

# Switching due diligence auditor in Chinese mergers and acquisitions

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## Abstract

The routine financial reporting auditor (FR auditor) of an acquiring firm has the advantage of knowing the acquirer very well, however, a large portion of acquirers in China do not use their FR auditor to continue serve as their due diligence auditor (DD auditor) in the takeover process. Using a sample of 818 takeover transactions from 2004 to 2014, we find that the acquiring firms are more likely to appoint a new DD auditor for M&A, instead of using the incumbent one, when the FR auditor is not an industry specialist and the acquiring firms' financial reporting quality is low. For low financial reporting quality acquiring firms, changing to a new DD auditor can prevent negative market reactions when firms make the M&A announcement, but firms have to pay a higher premium. Our results remain robust when using alternative definitions of industry specialisation and measures of financial reporting quality.

## Introduction

Importance of due diligence (DD) in corporate finance has been stressed in past research (Yung, 2009; Cumming and Zambelli, 2017). As DD carried out by one of the external parties (financial consultancies, law and accounting firms), few attention has been paid to financial DD in mergers and acquisitions (hereafter, M&As), one of the non-audit services provided by audit firms. Theoretically, financial DD carried by audit firms can help the acquiring firm to establish and understand a target firm's current financial situation and subsequent forecasts to form the basis for the valuation of the target firm. Also, it can help provide understanding of the target firm's internal control and operational management, which facilitates investment decision making and future business planning and integrating. But different opinion argues that 'often DD is more of a fact-finding mission than a critical step in a decision process' (Dounis, 2008). In this case, management would not regard DD as 'a source of important new information' (ibid.). Hence, it would be worth finding out whether practically the DD auditor increases value of M&A and what are the determinants for choosing DD auditor.

In China, the routine financial reporting auditor (FR auditor) of the acquiring firm has the advantage of knowing the acquirer very well, however, a large portion of acquirers do not use their FR auditor as their due diligence auditor (DD auditor) in the takeover process, and we know little regarding the reasons and consequences of picking a different DD auditor in the M&A process. To find out whether DD auditors increase value of M&A, the choice of DD auditor would be of significant importance.

This paper focuses on M&As, one of the most important corporate finance decision of listed firms, and analyses the effect of M&A auditor choice on short term market reaction to the acquirers' M&A announcements and long term performance after M&As, as well as the factors affecting the interaction between auditor choice and the acquirers' financial reporting quality. The primary objective of this research is to explore if the likelihood of changing M&A auditor is associated with auditor industry specialisation and acquirers' financial reporting quality (earnings management).

Using a sample of 818 takeover transactions (among which 330 deals chose a new DD auditor for their M&A transactions) from 2004 to 2014 in China, we find that the acquiring firms are more likely to adopt a new DD auditor for M&A, instead of using the incumbent one, when the FR auditor is not an industry specialist. Furthermore, if the financial reporting quality is low, then acquiring firms are more likely to use a new DD auditor. For low financial reporting quality acquiring firms, changing to a new DD auditor can prevent negative market reactions (short-term abnormal return) when firms make the M&A announcement. When the acquiring firm switches to a new DD auditor, the bid premium paid tends to be less than the not-switched ones. However, we do not find evidence that same-industry acquisition, which should have low information asymmetry between acquirers and targets, reduces the likelihood of using new DD auditors in takeover process.

This study contributes to the literature in several ways. First, this study is the first one to shed light on the choice of DD auditors in the takeover process. Unlike most of the research on financial reporting audit firms, this study focuses on the non-audit services provided by auditor firms. Second, extending prior studies in M&As relating to audit quality, this study focuses on the auditor industry specialisation as a proxy for audit quality and emphasises its effect in decisions to choose the auditors. Lee et al. (2015) test whether the stock market returns surrounding announcements of M&A are higher for acquiring firms audited by industry specialists, but their research only involves the acquiring firms' FR auditors, so they assume the FR auditors do the due diligence service as well, while our study separates the FR auditor and DD auditor in the takeover process. Third, this research contributes to a broader topic on how DD auditor choice is associated with financial reporting quality and audit quality in the context of China. Contemporaneous research provides evidence that industry specialised auditors are associated with higher earnings quality in the U.S context (Balsam et al., 2003; Krishnan, 2003), and this research complements these studies by comparing the effect of auditor industry specialisation in the Chinese M&A context.

The rest of the paper is organized as follows. Section 2 presents a literature review, institutional background and hypotheses. Section 3 discusses our data and variables, and Section 4 presents empirical evidence on changing DD auditor in the takeover process. Section 5 carries out robustness checks. Finally, Section 6 presents the study's conclusions.

## Section 2: Literature review, institutional background in China and hypotheses

### *Literature review*

#### *The role of auditor in the capital market*

The role of the auditor in the capital market has to be based on the discussion of the role of financial reporting quality in the capital market. First of all, it is about the valuation of a firm. In an efficient market, firm value is defined as the present value of expected future net cash flows, discounted at the appropriate risk-adjusted rate of return. A firm's current performance as summarized in its financial statements is an important factor in the market's assessment of the firm's future net cash flows and thus to the firm's market valuation. There are many examples of empirical studies on employing fundamental analysis to forecast earnings and future stock returns (Ou and Penman, 1989b,a; Lev and Thiagarajan, 1993; Abarbanell and Bushee, 1997, 1998; Piotroski, 2000; Pavlopoulos et al., 2019).

The role of financial reporting gets more important when the market is not so efficient, which means information asymmetry, and sometimes double asymmetry. The theoretical literature has long recognized that asymmetry of available information between firm's manager and other stakeholders can affect firm's investing or financing decisions. Research on market efficiency and accrual management and returns (Teoh et al., 1998b,c; Teoh et al., 1998a; Dechow et al., 1999; Biddle et al., 2009; Huang et al., 2019) prove the correlations. Meanwhile, research shows that manipulation of the financial reporting information may cause inefficient decisions, which means good quality of financial reporting plays a positive role in decision making in the capital market.

Since a firm's financial statements play a critical role in reducing information asymmetry, and their integrity is essential to well-functioning capital markets, auditors play a key role in assuring the integrity of information by offering independent verification of financial statements and by reporting potential breaches in clients' financial accounts. As such, they improve the credibility of financial reports and make contracting with a firm less costly (Watts and Zimmerman, 1986). A great deal of research has been done on audit quality (measured by different proxies), financial reporting quality and capital markets to confirm that the auditor matters (Amir et al., 2010; Bennouri et al., 2015; Datar et al., 1991; Pittman and Fortin, 2004; Xin et al., 2009).

Some scholars (Kausar et al., 2016) argue that, in addition to the value provided by the audit with respect to the quality of the financial disclosures, the choice to obtain an audit itself can provide incremental information to creditors, which can reduce financing friction.

Major reasons for changing auditors include the desire to decrease audit fees (DeAngelo, 1981a; Gregory and Collier, 1996; Pong and Whittington, 1994; Simon and Francis, 1988); to improve the credibility of annual accounts; to improve audit quality; to lower agency costs (Bar-Yosef and Livnat, 1984; DeFond, 1992; Francis and Wilson, 1988; Johnson and Lys, 1990); to obtain more favourable audit opinions (Citron and Taffler, 1992); to achieve industry specialisation (Williams, 1988); and to resolve auditor-client disagreements and 'personality' clashes (Beattie and Fearnley, 1995). Although past research focuses on the FR auditor, we could assume similar consideration would be involved in choosing DD auditor.

There are mainly two focuses in the research on audit and M&As. One is to test if the quality of a target's auditor matters in terms of market valuation (Bugeja, 2011; Niemi et al., 2013; Louis, 2005). The other is mainly on whether the acquirer and target have common auditor or not (Anderson et al., 1993; Beattie and Fearnley, 1995; Firth, 1999; Dhaliwal et al., 2016; Cai et al., 2016). Beattie and Fearnley (1995) review many studies in the field of auditor selection and survey auditor change in Britain, then provide an overview of the reasons firms give for making auditor switches: client characteristics, auditor characteristics and the auditing environment. Although none of these literature focuses on financial reporting quality, they all refer to FR auditors and they all have discussions on reducing information asymmetry.

#### *Audit quality and its effects*

Audit quality is defined as the joint probability that an existing material error is detected and reported by an auditor (DeAngelo, 1981b). Past research shows that audit quality is multidimensional and extends beyond the value inherent in a firm's brand name. The research on the association between auditor industry specialisation and audit quality is well developed. One stream of literature argues that audit industry specialisation helps constrain earnings management and thereby increases earnings quality. Several research papers have shown that industry specialist auditors generally have lower levels of discretionary accruals (DCA) (Balsam et al., 2003; Krishnan, 2003; Lim and Tan, 2010). Other papers have analysed the link between the industry specialisation of auditors and several other dimensions of financial reporting quality. Taken together these empirical findings show that the financial statements of industrial specialised auditors' clients also exhibit a higher earnings response coefficient (Balsam et al., 2003; Kwon et al., 2007; Lim and Tan, 2008); have higher disclosure quality (Dunn and Mayhew, 2004); are less likely to manipulate their earnings to just meet or beat analysts' earnings forecasts and are more likely to be issued a going-concern audit opinion when appropriate (Reichelt and Wang, 2010); to help greatly in improving investment efficiency (Elaoud and Jarboui, 2017). Furthermore, Carcello and Nagy (2004) report a negative relationship between industrial expertise and financial fraud. However, this relationship appears to be weaker for

larger clients, namely because these have more bargaining power and because of the greater difficulty for auditors to maintain industry expertise with regard to such clients, who generally operate in more than one industry. Hence, we can see if there are benefits from utilising an industry specialist, investors should react positively to the appointment of an auditor with industry specialist skills. For similar reasons, a negative reaction would be expected when an industry specialist auditor resigns or is dismissed (Knechel et al., 2007).

