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审计客户重要性:一项度量偏差及其影响*

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摘要

学术界和监管者普遍关注审计客户重要性对审计质量的影响。然而在度量客户重 要性时,研究者通常以来自所有上市客户(而非全部客户)的经济利益作为客户重要 性基数的替代指标。来自中国注册会计师行业组织的统计数据为我们考察上述度量偏 差的潜在影响提供了机会。以客户重要性与客户应计盈余管理间关系为检验情境,本 文证据显示,是否完整度量事务所的业务收入基数对客户重要性经济后果的估计具有 明显影响;同时该项度量偏差对理解事务所不同分部(office)在客户重要性经济后果 上的潜在差异也具有明显影响。

关键词: 会计师事务所、客户重要性、审计质量、度量偏差 中图分类号: F239

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一、引言

客户重要性对审计质量的影响是审计学术研究中的一个重要问题,得到了研究者的大量关注(如 Reynolds and Francis, 2000; Craswell *et al.*, 2002; Chung and Kallapur, 2003; Gaver and Paterson, 2007; Li, 2009; Chen *et al.*, 2010),并具有重要的监管政策含义。⁴ 从理论上分析,一方面,审计师依靠客户支付的服务费用维持运营,来自客户的经济利益越多,对客户的经济依赖性越高,因此审计师可能会由于担心失去重要客户而妥协自身的独立性(Mautz and Sharaf, 1961; DeAngelo, 1981);另一方面,重要客户往往伴随着更高的监管或诉讼风险,审计师出于维护声誉的考虑可能对重要客户的审计更加谨慎和严格(Reynolds and Francis, 2000)。由于两种理论下客户重要性对审计质量的影响方向相反,在现实中客户重要性对审计质量的影响并不明确,从而实证检验变得十分重要。

目前围绕客户重要性与审计质量关系进行实证检验的国际文献并没有得到一致的 结论,有的研究未发现两者的显著相关关系(Craswell *et al.*, 2002; Chung and Kallapur, 2003),也有研究发现了两者的正相关关系(Reynolds and Francis, 2000; Gaver and Paterson, 2007; Li, 2009),少数研究发现了负相关关系(Chen *et al.*, 2010)。⁵ 尽管不同 文献在研究设计上存在着诸多差异(并可能影响研究结果的可比性),⁶ 但本文仅关注 一个关键的研究设计环节,即审计客户重要性的度量。

DeAngelo(1981)指出,从某一客户处获得的收入占事务所总收入的比率是客户 重要性的较好替代变量。然而在度量客户重要性时,往往受到数据可获得性的限制, 研究者在完整度量事务所业务收入的基数方面存在挑战,并通常以来自所有上市客户 的经济利益作为客户重要性基数的替代指标。我们认为,当以上市客户(而非全部客 户)的经济利益作为度量客户重要性的基数时,不同事务所在客户收入来源结构上(上 市客户 vs.非上市客户)的差异被忽视。我们的分析显示,被忽视的客户收入来源结构上(上 市客户 vs.非上市客户)的差异被忽视。我们的分析显示,被忽视的客户收入来源结构 具有两个特征:其一,该变量与基于上市客户度量的客户重要性变量显著负相关;其 二,该变量与审计质量或财务报告质量变量显著正相关。于是,在实证检验中忽略客 户收入来源结构变量可能使得研究者更容易检测到客户重要性变量与审计质量或财务 报告质量变量的负相关性,而不利于发现两者之间的正向关系。这种偏误不仅体现在 事务所整体分析层面,随着近年来越来越多的文献(Reynolds and Francis, 2000; Gaver and Paterson, 2007; Li, 2009; Chen *et al.*, 2010)将分析视角细化到分部层面(office level),还可能进一步体现在事务所分部层面的分析上,这是因为相比事务所整体收入 数据,事务所各个分部的业务收入更难以被完整观察。

⁴ 比如,在安然事件之后,各国监管者纷纷要求上市公司披露自身是否对审计师构成重大影响。《中国注册会计师职业道德守则第4号——审计和审阅业务对独立性的要求》第一百五十六条规定,如果会计师事务所连续两年从某一属于公众利益实体的审计客户及其关联实体收取的全部费用,占其从所有客户收取的全部费用的比重超过15%,会计师事务所应当向审计客户治理层披露这一事实,并讨论选择何种防范措施,以将不利影响降低至可接受的水平。

⁵国内文献在该问题上的结论也并不一致,比如刘启亮等(2006)发现客户重要性与审计质量的替代指标正相关,曹强等(2012)则发现客户重要性与审计质量的替代指标负相关。

⁶ 比如在数据来源国别、审计质量的替代指标以及样本期间等方面存在差异。

本文专门考察度量审计客户重要性所采用的基数偏差对研究结果的潜在影响。除 了在事务所整体层面进行分析,我们还考察了分部层面度量偏差的影响。之所以能够 同时考察事务所整体层面和分部层面,得益于我们使用了中国注册会计师行业组织的 统计数据,该数据能够提供较为可靠和准确的、事务所整体层面和分部层面的业务收 入信息。

近年来大量文献以可操控应计额的幅度作为盈余质量乃至审计质量的替代指标 (Dechow *et al.*, 2010),在考察客户重要性与审计质量关系的文献中也有较多应用(如 Reynolds and Francis, 2000; Chung and Kallapur, 2003;刘启亮等,2006)。相应地,我 们以客户重要性与客户应计盈余管理间关系为检验情境,考察客户重要性的度量基数 偏差是否会影响研究结果。

我们先从事务所整体层面进行了考察,结果发现: 当采用以往文献普遍采用的替 代方式(即以事务所来自所有上市客户的鉴证业务收入作为基数)度量审计客户重要 性时,客户重要性变量与可操控应计额没有显示出显著的相关关系;而当采用更完整 的基数(即事务所来自所有客户的鉴证业务收入)度量客户重要性时,客户重要性变 量与可操控应计额呈现出显著的负相关关系,这意味着重要审计客户的应计盈余管理 幅度越低。上述证据表明在事务所整体层面,是否完整度量事务所的业务收入基数对 客户重要性经济后果的估计具有明显影响。

在分部层面上,近年来有文献关注事务所总所和分所之间的审计质量差异(王兵、 辛清泉,2010)。为此,我们将事务所的各个分部(office)区分为总所和分所,考察 不同的度量基数伴随的实证结果差异。我们发现,当采用传统的替代方式(即以某事 务所分部来自该分部所有上市客户的鉴证业务收入作为基数)度量事务所分部的客户 重要性时,不论是总所还是分所,客户重要性变量与可操控应计额均未显示出显著的 相关关系;当采用更完整的基数(即某事务所分部来自该分部所有客户的鉴证业务收 入)度量事务所分部的客户重要性时,总所的客户重要性与可操控应计额呈现出显著 的负相关关系(意味着总所的审计质量可能更高),而分所审计则显著削弱了客户重要 性与可操控应计额的负相关性(意味着分所的审计质量显著低于总所)。上述证据表明 在事务所分部层面,是否完整度量事务所分部的业务收入基数对理解不同分部在客户 重要性经济后果上的潜在差异同样具有明显影响。

综上,我们发现,客户重要性的度量基数偏差可能会明显影响对客户重要性经济 后果的评价与理解。相应地,当一项研究涉及客户重要性的度量时,研究者宜尽可能 地取得事务所整体或分部层面的完整业务收入数据,作为客户重要性的度量基数。对 客户重要性相关研究结果感兴趣的监管者乃至社会公众也应关注研究者对客户重要性 基数的度量方式,并对基于不完整基数度量方式下的研究结果保持谨慎。

本文后续各部分安排如下:第二部分讨论了以往文献对客户重要性的度量方式以 及可能产生的一项度量偏差;第三部分说明本文对该项度量偏差潜在影响的检验设计; 第四部分实证展示该项度量偏差的影响;第五部分为结论和进一步的讨论。

二、审计客户重要性的一项度量偏差

(一) 以往文献对客户重要性的度量方式

理论上,客户重要性最为直接的度量是从某一客户处获得的准租现值与从所有客 户处获得的准租现值的比例,但由于准租不可观察,DeAngelo(1981)指出,从某一 客户处获得的收入占会计师事务所总收入的比率可以作为客户重要性的较好替代变 量。相应地,学术界对审计客户重要性的基本度量方式可以表示为:

 $CI_{Total} = CLIENT / REV_T$

(1)

式(1)中,*CLIENT*表示某年度来自某一审计客户的经济收入,*REV*_T表示客户所 聘会计师事务所对应年度来自所有客户的全部经济收入。

对于式(1)中的分子 *CLIENT*,研究者通常采用某审计客户支付的审计收费、非 审计服务收费或总服务收费加以度量(如 Craswell *et al.*, 2002; Chung and Kallapur, 2003; Li, 2009);基于审计收费与客户销售收入或资产规模的高度正相关性,也有一些研究 采用某审计客户的销售收入(如 Reynolds and Francis, 2000)或资产规模(如 Chen *et al.*, 2010)作为分子。

对于式(1)中的分母 *REV_T*,仅有少数文献采用了 DeAngelo(1981)指出的较为 理想的方式;比如,Chung and Kallapur(2003)使用了某会计实务杂志公布的前百名 会计师事务所年度收入调查数据,作为客户重要性的度量基数。但其他文献则普遍采 用了替代方式,即采用会计师事务所所有上市客户的收费总和(Craswell *et al.*, 2002), 或所有上市客户的销售收入规模总和(Reynolds and Francis, 2000),或所有上市客户 的资产规模总和(Chen *et al.*, 2010)。这种替代度量方式的一个原因是,对于早先的研 究(如 Reynolds and Francis, 2000),在研究当时审计师服务收费信息尚未公开披露 (Gaver and Paterson, 2007);另一个原因则是研究者难以观察到一家会计师事务所来自 所有客户的收费总和,比如 Craswell *et al.*(2002)指出,其样本来源国(澳大利亚) 并不公布会计师事务所来自非上市客户的收入。

当研究者试图获取事务所分部层面的服务收费总额时,数据的可获得性则面临更 突出的挑战,以至于研究者的计算范围受到进一步的限制。比如,Li(2009)在计算 事务所分部层面上客户重要性变量的分母时,纳入计算范围的观测是某数据库中包含 的公众公司,且同时必须披露了事务所分部信息以及收费信息;这意味着未披露事务 所分部信息的观测被排除出计算范围,从而增加了客户重要性变量的噪音。还有一些 研究者不得不采用一些推断性的方法。比如 Gaver and Paterson(2007)在研究保险行 业的客户重要性与审计质量的关系时,除了遵循 Reynolds and Francis(2000)对客户 重要性的度量方式,还尝试通过每个分部的合伙人人数与合伙人人均年创收收入的乘 积推算事务所分部的服务收费总和,作为客户重要性的另一种度量基数(此时分子为 某保险公司支付给事务所的服务费用)。当然,Gaver and Paterson(2007)也承认,这 种推断可能引入了噪音,从而基于该方式度量的客户重要性变量仅仅被作为辅助性(或 稳健性)的度量。

国内现有文献(刘启亮等,2006;曹强等,2012)则主要围绕会计师事务所整体 层面度量客户重要性,并主要使用了间接替代方式,即采用客户资产规模占事务所所 有上市客户资产规模总和的比率加以度量。

(二) 替代度量方式的潜在问题与现实描述

设某会计师事务所来自所有上市客户的服务收费为 *REV_L*,于是对审计客户重要性的较理想度量方式(即式(1))可以进一步表示为:

$$CI_{Total} = (CLIENT / REV_L) * (REV_L / REV_T)$$
⁽²⁾

之前讨论的、以往文献经常采用的替代方式则是将客户重要性的度量基数限制于 来自于上市客户的服务收费,即:

 $CI_{Listed} = CLIENT / REV_L$

(3)

比较式(2)和式(3),可以发现替代度量方式忽视了客户收费来源结构 CS_T (= (REV_L / REV_T))在不同会计师事务所之间的差异,从而导致客户重要性的度量存在噪音。

为了考察两种度量方式下的差异,我们获取了具有证券期货执业资格会计师事务 所在中国注册会计师协会报备的 2011 至 2012 年度收入数据,包括整体层面和分部层 面。利用该数据,我们不仅能度量事务所整体的客户重要性,还能较可靠地度量分部 层面的客户重要性。对于不同层面度量的客户重要性,我们分别在变量的右上角增加 F和O的标示,以表示事务所整体层面的客户重要性(*CI^F*)和事务所分部层面的客户 重要性(*CI^P*)。

考虑到目前我国会计师事务所开展非鉴证业务获取的服务收费较为有限(Chen et al., 2010),且目前商业数据库主要提供审计及各类鉴证业务费用信息,在度量客户重要性时为了保持分子与分母统计口径尽量一致,我们主要采用中国注册会计师协会数据库中各家事务所(及各个分部)来自所有客户的鉴证服务收入作为基数,此类基数与所有上市客户鉴证服务收入的差异仅在于客户范围不同。设某会计师事务所来自所有客户的鉴证服务收费为 *REV₄*,本文随后对审计客户重要性的度量方式如下:

 $CI_{TotalA} = CLIENT / REV_A$

(4)

