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行业专长、审计任期和审计质量－基于签字会计师水平的分析

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摘要

本文旨在研究行业专长对签字会计师审计任期与审计质量关系的影响。利用签字会计师强制轮换制度实施之前1998至2002年上市公司数据进行检验，结果发现会计师长审计任期能够提高审计质量，但主要是体现在签字会计师缺乏行业专长的时候。而当会计师具有行业专长时审计任期与审计质量之间的正相关关系减弱。这说明，当会计师缺乏行业专长时，审计任期延长带来的客户特定知识效应超过了独立性降低的负面效应。而当会计师具备行业专长时，审计任期延长带来的客户特定知识效应并不明显，审计任期与审计质量的正相关关系显著降低。

关键词：签字会计师、行业专长、审计任期、审计质量
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一、引言

中国证监会和财政部于2003年联合发布了《关于证券期货业务签字注册会计师定期轮换的规定》(简称"定期轮换规定"),要求签字注册会计师连续为某一相关机构提供审计服务不得超过五年。监管层实施这一政策的前提是签字注册会计师的长审计任期可能会降低审计质量。然而,签字会计师的长审计任期是否真的会导致审计质量的下降?在何种条件下会导致审计质量的下降?很多国家并不披露签字会计师的信息,因此关于签字会计师审计任期对审计质量影响的研究还不够充分,研究也远未定论。如Carey and Simnett(2006)发现签字会计师的审计任期与审计质量负相关,另外一些研究则发现签字会计师审计任期不仅不会导致审计质量下降,还会提高审计质量(Chen, Lin, and Lin, 2008;刘启亮,于宇莹和陈汉文,2008;Chi, Huang, Liao, and Xie, 2009)。

审计质量是审计师发现并报告财务报告误述的联合概率(DeAngelo, 1981b)。其中前者主要由审计师的专业胜任能力决定,而后者主要由审计师的独立性所决定。审计任期对审计质量的影响也主要体现在对审计师专业胜任能力和独立性两个方面的影响。从现有研究看,一方面,随着审计师任期的延长,审计师将获得更多的客户特定知识,对客户的特定风险也更了解,同时也减少了对管理者估计的依赖,进而提升其专业能力,最终导致审计质量的提高(Petty and Cuganesan, 1996;Myers, Myers, and Omer, 2003)。本文将这一关系称为审计任期的客户特定知识效应。另一方面,随着审计任期的延长,会计师与客户之间的关系过于熟络(Familiarity Threat),以及自身利益关系的束缚(Self-Interest Threats),这些关系影响了审计师的独立性(Mautz and Sharaf, 1961;IESBA (International Ethics Standards Board for Accountants), 2010)。本文称为审计任期的独立性效应。综上,审计任期对审计质量的影响主要取决于客户特定知识效应和独立性效应这两种效应的相对大小,当客户特定知识效应大于独立性效应时,审计任期能够提高审计质量;相反,当独立性效应大于客户特定知识效应时,长审计任期反而会降低审计质量。

从现有文献看,有关签字会计师审计任期的经验证据总体上支持客户特定知识效应强于独立性效应,即审计任期能够提高审计质量(Chen, Lin, and Lin, 2008;Manry, Turner, and Mock, 2008;刘启亮、余宇莹和陈汉文,2008;Chi, Huang, Liao, and Xie, 2009)。但值得探究的一个问题是:这一结果是否在不同特征的样本公司之间存在差异?对审计任期和审计质量关系产生影响的路径有二。其一为私人关系。比如当签字会计师与客户私人关系较好时,审计任期对独立性的影响可能较大,此时审计任期的延长是否仍然能够提高审计质量?刘启亮和唐建新(2009)发现,在不存在私人关系的情况下,签字会计师任期越长,审计质量越高。在存在私人关系的情况下,签字审计师任期越长,审计质量越差。这是一个重要的问题,因为如果在私人关系的样本中审计任期的延长会降低审计质量,那么签字会计师轮换政策就能够在这些样本公司中产生作用,提高审计质量。本文则考虑另一条路径,即审计任期的客户特定知识效应。具体地,我们考察审计师行业专长对审计任期客户特定知识效应的影响。审计任期的客户特定知识效应能够发挥作用的一个重要前提是:初始审计阶段审计师掌握的客户特定知识较少。此时随着审计任期的延长,客户特定知识有一个增量的积累,因此审计质量提高。但如果审计师是客户所在行业的行业

专长审计师，那么在初始审计阶段审计师所掌握的客户特定知识的存量水平就已经较高，因此随着审计任期的延长，客户特定知识积累的增量较小，即审计任期的客户特定知识效应被削弱。需要说明地是，本文考察的是行业专长对审计任期与审计质量关系的影响，而不是直接考察行业专长对审计质量的影响或其是否会受到独立性的影响。

据此，本文利用签字会计师强制轮换制度实施之前1998至2002年上市公司数据，检验签字会计师行业专长对审计任期与审计质量之间关系的影响。研究发现，会计师长审计任期能够提高审计质量，但主要是体现在签字会计师缺乏行业专长的时候。而当会计师具有行业专长时，审计任期与审计质量之间的正相关关系减弱。这说明，当会计师缺乏行业专长时，审计任期延长带来的客户特定知识效应超过了独立性降低的负面效应。而当会计师具备行业专长时，审计任期延长带来的客户特定知识效应并不明显，审计任期与审计质量的正相关关系受到显著削弱。

本文的贡献体现在以下方面：(1) 目前基于会计师水平的研究已成为国内外审计研究的一个热点问题 (DeFond and Francis, 2005)。本研究将行业专长和审计任期对审计质量的影响拓展到签字会计师水平，丰富了签字会计师水平的研究。此外在拓展Gul, Fung, and Jaggi(2009)时，我们不仅从签字会计师这一“微观”的层面考察审计任期问题，而且还发现同时考察事务所审计任期和签字会计师审计任期时，签字会计师的审计任期更加重要，同时考察事务所行业专长和签字会计师行业专长对审计任期与审计质量关系的影响时，签字会计师行业专长更加重要。(2) 我们研究结果表明，由于行业专长与审计任期的客户特定知识效应存在替代关系，因此在行业专长审计师样本中长审计任期带来的主要是独立性的下降。一个符合逻辑的推论就是，如果对行业专长签字会计师进行强制轮换，那么在提高审计师的独立性的同时，对审计师专业胜任能力的影响较小，因此强制轮换的效果较好。(3) 最后，在技术层面上，提供了多种基于市场份额衡量签字会计师水平行业专长的方法，为后续研究提供了借鉴和参考。

本文其余部分安排如下：第二部分在回顾相关文献的基础上进行理论分析并提出研究假说；第三部分为研究方法设计；第四部分为实证结果呈报和解释；最后为结论和政策建议。

二、文献评述和研究假说

早在20世纪70年代，美国的监管部门就注意到审计任期可能会影响审计质量，此后就是否进行强制审计轮换进行了广泛的讨论。例如，美国参议院 (U.S.Senate, 1977) 认为，公司与会计师事务所之间的长期聘任关系将导致事务所与其客户管理层的利益密切相关，因此事务所很难独立发表审计意见。解决这一问题的办法之一就是对事务所进行定期轮换。美国证监会 (SEC) 和美国注册会计师协会 (AICPA) 也持有类似的观点，认为长审计任期将会导致会计盈余质量的下降，而事务所强制轮换是一个可能的解决办法 (AICPA, 1978；SEC, 1994)。从现有文献看，审计任期研究主要从两个层面展开－基于事务所审计任期的研究和基于会计师审计任期的研究。由于本文的研究基于会计师水平，因此对事务所水平的审计任期研究只做简单的述评。

从事务所水平看，长审计任期可能损害审计独立性，进而降低审计质量(Mautz and Sharaf, 1961；Dopuch, King, and Schwartz, 2001；Davis, Soo, and Trompeter, 2009)。监管部门一般也认为审计任期会损害审计质量，要求进行审计强制轮换(AICPA, 1978；SEC, 1994)。但是更多证据表明，审计任期非但没有降低审计质量，相反，长审计任期还能提高审计质量(Geiger and Raghunandan, 2002；Johnson, Khurana, and Reynolds, 2002；Myers, Myers, and Omer, 2003；Ghosh and Moon, 2005；夏立军、陈信元和方轶强，2005；陈信元和夏立军，2006；刘启亮，2006；Gul, Fungand, and Jaggi, 2009)。审计任期与审计质量的关系也并不一定是简单的线性关系，可能成倒U型关系(陈信元和夏立军，2006；刘启亮，2006)。

以上研究都是从事务所水平展开的，但是有必要从会计师水平研究审计任期对审计质量的影响，因为签字会计师主导整个审计业务活动，对整个审计业务进行指导、监督。签字会计师对审计业务的总体质量负责、对审计质量承担领导责任(中国注册会计师协会，2007；吴溪，2009)。签字会计师的审计行为应当与审计质量有更紧密的联系，直接分析签字会计师的任期比事务所任期更为准确(刘启亮、余宇莹和陈汉文，2008)。需要说明的是，这并不意味着事务所本身就没有任何质量控制。事务所的质量控制可以体现在指派和监督签字会计师上。比如，可以对不遵守执业道德的签字会计师进行处罚或者更换。同时，就像所有的公司治理机制并不完美一样，事务所的质量控制措施也不可能完全消除委派项目负责人之后产生的代理问题。因此事务所层面的因素和签字会计师层面的因素都会对审计质量产生重要影响。中国注册会计师协会和中国证监会对审计行业的监管也体现在事务所和签字会计师两个层面。此外，会计师水平的研究与事务所水平的研究可能会得出不同的结论(Francis, Stokes, and Anderson, 1999；Carey and Simnett, 2006；Chen, Sun, and Wu, 2010)。在Defond and Francis(2005)倡议研究审计行为应更多采用会计师(partner)水平后，开始出现一些基于会计师水平的审计任期研究。Chi and Huang(2005)发现审计质量随着审计任期的延长而提高，但达到一定年限后(大致为5年)，过长的审计任期会降低审计质量。Carey and Simnett(2006)发现会计师审计任期的延长会导致审计质量的下降，表现为审计任期降低了出具持续经营审计意见的可能性、提高了盈余达线的可能性。但Manry, Turner, and Mock(2008)以操纵性应计代表审计质量，发现随着签字会计师审计任期越长，操纵性应计水平越低，证明审计质量得到了提高。Chen, Lin, and Lin(2008)在控制了事务所审计任期后，同样发现会计师的长审计任期提高了审计质量。Chi, Huang, Liao, and Xie(2009)则从另外一个角度考察审计任期与审计质量之间的关系，他们直接考察签字会计师轮换的政策效果，结果发现强制变更后的审计质量显著低于变更之前的审计质量，而强制变更组的审计质量与非变更组、前期自愿变更组之间不存在显著差异，他们的研究总体上支持签字会计师强制轮换并没有提高审计质量的结论。国内从签字会计师角度研究审计任期对审计质量影响的文献还比较少，已有研究发现签字会计师的审计任期能提高审计质量，且在长审计任期(大于5年)的情况下，任期提高审计质量的效果更加明显(刘启亮、余宇莹和陈汉文，2008)。但长审计任期提高审计质量是有条件的，如果签字会计师与客户之间存在私人关系或者异常聘任关系，那么长审计任期反而会损害审计质量(刘启亮和唐建新，2009)。通常文献以操纵性应计作为审计质量的替代变量，如

果以审计意见作为审计质量的替代变量则签字会计师审计任期与审计质量没有相关性(沈玉清、戚务君和曾勇，2008)。李爽和吴溪(2006)直接从签字会计师轮换的角度考察了签字会计师强制轮换的第一年上市公司审计质量的改善状况。结果发现强制轮换对提高审计质量的作用有限。龚启辉和王善平(2009)考察签字会计师强制轮换的效果，发现签字会计师强制轮换总体上并不能降低操纵性应计，但可以抑制正向的盈余管理。

理论上，关于会计师审计任期对审计质量正面的影响主要有两种解释。首先随着审计师任期的延长，审计师将获得更多的客户特定知识，对客户的特定风险也更了解，同时也减少了对管理者估计的依赖，进而提升其专业能力，最终导致审计质量的提高(Petty and Cuganesan, 1996；Myers, Myers, and Omer, 2003)。这就是前文所述的"客户特定知识效应"。其次，是从低价揽客角度来解释审计任期对审计质量的影响。该理论认为，在低价揽客初期(DeAngelo, 1981a)，由于成本压力，会计师对审计对象的要求有所放松。随着低价揽客成本的收回，失去客户的经济压力逐渐减小，会计师对审计对象的审计也相应变得严格，审计质量因此提高(Gul, Jaggi, and Krishnan, 2007；Gul, Fung, and Jaggi, 2009)。[1]对会计师审计任期与审计质量之间的负相关关系的主要解释是因为长审计任期导致的审计师独立性下降。随着审计任期的延长，会计师与客户之间的关系过于熟络(Familiarity Threat)，以及会计师受自身利益关系的束缚(Self-Interest Threats)，这些会影响审计师的独立性(Mautz and Sharaf, 1961；IESBA (International Ethics Standards Board for Accountants), 2010)。

实务中，审计任期对审计质量影响的正面效应和负面效应并存。依据现有研究，在会计师层面，我们并不了解在何种情况下，正面(或负面)效应占主导地位。由于会计师行业专长与客户特定知识之间存在一定程度上的重合和替代关系，因此给定不同的会计师行业专长水平，审计任期的独立性效应和客户特定知识效应的相对重要性或有不同。具体来说，当会计师对客户所在行业有较多审计经验时，客户特定经验对其审计质量影响的边际效应较小，此时审计任期的"独立性效应"相对增强。当会计师的行业经验较少时，其对客户审计风险的认知更多地依赖对客户本身的了解，此时客户专有知识变得更加重要，客户特定知识效应将起到主导作用。

基于以上分析，我们提出如下假说：

H1：当会计师缺乏行业专长时，客户特定知识效会更强，签字会计师审计任期的延长能够提高审计质量。当会计师拥有行业专长时，客户特定知识效减弱，签字会计师任期的延长对审计质量的提升作用会被弱化。

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[1] 因为在任审计师存在成本和技术上的优势，在后续审计年份中可以取得Quasi-rent，所以在审计市场存在竞争并达到均衡时，会出现low-balling(低价揽客)的现象(DeAngelo, 1981a)，即在初期用较低的价格揽客，然后在后续审计年份中用较高的价格补偿初期的损失。因此当处于审计的初始几年时(即审计任期较短时)，审计师会比较宽松地对待客户，目的是为了能够保持审计业务关系，以便在后续年份中收回初始成本(Gul *et al.*, 2009)。而在审计了几年后(即审计任期较长时)已经收回了"低价揽客"的大部分成本，此时失去客户的经济压力较小，对客户较严格，这与Johnson *et al.*(2002)的分析一致。

三、研究方法设计

（一）样本选择和数据来源

为了验证前文提出的假说，本文以1998至2002年间A股上市公司为样本。样本之所以截止于2002年是因为2003年末财政部和证监会发布了《关于证券期货业务签字注册会计师定期轮换的规定》。该规定要求签字注册会计师每5年进行强制轮换。因此2003年及之后的签字会计师任期会受到这一制度的影响。本文剔除了金融类的上市公司、IPO公司和已经退市的公司，因为这些公司的特性与其他公司不同。同时，在按行业计算操纵性应计时，我们要求行业样本数大于20，因此剔除了所处行业－年度公司数小于20的样本。本文的上市公司财务数据、行业类型数据均来自国泰君安信息技术有限公司开发的CSMAR数据库。签字会计师数据首先从CSMAR数据库中取得，然后通过多种渠道和方式对数据进行了核对和修正。此外，为了控制极端值的影响，我们对模型中所有连续变量做了1%的截尾处理。