In terms of economic effects in M&A, apart from the effects to M&A financial performance from auditor quality, bid premium is an important variable to be studied. Bugeja (2011) investigates if there is a positive association between takeover premiums and the bidder's perception of target firm auditor reputation and independence. Using auditor size as a proxy for auditor reputation, the results indicate that target shareholders receive a higher takeover premium when a Big 4 auditor audits the target firm in the year prior to the takeover announcement. This result is only significant however in the period prior to highly publicised audit failures. The impact of perceived auditor independence on takeover premiums has been studied using the levels and size of non-audit service (NAS) fees provided by the target firm auditor. Using these as proxies for auditor independence, the results do not show an association between perceived auditor independence and takeover premiums.

### *Institutional background*

China's auditing profession was established in 1980 and most audit firms were initially affiliated with local governments. The development of the audit market accelerated following the opening of stock exchanges in Shanghai and Shenzhen in 1990 and 1991. A select group of audit firms were granted permission by the government to audit public firms and the select list is reviewed by the government regularly. In addition, joint ventures with the Big 4 were approved in 1992. Due to investor demands for greater audit quality, the Ministry of Finance (MOF) and China Securities Regulatory Commission (CSRC) introduced reforms to separate audit firms from the government. The reforms began in 1998 and were completed by early 2000. Chinese audit firms are now independent of the government and operate under competitive market forces (Chen et al., 2011). By the end of 2014, there were 8295 audit firms, of which 40 audit firms (including the Big 4 joint ventures) were qualified to audit public firms. Market concentration is much lower in China compared to the oligopolistic audit market structure in the United States, indicating that the supply of audit services in China is more competitive than in the United States.

With reference to due diligence service for M&A, not all M&As need to be audited in China. As M&A is such an important investment to a firm and auditing is an important part of due diligence, under some special circumstance, firms are required by regulation to have an auditor on M&A. For example, auditing for M&A is compulsory when there is fundamental restructuring to a listed firm (according to the Rules for Fundamental Restructuring by Listed Firms). Another example is an audit report is needed for assets valuation purpose, when a state-owned firm carries out a M&A transaction on a non-state-owned firm. In other situations, firms can choose. Importantly, acquiring firms in China can choose an auditor just for the purpose of M&A due diligence. That means the DD auditor can be either their incumbent FR auditor or a new auditor. A new auditor for M&A purpose does not mean the acquiring firm changes its incumbent FR auditor. Actually, the majority of them did not change and among those who changed, most changed to a third auditor later on.

In general, due diligence is to audit the target firm, but it is not only about the target firm. The audit firms' service could cover from before, during and then after the M&A, which includes but is not limited to picking target firms, providing audit reports on target firms and estimating future profitability. This also means the DD auditor should have a good understanding of not just the industry of target firms, but also the acquiring firm and its industry. Most M&A transactions in China are within the same industry, which might push the acquiring firm to choose an audit firm with specialised knowledge of its industry. If their incumbent FR auditor is not specialised enough, they would intend to choose one for M&A purposes. Good choice of DD auditor would be able to help the acquiring firm to avoid risk and gain synergy. On the other hand, especially in the circumstance that the DD auditor is chosen by the acquiring firm, it is possible for the acquiring firm and DD auditor working together to manipulate the information they provide and help the acquiring firm to achieve goals but may put shareholders at risk.

In summary, due to the fact of China's very competitive auditing market, the Big-4 firms are not dominating in China. In this case, we cannot simply apply Louis (2005) work which distinguishes Big-4 and non-Big-4 only. Also, a successful M&A might be important to the executives of the acquiring firms and a real value creation is 'laid heavily in the hands of executives' (Andre and L'her, 2004; Amewu and Alagidede, 2019). To achieve a successful M&A, executives might need to start taking action long before the start of the M&As. In China, the acquiring firms need to convey positive information to government authorities and the capital market, which includes: (1) the M&A concerned can improve the acquiring firm's profitability; (2) anything about target firm that maintains the share price and can be helpful to achieve a lower M&A price. Therefore, the acquiring firm is motivated to switch to an auditor which they think can help. Hence, instead of testing audit size/Big 4, it is more sensible to test the audit firm's industry specialisation on the acquiring firm's M&A auditor choice. In this case, an assumption can be made that a specialised M&A auditor should be valuable to the acquiring firm.

### *Hypotheses development*

From the literature review and institutional background discussion in the previous two sections, it can be seen that when it is not required but acquiring firms still choose to hire a DD auditor, and when acquiring firms can use an incumbent FR auditor but choose not, it might reflect the situation that the acquiring firms consider the DD is important for M&As decisions and they want to choose

carefully a capable DD auditor. To engage a capable DD auditor, it would be sensible to first consider their incumbent FR auditor, which is supposed to be well informed about the acquiring firm and can efficiently collect the information relevant for the firm's decision making. Hence, if a firm's incumbent FR auditor is capable, it would be sensible for the firm to rely on the incumbent auditor. If the acquiring firm believes the incumbent FR auditor is not capable, they would have motivation to find another auditor for DD. One important measure of a capable auditor is the FR quality. Here we use FR quality as a proxy, which is well documented in the literature and it is also easy to ascertain by the acquiring firm since they are being audited. Meanwhile, for M&As, knowledge about the industry is important, which means that if an auditor is an industry specialist, the auditor would be more capable of giving relevant information for decision making. Therefore, our research focuses on the choice of DD auditor and the economic effects from the choice, and hence we have the following hypothesis:

H1. The acquiring firms are more likely to use the incumbent FR auditor as DD auditor if the FR auditor is an industry specialist.

Since financial report quality is reflection of a FR auditor's capability, when there is higher level of discretionary earnings management (lower FR quality), both acquiring firms and investors might be concerned about the quality of service provided by the incumbent FR auditor. Hence, we have the following hypothesis:

H2. The acquiring firms are more likely to switch auditor for DD purpose if they have higher earnings management (lower FR quality).

In terms of the economic effects of the switch decision, the market is likely to have positive response when an acquiring firm with good FR quality announces a M&A, because good FR quality usually means the firm is operating well, there is no need to have so much manipulation of financial report information and the M&A decision means new opportunity for development. Thus when a decision to switch auditor has been made, the market would interpret it as a sign that the acquiring firm has carefully picked a DD auditor which should be helpful for bringing more relevant information to decision making. Hence,

H3. There is positive correlation between the FR quality and the CARs, and positive correlation between the switch decision and the CARs.

Meanwhile, when a firm with poor financial reporting quality would like to buy another firm, it might have to make extra effort to get agreement from the seller. The extra effort includes a higher premium. However, if the acquiring firm switches to a more capable auditor, it is also possible that the DD auditor can obtain more relevant information which would enhance the acquiring firm's bargaining power. Therefore,

H4. The acquiring firm with poor FR quality would more likely to pay higher premium.

Even though we argue that knowledge of the acquiring firms' industry is highly relevant to the DD auditors' information quality, we should also pay attention to the target firms' industry. When the acquiring firm and target firm are in different industries, there might be a possibility that the FR auditor is not so familiar with the target industry, hence the acquiring firm might prefer to switch to an auditor more experienced in the target industry to avoid a not-so-specialised DD. Also, if they maintain the FR auditor for M&A due diligence in a different industry, they might suffer a lack of full understanding of the industry, which could lead to not so wise decisions and cause negative effects to after M&A performance.

### Section 3: Data and variables

#### *Sample construction*

The M&A transactions data were collected from the database of China Stock Market & Accounting Research (CSMAR). This study covers mergers and acquisitions of publicly traded (on either Shanghai Stock Exchange or Shenzhen Stock Exchange) Chinese firms that were announced after January 2004 and till December of 2014. A transaction is included in the sample if it satisfies the following criteria: (1) The transaction was successfully completed; (2) The transaction was domestic; (3) The transaction types include: assets acquisition; consolidation by merger and tender offer; (4) The transaction was a non-related parties transaction; (5) Financial and utility firms were excluded. (5) Transaction value was more than one per cent of the listed firm's total assets.

M&A auditor information and targets' industry information were hand-collected from firm acquisition announcements. All other financial and stock market data were collected from the CSMAR database. The final available sample of this study is 818 transactions.