比较式(4)和式(3),以往文献经常采用的替代度量方式忽视了客户收费来源结构 CS_A(=(REV_L/REV_A))在不同会计师事务所之间的差异。⁷相应地,我们在表1组A中列示了事务所整体层面的、各种度量方式下的客户重要性变量的描述统计,分别

⁷ 我们注意到,在我们的样本中,事务所来自所有客户的鉴证收入(*REV_A*)与事务所来自所有客户的所有收入(*REV_T*)的相关系数高达 0.99。

为 CI^{F}_{Listed} 、 CI^{F}_{TotalA} 以及 CS^{F}_{A} ; 在表 1 组 B 中列示了事务所分部层面的、各种度量方 式下的客户重要性变量的描述统计,分别为 CI^{O}_{Listed} 、 CI^{O}_{TotalA} 以及 CS^{O}_{A} 。

表1组A显示,在事务所整体层面,上市公司审计收费占事务所所有上市客户鉴证业务收入(*CI^FListed*)的比重均值为0.017,而占事务所所有客户鉴证业务收入(*CI^FTotalA*)的比重均值仅为 0.002,两者之间的较大差异是由于 *CS^FA*(事务所上市客户鉴证收入占所有客户鉴证收入的比重)的均值仅为 21.2%导致的。在事务所整体层面,不同事务所之间的客户收入来源结构差异是比较明显的,来自上市客户的鉴证收入最少的仅占所有客户收入的 0.6%,而最多的则占到 43.2%。类似地,表1组B显示,在事务所分部层面,上市公司审计收费占事务所分所所有上市客户鉴证业务收入(*CI^OTotalA*)的比重均值仅为 0.003,事务所分所上市客户鉴证收入占分所所有客户鉴证收入的比重(*CS^OA*)的均值为 21.5%,比重最小的仅为 0.6%,最大的则达到 76.4%。

	均值	标准差	最小值	中位数	最大值
组 A: 事务所磛	整体层面(N=3	3556)			
CI^{F}_{Listed}	0.017	0.030	0.001	0.007	0.202
CI^{F}_{TotalA}	0.002	0.003	0.000	0.001	0.017
CS^{F}_{A}	0.212	0.115	0.006	0.187	0.432
组 B: 事务所分	♪部层面(N=3	556)			
CI^{O}_{Listed}	0.018	0.035	0.001	0.007	0.236
CI ^O _{TotalA}	0.003	0.004	0.000	0.001	0.032
CS^{O}_{A}	0.215	0.118	0.006	0.187	0.764

表 1 不同度量方式下客户重要性及相关指标的描述统计

变量界定:

CI^{F}_{Listed}	=	某审计客户当年的审计费用/该客户所聘事务所当年来自所有上市客户
		的鉴证业务收入;
CI^{F}_{TotalA}	=	某审计客户当年的审计费用/该客户所聘事务所当年来自所有客户的鉴
		证业务收入;
$CS^{F_{A}}$	=	某审计客户所聘事务所当年来自所有上市客户的鉴证业务收入/该事务
		所当年来自所有客户的鉴证业务收入;
CI ^O Listed	=	某审计客户当年的审计费用/该客户所聘事务所分部当年来自所有上市
		客户的鉴证业务收入;
CI ^O TotalA	=	某审计客户当年的审计费用/该客户所聘事务所分部当年来自所有客户
		的鉴证业务收入;
CSO_A	=	某审计客户所聘事务所分部当年来自所有上市客户的鉴证业务收入/该
		事务所分部当年来自所有客户的鉴证业务收入。

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表 2 列示了各种度量方式下事务所整体层次和分部层次的客户重要性变量的相关 系数矩阵。表 2 显示,无论是事务所整体层面,还是事务所分部层面,两种度量方式 下的客户重要性指标之间都表现出较高的正相关性,其中 *Cl^FListed* 与 *Cl^FTotalA*之间的相 关系数为 0.70; *Cl^OListed* 与 *Cl^OTotalA*之间的相关系数为 0.72。更重要的是,我们注意到 无论是事务所整体层面,还是事务所分部层面,以往文献经常使用的替代度量变量与 客户收入结构变量之间都表现出了显著的负相关性,其中 *Cl^FListed* 与 *CS^FA*的相关系数 为 -0.36, *Cl^OListed* 与 *CS^OA*的相关系数为 -0.27。这意味着以往文献经常使用的替代度 量变量虽然能够在一定程度上反映客户重要性,但同时对于那些看上去比较重要的客 户所在的会计师事务所(或其分部)而言,来自上市客户的业务收入的总体重要性反 而是相对更低的。

接下来我们讨论在实证检验中忽视事务所的客户收入结构(*CS_A*)可能产生的影响。 根据 DeAngelo (1981),当事务所来自某类客户的收入越多时,其遭受潜在风险损失 的准租越大,于是其行为可能越加谨慎,包括可能投入更多的技术资源以形成专长, 以及保持更高的职业谨慎程度。相应地,来自上市客户的收入越多的事务所可能对上 市客户表现出更高的独立性和审计质量。综上,当 *CI_{Listed}* 越高,则 *CS_A* 越低;而 *CS_A* 越低,则审计质量或财务报告质量越低。因此在实证检验中忽略 *CS_A* 可能导致 *CI_{Listed}* 伴随着更低的审计质量或财务报告质量,从而不利于发现 *CI_{Listed}* 与审计质量或财务报 告质量之间的正向关联。换言之,如果在实证检验中单纯使用以往文献经常使用的替 代度量变量 *CI_{Listed}*,并不能完整反映出一个审计客户对事务所的经济重要性,并可能 导致有偏的结果。

相反,如果采用更完整的客户基数度量客户重要性,那么在事务所整体层面,改进后的客户重要性变量与客户收入结构变量之间没有明显的相关性(CI^F_{TotalA}与 CS^F_A的相关系数仅为0.02,与零无显著差异);而在事务所分部层面,改进后的客户重要性变量 CI^O_{TotalA}与客户收入结构变量 CS^O_A之间则呈现出显著正相关性(相关系数=0.12),这意味着在事务所分部层面,当一个上市客户越重要时,该分部来自上市客户的业务收入总体上也是更重要的(从而不会像 CI^O_{Listed}那样构成负面干扰)。

综上,表2展示出为什么当采用上市客户基数(更完整的客户基数)度量客户重 要性时,研究者会更多(少)地受到事务所上市业务结构特征的干扰。

	CI^{F}_{Listed}	CI^{F}_{TotalA}	CS^{F}_{A}	CI^{O}_{Listed}	CI^{O}_{TotalA}	CS^{O}_{A}	
CI^{F}_{Listed}	1.00						
CI^{F}_{TotalA}	0.70***	1.00					
CS^{F}_{A}	-0.36***	0.02	1.00				
CI^{O}_{Listed}	0.93***	0.66***	-0.34***	1.00			
CI ^O _{TotalA}	0.60***	0.80***	-0.03*	0.72***	1.00		
CS^{O}_{A}	-0.31***	0.06***	0.96***	-0.27***	0.12***	1.00	

表 2 不同度量方式下客户重要性及相关指标的相关系数矩阵(N=3556)

***、**以及*分别表示 0.01、0.05 以及 0.10 的显著性水平(双尾)。

变量界定:

CI ^F Listed	=	某审计客户当年的审计费用/该客户所聘事务所当年来自所有上市客户
		的鉴证业务收入;

- *CI^F_{TotalA}* = 某审计客户当年的审计费用/该客户所聘事务所当年来自所有客户的鉴 证业务收入;
- CS_{A}^{F} = 某审计客户所聘事务所当年来自所有上市客户的鉴证业务收入/该事务 所当年来自所有客户的鉴证业务收入;

Cl^O_{TotalA} = 某审计客户当年的审计费用/该客户所聘事务所分部当年来自所有客户的鉴证业务收入;

三、 客户重要性度量偏差的影响: 研究设计

(一)检验情境

以往文献在考察客户重要性对审计质量的影响时,通常采用可操控应计额 (Reynolds and Francis, 2000; Chung and Kallapur, 2003; 刘启亮等, 2006)和审计意见 (Reynolds and Francis, 2000; Craswell *et al.*, 2002; Li, 2009; Chen *et al.*, 2010; 曹强等, 2012)。由于我们仅接触到 2011 至 2012 年会计师事务所的年度收入数据,因此与之 相匹配的上市公司数据也针对 2011 至 2012 年度。在我国上市公司审计市场中,近年 来出具非标准审计意见的情形主要是针对审计客户的持续经营问题; 围绕持续经营审 计意见的研究设计通常需要将样本限制在具有财务困境的范围内(Reynolds and Francis, 2000),这样将会大幅减少样本规模。为了尽可能保有较大的样本规模,我们 仅遵循以往文献普遍采用的可操控应计额为例来检验本文提出的客户重要性度量偏差 可能产生的影响。

(二) 事务所整体层面的检验模型

首先我们根据 Dechow *et al.* (1995) 模型,使用截面数据分年度分行业回归得到 可操控应计额 ε_{it},随后取绝对值作为因变量 *ABSDA*。可操控应计额的计算公式如下:

$$TA_{it} = \delta_0 + \delta_1 (\Delta SALES_{it} - \Delta AR_{it}) + \delta_2 PPE_{it} + \varepsilon_{it}$$
(5)

总应计额(TA_{it})为当年净利润减去经营活动现金净流量,并以上年末总资产进行标准化。销售收入变动(ΔSALES_{it})是当年销售收入减去上年销售收入值;应收账款 变动(ΔAR_{it})用当年年末应收账款净额减上年年末应收账款净额计算;PPE_{it}是当年 年末的固定资产净额。

在事务所整体层面上,我们使用如下 OLS 模型来检验客户重要性对可操控应计额

的影响:

$$ABSDA = \delta_0 + \delta_1 CI^F + \delta_2 BIG4 + \delta_3 LEV + \delta_4 OCF + \delta_5 GROWTH + \delta_6 SIZE + \varepsilon$$
(6)

式(6)中的实验变量为 CI^{F} 。如果重要客户削弱会计师事务所独立性的效果占主导,我们预期 CI^{F} 的系数 δ_{1} 显著大于零;如果重要客户促使会计师事务所增强风险防范和谨慎程度的效果占主导,我们预期 δ_{1} 显著小于零;如果重要客户削弱会计师事务所增强风险防范和谨慎程度的效果持平,我们预期 δ_{1} 与零无显著差异。我们分别采用 CI^{F}_{Listed} 和 CI^{F}_{TotalA} 进行回归。如果本文提出的客户重要性度量偏差确实具有重要影响,我们预期上述两个变量的回归结果在系数符号或显著性水平上会有明显不同。进一步地, CI^{F}_{Listed} 和 CI^{F}_{TotalA} 的主要差异在于客户收入结构变量 CS^{F}_{A} ,此前的讨论预期 CS^{F}_{A} 与审计质量或财务报告质量正相关,在我们的具体检验情境中则与ABSDA负相关。为了对该暗含假设做出检验,我们还将 CI^{F}_{TotalA} 分拆为 CI^{F}_{Listed} 和 CS^{F}_{A} 同时纳入模型(6)检验。⁸

为了增强研究结果与以往文献的可比性,式(6)中的控制变量参考了 Reynolds and Francis (2000)和刘启亮等 (2006),包括现金流量 (*OCF* = 经营活动现金净流量除 以总资产)、销售收入的增长率 (*GROWTH* = (本年销售收入 – 去年销售收入)/去年 销售收入)、资产负债率 (*LEV* = 公司总负债除以总资产)以及公司的规模 (*SIZE* = 总 市值取自然对数)。此外,我们还控制行业和年度哑变量。

(三) 事务所分部层面的检验模型

Reynolds and Francis(2000)指出,在事务所分部层面(office level)进行审计质 量及其影响因素的分析是有意义的,因为每一个特定客户的审计工作都更多地受到承 接并执行该业务的事务所特定分部的影响。近期文献也开始关注事务所不同分部之间 的审计质量差异(Francis and Yu, 2009),特别在我国表现为对总所和分所潜在质量差 异的关注(汪宁等,2007; 王兵和辛清泉,2010)。受到政策影响和市场力量的推动, 近年来我国会计师事务所兴起了新的合并浪潮,不少事务所通过设立或吸收分所的方 式迅速扩大规模。在规模快速扩张的过程中,有以下几方面因素可能导致对分所潜在 审计质量的顾虑。首先,相当一批会计师事务所吸收合并的分所并不具备证券执业资 格(Chan and Wu, 2011),而这些分所一旦加入具备证券执业资格的会计师事务所以后, 则可能开始承做上市公司审计业务,但分所的人力资源条件以及技术能力明显弱于总 所,而总所对分所的质量控制往往又是不充分的。第二,对于新设分所的情形,相当 一批事务所在新设分所的地区普遍采用本地化的人力资源政策,同样可能引入缺乏上 市公司审计经验的人员。第三,在相当一批事务所合并事件中,被合并的分所虽然原 本具备证券执业资格,但规模较小,为了维持自身的生存和发展而寻求合并,但其合 并过程可能缺乏充分的整合,缺乏来自另一方规模较大事务所的技术资源输入和质量

⁸ 感谢主编对该项检验的建议。此外,将 CI^{F}_{TotalA} 作对数转换处理或同时纳入 $Ln(CI^{F}_{Listed})$ 和 $Ln(CS^{F}_{A})$ 均得到类似结果。

