *MSPartners*, is set equal to 1 if the client firm is audited by three or more signing partners, and 0 otherwise. The dependent variables for regression (2) and regression (3) are the natural logarithms of audit fees and audit staff (numbers of signing partners, CPA-licensed staff and non-CPA-licensed supporting staff), respectively. Regression (2) and regression (3) are estimated with ordinary least squares (OLS). The variable of interest is *LLP*, which takes a value of 1 if the audit firm adopts an LLP organizational structure and 0 otherwise. The purpose of *LLP* is to capture the effects for audit firms that adopt an LLP organizational structure. Following prior studies (e.g. He et al., 2017; Lennox & Li, 2012), we include audit firm fixed effects to control for the characteristics of audit firms that remain constant before and after switching from a GP to an LLP. We also include year fixed effects to control for all time-variant client characteristics and client firm fixed effects to make the regression models in this analysis a generalized difference-in-differences design. Finally, we correct the standard errors for time-series dependence using clustering at the client-firm level across all regressions.

To control for client firm characteristics, we include variables to control for size, complexity, risk and related factors in the regression. We use *LnAssets*, which is the natural logarithm of total assets, to control for client size. *LnNonAFee* (non-audit fee), *INDDIR* (percentage of independent directors), *LnSubs* (natural logarithm of number of consolidated subsidiary firms) and *LnSeg* (natural logarithm of number of business segments) are used to control for client complexity because these factors are related directly to the workloads of audit assignments.

To characterize for risk, we use the following variables: *CFO* (cash flow from operating activities over total assets), *INV* (inventory over total assets), *Receivables* (receivables over total assets), *Leverage* (total liabilities over total assets), *Growth* (percentage change in sales in a year), *LOSS* (binary variable set equal to 1 if a firm reports net losses, and 0 otherwise), *ROA* (net income over total assets), *LnFirmAge* (natural logarithm of firm age calculated as the financial statement reporting date of the corresponding fiscal year minus the firm establishment date), *MAO* (a binary variable set equal to 1 if the client firm receives a modified audit opinion, and 0 otherwise), and *GC* (a binary variable set equal to 1 if the client firm receives a going concern opinion, and 0 otherwise). Lastly, because the fiscal year of firms in Japan usually starts in April and ends in March, we include an indicator variable, *MarchYrEnd*, to identify client firms that end their fiscal year in March to control for the busy-season effect. Given that the manpower of the audit firms is limited, we expect that audit firms will either charge higher audit fees or assign fewer staff to firms with a fiscal year-end in the busy season (Fukukawa, 2011).<sup>13,14</sup>

### 3.2 Confirmation analysis of audit quality

For comparison, we use the absolute value of performance-matched discretionary accruals (*ABSPADA*) and modified audit opinion (*MAO*) as in Lennox and Li (2012) to proxy for audit quality. Unlike the audit input variables (i.e. audit manpower) in the previous section, discretionary accruals and modified audit opinion are output measures that are the direct result of the audit engagement. We first use a modified Jones (1991) model with a performance-matched discretionary accruals specification, as suggested by Kothari et al. (2005), to estimate the association between audit quality and *LLP*. This first involves regressing the accruals, calculated using the income approach on a scaled intercept, with the differences between the changes in sales, receivables, gross property, plant and equipment (*PPE*), and lagged return on assets (*ROA* in year  $t - 1$ ), all scaled by lagged total assets. We define discretionary accruals as the difference between the actual and predicted values of the accruals. Regression (4) is the first model used to estimate the association between audit quality and *LLP*. The dependent variable for regression (4) is *ABSPADA*, whereas the control variables are the same as in regressions (2) and (3).

(4)

Next, we set *MAO* as the dependent variable for regression (5). *MAO* is a binary variable set equal to 1 if the client firm receives the *MAO* in a corresponding year, and 0 otherwise. Given that the dependent variable is *MAO*, we use *LagMAO* (*MAO* in year  $t - 1$ ) as a control variable. We also drop *GC* from the control variables to avoid potential multicollinearity and the possibility of losing a considerable proportion of the available observations. The remaining model specifications are the same as for regressions (1).

(5)

## 4 SAMPLE, SUMMARY STATISTICS AND MAIN RESULTS

### 4.1 Data and sample selection

Data for this study are obtained from two publicly available sources: annual filings of listed firms and the Nikkei NEEDS database. Annual filings (*yukashoken hokokusho*) of listed firms in Japan can be retrieved from EDINET (Electronic Disclosure for Investors' NETWORK, operated by the Financial Services Agency of the Government of Japan), the Japanese equivalent of EDGAR (Electronic Data Gathering, Analysis and Retrieval system) in the United States. From the annual filings, we hand-collect the audit-related data including names (audit firms and signing partners), fees paid to the audit firms (audit fees and non-audit fees) and audit staff (numbers of CPA-licensed and supporting staff in the engagement audit teams). The sample period of this study is 2005 to 2017. We start collecting data from 2005 because this was the year when the audit staff data became publicly available on 31 March 2005.