#### *Measure of key variables*

#### *Measure of industry specialization*

Prior studies argue that measures of industry specialisation based on industry market shares of the auditing firms are better than other types of proxies (Balsam et al., 2003; Dunn and Mayhew, 2004). Follow (DeFond et al., 2000; Ferguson & Stokes, 2002; Francis et al., 2005; Fung et al., 2012), this study adopts two observable measures to calculate audit industry's market share  $MS_{ik}$ . The first one, based on audit fees, defines a national industry specialist if in a particular year and in a particular industry the auditor has a market share greater than the median level; the second one, based on client number, defines a national industry specialist if in a particular year and in a particular industry the auditor has a market share greater than the median level. Prior studies usually define auditors with largest market share as industry specialists (DeFond et al., 2000; Ferguson & Stokes, 2002; Francis et al., 2005; Basioudis & Francis, 2007; Fung et al., 2012); or define auditors with more than a market share cut-off, e.g. 20% or 30%, as industry specialists

(Ferguson & Stokes, 2002; Numan & Willekens, 2012). All prior mentioned research has been done in developed economies, mostly the US, which is very different from the Chinese market. Due to the competitive audit market situation in China, the common situation in the market is each year each industry has more than 10 audit firms (sometimes 20 even up to 30) and quite a few of them have similar market share. Hence, only looking at the top auditor or the top 20% or 30% would miss a lot of experienced auditor firms. In this case, we use the median level as a cut-off. Then, the formula for calculation is as follow:

$$MS_{ik} = \frac{\sum_{j=1}^J X_{ijt}}{\sum_{i=1}^k \sum_{j=1}^J X_{ijt}}$$

Where:  $MS_{ik}$  = market share of audit firm  $i$  in industry  $k$ ;  $X$  = one of the variables including audit fees and number of clients;  $i$  = auditor;  $k$  = industry; and  $j$  = client.

Then we define the  $ISP_1$  as a dummy variable using the audit fees, which equals to 1 when  $MS_{ik}$  is equal or bigger than the median and 0 otherwise;  $ISP_2$  is a dummy variable using the number of clients, which equals to 1 when  $MS_{ik}$  is equal or bigger than the median and 0 otherwise.

#### Measure of financial reporting quality

In this study, we use the accrual models which are most commonly used to test financial reporting quality. Here we use the following two popular models: the modified Jones model and the performance matched model.

#### Modified Jones model

Dechow et al. (1995) suggest modification to the original Jones model. If manipulation is predicted to occur in year  $j$ , then the non-discretionary accruals (NDA) in that year are calculated as

$$NDA_{i,t} = AC_{i,t} + \beta_1 (\Delta R_{i,t} - \Delta AR_{i,t}) + \beta_2 PPE_{i,t} \quad (2)$$

Where  $AC_{i,t}$  = total accruals in year  $t$  for firm  $i$ ;

$\Delta R_{i,t}$  = revenues in year  $t$  less revenues in year  $t-1$  for firm  $i$ ;

$\Delta AR_{i,t}$  = accounts receivable in year  $t$  less accounts receivable in year  $t-1$  for firm  $i$ ;

$PPE_{i,t}$  = gross property, plant, and equipment in year  $t$  for firm  $i$ .

This modification increases the power of the model to detect revenue overstatements because it does not assume, as the original Jones model did, that all changes in revenue are non-discretionary.

#### Performance matched model

Based on the Dechow et al. (1998) model, Kothari et al. (2005) decide to add ROA as the matching variable as opposed to others (e.g. size, earnings growth, earnings yield, market-to-book, etc.) for two reasons: first, the Dechow et al. (1998) model of accruals suggests ROA controls for the effect of performance on measured discretionary accruals; second, matching on ROA follows the Barber and Lyon (1996) approach to detecting abnormal operating performance using a matched-firm research design. They find that matching on an operating performance measure similar to the ROA tends to be better than matching on other variables.

$$AC_{i,t} = \alpha + \beta_1 (1/A_{i,t-1}) + \beta_2 (\Delta R_{i,t}/A_{i,t-1}) + \beta_3 (PPE_{i,t}/A_{i,t-1}) + \beta_4 ROA_{i,t} + \varepsilon_{i,t} \quad (3)$$

Where:  $AC_{i,t}$  is total accruals, measured as the difference between the total operating profit of firm  $i$  in period  $t$  and the net cash flow for operations of firm  $i$  in period  $t$ , scaled by lagged total assets ( $AC_{i,t} = NI_{i,t}/A_{i,t-1} - CFO_{i,t}/A_{i,t-1}$ ).

Run the regression by industry to get the coefficient and apply them to individual firm to get the non-discretionary accruals ( $NDA_{i,t}$ ).

$$NDA_{i,t} = \alpha + \beta_1 (1/A_{i,t-1}) + \beta_2 (\Delta R_{i,t}/A_{i,t-1}) + \beta_3 (PPE_{i,t}/A_{i,t-1}) + \beta_4 ROA_{i,t} \quad (4)$$

Last, to get the discretionary accruals ( $DA_{i,t}$ ), deduct the non-discretionary accruals (4) from the actual total accruals (3):

$$DA_{i,t} = TA_{i,t-1} - NDA_{i,t} \quad (5)$$

Using  $DA$  as the proxy of a firm's earnings management, when the firm is using earnings management to raise the profit,  $DA$  is positive; otherwise, negative.

#### Calculations of cumulative abnormal returns (CARs)

The market model is used to estimate return expectations for the acquiring firms. The market return is proxied by day end return from CSMAR. The model is estimated over the 250 day period from day -310 to day -61, where the day 0 is the M&A announcement date. In order to capture the impact of firm market value during a certain period, this research uses various

event windows  $CAR(-1, 1)$  and  $CAR(-2, 2)$  to calculate the cumulative abnormal returns of the firms. Thus, the following section will present the cumulative abnormal returns of the firms based on different event windows.

## Section 4: Results

### Sample summary statistics

In Table 1, we present the distribution of the sample by year (Panel A) and by industry (Panel B). It can be seen that the number of the transactions follow an increasing trend. Especially in the year of 2013, there is a big jump in the number. The distribution by industry is found to be not uniform. Among the sixteen industries, the largest number of M&As is in the manufacturing industry totalling 509, which is more than 62% of the total transactions. It also can be noticed from Panel B that majority of the industries have less than 50% of transactions with auditor switch for DD.

Table 1

Sample distribution by year and acquirer industry. This table reports the distribution of related-party M&A transactions by acquirer industry. The industry classification follows CSRC industry code.

Panel A. Distribution by year					
Year	Total Deals	%	Change auditors deals	% of total changes	
2004	13	1.59	8	2.42	
2005	13	1.59	3	0.91	
2006	3	0.37	3	0.91	
2007	23	2.81	8	2.42	
2008	14	1.71	7	2.12	
2009	22	2.69	10	3.03	
2010	49	5.99	13	3.94	
2011	68	8.31	28	8.48	
2012	97	11.86	35	10.61	
2013	230	28.12	129	39.09	
2014	286	34.96	86	26.06	
Total	818	100.00	330	100.00	
Panel B. Distribution by Acquirer Industry					
CSRC Industry	Total Deals	%	Change Auditors Deals	% of total changes	% in each industry
Manufacturing	541	66.14	219	66.37	40.48
Wholesale and retail	52	6.36	24	7.27	46.15
Public services	39	4.77	15	4.55	38.46
Electricity, thermal force, gas and water	36	4.40	15	4.55	41.67
Information transmission, software and IT services	35	4.28	11	3.33	31.43
Agriculture	25	3.06	7	2.12	28.00
Architecture	22	2.69	9	2.73	40.91
Comprehensive	14	1.71	8	2.42	57.14
Transportation and storage	10	1.22	3	0.91	30.00
Lease and commercial services	10	1.22	4	1.21	40.00
Mining	9	1.10	3	0.91	33.33
Irrigation, environment and public facilities	9	1.10	6	1.82	66.67
Hotel and catering	8	0.98	1	0.30	12.50
Culture, sports and entertainment	5	0.61	4	1.21	80.00
Scientific research and technical services	2	0.24	1	0.30	50.00
Real estates	1	0.12	0	0.00	0.00
Total	818	100.00	330	100.00	NA

Table 2

Variable Summary Statistics. This table reports the number, mean, standard deviations, 25th percentile, median, and 75th percentile of acquirer and deal characteristics. See Appendix for the detailed definition of variables. The sample period is from 2004 to 2014.

	N	Mean	SD	p25	p50	p75
Panel A Acquiring firms' financial reporting/M&A auditors' industrial specialisation						
FRISP <sub>1</sub>	818	0.423	0.494	0.000	0.000	1.000
FRISP <sub>2</sub>	818	0.424	0.495	0.000	0.000	1.000
Panel B Acquiring firms' market performance and operating performance						
CAR(-1,1)	779	0.047	0.087	-0.016	0.041	0.100
CAR(-2,2)	783	0.055	0.111	-0.024	0.035	0.121
ROAt + 1	818	0.014	0.034	-0.013	0.013	0.036
ROAt + 2	532	0.016	0.036	-0.012	0.011	0.040
Panel C Acquiring firms' financial reporting quality						
LowFRQ	744	0.274	0.446	0.000	0.000	1.000
Panel D Transaction and firm characteristics						
bidpremium	672	12.487	1.532	11.276	12.481	13.701
Relative size	818	0.285	1.098	0.024	0.060	0.182
Lev	818	0.374	0.413	0.164	0.291	0.479
CurrentRatio	818	0.621	0.196	0.497	0.641	0.767
CashHld	818	0.225	0.180	0.086	0.177	0.320
Stockpay	812	0.394	0.489	0.000	0.000	1.000
BM	747	0.569	0.227	0.401	0.566	0.726
Run-up	759	0.211	0.544	-0.110	0.100	0.406
Pre-event ROA	805	0.012	0.055	-0.013	0.012	0.038
pre-holdings	786	0.173	0.286	0.000	0.000	0.331
Post-holdings	788	0.746	0.270	0.51	0.805	1.000
CEODuality	789	0.385	0.487	0.000	0.000	1.000
Independent Director	801	0.375	0.057	0.333	0.333	0.429
Managerial Holdings	805	0.204	0.235	0.000	0.056	0.435
Sameind	798	0.573	0.495	0.000	1.000	1.000

Descriptive statistics for sample transactions are reported in Table 2. (Details on the variable definitions are provided in the Appendix.) There are four panels in this table. The table covers the Number, Mean, Standard Deviation, 25%, 50% and 75% for each variable used in the paper.