控制。上述因素都可能加大总所与分所之间的审计质量差异。

我们希望评估本文提出的客户重要性度量偏差是否会影响关于事务所不同分部的 审计质量差异的理解。相应地,我们使用如下模型来检验不同分部之间在客户重要性 与可操控应计额的关系上是否存在差异:

$$ABSDA = \delta_0 + \delta_1 CI^O + \delta_2 CI^O * BRANCH + \delta_3 BRANCH + \delta_4 BIG4 + \delta_5 LEV + \delta_6 OCF + \delta_7 GROWTH + \delta_8 SIZE + \varepsilon$$
(7)

式(7)中, CI^{O} 表示某审计客户在事务所分部层面上的重要性,这个分部有可能 是事务所的总所承做,有可能是该事务所的某一家分所承做。我们再设置虚拟变量 *BRANCH*(取1时表示某审计客户由分所承做,取0时表示某审计客户由总所承做)。 我们关注 CI^{O} 与*BRANCH*的交互项系数 δ_{2} :如果分所和总所之间的审计质量不存在显 著差异,我们预期 δ_{2} 与零无显著差异;如果分所和总所之间的审计质量存在显著差异, 我们预期 δ_{2} 显著大于零。我们分别采用 CI^{O}_{Listed} 和 CI^{O}_{TotalA} 进行回归。如果本文提出的 客户重要性度量偏差在事务所分部层面上也具有重要影响,我们预期上述两个变量的 回归结果在系数符号或显著性水平上会有明显不同。式(7)的控制变量与式(6)相同。

(四) 样本与数据

前已述及,本文关于客户重要性的度量基数来源于中国注册会计师协会 2011 至2012 年的会计师事务所及其分所有关报备数据。该数据由会计师事务所按照中注协统 一报备格式填写申报,先由省级协会负责审核本地区事务所和本地区分所的填列信息, 中注协对事务所填列信息进行抽查。发现填列信息不实的,责令事务所限期更正。事 务所故意填列不实信息,或逾期拒不更正的,扣除不实信息指标项目得分并通报批评; 情节严重的,取消事务所当年及下一年度综合评价资格,并通报批评。特别地,对于 具有证券期货执业资格的会计师事务所,中注协专门组织力量对其报备数据进行审核 确认。因此我们能够合理保证本文所使用的样本事务所及其分所的收入数据具有较高 的可靠性。2011 至 2012 年中国 A 股市场各家上市公司审计费用数据以及财务数据来 自国泰安 CSMAR 数据库。

为了在事务所分部层面上度量客户重要性,我们需要先识别出某上市客户是由事 务所哪一个分部(仅涉及总所,还是涉及了某一家分所)具体承做。相应地,我们使 用了台湾地区 TEJ 数据库提供的注册会计师所属分部(总所还是某一家分所)的数据, 即通过将审计师与年报签字注册会计师相匹配的方式确定上市公司所属分部审计的情 况。我们识别出以下四种情况:(1)签字注册会计师均来源于总所;(2)签字注册会 计师均来源于同一分所;(3)两名签字注册会计师分别来源于总所和分所;(4)两名 签字注册会计师来源于同分所。当任何一名签字注册会计师来源于分所时,我们将 其定义为分所审计(此时虚拟变量 *BRANCH* 取 1);同时,我们的样本剔除了两名签 字注册会计师来源于不同分所的观测。 此外,我们还剔除了金融类公司、样本期间内新上市的公司以及相关变量缺失的 样本观测,最终得到 3,556 个样本观测。为排除异常值的影响,我们对所有的连续变 量在 1%和 99%分位数进行了缩尾处理。表 3 列示了客户重要性变量之外的其他变量 的描述性统计。*BRANCH* 的均值为 0.401,意味着样本观测中有 40.1%的上市公司是由 分所审计的。

变量	观测数	均值	标准差	最小值	中位数	最大值
ABSDA	3556	0.074	0.089	0.001	0.048	0.622
BIG4	3556	0.061	0.239	0	0	1
LEV	3556	0.456	0.233	0.038	0.463	1.109
OCF	3556	0.036	0.076	-0.208	0.036	0.242
GROWTH	3556	0.076	0.288	-1.349	0.105	0.858
SIZE	3556	22.059	0.937	20.534	21.876	25.063
BRANCH	3556	0.401	0.49	0	0	1

表 3 模型因变量及控制变量的描述性统计

变量界定:

ABSDA	=	可操控应计额(根据公式(5)计算而得)取绝对值;
BIG4	=	如果是四大所则为 1; 否则为 0;
OCF	=	经营活动现金净额/年末总资产;
LEV	=	负债总额/年末总资产;
GROWTH	=	营业收入增长率;
SIZE	=	年末总市值取自然对数;
BRANCH	=	是否为分所,如果是分所则为1,否则为0。

四、客户重要性度量偏差的影响:检验结果

(一) 事务所整体层面

表4列示了在事务所整体层面上模型(6)的回归结果,其中第(1)栏是纳入 Cl^{F}_{Listed} 的结果,第(2)栏是纳入 Cl^{F}_{TotalA} 的结果,第(3)栏是同时纳入 Cl^{F}_{Listed} 和 CS^{F}_{A} 的结果。第(1)栏的结果显示,当客户重要性的度量基数采用所有上市客户的鉴证收入时,客户重要性变量 Cl^{F}_{Listed} 的系数与零无显著差异(p = 0.148),此时得出的含义可能是客户重要性与审计质量并无明显关联。第(2)栏的结果则显示,当客户重要性的度量基数采用所有客户的鉴证收入时,客户重要性变量 Cl^{F}_{TotalA} 的系数显著小于零(p<0.01),此时得出的含义则是客户重要性伴随着较低的应计盈余管理幅度,从而审

计质量可能更高,从而更支持 Reynolds and Francis (2000)提出的事务所声誉维护假 说。第(3)栏的结果显示, CS^{F_A} 的系数显著为负 (p < 0.05),这支持我们的暗含假设,

	(1)	(2)	(3)
	客户重要性的	改进的客户	考虑客户收入
	间接替代度量	重要性度量	结构的影响
因变量: ABSDA	Coef	Coef	Coef
	(t-stat)	(t-stat)	(t-stat)
CI^{F}_{Listed}	-0.067		-0.108
	(-1.446)		(-2.284**)
CI^{F}_{TotalA}		-1.294	
		(-2.921***)	
CS^{F}_{A}		· · · ·	-0.035
			(-2.460**)
BIG4	-0.012	-0.014	-0.017
	(-2.261**)	(-2.653***)	(-2.927***)
LEV	0.039	0.039	0.037
	(4.365***)	(4.466***)	(4.198***)
OCF	-0.100	-0.100	-0.099
	(-2.761***)	(-2.765***)	(-2.742***)
GROWTH	0.020	0.019	0.020
	(2.048**)	(2.032**)	(2.047**)
SIZE	-0.002	-0.001	-0.002
	(-0.863)	(-0.579)	(-0.710)
Constant	0.135	0.123	0.137
	(2.875***)	(2.608^{***})	(2.922***)
YEAR	控制	控制	控制
INDUSTRY	控制	控制	控制
N	3,556	3,556	3,556
Adjusted R ²	0.094	0.095	0.096

表 4 客户重要性与可操控应计额:事务所整体层面的回归结果

***和**分别表示 0.01 和 0.05 的显著性水平(双尾)。

变量界定:

ABSDA	=	可操控应计额(根据公式(5)计算而得)取绝对值;
CI^{F}_{Listed}	=	某审计客户当年的审计费用 / 该客户所聘事务所当年来自所有上市
		客户的鉴证业务收入;
CI^{F}_{TotalA}	=	某审计客户当年的审计费用 / 该客户所聘事务所当年来自所有客户
		的鉴证业务收入;
CS^{F}_{A}	=	某审计客户所聘事务所当年来自所有上市客户的鉴证业务收入 / 该
		事务所当年来自所有客户的鉴证业务收入;
BIG4	=	如果是四大所则为 1; 否则为 0;
OCF	=	经营活动现金净额 / 年末总资产;
LEV	=	负债总额 / 年末总资产;
GROWTH	=	营业收入增长率;
SIZE	=	年末总市值取自然对数;
YEAR	=	样本年度为 2011 至 2012 年,设置 1 个年度哑变量;
INDUSTRY	=	根据证监会行业分类标准,制造业细分至二级代码,其余为一级代码。

即来自上市客户的收入越多,会计师事务所允许客户管理层的盈余管理空间越小。在 控制了该变量之后, CI^{F}_{Listed} 的系数也变得显著为负了 (p < 0.05),从而支持我们此前

的讨论,即在实证检验中忽视事务所的客户收入结构,可能导致研究者更不容易发现 客户重要性与审计质量或财务报告质量之间的正向关系。

对比表 4 第(1)栏和第(2)栏的结果,我们可以看出,使用不同的客户重要性 度量基数,对理解和评价客户重要性的经济后果具有明显的影响。第(3)栏的结果解 释了前两栏结果的潜在差异。

(二) 事务所分部层面

表 5 列示了在事务所分部层面上模型(7)的回归结果,其中第(1)栏是纳入 Cl⁰Listed</sub>的结果,第(2)栏是纳入 Cl⁰TotalA</sub>的结果。第(1)栏的结果显示,当客户重要性的度量基数采用所有上市客户的鉴证收入时,客户重要性变量 Cl⁰Listed</sub>的系数与零无显著差异,交互项 Cl⁰Listed*BRANCH 的系数与零也无显著差异;此时得出的含义可能是:对于总所审计的业务,客户重要性与审计质量并无明显关联;同时,分所审计的业务中,这两个变量的关联与总所审计的业务也没有显著差异。

第(2)栏的结果则显示,当客户重要性的度量基数采用所有客户的鉴证收入时, 客户重要性变量 *Cl^o_{TotalA}*的系数显著小于零(p<0.01),且交互项 *Cl^o_{TotalA}*BRANCH*的 系数显著大于零(p<0.05)。此时得出的含义则是:对于总所审计的业务,客户重要 性伴随着较低的应计盈余管理幅度,从而审计质量可能更高;而对于分所审计的业务, 客户重要性与应计盈余管理幅度之间的负相关性被显著削弱了,这意味着分所的审计 质量更容易受到重要客户的负面影响。

对比表 5 第(1)栏和第(2)栏的结果,我们可以看出,使用不同的客户重要性 度量基数,对评价客户重要性的经济后果在事务所不同分部的潜在差异具有明显的影 响。

	中中于王阳			
	各尸里安性	的间接替代度重	改进 的 各 /	┘里安性度重
因变量: ABSDA	Coef	t-stat	Coef	t-stat
CI ^O _Listed	-0.067	-1.530		
CI ^O Listed *BRANCH	0.007	0.103		
CI^{O}_{TotalA}			-1.187	-3.233***
CI ^O _{TotalA} *BRANCH			1.076	1.964**
BRANCH	-0.004	-1.354	-0.007	-2.100**
BIG4	-0.012	-2.275**	-0.014	-2.625***
LEV	0.038	4.368***	0.039	4.393***
OCF	-0.101	-2.802***	-0.101	-2.789***
GROWTH	0.020	2.063**	0.020	2.080**
SIZE	-0.002	-0.938	-0.002	-0.806
Constant	0.140	3.003***	0.136	2.911***
YEAR	控制		控制	
INDUSTRY	控制		控制	
Ν	3,556		3,556	
Adjusted R ²	0.094		0.095	

表 5 客户重要性与可操控应计额:事务所分部层面的回归结果

***和**分别表示 0.01 和 0.05 的显著性水平(双尾)。

变量界定:

ABSDA	=	可操控应计额(根据公式(5)计算而得)取绝对值;
CI^{O}_{Listed}	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有上
		市客户的鉴证业务收入;
CI^{O}_{TotalA}	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有客
		户的鉴证业务收入;
BIG4	=	如果是四大所则为 1; 否则为 0;
OCF	=	经营活动现金净额 / 年末总资产;
LEV	=	负债总额/年末总资产;
GROWTH	=	营业收入增长率;
SIZE	=	年末总市值取自然对数;
BRANCH	=	是否为分所,如果是分所则为1,否则为0;
YEAR	=	样本年度为 2011 至 2012 年,设置 1 个年度哑变量;
INDUSTRY	/=	根据证监会行业分类标准,制造业细分至二级代码,其余为一级代码。

(三) 区分应计盈余管理的方向

在进一步的分析中,我们参照以往文献(如 Myers *et al.*, 2003)区分了应计盈余管 理对利润的影响方向,分别对正向和负向的可操控应计额观测进行截取回归(truncated regression)。出于篇幅考虑,表6仅列示了与实验变量有关的结果。结果显示,不论是 事务所整体层面(组 A),还是事务所分部层面(组 B),客户重要性的不同度量基数 明显影响了客户重要性与正向可操控应计额的关系,而对客户重要性与负向可操控应 计额的关系的评价有一定影响,但程度较弱。具体而言,当采用更完整的度量基数后, 对于正(负)向应计盈余管理,原本缺乏显著性的实验变量结果变得在5%(10%)水 平上显著,从而影响到研究者对客户重要性的经济后果及其在事务所不同分部的潜在 差异的评价。

考虑到在我国上市公司中,高报利润的动机和压力占主导地位,表6的证据更加 支持事务所总所面对重要客户调增利润动机时的声誉维护理论,同时也更加支持事务 所分所向重要客户调增利润动机妥协的理论。