Financial data for nonfinancial firms listed on the TSE are obtained from the Nikkei NEEDS-Financial Quest database.<sup>15</sup> The sample selection processes are reported in Panel A of Table 1. We begin our sample with 29,123 observations. We first remove 1675 observations from financial institutions, 267 observations from regulated industries (electricity and gas), and 668 observations for industry-years with fewer than 20 observations from the sample. We also delete 2239 observations for missing audit information and 1230 observations for missing financial data. Last, we remove audit firms that supply less than 15 audit engagements from the sample; this further deletes 687 observations, an equivalent of 3% of analysable engagements from 141 audit firms in the sample.<sup>16</sup> The final sample consists of 22,357 firm-year observations from 23 industries.

**TABLE 1.** Sample

Panel A: Sample selection process		
Total observations		29,123
Deductions:		
Financial institutions	1675	
Regulated industries (electricity and gas)	267	
Industries with less than 20 observations	668	
Missing audit data (fees, staff, license staff)	2239	
Missing financial data	1230	
Audit firms with less than 15 engagements <sup>a</sup>	687	6766
Final observations		22,357

Panel B: Sample distribution of numbers of general partnership audit firms, limited liability partnership audit firms and clients audited by general partnership and limited liability partnership audit firms				
	Number of GP audit firms	Number of LLP audit firms	Clients audited by GP audit firms	Clients audited by LLP audit firms
2005	51	0	1144	0
2006	57	0	1570	0
2007	65	0	1603	0
2008	70	0	1727	0
2009	68	3	1210	556
2010	68	4	680	868
2011	68	5	399	1398

**Panel B: Sample distribution of numbers of general partnership audit firms, limited liability partnership audit firms and clients audited by general partnership and limited liability partnership audit firms**

	Number of GP audit firms	Number of LLP audit firms	Clients audited by GP audit firms	Clients audited by LLP audit firms
2012	66	3	414	1333
2013	67	5	423	1431

<sup>a</sup> An equivalent of 3% of analysable engagements from 141 audit firms (before deleting) in the sample.

Panel B of Table 1 reports the sample distribution of the number of audit firms adopting a GP or an LLP. From 2009, three audit firms in our sample became an LLP and these supplied 556 audit engagements. The number of LLP audit firms increased to seven in 2017 (supplying 1472 audit engagements), whereas only 357 client firms were audited by GP audit firms in the same year. From the time series of our sample, we can readily see an increase in the number of client firms audited by LLP audit firms. The final distribution of the number of client firms audited by GP and LLP audit firms in our sample is 10,824 and 11,533, respectively.

## 4.2 Descriptive statistics

Table 2 reports the descriptive statistics of the variables. There are 22,357 observations used in this study. All continuous variables are winsorized at the upper 1% and lower 1% percentiles. As reported in Tables 2, 51.59% of the audit assignments are audited by LLP audit firms. Table 2 also reports that 26.72% of engagements are assigned to three or more signing partners, including 27.7% of engagements audited by GP audit firms and 25.8% of engagements audited by LLP audit firms. The log of the mean audit fees paid by client firms is 3.5872 (equivalent to JPY 48.6395 million or approximately US\$525,000). The mean number of signing partners is 2.2808, meaning that there is an average of 2.2808 signing partners engaged in each audit assignment. The mean numbers of licensed and supporting staff are 6.4033 and 8.2839, respectively, indicating that on average, there are more supporting than licensed staff. The sum of these suggests the average size of an audit team in our sample is about 17 staff. Note that the logarithmic value of the number of subsidiary firms is 2.396, indicating that the firms in our sample have an average of 10.41 subsidiary firms. Table 2 also reveals that 76.4% of firms end their fiscal year in March. The numbers of subsidiary firms and firms with a March fiscal year-end reported in this study are comparable to those in Fukukawa (2011).

**TABLE 2.** Summary statistics ( $N = 22,357$ )

	M	SD	25%	50%	75%
LLP	0.5159	0.4998	0.0000	1.0000	1.0000
MSPartners	0.2672	0.4425	0.0000	0.0000	1.0000
Audit fee (million JPY)	48.6395	53.3824	22.8000	33.0000	50.0000
Non-audit fee (million JPY)	3.1746	9.0708	0.0000	0.0000	2.0000
Assets (million JPY)	180,000	400,000	21,000	49,000	140,000
#signing partners	2.2808	0.4787	2.0000	2.0000	3.0000
#licensed staff	6.4033	3.9565	4.0000	5.0000	8.0000
#supporting staff	8.2839	5.8461	4.0000	7.0000	11.0000
Ln(Audit Fee)	3.5872	0.6876	3.1268	3.4965	3.9120
Ln(1 + Signing Partners)	1.1785	0.1347	1.0986	1.0986	1.3863
Ln(1 + Licensed Staff)	1.8765	0.4986	1.6094	1.7918	2.1972
Ln(1 + Supporting Staff)	2.0099	0.7215	1.6094	2.0794	2.4849
ABSPADA	0.0530	0.0569	0.0160	0.0353	0.0688



	M	SD	25%	50%	75%
<i>LnNonAFee</i>	0.6088	1.0188	0.0000	0.0000	1.0986

Note: Audit fee, non-audit fee and assets are in million Japanese Yen before natural logarithm. Audit manpower (signing partners, licensed staff and supporting staff) are number of persons before natural logarithm. See Table A1 for variable definitions. All continuous variables are winsorized at top/bottom 1%.