The results of Panel A present FR auditor industry specialisation estimated using the models described earlier. All measures are dummy variables. The results of Panel B are based on the acquiring firms' short term and long term performance. The short-term cumulative abnormal returns are estimated using the event studies described in the former section. All variables are positive on average, which implies that M&As have abnormal returns. The long term performance variables include operating performance (ROA/ROE) one and two years after the M&A announcement. The results of Panel C are based on discretionary accruals estimated using the models described earlier. It can be noticed that all FRQ proxies at one year before the announcement year are positive. This implies some firms deliberately manipulated their earnings upward. There are no similar observations from other variables. The panel D of Table 2 reports all control variables used in this research. The results of Panel D are collected from CSMAR. They are the results based on control variables.

Table 3 presents the Pearson correlation coefficients among the explanatory variables used in the regressions. It can be seen that all FRQ variables 1 year before the event year have positive statistical significance at 1% level.

Table 3

Correlations matrix of the two financial reporting quality proxies. This table presents the correlations between the financial reporting quality proxies before the M&A announcement from Modified Jones model and Performance Matched model. Variables are defined in Appendix. \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01.

		(1)	(2)
(1)	FRQ(mj)t-1	1.000	
(2)	FRQ(pm)t-1	0.990***	1.000

## Univariate test

Table 4 presents the univariate test in terms of switching DD auditor or not. It can be seen that for both the FR auditor and DD auditor, the industry specialisation of the switch group is significantly lower than that of the not-switch group. In terms of after

Table 4

Univariate analysis. This table reports acquirer and deal characteristics for the change and non-change audit sample respectively. See Appendix for the detailed definition of variables.

Variable	(1) Different auditor	(2) Same auditor	(1) - (2)	
	Mean	Mean	Difference	P-value
FRISP <sub>1</sub>	0.345	0.475	-0.130	0.000
FRISP <sub>2</sub>	0.327	0.490	-0.162	0.000
CAR(-1,1)	0.042	0.048	-0.006	0.392
CAR(-2,2)	0.047	0.061	-0.014	0.248
ROAt + 1	0.013	0.017	-0.004	0.239
ROAt + 2	0.020	0.015	0.005	0.247
LowFRQ	0.215	0.311	-0.096	0.004
Relative size	0.181	0.355	-0.174	0.009
Lev	0.362	0.382	-0.020	0.440
Current ratio	0.606	0.631	-0.025	0.065
CashHld	0.210	0.236	-0.026	0.033
Stockpay	0.456	0.303	0.153	0.000
BM	0.599	0.548	0.051	0.002
Run-up	0.177	0.235	-0.058	0.144
Pre-event ROA	0.012	0.012	0.000	0.932
Post-holdings	0.147	0.190	-0.043	0.036
Post-holdings	0.717	0.766	-0.049	0.013
CEODuality	0.416	0.364	0.052	0.144
Independent director	0.369	0.380	-0.011	0.005
Managerial Holdings	0.181	0.220	-0.039	0.019
Bidpremium	12.351	12.594	-0.243	0.131
Sameind	0.627	0.491	0.136	0.000

announcement performance in general, both short-term market response and long-term operating performance, there is no significant difference between the two groups. The two groups also have no significant difference in financial reporting quality. In terms of firm characteristics and transaction characteristics, there are some significant differences between two groups. The switch group has significantly lower relative size, lower current ratio, lower cash holdings, higher Book to Market ratio, lower pre-event ROE, lower pre and post-holdings, fewer independent directors and lower managerial holdings, compared to the not-switch group.

## Empirical analysis

There are various reasons for firms to change auditors: the desire to decrease audit fees (DeAngelo, 1981b); reputation/quality; acceptability to third parties; ability to provide non-audit services; small audit firms; specialist industry knowledge; non-Big Six large audit firms; and geographical proximity (Beattie and Fearnley, 1995). But for switching auditors, there are two decisions to consider, one is auditor switch, the other is auditor selection. For auditor switch, we focus on the financial reporting quality and the auditor industry specialisation, which are both important measures of audit quality. For auditor selection, because the sample has all kinds of transitions in terms of the incumbent FR auditor's and the new DD auditor's industry specialisation - high to high, high to low, low to low, and low to high - we cannot determine the reasons for the choice of new auditor. However, we can test if switching to an industry specialist will add value to the acquirer by looking at the economic effects. Hence, we have two parts of empirical analysis here: the probability of changing and the economic effects of changing auditors.

### Probability of changing auditors

The following logit regression is being used for testing the probability of changing auditors, first to see the industry specialisation effect to get Table 5; then adding interaction with the low financial reporting quality dummy, to get Table 6.

$$\begin{aligned}
 ChgAdt_{i,t} = & \alpha_0 + \alpha_1 FRISP_{i,t} + \alpha_2 FRISP_{i,t} \times FRQ_{i,t} + \alpha_3 LowFRQ_{i,t} + \alpha_4 RelativeSize_{i,t} + \alpha_5 Lev_{i,t} + \alpha_6 CurrentRatio_{i,t} \\
 & + \alpha_7 CashHld_{i,t} + \alpha_8 BM_{i,t} + \alpha_9 Stockpay_{i,t} + \alpha_{10} Runup_{i,t} + \alpha_{11} Pre-eventROA_{i,t} + \alpha_{12} Pre-holdings_{i,t} \\
 & + \alpha_{13} Post-holdings_{i,t} + \alpha_{14} CEODuality_{i,t} + \alpha_{15} IndependentDirector_{i,t} + \alpha_{16} Managerialholdings_{i,t} + \varepsilon_{i,t}
 \end{aligned} \quad (6)$$

Where ChgAdt is a binary variable equal to 1 when the acquiring firm changes auditor for M&A purpose, 0 otherwise; t is the event



time; FRISP represents a binary variable equal to 1 when the incumbent auditor is an industry specialist, 0 otherwise; LowFRQ is a binary variable equal 1 when acquiring firm's financial reporting quality is among the lowest 1/3, 0 otherwise; Relative Size is the transaction value over acquirer total assets; Lev is the leverage ratio of the acquirer; CurrentRatio is the acquirer's current ratio; CashHld is the acquirer's cash holding to total assets; Stockpay is a binary variable equal 1 when payment involves stock, otherwise 0; Run-up is the acquirer's 12-month buy and hold abnormal return prior to the M&A announcement; Pre-event ROA is the acquirers return-to-asset prior to the M&A announcement; Pre-event ROE is the acquirer's return-to-equity prior to acquisition announcement;

Table 5

Auditor's industry specialisation and likelihood of changing M&A auditor. This table presents results of the logit regression, where dependent variable is a dummy equals to 1 if acquirers switch auditors in M&A, otherwise equals to 0. Variables are defined in Appendix. All regressions control for year and industry.

Dep. Var. = ChgAdt	(1)	(2)	(3)
FRISP <sub>1</sub>	-0.536*** (0.002)	-0.778*** (0.000)	-0.812*** (0.000)
Relative size		-0.415 (0.187)	-0.364 (0.243)
Lev		-0.459 (0.216)	-0.476 (0.208)
Current ratio		-0.460 (0.462)	-0.204 (0.749)
CashHld		-2.047** (0.011)	-2.191*** (0.007)
BM		-0.296 (0.564)	-0.089 (0.865)
Stockpay		-0.665*** (0.006)	-0.639** (0.010)
Runup		-0.210 (0.308)	-0.268 (0.208)
Pre-event ROA		-2.720 (0.248)	-2.530 (0.292)
pre-holdings		-0.641* (0.093)	-0.563 (0.144)
post-holdings		-0.500 (0.232)	-0.498 (0.239)
CEODuality			0.420* (0.055)
Independent Director			-2.378 (0.211)
Managerial holdings			-0.334 (0.479)
Year dummy	Y	Y	Y
Industry dummy	Y	Y	Y
_cons	-1.303** (0.010)	1.046 (0.254)	1.495 (0.176)
N	741	589	585
pseudo R2	0.083	0.171	0.178

Pre-holdings is share ratio of the target firm held by acquirers before the M&As; Post-holdings is share ratio of the target firm held by the acquirer after the M&As; CEODuality is 1 if CEO and chairman are same person in acquiring firm, 0 otherwise; IndependentDirector is the percentage of independent director at the acquirer; Managerialholdings is percentage of shares held by the acquirer managerial team. All the variables are from the CSMAR, and industry adjusted.

Table 5 presents results from the logit regression of binary variable ChgAdt on the auditor's industry specialisation. As can be seen, the results show the negative correlations between the two variables at significant level of 1%. This indicates that when the existing auditor is less specialised in an industry, the acquiring firm tends to change auditor. After adding control variables, the significance maintains. Past research shows that industry specialisation leads to better auditor decisions (Taylor, 2000; Low, 2004). If there are benefits from utilising an industry specialist, investors should react positively to the appointment of an auditor with industry specialist skills (Knechel et al., 2007). It also means that the investors should prefer to appoint an industry specialist for important investment decisions other than financial reporting auditing. The results from Table 5 are consistent with the argument that acquirers would like to maintain the incumbent auditor if it is an industry specialist. Considering the majority of the domestic M&As in China are within same industry, the acquirer will lack of the motivation to get a new auditor for M&As due diligence.

