Pitcher's Name | Lina Li | Purpose | afaanz doctoral symposium

(A) Working Title | The effect of audit market structure change on audit pricing: Evidence from China

(B) Basic Research Question | How did the change in audit market structure as a result of the two recent mergers among high-profile indigenous audit firms in China, which outranked two of the Big 4 in audit revenues, affect the audit pricing behavior by the two merged local audit firms, Ruihua and BDO (the Big L) and the Big 4 audit firms?


(D) Motivation / Puzzle | Industry structure can influence economic conduct in markets, including the pricing of products and the level of quality provided. Despite the potentially important implications on audit practices, to date, our understanding of the role industry structure plays in audit pricing is still in its infancy (Francis, 2011; DeFond and Zhang, 2014). This paper investigates this issue by examining a unique setting in China, where two mergers among large indigenous audit firms in 2012/13 created the two Big L audit firms that outranked two of the Big 4 in terms of total audit revenues in China. The findings should be of interest to various Chinese and international accounting regulators.

THREE | Three core aspects of any empirical research project i.e. the "IDioTs" guide

As firms gain greater market shares, they acquire greater market power, which allows them to set product price (Sheperd, 1979). The change in audit market structure will likely have an impact on the relative market power by the large audit suppliers in the market, as the appearance of additional large market players would intensify competition, especially in the top-tier audit market. This likely lead to lower fees for the Big 4 and higher fees for the Big L around the mergers. Prior studies document that large audit firms earn a fee premium for their investment in brand name capital (e.g. Palmrose, 1986). Unlike oligopoly rents, which are conditional on market power, premiums charged for providing differentiated services are less likely to be affected by price competition in the market (e.g. Craswell et al., 1995). Thus, it is an empirical question whether the audit pricing by the Big 4 audit firms would be affected by the mergers.

(E) Idea | If the increase in audit firm size and the development of brand name as a result of the mergers helps create market awareness and shape the market's perception of the audit quality provided by the Big L, they may be able to raise audit fees in post-merger period. On the other hand, if economies of scale can be achieved, the Big L may be willing to share some of the cost savings with their clients, leading to no change or lower fees. In sum, it is an empirical question as to whether the Big 4 and the Big L audit firms would experience an increase or decrease in audit fees around the mergers, although this change is likely to be different
from the two types of audit firms.

H: The pre-post change in audit fees around an audit firm merger is significantly different for clients of the Big 4 audit firms than for clients of the Big L audit firms.

The difference-in-differences design is used, so the endogeneity should not be a serious concern:

\[ \text{LNAF} = \text{POST} + \text{MERGE} + \text{POST} \times \text{MERGE} + \text{CONTROLS} \]

| **(F) Data** | All data, including audit and financial variables, is collected from the China Stock Market and Accounting Research (CSMAR) database, which is commercially available. Financial clients are excluded. A balanced sample of client-years with the same auditor and complete panel data throughout the sample period is required in order to mitigate the effect of auditor portfolio change on audit fees. These screens result in a balanced sample of 900 firm-year observations (150 unique client-firms) for the levels model covering the period 2010 to 2016, excluding 2013, the transitional year when the mergers were finalized.

The sample size is constrained as there is a limited number of unique firms with complete requisite data and same auditor for the entire sample period. However, the sample should be a good representation of the continuing clients of the Big L and the Big 4 throughout the sample period. |
| **(G) Tools** | The following regression model is estimated. All control variables are based on prior literature. The model has good explanatory power (R-square=77%). Standard errors are clustered by firm. All continuous variables are winsorized at the 1st and 99th percentiles. The analysis is done using SAS.

\[ \text{LNAF} = \text{POST} + \text{MERGE} + \text{POST} \times \text{MERGE} + \text{SIZE} + \text{NSUB} + \text{INVAR} + \text{ROE} + \text{CURRENT} + \text{LEV} + \text{STATEPERC} + \text{TENURE} + \text{RETURN} + \text{NONSYSRISK} + \text{BTM} + \text{CIF} + \text{CMI} + \text{GDI} + \text{LEI} + \text{FOROPS} + \text{LOSS} + \text{MAO} + \text{AB} + \text{AH} + \text{SME} + \text{CHINEXT} + \text{CROSSLIST} + \text{INDUSTRY} + \text{residual}; \] |

**TWO** **key questions**

**What's New?**

Despite the potentially important implications on audit practices, to date, there is very little industry-level research in the auditing literature that considers the role of non-Big N firms. The extant literature on audit market structure mainly focuses on the increase in audit market concentration as a result of Big N consolidation. Little is known about the opposite scenario, where auditor concentration increases as a result of an increase in the number of large audit firms. The mergers between local audit firms that created large and competitive suppliers in the top-tier audit market provide a unique setting to examine how changes in market concentration affect the pricing behavior of the Big 4 and the Big L audit firms.

The findings will be of interest to various Chinese and international accounting regulators. One reason behind the mergers among large local audit firms is to respond to a wider campaign initiated by the CICPA following the guidance of Ministry of Finance in
promoting bigger and more competitive local accounting firms. Specifically, the strategy aims at supporting local accounting firms to become internationalized, to develop local talents capable of carrying out international audit engagements and encourages organizational reforms to strengthen governance of the accounting firms (CICPA, 2007). It is therefore important to examine the implication of this strategy in terms of the effect on audit pricing on various audit market participants as a result of creating large local audit firms. In addition, various international regulators have expressed concerns over Big 4 dominance in the audit industry, and whether a lack of competition leads to greater risk for cartel-pricing arrangement and auditor complacency remains an unresolved issue (European Commission, 2009, 2010; U.S. Government Accountability Office [GAO], 2003, 2008; U.K. House of Lords, 2010, 2011; DeFond and Zhang, 2014). The findings from this study speak to these concerns.

### (I) So What?

| ONE | One bottom line |

### (J) Contribution?

This study contributes to the audit literature on market structure and the relations among market concentration, competition and auditor behavior by showing the different pricing responses by the merged and the non-merged auditors when the audit industry structure changes. The paper responds to calls for research on industry structure in the audit industry, particularly in relation to the economic conduct of accounting firms as highlighted by recent reviews (Francis, 2011; DeFond and Zhang, 2014).

### (K) Other Considerations

| 3 Key Findings |

(1) The pre-post change in audit fees for the Big L auditors is significantly different from that for the Big 4 auditors around the mergers. Specifically, there was a significant decline in audit fees for clients of the Big 4 auditors around the mergers, while the pre-post change in audit fees charged is higher for both of the Big L auditors, relative to the Big 4 auditors.

(2) While there is evidence of a significant audit fee premium by the Big 4 over the merging Big L firms in the pre-merger period, this audit fee gap became smaller and statistically insignificant in the post-merger period, especially for BDO Lixin (one of the Big L audit firms).

(3) The pre-post change in audit fees is significantly higher for clients of the Big L audit firms compared to clients of the non-merged local audit firms around the mergers.

Collectively, these findings suggest a shift in relative market power between the Big L and the Big 4 auditors as a result of the mergers. The decline in audit fees for the Big 4 suggests that they lost some oligopolistic premium given the heightened competition and the growth of other large brand name auditors in the market. In contrast, the Big L auditors gained greater market power after the mergers, likely through the stronger brand name or greater market share, allowing them to raise fees more aggressively for their clients relative to the Big 4 and the other non-merged local auditors.