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Dynamic Auditor Competition and Audit Quality in the United States*

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ABSTRACT: Regulators and audit market participants have concerned that less competitive audit market makes auditors to reduce the incentives to conduct high-quality audits. While a few studies examine the effect of competition in the U.S. local audit markets, they report conflicting evidence using the static Herfindahl index which is arguably noisy in capturing the intensity of competition. The purpose of this paper is to provide evidence on the effect of dynamic auditor competition in local audit markets on audit quality. For this purpose, we employ a measure to capture the dynamic nature of audit market competition: the proportion of clients switching auditors in the local market. Employing this measure, we find evidence suggesting a positive relation between auditor competition and audit quality and that the relation is stronger in large MSAs and for clients whose relative

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importance to audit office is smaller. This paper adds to the competition-audit quality literature by utilizing dynamic measures of audit market structure. In addition, the findings in this paper provide important evidence in response to the regulatory concerns that low competition is harmful to audit quality in a sense that it can cause auditor complacency and less rigorous audit procedures.

Keywords: audit market competition, audit quality, dynamic auditor competition, MSA size, client importance

I. INTRODUCTION

After the demise of Arthur Andersen, regulators and investment community have heightened their concerns about the dominance of a few large public accounting firms in the audit market (e.g., Government Accountability Office, formerly General Accounting Office, [GAO] 2003, 2008; U.S. Treasury 2008; European Commission 2010). They are concerned that the oligopolistic dominance in the market may cause a lack of genuine competition among auditors and thus reduce the incentives of auditors to conduct high-quality audits. While a few studies examined the association between audit market concentration and audit quality to address the concern (e.g., Boone et al. 2012; Kallapur et al. 2010; Newton et al. 2013), the evidence from these studies is sharply contrasted in terms of the direction of the association. The conflicting evidence in these studies highlights the need for continued research on the effects of audit market competition.

Moreover, much of the extant research examines the effect of static audit market concentration as measured by the Herfindahl index. However, Herfindahl index based measures have both theoretical and empirical problems in assuming that more concentrated industries are less competitive (e.g., Dedman and Lennox 2009). To the extent that auditor concentration does not necessarily translate into audit market competition, the question of how auditor competition affects audit quality remains unresolved. Our purpose in this study is to provide evidence on how dynamic measure of auditor competition in local audit markets is related to the quality of audit services. For this purpose, we employ a measure to capture the dynamic nature of audit market competition: the proportion of clients switching auditors in the local market.

Audit market has witnessed dramatic market structure changes since late 1980s. First, 1989 mergers, between Ernst & Whinney and Arthur Young to form Ernst & Young and between Touche Ross and Deloitte Haskins & Sells to form Deloitte & Touche, reduced the then Big 8 to the Big 6. Subsequently, in 1998, Price Waterhouse (PW) and Coopers & Lybrand (CL) merged to form PricewaterhouseCoopers (PWC), resulting in Big 5. Finally, in 2001, after the collapse of Arthur Andersen, the audit market became dominated by Big 4 auditors. The continuing audit firm mergers have increased the concern about the lack of competition in the auditing industry. For example, the U.S. Treasury committee report states "the lack of competition may not provide sufficient incentive for the dominant auditing firms to deliver high quality and innovative auditing services" (U.S. Treasury 2008). The U.S. Chamber of Commerce and the Center for Audit Quality have proposed that regulators take action to increase competition among auditors (U.S. Chamber of Commerce 2006).[1] In line with the concerns, the U.S. Congress mandated in the Sarbanes-Oxley Act (SOX) that GAO study the effect of auditor mergers. After lengthy investigation, GAO (2003) concludes that audit firm mergers do not appear to influence audit fee and audit quality.[2] GAO (2008) revisits the issue later but reiterates the same conclusion. However, GAO (2003) explicitly mentions that it is difficult to draw direct linkage between audit market competition and audit quality and

1) Regulators in Europe also have similar concern on auditor concentration. For example, European Commission (2010) states that the audit market "appears to be too concentrated in certain segments and deny clients sufficient choice when deciding on their auditors" and "such concentration might entail an accumulation of systematic risk and the collapse of a "systemic firm" or a firm that has reached "systemic proportions" could disrupt the whole market." As a result, European Commission (2010) asks opinion from interested parties if the auditor consolidation occurred during the past decades should be reversed.