### 4.3 Main regression results: Audit fees and audit manpower allocation

Table 3 provides the main regression results for the analysis. Panel A first reports the results for regression (1). Regression (1) is a logistic model estimated using maximum likelihood methods. The dependent variable, *MSPartners*, is set equal to 1 if three or more signing partners audit the client firm, and 0 otherwise. The coefficient for *LLP* is significantly negative at  $-0.3632$  ( $z$ -stat. =  $-3.71$ ), indicating that the audit firm is less likely to assign three or more partners for an audit after LLP adoption, and this supports RQ1.

TABLE 3. Main regression results

Panel A: Likelihood for engagements to be audited by three or more partners	
	MSPartners
<i>LLP</i>	$-0.3632^{***}$ ( $-3.71$ )
<i>LnNonAFee</i>	$0.1138^{***}$ ( $4.39$ )
<i>LnAsset</i>	$0.5295^{***}$ ( $13.95$ )
<i>ROA</i>	$-0.9115$ ( $-1.03$ )
<i>Leverage</i>	$0.3784^{**}$ ( $2.07$ )
<i>LnFirmAge</i>	$-0.1961^{***}$ ( $-3.61$ )
<i>Growth</i>	$-0.4086^{**}$ ( $-2.52$ )
<i>INDDIR</i>	$0.1725$ ( $0.68$ )
<i>LnSeg</i>	$-0.0499$ ( $-1.31$ )
<i>LnSubs</i>	$0.3077^{***}$ ( $6.10$ )
<i>INV</i>	$0.3611$ ( $0.98$ )
<i>Receivables</i>	$-0.1550$ ( $-0.60$ )
<i>CFO</i>	$1.0508^{**}$ ( $2.10$ )
<i>Loss</i>	$0.1008$ ( $1.17$ )

Panel B: Regression results for audit fee and audit manpower allocation				
	Ln(Audit Fee)	Ln(1 + Supporting Staff)	Ln(1 + Licensed Staff)	Ln(1 + Signing Partners)
<i>LLP</i>	$0.0882^{***}$ ( $7.45$ )	$-0.0173$ ( $-0.93$ )	$0.0971^{***}$ ( $6.18$ )	$-0.0169^{***}$ ( $-3.76$ )
<i>LnNonAFee</i>	$0.0105^{**}$ ( $2.57$ )	$0.0181^{***}$ ( $3.74$ )	$0.0112^{***}$ ( $2.84$ )	$0.0007$ ( $0.56$ )
<i>LnAsset</i>	$0.1563^{***}$ ( $8.11$ )	$0.0852^{***}$ ( $3.21$ )	$0.0652^{***}$ ( $2.81$ )	$0.0129^{**}$ ( $2.06$ )
<i>ROA</i>	$-0.2006^{**}$ ( $-2.41$ )	$-0.2125$ ( $-1.45$ )	$-0.0479$ ( $-0.40$ )	$-0.0156$ ( $-0.45$ )
<i>Leverage</i>	$0.1954^{***}$ ( $3.75$ )	$0.0330$ ( $0.41$ )	$0.1401^{**}$ ( $2.08$ )	$-0.0012$ ( $-0.07$ )
<i>LnFirmAge</i>	$-0.0375$ ( $-0.67$ )	$-0.0414$ ( $-0.64$ )	$-0.0096$ ( $-0.18$ )	$-0.0106$ ( $-0.76$ )

## Panel B: Regression results for audit fee and audit manpower allocation

	Ln(Audit Fee)	Ln(1 + Supporting Staff)	Ln(1 + Licensed Staff)	Ln(1 + Signing Partners)
<i>Growth</i>	-0.0848 <sup>***</sup> (-5.21)	-0.0019 (-0.07)	-0.0046 (-0.21)	0.0000 (0.00)
<i>INDDIR</i>	0.0373 (1.10)	0.0421 (0.78)	-0.0283 (-0.62)	-0.0009 (-0.07)
<i>LnSeg</i>	-0.0061 (-0.96)	-0.0185 <sup>*</sup> (-1.90)	-0.0104 (-1.23)	-0.0019 (-0.71)
<i>LnSubs</i>	0.0918 <sup>***</sup> (6.90)	0.0109 (0.59)	0.0342 <sup>**</sup> (2.22)	0.0101 <sup>**</sup> (2.21)
<i>INV</i>	-0.0204 (-0.25)	0.1503 (1.09)	-0.1194 (-1.09)	0.0214 (0.61)

Note: See Table A1 for variable definitions.

\* 10% significance level.

\*\* 5% significance level.

\*\*\* 1% significance level.

For the other variables, we find that the coefficients for *LnNonAFee* (non-audit fee), *LnAsset*, *Leverage*, *LnSubs* and *CFO* are significantly positive, suggesting that client firms that pay higher fees for non-audit services, have more assets, higher leverage ratios, more subsidiaries, and higher operating cash flow are more likely to be audited by more partners. Meanwhile, the coefficients are significantly negative for *LnFirmAge* and *Growth*, indicating that audit firms are less likely to assign more than two partners to long-established and growing client firms. Note that the regression results reported in Panel A are estimated with audit firm and year fixed effects (although still a difference-in-differences research design). The results estimated with client firm, audit firm and year fixed effects are about the same as those estimated with only audit firm and year fixed effects, but we lose about 8028 observations because of multicollinearity.