Table 6 presents results from the logit regression (regression (6)) of binary variable ChgAdt on the interaction of auditor's industry specialisation and financial reporting quality effect. The results in Table 5 show that there is a negative correlation between the dependent variable ChgAdt and the auditor's industry specialisation, significant at 1% level. When considering the financial reporting

quality effect (this study divides the sample into three groups evenly and sets a dummy of low financial reporting quality where 1 means the lowest 1/3, otherwise 0), the significance is stronger. Also, the financial reporting quality level is negatively correlated to the dependent variable. This indicates that when the financial reporting quality level is lower, the acquiring firm is even more likely to switch away from a less specialised auditor. This result implies that the acquiring firms have concern with the annual report auditor's capability: if the auditor could not spot their discretionary earnings management, they might not be able to spot the possible problem with the M&A target. Hence, they intend to switch to a new auditor.

Table 6

Auditor's industry specialisation, financial reporting quality and likelihood of changing M&A auditor. This table represents results from the logit regression of acquirer ChgAdt dummy on the FR auditor's industry specialisation dummy, its interaction with low financial reporting quality dummy and other acquirer/deal characteristics. Variables are defined in Appendix. All regressions control for year and industry fixed effects.

Dep. Var. = ChgAdt	(1)	(2)
FRISP <sub>1</sub>	-0.757*** (0.001)	-0.881*** (0.000)
FRISP <sub>1</sub> × LowFRQ	-0.128 (0.721)	0.370 (0.444)
LowFRQ		-0.489 (0.124)
Relative size	-0.365 (0.243)	-0.338 (0.274)
Lev	-0.508 (0.181)	-0.407 (0.296)
Current ratio	-0.185 (0.772)	-0.223 (0.728)
CashHld	-2.266*** (0.006)	-2.159*** (0.008)
BM	-0.109 (0.837)	-0.145 (0.784)
Stockpay	-0.646*** (0.009)	-0.686*** (0.006)
Runup	-0.246 (0.248)	-0.225 (0.298)
Pre-event ROA	-2.691 (0.264)	-2.344 (0.333)
pre-holdings	-0.598 (0.123)	-0.629 (0.106)
post-holdings	-0.462 (0.277)	-0.425 (0.320)
CEODuality	0.427* (0.051)	0.388* (0.079)
Independent Director	-2.538 (0.190)	-2.136 (0.274)
Managerial holdings	-0.327 (0.489)	-0.301 (0.526)
Year dummy	Y	Y
Industry dummy	Y	Y
_cons	1.529 (0.168)	1.525 (0.169)
N	584	584
pseudo R2	0.180	0.183

#### Economic effect of switching auditors

Below is the regression for testing the market short term response after changing the auditor. The results are shown in Table 7.

$$\begin{aligned}
 ABRET_{i,t} = & \alpha_0 + \alpha_1 LowFRQ_{i,t} + \alpha_2 ChgAdt_{i,t} + \alpha_3 LowFRQ_{i,t} \times ChgAdt_{i,t} + \alpha_4 RelativeSize_{i,t} + \alpha_5 Lev_{i,t} + \alpha_6 CurrentRatio_{i,t} \\
 & + \alpha_7 CashHld_{i,t} + \alpha_8 BM_{i,t} + \alpha_9 Stockpay_{i,t} + \alpha_{10} Runup_{i,t} + \alpha_{11} Pre - event ROA_{i,t} + \alpha_{12} Pre - holdings_{i,t} \\
 & + \alpha_{13} Post - holdings_{i,t} + \alpha_{14} CEODuality_{i,t} + \alpha_{15} IndependentDirector_{i,t} + \alpha_{16} Managerialholdings_{i,t} + \epsilon_{i,t}
 \end{aligned} \tag{7}$$

Where: ABRET is the abnormal return of the acquirer; t is the event time; LowFRQ represents a binary variable equal to 1 when the acquiring firm has a lowest 1/3 financial reporting quality level, 0 otherwise; ChgAdt represents a binary variable equal to 1 if the acquirer changes the auditor, otherwise 0; Relative Size is the transaction value over acquirer total assets; Lev is the leverage ratio of the acquirer; CurrentRatio is the acquirer's current ratio; CashHld is the acquirer's cash holding to total assets; Stockpay is a binary

variable equal 1 when payment involves stock, otherwise 0; Run-up is the acquirer 12-month buy and hold abnormal return prior to the M&A announcement; Pre-event ROA is the acquirer return-to-asset prior to the M&A announcement; Pre-holdings is the share ratio of the target firm held by acquirers before M&As; Post-holdings is the share ratio of the target firm held by the acquirer after the M&As; CEODuality is 1 if CEO and chairman are same person in acquiring firm, 0 otherwise; IndependentDirector is the percentage of independent director in the acquirer; Managerialholdings is the percentage of shares held by acquirer managerial team. All the variables are from the CSMAR, and industry adjusted.

Table 7 presents the results of regression (7), which is run on two event windows: 3-day and 5-day CARs. The regression is CARs on change auditor dummy and its interaction with acquiring firm's low financial reporting quality dummy equal to 1 if 1/3 of lowest in quality, otherwise 0, and other acquirer/deal characteristics. The regression's results show that although lower financial reporting quality correlates with lower CARs, however changing auditor can reduce the negative CARs (shown in the interaction variables). It indicates that the market response is significant and positive if an acquiring firm with poor financial reporting quality switches auditor for M&A due diligence purposes.

Table 7  
Financial reporting quality, changing of auditors and CARs. This table presents results from the regression of CARs to low financial reporting quality dummy, change auditor dummy and their interaction. All regressions control for acquirer/deal characteristics, as well as industry fixed effects. Variables are defined in Appendix.

Dep. Var.	CAR(-1,1)	CAR(-2,2)
LowFRQ	-0.018* (0.068)	-0.024** (0.045)
ChgAd × LowFRQ	0.002 (0.888)	0.006 (0.742)
ChgAdt	-0.005 (0.517)	-0.010 (0.296)
Relative size	0.012* (0.084)	0.020** (0.013)
Lev	-0.012 (0.335)	-0.019 (0.213)
Current ratio	0.000 (0.995)	0.019 (0.492)
CashHld	-0.016 (0.535)	-0.034 (0.282)
BM	-0.040** (0.021)	-0.044** (0.037)
Stockpay	0.043*** (0.000)	0.049*** (0.000)
Run-up	0.021*** (0.002)	0.036*** (0.000)
Pre-event ROA	0.014 (0.861)	0.063 (0.528)
Pre-holdings	0.017 (0.200)	0.017 (0.284)
Post-holdings	0.007 (0.657)	0.018 (0.312)
CEODuality	-0.002 (0.777)	-0.014 (0.138)
Independent Director	-0.066 (0.304)	-0.104 (0.182)
Managerial holdings	0.043*** (0.009)	0.055*** (0.005)
Year dummy	N	N
Industry dummy	Y	Y
_cons	0.107*** (0.004)	0.137*** (0.002)
N	571	574
R2	0.212	0.247
adj. R2	0.164	0.201

Table 8 presents the regressions of M&A bid premium on low financial reporting quality dummy, change auditor dummy and their interaction and other acquirer/deal characteristics. The bid premium positively correlates with acquirer's low financial reporting quality, and negatively correlates with the change auditor dummy. The results show that acquiring firms with low financial reporting quality pay higher premiums to targets. However, changing to another auditor can reduce the premium paid to the targets (see interaction term). This finding opens up the opportunity for further research.

Table 8

Financial reporting quality, changing of auditor and bid premium. This table presents the results of the regressions of bid premium of M&A to low financial reporting quality, change auditor dummy and their interactions. All regressions control for acquirer/ deal characteristics, as well as industry fixed effects. Variables are defined in Appendix.

Dep. Var. = bidpremium	(1)	(2)
Low FRQ	0.278* (0.083)	0.269* (0.088)
ChgAdt × LowFRQ	-0.279 (0.300)	-0.254 (0.336)
ChgAdt	-0.043 (0.744)	-0.046 (0.724)
Relative size	0.336*** (0.001)	0.344*** (0.001)
Lev	0.258 (0.200)	0.093 (0.645)
Current ratio	-0.935*** (0.008)	-0.801** (0.023)
CashHld	-0.216 (0.620)	0.062 (0.887)
BM	0.800*** (0.003)	0.906*** (0.001)
Stockpay	0.710*** (0.000)	0.837*** (0.000)
Run-up	0.175 (0.120)	0.232** (0.037)
Pre-event ROA	2.158 (0.119)	1.971 (0.152)
Pre-holdings	-1.908*** (0.000)	-1.821*** (0.000)
Post-holdings	1.425*** (0.000)	1.444*** (0.000)
CEODuality		-0.202 (0.102)
Independent director		-0.374 (0.717)
Managerial holdings		-1.095*** (0.000)
Year dummy	N	N
Industry dummy	Y	Y
_cons	10.918*** (0.000)	11.035*** (0.000)
N	509	506
R2	0.371	0.401
adj. R2	0.332	0.361

Where: *ChgAdt* is a binary variable equal to 1 if the acquirer changes the auditor, otherwise 0; *sameind* represents a binary variable equal to 1 when the acquiring and target firms are in same industry, 0 otherwise; *RelativeSize* is the transaction value over acquirer total assets; *Lev* is the leverage ratio of the acquirer; *CurrentRatio* is the acquirer's current ratio; *CashHld* is the acquirer's cash holding to total assets; *BM* is the acquirer's book to market value ratio; *Stockpay* is a binary variable equals 1 when payment involves stock, otherwise 0; *Run-up* is the acquirer's 12-month buy and hold abnormal return prior to the M&A announcement; *Pre-event ROA* is the acquirer return-to-asset prior to M&A announcement; *Pre-holdings* is the share ratio of the target firm held by acquirers before M&As; *Post-holdings* is the share ratio of the target firm held by acquirer after M&As; *CEODuality* is 1 if CEO and chairman are same person in acquiring firm, 0 otherwise; *IndependentDirector* is the percentage of independent director in acquirer; *Managerialholdings* is the percentage of shares held by acquirer managerial team. All the variables are from the CSMAR, and industry a d j u s t e d .