表1列示了样本筛选过程。经过筛选之后，最后的样本公司为3938家，1998至2002年分别为602、659、759、912、1006家。

表1 样本筛选过程

	1998	1999	2000	2001	2002	合计
各年初始样本数	826	924	1,061	1,139	1,203	5,153
剔除：						
当年IPO样本	106	99	138	82	75	500
金融类公司	5	5	6	7	7	30
不能计算操纵性应计的样本	46	59	82	58	43	288
未披露签字会计师的样本	65	98	73	79	71	386
控制变量缺失	2	4	3	1	1	11
最终样本	602	659	759	912	1,006	3,938

（二）检验模型和变量设定

我们用分组回归和加入交乘项两种方式来检验假说，采用交乘项时的具体检验模型如下：

$$\begin{aligned}|DA| = {} & \alpha + \beta_0 CPATEN + \beta_1 CPATEN*CAPEXPT + \beta_2 FIRMTEN \\ & + \beta_3 FIRMEXPT + \beta_4 FIRMEXPT*FIRMTEN + \beta_5 BIG + \beta_6 FIRMCH \\ & + \beta_7 SIZE + \beta_8 AGE + \beta_9 GROWTH + \beta_{10} OCF + \beta_{11} ROA + \beta_{12} LOSS \\ & + \beta_{13} OPN + \beta_{14} LEV + \sum_t^n \beta_i*IND_i + \sum_j^m \beta_j*YEAR_j \end{aligned} \quad (1)$$

分组回归检验时，我们去掉交乘项，然后分别按行业专长组（*CPAEXPT*=1）和非行业专长组（*CPAEXPT*=0）对模型（1）进行回归。模型（1）中变量含义如下：

因变量为审计质量（$|DA|$）。本文采用操纵性应计的绝对值来衡量审计质量，这一方法已经在学术界被广泛采用和接受（Myers, Myers, and Omer, 2003；Carey and

Simnett, 2006；Blouin,Grein, and Rountree, 2007；Chen, Sun, and Wu, 2010)。操纵性应计分别按照如下方法取得：(1)调整的横截面Jones模型，分年度分行业进行估计。对其求绝对值，得到|*DA1*|。|*DA1*|越大，表明操纵性应计越高，公司的财务报表质量越差，审计质量也越差。相反，|*DA1*|越小，则审计质量越好。(2)分阶段线性回归模型计算的操纵性应计(Ball and Shivakumar, 2006)。对计算出的操控性应计求绝对值，得到|*DA2*|。

此外，稳健性测试中还采用如下衡量方法：(1)为了控制公司业绩对计算操纵性应计造成的误差(Kothari, Leone, and Wasley, 2005)，我们在计算操纵性应计时用调整的横截面Jones模型控制公司当年业绩(ROA_t)后得到操控性应计|*DA3*|。(2)区分盈余管理的方向，分别用正向盈余管理(*DA*+)和负向盈余管理(*DA*-)作为审计质量的代理变量。

模型(1)中的主要测试变量为签字会计师的审计任期(*CPATEN*)。我国的审计报告由两名注册会计师签字盖章(财政部，2001)，[2]这使得我们可以直接观察到签字会计师任期的数据。在计算签字会计师的审计任期时，从公司上市的年份开始，如果签字会计师在前后两年中都出现，则审计任期增加一年。这样对应每一个公司－年度样本，都有两位签字会计师的审计任期数据，最后我们取两者中较长的签字会计师任期作为最终的签字会计师审计任期。这一定义方法与现有文献一致(Chi and Huang, 2005；刘启亮、余宇莹和陈汉文，2008；沈玉清、戚务君和曾勇，2008)。在模型(1)中，*CPATEN*表示会计师审计任期对审计质量的影响。根据假说1，我们预期在非行业专长组，*CPATEN*的系数显著为负。

*CPAEXPT*为签字会计师行业专长。目前文献对审计师行业专长的衡量主要有两种方法：行业市场份额法和行业组合份额法(Market Share Approach and Portfolio Approach)。由于行业专长知识随着行业市场份额的增加而增加，因此可以用行业市场份额来衡量行业专长(Hogan and Jeter, 1999；Ferguson, Francis, and Stokes, 2003)。Francis, Reichelt, and Wang(2005)把行业中市场份额最大的5大会计师事务所定义为具有该行业专长的审计师。Reichelt and Wang(2010)把在某一行业中拥有最大市场份额的事务所定义为行业专长事务所，并且该事务所的行业市场份额需超过第二名至少10%或者该事务所拥有的行业市场份额超过30%。Lim and Tan(2010)则认为2000至2001年间行业市场份额超过24%的审计师为行业专长审计师，2002至2005年间行业市场份额超过30%的审计师为行业专长审计师。国内学者蔡春和鲜文铎(2007)则把行业市场份额大于等于10%的事务所定义为行业专长事务所。另一种方法是行业组合份额法，它把某一审计师在其所审计行业中市场份额最高的行业作为其专长行业(Hogan and Jeter, 1999；蔡春和鲜文铎，2007)。在行业组合份额法下任何审计师都有专长行业，规模较小的事务所在其专长行业即使所占的绝对市场份额较低依然可能被定义成为这一行业的行业专长审计师。本文采用与近期文献(Francis, Reichelt, and Wang, 2005；Lim and Tan, 2010；Reichelt and Wang, 2010)一致的方法，以行业市场份额法衡量行业专长。在行业分类标准上，我们采用中国证监会的行业定义标准，除制造业取两位行业代码外，其他行业取一位行业代码。

需要说明的是，以上文献中的行业专长定义都基于事务所水平和事务所分所水

[2] 通常来说这两名签字会计师中一名是主审会计师，另一名签字会计师负责业务复核。

平(文献中一般称为审计师),本文需将其拓展到签字会计师水平。我们注意到签字会计师水平的行业专长与基于事务所水平/分所水平的行业专长有两点不同:(1)在某一行业中签字会计师的数目远远超过这一行业中事务所的数目或事务所分所的数目。(2)签字会计师水平的行业市场份额小于事务所水平或事务所分所水平的市场份额,因此如果直接套用基于事务所水平行业专长定义中的阈值,例如:取行业市场份额超过30%或10%的签字会计师或者取行业市场份额最高者,都不太妥当。为此我们采用以下几种方式定义具有行业专长的签字会计师:

1) 对每一年的签字会计师按行业市场份额进行排名,将前20%的签字会计师定义为行业专长签字会计师(*CPATEN_20PCT*);
2) 对每一年的签字会计师按行业市场份额进行排名,将前20位签字会计师定义为行业专长签字会计师(*CPATEN_20RANK*);
3) 取每一年行业市场份额等于或者超过3%的签字会计师为行业专长签字会计师(*CPATEN_3PBS*);

其中,签字会计师的年度行业市场份额的具体计算公式如下:

$$CPAEXPT_{ik} = \frac{\sum_{j=1}^{Jik}\sqrt{ASSET_{ijk}}}{\sum_{i=1}^{I}\sum_{j=1}^{Jik}\sqrt{ASSET_{ijk}}}$$

$CPAEXPT_{ik}$表示签字会计师i在k行业的市场份额,分子表示签字会计师i所在k行业的客户总资产的平方根,分母表示所有签字会计师在k行业的客户总资产的平方根。我们分年度计算$CPAEXPT_{ik}$,由此得到每一年签字会计师的行业市场份额。

在稳健性检验中,我们还尝试了以下衡量方式:a)对每一年的签字会计师按行业市场份额进行排名,将前10%的签字会计师定义为行业专长签字会计师;b)对每一年的签字会计师按行业市场份额进行排名,将前10位签字会计师定义为行业专长签字会计师;

*CPATEN*CPAEXPT*是*CPATEN*与*CPAEXPT*的交乘项。如果会计师行业专长会削弱审计任期与审计质量的关系,那么我们预期*CPATTEN*CPAEXPT*的系数显著为正。

*FIRMTEN*代表事务所的审计任期。*FIRMEXPT*代表事务所行业专长。我们对每一年的事务所行业市场份额进行排序,把行业市场份额超过10%的事务所定义为行业专长事务所。这与蔡春和鲜文铎(2007)的衡量方式一致。在模型(1)中我们同时加入*CPATEN*和*FIRMTEN*,目的是考察审计任期对审计质量的影响中究竟是签字会计师审计任期还是事务所审计任期起着更为根本的作用。同时加*CPATTEN*CPAEXPT*和*FIRMTEN*FIRMEXPT*是为了考察行业专长对审计任期作用的影响是体现在签字会计师水平还是事务所水平。

其他变量为控制变量。控制变量的选择综合了现有相关文献中的控制变量(李爽和吴溪,2002;陈信元和夏立军,2006;Gul, Fung, and Jaggi, 2009;刘启亮和唐建新,2009)。*BIG*代表事务所规模。如果为国际四大和国内六大则取值为1,否则取值为0,国内六大以其所审计客户的销售收入为标准,若某一年事务所进入按审计客户的销售排名的前六名,则认为是国内六大所。*FIRMCH*为虚拟变量,事务所变更为1,否则为0。*SIZE*用来控制公司规模,为公司总资产的自然对数。*GROWTH*

用来控制成长性，等于营业收入的增长率。*OCF*为经营活动现金流量除以总资产。*ROA*用来控制公司的盈利能力。*LOSS*用来控制公司是否发生亏损。*LEV*为公司的财务杠杆。*OPN*代表公司是否获得非标审计意见，非标意见为1，否则为0。

此外，*CPATEN***CPAEXPT*与*CPAEXPT*之间的相关系数为0.8且在0.01水平下显著，此时若同时将*CPATEN***CPAEXPT*和*CPAEXPT*放入回归模型，可能会造成较严重的共线性问题，因此我们在后面的回归分析中采用分组回归和去掉主因素的方法来克服这一问题(Fan and Wong, 2002；吴文锋、吴冲锋和刘晓薇，2008)。[3]

表2 变量定义

变量名	变量含义
|DA1|	以Jones模型计算的操纵性应计的绝对值
|DA2|	以Ball and Shivarkumar(2006)模型计算的操纵性应计的绝对值
|DA3|	以Kothari *et al*.(2005)模型计算的操纵性应计的绝对值
DA+/DA-	区分盈余管理方向，正向的操纵性应计和负向的操纵性应计
CPAEXPT_20PCT	对每一年的签字会计师按行业市场份额进行排名，将排名前20%的签字会计师定义为行业专长签字会计师。如果为行业专长签字会计师，则*CPAEXPT_20PCT*取值为1，否则取值为0
CPAEXPT_20RANK	对每一年的签字会计师按行业市场份额进行排名，将排名前20位的签字会计师定义为行业专长签字会计师；如果为行业专长签字会计师，则取值为1，否则取值为0
CPAEXPT_3PBS	取每一年行业市场份额等于或者超过3%的签字会计师为行业专长签字会计师。如果为行业专长签字会计师，则取值为1，否则取值为0
CPATEN	签字会计师任期
FIRMTEN	事务所任期
FIRMEXPT	事务所行业专长，把某一年行业市场份额超过10%的事务所定义为行业专长事务所，如果为行业专长事务所，则*FIRMEXPT*取值为1，否则为0
BIG	大规模事务所，若某一年事务所为国际四大或者国内六大，则为1，否则为0。国内六大以其所审计客户的销售收入为标准，若某一年事务所进入按审计客户的销售排名的前六名，则认为是国内六大所
FIRMCH	事务所发生变更为1，否则为0
AGE	上市年限，等于报告期年份－上市年份+1
OPN	非标审计意见，如果公司当期获得非标审计意见则为1，否则为0
LOSS	亏损虚拟变量，如果公司当期净利润小于0则等于1，否则等于0
LEV	负债率，等于总负债除以总资产
GROWTH	增长率，等于营业利润增长率
OCF	经营活动现金流量
ROA	总资产收益率
SIZE	公司规模，等于总资产的自然对数

[3] 解决共线性问题还有一种方法是去均值化处理(Aiken and West, 1991; Hao, Jin, and Zhang, 2011)，但此方法仅适用于连续变量。因为*CPAEXPT*和*CPATEN*都是离散变量，所以不适用。

（三）变量描述性统计

表3的Panel A给出了主要变量的描述性统计。因变量为操纵性应计的绝对值|*DA*|，以Jones模型衡量的操纵性应计的均值为7%，以Ball and Shivakumar(2006)模型衡量的操纵性应计的均值为5.2%，以Kothari *et al*.(2005)模型衡量的操纵性应计均值为5.7%。另外，操纵性应计为正*DA*+的样本量占总样本的50.45%，操纵性应计为负*DA*-的样本略小于为正的样本，占总样本的比例为49.55%。从主要测试变量来看，以前20%衡量的*CPAEXPT*的均值为0.384，表明38.4%的样本公司由行业专长签字会计师审计；以前20位衡量的*CPAEXPT*的均值为0.344；以3%的市场份额为分界点的*CPAEXPT*的均值为0.229；*CPATEN*的均值和最大值分别为2.579和9，表明样本公司中最长的签字会计师连续审计同一家客户长达9年，但平均来看，签字会计师连续审计的时间大概在两年半左右。

Panel B以*CPAEXPT_20PCT*作为行业专长，把样本分为行业专长组和非行业专长组，比较行业专长组与非行业专长组在审计质量上的差异，结果表明，总体上行业专长组的审计质量与非行业专长组之间的审计质量没有明显的区别。这可能是由于：一方面，行业专长审计师掌握了所在行业的经营特点、交易流程、特殊会计政策等知识，能够帮助其搜集审计证据、提高专业判断能力和审计效率，从而更准确地评估客户财务报告的公允性；另一方面，在中国的审计市场上，审计师独立性较差，面临的诉讼风险较低，行业专长审计师可能更容易受到行业内经济依赖度的负面影响，因此降低了审计质量（蔡春和鲜文铎，2007）。另外，这里只考虑了行业专长，未考虑其他影响审计质量的变量，如审计任期。

表3 主要变量描述性统计

Panel A

变量	观测数	均值	中位数	最小值	最大值
|*DA1*|	3938	0.070	0.050	0.000	0.287
|*DA2*|	3938	0.052	0.039	0.000	0.246
|*DA3*|	3938	0.057	0.041	0.000	0.259
DA+	1987	0.070	0.051	0.000	0.285
DA-	1951	-0.069	-0.049	-0.287	-0.000
CPAEXPT_20PCT	3938	0.384	0	0	1
CPAEXPT_20RANK	3938	0.344	0	0	1
CPAEXPT_3PBS	3938	0.229	0	0	1
CPATEN	3938	2.579	2	1	9

Panel B

	行业专长组			非行业专长组			差异	
变量	N	均值	中位数	N	均值	中位数	T值	Z值
|*DA1*|	1512	0.069	0.049	2426	0.071	0.050	0.386	0.426
|*DA2*|	1512	0.051	0.040	2426	0.054	0.039	0.082*	0.528
|*DA3*|	1512	0.058	0.041	2426	0.058	0.041	0.974	0.577