The results reported in Panel B detail the association between audit fees (the dependent variable is the natural logarithm of the amount of audit fees) and *LLP*, and between audit manpower allocation (the dependent variable is the natural logarithm of the number of supporting staff, licensed staff and signing partners) and *LLP*. Consistent with the prediction of RQ1, the coefficient for *LLP* is  $-0.0169$  ( $t\text{-stat.} = -3.76$ ) which is statistically significant at the 1% level when the dependent variable is *Ln(1 + Signing Partners)*. This is equivalent to a 1.676% decrease in the number of signing partners following *LLP* adoption. We acknowledge that the decrease in the number of signing partners may be small. However, Table 2 shows that 73.28% of engagements in the sample are audited by two or fewer partners. This makes it less likely for an audit firm to decrease the number of signing partners to only one signing partner. As a result, we expect that this decrease takes place in the 26.72% of engagements that are assigned to three or more signing partners. In addition, audit firms could retain the same numbers of signing partners assigned to firms that are world-class multinational enterprises regardless of their own organizational structure, given that the risks associated with these firms are expected to be relatively small.<sup>17</sup> Overall, the results for signing partners is consistent with our expectation for RQ1 that the number of signing partners falls after the audit firm adopts an *LLP*, because we expect partners to decline audits of firms that have relatively higher risks. As explained, *LLP* removes legal liability for non-engagement partners, but signing partners continue to assume full liability for those audits in which they are directly involved. As a result, the number of partners signing each audit decreases with *LLP* adoption.

Next, we turn to the results for audit fees and the remaining audit manpower allocation. Consistent with RQ2, the coefficient for *LLP* is  $0.0882$  ( $t\text{-stat.} = 7.45$ ) which is statistically significant at the 1% level when the dependent variable is set to *Ln(Audit Fee)*. This reflects a 9.22% increase in audit fees following the adoption of *LLP*. Alternatively, consistent with RQ3, we also find that the coefficient for *LLP* is  $0.0971$  ( $t\text{-stat.} = 6.18$ ) which is statistically significant at the 1% level when the dependent variable is set to *Ln(1 + Licensed Staff)*, suggesting a 10.197% increase in the number of licensed staff in the engaging audit team subsequent to *LLP* adoption. However, the results indicate no change in the allocation of supporting staff before and after the adoption of *LLP* (coefficient =  $-0.0173$ ,  $t\text{-stat.} = -0.93$ ). Overall, the result that audit fees and the number of licensed staff increase after the audit firms have adopted the *LLP* organizational structure supports the conjecture that client firms might be paying more audit fees to compensate for more audit efforts exerted subsequent to *LLP* adoption.

#### 4.4 Regression results for audit quality: Discretionary accruals and MAO

In this study, we use the absolute value of *ABSPADA* and *MAO* that Lennox and Li (2012) also employ to proxy for audit quality. Table 4 reports the results for the association between the audit quality measures and the *LLP* organizational structure. The

*ABSPADA* column indicates that the dependent variable is the absolute value of discretionary accruals estimated using the performance-adjusted discretionary accruals specification, as developed by Kothari et al. (2005). If LLP adoption leads to higher (lower) audit quality, we should find a negative (positive) coefficient on *LLP*. The results in Table 4 indicate a negative but statistically insignificant coefficient on *LLP* (coefficient =  $-0.0017$ ,  $t\text{-stat.} = -0.96$ ), indicating that the audit quality does not change after the audit firm transforms its organizational form to limited liability. We also obtain the same results (not shown) for abnormal accruals estimated using the Jones (1991) model. These results show that consistent with Lennox and Li (2012), the adoption of an LLP does not have a discernible influence on audit quality.

**TABLE 4.** Regression results for modified audit opinion and discretionary accruals

	MAO	ABSPADA
<i>LLP</i>	-0.0440 (-0.60)	-0.0017 (-0.96)
<i>LnNonAFee</i>	0.0597 <sup>***</sup> (2.78)	0.0014 <sup>***</sup> (2.66)
<i>LnAsset</i>	0.0920 <sup>***</sup> (4.03)	0.0027 (0.88)
<i>ROA</i>	-3.0075 <sup>***</sup> (-4.76)	0.0175 (0.83)
<i>Leverage</i>	0.8686 <sup>***</sup> (7.64)	0.0702 <sup>***</sup> (8.06)
<i>LnFirmAge</i>	-0.1614 <sup>***</sup> (-5.23)	-0.0243 <sup>***</sup> (-3.37)
<i>Growth</i>	0.4780 <sup>***</sup> (3.42)	0.0234 <sup>***</sup> (5.29)
<i>INDDIR</i>	0.7262 <sup>***</sup> (4.90)	-0.0056 (-0.90)
<i>LnSeg</i>	0.0729 <sup>***</sup> (3.13)	0.0010 (1.08)
<i>LnSubs</i>	0.0448 (1.53)	-0.0047 <sup>**</sup> (-2.33)
<i>INV</i>	-0.2400 (-1.09)	0.0447 <sup>**</sup> (2.01)
<i>Receivables</i>	-0.8028 <sup>***</sup> (-5.18)	-0.0327 <sup>**</sup> (-2.08)
<i>CFO</i>	0.2806 (0.74)	-0.0195 (-1.37)
<i>Loss</i>	0.4820 <sup>***</sup> (6.50)	0.0027 (1.51)
<i>MarchYrEnd</i>	-0.1090 <sup>**</sup> (-2.08)	0.0006 (0.11)

Note: See Table A1 for variable definitions.