	((1)	(2)
	客户重要性的	的间接替代度量	改进的客户	「重要性度量
	Coef	t-stat	Coef	t-stat
组 A: 事务所整体层面				
因变量: ABSDA(正向)	DA, 截取回归,	N = 1896)		
CI^{F}_{Listed}	-0.427	-1.180		
CI ^F _{TotalA}			-8.111**	-2.131
因变量: ABSDA (负向)	DA, 截取回归,	N = 1660)		
CI^{F}_{Listed}	-0.812	-0.592		
CI^{F}_{TotalA}			-27.794*	-1.875

表 6 客户重要性与区分方向的可操控应计额

组 B: 事务所分部层面				
因变量: ABSDA(正向	DA, 截取回归,	N = 1896)		
CI ^O _{Listed}	-0.459	-1.221		
CI ^O Listed *BRANCH	0.298	0.561		
CI ^O _{TotalA}			-10.357**	-2.521
CI ^O TotalA*BRANCH			10.103**	2.237
因变量: ABSDA(负向	DA, 截取回归,	N = 1660)		
CI ^O _{Listed}	-0.234	-0.182		
CI ^O Listed *BRANCH	-2.010	-0.859		
CI ^O _{TotalA}			-21.680*	-1.670
CI ⁰ TotalA*BRANCH			17.663	1.048

**和*分别表示 0.05 和 0.10 的显著性水平(双尾)。

变量界定:

ABSDA	=	可操控应计额(根据公式(5)计算而得)取绝对值;
CI^{F}_{Listed}	=	某审计客户当年的审计费用 / 该客户所聘事务所当年来自所有上市
		客户的鉴证业务收入;
CI^{F}_{TotalA}	=	某审计客户当年的审计费用 / 该客户所聘事务所当年来自所有客户
		的鉴证业务收入;
CI^{O}_{Listed}	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有
		上市客户的鉴证业务收入;
CI ^O TotalA	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有
		客户的鉴证业务收入;
BRANCH	=	是否为分所,如果是分所则为1,否则为0。

出于篇幅考虑,未列示模型控制变量的回归结果。控制变量的界定参见表4和表5。

(四) 稳健性测试

1. 可操控应计额的不同度量方式。Kothari *et al.* (2005) 指出企业的业绩会影响到可操控应计额的估计,在计算可操控应计额时需控制业绩的影响。为此,我们在式(5)中纳入了公司业绩变量 *ROA* 后再估计可操控应计额。未列示的结果显示,我们的主要结论没有明显变化。

2. 区分总所和分所分别考察客户重要性的影响。目前表 5 采用了交乘设计考察总 所和分所的潜在差异。这种设计强制要求除实验变量以外的其他变量在总所样本和分 所样本中是一致的。为了放宽该限制,我们区分总所客户和分所客户进行分组回归。 表 7 显示,客户重要性的不同度量基数对于总所层面的结果解读具有明显的影响,而 对分所层面的结果解读影响不明显。换言之,如果采用较完整的收入基数,我们会发 现在总所层面,上市客户越重要,总所允许客户管理层在应计利润上的余地越小。而 在分所层面,上市客户的重要性水平对分所允许的管理层盈余报告空间并无显著影响。 针对表 7 第(2)和第(4)栏客户重要性变量(*Cl⁰TotalA*)做进一步的组间系数差异检 验,结果显示系数在 10%水平上存在显著差异(Chi2 = 3.46, p 值= 0.063)。上述分组 检验的结果意味着总所对重要客户表现出更加谨慎的态度,即事务所的声誉假说或诉 讼风险假说在总所层面更加适用,而在分所范围内则并不明显。该结果与我们采用交 乘设计得到的结果是一致的。

	(1) 总所	(2) 总所	(3) 分所	(4) 分所
因变量: ABSDA	Coef	Coef	Coef	Coef
	(t-stat.)	(t-stat.)	(t-stat.)	(t-stat.)
CI ^O _{Listed}	-0.067		-0.090	
	(-1.447)		(-1.342)	
CI ^O _{TotalA}		-1.266***		-0.196
		(-3.283)		(-0.454)
BIG4	-0.016**	-0.019***	-0.003	-0.005
	(-2.569)	(-2.930)	(-0.336)	(-0.545)
LEV	0.054***	0.055***	0.018	0.017
	(4.445)	(4.519)	(1.501)	(1.424)
OCF	-0.054	-0.054	-0.185***	-0.184***
	(-1.143)	(-1.144)	(-3.452)	(-3.423)
GROWTH	0.025*	0.025*	0.012	0.012
	(1.860)	(1.861)	(0.893)	(0.950)
SIZE	-0.003	-0.002	-0.000	-0.001
	(-0.897)	(-0.627)	(-0.044)	(-0.191)
Constant	0.145**	0.132**	0.097	0.107
	(2.430)	(2.171)	(1.300)	(1.447)
YEAR	控制	控制	控制	控制
INDUSTRY	控制	控制	控制	控制
Observations	2,130	2,130	1,426	1,426
Adjusted R ²	0.107	0.109	0.088	0.087

表7 客户重要性与可操控应计额: 区分总所和分所的分组回归结果

***、**和*分别表示 0.01、0.05 和 0.10 的显著性水平(双尾)。

栏(1)和栏(2)的分析基于总所审计的观测;栏(3)和栏(4)的分析基于分 所审计的观测。

变量界定:

ABSDA	=	可操控应计额(根据公式(5)计算而得)取绝对值;
CI^{O}_{Listed}	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有上
		市客户的鉴证业务收入;
CI ^O _{TotalA}	=	某审计客户当年的审计费用 / 该客户所聘事务所分部当年来自所有客
		户的鉴证业务收入;
BIG4	=	如果是四大所则为 1; 否则为 0;
OCF	=	经营活动现金净额 / 年末总资产;
LEV	=	负债总额 / 年末总资产;
GROWTH	=	营业收入增长率;
SIZE	=	年末总市值取自然对数;
YEAR	=	样本年度为 2011 至 2012 年,设置 1 个年度哑变量;
INDUSTRY	=	根据证监会行业分类标准,制造业细分至二级代码,其余为一级代码。

3. 对非鉴证服务的考虑。尽管在我们的样本中,事务所来自所有客户的鉴证收入 与来自所有客户的所有收入的相关系数高达 0.988,我们仍在稳健性测试中采用了中国 注册会计师协会数据库中各家事务所(及各个分部)来自所有客户的所有服务收入作 为基数,进行前述的所有测试,均不改变本文的基本发现。这也说明在我国目前阶段, 本文讨论的客户重要性度量偏差的影响主要来自客户范围的局限(未计算非上市客户 的服务收费),而非业务范围的局限(未计算非鉴证业务的服务收费)。

4. 对分所的确定。如前所述,在确定某上市客户的审计业务归属于总所审计还是 分所审计时,当任何一名签字注册会计师来源于分所时,我们将其定义为分所审计。 在稳健性测试中,我们进一步剔除了两名签字注册会计师分别来源于总所和分所的所 有观测(王兵、辛清泉,2010),主要结论没有明显变化。

5. 对于总所的收入计算。在计算分所客户重要性时,我们将总所也视为一个分部, 其各项收入指标均扣除了其下属分所的收入。我们还考虑了将总所收入不扣除其下属 分所收入为计算基数,主要回归结果没有明显变化。

6. 对于没有分所的事务所的考虑。虽然前文分析中涉及总所和分所的关系,但存 在没有分所的事务所。在稳健性测试中,我们将没有分所的事务所观测剔除出样本, 主要结论也没有明显改变。

五、结论与讨论

以往考察审计客户重要性与审计质量关系的文献经常将客户重要性的度量基数局限于所有上市客户(而非所有客户)的服务收费或规模总和。利用中国注册会计师行 业组织的独特数据,本文展示了这种度量偏差的可能影响,即在我们的检验情境中确 实会影响对客户重要性的经济后果的可靠评价。本文的发现意味着研究者有必要尽可 能获取完整的事务所客户收入基数(而不仅限于上市客户);本文也意味着审计市场监 管机构可以考虑对外披露每家会计师事务所的上市业务收入结构,因为该信息对包括 研究者在内的公众准确理解客户重要性的经济后果具有价值。如果客户重要性仅基于 上市客户度量,读者应对此时得到的研究结果保持谨慎。

除了在方法论层面上的贡献,本文还拓展了有关客户重要性经济后果的文献。我 们发现,在事务所整体层面,当采用更完整的事务所客户基数度量客户重要性时,审 计客户越重要,该客户的应计盈余管理受到的约束就越大,这意味着在我国审计市场 中,审计师对于重要客户的谨慎假说(Reynolds and Francis, 2000)也具有适用性。在 事务所分部层面,我们的证据显示总所与分所的客户在财务报告质量上存在着明显的 差异,这意味着在事务所分部层面的研究仍然是有意义的,但研究者需要慎重度量客 户重要性的变量,同时不区分总所和分所可能也会导致研究者无法观察到不同分部之 间的审计质量差异;此外,我们的证据也支持我国审计市场的监管部门对会计师事务 所内部治理(特别是对分所的一体化管理和治理)的关注与监管。⁹

⁹比如,财政部于2010年1月15日发布了《会计师事务所分所管理暂行办法》,从人员、财务、 业务、技术标准和信息管理等方面对会计师事务所分所管理作出了系统规定。

首先需要说明的是,尽管当采用较完整的基数度量客户重要性时,本文的证据显示,事务所总所的审计质量更不容易受到客户重要性的负面影响,而分所的审计质量则更可能受到客户重要性的负面影响,但该结论源于特定的样本期间(即 2011 至 2012 年)。本文无意强调该结论在其他样本期间或样本范围的普遍适用性。我们的主要目的在于说明,当给定样本期间并控制其他条件不变时,不同的客户重要性度量方式可能伴随着明显不同的研究结果与结论。

第二,本文虽然以审计客户重要性与可操控应计额的关系作为度量偏差的检验情 境,但这并不意味着我们认同可操控应计额是审计质量的良好替代变量。同时,我们 也无意检验本文提出的度量偏差是否影响客户重要性与所有审计质量替代指标的关 系。我们仅仅通过以往文献普遍使用的一项替代变量为例,来展示本文提出的客户重 要性度量偏差可能产生的影响。

第三,我们无意严格复制与本文检验情境相同的以往文献;更主要地,由于我们 只能通过中国注册会计师行业组织取得近两年的有关数据,我们无法考察或评价本文 提出的客户重要性度量偏差对以往文献的可能影响。本文的证据更多地是提醒未来的 研究者在度量客户重要性时宜尽可能获取事务所到来自所有客户的鉴证收入或总收 入,而一旦无法获取相关数据时,研究者和研究成果的使用者应当对得出的结果与结 论保持高度的慎重态度。

最后,近年来也开始有文献尝试从签字注册会计师个人层面度量客户重要性(如 Chen *et al.*, 2010)。受到数据限制,我们尚未取得每名审计师个人来自所有客户的收入 信息;未来的研究可以进一步考察本文提出的客户重要性度量偏差在审计师个体层面 上的可能表现及其影响。

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参考文献

- 曹强、胡南薇、王良成,2012, "客户重要性、风险性质与审计质量-基于财务重述 视角的经验证据",《审计研究》第6期,60-70。
- 刘启亮、陈汉文、姚易伟,2006,"客户重要性与审计质量",《中国会计与财务研究》 第4期,47-94。
- 王兵、辛清泉,2010, "分所审计是否影响审计质量和审计收费?",《审计研究》第 2期,70-76。
- 汪宁、廖建波、刘尔奎、曾晓红、杨涛,2007, "会计师事务所总分所管理相关问题 研究",《中国注册会计师》第8期,50-53。
- Chan, K. H. and Wu, D. (2011), 'Aggregate Quasi Rents and Auditor Independence:

Evidence from Audit Firm Mergers in China', *Contemporary Accounting Research* 28 (1): 175-213.

- Chen, S., Sun, S. Y. J., and Wu, D. (2010), 'Client Importance, Institutional Improvements, and Audit Quality in China: An Office and Individual Auditor Level Analysis', *The Accounting Review* 85 (1): 127-158.
- Chung, H. and Kallapur, S. (2003), 'Client importance, non-audit fees, and abnormal accruals', *The Accounting Review* 78 (4): 931-966.
- Craswell, A., Stokes, D. J., and Laughton, J. (2002), 'Auditor independence and fee dependence', *Journal of Accounting and Economics* 33 (2): 253-275.
- DeAngelo, L. (1981), 'Auditor size and audit quality', *Journal of Accounting and Economics* 3 (3): 183-199.
- Dechow, P., Ge, W., and Schrand, C. (2010), 'Understanding earnings quality: A review of the proxies, their determinants and their consequences', *Journal of Accounting and Economics* 50 (2-3): 344-401.
- Dechow, P. M., Sloan, R. G., and Sweeney, A. P. (1995), 'Detecting Earnings Management', *The Accounting Review* 70 (2): 193-225.
- Francis, J. R. and Yu, M. D. (2009), 'Big 4 Office Size and Audit Quality', *The Accounting Review* 84 (5): 1521-1552.
- Gaver, J. and Paterson, J. (2007), 'The Influence of Large Clients on Office-Level Auditor Oversight: Evidence from the Property-Casualty Insurance Industry', *Journal of Accounting and Economics* 43 (2-3): 299-320.
- Kothari, S. P., Leone, A. J., and Wasley, C. E. (2005), 'Performance matched discretionary accrual measures', *Journal of Accounting and Economics* 39 (1): 163-197.
- Li, C. (2009), 'Does Client Importance Affect Auditor Independence at the Office Level? Empirical Evidence from Going-concern Opinions', *Contemporary Accounting Research* 26 (1): 201-230.
- Mautz, R. and Sharaf, H. (1961), The Philosophy of Auditing, Sarasota, FL: AAA.
- Myers, J. N., Myers, L. A., and Omer, T. C. (2003), 'Exploring the Term of the Auditor-Client Relationship and the Quality of Earnings: A Case for Mandatory Auditor Rotation?', *The Accounting Review* 78 (3): 779-799.
- Reynolds, J. K. and Francis, J. R. (2000), 'Does Size Matter? The Influence of Large Clients on Office-Level Auditor Reporting Decisions', *Journal of Accounting and Economics* 30 (3): 375-400.