四、实证结果和解释

（一）主要变量之间的相关性分析

表4给出了主要变量之间的Pearson相关系数。为了表格的简洁，审计质量|*DA*|和签字会计师行业专长*CPAEXPT*的相关性分析，我们只报告了|*DA1*|和*CPAEXPT_20PCT*的结果，其他衡量方式的结果类似。从表中第(1)列可以看出，|*DA1*|与*CPATEN*负相关且在0.01水平下显著，说明总体上，随着签字会计师的审计任期增加，审计质量在提高。|*DA1*|与*FIRMTEN*负相关且在0.05水平下显著，说明随着事务所审计任期的增加，审计质量也在提高。这意味着在检验签字会计师审计任期对审计质量的研究时应控制事务所审计任期的影响。此外，把*CPATEN*和*FIRMTEN*同时纳入回归模型，可以检验哪一因素起着更加重要的作用。|*DA1*|与*CPAEXPT*负相关，但不显著。从第(4)列可以看出，*CPAEXPT*与*FIRMEXPT*正相关且在0.001水平下显著，但是从系数来看，两者之间的相关系数并不是很大(0.183)，说明行业专长事务所中的签字会计师并不一定是行业专长签字会计师，同理行业专长签字会计师所在的事务所也并不一定是行业专长事务所。

（二）多元回归分析

表5给出了模型(1)的回归结果。在表5的所有回归模型中，因变量为操控性应计的绝对值。

在Panel A中，我们用*CPAEXPT_20PCT*衡量签字会计师行业专长，*CPAEXPT_20PCT*表示对每一年的签字会计师按行业市场份额进行排名，将排名前20%的签字会计师定义为行业专长签字会计师。第(1)至(3)列采用Jones模型衡量的操纵性应计的绝对值|*DA1*|代理审计质量，第(4)至(6)采用Ball and Shivakumar(2006)模型计算的操纵性应计绝对值|*DA2*|代理审计质量。

在第(1)和第(2)列中，我们用分组的方式考察签字会计师行业专长对会计师审计任期与审计质量关系的影响。第(1)列是对非行业专长组的检验结果。结果显示*CPATEN*的系数为负且显著，这说明非行业专长组中，在审计任期较短时，由于缺乏对客户特定知识的了解，审计质量较差；随着审计任期的延长，对客户特定知识的积累增多，审计质量提高。第(2)列是行业专长组的回归结果。*CPATEN*的系数不显著，说明在短审计任期时，精通行业知识的签字会计师将很大程度上弥补对客户特定知识的缺乏，因此审计质量并不差，签字会计师审计任期的延长对审计质量提高的边际贡献较小，因此审计质量并不会因任期的延长而显著地提高。这与假说1的预期一致。在第(3)列中，我们采用加入交乘项*CPATEN*CPAEXPT*的方式来检验假说，结果显示*CPATEN*CPAEXPT*的系数显著为正，这与采用分组回归的方式一致，进一步验证了假说1，即会计师行业专长削弱了会计师审计任期与审计质量之间的正相关性。此外，在(1)至(3)列中*FIRMTEN*和*FIRMEXPT*及其交叉项的系数都不显著，说明相比于事务所行业专长，会计师行业专长对审计任期作用的影响起着更为决定性的作用。在控制变量上，*ROA*与|*DA1*|的系数显著负相关，*LEV*、*GROWTH*与|*DA1*|的系数显著正相关，*OCF*、*SIZE*、*AGE*与|*DA1*|的系数显著负相关。这与现有文献结果一致（夏立军、陈信元和方轶强，2005；刘启亮和唐建新，2009）。第(4)

表4： 主要变量之间的Pearson相关系数

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	*|DA1|*	1.000									
(2)	*CPATEN*	-0.054	1.000								
		(0.001)									
(3)	*FIRMTEN*	-0.033	0.502	1.000							
		(0.038)	(0.000)								
(4)	*CPAEXPT*	-0.014	0.077	0.105	1.000						
		(0.386)	(0.000)	(0.000)							
(5)	*FIRMEXPT*	0.010	0.089	0.101	0.183	1.000					
		(0.514)	(0.000)	(0.000)	(0.000)						
(6)	*CPATEN*CPAEXPT*	-0.023	0.433	0.268	0.809	0.187	1.000				
		(0.153)	(0.000)	(0.000)	(0.000)	(0.000)					
(7)	*BIG*	-0.014	0.121	0.171	0.210	0.296	0.204	1.000			
		(0.365)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)				
(8)	*SIZE*	-0.125	0.096	0.129	0.369	0.165	0.324	0.189	1.000		
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)			
(9)	*AGE*	0.013	0.258	0.569	0.100	0.061	0.167	0.142	0.094	1.000	
		(0.429)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		
(10)	*LEV*	0.227	0.017	0.075	0.058	0.019	0.049	0.001	0.049	0.268	1.000
		(0.000)	(0.277)	(0.000)	(0.000)	(0.222)	(0.002)	(0.932)	(0.002)	(0.000)	
(11)	*GROWTH*	0.084	-0.001	-0.011	0.035	0.009	0.028	0.018	0.033	0.036	0.043
		(0.000)	(0.950)	(0.492)	(0.027)	(0.568)	(0.075)	(0.265)	(0.037)	(0.024)	(0.007)

注： 括号中为P值；变量定义见表2；表中的*CPAEXPT*为哑变量，当年按行业市场排名在前20%的签字会计师设为1，否则为0.

至(6)列中，采用Ball and Shivakumar(2006)模型计算的操纵性应计的绝对值|*DA2*|代理审计质量重新进行了回归。结果发现：在第(4)和第(5)列的分组回归中，非行业专长组回归中*CPATEN*的系数为负且在0.05水平下显著，行业专长组回归中*CPATEN*的系数不显著。在第(6)列中，*CPATEN***CPAEXPT*的系数显著为正。这些结果与(1)至(3)列的结论相同。假说1进一步得到了证实。除*OCF*外的其他控制变量的系数与|*DA1*|做因变量时类似。*OCF*的系数与第(1)至(3)列相反，主要是因为按Ball and Shivakumar(2006)计算操纵性应计*DA2*时已经控制了*OCF*、*OCF_CHANGE*、*OCF_CHANGE***OCF*。因此*DA2*与*OCF*的关系显示出与*DA1*不同的特征。[4]

在Panel B中，我们用*CPAEXPT_20RANK*衡量签字会计师行业专长，*CPAEXPT_20RANK*表示对每一年的签字会计师按行业市场份额进行排名，取前20位签字会计师为行业专长签字会计师，除此之外其他变量与Panel A相同。结果显示：在非行业专长组中，*CPATEN*的系数显著为负，说明随着签字会计师审计任期的延长，审计质量也提高；在行业专长组中，*CPATEN*的系数不显著，审计任期的延长并不能显著的提高审计质量。*CPATEN***CPAEXPT*的系数显著为正，说明行业专长显著地削弱了审计任期与审计质量之间的正相关关系。

在Panel C中，我们用*CPAEXPT_3PBS*衡量签字会计师行业专长。行业市场份额等于或者超过3%的签字会计师被定义为行业专长签字会计师，此时*CPAEXPT_3PBS*为1。除此之外其他变量定义与Panel A、Panel B相同。结果显示：在非行业专长组中，*CPATEN*的系数显著为负，说明随著签字会计师审计任期的延长，审计质量显著提高；在行业专长组中，*CPATEN*的系数不显著，审计任期的延长并不能显著的提高审计质量。*CPATEN***CPAEXPT*的系数显著为正，说明行业专长显著地削弱了审计任期与审计质量之间的正相关关系。

综上，表5的结果表明，与事务所的审计任期相比，签字会计师的审计任期与审计质量之间的关系可能是更基础，更重要的。当签字会计师缺乏行业专长时，审计任期可以提高审计质量；而当签字会计师有较多行业专长时，审计任期对审计质量没有显著影响，行业专长削弱了审计任期与审计质量之间的正相关关系。最后，从表5的Panel A、Panel B、Panel C第(3)和第(6)列的*CPATEN*和*CPATEN***CPAEXTP*的系数看，两者之和仍然为负，说明具有行业专长的签字会计师的审计任期仍然能够提升审计质量，然而签字会计师的行业专长会削弱审计任期与审计质量之间的正相关关系。

（三）稳健性检验

在表5中，我们采用Jones模型计算的操纵性应计|*DA1*|和Ball and Shivakumar(2006)计算的操纵性应计|*DA2*|作为审计质量的替代变量。由于公司业绩会影响Jones模型操纵性应计的计算结果(Kothari, Leone, and Wasley, 2005)，稳健性检验中我们首先用Kothari, Leone, and Wasley(2005)模型重新计算了操控性应计，定义为|*DA3*|，以此为因变量进行了稳健性测试。其次，出于对风险的考虑，审计师更加关注正向的盈余管理，因此在稳健性检验中，我们进一步区分了正向盈余管理(*DA*+)和负向盈余管理(*DA*-)，分别对自变量进行回归。

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[4] 控制变量若剔除*OCF*后，回归结果仍然不变。

表 5　多元回归：行业专长，审计任期与审计质量

Panel A：取前 20% 的签字会计师定义为行业专长签字会计师 *CPAEXPT_20PCT*

变量	(1) |*DA1*| 非行业 专长组	(2) |*DA1*| 行业 专长组	(3) |*DA1*| 全样本	(4) |*DA2*| 非行业 专长组	(5) |*DA2*| 行业 专长组	(6) |*DA2*| 全样本
CPATEN	**-0.002***	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-1.935]	**[-0.510]**	**[-2.329]**	**[-2.378]**	**[-0.674]**	**[-2.466]**
CPATEN*CPAEXPT			**0.001****			**0.001***
			[1.988]			**[1.899]**
FIRMTEN	0.001	0.000	0.001	0.001	0.000	0.000
	[0.721]	[0.260]	[0.718]	[0.892]	[-0.290]	[0.378]
FIRMEXPT	0.003	0.005	0.002	0.001	0.003	0.001
	[0.194]	[0.477]	[0.182]	[0.080]	[0.394]	[0.205]
*FIRMTEN*FIRMEXPT*	0.001	-0.001	0.000	0.001	0.000	0.000
	[0.256]	[-0.351]	[0.127]	[0.310]	[-0.073]	[0.175]
BIG	-0.001	0.006	0.002	-0.001	0.001	0.000
	[-0.156]	[1.602]	[0.729]	[-0.146]	[0.294]	[0.138]
FIRMCH	0.001	0.008	0.003	0.000	0.000	-0.000
	[0.207]	[1.106]	[0.607]	[0.043]	[0.002]	[-0.148]
OPN	0.002	-0.004	0.000	0.002	-0.002	0.001
	[0.342]	[-0.732]	[-0.125]	[0.618]	[-0.616]	[0.274]
ROA	-0.237***	-0.176***	-0.220***	-0.262***	-0.209***	-0.248***
	[-8.039]	[-3.867]	[-8.148]	[-12.850]	[-6.658]	[-13.490]
LEV	0.035***	0.027**	0.032***	0.010	-0.009	0.003
	[4.117]	[2.137]	[4.486]	[1.428]	[-1.144]	[0.638]
GROWTH	0.015***	0.015***	0.015***	0.011***	0.007***	0.009***
	[5.720]	[3.428]	[6.540]	[4.569]	[3.752]	[5.002]
OCF	-0.029	-0.125***	–0.060*	0.069***	0.049***	0.065***
	[-0.875]	[-3.027]	[-1.959]	[3.548]	[2.684]	[4.367]
SIZE	-0.008***	-0.005**	-0.006***	-0.008***	-0.004**	-0.006***
	[-4.339]	[-2.095]	[-3.926]	[-4.987]	[-2.149]	[-4.638]
AGE	-0.002**	-0.001	-0.002***	-0.001**	0.000	-0.001
	[-2.404]	[-1.280]	[-3.044]	[-2.402]	[0.467]	[-1.599]
行业	控制	控制	控制	控制	控制	控制
年份	控制	控制	控制	控制	控制	控制
Obs.	2426	1512	3938	2426	1512	3938
Adj R^2	0.172	0.124	0.153	0.236	0.107	0.189

Panel B：取前20位签字会计师定义为行业专长签字会计师 *CPAEXPT_20RANK*

变量	(1) |*DA1*| 非行业 专长组	(2) |*DA1*| 行业 专长组	(3) |*DA1*| 全样本	(4) |*DA2*| 非行业 专长组	(5) |*DA2*| 行业 专长组	(6) |*DA2*| 全样本
CPATEN	**-0.002****	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-2.184]	**[-0.551]**	**[-2.373]**	**[-2.390]**	**[-0.604]**	**[-2.597]**
*CPATEN*CPAEXPT*			**0.001****			**0.001****
			[2.030]			**[2.283]**
FIRMTEN	0.000	0.001	0.001	0.000	0.000	0.000
	[0.507]	[0.612]	[0.724]	[0.593]	[0.038]	[0.381]
FIRMEXPT	0.014	0.001	0.002	0.005	0.001	0.001
	[0.602]	[0.066]	[0.182]	[0.438]	[0.010]	[0.219]
*FIRMTEN*FIRMEXPT*	0.000	0.000	0.000	0.000	0.000	0.000
	[-0.157]	[-0.069]	[0.124]	[-0.246]	[0.205]	[0.173]
BIG	0.002	0.003	0.002	0.000	0.000	0.000
	[0.401]	[0.716]	[0.663]	[0.061]	[-0.163]	[0.091]
FIRMCH	0.003	0.004	0.003	0.002	-0.003	-0.000
	[0.512]	[0.545]	[0.609]	[0.418]	[-0.814]	[-0.149]
OPN	0.002	-0.005	-0.001	0.002	-0.002	0.000
	[0.359]	[-0.972]	[-0.186]	[0.593]	[-0.448]	[0.202]
ROA	-0.230***	-0.186***	-0.220***	-0.257***	-0.211***	-0.249***
	[-7.795]	[-3.433]	[-8.178]	[-11.560]	[-5.645]	[-13.470]
LEV	0.039***	0.015	0.032***	0.011	-0.014*	0.003
	[4.325]	[1.022]	[4.471]	[1.388]	[-1.682]	[0.634]
GROWTH	0.012***	0.021***	0.015***	0.010***	0.008***	0.009***
	[4.713]	[4.479]	[6.617]	[4.096]	[4.478]	[5.038]
OCF	-0.019	-0.138***	-0.060*	0.064***	0.063***	0.066***
	[-0.563]	[-3.153]	[-1.945]	[3.197]	[3.170]	[4.393]
SIZE	-0.007***	-0.005*	-0.007***	-0.007***	-0.004**	-0.006***
	[-3.589]	[-1.907]	[-3.923]	[-4.354]	[-2.040]	[-4.688]
AGE	-0.002**	-0.002	-0.002***	-0.001**	0.000	-0.001
	[-2.486]	[-1.369]	[-3.029]	[-2.047]	[0.050]	[-1.582]
行业	控制	控制	控制	控制	控制	控制
年份	控制	控制	控制	控制	控制	控制
Obs.	2583	1355	3938	2583	1355	3938
Adj R^2	0.17	0.130	0.153	0.229	0.105	0.189