\* 10% significance level.

\*\* 5% significance level.

\*\*\* 1% significance level.

Next, we specify *MAO* as the dependent variable and report the results in the column *MAO*. The coefficient for *LLP* is positive but again statistically insignificant (coefficient =  $0.0440$ ,  $z\text{-stat.} = 0.60$ ). This also suggests that the level of audit quality delivered by audit firms remains unchanged after the audit firms change their legal structure form from a GP to an LLP. Note that we estimate *MAO* in Table 4 without client firm fixed effects. Because *MAO* is a binary variable that is set equal to 1 if the client firm receives an *MAO* and 0 otherwise, we would lose about 5000 observations due to collinearity by including client firm fixed effects in the model. However, the results are the same with and without the client firm fixed effects.

Finally, we further divide performance-adjusted discretionary accruals into positive performance-adjusted discretionary accruals (*Positive PADA*) and negative performance-adjusted discretionary accruals (*Negative PADA*) and set each as the dependent variable. The results are in Table 5. The coefficient on *LLP* (coefficient =  $-0.0017$ ,  $t\text{-stat.} = -0.72$ ) in the regression model estimated with the *Positive PADA* as the dependent variable is negative whereas the coefficient on *LLP* (coefficient of  $0.0014$ ,  $t\text{-stat.} = 0.64$ ) in the regression model estimated with *Negative PADA* as the dependent variable is positive. However, both are statistically insignificant. These results are consistent with those reported in Table 4, indicating that after audit firms switch from a GP to an LLP, audit quality remains unchanged.

TABLE 5. Regression results for positive and negative discretionary accruals

	Positive PADA	Negative PADA
<i>LLP</i>	-0.0017 (-0.72)	0.0014 (0.64)
<i>LnNonAFee</i>	0.0018 <sup>***</sup> (2.66)	-0.0002 (-0.34)
<i>LnAsset</i>	0.0121 <sup>***</sup> (2.92)	0.0088 <sup>**</sup> (2.24)
<i>ROA</i>	0.2963 <sup>***</sup> (9.71)	0.1854 <sup>***</sup> (6.35)
<i>Leverage</i>	0.0618 <sup>***</sup> (5.44)	-0.0570 <sup>***</sup> (-5.35)
<i>LnFirmAge</i>	-0.0198 <sup>**</sup> (-2.39)	0.0217 <sup>***</sup> (2.58)
<i>Growth</i>	0.0092 (1.57)	-0.0325 <sup>***</sup> (-5.64)
<i>INDDIR</i>	-0.0048 (-0.58)	-0.0003 (-0.04)
<i>LnSeg</i>	0.0008 (0.64)	-0.0007 (-0.60)
<i>LnSubs</i>	-0.0014 (-0.58)	0.0027 (0.93)
<i>INV</i>	-0.0130 (-0.54)	-0.0084 (-0.39)
<i>Receivables</i>	-0.0452 <sup>**</sup> (-2.46)	0.0407 <sup>**</sup> (2.18)
<i>CFO</i>	-0.5044 <sup>***</sup> (-22.54)	-0.4121 <sup>***</sup> (-18.71)
<i>Loss</i>	0.0061 <sup>**</sup> (2.39)	-0.0011 (-0.45)
<i>MarchYrEnd</i>	-0.0040 (-0.53)	-0.0032 (-0.55)

Note: See Table A1 for variable definitions.

\* 10% significance level.

\*\* 5% significance level.

\*\*\* 1% significance level.

## 4.5 Summary of the main results

As discussed in Lennox and Li (2012), the theory used in the extant literature provides ambiguous guidance for predicting the consequences of LLP adoption. It is possible that LLP adoption could lead to lower audit quality due to weak monitoring from other non-engagement partners. Conversely, after LLP adoption, signing partners may also have an incentive to protect their own wealth by expending more effort on an audit. The results reveal that the number of signing partners decreases whereas audit fees and the number of licensed staff increase subsequent to LLP adoption. The overall findings of this study are then consistent with what Lennox and Li (2012) predicted, namely, that clients pay higher audit fees to compensate for the extra effort being exerted following LLP adoption.

That said, we also find that the variables used to proxy for audit quality, that is, discretionary accruals and modified audit opinion, are unchanged following LLP adoption. This is also consistent with Lennox and Li (2012). Indeed, recent work by Aobdia (2019) suggests that discretionary accruals themselves are a noisy measure of audit quality, whereas DeFond and Zhang (2014) also argue that an audit opinion does not indicate the level of audit quality, but rather it indicates the quality of the auditor's opinion (i.e. assurance). However, if we view the audit manpower variables as alternative measures of audit quality, our results for audit manpower allocation and audit fees may well capture those effects that Lennox and Li (2012) are unable to identify (DeFond, 2012).