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Client Importance: A Measurement Bias and Its Impact *

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Abstract

The impact of client importance on audit quality has long been attracting academic and regulatory attention. When measuring client importance, however, researchers usually use the economic benefits from all listed clients (rather than all clients) as a proxy for the revenue base of client importance. Taking advantage of a unique set of data from the Chinese Institute of Certified Public Accountants (CICPA), this study examines the potential impact of such measurement bias on empirical findings. Using the association between client importance and accrual-based earnings management as the test scenario, our evidence shows that when evaluating the economic consequences of client importance, the use of a complete client base in measuring client importance leads to a discernibly different interpretation to that produced using an incomplete client base. Moreover, the measurement bias also has a discernible impact on the interpretation of empirical results at the audit firm office level.

Keywords: Audit Firms, Client Importance, Audit Quality, Measurement Bias *CLC Code*: F239

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I. Introduction

The impact of client importance on audit quality is an important issue in auditing research and has attracted enormous attention from researchers (e.g. Reynolds and Francis, 2000; Craswell *et al.*, 2002; Chung and Kallapur, 2003; Gaver and Paterson, 2007; Li, 2009; Chen *et al.*, 2010). This topic also has important policy implications for regulators.⁴ Theoretically, on the one hand, audit firms maintain operations depending on the service fees paid by clients. The higher the economic benefits, the higher the economic dependence on the clients. Therefore, auditors may compromise their independence because of the fear of losing important clients (Mautz and Sharaf, 1961; DeAngelo, 1981). On the other hand, important clients are often associated with higher regulatory or litigation risks. Auditors may be more cautious and rigorous in order to maintain their own reputation (Reynolds and Francis, 2000). As the impact of client importance is exactly opposite under the two theories, the question of how client importance affects audit quality in reality becomes an empirical issue.

There is no consistent conclusion in the international literature on the association between client importance and audit quality. Some studies fail to find a significant association (Craswell *et al.*, 2002; Chung and Kallapur, 2003), while others find a positive association (Reynolds and Francis, 2000; Gaver and Paterson, 2007; Li, 2009). There is even evidence of a negative association (Chen *et al.*, 2010).⁵ Although there are many differences in research design in different studies (thus likely leading to a lack of comparability among them),⁶ this study only focuses on one critical design, namely, the measurement of client importance.

DeAngelo (1981) proposes that the ratio of the revenue gained from a client to the total revenue of the accounting firm is a good proxy for client importance. However, when measuring client importance, researchers are usually challenged in terms of fully measuring the total revenue base because of the unavailability of data. Therefore, the economic benefits of all listed clients are usually taken as the proxy for the base of client importance. Nevertheless, when taking the economic benefits of all listed clients (rather than all clients) as the revenue base of client importance, researchers are likely to ignore the structural

⁴ For example, after the Enron scandal, regulators in many countries required that listed companies disclose whether they attach economic importance to their auditors. Per Article 156 of the *Code of Ethics for Chinese CPAs No. 4 - Independence Requirements in Audit and Review Engagements*, if the proportion of total revenue from a public-entity audit client and its related entities to total revenue from all the clients of an audit firm exceeds 15 per cent for two consecutive years, the audit firm should disclose this fact to the client's managers who are responsible for governance and discuss alternative preventive measures to reduce the adverse impact to an acceptable level.

⁵ The conclusions with regard to this topic in the Chinese-language literature are inconsistent. For example, Liu *et al.* (2006) find a positive association between client importance and their audit quality proxy, whereas Cao *et al.* (2010) document a negative association.

⁶ For example, there are differences in the jurisdictions where the data originated, the proxies for audit quality, and the sample periods.

difference in revenue source (listed clients vs. non-listed clients) among different accounting firms. Our study shows that the usually ignored variable of revenue source structure exhibits two characteristics. First, this variable is significantly and negatively correlated with client importance based on revenues from listed clients. Second, this variable is significantly and positively correlated with audit/financial reporting quality. Consequently, ignoring the variable of revenue source structure in an empirical test will work towards detecting a negative association between client importance and audit/financial reporting quality and against finding a positive relationship between the two variables. Such a bias is not only manifested at the firm level but also at the office level. In recent years, an increasing body of literature has refined empirical analysis at the office level (Reynolds and Francis, 2000; Gaver and Paterson, 2007; Li, 2009; Chen *et al.*, 2010). These refinements have been introduced because compared with the general revenue of a firm, the business revenue of each office is much more difficult to observe comprehensively.

Our study examines the potential impact of the bias of the audit firm revenue base used in measuring client importance on empirical findings at both the audit firm level and the office level. We are able to do so because the Chinese Institute of Certified Public Accountants (CICPA) provides us with access to a set of data which includes authoritative and reliable information about the total revenues of each audit firm (at both the firm level and the office level).

In recent years, discretionary accruals have been taken as a popular proxy for earnings quality or audit quality in the literature (Dechow *et al.*, 2010). They are also used in the literature investigating the relationship between client importance and audit quality (Reynolds and Francis, 2000; Chung and Kallapur, 2003; Liu *et al.*, 2006). Accordingly, we use the association between client importance and discretionary accruals as our test scenario to detect whether the empirical results would be affected by the bias in measuring the revenue base of client importance.

We first conduct our analysis at the audit firm level. When measuring client importance in a conventional manner as in the prior literature (i.e. using the assurance service revenues from all the listed clients of a given audit firm as the revenue base), we find no significant relationship between client importance and discretionary accruals. However, when measuring client importance using a more complete revenue base (i.e. the assurance service revenues from all the clients), we find a significant and negative association between client importance and discretionary accruals, suggesting that the more important an audit client, the lower the magnitude of the accrual-based earnings management. The above findings suggest that at the audit firm level, the completeness of the revenue base used in measuring client importance has a material impact on evaluating the economic consequences of client importance.

The recent literature has also examined the office-level difference in audit quality

between the headquarters and branches of audit firms (Wang and Xin, 2010). We follow this line of research by distinguishing each office of an audit firm as either the headquarters or a branch and assess if there would be any difference in the empirical results when different revenue bases are used in measuring client importance. When measuring client importance at the office level in a traditional manner (i.e. using the assurance service revenues from all the listed clients of a given office as the revenue base), we find no significant association between client importance and discretionary accruals regardless of whether the office is the headquarters or a branch. However, when measuring client importance at the office level using a more complete revenue base (i.e. the assurance service revenues from all the clients of a given office), we find a significant and negative association between client importance and discretionary accruals when the office is the headquarters, suggesting the higher audit quality of headquarters. Moreover, such a negative association between client importance and discretionary accruals is significantly weakened for branches, suggesting that audit quality in branches is significantly lower than that in headquarters. The above evidence indicates that at the office level, whether the revenue base of an audit firm's office is measured completely has a material impact on evaluating the economic consequences of client importance.

Overall, we conclude that the measurement bias of the revenue base used to compute client importance likely affects the empirical evaluation of the economic consequences of client importance. Therefore, researchers are advised to try their best to obtain the complete revenue data of an accounting firm (or its offices, if relevant) when measuring client importance. As for regulators and members of the public who are interested in the results of empirical studies on client importance, they should pay attention to the method used to measure the revenue base of client importance and exercise caution when considering results obtained using an incomplete revenue base.

The rest of the paper is organised as follows: Section II introduces the methods of measuring client importance used in the prior literature and a likely measurement bias; section III discusses our research design to test the potential impact of the measurement bias; section IV provides an empirical demonstration of the impact of the measurement bias; and section V concludes the paper.

II. Bias in the Measurement of Client Importance

2.1 Methods of Measuring Client Importance in the Prior Literature

Theoretically, the most direct measure of client importance is the ratio of the present value of the quasi-rents gained from a certain client to those gained from all clients. However, since quasi-rents cannot be observed, DeAngelo (1981) proposes that the ratio of

the revenue gained from one client to the total revenue of the accounting firm could be taken as a proxy for client importance. Accordingly, the widely used method for measuring the importance of an audit client can be shown as follows:

$$CI_{Total} = CLIENT / REV_T \tag{1}$$

In equation (1), *CLIENT* denotes the revenue gained from a certain audit client in a year and REV_T denotes the revenue gained from all the clients of the accounting firm hired by that client in the corresponding year.

The numerator *CLIENT* in equation (1) is usually measured by the audit fee, non-audit service fee, or total service fee paid by an audit client (Craswell *et al.*, 2002; Chung and Kallapur, 2003; Li, 2009). Given the significantly positive correlation between the audit fee and the audit client's sales or total assets, researchers also use the sales (Reynolds and Francis, 2000) or total assets (Chen *et al.*, 2010) of an audit client as the numerator.

As regards the denominator REV_T in equation (1), only a few studies use the ideal method proposed by DeAngelo (1981): for example, Chung and Kallapur (2003) take the survey data of the annual revenue of the top 100 accounting firms published in a professional accounting journal as the base for measuring client importance. However, most prior studies use alternative revenue bases such as the total fees paid by all listed clients (Craswell *et al.*, 2002), the total sales from all listed clients (Reynolds and Francis, 2000), or the total assets of all listed clients (Chen *et al.*, 2010). One reason for using these alternatives is that at the time some early studies (e.g. Reynolds and Francis, 2000) were conducted, auditor service fees were not publicly disclosed (Gaver and Paterson, 2007). Another reason is that it was difficult for researchers to observe the data on the total fees paid by all clients of an accounting firm: for example, Craswell *et al.* (2002) point out that in their sample source country (Australia), the revenue from the non-listed clients of an accounting firm were not disclosed.

When researchers attempt to obtain information on total service fees at the office level, the data availability issue is more acute and the scope of the measurement is further challenged. For example, when Li (2009) calculates the denominator of the client importance variable at the office level, she only includes listed companies in a given database in the calculation. Moreover, her screening procedure requires that the office information, along with the service fee information, of an accounting firm be simultaneously available, which suggests that observations without disclosed office information are excluded and the noise of the office-level client importance variable increases. Some other researchers have adopted deductive methods: for example, when Gaver and Paterson (2007) examine the relationship between client importance and audit quality in the insurance industry, they use the product of the number of partners in each office and the annual

revenue per capita of partners as the revenue base to calculate the total service fees of each office, in addition to following the method for measuring client importance found in Reynolds and Francis (2000). As Gaver and Paterson (2007) acknowledge that noise might be introduced with the deduction, they only use the client importance variable measured by this method as an auxiliary (or robustness) measure in their study.

The extant Chinese literature (Liu *et al.*, 2006; Cao *et al.*, 2012) mainly measures client importance at the audit firm level, mostly using the indirect substitution method (i.e. the ratio of client assets to total assets of all the listed clients).

2.2 Potential Problem with the Substitution Method and Data Demonstration

Suppose that the service fee paid by all the listed clients of an accounting firm is REV_L : then, the ideal method (i.e. equation (1)) for measuring client importance can be expressed as

$$CI_{Total} = (CLIENT / REV_L) * (REV_L / REV_T)$$
⁽²⁾

As discussed previously, the substitution method widely used in the prior literature restricts the base for measuring client importance to the service fee paid by the listed clients, which is

$$CI_{Listed} = CLIENT / REV_L \tag{3}$$

By comparing equation (2) with equation (3), it can be found that the substitution method ignores the differences in the structure of revenue source CS_T (= REV_L / REV_T) among various accounting firms, thus likely introducing a bias into the measurement of client importance.

To examine the differences between the two measuring methods, we obtain the revenue data of accounting firms with a securities licence filed with the CICPA for the years 2011 and 2012, both at the audit firm level and the office level. With this data, client importance at both the audit firm level and the office level can be measured in a relatively reliable manner. To differentiate client importance at different levels, we use CI^F and CI^O to represent client importance at the audit firm level and at the office level, respectively.