Panel C：取每一年行业市场份额等于或者超过3%的签字会计师为行业专长签字会计师 *CPAEXPT_3PBS*

变量	(1) |*DA1*| 非行业 专长组	(2) |*DA1*| 行业 专长组	(3) |*DA1*| 全样本	(4) |*DA2*| 非行业 专长组	(5) |*DA2*| 行业 专长组	(6) |*DA2*| 全样本
CPATEN	**-0.002***	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-1.756]	**[-0.447]**	**[-2.420]**	**[-2.018]**	**[-0.552]**	**[-2.467]**
*CPATEN*CPAEXPT*			**0.002***			**0.001***
			[1.915]			**[1.659]**
FIRMTEN	0.000	0.001	0.001	0.000	0.000	0.000
	[0.532]	[0.381]	[0.765]	[0.720]	[-0.137]	[0.410]
FIRMEXPT	0.023	0.001	0.002	0.009	-0.001	0.002
	[0.790]	[0.010]	[0.183]	[0.780]	[-0.073]	[0.258]
*FIRMTEN*FIRMEXPT*	-0.001	0.000	0.000	-0.001	0.000	0.000
	[-0.369]	[-0.071]	[0.029]	[-0.531]	[0.337]	[0.111]
BIG	0.004	-0.002	0.002	0.002	-0.003	0.000
	[0.728]	[-0.485]	[0.675]	[0.619]	[-1.239]	[0.155]
FIRMCH	0.005	-0.005	0.003	0.003	-0.011**	-0.000
	[0.904]	[-0.549]	[0.614]	[0.859]	[-2.367]	[-0.136]
OPN	-0.001	-0.003	-0.000	-0.001	0.003	0.001
	[-0.248]	[-0.436]	[-0.148]	[-0.269]	[0.602]	[0.246]
ROA	-0.261***	-0.018	-0.220***	-0.269***	-0.143***	-0.248***
	[-8.996]	[-0.311]	[-8.173]	[-13.090]	[-3.210]	[-13.470]
LEV	0.029***	0.044**	0.032***	0.007	-0.013	0.003
	[3.766]	[2.623]	[4.462]	[1.015]	[-1.517]	[0.624]
GROWTH	0.015***	0.015***	0.015***	0.011***	0.005**	0.009***
	[5.439]	[3.503]	[6.561]	[4.560]	[2.118]	[5.019]
OCF	-0.011	-0.205***	-0.060*	0.062***	0.068***	0.066***
	[-0.328]	[-3.729]	[-1.944]	[3.465]	[2.806]	[4.398]
SIZE	-0.007***	-0.006*	-0.007***	-0.006***	-0.003	-0.006***
	[-3.794]	[-1.739]	[-3.873]	[-4.103]	[-1.442]	[-4.675]
AGE	-0.002***	-0.002	-0.002***	-0.001*	-0.001	-0.001
	[-2.931]	[-1.656]	[-3.059]	[-1.885]	[-0.978]	[-1.606]
行业	控制	控制	控制	控制	控制	控制
年份	控制	控制	控制	控制	控制	控制
Obs.	3036	902	3938	3036	902	3938
Adj R^2	0.172	0.146	0.154	0.217	0.086	0.189

注： 变量定义见表2；*代表10%显著性水平，**代表5%显著性水平，***代表1%显著性水平；
方括号中为T值，所有的回归模型都按公司进行了Cluster处理(Petersen, 2009)。

表6 审计质量的稳健性检验

Panel A：审计质量为|*DA3*|及签字会计师行业专长为*CPAEXPT_20PCT*

变量	(1) |DA3| 非行业专长组	(2) |DA3| 行业专长组
CPATEN	-0.001	-0.001
	[-1.428]	[-0.872]
控制变量	控制	控制
Obs.	2426	1512
Adj R^2	0.062	0.060

Panel B：审计质量为|*DA3*|及签字会计行业专长为*CPAEXPT_20RANK*

变量	(1) |DA3| 非行业专长组	(2) |DA3| 行业专长组
CPATEN	-0.001*	-0.001
	[-1.704]	[-0.838]
控制变量	控制	控制
Obs.	2583	1355
Adj R^2	0.063	0.065

Panel C：区分正负盈余管理方向*DA+*/*DA-*及签字会计师行业专长为*CPAEXPT_20PCT*

变量	(1) *DA+* 非行业专长组	(2) *DA+* 行业专长组	(3) *DA-* 非行业专长组	(4) *DA-* 行业专长组
CPATEN	-0.002**	0.000	0.000	0.002*
	[-2.074]	[-0.400]	[0.382]	[1.891]
控制变量	控制	控制	控制	控制
Obs.	1329	878	1092	634
Adj R^2	0.389	0.279	0.608	0.414

Panel D：区分正负盈余管理方向*DA+*/*DA-*及签字会计师行业专长为*CPAEXPT_20RANK*

变量	(1) *DA+* 非行业专长组	(2) *DA+* 行业专长组	(3) *DA-* 非行业专长组	(4) *DA-* 行业专长组
CPATEN	-0.001*	0.000	0.001	0.003*
	[-1.915]	[-0.216]	[0.658]	[1.856]
控制变量	控制	控制	控制	控制
Obs.	1422	785	1158	568
Adj R^2	0.397	0.256	0.605	0.395

注： 变量定义见表2；*代表10%显著性水平，**代表5%显著性水平，***代表1%显著性水平；方括号中为T值，所有的回归模型都按公司进行了Cluster处理(Petersen, 2009)。

表6的Panel A和Panel B报告了|*DA3*|作为因变量的回归结果，其中Panel A列示的是行业专长采用*CPAEXPT_20PCT*的结果。在行业专长组和非行业专长组，*CPATEN*的系数均不显著。Panel B列示的是*CPATEN_20RANK*的结果。可以看到，在非行业专长组*CPATEN*的系数显著为负，而在行业专长组*CPATEN*的系数不显著。表6的Panel C和Panel D报告了区分盈余管理方向*DA+*/*DA-*的结果，其中Panel C列示的是行业专长采用*CPAEXPT_20PCT*的结果：行业专长削弱审计任期与审计质量的关系主要发生在正向盈余管理的样本中，这与现有文献发现的审计师主要关注正向盈余管理的行为相一致。Panel D列示的是行业专长采用*CPAEXPT_20RANK*的结果，结论与Panel C一致。综上，本文的结论基本上不受审计质量衡量方式的影响，研究结论稳健。

在表5中，我们以*CPAEXPT_20PCT*和*CPAEXPT_20RANK*作为签字会计师行业专长的代理变量。由于现有文献并没有涉及对签字会计师水平行业专长的衡量，因此需要对划分是否为行业专长的阈值进行敏感性测试。我们以A)对每一年的签字会计师按行业市场份额进行排名，将前10%的签字会计师定义为行业专长签字会计师*CPAEXPT_10PCT*；B)对每一年的签字会计师按行业市场份额进行排名，将前10位签字会计师定义为行业专长签字会计师*CPAEXPT_10RANK*进行测试，结果列示在表7中。表7的结果显示，用*CPAEXPT_10PCT*和*CPAEXPT_10RANK*作为签字会计师行业专长的衡量方式后，本文的主要结论并未改变。

表7 签字会计师行业专长的稳健性检验

Panel A：取前10%的签字会计师定义为行业专长签字会计师*CPAEXPT_10PCT*

	(1)	(2)	(3)	(4)
变量	**|*DA1*|**	**|*DA1*|**	**|*DA2*|**	**|*DA2*|**
	非行业专长组	**行业专长组**	**非行业专长组**	**行业专长组**
CPATEN	-0.002**	0.001	-0.002***	0.000
	[-2.422]	[0.396]	[-2.954]	[0.297]
控制变量	控制	控制	控制	控制
Obs.	2426	1512	2426	1512
Adj R^2	0.183	0.143	0.246	0.127

Panel B：取前10位签字会计师定义为行业专长签字会计师*CPAEXPT_10RANK*

	(1)	(2)	(3)	(4)
变量	**|*DA1*|**	**|*DA1*|**	**|*DA2*|**	**|*DA2*|**
	非行业专长组	**行业专长组**	**非行业专长组**	**行业专长组**
CPATEN	-0.001*	0.000	-0.002**	0.000
	[-1.706]	[-0.178]	[-2.585]	[0.364]
控制变量	控制	控制	控制	控制
Obs.	2583	1355	2583	1355
Adj R^2	0.18	0.151	0.239	0.127

注： 变量定义见表2；*代表10%显著性水平，**代表5%显著性水平，***代表1%显著性水平；方括号中为T值，所有的回归模型都按公司进行了Cluster处理(Petersen, 2009)。

（四）替代性解释的排除

1. 私人关系的影响

因为审计任期对审计质量的影响与审计师的独立性相关，特别是签字会计师和上市公司之间的关系紧密时，审计任期和审计质量之间的关系可能会有所变化（刘启亮，2006；刘启亮和唐建新，2009）。因此，我们进一步考虑了私人关系的对本文主要结论的影响。表8 Panel A中，我们控制了私人关系。私人关系定义借鉴了刘启亮(2006)的方法，即将事务所任期短于签字会计师任期的样本定义为私人关系组，*RELATION*为1，否则为0。结果发现(1)在控制住私人关系后，本文的结论依然存在；(2)私人关系对审计任期效应的影响主要是体现在非行业专长组中，行业专长能够一定程度上抑制私人关系所带来的负面影响（体现在交叉项上）。

另外,我们也按照行业专长和私人关系两个维度进行了分组检验。检验结果见表8的Panel B。从分组回归结果看，在无私人关系的非行业专长组，审计任期仍然与审计质量显著正相关。但在有私人关系的非行业专长组，客户特定知识效应不再显著。根据刘启亮(2006)和刘启亮和唐建新(2009)，我们推测在这一组中，私人关系对审计独立性的影响超过了客户特定知识效应。

表8 私人关系和市场化程度的影响

Panel A：私人关系的影响：变量控制

变量	(1) |*DA1*|	(2) |*DA1*| 非行业专长组	(3) |*DA1*| 行业专长组	(4) |*DA1*| 非行业专长组	(5) |*DA1*| 行业专长组
CPATEN	-0.002**	-0.002**	-0.001	-0.002**	-0.001
	[-2.422]	[-2.552]	[-1.102]	[-2.185]	[-0.948]
RELATION	-0.018***	-0.023***	-0.013		
	[-3.049]	[-2.949]	[-1.486]		
*CPATEN***RELATION*	0.005***	0.006***	0.004	-0.001	0.000
	[2.762]	[2.677]	[1.273]	[-0.774]	[0.0488]
控制变量	控制	控制	控制	控制	控制
Obs.	3938	2426	1512	2426	1512
Adj R^2	0.204	0.252	0.147	0.25	0.146

Panel B：私人关系影响：分组检验

	无私人关系组		私人关系组	
变量	(1) |*DA1*| 非行业专长组	(2) |*DA1*| 行业专长组	(3) |*DA1*| 非行业专长组	(4) |*DA1*| 行业专长组
CPATEN	-0.002**	-0.001	0.002	0.009
	[-1.964]	[-0.617]	[0.371]	[1.608]
控制变量	控制	控制	控制	控制
Obs.	2322	1439	104	73
Adj. R^2	0.175	0.126	0.049	0.116

Panel C：市场化程度的影响

变量	(1) |*DA1*| 非行业专长组	(2) |*DA1*| 行业专长组
CPATEN	-0.003***	-0.002
	[-2.859]	[-1.389]
*CPATEN*MKTINDEX*	0.001	0.001
	[1.534]	[1.256]
MKTINDEX	-0.001	0.000
	0.832	0.546
控制变量	控制	控制
Obs.	2426	1512
Adj R^2	0.25	0.148

注： 变量定义见表2；*代表10%显著性水平，**代表5%显著性水平，***代表1%显著性水平；方括号中为T值，所有的回归模型都按公司进行了Cluster处理(Petersen, 2009)。

2. 市场化程度的影响

Firth, Rui, and Wu(2011)发现会计师轮换的成效，与市场化程度的水平有关。在市场化程度较高的地方，审计师会更关注由于审计妥协带来的审计诉讼风险和对声誉的损害，因此审计师轮换的效果在市场化程度较低的地方更加明显。需要注意的是，Firth, Rui, and Wu(2011)发现市场化程度对轮换效果的影响主要体现在强制签字会计师轮换上，自愿会计师轮换提高审计质量的效果十分有限。而本文的样本区间为1998至2002年，为自愿会计师轮换期间。因此市场化程度对审计任期的影响效果在理论上并不十分确定。为此我们借鉴Firth, Rui, and Wu(2011)的方法对市场化程度的影响进行了检验。由于樊纲指数的最早可获得年份为2001年，市场化指数逐年之间的变动较小，因此我们以2001年的市场化指数替代1998至2000年的市场化指数。表8的Panel C报告了回归结果。在控制市场化程度的影响后，本文结论依然成立。

3. 客户自选择可能性的排除

由于高质量的公司往往倾向于续聘现任审计师，进而导致签字会计师的审计任期较长；而低质量的客户则更可能被现任审计师辞聘，导致签字会计师的审计任期较短(Gul, Fung, and Jaggi, 2009)。所以审计任期与|*DA*|之间存在负相关关系，可能是客户自选择的结果，即好的客户会计师一般不会放手，而对差的客户，会计师可能主动请辞。结果就是看到任期长的客户其会计信息质量好，任期短的客户其会计信息质量比较差。为了排除客户自选择可能性的影响，我们采用两阶段的回归方法。在第一阶段我们建立*CPATEN*的选择模型，然后把*CPATEN*的预测值即*P_CPATEN*带入第二阶段回归。*CPATEN*的选择模型如下：

$$\begin{aligned} CPATEN = {} & \beta_0 + \beta_1 RECT + \beta_2 BIG + \beta_3 FIRMTEN + \beta_4 FIRMTCH + \beta_5 LOSS \\ & + \beta_6 SIZE + \beta_7 AGE + \beta_8 GROWTH + \beta_9 OCF + \beta_{10} INVT + \beta_{11} QUICK \\ & + \beta_{12} ROA + \beta_{13} LEV + \sum_i^n \beta_i * IND_i + \sum_j^m \beta_j * YEAR_j \end{aligned} \quad (2)$$

回归结果列示在表9。为了表格的简洁，我们只报告第二阶段回归的结果。表9的(1)列是对非行业专长组进行回归，结果显示*P_CPATEN*的系数为负且在0.05水平下显著，表明非行业专长的签字会计师的审计任期越长，则审计质量越高。(2)列对行业专长组进行回归，*P_CPATEN*的系数显著为正，即在行业专长组，审计任期的延长不但未使得审计质量提高，反而降低了审计质量。说明审计任期的"独立性效应"超过了"客户专有知识效应"。由于审计任期增加导致的会计师与客户关系过分亲密较严重，进而导致审计独立性下降，最终反映为客户盈余管理空间的增加(即审计质量下降)。

表9 客户自选择的排除

第二阶段回归结果

变量	**|DA1|**	**|DA1|**
	(1)	**(2)**
	非行业专长组	**行业专长组**
P_CPATEN	**-0.198****	**0.067*****
	[-2.574]	**[3.534]**
BIG	0.041*	0.001
	[1.842]	[0.255]
FIRMTEN	0.057**	-0.018***
	[2.565]	[-3.431]
FIRMCH	-0.112**	0.049***
	[-2.261]	[2.832]
SIZE	-0.002	-0.007**
	[-0.208]	[-2.159]
AGE	0.003	0.001
	[0.889]	[0.590]
LEV	0.060**	0.029*
	[2.149]	[1.915]
GROWTH	0.009	0.003
	[1.043]	[0.705]
OCF	-0.011	-0.002
	[-0.150]	[-0.0438]
行业	控制	控制
年份	控制	控制
Obs.	2420	1510

注： 变量定义见表2；*代表10%显著性水平，**代表5%显著性水平，***代表1%显著性水平；方括号中为T值。

五、结论和政策含义

本文利用签字会计师强制轮换制度实施之前1998至2002年上市公司数据，检验了会计师行业专长对审计任期与审计质量关系的影响。研究发现，当会计师缺乏行业专长时，会计师的长审计任期能够提高审计质量，说明随着审计任期的延长，客户专有知识的积累对于缺乏行业经验的会计师提高审计质量有重要作用，此时客户专有知识的正面作用大于独立性降低带来的负面作用。对于那些具有行业专长的会计师来说，审计任期延长带来的"客户特定知识效应"被显著削弱。

本文贡献在于学术和实务两个层面。学术上，本文的研究将会计师行业专长引入了审计任期与审计质量关系的研究，丰富了现有会计师层面的审计文献。本文发现相对于事务所层面的分析，会计师层面的审计任期和行业专长起着更为决定性作用。从实务上看，本研究结果可以帮助利益相关各方预判审计任期与审计质量之间的关系，对审计的实务工作有重要的参考价值。本研究结果对于政策制定也有重要启示。比如，会计师强制轮换政策对行业专长会计师和非行业专长会计师的影响是不同的。对监管者而言，应特别关注非行业专长会计师，因为轮换政策对其的负面影响较大。

本研究用可操控性应计衡量审计质量，得到上述结论。未来研究中，可以检视其他审计质量的替代变量，做进一步的研究。

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Auditors' Industry Expertise, Auditor Tenure, and Audit Quality: Evidence from China at the Audit-Partner Level*

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Abstract

This paper studies how auditors' industry expertise at the audit-partner level affects the relationship between partners' tenure and audit quality. Using a sample of listed companies in the Chinese stock market from 1998 to 2002, which was before the mandatory rotation of signing partners policy was introduced, we find that when partners who sign the audit reports have less expertise, their tenure is positively related to audit quality. However, auditors' industry expertise at the partner level weakens this positive relationship; that is, for partners with less industry expertise, the client-specific knowledge effect is more important than the independence-decreasing effect, and for partners with more industry expertise, the client-specific knowledge effect decreases and the independence-decreasing effect becomes comparatively important.