## 5 ADDITIONAL TESTS

### 5.1 Controlling for audit costs

In this section, we perform several additional tests to confirm the robustness of our results. First, as the results in Table 3 indicate that the number of signing partners decreases whereas the number of licensed staff increases after the audit firm's

adoption of an LLP, we re-estimate regression (2) by adding the remaining three audit manpower variables (signing partners, licensed and supporting staff) to the model to control for audit costs. This enables us to check the robustness of the results for audit fees reported in Panel B of Table 3. The model specification is the same as in the regression (2). We estimate the relation between audit fees and *LLP* with the audit firm, client firm and year effects, and cluster standard errors at the client firm level. The results are in Panel A of Table 6. The coefficient for *LLP* is 0.0837 and is significant at the 1% level ( $t = 7.13$ ). The result reported here is qualitatively the same as the results in Table 3 (coefficient = 0.0882,  $t = 7.45$ ), suggesting that audit fees increase after audit firms switch from GP to LLP and that client firms are paying more audit fees as a result. In addition, the estimated coefficients for supporting staff (coefficient = 0.0680,  $t$ -stat. = 7.28), licensed staff (coefficient = 0.0679,  $t$ -stat. = 8.30) and signing partners (coefficient = 0.0559,  $t$ -stat. = 2.42) are all positive and statistically significant, and this is consistent with the view of audit fee pricing that manpower requirements constitute the largest part of audit fees.

**TABLE 6.** Additional analysis

Panel A: Audit fee (controlling for manpower allocation)			
	Ln(Audit Fee)		
<i>LLP</i>	0.0837	***	(7.13)
<i>Supporting staff</i>	0.0680	***	(7.28)
<i>Licensed staff</i>	0.0679	***	(8.30)
<i>Signing partners</i>	0.0559	**	(2.42)
<i>LnNonAFee</i>	0.0085	**	(2.21)
<i>LnAsset</i>	0.1453	***	(7.82)
<i>ROA</i>	-0.1820	**	(-2.22)
<i>Leverage</i>	0.1837	***	(3.62)
<i>LnFirmAge</i>	-0.0334		(-0.63)
<i>Growth</i>	-0.0843	***	(-5.26)
<i>INDDIR</i>	0.0365		(1.09)
<i>LnSeg</i>	-0.0041		(-0.66)
<i>LnSubs</i>	0.0882	***	(6.80)
<i>INV</i>	-0.0237		(-0.30)

  

Panel B: Estimated audit manpower allocation using Poisson regression			
	#supporting staff	#licensed staff	#signing partners
<i>LLP</i>	-0.0399 ** (-2.55)	0.1018 *** (5.60)	-0.0261 *** (-4.02)
<i>LnNonAFee</i>	0.0149 *** (3.24)	0.0120 *** (2.69)	0.0009 (0.52)
<i>LnAsset</i>	0.1048 *** (3.90)	0.0927 *** (3.59)	0.0218 ** (2.33)
<i>ROA</i>	-0.2040 (-1.38)	-0.0420 (-0.31)	-0.0275 (-0.53)
<i>Leverage</i>	0.0781 (0.94)	0.1819 ** (2.37)	-0.0021 (-0.08)
<i>LnFirmAge</i>	-0.0511 (-0.70)	-0.0065 (-0.11)	-0.0206 (-1.03)
<i>Growth</i>	-0.0083 (-0.31)	0.0063 (0.25)	0.0006 (0.07)
<i>INDDIR</i>	0.0640 (1.18)	0.0021 (0.04)	-0.0008 (-0.04)
<i>LnSeg</i>	-0.0155 (-1.56)	-0.0027 (-0.27)	-0.0031 (-0.80)
<i>LnSubs</i>	0.0154 (0.86)	0.0470 *** (3.90)	0.0151 ** (2.28)

Panel B: Estimated audit manpower allocation using Poisson regression			
	#supporting staff	#licensed staff	#signing partners
<i>CFO</i>	0.0170 (0.23)	-0.0216 (-0.30)	-0.0226 (-0.87)
<i>Loss</i>	0.0090 (0.64)	0.0069 (0.52)	-0.0004 (-0.09)

Note: See Table A1 for variable definitions.

\* 10% significance level.

\*\* 5% significance level.

\*\*\* 1% significance level.

## 5.2 Estimating audit manpower allocation using Poisson regression

Given that our data on audit staff comprise the number of the personnel in the audit team (i.e. positive natural numbers), we re-estimate the association between audit manpower allocation and LLP using the Poisson regression. The dependent variables are the number of supporting staff, licensed staff and signing partners (winsorized at the top and bottom 1%). The results for the Poisson regressions are in Panel B of Table 6. The results are mostly the same as the main results for audit manpower allocation reported in Panel B of Table 3 except for supporting staff, for which the sign of the coefficient for *LLP* (-0.0399, *z-stat.* = -2.55) remains negative, but is now statistically significant at the 1% level. The coefficient on *LLP* (0.1018, *z-stat.* = 5.60) for licensed staff is positive and statistically significant at the 1% level and the coefficient on *LLP* (-0.0261, *z-stat.* = -4.02) for signing partners is negative and statistically significant at the 1% level, suggesting that the number of licensed staff are more likely to increase and the number of signing partners more likely to decrease after the adoption of LLP.

## 5.3 Misclassification of audit fees and non-audit fees

To confirm that our results for audit fees are unaffected by measurement errors stemming from the possible misclassification of audit and non-audit fees paid by the client firms, we replace the natural logarithm of audit fees with that of total fees (i.e. the sum of audit fees and non-audit fees) and remove non-audit fees as an independent variable. We re-estimate the association between total fees and *LLP* and find that the results (not shown) are unchanged. The coefficient for *LLP* remains positive and statistically significant. Thus, our results are invariant to controlling for audit manpower allocation.