Chinese accounting firms earn very limited fees from non-assurance services (Chen *et al.*, 2010). Also, the commercial databases mainly provide information about the fees paid by a client for audit and other assurance services. Therefore, we use the assurance service revenues from all the clients of each audit firm (or each office), as provided by the CICPA's database, as the revenue base when measuring client importance in order to maintain the consistency of the statistical calibre of the numerator and denominator. The only difference between this measure and the base of assurance service revenue from all the listed clients is

the range of clients. Suppose that the assurance service fee from all the clients of an accounting firm is REV_A : then, our measurement of client importance can be expressed as

$$CI_{TotalA} = CLIENT / REV_A \tag{4}$$

As indicated by comparing equation (4) with equation (3), the prior literature ignores the differences in the structure of revenue source CS_A (= REV_L / REV_A) among various accounting firms.⁷ Panel A of Table 1 presents the descriptive statistics of the variables of client importance using various measuring methods at the audit firm level; these variables are CI^F_{Listed} , CI^F_{TotalA} , and CS^F_A . Moreover, Panel B of Table 1 presents the descriptive statistics of the variables of client importance using various measuring methods at the office level; these variables are CI^O_{Listed} , CI^O_{TotalA} , and CS^O_A .

Panel A of Table 1 shows that at the audit firm level, the audit fee from a listed client as a proportion of the assurance service revenue from all the listed clients of a firm (CI^{F}_{Listed}) is, on average, 0.017, whereas the audit fee from a listed client as a proportion of the assurance service revenue from all the clients of a firm (CI^{F}_{TotalA}) is, on average, 0.002. The large difference between them is due to the fact that the average CS^{F}_{A} (proportion of the assurance revenue from all listed clients to that from all clients) is only 21.2 per cent. At the audit firm level, there are distinct differences in the structure of revenue sources among audit firms, ranging from 0.6 per cent to 43.2 per cent. Similarly, Panel B of Table 1 shows that at the office level, the audit fee from a listed client as a proportion of the assurance revenue from all the listed clients of an office (CI^{O}_{Listed}) is, on average, 0.018, and to the audit fee from a listed client as a proportion of assurance revenue from the listed clients of an office to that from all the clients (CS^{O}_{A}) is 21.5 per cent, ranging from 0.6 per cent.

	Mean	SD	Min	Median	Max
Panel A: Firm Lev	vel (N=3556)				
CI^{F}_{Listed}	0.017	0.030	0.001	0.007	0.202
CI^{F}_{TotalA}	0.002	0.003	0.000	0.001	0.017
$CS^{F_{A}}$	0.212	0.115	0.006	0.187	0.432
Panel B: Office Lo	evel (N=3556)				
CI ^O _{Listed}	0.018	0.035	0.001	0.007	0.236
CI ^O _{TotalA}	0.003	0.004	0.000	0.001	0.032
CS^{O}_{A}	0.215	0.118	0.006	0.187	0.764

Table 1 Descriptive Statistics of Client Importance under Various MeasurementMethods

⁷ In our sample, the assurance service revenue from all the clients of an audit firm (REV_A) is highly correlated with the total revenue from all services of all the clients of the firm (REV_T) as the correlation coefficient is 0.99.

Definitions of variables:

F

CI^{r}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the listed clients of the audit firm
CI^{F}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the clients of the audit firm
CS^{F}_{A}	=	the proportion of the assurance revenue from the listed clients of an audit firm
		to that from all the clients
CI^{O}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the listed clients of the audit office
CI ^O TotalA	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the clients of the audit office
CS^{O}_{A}	=	the proportion of the assurance revenue from the listed clients of an audit
		office to that from all the clients

Table 2 presents the correlation coefficient matrix of the variables of client importance using various measuring methods both at the audit firm level and the office level. It shows that the indicators of client importance under the two measuring methods are significantly and positively correlated at either the audit firm level or the office level. The correlation coefficient between CI^{F}_{Listed} and CI^{F}_{TotalA} is 0.70 and that between CI^{O}_{Listed} and CI^{O}_{TotalA} is 0.72. More importantly, it shows that the proxy variables usually used in prior studies are significantly and negatively correlated with the variable of revenue structure either at the audit firm level or at the office level. The correlation coefficient between CI^{F}_{Listed} and CS^{F}_{A} is -0.36 and that between CI^{O}_{Listed} and CS^{O}_{A} is -0.27. This means that the proxy variable used in the prior literature could reflect client importance to some extent; however, for the accounting firm (or the office) to which those seemingly important clients belong, the general importance of the business revenue from the listed clients is relatively lower.

We now move on to discuss the impact of ignoring the structure of the client revenues of an audit firm (CS_A) in an empirical test. According to DeAngelo (1981), the more revenue an audit firm obtains from a certain type of clients, the larger the quasi-rents at stake will be, and thus the audit firm has more incentives to behave more cautiously, for example, by investing more technological resources into developing expertise and maintaining a higher degree of professional diligence. Therefore, the audit firm that obtains more revenue from listed clients is likely to exhibit higher independence and audit quality. To sum up, the higher the variable CI_{Listed} , the lower the variable CS_A ; however, the lower the CS_A , the worse the quality of audit/financial reporting. Therefore, in the empirical test, ignoring the variable CS_A may work against finding a positive association between CI_{Listed} and audit/financial reporting quality. In other words, using the proxy variable CI_{Listed} alone, as in the prior literature, for the empirical test cannot fully reflect the economic importance of an audit client to the audit firm, thus likely leading to biased results.

On the contrary, Table 2 shows that if a more complete client base is used to measure client importance, the refined variable of client importance at the audit firm level is no longer significantly correlated with the variable of revenue structure, as the correlation coefficient between CI^{F}_{TotalA} and CS^{F}_{A} is only 0.02 (which is not statistically different from zero). Moreover, at the office level, the refined variable of client importance CI^{O}_{TotalA} is significantly and positively correlated with the variable of the revenue structure CS^{O}_{A} (the correlation coefficient is 0.12). This means that the more important a listed client at the office level, the more important the business revenue from listed clients is for the office; thus, as in the case of CI^{O}_{Listed} no negative impact is caused.

In conclusion, Table 2 demonstrates the reason why researchers are more (less) likely to experience interference from the structure of the business revenue related to listed companies when measuring client importance by using the base of listed clients (a more complete client base).

	CI^{F}_{Listed}	CI^{F}_{TotalA}	CS^{F}_{A}	CI^{O}_{Listed}	CI^{O}_{TotalA}	CS^{O}_{A}
CI^{F}_{Listed}	1.00					
CI^{F}_{TotalA}	0.70***	1.00				
CS^{F}_{A}	-0.36***	0.02	1.00			
CI^{O}_{Listed}	0.93***	0.66***	-0.34***	1.00		
CI ^O _{TotalA}	0.60***	0.80***	-0.03*	0.72***	1.00	
CS^{O}_{A}	-0.31***	0.06***	0.96***	-0.27***	0.12***	1.00

Table 2CorrelationCoefficientMatrix ofClientImportanceunderVariousMeasuring Methods (N = 3556)

*** and * represent 0.01 and 0.10 significance levels, respectively (two-tailed).

Definitions of variables:

CI ^F Listed	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the listed clients of the audit firm
CI^{F}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the clients of the audit firm
CS^{F}_{A}	=	the proportion of the assurance revenue from the listed clients of an audit firm
		to that from all the clients
CI^{O}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the listed clients of the audit office
CI ^O _{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue from
		all the clients of the audit office
CS^{O}_{A}	=	the proportion of the assurance revenue from the listed clients of an audit
		office to that from all the clients

III. Research Design

3.1 Test Scenario

When testing the impact of client importance on audit quality, prior studies have often used discretionary accruals (Reynolds and Francis, 2000; Chung and Kallapur, 2003; Liu *et al.*, 2006) and audit opinions (Reynolds and Francis, 2000; Craswell *et al.*, 2002; Li, 2009; Chen *et al.*, 2010; Cao *et al.*, 2012) as dependent variables. Since we only have access to accounting firms' annual revenue data for the years 2011 and 2012, we also limit our analysis to using the data of listed companies for the same years. In China's audit market, non-standard audit opinions have mostly been related to the going concern issue of audit clients. The research design used in regard to going-concern audit opinions commonly restricts the sample to firms facing financial distress (Reynolds and Francis, 2000), which sharply reduces the sample size. To maintain as large a sample size as possible, we only use discretionary accruals, which are widely used in the prior literature, as a test scenario to examine the effect of potential measurement bias on client importance proposed in our study.

3.2 Test Model at the Audit Firm Level

First, following the model proposed by Dechow *et al.* (1995), discretionary accruals ε_{it} are obtained by running a regression on the sectional data by year and industry. Then, its absolute value is taken as the dependent variable *ABSDA*. The equation for calculating discretionary accruals is as follows:

$$TA_{il} = \delta_0 + \delta_l (\Delta SALES_{il} - \Delta AR_{il}) + \delta_2 PPE_{il} + \varepsilon_{il}$$
(5)

Total accruals (TA_{it}) are the net profit for current year minus the net cash flow from operating activities, and then scaled by total assets at prior year end. The change in sales ($\Delta SALES_{it}$) is sales for current year minus those for prior year. The change in receivables (ΔAR_{it}) is the net receivables at current year end minus those at prior year end. PPE_{it} is the net value of fixed assets at current year end.

At the audit firm level, the OLS model below is used to test the impact on discretionary accruals caused by client importance:

$$ABSDA = \delta_0 + \delta_1 CI^F + \delta_2 BIG4 + \delta_3 LEV + \delta_4 OCF + \delta_5 GROWTH + \delta_6 SIZE + \varepsilon$$
(6)

The experimental variable in model (6) is CI^{F} . If the effect that an important client compromises the independence of an accounting firm dominates, the coefficient of $CI^{F}(\delta_{I})$ is expected to be significantly positive. If the effect that an important client encourages an accounting firm to strengthen its risk monitoring level dominates, δ_{I} is expected to be

significantly negative. Finally, if the former effect is similar to the latter, δ_I is expected to be statistically not different from zero. We use CI^F_{Listed} and CI^F_{TotalA} respectively for the regression. If the measurement bias in client importance does make a difference, we expect the regression result for these two variables to be observably different in terms of the sign of the coefficients or the significance level. Furthermore, as the main difference between CI^F_{Listed} and CI^F_{TotalA} is the variable of the revenue structure (CS^F_A) , we also decompose CI^F_{TotalA} into CI^F_{Listed} and CS^F_A , both of which are introduced in model (6). We do so to test the implicit assumption, as discussed previously, that CS^F_A is expected to be positively correlated with audit/financial reporting quality and, in our test scenario, negatively correlated with ABSDA.⁸

To enhance the comparability between the results of our study and the prior literature, we follow Reynolds and Francis (2000) and Liu *et al.* (2006) by including the following control variables in model (6): cash flow (OCF = net cash flow from operating activities divided by total assets), growth rate of sales (GROWTH = (sales for current year – sales for prior year) / sales for prior year), financial leverage (LEV = total liabilities divided by total assets), and size of the client (SIZE = natural logarithm of market value). Finally, we control for industry and year fixed effects.

3.3 Test Model at the Office Level

Reynolds and Francis (2000) point out that analysing audit quality and its determinants at the office level is warranted since the audit work of each engagement is apparently affected by the particular office that conducts the engagement. Recent studies have begun to explore the differences in audit quality among different offices (Francis and Yu, 2009) and, in particular, the difference in audit quality between headquarters and branches in China (Wang *et al.*, 2007; Wang and Xin, 2010). Driven by government policy and market forces, waves of accounting firm mergers have been witnessed in China in recent years. Many audit firms have expanded their scale rapidly by establishing or acquiring branches. In the process of this rapid expansion of scale, the following factors may cause concerns about the impaired audit quality of branches. Firstly, many branches that accounting firms acquire are not licensed to conduct audits for listed companies (Chan and Wu, 2011). However, once these branches join an accounting firm that has such a licence, they may begin to conduct audits for listed companies even though their human resources and technical ability are apparently weaker than those of the headquarters. Moreover, the headquarters of audit firms do not usually impose sufficient audit quality control on their branches.

Secondly, under the circumstances where new branches are established, audit firms

⁸ We appreciate the suggestion for this test from the editor. In addition, similar results are obtained by performing the logarithmic transformation on CI^{F}_{TotalA} or bringing $Ln(CI^{F}_{Listed})$ and $Ln(CS^{F}_{A})$ into model (6) simultaneously.

usually adopt a localised human resources policy for their new branches, under which the new branches may recruit personnel who lack experience of auditing listed companies. Thirdly, in many accounting firm merger cases, even though the acquired branches are licensed to conduct audits for listed companies, the size of these branches is quite small. Hence, for these branches, the aim of a merger is to sustain their existence. However, a feature of the merger process may be insufficient integration, and there may be no input of technical resources and quality control from the acquiring firm into the acquired firm. All the above reasons may lead to a difference in audit quality between the headquarters and the branches.

To assess whether the measurement bias in client importance suggested in our study affects the identification of a potential difference in audit quality among different offices, we use the following model:

$$ABSDA = \delta_0 + \delta_1 CI^O + \delta_2 CI^O * BRANCH + \delta_3 BRANCH + \delta_4 BIG4 + \delta_5 LEV + \delta_6 OCF + \delta_7 GROWTH + \delta_8 SIZE + \varepsilon$$
(7)

In model (7), CI^{O} denotes the importance of an audit client at the office level. The office can be the headquarters or a branch of an audit firm. We set a dummy variable *BRANCH*, which is coded 1 if an audit is conducted by a branch and 0 if an audit is conducted by the headquarters. We are interested in the coefficient δ_2 on the interaction term between CI^{O} and *BRANCH*. If there is no significant difference in audit quality between headquarters and the branch, we expect δ_2 to be not statistically different from zero; however, if there is significant difference, we expect δ_2 to be significantly positive. We perform the regression by using CI^{O}_{Listed} and CI^{O}_{TotalA} respectively. If the measurement bias in client importance has a significant impact at the office level, we expect the regression result for these two variables to be observably different in terms of the sign of the coefficients or the significance level. The set of control variables in model (7) is the same as that in model (6).