#### Acquisition in same industry

The following logit regression is being used for testing short term market response to merger and acquisition cross industries. Results are presented in Table 9.

$$\begin{aligned}
ChgAdt_{i,t} = & \alpha_0 + \alpha_1 sameind_{i,t} + \alpha_2 RelativeSize_{i,t} + \alpha_3 Lev_{i,t} + \alpha_4 Current\ Ratio_{i,t} + \alpha_5 CashHld_{i,t} + \alpha_6 BM_{i,t} + \alpha_7 Stockpay_{i,t} \\
& + \alpha_8 Run - up_{i,t} + \alpha_9 Pre - event\ ROA_{i,t} + \alpha_{10} Pre - holdings_{i,t} + \alpha_{11} Post - holdings_{i,t} + \alpha_{12} CEODuality_{i,t} \\
& + \alpha_{13} IndependentDirector_{i,t} + \alpha_{14} Managerialholdings_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{8}$$

Below is the regression for testing cross-industry M&As to short term market response and to long term operating performance.

$$\begin{aligned}
ABRET/OP_{i,t} = & \alpha_0 + \alpha_1 sameind_{i,t} + \alpha_2 RelativeSize_{i,t} + \alpha_3 Lev_{i,t} + \alpha_4 Current\ Ratio_{i,t} + \alpha_5 CashHld_{i,t} + \alpha_6 BM_{i,t} + \alpha_7 Stockpay_{i,t} \\
& + \alpha_8 Run - up_{i,t} + \alpha_9 Pre - event\ ROA_{i,t} + \alpha_{10} Pre - holdings_{i,t} + \alpha_{11} Post - holdings_{i,t} + \alpha_{12} CEODuality_{i,t} \\
& + \alpha_{13} IndependentDirector_{i,t} + \alpha_{14} Managerialholdings_{i,t} + \varepsilon_{i,t}
\end{aligned} \tag{9}$$

The results are shown in Table 9

Table 9

The effect of same industry acquisition. This table presents the results from the logit regression, where dependent variable (*ChgAdt*) is a dummy equals to 1 if acquirers switch auditors in M&A, otherwise equals to 0. It also presents results from the regression of CARs, ROA(*t* + 1) and ROA(*t* + 2) to target industry dummy. *Sameind* is a dummy variable which equals 1 if acquirer and target are in same industry, otherwise equals to 0. Variables are defined in Appendix.

Dep. Var.	ChgAdt	CAR(-1,1)	ROAt + 1	ROAt + 2
Sameind	-0.259 (0.207)	0.001 (0.868)	0.002 (0.444)	-0.004 (0.276)
Relative size	-0.227 (0.427)	0.014** (0.021)	-0.001 (0.565)	-0.002 (0.510)
Lev	-0.538 (0.163)	-0.021* (0.094)	0.023*** (0.000)	0.014** (0.017)
Current ratio	-0.347 (0.581)	-0.005 (0.808)	0.009 (0.209)	0.004 (0.696)
CashHld	-2.104*** (0.009)	-0.000 (0.995)	0.013 (0.142)	0.008 (0.490)
BM	0.206 (0.695)	-0.018 (0.293)	-0.032*** (0.000)	-0.027*** (0.002)
Stockpay	-0.540** (0.029)	0.042*** (0.000)	-0.004 (0.128)	-0.004 (0.381)
Runup	-0.309 (0.149)	0.014** (0.032)	0.001 (0.594)	-0.002 (0.532)
Pre-event ROA	-3.346 (0.159)	-0.062 (0.420)	0.419*** (0.000)	0.302*** (0.000)
Pre-holdings	-0.653* (0.087)	0.025* (0.051)	0.008** (0.044)	0.009 (0.141)
Post-holdings	-0.610 (0.149)	0.003 (0.851)	-0.002 (0.648)	0.006 (0.383)
CEODuality	0.310 (0.153)	-0.005 (0.452)	-0.003 (0.148)	-0.009** (0.014)
Independent director	-3.312* (0.079)	-0.044 (0.481)	-0.022 (0.278)	-0.076** (0.018)
Managerial holdings	-0.349 (0.463)	0.024 (0.141)	0.011** (0.031)	0.017** (0.049)
Year dummy	Y	Y	Y	Y
Industry dummy	Y	Y	Y	Y
_cons	1.459 (0.188)	0.083* (0.089)	0.020 (0.225)	0.041* (0.064)
N	574	608	631	389
Pseudo/ adj. R2	0.159	0.162	0.448	0.300

Where: *ABRET* is the abnormal return of the acquiring firm and *OP* is the operating performance at one year after the M&A announcement of the acquirer ( $ROA_{t+1}$  and  $ROA_{t+2}$ ); *t* is the event time; *sameind* represents a binary variable equal to 1 when the acquiring and target firms are in same industry, 0 otherwise; *RelativeSize* is the transaction value over acquirer total assets; *Lev* is the leverage ratio of the acquirer; *CurrentRatio* is the acquirer's current ratio; *CashHld* is the acquirer's cash holding to total assets; *BM* is the acquirer's book to market value ratio; *Stockpay* is a binary variable equal 1 when payment involves stock, otherwise 0; *Run-up* is the acquirer 12-month buy and hold abnormal return prior to M&A announcement; *Pre-event ROA* is the acquirer return-to-asset prior to M&A announcement; *Pre-holdings* is the share ratio of the target firm held by acquirers before M&As; *Post-holdings* is the share ratio of the target firm held by acquirer after M&As; *CEODuality* is 1 if CEO and chairman are same person in acquiring firm, 0 otherwise; *IndependentDirector* is the percentage of independent directors in the acquirer; *Managerialholdings* is the percentage of shares held by acquirer managerial team. All the variables are from the CSMAR, and industry adjusted

Considering the importance of whether the acquiring firm and target firm are in same industry or not, Table 9 presents the logit regression of likelihood of changing auditor and the situation that the acquiring firm and target firm are in same industry, as well as the regressions of short term (CAR) and long term (ROA) performance of acquiring firms' after M&A, considering whether the acquiring firm and target firm are in same industry.

The result shows that there is no significant correlation between the switch and the industry situation. This implies that the choice of DD auditor is not, or is not only, about better understanding of industry. In terms of providing better information for the acquiring firm's decision making in M&A, Louis (2005) finds that acquiring firms audited by non-Big 4 accounting firms outperform those audited by Big 4 firms. This effect is more pronounced when the targets are privately held and when the likelihood of the auditors playing a prominent advisory role increases. In China, due to special institutional features, such as the extent of state ownership, the level of market and legal institutions' development, and the degree of government power, the decision on Chinese listed firms' auditor choice would be more difficult to anticipate. Although Wang et al. (2008) work on FR auditors, it is sensible to apply this to the DD auditor choice as well. That would explain that it might be important to the acquiring firm to switch if the FR auditor is not an industry expert in its own industry, but it might not be so important to switch to an expert of the target industry.

The results also show no significant correlation between the binary variable of industry and performance. This implies that if no matter the acquiring firm and target firm are in same industry or not, the acquiring firm has similar after M&A announcement performance, both short term and long term. In this case, we can say there is no effect from the industry on the conclusions we have achieved before.

Table 10

Alternative measure of auditor industry specialisation and financial reporting quality. This table presents results from the logit regression of ChgAdt on its auditor's industry specialisation dummy (client based industry specialisation measurement), its interaction with low financial reporting quality dummy and other acquirer/deal characteristics. Variables are defined in Appendix. All regressions control for year and industry fixed effects.