Keywords: Audit Partner, Industry Expertise, Audit Tenure, Audit Quality
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I. Introduction

In 2003, the China Securities Regulatory Commission (CSRC) and the Ministry of Finance (MOF) jointly released *The Policy of the Mandatory Rotation of Signing Certified Public Accountants Engaging in the Business of Securities and Futures* (hereinafter the "Mandatory Rotation Policy"); this required that signing certified public accountants (CPAs) should be changed after serving a firm for 5 consecutive years. The premise behind this regulation is that regulators believe that the long tenure of signing CPAs may decrease audit quality. However, does the long tenure of signing CPAs really decrease audit quality? Under what conditions will the long tenure of signing CPAs lead to a decline in audit quality? These questions remain unanswered. Because most countries do not disclose information on signing CPAs, evidence on the relationship between auditor tenure and audit quality is still rare and the conclusions of prior studies are not consistent; for example, Carey and Simnett (2006) find a negative relationship between the signing CPA's tenure and audit quality, while others have found that the signing CPA's tenure does not lead to a decline in audit quality but rather improves it (Chen, Lin, and Lin, 2008; Liu, Yu, and Chen, 2008; Chi, Huang, Liao, and Xie, 2009).

Audit quality is defined as the joint probability that an auditor discovers a breach in a client's accounting system and reports that breach (DeAngelo, 1981b); the former depends on the auditor's competence, while the latter is mainly determined by the auditor's independence. According to the extant literature, auditor tenure has two contrary effects on audit quality. On the one hand, with longer tenure, auditors will gain more client-specific knowledge and a better understanding of client-specific risk and meanwhile become less dependent on managers' estimations of financial information. Auditors will therefore enhance their competence and eventually improve their audit quality (Petty and Cuganesan, 1996; Myers, Myers, and Omer, 2003). In this paper, this effect is referred to as the client-specific knowledge effect. On the other hand, problems that can arise from the relationships built up between auditors and clients as a result of the extension of auditor tenure, such as the familiarity threat and self-interest threats, decrease auditor independence (Mautz and Sharaf, 1961; IESBA (International Ethics Standards Board for Accountants), 2010). In this paper, this effect is referred to as the independence-decreasing effect. In sum, the effect of auditor tenure on audit quality mainly depends on the relative importance of the client-specific knowledge effect and the independence-decreasing effect: When the client-specific knowledge effect dominates, long auditor tenure will improve audit quality, but when the independence-decreasing effect dominates, long auditor tenure will reduce audit quality.

The prior literature generally supports the dominance of the client-specific knowledge effect over the independence-decreasing effect: that is, audit quality can be improved by auditor tenure at the partner level (Chen, Lin, and Lin, 2008; Manry, Turner, and Mock, 2008; Liu, Yu, and Chen, 2008; Chi, Huang, Liao, and Xie, 2009). However, a question worth exploring is whether this finding differs among companies

with different characteristics. The relationship between auditor tenure and audit quality can be affected by two factors. The first one is personal relationship. For instance, when signing partners have personal relationships with clients, their independence will be harmed more severely with the extension of auditor tenure. In this situation, will long auditor tenure still be able to improve audit quality? Liu and Tang (2009) find that without personal relationships, the longer the signing partner's tenure, the better the audit quality, while with personal relationships, the longer the signing partner's tenure, the worse the audit quality. This finding is important because if long auditor tenure decreases audit quality in the personal-relationship subsample, the Mandatory Rotation Policy for signing partners will have a positive effect and enhance their audit quality.

This paper considers another factor − an auditor's industry expertise at the partner level. Specifically, we investigate the impact of an auditor's industry expertise on the client-specific knowledge effect of partner tenure. An important premise for the client-specific knowledge effect to take place is that the client-specific knowledge held by auditors is relatively limited at the initial stage. So, with long auditor tenure, there will be an incremental accumulation of client-specific knowledge and an increase in audit quality. However, if auditors are the industry experts in their clients' business, they already have a lot of client-specific knowledge at the initial stage. In this situation, the incremental accumulation of client-specific knowledge gained as a result of the extension of auditor tenure is small and hence the client-specific knowledge effect of auditor tenure is weakened. Before going on, we want to clarify that this paper focuses on the impact of partners' industry expertise on the relationship between auditor tenure and audit quality instead of directly examining the impact of industry expertise on audit quality or whether audit quality will be affected by independence of the auditor.

Using a sample of listed companies in the Chinese stock market from 1998 to 2002, which was before the Mandatory Rotation Policy was introduced, we find that when the partners who sign auditing reports have less expertise, their tenure is positively related to audit quality. However, auditors' industry expertise at the partner level weakens this positive relationship; that is, for partners with less industry expertise, the client-specific knowledge effect dominates the independence-decreasing effect, but for partners with more industry expertise, the client-specific knowledge effect decreases and the independence-decreasing effect becomes comparatively important.

This paper contributes to the literature in the following ways. First, audit research at the individual partner level has become a hot topic (DeFond and Francis, 2005). This paper extends the research on the impact of industry expertise and auditor tenure on audit quality to the partner level and therefore expands the partner-level audit literature. Compared to Gul, Fung, and Jaggi (2009), we not only investigate auditor tenure from the partner level but also find that audit partner tenure is more important when we consider the tenure of both audit firm and audit partner simultaneously. Our findings regarding industry expertise are similar: that is, partners' industry expertise is more important

than firms' industry expertise. Second, our findings show that there is a substitution between industry expertise and the client-specific knowledge effect of auditor tenure. The independence-decreasing effect is comparatively important in the sample with industry expertise. Thus, a direct implication from this evidence is that the Mandatory Rotation Policy will have a better effect for partners with industry expertise since mandatory rotation improves their independence while having little impact on their professional competence. Third, technically, this paper provides future studies with a variety of market share based measures of industry expertise at the audit-partner level.

The rest of this paper is organised as follows: Section II provides the theoretical analysis and puts forward a hypothesis based on a review of the relevant literature, Section III presents the design of the research methods, Section IV provides the empirical results and interpretations, and the final section contains conclusions and policy recommendations.

II. Literature Review and Hypothesis Development

As early as the 1970s, the U.S. regulatory authorities were concerned that audit tenure might affect audit quality, and ever since then there has been extensive discussion on the necessity of mandatory audit rotation. For instance, the U.S. Senate (U.S. Senate, 1977) contended that a long-term employment relationship between companies and accounting firms would lead to close relationships and the sharing of interests between accounting firms and the managements of their clients, and hence it would be difficult for accounting firms to issue independent audit opinions. One way to solve this problem is the mandatory rotation of accounting firms; this view is shared by the Securities and Exchange Commission (SEC) and the American Institute of Certified Public Accountants (AICPA), who have claimed that long audit tenure decreases earnings quality (AICPA, 1978; SEC, 1994). The prior literature on audit tenure can be categorised into two levels − accounting-firm level and audit-partner level. Since this paper is based on the audit-partner level, we only give a brief review of the studies dealing with the accounting-firm level.

At the firm level, long audit tenure may impair audit independence and decrease audit quality (Mautz and Sharaf, 1961; Dopuch, King, and Schwartz, 2001; Davis, Soo, and Trompeter, 2009). Regulatory authorities generally agree that long audit tenure may impair audit quality and that mandatory audit rotation is required (AICPA, 1978; SEC, 1994). However, evidence from many other studies shows that long audit tenure does not impair audit quality but rather enhances it (Geiger and Raghunandan, 2002; Johnson, Khurana, and Reynolds, 2002; Myers, Myers, and Omer, 2003; Ghosh and Moon, 2005; Xia, Chen, and Fang, 2005; Chen and Xia, 2006; Liu, 2006; Gul, Fungand, and Jaggi, 2009). Audit tenure and audit quality do not necessarily show a simple linear relationship; there may be an inverted U-shaped relationship between them (Chen and Xia, 2006; Liu, 2006).

The research cited above focuses on the accounting-firm level, but it is necessary to study the effect of audit tenure on audit quality from the partner level because engagement partners supervise all audit business activities and signing partners take main responsibility for the overall quality of audit services (CICPA, 2007; Wu, 2009). Therefore, the behaviour of signing partners should have a closer link to audit quality and it would be more accurate to analyse the tenure of signing partners than the term of accounting firms (Liu, Yu, and Chen, 2008). What should be noted is that this does not mean that accounting firms themselves have no form of quality control, which is reflected in the assignment and supervision of engagement audit partners; accounting firms can, for example, punish or replace engagement audit partners who do not comply with the ethics standards. Meanwhile, just like none of the corporate governance mechanisms is perfect, a firm's quality control measures cannot completely eliminate the agency problem. Thus, factors at both the accounting-firm level and the partner level will have important effects on audit quality. The regulations from the Chinese Institute of Certified Public Accountants (CICPA) and the CSRC also focus on these two levels. In addition, studies at the signing partner and audit firm levels may come to different conclusions (Francis, Stokes, and Anderson, 1999; Carey and Simnett, 2006; Chen, Sun, and Wu, 2010). Since Defond and Francis (2005) initiated the study of audit behaviour at the audit-partner level, there have been some studies of auditor tenure at the audit-partner level. Chi and Huang (2005) find that audit quality improves with the extension of partner tenure, but after a certain number of years (roughly 5 years), long partner tenure reduces audit quality. Carey and Simnett (2006) find that deterioration in audit quality is associated with long partner tenure: there is a lower propensity to issue a going-concern opinion and a higher possibility of just beating earning benchmarks. Using estimated discretionary accruals as the measure for audit quality, Manry, Turner, and Mock (2008) find that discretionary accruals decreases and audit quality increases with the extension of audit partner tenure. After controlling for the audit tenure of the accounting firm, Chen, Lin, and Lin (2008) still find that long audit-partner tenure improves audit quality. Chi, Huang, Liao, and Xie (2009) investigate the relationship between partner tenure and audit quality from another perspective. They directly examine the effect of the rotation of signing partners and find that audit quality is lower after the implementation of the Mandatory Rotation Policy. In their study, there is no significant difference in audit quality between the mandatory rotation sample and the non-rotation sample or the voluntary rotation sample; this generally supports the conclusion that the mandatory rotation of signing partners does not improve audit quality. There are still only a few Chinese studies on the effect of audit tenure on audit quality from the perspective of signing partners. The extant studies have found that the tenure of signing partners can improve audit quality and that such an effect is more significant for long partner tenure (longer than 5 years) (Liu, Yu, and Chen, 2008). However, for long partner tenure to improve audit quality, certain conditions need to in place. If there are personal relationships or unusual employments

between signing partners and clients, long auditor tenure will decrease audit quality (Liu and Tang, 2009). The above studies usually use discretionary accruals as the proxy for audit quality. If audit opinions are used as proxies for audit quality, there will be no correlation between auditor tenure and audit quality (Shen, Qi, and Zeng, 2008). Li and Wu (2006) directly examine the initial effect of mandatory partner rotation. By investigating first-year audit quality after mandatory rotation, they find that mandatory rotation has a limited effect on audit quality. Gong and Wang (2009) investigate the effect of mandatory rotation and find that the mandatory rotation of signing partners cannot reduce discretionary accruals as a whole but can inhibit positive earnings management.

In theory, there are two explanations for the positive effect of auditor tenure on audit quality. First, with the extension of auditor tenure, auditors gain more client-specific knowledge and a better understanding of client-specific risk and meanwhile become less dependent on managers' estimations. Auditors will therefore enhance their competence and eventually improve audit quality (Petty and Cuganesan, 1996; Myers, Myers, and Omer, 2003). This is the client-specific knowledge effect mentioned above. The second explanation regarding the effect of auditor tenure on audit quality comes from the perspective of low-balling (DeAngelo, 1981a), which suggests that due to economic pressure, an auditor is lenient with clients at the early stage of low-balling. Nonetheless, as the cost of low-balling is recovered and the economic pressure of losing clients gradually decreases, auditors become stringent, thus increasing audit quality (Gul, Jaggi and Krishnan, 2007; Gul, Fung and Jaggi, 2009).[1] The main explanation for the negative correlation between auditor tenure and audit quality is the decline in auditor's independence caused by long auditor tenure. With the extension of auditor tenure, the relationships between signing partners and clients become too close (familiarity threat) and auditors may be restrained by their own interests (self-interest threats). Such threats will affect auditor independence (Mautz and Sharaf, 1961; IESBA (International Ethics Standards Board for Accountants), 2010).

The positive and negative effects of auditor tenure on audit quality co-exist. Based on the extant literature, at the audit-partner level, we do not know under which circumstances the positive (or negative) effects will dominate. Since there is a certain degree of overlap and substitution relationship between auditors' industry expertise and client-specific knowledge, the relative importance of the independence-decreasing effect and the client-specific knowledge effect will be different given the different levels of auditors' industry expertise. Specifically, when the auditor has more audit experience

[1] Owing to the cost and technical advantages of incumbent auditors, they can get quasi-rent in follow-up audit years. When the audit market achieves equilibrium after competition, the low-balling phenomenon occurs (DeAngelo, 1981a); that is, auditors charge lower prices at the early stage, but in the follow-up audit year, they charge higher prices to compensate for initial losses. Therefore, at the initial stage (short auditor tenure), auditors will be more lenient with clients in order to maintain the relationship and recover the initial costs in subsequent years (Gul *et al.*, 2009). After several years of audit (long audit tenure), the cost of low-balling is recovered and the economic pressure of losing clients gradually decreases; then, auditors become stringent with clients, which is consistent with the findings of Johnson *et al.* (2002).

in the client's industry, the marginal effect of client-specific knowledge is relatively small and the "independence effect" of auditor tenure is relatively enhanced. When auditors have less industry experience, their perception of audit risk relies more on the understanding of clients per se; in this situation, client-specific knowledge becomes more important and plays a dominant role.

Based on the analysis above, we propose the following hypothesis:

H1: When partners have less industry expertise, the client-specific knowledge effect will be stronger, and hence long audit-partner tenure can improve audit quality. When partners have more industry expertise, the client-specific knowledge effect will be weakened and hence the positive effect of long audit-partner tenure on audit quality will also be weakened.