3.4 Sample and Data

As mentioned above, the base for measuring client importance is derived from the reported revenue data about accounting firms and their branches for the years 2011 and 2012 filed with the CICPA. The data are submitted and declared by accounting firms according to the standard format required by the CICPA. The submitted information is double-checked by the provincial institution and then randomly checked by the CICPA. If the information submitted by a firm is found to be untrue, the firm will be required to correct the information within a certain period. If the firm is found to have submitted untrue information on purpose or if it refuses to make corrections within the required time period,

the CICPA will make a deduction in the firm's score in the national rankings of accounting firms. In serious cases, the firm's qualification due to be included in the national accounting firms' rankings for the current year and the following year will be cancelled and the firm will be criticised publicly. In particular, for accounting firms with a licence to audit listed companies, the reported data will be double-checked by special teams organised by the CICPA. Therefore, we expect the revenue data of the sample audit firms and their branches used in this study to be reasonably reliable. We obtain the audit fee data and the financial data of each listed company in the A-share market for the years 2011 and 2012 from the CSMAR database.

To measure client importance at the office level, it is necessary to identify which office of the accounting firm (either the headquarters or a certain branch) specifically conducts the audit of a listed client. We use the Taiwan Economic Journal (TEJ) database, which provides information about the office a certified public accountant (CPA) works with (that is, either the headquarters or the branch). Therefore, we are able to match CPAs who sign off an audit report to an office. We identify the following four conditions: (i) the two signing CPAs come from the headquarters; (ii) the two signing CPAs come from the same branch; (iii) one signing CPA comes from the headquarters and the other from a branch; and (iv) the two signing CPAs come from two different branches. If any signing CPA comes from a branch, the audit is defined as being done by the branch (that is, the dummy variable *BRANCH* will be coded 1). Meanwhile, we exclude observations of type (iv) from the sample.

	Ν	Mean	SD	Min	Median	Max	
ABSDA	3556	0.074	0.089	0.001	0.048	0.622	
BIG4	3556	0.061	0.239	0	0	1	
LEV	3556	0.456	0.233	0.038	0.463	1.109	
OCF	3556	0.036	0.076	-0.208	0.036	0.242	
GROWTH	3556	0.076	0.288	-1.349	0.105	0.858	
SIZE	3556	22.059	0.937	20.534	21.876	25.063	
BRANCH	3556	0.401	0.49	0	0	1	

 Table 3
 Descriptive Statistics of the Dependent Variable and Control Variables

Definitions of variables:

ABSDA	= the absolute value of discretionary accruals estimated from equation (5)
BIG4	= 1 if the audit is conducted by a Big Four audit firm and 0 otherwise
OCF	= net cash flow from operating activities divided by total assets
LEV	= total liabilities divided by total assets
GROWTH	= (sales for current year – sales for prior year) / sales for prior year
SIZE	= natural logarithm of the client's year-end market value
BRANCH	= 1 if the audit is conducted by the branch and 0 otherwise

We further exclude firm-year observations (a) in the financial industry, (b) for newly listed companies, and (c) with missing-value variables. These procedures result in a final sample of 3,556 observations. To mitigate the effect of potential outliers, we winsorise the top and bottom 1 per cent of observations for all the continuous variables. Table 3 presents the descriptive statistics of the model variables other than those for client importance. The mean value of *BRANCH* is 0.401, indicating that in our sample, 40.1 per cent of the listed companies are audited by branches.

IV. Empirical Results

4.1 Firm-level Evidence

Table 4 presents the regression results of model (6) at the audit firm level. Columns (1) and (2) show the results with CI^{F}_{Listed} and CI^{F}_{TotalA} included, respectively, whereas Column (3) shows the results with both CI^{F}_{Listed} and CS^{F}_{A} included. Column (1) shows that when the assurance revenue from all the listed clients is used as the base for client importance, the coefficient on CI^{F}_{Listed} is not significantly different from zero (p = 0.148). An interpretation of this result is that client importance appears not to be significantly associated with audit quality. However, Column (2) shows that when the assurance revenue from all the clients is used as the base for measuring client importance, the coefficient on CI^{F}_{TotalA} is significantly negative (p < 0.01), suggesting that more important clients are associated with a significantly lower level of earnings management (and thus higher audit quality), which is consistent with the hypothesis proposed by Reynolds and Francis (2000) that audit firms have incentives to maintain their own reputation. Column (3) shows that the coefficient on CS^{F}_{A} is significantly negative (p < 0.05), which supports our implicit assumption that the higher the revenue from listed clients, the less discretion for earnings management is allowed. After the variable of the structure of audit firm revenue source is controlled for, the coefficient on CI^{F}_{Listed} turns to be significantly negative (p < 0.05). Therefore, our previous discussion is supported: that is, ignoring the revenue structure of audit firms in an empirical test may make it difficult for researchers to detect the positive association between client importance and audit/financial reporting quality.

Comparing the results between Columns (1) and (2) of Table 4, one can see that using different bases for measuring client importance has a discernible impact on evaluating the economic consequences of client importance. The result in Column (3) demonstrates the reason for the difference in results between the first two columns.

4.2 Office-level Evidence

Table 5 presents the regression results of model (7) at the office level. Columns (1) and

Dep. Var.:	Column (1)	Column (2)	Column (3)
ABSDA	Coef	Coef	Coef
	(t-stat)	(t-stat)	(t-stat)
CI^{F}_{Listed}	-0.067		-0.108
_	(-1.446)		(-2.284**)
CI^{F}_{TotalA}		-1.294	
		(-2.921***)	
CS^{F}_{A}			-0.035
			(-2.460**)
BIG4	-0.012	-0.014	-0.017
	(-2.261**)	(-2.653***)	(-2.927***)
LEV	0.039	0.039	0.037
	(4.365***)	(4.466***)	(4.198***)
OCF	-0.100	-0.100	-0.099
	(-2.761***)	(-2.765***)	(-2.742***)
GROWTH	0.020	0.019	0.020
	(2.048**)	(2.032**)	(2.047**)
SIZE	-0.002	-0.001	-0.002
	(-0.863)	(-0.579)	(-0.710)
Constant	0.135	0.123	0.137
	(2.875***)	(2.608***)	(2.922***)
Year	Included	Included	Included
Industry	Included	Included	Included
N	3,556	3,556	3,556
Adjusted R ²	0.094	0.095	0.096

 Table 4
 Client Importance and Discretionary Accruals at the Audit Firm Level

*** and ** represent 0.01 and 0.05 significance levels, respectively (two-tailed).

Definitions of variables:

ABSDA	=	the absolute value of discretionary accruals estimated from equation (5)
CI^{F}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the listed clients of the audit firm
CI^{F}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the clients of the audit firm
CS^{F}_{A}	=	the proportion of the assurance revenue from the listed clients of an audit
		firm to that from all the clients
BIG4	=	1 if the audit is conducted by a Big Four audit firm and 0 otherwise
OCF	=	net cash flow from operating activities divided by total assets
LEV	=	total liabilities divided by total assets
GROWTH	=	(sales for current year – sales for prior year) / sales for prior year
SIZE	=	natural logarithm of the client's year-end market value
YEAR	=	Year dummy variable
INDUSTRY	=	Industry dummy variables (based on the China Securities Regulatory
		Commission's industry classification, two-digit for manufacturing
		industries, and one-digit for other industries)

(2) show the results with CI^{O}_{Listed} and CI^{O}_{TotalA} included, respectively. Column (1) shows that when the assurance revenue from all the listed clients is taken as the base for measuring client importance, the coefficient on CI^{O}_{Listed} is not significantly different from zero. Also, the coefficient on the interaction term $CI^{O}_{Listed}*BRANCH$ is not significantly different from zero. The result in Column (1) can be interpreted in this way: for audits conducted by the headquarters of an audit firm, client importance is not significantly associated with audit quality; for audits conducted by branches, no significant difference exists in the relationship between client importance and audit quality when compared with audits conducted by headquarters.

However, Column (2) shows that when the assurance revenue from all clients is used as the base for measuring client importance, the coefficient on CI^{O}_{TotalA} is significantly negative (p < 0.01) and the coefficient on the interaction term $CI^{O}_{TotalA}*BRANCH$ is significantly positive (p < 0.05). The implication is that for audits conducted by the headquarters, client importance is associated with a lower level of earnings management (and likely a higher level of audit quality). The negative association between client importance and the magnitude of earnings management is significantly weakened for audits conducted by branches, suggesting that the audit quality of the branches is more vulnerable to the negative impact from important clients.

Comparing results between Columns (1) and (2) of Table 5, one can see that using different bases for measuring client importance matters in evaluating the economic consequences of client importance at the office level.

Dep. Var.: ABSDA	Column (1)		Column (2)	
	Coef	t-stat	Coef	t-stat
CI^{O}_{Listed}	-0.067	-1.530		
CI ^O Listed *BRANCH	0.007	0.103		
CI ^O _{TotalA}			-1.187	-3.233***
CI ^O TotalA*BRANCH			1.076	1.964**
BRANCH	-0.004	-1.354	-0.007	-2.100**
BIG4	-0.012	-2.275**	-0.014	-2.625***
LEV	0.038	4.368***	0.039	4.393***
OCF	-0.101	-2.802***	-0.101	-2.789***
GROWTH	0.020	2.063**	0.020	2.080**
SIZE	-0.002	-0.938	-0.002	-0.806
Constant	0.140	3.003***	0.136	2.911***
YEAR	Included		Included	
INDUSTRY	Included		Included	
Ν	3,556		3,556	
Adjusted R ²	0.094		0.095	

 Table 5
 Client Importance and Discretionary Accruals at the Office Level

*** and ** represent 0.01 and 0.05 significance levels, respectively (two-tailed).

Definitions of variables:

18501	– the	a absolute value of discretionary accruals estimated from equation (5)
ADSDA	- uic	absolute value of discretionary accruais estimated from equation (5)
CI^{ν}_{Listed}	= the	e proportion of audit fees from a listed client to the assurance revenue
	fro	m all the listed clients of the audit office
CI^{O}_{TotalA}	= the	e proportion of audit fees from a listed client to the assurance revenue
	fro	om all the clients of the audit office
BRANCH	= 1 i	f the audit is conducted by the branch and 0 otherwise
BIG4	= 1 i	f the audit is conducted by a Big Four audit firm and 0 otherwise
OCF	= net	t cash flow from operating activities divided by total assets
LEV	= tot	al liabilities divided by total assets
GROWTH	= (sa	les for current year – sales for prior year) / sales for prior year
SIZE	= nat	tural logarithm of the client's year-end market value
YEAR	= Ye	ar dummy variable
INDUSTRY	= Inc	dustry dummy variables (based on the China Securities Regulatory
	Co	mmission's industry classification, two-digit for manufacturing
	inc	lustries, and one-digit for other industries)

4.3 Differentiating the Sign of Discretionary Accruals

In a further analysis, we differentiate the sign of accrual-based earnings management (Myers *et al.*, 2003) and run truncated regressions among observations with positive and negative discretionary accruals, respectively. For the sake of brevity, Table 6 only presents the results of the experimental variables. The results show that both at the audit firm level (Panel A) and the office level (Panel B), using different bases for measuring client importance has a discernible impact on the association between client importance and income-increasing discretionary accruals and a weaker impact on the association between client importance and income-decreasing discretionary accruals and a weaker impact on the association between the more complete measuring base is used, the experimental variables that initially lack significance become significant at the 5 per cent (10 per cent) level for income-increasing (income-decreasing) accruals, thus affecting the interpretation of the economic consequences of client importance at both the audit firm level and the office level.

Assuming that overstating profit is a major type of managers' incentive/pressure in China's stock market, the evidence shown in Table 6 provides additional support for the theory that the headquarters of an audit firm will protect its own reputation in the face of income-increasing incentives from important clients and that the branches are more likely to yield to such incentives from important clients.

4.4 Robustness Checks

4.4.1 Different proxy for discretionary accruals

Kothari et al. (2005) propose that financial performance will affect the estimation of

discretionary accruals and should be controlled for when estimating discretionary accruals. In the robustness check, we control for financial performance (ROA) in equation (5), and the untabulated results show that our main findings still hold.