Dep. Var. = ChgAdt	(1)	(2)	(3)
FRISP <sub>2</sub>	-1.010*** (0.000)	-1.038*** (0.000)	-1.198*** (0.000)
FRISP <sub>2</sub> × LowFRQ		0.151 (0.660)	0.844* (0.077)
LowFRQ			-0.691** (0.036)
Relative size	-0.326 (0.285)	-0.332 (0.279)	-0.297 (0.328)
Lev	-0.588 (0.123)	-0.622 (0.104)	-0.519 (0.186)
Current ratio	-0.407 (0.523)	-0.414 (0.517)	-0.425 (0.508)
CashHld	-1.916** (0.018)	-1.969*** (0.016)	-1.933** (0.018)
BM	-0.239 (0.657)	-0.288 (0.595)	-0.324 (0.548)
Stockpay	-0.675*** (0.007)	-0.668*** (0.008)	-0.683*** (0.007)
Runup	-0.271 (0.203)	-0.259 (0.223)	-0.211 (0.330)
Pre-event ROA	-3.256 (0.180)	-3.465 (0.156)	-3.167 (0.198)
pre-holdings	-0.417 (0.286)	-0.443 (0.259)	-0.486 (0.218)
post-holdings	-0.489 (0.252)	-0.478 (0.267)	-0.449 (0.301)
CEODuality	0.415* (0.062)	0.415* (0.062)	0.359 (0.110)
Independent Director	-2.625 (0.173)	-2.535 (0.195)	-2.042 (0.298)
Managerial holdings	-0.428 (0.368)	-0.436 (0.361)	-0.418 (0.383)
Year dummy	Y	Y	Y
Industry dummy	Y	Y	Y
_cons	1.606 (0.155)	1.607 (0.156)	1.561 (0.170)
N	585	584	584
pseudo R2	0.189	0.191	0.197

## Section 5: Robustness check

Table 10 shows the results of likelihood of changing auditor under different auditor industrial specialisation proxy, FRISP<sub>2</sub>. The results confirm that the more experienced an auditor is, the less likely the acquiring firm would change it. Table 11 shows the results of likelihood of changing auditor when the acquirer FR auditor's industry specialisation interacts with a different financial reporting quality proxy (from Modified Jones model). The results confirm the mitigation function of financial reporting quality on the negative effect from the auditor industry specialisation to the switch decision.

Table 11

Changing auditor, FR auditor's industry specialisation and EM effects. This table represents results from the logit regression of acquirer ChgAdt dummy on the FR auditor's industry specialisation dummy, its interaction with low financial reporting quality dummy from modified Jones model and other acquirer/deal characteristics. Variables are defined in Appendix. All regressions control for year and industry fixed effects.

Dep. Var. = ChgAdt	(1)	(2)	(3)
FRISP <sub>1</sub>	-0.710*** (0.001)	-0.645*** (0.005)	-0.726*** (0.003)
FRISP <sub>1</sub> × LowFRQ(mj)		-0.183 (0.591)	0.143 (0.760)
LowFRQ(mj)			-0.323 (0.313)
Relative size	-0.397 (0.275)	-0.405 (0.269)	-0.393 (0.279)
Lev	0.696 (0.296)	0.673 (0.312)	0.666 (0.319)
CurrentRatio	-0.049 (0.940)	-0.023 (0.972)	-0.018 (0.978)
CashHld	-1.594* (0.059)	-1.670** (0.049)	-1.634* (0.054)
TobinQ	-0.153 (0.303)	-0.143 (0.334)	-0.120 (0.424)
BM	-0.725 (0.433)	-0.696 (0.452)	-0.589 (0.527)
Marketcap	0.000 (0.390)	0.000 (0.372)	0.000 (0.323)
Run-up	-0.337 (0.112)	-0.320 (0.132)	-0.311 (0.146)
Pre-event ROA	4.340 (0.448)	4.611 (0.421)	4.923 (0.391)
Pre-event ROE	-4.664 (0.171)	-4.960 (0.146)	-5.054 (0.140)
Pre-holdings	-0.651* (0.094)	-0.693* (0.076)	-0.715* (0.068)
Post-holdings	-0.731* (0.074)	-0.692* (0.093)	-0.683* (0.097)
CEODuality	0.488** (0.025)	0.501** (0.022)	0.482** (0.028)
Independent Director	-2.705 (0.154)	-2.863 (0.134)	-2.653 (0.168)
Managerial holdings	-0.405 (0.385)	-0.406 (0.384)	-0.401 (0.390)
Industry dummy	Y	Y	Y
Year dummy	Y	Y	Y
_cons	1.479 (0.242)	1.445 (0.253)	1.349 (0.286)
N	590	589	589
pseudo R2	0.174	0.176	0.177

## Section 6: Conclusion

This research focuses on the auditor's function in M&A transactions. A good auditor usually means good auditing quality and brings credibility to financial reporting. Here, this study also focuses on a different service provided by the auditor, due diligence in M &As, using the auditor's industry specialisation as a key variable. The hypothesis is that an industry specialised auditor helps the acquiring firm make better decisions by mitigating information asymmetry.

By investigating 818 domestic unrelated-party M&A transactions in China, the study has following findings: poor industry specialisation of the acquiring firm's incumbent auditor is one reason for switching auditor, and poor financial reporting quality will increase the likelihood of a switch. The market response is positive to a switch. Also, the acquiring firm with lower financial reporting quality is likely to pay higher bid premium. But switching to a new auditor for due diligence purpose, no matter to an industrial

specialist or not, will be helpful to reduce the premium to target. However, for the long term, there is no difference between the switch and no-switch groups in terms of operating performance. An industry specialist does not contribute significantly to the operating performance as well. Further tests also show that whether the acquiring firm and target firm are in the same industry would not make significant difference in the decision to switch auditor, nor the short-term or long-term performance. The results imply that the market tends to believe in the acquiring firm's choice of auditor, regardless of the auditor's industrial specialisation. Also, the acquiring firm's choice of DD auditor does tend to reduce information asymmetry, so acquiring firms pay less bid premium after the switch to a new auditor. Practically, this research gives a hint to the shareholders and potential investors: The positive response from the market to a change to an industry specialist, means the market estimates the new auditor will contribute to the investment decision and through this improve the long term performance. However, a switch might not always be a good thing. Special attention should be paid to acquiring firms with poor financial reporting quality, as well as to the possible intention of the acquiring firm and DD auditor to collude.

## Appendix A. variable definition

Variables	Definitions
FRISP <sub>1</sub>	Dummy variable equal to 1 if the FR auditor's fee is above median in the industry, 0 otherwise.
FRISP <sub>2</sub>	Dummy variable equal to 1 if the FR auditor's number of client is above median in the industry, 0 otherwise.
CAR(-1,1)	CAR calculated from the market model during the event window (-1,1).
CAR(-2,2)	CAR calculated from the market model during the event window (-2,2).
ROAt+1	Acquirer industry-adjusted ROA 1-year after acquisition announcement.
ROAt+2	Acquirer industry-adjusted ROA 2-year after acquisition announcement.
FRQ(pm)t-1	Absolute value of acquirer financial reporting quality proxy from the performance matched model, absolute value at t-1 year.
FRQ(mj)t-1	Absolute value of acquirer financial reporting quality proxy from the modified Jones model, absolute value at t-1 year.
Low FRQ	Dummy variable equals to 1 if measure of financial reporting quality is in bottom 30% and 0 otherwise.
Sameind	A dummy variable equals to 1 if acquirer and target are in same industry, otherwise 0.
ChgAdt	A dummy variable equals to 1 if acquirer get a new auditor for M&A's DD, otherwise 0.
Bidpremium	Log to the transaction value over target book value.
Relative Size	Transaction value over acquirer total assets.
Lev	Acquirer leverage ratio at year end prior to acquisition announcement.
CashHld (%)	Percentage of cash holding by acquirers prior to announcement.
BM	Acquirer Book to Market Value Ratio at year end prior to announcement.
Stockpay	Dummy variable = 1 if M&A payment involves stock, otherwise 0 if M&A payment is in cash.
Run-up	Acquirer 12-month buy and hold abnormal return prior to acquisition announcement.
Pre-event ROA announcement.	Acquirer industry median-adjusted return-to-asset prior to acquisition
Pre-holdings	Percentage shares of the target firm held by acquirers before acquisitions.
Post-holdings	Percentage shares of the target firm held by acquirer after acquisitions.
CEODuality	Dummy variable = 1 if CEO and chairman are same person, otherwise = 0.
Independent Director	Percentage of independent director in acquirers boards.
Managerial holdings	Percentage of shares held by acquirer managerial teams

## References

- Abarbanell, J.S., Bushee, B.J., 1997. Fundamental analysis, future earnings, and stock prices. *J. Account. Res.* 35, 1–24.
- Abarbanell, J.S., Bushee, B.J., 1998. Abnormal returns to a fundamental analysis strategy. *Account. Rev.* 73, 19.
- Amewu, G., Alagidede, P., 2019. Mergers and executive compensation changes: evidence from African markets. *Res. Int. Bus. Financ.* 48, 397–419.
- Amir, E., Guan, Y., Livne, G., 2010. Auditor independence and the cost of capital before and after Sarbanes-Oxley: the case of newly issued public debt. *Eur. Account. Rev.* 19, 633–664.
- Anderson, D., Stokes, D., Zimmer, I., 1993. Corporate takeovers and auditor switching. *Auditing* 12, 65.
- Andre, P., L'her, J.-F., 2004. The long-run performance of merger and acquisitions: evidence from the Canadian stock market. *Financ. Manage.* 33, 17.
- Balsam, S., Krishnan, J., YANG, J.S., 2003. Auditor industry specialization and earnings quality. *Audit. A J. Pract. Theory* 22, 71–97.
- Basioudis, I.G., Francis, J.R., 2007. Big 4 audit fee premiums for national and office-level industry leadership in the United Kingdom. *Auditing* 26 (2), 143–166.
- Barber, B.M., Lyon, J.D., 1996. Detecting abnormal operating performance: the empirical power and specification of test statistics. *J. Financ. Econ.* 41, 359–399.
- Bar-Yosef, S., Livnat, J., 1984. Auditor selection: an incentive-signalling approach. *Account. Bus. Res.* 14, 301–309.
- Beattie, V., Fearnley, S., 1995. The importance of audit firm characteristics and the drivers of auditor change in UK listed companies. *Account. Bus. Res.* (Wolters Kluwer UK) 25, 227–239.
- Bennouri, M., Nekhili, M., Touron, P., 2015. Does auditor reputation "Discourage" related-party transactions? The French case. *Audit. A J. Pract. Theory* 34, 1–32.
- Biddle, G.C., Hilary, G., Verdi, R.S., 2009. How does financial reporting quality relate to investment efficiency? *J. Account. Econ.* 48, 112–131.
- Bugeja, M., 2011. Takeover premiums and the perception of auditor independence and reputation. *Br. Account. Rev.* 43, 278–293. Cai, Y., Kim, Y., Park, J.C., White, H.D., 2016. Common auditors in M&A transactions. *J. Account. Econ.* 61, 77–99.
- Carcello, J.V., Nagy, A.L., 2004. Client size, auditor specialization and fraudulent financial reporting. *Manag. Audit. J.* 19, 651–668.
- Chen, H., Chen, J.Z., Lobo, G.J., Wang, Y., 2011. Effects of audit quality on earnings management and cost of equity capital: evidence from China. *Contemp. Account. Res.* 28, 892–925.
- Citron, D.B., Taftler, R.J., 1992. The audit report under going concern uncertainties: an empirical analysis. *Account. Bus. Res.* (Wolters Kluwer UK) 22, 337–345.