## 5.4 JSOX effects

It is not plausible to include year fixed effects and *JSOX* at the same time. To account for the *JSOX* effects alone, we replace year fixed effects with a *JSOX* indicator variable to account for the effect of the Japanese version of the US Sarbanes-Oxley (SOX) Act that became effective in Japan on 31 March 2009. The results (not shown) are the same as for all the analyses in this study if we replace the year fixed effects with *JSOX*.

## 6 CONCLUDING REMARKS

In this study, we provide new insights into the consequence of audit firms switching from an unlimited liability general partnership to a limited liability partnership. First, we find that audit fees increase whereas the number of signing partners decreases after audit firms adopt an LLP. These results appear reasonable in that non-engagement partners in an LLP audit firm need not assume collective legal liability, but signing partners still assume unlimited liability for those audits in which they are directly involved. We further find evidence that audit firms reallocate audit staff by involving additional experienced CPA-licensed staff in the audit team, thereby increasing the total amount of effort expended on each audit. As a result, client firms pay higher audit fees as compensation for the additional audit effort. At the same time, we find no consequences for the measures Lennox and Li (2012) use to proxy for audit quality following the adoption of LLP.

Of course, our analysis involves certain limitations. As Lennox and Li (2012) conceded, one of the limitations of their analysis is that it is restricted to audit firms in the United Kingdom; likewise, one of our limitations is that the analysis takes place in a unique setting in Japan where audit firms commonly assign two or more signing partners to audit engagements. We are aware that our findings might not be generalizable to other institutional settings. In addition, although audit staff is a relatively direct measure of audit effort, the number of personnel might not necessarily proxy adequately for the efforts committed to audit engagements.

This study contributes to the literature in several ways. In contrast to Lennox and Li (2012), who showed no change in audit fees, we find that audit fees increase after LLP adoption. Collectively, our study suggests that clients pay these increased audit fees to compensate for the additional audit effort expended following LLP adoption. In addition, the evidence provided in this study also confirms that it is the experienced audit staff, comprising the CPA-licensed staff and signing partners, who deliver audit quality. This confirms the importance of auditor knowledge in delivering audit quality. Lastly, using the same measures in Lennox and Li (2012), we do not obtain results that suggest that audit quality deteriorates subsequent to LLP adoption. This confirms that the Japanese firms used in this study are not notably different from their counterparts in other jurisdictions because the results for discretionary accruals and modified audit opinion are consistent with those reported in Lennox and Li (2012), and this potentially strengthens the validation of our results concerning audit manpower allocations.

There are promising directions for future research. We argue that we could usefully exploit more analysis of the role of the auditor at the individual signing partner level. Because we have shown that the number of signing partners on audit engagements decreases following LLP adoption, it suggests that signing partners tend to decline audit cases when they face increasing legal liability. This is the evidence that echoes the Lennox and Wu (2018) argument that the client-partner alignment process is unlikely to be random. However, as the related disclosure of audit information in Japan starts in 2005 and we have to hand-collect most of the data used in this study, we are unable to determine the characteristics (e.g. gender, workloads, experiences, or past audit quality) of the partners who remain in the audit or leave the engagement after the LLP adoption; this is the limitation of this study. As suggested in Lennox and Wu (2018), these characteristics will be particularly important information if future research can shed further light on research related to audit partners.

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## CONFLICT OF INTEREST

All authors have no conflict of interest to report.

## ENDNOTES

- <sup>1</sup> The tentative translation from the Certified Public Accountants Act in Japan (CPA Act) provided by the Japanese government uses the term 'limited liability company' (LLC) to refer to an audit firm that adopts an LLP. We use LLP throughout this study for consistency with previous studies. There is no significant difference in nature indicated by the two terms. Ernst and Young Japan (ShinNihon) became the first audit firm to adopt an LLP structure on 24 June 2008. (URL: <http://www.fsa.go.jp/news/19/syouken/20080624-4.html>, in Japanese, last accessed on 10 October 2020)
- <sup>2</sup> The CPA Act requires audit firms to assign one or more partners for assurance service assignments (CPA Act 34-10-4 for unlimited liability organizations; CPA Act 34-10-5 for limited liability organizations). In practice, audit firms usually assign at least two signing partners.
- <sup>3</sup> The maximum number of signing partners for a single audit assignment in our sample is six before the winsorization.
- <sup>4</sup> We are able to obtain the numbers of signing partners because the name of each signing partner in the audit is disclosed in the annual filings. According to PCAOB Release No. 2015-008, 16 of the world's top 20 countries by stock market capitalization require the disclosure of the name of the engagement partner, comprising Japan, United Kingdom, France, Germany, Australia, India, Brazil, China, Switzerland, Spain, Russia, the Netherlands, South Africa, Sweden, Mexico and Italy.
- <sup>5</sup> CPA-licensed staff refers to staff with a CPA license, whereas non-CPA-licensed supporting staff refers to staff without a CPA license. In Japan, only those with a CPA license can provide assurance services for (audit) fees (CPA Act 2-1, and 2-2), unlike those who do not have a CPA license (CPA Act 47-2). In practice, nearly all non-CPA-licensed staff are in clerical positions intended to support the licensed staff. Hereafter, we use (CPA) 'licensed staff' and (non-licensed) 'supporting staff' throughout this study.
- <sup>6</sup> Hossain et al. (2017) find that audit fees and audit quality are associated with the composition of the audit team, especially experienced staff with a CPA license. However, the association between audit quality and signing partners is unexamined in Hossain et al. (2017) because they consider signing partners is a noisy measure.
- <sup>7</sup> LLC (limited liability company or limited liability corporation) in China is an organizational structure wherein the company, not the partners, essentially assumes all legal liabilities.
- <sup>8</sup> Data source: Japanese Institute of Certified Public Accountants (JICPA), as of 25 September 2017. URL: [http://www.hp.jicpa.or.jp/ippan/cpsa/information/files/kyougikai\\_meibo\\_hojin20170925.pdf](http://www.hp.jicpa.or.jp/ippan/cpsa/information/files/kyougikai_meibo_hojin20170925.pdf).
- <sup>9</sup> Data source: Financial Services Agency of the Japanese Government, as of 1 November 2017. URL: <http://www.fsa.go.jp/menkyo/menkyoj/kansahoujin.pdf>. Note that some audit firms with an LLP structure may not have clients that are listed firms. Thus, there are less than 28 LLP audit firms in our sample.