Table 6	Client Importance and	Discretionary	Accruals with	Different Signs

	Column (1)		Column (2	2)	
	Coef	t-stat	Coef	t-stat	
Panel A: The Firm	Level				
Dependent Variable:	ABSDA (Posi	tive DA, Trunc	cated Regression, N =	= 1896)	
CI^{F}_{Listed}	-0.427	-1.180			
CI^{F}_{TotalA}			-8.111**	-2.131	
Dependent Variable:	ABSDA (Neg	ative DA, Trun	cated Regression, N	= 1660)	
CI^{F}_{Listed}	-0.812	-0.592			
CI^{F}_{TotalA}			-27.794*	-1.875	
Panel B: The Office	Level				
Dependent Variable:	ABSDA (Posi	tive DA, Trunc	cated Regression, N =	= 1896)	
CI ^O Listed	-0.459	-1.221			
CI ^O Listed *BRANCH	0.298	0.561			
CI ^O _{TotalA}			-10.357**	-2.521	
CI ^O TotalA*BRANCH			10.103**	2.237	
Dependent Variable:	ABSDA (Neg	ative DA, Trun	cated Regression, N	= 1660)	
CI ^O Listed	-0.234	-0.182			
CI ^O Listed *BRANCH	-2.010	-0.859			
CI ^O _{TotalA}			-21.680*	-1.670	
CI ^O TotalA*BRANCH			17.663	1.048	

** and * represent 0.05 and 0.10 significance levels, respectively (two-tailed).

Definitions of variables:

ABSDA	=	the absolute value of discretionary accruals estimated from equation (5)
CI^{F}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the listed clients of the audit firm
CI^{F}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the clients of the audit firm
CI^{O}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the listed clients of the audit office
CI^{O}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the clients of the audit office
BRANCH	=	1 if the audit is conducted by the branch and 0 otherwise
		-

4.4.2 Partitioning the sample into headquarters versus branch subgroups

The interaction design in Table 5 is used to identify the potential difference between the

headquarters and the branches. This design assumes that the variables other than the experimental variables are the same in the headquarters and branches subsamples. To relax this assumption, we perform regressions for headquarters audits and branch audits separately. Table 7 shows that different bases for measuring client importance discernibly affect the interpretation of empirical results for the headquarters audits but not for the branch audits. In other words, if the more complete revenue base is used, it can be found that for the headquarters, the more important the listed client, the less the discretionary accruals will be. However, for the branches, the importance level of the listed clients does not show an impact on the discretionary accruals allowed by the branches. For the variable CI^{O}_{TotalA} , the statistical test on the equalness of the coefficients between Columns (2) and (4) of Table 7 shows that they are marginally different (Chi2 = 3.46, p value = 0.063). This indicates that the headquarters of audit firms adopt a more conservative attitude towards important clients; thus, the hypothesis that an accounting firm will protect its reputation against the litigation risk is more applicable for the headquarters than for the branches. Overall, this robustness

Dep. Var.: ABSDA	(1)	(2)	(3)	(4)
1	Headquarters	Headquarters	Branch	Branch
	Coef	Coef	Coef	Coef
	(t-stat.)	(t-stat.)	(t-stat.)	(t-stat.)
CI ^O _{Listed}	-0.067		-0.090	
	(-1.447)		(-1.342)	
CI ^O _{TotalA}		-1.266***		-0.196
		(-3.283)		(-0.454)
BIG4	-0.016**	-0.019***	-0.003	-0.005
	(-2.569)	(-2.930)	(-0.336)	(-0.545)
LEV	0.054***	0.055***	0.018	0.017
	(4.445)	(4.519)	(1.501)	(1.424)
OCF	-0.054	-0.054	-0.185***	-0.184***
	(-1.143)	(-1.144)	(-3.452)	(-3.423)
GROWTH	0.025*	0.025*	0.012	0.012
	(1.860)	(1.861)	(0.893)	(0.950)
SIZE	-0.003	-0.002	-0.000	-0.001
	(-0.897)	(-0.627)	(-0.044)	(-0.191)
Constant	0.145**	0.132**	0.097	0.107
	(2.430)	(2.171)	(1.300)	(1.447)
YEAR	Included	Included	Included	Included
INDUSTRY	Included	Included	Included	Included
Observations	2,130	2,130	1,426	1,426
Adjusted R ²	0.107	0.109	0.088	0.087

 Table 7 Client Importance and Discretionary Accruals: Headquarters versus the

 Branch

test shows results consistent to those obtained using the interaction design.

***, **, and * represent 0.01, 0.05, and 0.10 significance levels, respectively (two-tailed).

Client Importance: A Measurement Bias and Its Impact

For Columns (1) and (2), audits are conducted by the headquarters of an accounting firm; for Columns (3) and (4), audits are conducted by the branch of an accounting firm.

Definitions of variables:

ABSDA	=	the absolute value of discretionary accruals estimated from equation (5)
CI^{O}_{Listed}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the listed clients of the audit office
CI^{O}_{TotalA}	=	the proportion of audit fees from a listed client to the assurance revenue
		from all the clients of the audit office
Big4	=	1 if the audit is conducted by a Big Four audit firm and 0 otherwise
OCF	=	net cash flow from operating activities divided by total assets
LEV	=	total liabilities divided by total assets
GROWTH	=	(sales for current year – sales for prior year) / sales for prior year
SIZE	=	natural logarithm of the client's year-end market value
YEAR	=	Year dummy variable
INDUSTRY	=	Industry dummy variables (based on the China Securities Regulatory
		Commission's industry classification, two-digit for manufacturing
		industries, and one-digit for other industries)

4.4.3 Consideration of non-assurance services

Although the correlation coefficient between the assurance revenue and the total revenue from all clients of audit firms is as high as 0.988 in our sample, we still use the total service revenue from all clients of each firm (and each branch) available in the CICPA database as the base for measuring client importance. All the above-mentioned tests are performed, and the same major findings are obtained. This means that during the sample period in China, the impact of measuring bias in client importance was mainly the result of the limited scope of clients (that is, ignoring the service fees of the non-listed clients) rather than the limitation of the range of businesses (that is, the service fees from non-assurance businesses).

4.4.4 Definition of a branch audit

As mentioned above, when determining the attribution of an audit of a certain listed client to the headquarters or a branch, we define an audit as being attributable to a branch if either of the signing CPAs comes from the branch. In the robustness test, we also exclude from the sample observations where one signing CPA comes from the headquarters and the other from a branch (Wang and Xin, 2010); the main results (untabulated) remain qualitatively unchanged.

4.4.5 Revenue of the headquarters

When computing client importance at the office level, the headquarters are also

regarded as an office and the revenue of all branches is excluded. In the robustness test, we compute the revenue of the headquarters without deducting the revenue of branches as the base of client importance. The untabulated results are similar to those reported previously.

4.4.6 Consideration of firms without branches

One of our themes is to discuss the difference between the headquarters and branches. However, there are some audit firms that have no branches. In the robustness test, the observations where audit firms have no branches are excluded; the main conclusion remains unchanged.

V. Conclusion and Discussion

Prior studies on the relationship between client importance and audit quality usually restrict the base for measuring client importance to service fees or the aggregate size of all the listed clients (rather than all the clients). Using a unique set of data from the CICPA, we demonstrate the impact of such a measuring bias on empirical findings: that is, the measuring bias does affect the evaluation of the economic consequences of client importance in our test scenario. Our findings suggest that researchers should try their best to use a complete revenue base of clients (rather than limiting the base to listed clients). Moreover, regulators of the audit market should consider disclosing the structure of revenue from listed versus non-listed clients of each accounting firm with a licence to audit listed companies because such information can be useful for the public, including researchers, to reliably evaluate the economic consequences of client importance. If client importance is measured only on the basis of the total revenue from listed clients, caution should be exercised when interpreting the empirical results.

Besides its methodological contribution, our study extends the prior literature on the economic consequences of client importance. At the audit level, we find that when the more complete client base of an audit firm is used to measure client importance, the more important the audit client, the greater the constraint on earnings management. This means that the reputation maintenance hypothesis (Reynolds and Francis, 2000) also applies to auditors serving important clients in the Chinese audit market. At the office level, the evidence shows that a significant difference in financial reporting quality exists between the headquarters and the branches of audit firms. This means that it is useful to focus research on the office level as long as the variable of client importance is measured in a reliable manner. Moreover, our evidence indicates that researchers may fail to observe the difference in audit quality among offices if they mix observations audited by the headquarters with those audited by the branches. Furthermore, our results indicate the importance of regulatory monitoring on the internal governance of accounting firms in the Chinese audit market

(especially the integration of branches into the firm's management and governance).⁹

There are a number of caveats to this study. First, our evidence is derived from a specific sample period (i.e. 2011 to 2012). We have no intention to emphasise the generalisability of our evidence to other sample periods. What we emphasise is that given a sample period, different approaches to measuring client importance can lead to significantly different results and interpretations.

Second, although we take the relationship between client importance and discretionary accruals as a test scenario, we by no means suggest that discretionary accruals are a sound proxy for audit quality. Moreover, it is not our intention to exhaust all the proxies for audit quality to examine the impact of our proposed measurement bias. We only use one popular proxy to exemplify the impact of the bias in measuring client importance.

Third, we do not intend to strictly replicate the accrual-based test scenario found in the prior literature. Moreover, we are not able to evaluate how our proposed measurement bias might affect the findings documented in prior studies because we only have access to the relevant data of two recent years from the CICPA. We expect our evidence to serve as a reminder for future researchers to obtain data on the assurance revenue or total revenue from all the clients of an accounting firm when measuring client importance. When the relevant data are not available, both the researchers and the users of the research results should be cautious in interpreting the obtained results and conclusions.

Finally, some recent studies measure client importance at the individual CPA level (e.g. Chen *et al.*, 2010). Owing to limited data availability, the revenue information from all the clients related to each CPA has not yet been obtained. Future research could examine how our proposed measurement bias in client importance might affect empirical findings at the individual CPA level.

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References

Cao, Q., Hu, N., and Wang, L. (2012), 'Kehu Zhongyaoxing, Fengxian Xingzhi yu Shenji Zhiliang – Jiyu Caiwu Chongshu Shijiao de Jingyan Yanjiu' (Client Importance, Nature of Risk, and Audit Quality – Empirical Evidence Based on the Perspective of Financial Restatements), *Shenji Yanjiu* (Auditing Research), Issue 6: 60-70.

⁹ For example, on 15 January 2010, the Ministry of Finance enacted the *Provisional Rules on the Administration of Branches of Accounting Firms*, which established rules on the administration of branches of an accounting firm in respect of personnel, finance, engagement, technical standards, and information management.

- Chan, K. H. and Wu, D. (2011), 'Aggregate Quasi Rents and Auditor Independence: Evidence from Audit Firm Mergers in China', *Contemporary Accounting Research* 28 (1): 175-213.
- Chen, S., Sun, S. Y. J., and Wu, D. (2010), 'Client Importance, Institutional Improvements, and Audit Quality in China: An Office and Individual Auditor Level Analysis', *The Accounting Review* 85 (1): 127-158.
- Chung, H. and Kallapur, S. (2003), 'Client importance, non-audit fees, and abnormal accruals', *The Accounting Review* 78 (4): 931-966.
- Craswell, A., Stokes, D. J., and Laughton, J. (2002), 'Auditor independence and fee dependence', *Journal of Accounting and Economics* 33 (2): 253-275.
- DeAngelo, L. (1981), 'Auditor size and audit quality', *Journal of Accounting and Economics* 3 (3): 183-199.
- Dechow, P., Ge, W., and Schrand, C. (2010), 'Understanding earnings quality: A review of the proxies, their determinants and their consequences', *Journal of Accounting and Economics* 50 (2-3): 344-401.
- Dechow, P. M., Sloan, R. G., and Sweeney, A. P. (1995), 'Detecting Earnings Management', *The Accounting Review* 70 (2): 193-225.
- Francis, J. R. and Yu, M. D. (2009), 'Big 4 Office Size and Audit Quality', *The Accounting Review* 84 (5): 1521-1552.
- Gaver, J. and Paterson, J. (2007), 'The Influence of Large Clients on Office-Level Auditor Oversight: Evidence from the Property-Casualty Insurance Industry', *Journal of Accounting and Economics* 43 (2-3): 299-320.
- Kothari, S. P., Leone, A. J., and Wasley, C. E. (2005), 'Performance matched discretionary accrual measures', *Journal of Accounting and Economics* 39 (1): 163-197.
- Li, C. (2009), 'Does Client Importance Affect Auditor Independence at the Office Level? Empirical Evidence from Going-concern Opinions', *Contemporary Accounting Research* 26 (1): 201-230.
- Liu, Q., Chen, H., and Yao, Y. (2006), 'Client Importance and Audit Quality', *China* Accounting and Finance Review 8 (4): 47-94.
- Mautz, R. and Sharaf, H. (1961), The Philosophy of Auditing, Sarasota, FL: AAA.
- Myers, J. N., Myers, L. A., and Omer, T. C. (2003), 'Exploring the Term of the Auditor-Client Relationship and the Quality of Earnings: A Case for Mandatory Auditor Rotation?', *The Accounting Review* 78 (3): 779-799.
- Reynolds, J. K. and Francis, J. R. (2000), 'Does Size Matter? The Influence of Large Clients on Office-Level Auditor Reporting Decisions', *Journal of Accounting and Economics* 30 (3): 375-400.
- Wang, B. and Xin, Q. (2010), 'Fensuo Shenji Shifou Yingxiang Shenji Zhiliang he Shenji Shoufei?' (Do Audits by Branches Affect Audit Quality and Audit Fees?), *Shenji Yanjiu* (Auditing Research), Issue 2: 70-76.
- Wang, N., Liao, J., Liu, E., Zeng, X., and Yang, T. (2007), 'Kuaijishi Shiwusuo Zongfensuo Guanli Xiangguan Wenti Yanjiu' (A Study on Headquarter-Branch Administration by Accounting Firms), *Zhongguo Zhuce Kuaijishi* (The Chinese Certified Public Accountants), Issue 8: 50-53.