III. Research Design

3.1 Data Source and Sample Selection

In order to test the hypothesis, this paper uses a sample of listed companies in the Chinese A-stock market from 1998 to 2002. The sample ends at 2002 because at the end of 2003 the MOF and CSRC jointly introduced the Mandatory Rotation Policy, which requires that signing CPAs should be changed after serving for 5 consecutive years; hence, the audit-partner tenure figures for and after 2003 would be affected. Financial companies, newly-listed companies, and delisted companies are eliminated from the sample because the characteristics of these companies are different from other companies. Meanwhile, when estimating discretionary accruals by industry, the number of listed companies in that industry should be greater than 20, and so industries with less than 20 listed companies during a year are also deleted. The financial data and industry types of the listed companies are taken from the CSMAR database developed by GTA IT Co., Ltd. The data on the signing partners are first extracted from the CSMAR database and then verified and corrected through various channels and methods. Moreover, in order to control for the influence of outliers, we winsorise all of the continuous variables at 1%.

Table 1 shows the sample selection process. The final sample consists of 3,938 observations: 602, 659, 759, 912, and 1,006 observations from 1998 to 2002, respectively.

Table 1: Sample Selection

	1998	1999	2000	2001	2002	Total
Original sample	826	924	1,061	1,139	1,203	5,153
Less:						
IPO firms	106	99	138	82	75	500
Firms in the financial industry	5	5	6	7	7	30
Firms for which *DA* cannot be calculated	46	59	82	58	43	288
Firms that do not disclose signing partners' names	65	98	73	79	71	386
Missing control variable	2	4	3	1	1	11
Final observations	602	659	759	912	1,006	3,938

3.2 Model and Definitions of Variables

We employ two methods to test the hypothesis − the subsample method and the interaction method. The model with interaction terms is as follows:

$$\begin{aligned}|DA| = {} & \alpha+\beta_0 CPATEN+\beta_1 CPATEN*CAPEXPT+\beta_2 FIRMTEN \\ & +\beta_3 FIRMEXPT+\beta_4 FIRMEXPT*FIRMTEN+\beta_5 BIG+\beta_6 FIRMCH \\ & +\beta_7 SIZE+\beta_8 AGE+\beta_9 GROWTH+\beta_{10} OCF+\beta_{11} ROA+\beta_{12} LOSS \\ & +\beta_{13} OPN+\beta_{14} LEV+\sum_i^n \beta_i*IND_i+\sum_j^m \beta_j*YEAR_j \end{aligned} \quad (1)$$

When we use the subsample method, interaction terms are removed. We divide the sample into two groups: an industry expertise group (*CPAEXPT*=1) and a non-industry expertise group (*CPAEXPT*=0). The meanings of the variables in Model (1) are described below.

The dependent variable is audit quality (|*DA*|). In this paper, the absolute value of discretionary accruals is used to measure audit quality; such an approach has been widely accepted in the literature (Myers, Myers, and Omer, 2003; Carey and Simnett, 2006; Blouin, Grein, and Rountree, 2007; Chen, Sun, and Wu, 2010). Discretionary accruals are obtained using the following methods: (1) the adjusted cross-sectional Jones model is used to estimate *DA*, and we get the absolute value of discretionary accruals, |*DA1*|; (2) the piecewise linear regression model is used to estimate discretionary accruals, |*DA2*| (Ball and Shivakumar, 2006).

In addition, the following measures are used in the robustness tests: (1) in order to control for estimate errors caused by company performance during the calculation of *DA* (Kothari, Leone, and Wasley, 2005), we use the adjusted-cross-sectional Jones model to control for company performance (ROA_t) to obtain |*DA3*|; (2) we also distinguish the direction of earnings management using positive earnings management (*DA*+) and negative earnings management (*DA*-) as proxies for audit quality, respectively.

The main test variable in Model (1) is audit-partner tenure (*CPATEN*). Because an audit report must be signed by two CPAs in China (MOF, 2001),[2] the Chinese audit setting offers a valuable opportunity to directly observe the tenure of signing partners. We calculate audit-partner tenure as follows: If signing partners are involved in year *t*-1 and year *t*, then we add one year in their tenure. Since there will be two sets of tenure data on two signing partners corresponding to each firm-year, we take the longer tenure as the final tenure. This operational method is consistent with the existing literature (Chi and Huang, 2005; Liu, Yu, and Chen, 2008; Shen, Qi, and Zeng, 2008). In Model (1), *CPATEN* represents the impact of auditor tenure on audit quality. According to Hypothesis 1, we expect that in the non-industry expertise group, the coefficient of *CPATEN* will be significantly negative.

CPAEXPT represents the industry expertise of signing partners. According to the extant literature, there are two ways to measure auditors' industry expertise: the market share approach and the portfolio approach. Since industry expertise increases with industry market share, industry market share can be used as a measure for industry expertise (Hogan and Jeter, 1999; Ferguson, Francis, and Stokes, 2003). Francis, Reichelt, and Wang (2005) define accounting firms with the top five largest market share in the industry as the accounting firms with industry expertise. Reichelt and Wang (2010) define the accounting firms with the largest market share in a particular industry, where the firm's industry market share needs to be 10 per cent larger than that of the second largest firm or 30 per cent larger than the overall industry, as the accounting firms with industry expertise. Lim and Tan (2010) define the accounting firms with an industry market share over 24 per cent from 2000 to 2001 as the accounting firms with industry expertise (while for the years between 2002 and 2005, the percentage increases to 30 per cent). Chinese scholars Cai and Xian (2007) define the accounting firms with an industry market share more than or equal to 10 per cent as the accounting firms with industry expertise. The other way to measure auditors' industry expertise is the portfolio approach, which defines the industry with the largest market share of all of the industries audited by an accounting firm as its industry expertise (Hogan and Jeter, 1999; Cai and Xian, 2007). Under the portfolio approach, each accounting firm, even those small-sized accounting firms with a lower absolute value of market shares, has its own industry expertise. Consistent with the recent literature (Francis, Reichelt, and Wang, 2005; Lim and Tan, 2010; Reichelt and Wang, 2010), this paper uses the market share approach to measure industry expertise. We adopt the CSRC's industry definitions as the industry classification standards. We use two-digit codes for the manufacturing industry and one-digit codes for other industries.

It should be noted that the definitions of industry expertise in the above literature are based on the accounting-firm and practice-office level (commonly referred to as the "firm level" in literature). This paper needs to redefine industry expertise at the audit-

[2] Usually, one is responsible for audit services and the other for check and review.

partner level. We note that there are two differences between the industry expertise at the signing auditor partner level and at the firm/office level: (1) the number of signing auditor partners in a particular industry is far more than the number of accounting firms or offices in that industry; (2) the industry market share of signing partners is less than that of accounting firms or offices. So, we cannot directly use the threshold value of industry expertise based on the definition at firm level; for example, it would be inappropriate to take signing partners with over 30 per cent or 10 per cent of the industry market share or the ones with the highest market share as partners with industry expertise. Therefore, we adopt the following methods to define partners with industry expertise:

(i) rank all partners by industry market share for each year and then define the top 20 per cent of them as the signing partners with industry expertise (*CPATEN_20PCT*);
(ii) rank partners by industry market share for each year and then define the first 20 as the signing partners with industry expertise (*CPATEN_20RANK*); and
(iii) take partners with an industry market share equal to or more than 3 per cent for each year as the signing partners with industry expertise (*CPATEN_3PBS*).

The annual industry market share of partner is calculated as follows:

$$CPAEXPT_{ik} = \frac{\sum_{j=1}^{Jik} \sqrt{ASSET_{ijk}}}{\sum_{i=1}^{I} \sum_{j=1}^{Jik} \sqrt{ASSET_{ijk}}}$$

$CPAEXPT_{ik}$ is the market share of partner i in industry k; the numerator represents the square root of the total client assets in the kth industry audited by the partner i; the denominator represents the square root of the total client assets in the kth industry audited by all signing partners. We calculate *CPAEXPT* year by year to get the industry market shares of signing partners for each year.

In the robustness test, we also try the following measures: (a) ranking signing partners by industry market share for each year and defining the top 10 per cent of them as the ones with industry expertise and (b) ranking signing partners by industry market share for each year and defining the first 10 of them as the ones with industry expertise.

*CPATEN*CPAEXPT* is the interaction term of *CPATEN* and *CPAEXPT*. If partners' industry expertise weakens the relationship between auditor tenure and audit quality, we will expect the coefficient of *CPATTEN*CPAEXPT* to be significantly positive.

FIRMTEN represents the firms' audit tenure. *FIRMEXPT* represents the firms' industry expertise. We rank accounting firms by industry market share for each year and define those with over 10 per cent of industry market share as industry expertise firms. This method is consistent with Cai and Xian (2007). We add *CPATEN* and *FIRMTEN* into Model (1) at the same time to investigate whether it is the tenure of signing partners or the firms' audit tenure that plays a more fundamental role in affecting audit quality. We add *CPATTEN*CPAEXPT* and *FIRMTEN*FIRMEXPT* at the same time to examine whether the impact of industry expertise on audit tenure is reflected at the audit-partner level or the accounting-firm level.

Table 2: Variable Definitions

Variable Name	Definition
|DA1|	Absolute discretionary accruals derived from the Jones Model
|DA2|	*/DA/* derived from Ball and Shivarkumar (2006) Model
|DA3|	*/DA/* derived from Kothari *et al.* (2005) Model
DA+/DA–	Distinguish the direction of *DA* to positive *DA* and negative *DA*
CPAEXPT_20PCT	Equals 1 if the signing partner is an industry expert and 0 otherwise. We rank signing partners by industry market share for each year and define the top 20 per cent of them as the audit partners with industry expertise.
CPAEXPT_20RANK	Equals 1 if the signing partner is an industry expert and 0 otherwise. We rank signing partners by industry market share for each year and define the first 20 as the partners with industry expertise.
CPAEXPT_3PBS	Equals 1 if the signing partner is an industry expert and 0 otherwise. We take signing partners with industry market share equal to or more than 3 per cent for each year as the signing partners with industry expertise.
CPATEN	Audit tenure at the partner level
FIRMTEN	Audit tenure at the firm level
FIRMEXPT	Equals 1 if the audit firm is an industry expert and 0 otherwise. The audit firm is defined as an industry expert if it has more than a 10 per cent market share in an industry.
BIG	Equals 1 if it is a big audit firm and 0 otherwise. An audit firm is considered to be a big firm if it is among the Big Four or the domestic Big Six. The domestic Big Six are ranked as the top six audit firms according to clients' total revenue.
FIRMCH	Equals 1 if audit firm switch happens and 0 otherwise.
AGE	List age, equal to report year − list year +1
OPN	Equals 1 if the client receives a modified audit opinion and 0 otherwise.
LOSS	Equals 1 if net income is less than zero and 0 otherwise.
LEV	Total debt divided by total assets
GROWTH	Operating income growth rate
OCF	Operating cash flows divided by total assets
ROA	Net income divided by total assets
SIZE	Natural logarithm of total assets

The other variables are the control variables. We include control variables in our regression model according to the extant literature (Li and Wu, 2002; Chen and Xia, 2006; Gul, Fung, and Jaggi, 2009; Liu and Tang, 2009). BIG represents audit firm size; it equals 1 if the accounting firm is among the international Big Four or the domestic Big Six and 0 otherwise. The domestic Big Six are ranked based on the sales revenue of their clients. Specifically, an accounting firm is considered to be among the domestic Big

Six if the sum of its clients' sales is ranked among the top six. *FIRMCH* is a dummy variable which equals 1 if the accounting firm is switched and 0 otherwise. *SIZE*, the natural logarithm of an auditee's total assets, is used to control for the auditee's size. *GROWTH*, the growth rate of operating revenue, is used to control for the auditee's growth. *OCF* is operating cash flow divided by total assets. *ROA* is used to control for the auditee's profitability. *LOSS* is used to control for whether the company is in a loss position. *LEV* is the company's financial leverage. *OPN* represents whether the company gets a non-qualified audit opinion: 1 for qualified audit opinion and 0 otherwise.

Moreover, the correlation coefficient between *CPATEN***CPAEXPT* and *CPAEXPT* is 0.8, which is significant at the 0.01 level. If we include *CPATEN***CPAEXPT* and *CPAEXPT* into the regression model simultaneously, a collinearity problem may be caused. Therefore, we run regressions by group and remove the main factors to overcome this problem (Fan and Wong, 2002; Wu, Wu, and Xiao, 2008).[3]

3.3 Descriptive Statistics

Panel A of Table 3 presents the descriptive statistics of the main variables. The dependent variable is the absolute value of discretionary accruals, |*DA*|. The expected value of *DA* is 7 per cent by the Jones model, 5.2 per cent by the Ball and Shivakumar (2006) model, and 5.7 per cent by the Kothari *et al*. (2005) model. In addition, the subsample with positive *DA*+ (*DA*-) accounts for 50.45 per cent (49.55 per cent) of the total sample. The mean of *CPAEXPT* measured by the top 20 per cent of market share rankings is 0.384, suggesting that 38.4 per cent of the sample firms are audited by partners with industry expertise; the mean of *CPAEXPT* measured by the first 20 auditors is 0.344; the mean of *CPAEXPT* with 3 per cent market share as the threshold is 0.229; the mean and the maximum value of *CPATEN* are 2.579 and 9, respectively, suggesting that the longest continuous period for the signing partner to audit the same client is 9 years, but on average, this period is about two and a half years.

In Panel B, by taking *CPAEXPT_20PCT* as industry expertise, we divide the sample into a group with industry expertise and a group without industry expertise to compare the differences in audit quality between them. The results show that overall there is no significant difference between these two groups. On the one hand, partners with industry expertise are familiar with the operating characteristics, transaction processes, and special accounting policies of the auditee's industry. This knowledge can help them to gather audit evidence, enhance their professional judgment and audit efficiency, and more accurately assess the fairness of clients' financial reports. On the other hand, in China's audit market with low auditor independence and low litigation risk, partners with industry expertise may be more vulnerable since they rely more on clients that are within the industry they are familiar with, thus reducing audit quality (Cai and Xian,

[3] One way to deal with collinearity problems is the adjusted means process (Aiken and West, 1991; Hao, Jin, and Zhang, 2011), which only applies to continuous variables. Since *CPAEXPT* and *CPATEN* are both discrete variables, this method is inapplicable.

2007). In this study, we only consider industry expertise and neglect all other variables affecting audit quality such as audit tenure.

Table 3: Summary Description

Panel A

Variable	Obs	Mean	Median	Min	Max
|*DA1*|	3938	0.070	0.050	0.000	0.287
|*DA2*|	3938	0.052	0.039	0.000	0.246
|*DA3*|	3938	0.057	0.041	0.000	0.259
DA+	1987	0.070	0.051	0.000	0.285
DA–	1951	-0.069	-0.049	-0.287	-0.000
CPAEXPT_20PCT	3938	0.384	0	0	1
CPAEXPT_20RANK	3938	0.344	0	0	1
CPAEXPT_3PBS	3938	0.229	0	0	1
CPATEN	3938	2.579	2	1	9

Panel B

	Expert			Non-expert			Diff	
Variable	N	Mean	Median	N	Mean	Median	T Value	Z Value
|*DA1*|	1512	0.069	0.049	2426	0.071	0.050	0.386	0.426
|*DA2*|	1512	0.051	0.040	2426	0.054	0.039	0.082*	0.528
|*DA3*|	1512	0.058	0.041	2426	0.058	0.041	0.974	0.577

IV. Empirical results

4.1 Correlation Analysis

Table 4 shows the Pearson correlations among the main variables. For simplicity, we only report the correlation between |*DA1*| and *CPAEXPT_20PCT* in the analysis of the relationship between audit quality |*DA*| and a partner's industry expertise *CPAEXPT*. The results remain consistent when using other measures. From column (1), we can see that |*DA1*| and *CPATEN* are significantly negatively correlated at the 0.01 level, indicating that, in general, with an increase in a partner's tenure, audit quality improves. |*DA1*| and *FIRMTEN* are negatively correlated at the 0.05 level of significance, indicating that with an increase in the tenure of an accounting firm, audit quality improves. This means that when testing the impact of the tenure of an audit partner on audit quality, the influence of tenure of the accounting firm should be controlled. In addition, by including *CPATEN* and *FIRMTEN* in the model simultaneously, we can test which factor plays a more important role. |*DA1*| and *CPAEXPT* are negatively, but insignificantly, correlated. It can be seen from column (4) that *CPAEXPT* and *FIRMEXPT* are positively correlated and significant at the 0.001 level. However, the correlation coefficient is not large (0.183), indicating that partners from accounting firms with industry expertise are not necessarily partners with industry expertise and vice versa.