- <sup>10</sup> This is required by the Cabinet Office Ordinance on the Disclosure of Corporate Affairs, Cabinet Office Ordinance No. 34 of 31 March 2005.
- <sup>11</sup> For example, see the job description at KPMG Japan's recruitment for supporting staff. URL: <https://home.kpmg/jp/ja/home/careers/memberfirm/azsa/year-round-recruitment/audit-assitant.html>, accessed 31 May 2020.
- <sup>12</sup> Starting in 2006, CPA exam passers in Japan are required to have at least 2 years of practical experience before being officially licensed as a CPA.
- <sup>13</sup> In Japan, most firms end their fiscal year on March 31. For simplicity, we label the fiscal year ending 31 March 2007 as 2007. In addition, our findings are identical with or without this variable in the research design, so we do not report the results.
- <sup>14</sup> Japanese firms also disclose any accounting policy changes in their annual filings. These changes may include the transition from last in, first out (LIFO) to first in, first out (FIFO) inventory methods, or the early or retrospective application of new accounting standards. Our findings are identical with or without this *PolicyChange* variable in the research design, so we do not report the results.
- <sup>15</sup> Nikkei NEEDS is the abbreviation for the Nikkei Economic Electronic Databank System. Several related studies, including Skinner (2008), and Kato et al. (2009), acquire their data using this database.
- <sup>16</sup> We exclude audit firms that supply fewer than 15 audit engagements from the sample to eliminate outlier effects originating from the audit firms. Furthermore, as we control for firm, year and audit firm fixed effects to create a generalized difference-in-differences design, most of the audit firms providing fewer than 15 engagements are excluded from the regression because of multicollinearity. Therefore, we also exclude these audit firms to address the outlier issue. Nonetheless, the results are identical to those if we do not exclude these firms from the sample.
- <sup>17</sup> For example, PwC Japan assigned four signing partners to audit Toyota Motor, and EY Japan assigned four signing partners to audit Nissan Motor, irrespective of LLP adoption. In contrast, KPMG Japan assigned three partners to audit Panasonic before and after its LLP adoption, whereas PwC Japan sent two partners to audit Sony but increased its number of signing partners to three after becoming an LLP.

## Appendix A

TABLE A1. Variable definitions

<i>LLP</i>	Set equal to 1 if the client firm is audited by a limited liability partnership audit firm and 0 otherwise
<i>MSPartners</i>	Set equal to 1 if the client firm is audited by three or more signing partners and 0 otherwise
<i>Audit fee</i>	Audit fee paid to the audit firm by the client firm
<i>Signing partners</i>	Numbers of signing partners
<i>Licensed staff</i>	Numbers of staff with a CPA license
<i>Supporting staff</i>	Numbers of supporting staff (without a CPA license)
<i>ABSPADA</i>	Absolute value of performance-adjusted discretionary accruals, estimated using modified Jones (1991) model with performance-adjusted discretionary accruals specifications, as suggested in Kothari et al. (2005)
<i>LnNonAFee</i>	Natural logarithm of non-audit fees plus 1
<i>LnAsset</i>	Natural logarithm of total assets
<i>ROA</i>	Net income over total assets
<i>Leverage</i>	Total liabilities over total assets
<i>LnFirmAge</i>	Natural logarithm of firm age, measured financial statement reporting date minus firms' date of establishment
<i>Growth</i>	Percentage change of sales from year t-1 to year t
<i>INDDIR</i>	Percentage of independent directors over total directors

## Biographies

**Wuchun Chi** is a Professor of Accounting at National Chengchi University. His research interests focus on financial accounting, auditing and corporate governance. His work has been published in journals such as *Accounting Horizons*, *Contemporary Accounting Research*, *International Journal of Auditing*, *Journal of Accounting and Public Policy* and *Review of Accounting Studies*.

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## Open Research



## DATA AVAILABILITY STATEMENT

Data are available from the public sources identified in the study.

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