Cumming, D., Zambelli, S., 2017. Due diligence and investee performance. *Eur. Financ. Manag.* 23, 211–253.

Datar, S.M., Feltham, G.A., Hughes, J.S., 1991. The role of audits and audit quality in valuing new issues. *J. Account. Econ.* 14, 3–49.

Deangelo, L.E., 1981a. Auditor independence, 'low balling', and disclosure regulation. *J. Account. Econ.* 3, 113–127.

Deangelo, L.E., 1981b. Auditor size and audit quality. *J. Account. Econ.* 3, 183–199.

Dechow, P.M., Sloan, R.G., Sweeney, A.P., 1995. Detecting earnings management. *Account. Rev.* 70, 193–225.

Dechow, P.M., Hutton, A.P., Sloan, R.G., 1999. An empirical assessment of the residual income valuation model. *J. Account. Econ.* 26, 1–34.

Dechow, P.M., Kothari, S.P., Watts, R.L., et al., 1998. The relation between earnings and cash flows. *J. Account. Econ.* 25, 133–168.

Defond, M., 1992. The association between changes in client firm agency costs and auditor switching. *Auditing* 11, 16.

DeFond, M.L., Li, S., et al., 2000. The impact of improved auditor independence on audit market concentration in China. *J. Account. Econ.* 28, Dhaliwal, D.S., Lamoreaux, P.T., Litov, L.P., Neyland, J.B., 2016. Shared auditors in mergers and acquisitions. *J. Account. Econ.* 61, 49–76.

Dounis, N.P., 2008. The auditor's role in mergers and acquisitions. *Int. Auditor* 65, 61.

Dunn, K.A., Mayhew, B.W., 2004. Audit firm industry specialization and client disclosure quality. *Rev. Account. Stud.* 9, 35–58.

Elaoud, A., Jarboui, A., 2017. Auditor specialization, accounting information quality and investment efficiency. *Res. Int. Bus. Financ.* 42, 616–629.

Ferguson, A., Stokes, D., 2002. Brand Name Audit Pricing, Industry Specialization, and Leadership Premiums post-Big 8 and Big 6 Mergers. *Contemp. Account. Res.* 19, 77–110.

Firth, M., 1999. Company takeovers and the auditor choice decision. *J. Int. Account. Audit. Tax.* 8, 197.

Francis, J.R., Reichelt, K., Wang, D., et al., 2005. The Pricing of National and City-Specific Reputations for Industry Expertise in the U.S. Audit Market. *Account. Rev.* 80, 113–136.

Francis, J.R., Wilson, E.R., 1988. Auditor changes: a joint test of theories relating to agency costs and auditor differentiation. *Account. Rev.* 63, 20. Fung, S.Y.K., Gul, F.A., Krishnan, J., et al., 2012. City-level auditor industry specialization, economies of scale, and audit pricing. *Account. Rev.* 87 (27).

Gregory, A., Collier, P., 1996. Audit fees and auditor change; an investigation of the persistence of fee reduction by type of change. *J. Bus. Finance Account.* 23, 13–28.

Huang, W., Goodell, J.W., Zhang, H., 2019. Pre-merger management in developing markets: the role of earnings glamor. *Int. Rev. Financ. Anal.* 65, 101375.

Johnson, W.B., Lys, T., 1990. The market for audit services. *J. Account. Econ.* 12, 281–308.

Kausar, A., Shroff, N., White, H., 2016. Real effects of the audit choice. *J. Account. Econ.* 62, 157–181.

Knechel, W.R., Naiker, V., Pacheco, G., 2007. Does auditor industry specialization matter? Evidence from market reaction to auditor switches. *Audit. A J. Pract. Theory* 26, 19–45.

Kothari, S.P., Leone, A.J., Wasley, C.E., 2005. Performance matched discretionary accrual measures. *J. Account. Econ.* 39, 163–197.

Krishnan, G.V., 2003. Does big 6 auditor industry expertise constrain earnings management? *Account. Horiz.* 17, 1–16.

Kwon, S.Y., Lim, C.Y., Tan, P.M.-S., 2007. Legal systems and earnings quality: the role of auditor industry specialization. *Audit. A J. Pract. Theory* 26, 25–55.

Lee, H., Mande, V., Park, J.C., 2015. Do Industry specialist auditors add value in mergers and acquisitions? *J. Appl. Bus. Res.* 31, 22.

Lev, B., Thiagarajan, S.R., 1993. Fundamental information analysis. *J. Account. Res.* 31, 190–215.

Lim, C.-Y., Tan, H.-T., 2008. Non-audit service fees and audit quality: the impact of auditor specialization. *J. Account. Res.* 46, 199–246.

Lim, C.-Y., Tan, H.-T., 2010. Does auditor tenure improve audit quality? Moderating effects of industry specialization and fee dependence. *Contemp. Account. Res.* 27, 923–957.

Louis, H., 2005. Acquirers' abnormal returns and the non-Big 4 auditor clientele effect. *J. Account. Econ.* 40, 75–99.

Low, K.-Y., 2004. The effects of industry specialization on audit risk assessments and audit-planning decisions. *Account. Rev.* 79, 201–219.

Niemi, L., Ojala, H., Seppälä, T., 2013. Valuation of takeover targets and auditor quality/Bewertung von Übernahmekandidaten und Auditor Qualität. *Die Betriebswirtschaft* 73, 273–292.

Numan, W., Willekens, M., 2012. An empirical test of spatial competition in the audit market. *J. Account. Econ.* 53, 450–465. Ou, J.A., Penman, S.H., 1989b. Financial statement analysis and the prediction of stock returns. *J. Account. Econ.* 11, 295–329.

Ou, J.A., Penman, S.H., 1989A. Accounting measurement, price-earnings ratio, and the information content of security prices. *J. Account. Res.* 27, 111–144.

Pavlopoulos, A., Magnis, C., Iatridis, G.E., 2019. Integrated reporting: an accounting disclosure tool for high quality financial reporting. *Res. Int. Bus. Financ.* 49, 13–40.

Piotroski, J.D., 2000. Value investing: the use of historical financial statement information to separate winners from losers. *J. Account. Res.* 38, 1–41. Pittman, J.A., Fortin, S., 2004. Auditor choice and the cost of debt capital for newly public firms. *J. Account. Econ.* 37, 113–136.

Pong, C.M., Whittington, G., 1994. The determinants of audit fees: some empirical models. *J. Bus. Finance Account.* 21, 1071–1095.

Reichelt, K.J., Wang, D., 2010. National and office-specific measures of auditor industry expertise and effects on audit quality. *J. Account. Res.* 48, 647–686.

Simon, D.T., Francis, J.R., 1988. The effects of auditor change on audit fees: tests of price cutting and price recovery. *Account. Rev.* 63, 15.

Taylor, M.H., 2000. The effects of industry specialization on auditors' inherent risk assessments and confidence judgements. *Contemp. Account. Res.* 17, 20. Teoh, S., Wong, T.J., Rao, G., 1998a. Are accruals during initial public OFFERINGS opportunistic? *Rev. Account. Stud.* 3, 175–208.

Teoh, S.H., Welch, I., Wong, T.J., 1998b. Earnings management and the long-run market performance of initial public offerings. *J. Finance* 53, 1935–1974. Teoh, S.H., Welch, I., Wong, T.J., 1998c. Earnings management and the underperformance of seasoned equity offerings. *J. Financ. Econ.* 50, 63–99.

Wang, Q., Wong, T.J., Xia, L., 2008. State ownership, the institutional environment, and auditor choice: evidence from China. *J. Account. Econ.* 46, 112–134.

Watts, R.L., Zimmerman, J.L., 1986. *Positive Accounting Theory*. Prentice-Hall, Englewood Cliffs, NJ.

Williams, D.D., 1988. The potential determinants of Auditor Change. *J. Bus. Finance Account.* 15, 243–261.

Xin, C., Dasgupta, S., Hilary, G., 2009. The effect of auditor quality on financing decisions. *Account. Rev.* 84, 1085–1117. Yung, C., 2009. Entrepreneurial financing and costly due diligence. *Financ. Rev.* 44, 137–149.