Table 4: Pearson Correlation Analysis

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1)	*|DA1|*	1.000									
(2)	*CPATEN*	-0.054	1.000								
		(0.001)									
(3)	*FIRMTEN*	-0.033	0.502	1.000							
		(0.038)	(0.000)								
(4)	*CPAEXPT*	-0.014	0.077	0.105	1.000						
		(0.386)	(0.000)	(0.000)							
(5)	*FIRMEXPT*	0.010	0.089	0.101	0.183	1.000					
		(0.514)	(0.000)	(0.000)	(0.000)						
(6)	*CPATEN*CPAEXPT*	-0.023	0.433	0.268	0.809	0.187	1.000				
		(0.153)	(0.000)	(0.000)	(0.000)	(0.000)					
(7)	*BIG*	-0.014	0.121	0.171	0.210	0.296	0.204	1.000			
		(0.365)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)				
(8)	*SIZE*	-0.125	0.096	0.129	0.369	0.165	0.324	0.189	1.000		
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)			
(9)	*AGE*	0.013	0.258	0.569	0.100	0.061	0.167	0.142	0.094	1.000	
		(0.429)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)		
(10)	*LEV*	0.227	0.017	0.075	0.058	0.019	0.049	0.001	0.049	0.268	1.000
		(0.000)	(0.277)	(0.000)	(0.000)	(0.222)	(0.002)	(0.932)	(0.002)	(0.000)	
(11)	*GROWTH*	0.084	-0.001	-0.011	0.035	0.009	0.028	0.018	0.033	0.036	0.043
		(0.000)	(0.950)	(0.492)	(0.027)	(0.568)	(0.075)	(0.265)	(0.037)	(0.024)	(0.007)

Note:P values in parentheses. Please refer to Table 2 for variable definitions; we use *CPAEXPT_20PCT* standing for *CPAEXPT* to calculate the correlation coefficient.

4.2 Multi-regression Analysis

Table 5 shows the regression results of Model (1). In all of the regressions in Table 5, the dependent variable is the absolute value of discretionary accruals.

In Panel A, we use *CPAEXPT_20PCT*, the top 20 per cent of signing partners ranked by industry market share for each year, to proxy for partners' industry expertise. In columns (1) to (3), we use the absolute value of discretionary accruals estimated by the Jones model, |*DA1*|, as the proxy for audit quality, while in columns (4) to (6), we use the absolute value of discretionary accruals estimated by the model from Ball and Shivakumar (2006), |*DA2*|, as the proxy for audit quality.

In columns (1) and (2), we use the subsample method to investigate the impact of the industry expertise of partners on the relationship between auditor tenure and audit quality. Column (1) shows the results of the non-industry expertise group. The results show that the coefficient of *CPATEN* is significantly negative, indicating that for the non-industry expertise group, due to the lack of client-specific knowledge, short partner tenure is related to low audit quality. With the extension of the audit tenure, client-specific knowledge is accumulated and audit quality is improved. Column (2) shows the regression results of the industry expertise group. The coefficient of *CPATEN* is not significant, indicating that for partners with industry expertise, the lack of client-specific knowledge due to short audit tenure will largely be compensated for by their industry expertise, and thus the quality of their audits is not bad. The marginal contribution of long partner tenure to audit quality is small, and thus audit quality will not increase with a partner's tenure. This is consistent with Hypothesis 1. In column (3), we include the interaction term *CPATEN*CPAEXPT* to test Hypothesis 1. Consistent with the regression results by subsample, the coefficient of *CPATEN*CPAEXPT* is significantly positive, which again supports the view that partners' industry expertise weakens the positive correlation between audit partners' tenure and audit quality. In addition, in columns (1) to (3), none of the coefficients of *FIRMTEN*, *FIRMEXPT*, and its interaction terms is significant, indicating that compared to accounting firms' industry expertise, partners' industry expertise plays a more essential role in the effect of auditor tenure. With regard to the control variables, the coefficients of *ROA* and |*DA1*| are significantly negatively correlated and the coefficients of *LEV* and *GROWTH* are significantly positive. The coefficients of *OCF*, *SIZE*, and *AGE* are significantly negative. Such results are consistent with the existing literature (Xia, Chen, and Fang, 2005; Liu and Tang, 2009). In columns (4) to (6), we rerun the regressions by using the absolute value of discretionary accruals estimated by the model of Ball and Shivakumar (2006), |*DA2*|, as the proxy for audit quality. The results show that in columns (4) and (5) of the subsample regressions, the coefficient of *CPATEN* is significantly negative at the 0.05 level in the non-industry expertise group but insignificant in the industry expertise subsample. In column (6), the coefficient of *CPATEN*CPAEXPT* is significantly positive. These results are consistent

with the conclusions from columns (1) to (3), thus further supporting Hypothesis 1. The coefficients of all of the other control variables except for *OCF* are similar to those when |*DA1*| is used as a dependent variable. The coefficients of *OCF* are contrary to those in columns (1) to (3), mainly because in estimating *DA2* (Ball and Shivakumar, 2006), *OCF*, *OCF_CHANGE*, and *OCF_CHANGE*OCF* have been already controlled for. Therefore, the relationship between *DA2* and *OCF* is different from the relationship between *DA1* and *OCF*.[4]

In Panel B, we use *CPAEXPT_20RANK*, that is, the first 20 signing partners ranked by industry market share for each year, to measure auditors' industry expertise. The other variables are the same as those in Panel A. The results show that the coefficient of *CPATEN* in the non-industry expertise group is significantly negative and that with the extension of partners' tenure, audit quality can be improved. The coefficient of *CPATEN* in the industry expertise group is insignificant, suggesting that the long tenure of a partner with industry expertise cannot significantly improve audit quality. The coefficient of *CPATEN*CPAEXPT* is significantly positive, indicating that partners' industry expertise weakens the positive correlation between partners' tenure and audit quality significantly.

In Panel C, we use *CPAEXPT_3PBS*, which equals 1 if the signing partners have an industry market share of at least 3 per cent, to measure auditors' industry expertise. The results show that the coefficient of *CPATEN* in the non-industry expertise group is significantly negative, indicating that audit quality improves with the extension of partners' tenure. The coefficient of *CPATEN* in the industry expertise group is insignificant, suggesting that the long tenure of a partner with industry expertise cannot significantly improve audit quality. The coefficient of *CPATEN*CPAEXPT* is significantly positive, indicating that auditors' industry expertise weakens the positive correlation between auditor tenure and audit quality significantly.

In summary, the results in Table 5 show that compared to accounting firms' tenure, partner tenure may be more fundamental and more important in affecting audit quality. When audit partners have less industry expertise, partners' tenure can improve audit quality, but when audit partners have more industry expertise, partners' tenure does not significantly affect audit quality and industry expertise weakens the positive correlation between partners' tenure and audit quality. Finally, we can see from columns (3) and (6) of panels A to C in Table 5 that the sum of the coefficients of *CPATEN* and *CPATEN*CPAEXTP* is still negative, indicating that long tenure of partners with industry expertise can still enhance audit quality; nonetheless, partners' industry expertise will weaken the positive correlation between auditor tenure and audit quality.

[4] Regression results remain unchanged with *OCF* excluded from the control variables.

Table 5: Multi-regression results of partners' industry expertise, partners' tenure, and audit quality

Panel A: using *CPAEXPT_20PCT* to proxy for expertise

Variable	(1) |*DA1*| Non expertise	(2) |*DA1*| Expertise	(3) |*DA1*| Total sample	(4) |*DA2*| Non expertise	(5) |*DA2*| Expertise	(6) |*DA2*| Total sample
CPATEN	**-0.002***	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-1.935]	**[-0.510]**	**[-2.329]**	**[-2.378]**	**[-0.674]**	**[-2.466]**
CPATEN*CPAEXPT			**0.001****			**0.001***
			[1.988]			**[1.899]**
FIRMTEN	0.001	0.000	0.001	0.001	0.000	0.000
	[0.721]	[0.260]	[0.718]	[0.892]	[-0.290]	[0.378]
FIRMEXPT	0.003	0.005	0.002	0.001	0.003	0.001
	[0.194]	[0.477]	[0.182]	[0.080]	[0.394]	[0.205]
*FIRMTEN*FIRMEXPT*	0.001	-0.001	0.000	0.001	0.000	0.000
	[0.256]	[-0.351]	[0.127]	[0.310]	[-0.073]	[0.175]
BIG	-0.001	0.006	0.002	-0.001	0.001	0.000
	[-0.156]	[1.602]	[0.729]	[-0.146]	[0.294]	[0.138]
FIRMCH	0.001	0.008	0.003	0.000	0.000	-0.000
	[0.207]	[1.106]	[0.607]	[0.043]	[0.002]	[-0.148]
OPN	0.002	-0.004	0.000	0.002	-0.002	0.001
	[0.342]	[-0.732]	[-0.125]	[0.618]	[-0.616]	[0.274]
ROA	-0.237***	-0.176***	-0.220***	-0.262***	-0.209***	-0.248***
	[-8.039]	[-3.867]	[-8.148]	[-12.850]	[-6.658]	[-13.490]
LEV	0.035***	0.027**	0.032***	0.010	-0.009	0.003
	[4.117]	[2.137]	[4.486]	[1.428]	[-1.144]	[0.638]
GROWTH	0.015***	0.015***	0.015***	0.011***	0.007***	0.009***
	[5.720]	[3.428]	[6.540]	[4.569]	[3.752]	[5.002]
OCF	-0.029	-0.125***	-0.060*	0.069***	0.049***	0.065***
	[-0.875]	[-3.027]	[-1.959]	[3.548]	[2.684]	[4.367]
SIZE	-0.008***	-0.005**	-0.006***	-0.008***	-0.004**	-0.006***
	[-4.339]	[-2.095]	[-3.926]	[-4.987]	[-2.149]	[-4.638]
AGE	-0.002**	-0.001	-0.002***	-0.001**	0.000	-0.001
	[-2.404]	[-1.280]	[-3.044]	[-2.402]	[0.467]	[-1.599]
IND	Control	Control	Control	Control	Control	Control
YEAR	Control	Control	Control	Control	Control	Control
Obs.	2426	1512	3938	2426	1512	3938
Adj R^2	0.172	0.124	0.153	0.236	0.107	0.189

Panel B: using *CPAEXPT_20RANK* to proxy for expertise

Variable	(1) |*DA1*| Non expertise	(2) |*DA1*| Expertise	(3) |*DA1*| Total sample	(4) |*DA2*| Non expertise	(5) |*DA2*| Expertise	(6) |*DA2*| Total sample
CPATEN	**-0.002****	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-2.184]	**[-0.551]**	**[-2.373]**	**[-2.390]**	**[-0.604]**	**[-2.597]**
*CPATEN*CPAEXPT*			**0.001****			**0.001****
			[2.030]			**[2.283]**
FIRMTEN	0.000	0.001	0.001	0.000	0.000	0.000
	[0.507]	[0.612]	[0.724]	[0.593]	[0.038]	[0.381]
FIRMEXPT	0.014	0.001	0.002	0.005	0.001	0.001
	[0.602]	[0.066]	[0.182]	[0.438]	[0.010]	[0.219]
*FIRMTEN*FIRMEXPT*	0.000	0.000	0.000	0.000	0.000	0.000
	[-0.157]	[-0.069]	[0.124]	[-0.246]	[0.205]	[0.173]
BIG	0.002	0.003	0.002	0.000	0.000	0.000
	[0.401]	[0.716]	[0.663]	[0.061]	[-0.163]	[0.091]
FIRMCH	0.003	0.004	0.003	0.002	-0.003	-0.000
	[0.512]	[0.545]	[0.609]	[0.418]	[-0.814]	[-0.149]
OPN	0.002	-0.005	-0.001	0.002	-0.002	0.000
	[0.359]	[-0.972]	[-0.186]	[0.593]	[-0.448]	[0.202]
ROA	-0.230***	-0.186***	-0.220***	-0.257***	-0.211***	-0.249***
	[-7.795]	[-3.433]	[-8.178]	[-11.560]	[-5.645]	[-13.470]
LEV	0.039***	0.015	0.032***	0.011	-0.014*	0.003
	[4.325]	[1.022]	[4.471]	[1.388]	[-1.682]	[0.634]
GROWTH	0.012***	0.021***	0.015***	0.010***	0.008***	0.009***
	[4.713]	[4.479]	[6.617]	[4.096]	[4.478]	[5.038]
OCF	-0.019	-0.138***	-0.060*	0.064***	0.063***	0.066***
	[-0.563]	[-3.153]	[-1.945]	[3.197]	[3.170]	[4.393]
SIZE	-0.007***	-0.005*	-0.007***	-0.007***	-0.004**	-0.006***
	[-3.589]	[-1.907]	[-3.923]	[-4.354]	[-2.040]	[-4.688]
AGE	-0.002**	-0.002	-0.002***	-0.001**	0.000	-0.001
	[-2.486]	[-1.369]	[-3.029]	[-2.047]	[0.050]	[-1.582]
IND	Control	Control	Control	Control	Control	Control
YEAR	Control	Control	Control	Control	Control	Control
Obs.	2583	1355	3938	2583	1355	3938
Adj R^2	0.17	0.130	0.153	0.229	0.105	0.189

Panel C: using *CPAEXPT_3PBS* to proxy for expertise

Variable	(1) |*DA1*| Non expertise	(2) |*DA1*| Expertise	(3) |*DA1*| Total sample	(4) |*DA2*| Non expertise	(5) |*DA2*| Expertise	(6) |*DA2*| Total sample
CPATEN	**-0.002***	**-0.001**	**-0.002****	**-0.002****	**-0.001**	**-0.002****
	[-1.756]	**[-0.447]**	**[-2.420]**	**[-2.018]**	**[-0.552]**	**[-2.467]**
*CPATEN*CPAEXPT*			**0.002***			**0.001***
			[1.915]			**[1.659]**
FIRMTEN	0.000	0.001	0.001	0.000	0.000	0.000
	[0.532]	[0.381]	[0.765]	[0.720]	[-0.137]	[0.410]
FIRMEXPT	0.023	0.001	0.002	0.009	-0.001	0.002
	[0.790]	[0.010]	[0.183]	[0.780]	[-0.073]	[0.258]
*FIRMTEN*FIRMEXPT*	-0.001	0.000	0.000	-0.001	0.000	0.000
	[-0.369]	[-0.071]	[0.029]	[-0.531]	[0.337]	[0.111]
BIG	0.004	-0.002	0.002	0.002	-0.003	0.000
	[0.728]	[-0.485]	[0.675]	[0.619]	[-1.239]	[0.155]
FIRMCH	0.005	-0.005	0.003	0.003	-0.011**	-0.000
	[0.904]	[-0.549]	[0.614]	[0.859]	[-2.367]	[-0.136]
OPN	-0.001	-0.003	-0.000	-0.001	0.003	0.001
	[-0.248]	[-0.436]	[-0.148]	[-0.269]	[0.602]	[0.246]
ROA	-0.261***	-0.018	-0.220***	-0.269***	-0.143***	-0.248***
	[-8.996]	[-0.311]	[-8.173]	[-13.090]	[-3.210]	[-13.470]
LEV	0.029***	0.044**	0.032***	0.007	-0.013	0.003
	[3.766]	[2.623]	[4.462]	[1.015]	[-1.517]	[0.624]
GROWTH	0.015***	0.015***	0.015***	0.011***	0.005**	0.009***
	[5.439]	[3.503]	[6.561]	[4.560]	[2.118]	[5.019]
OCF	-0.011	-0.205***	-0.060*	0.062***	0.068***	0.066***
	[-0.328]	[-3.729]	[-1.944]	[3.465]	[2.806]	[4.398]
SIZE	-0.007***	-0.006*	-0.007***	-0.006***	-0.003	-0.006***
	[-3.794]	[-1.739]	[-3.873]	[-4.103]	[-1.442]	[-4.675]
AGE	-0.002***	-0.002	-0.002***	-0.001*	-0.001	-0.001
	[-2.931]	[-1.656]	[-3.059]	[-1.885]	[-0.978]	[-1.606]
IND	Control	Control	Control	Control	Control	Control
YEAR	Control	Control	Control	Control	Control	Control
Obs.	3036	902	3938	3036	902	3938
Adj R^2	0.172	0.146	0.154	0.217	0.086	0.189

Note: please refer to Table 2 for variable definitions; *, **, and *** represent significance at p<0.10, <0.05, and <0.01, respectively; T-value in brackets; standard errors are cluster corrected (Petersen, 2009).