2) GAO (2003) expresses that increased auditor concentration has reduced client choice but does not seem to influence audit fees. However, GAO (2003) is relatively more careful not to draw any definitive conclusion for the association between auditor concentration and audit quality, stating that the evidence on this issue is mixed and inconclusive.

asks for additional study on this issue in the future.

Despite the abovementioned heated controversy, only a few studies have investigated the relation between audit market competition and audit quality. The first study by Kallapur et al. (2010) examines whether audit market concentration at the metropolitan statistical area (MSA) level affects audit quality as proxied by accruals quality. They find that auditors provide higher accruals quality (and thus higher audit quality) in more concentrated local audit markets. In a similar vein, Newton et al. (2013) document that restatements of financial reports are less likely to occur in more concentrated local audit markets. In contrast to these findings, Boone et al. (2012) examine a refined sample of firms that are likely to manage earnings and report that those firms are more likely to meet or beat earnings benchmarks in more concentrated audit markets, suggesting that higher auditor concentration (less competitive market) manifests itself in increased auditor tolerance for earnings management by clients. In sum, existing studies provide conflicting evidence on the relation between auditor concentration and audit quality, which makes it hard to draw inferences on the effect of audit market competition.

Note that all of the three abovementioned studies use the Herfindahl index to measure auditor concentration in the local market, arguing or implicitly assuming that higher concentration represents less competition. The Herfindahl index links high market concentration with low competition, in the sense that the former leads to a higher likelihood of collusive behavior of sellers in the market, resulting in the latter. However, we argue that competitiveness in the local audit market is not fully captured by the static concentration measure which has limitations in describing dynamic variations in market-share transfers or client-seller realignments. Dynamic analysis of the market structure, which is often used in the industrial organizational literature, is important to gain insight into the intensity of the market competition because, as Schmalensee (1989, p. 999) states, "while stable market shares and firm ranks are consistent in principle with either collusion or competition, most would argue that unstable shares and ranks are inconsistent with effective collusion." Therefore, to the extent that the concentration measure conceals much of the dynamic processes in markets which are related to the issues of existence of auditor rivalry and the lack of collusive behavior of sellers (Davies and Geroski 1997), examining the impact of the dynamic changes in local audit market structure provides incremental evidence on the relation between audit market competition and audit quality beyond existing studies.

In this study, we use a simple and intuitive measure to capture the dynamic nature of local audit market competition: the proportion of clients switching auditors in the market. We use it as our main proxy for competition because of the following reasons. First, well established theory of customer switching costs in economics claims that competition in service industries is increasing in the observed proportion of customers switching service providers (e.g., Klemperer 1987, 1995; Sharpe 1997). This literature suggests that a high frequency of clients actually switching service-providers indicates lower switching costs, a smaller lock-in effect, and thus a more competitive market. This argument is consistent with Chu et al. (2018) which show that competitive pressure on incumbent audit firms depends on client firm's switching costs. Second, while one of regulators' concerns about audit market is a lack of auditor choices (GAO 2003, 2008), frequent auditor switches are consistent with client firms being less likely subject to auditor choice limitation. Given that SOX instituted numerous changes that impact auditor selection choice such as restrictions of auditor providing non-audit services and the increase in the scope of auditor duties, whether client firms have adequate auditor choices is an important aspect of audit market competition in the post-SOX period. Lastly, the measure is intuitively appealing. Frequent auditor switches imply that auditors often attract new clients from competitors or lose existing clients to competitors. By contrast, if there are few auditor switches and auditors keep almost the same clients over years, even though market shares are evenly distributed among the auditors in a local market (i.e., a low Herfindahl index value), it is difficult to say that intense competition exists in the market. Because of these features, some previous studies also use this measure to gauge competition among auditors (e.g., Bandyopadhyay and Kao 2001; Ghosh and Lustgarten 2006).[3]

3) Note that these two prior studies do not specifically focus on the effect of audit market competition in their studies. Rather, they simply use the measure as parts of their analyses. Additionally, they do not investigate the effect at each MSA-level.