4.3 Robustness Tests

In Table 5, we use |*DA1*| and |*DA2*| as proxies for audit quality. Since company performance may affect the discretionary accruals estimated by the Jones model (Kothari, Leone, and Wasley, 2005), in the robustness tests, we first re-estimate discretionary accruals, defined as |*DA3*|, using the model of Kothari, Leone, and Wasley (2005). Second, due to risk considerations, auditors pay more attention to positive earnings management. In the robustness tests, we further distinguish between positive earnings management (*DA*+) and negative earnings management (*DA*-) and then rerun the regressions respectively.

In panels A and B of Table 6, we report the regression results with |*DA3*| as the dependent variable. In Panel A, we use *CPAEXPT_20PCT* as a proxy for industry expertise, and the results show that the coefficients of *CPATEN* in the industry expertise group and non-industry expertise group are both insignificant. In Panel B, we use *CPAEXPT_20RANK* as a proxy for industry expertise, and the results show that the coefficient of *CPAEXPT_20RANK* is significantly negative in the non-industry expertise group and insignificant in the industry group. In panels C and D of Table 6, we report the regression results with *DA*+ and *DA*-. In Panel C, we use *CPAEXPT_20PCT* as a proxy for industry expertise, and the results show that industry expertise only weakens the relationship between partners' tenure and audit quality in the subsample of positive earnings management. This is consistent with the existing literature which contends that auditors mainly focus on positive earnings management behaviour. In Panel D we use *CPAEXPT_20RANK* as a proxy for industry expertise, and the results are similar to those in Panel C. In summary, the conclusions of this paper are robust to different measures of audit quality.

Table 6: Robustness tests of audit quality

Panel A: using |*DA3*| to proxy for audit quality and *CPAEXPT_20PCT* to proxy for expertise at the partner level

Variable	**(1)** **|*DA3*|** **Non expertise**	**(2)** **|*DA3*|** **Expertise**
CPATEN	–0.001	–0.001
	[-1.428]	[-0.872]
Control variable	Control	Control
Obs.	2426	1512
Adj R^2	0.062	0.060

Panel B: using |*DA3*| to proxy for audit quality and *CPAEXPT_20RANK* to proxy for expertise at the partner level

Variable	(1) |*DA3*| Non expertise	(2) |*DA3*| Expertise
CPATEN	–0.001*	–0.001
	[-1.704]	[-0.838]
Control variable	Control	Control
Obs.	2583	1355
Adj R^2	0.063	0.065

Panel C: distinguishing between *DA+/DA-* and using *CPAEXPT_20PCT* to proxy for expertise

Variable	(1) *DA+* Non expertise	(2) *DA+* Expertise	(3) *DA–* Non expertise	(4) *DA–* Expertise
CPATEN	-0.002**	0.000	0.000	0.002*
	[-2.074]	[-0.400]	[0.382]	[1.891]
Control variable	Control	Control	Control	Control
Obs.	1329	878	1092	634
Adj R^2	0.389	0.279	0.608	0.414

Panel D: distinguishing between *DA+/DA-* and using *CPAEXPT_20RANK* to proxy for expertise

Variable	(1) *DA+* Non expertise	(2) *DA+* Expertise	(3) *DA–* Non expertise	(4) *DA–* Expertise
CPATEN	-0.001*	0.000	0.001	0.003*
	[-1.915]	[-0.216]	[0.658]	[1.856]
Control variable	Control	Control	Control	Control
Obs.	1422	785	1158	568
Adj R^2	0.397	0.256	0.605	0.395

Note: please refer to Table 2 for variable definitions; *, **, and *** represent significance at p<0.10, <0.05, and <0.01, respectively; T-value in brackets; standard errors are cluster corrected (Petersen, 2009).

In Table 5, we use *CPAEXPT_20PCT* and *CPAEXPT_20RANK* as the proxies for a partner's industry expertise. Since the existing literature does not cover how to measure a partner's industry expertise, it is necessary to do sensitivity tests for the threshold value of industry expertise. We use (a) *CPAEXPT_10PCT*, the top 10 per cent of signing partners ranked by industry market share for each year, and (b) *CPAEXPT_10RANK*, the first 10 signing partners ranked by industry market share for each year, as the proxies for auditors with industry expertise. The test results in Table 7 show that the main conclusions of

this paper do not change when *CPAEXPT_10PCT* and *CPAEXPT_10RANK* are used as the proxy variables for partners' industry expertise.

Table 7: Robustness tests of industry expertise

Panel A: industry expertise defined as *CPAEXPT_10PCT*, which means ranked as the top 10 per cent in partners' market share				
	(1)	**(2)**	**(3)**	**(4)**
Variable	**|*DA1*|**	**|*DA1*|**	**|*DA2*|**	**|*DA2*|**
	Non expertise	**Expertise**	**Non expertise**	**Expertise**
CPATEN	–0.002**	0.001	–0.002***	0.000
	[-2.422]	[0.396]	[-2.954]	[0.297]
Control variable	Control	Control	Control	Control
Obs.	2426	1512	2426	1512
Adj R^2	0.183	0.143	0.246	0.127
Panel B: industry expertise defined as *CPAEXPT_10RANK*, which means ranked as the top 10 in partners' market share.				
	(1)	**(2)**	**(3)**	**(4)**
Variable	**|*DA1*|**	**|*DA1*|**	**|*DA2*|**	**|*DA2*|**
	Non expertise	**Expertise**	**Non expertise**	**Expertise**
CPATEN	–0.001*	0.000	–0.002**	0.000
	[-1.706]	[-0.178]	[-2.585]	[0.364]
Control variable	Control	Control	Control	Control
Obs.	2583	1355	2583	1355
Adj R^2	0.18	0.151	0.239	0.127

Note: please refer to Table 2 for variable definitions; *, ** and *** represent significance at $p<0.10$, <0.05, and <0.01, respectively; T-value in brackets; standard errors are cluster corrected (Petersen, 2009).

4.4 Alternative Explanations

4.4.1 Personal relationship

The impact of auditor tenure on audit quality may be related to an auditor's independence. The correlation between auditor tenure and audit quality may especially be affected when there is a close relationship between the signing partner and listed companies (Liu 2006; Liu and Tang, 2009). Therefore, we further consider the impact of personal relationship on the main conclusions of this paper. In Panel A of Table 8, we control for personal relationship, which is defined as in Liu (2006): if the tenure of an accounting firm is shorter than the partner tenure, then *RELATION* is equal to 1; otherwise, it is 0. The results show that (1) even after controlling for personal relationship, the conclusions of this paper still hold; and (2) the impact of personal relationship on the effect of partners' tenure is mainly reflected in the non-industry

expertise group, and industry expertise can alleviate the negative effects brought by personal relationships to a certain extent.

Table 8: The impact of personal relationships and the marketisation index

Panel A: the impact of personal relationships: interaction test

	(1)	(2)	(3)	(4)	(5)
Variable	***|DA1|***	***|DA1|***	***|DA1|***	***|DA1|***	***|DA1|***
		Non expertise	**Expertise**	**Non expertise**	**Expertise**
CPATEN	–0.002**	–0.002**	–0.001	–0.002**	–0.001
	[-2.422]	[-2.552]	[-1.102]	[-2.185]	[-0.948]
RELATION	–0.018***	–0.023***	–0.013		
	[-3.049]	[-2.949]	[-1.486]		
*CPATEN*RELATION*	0.005***	0.006***	0.004	–0.001	0.000
	[2.762]	[2.677]	[1.273]	[-0.774]	[0.0488]
Control variable	Control	Control	Control	Control	Control
Obs.	3938	2426	1512	2426	1512
Adj R^2	0.204	0.252	0.147	0.25	0.146

Panel B: the impact of personal relationships: subsample test

		No personal relationship sample		**Personal relationship sample**
	(1)	**(2)**	**(3)**	**(4)**
Variable	***|DA1|***	***|DA1|***	***|DA1|***	***|DA1|***
	Non expertise	**Expertise**	**Non expertise**	**Expertise**
CPATEN	–0.002**	–0.001	0.002	0.009
	[-1.964]	[-0.617]	[0.371]	[1.608]
Control variable	Control	Control	Control	Control
Obs.	2322	1439	104	73
Adj. R^2	0.175	0.126	0.049	0.116

Panel C: the impact of marketisation index

	(1)	(2)
Variable	***|DA1|***	***|DA1|***
	Non expertise	**Expertise**
CPATEN	–0.003***	–0.002
	[-2.859]	[-1.389]
*CPATEN*MKTINDEX*	0.001	0.001
	[1.534]	[1.256]
MKTINDEX	–0.001	0.000
	0.832	0.546
Control variable	Control	Control
Obs.	2426	1512
Adj R^2	0.25	0.148

Note: please refer to Table 2 for variable definitions; *, **, and *** represent significance at p<0.10, <0.05, and <0.01, respectively; T-value in brackets; standard errors are cluster corrected (Petersen, 2009).

In addition, we divide the sample into four groups by industry expertise and personal relationship (2×2 ways) and rerun the regression model. The test results are shown in Panel B of Table 8. According to the regression results by group, in the non-industry expertise group without personal relationships, the correlation between partners' tenure and audit quality is still significantly positive (negative with $|DA|$). However, in the non-industry expertise group with personal relationships, the client-specific knowledge effect is no longer significant. According to Liu (2006) and Liu and Tang (2009), this implies that the impact of personal relationships on auditor independence dominates the client-specific knowledge effect.

4.4.2 Region marketisation

Firth, Rui, and Wu (2011) find that the effect of CPA rotation is related to the level of marketisation. At places with a higher degree of marketisation, auditors will be more concerned about litigation risk and damage to their reputation brought by audit compromise, and so the effect of auditor rotation will be more pronounced at places with a lower degree of marketisation. It should be noted that Firth, Rui, and Wu (2011) find that the impact of marketisation on the effect of CPA rotation is mainly reflected in the mandatory rotation of signing partners; nonetheless, the impact of voluntary auditor rotation on audit quality is very limited. This paper's sample is from 1998 to 2002, when the rotation of CPAs was voluntary, and so the impact of the degree of marketisation on auditor tenure is not obvious. We adopt the method of Firth, Rui, and Wu (2011) to test the impact of the degree of marketisation. Since (a) the earliest that the Fan Gang index can be accessed is 2001 and (b) there is little variation in the marketisation index each year, we use the marketisation index of 2001 to proxy for the marketisation indices from 1998 to 2000. The regression results are reported in Panel C of Table 8. After controlling for the degree of marketisation, the conclusions of this paper are still valid.

4.4.3 Client self-selection

High-quality companies (i.e. with a lower *DA*) tend to retain the incumbent auditors, and this leads to longer auditor tenure. However, auditors are more likely to resign from low-quality companies (i.e. with higher *DA*), thus leading to shorter auditor tenure (Gul, Fung, and Jaggi, 2009). Thus, the negative correlation between audit partners' tenure and $|DA|$ is probably due to clients' self-selection, and this means that companies with long auditor tenure generally have higher earnings quality while companies with short auditor tenure have lower earnings quality. In order to exclude the possibility of clients' self-selection, we use a two-stage regression method. In the first stage, we establish a selection model to predict the value of *CPATEN (P_CPATEN)*, which is then used in the second stage regression. The selection model of *CPATEN* is as follows:

$$CPATEN=\beta_0+\beta_1 RECT+\beta_2 BIG+\beta_3 FIRMTEN+\beta_4 FIRMCH+\beta_5 LOSS +\beta_6 SIZE+\beta_7 AGE+\beta_8 GROWTH+\beta_9 OCF+\beta_{10} INVT+\beta_{11} QUICK +\beta_{12} ROA+\beta_{13} LEV+\sum_i^n \beta_i*IND_i+\sum_j^m \beta_j*YEAR_j \quad (2)$$

The regression results are listed in Table 9. For simplicity, we only report the results of the second stage regression. The regression results of the non-industry expertise group are shown in column (1) of Table 9. The coefficient of *P_CPATEN* is negative and significant at the 0.05 level, suggesting that the long tenure of audit partners can improve audit quality. The regression results of the industry expertise group are shown in column (2) of Table 9. The coefficient of *P_CPATEN* is significantly positive, suggesting that the long tenure of audit partners cannot improve audit quality but rather decreases it. This suggests that the "independence effect" dominates over the "client-specific knowledge effect". Long partner tenure creates relationships between audit partners and clients that are too close, leading to a decline in auditor independence, and results in an ultimate increase in room for earnings management for clients.

Table 9: Client self-selection – Regression results in second stage

Variable	**|DA1|**	**|DA1|**
	(1) Non expertise	**(2) Expertise**
P_CPATEN	**-0.198****	**0.067*****
	[-2.574]	**[3.534]**
BIG	0.041*	0.001
	[1.842]	[0.255]
FIRMTEN	0.057**	-0.018***
	[2.565]	[-3.431]
FIRMCH	-0.112**	0.049***
	[-2.261]	[2.832]
SIZE	-0.002	-0.007**
	[-0.208]	[-2.159]
AGE	0.003	0.001
	[0.889]	[0.590]
LEV	0.060**	0.029*
	[2.149]	[1.915]
GROWTH	0.009	0.003
	[1.043]	[0.705]
OCF	-0.011	-0.002
	[-0.150]	[-0.0438]
IND	Control	Control
YEAR	Control	Control
Obs.	2420	1510

Note: please refer to Table 2 for variable definitions; *, **, and *** represent significance at p<0.10, <0.05, and <0.01, respectively; T-value in brackets.

V. Conclusions and Implications

Using a sample of listed companies in the Chinese stock market from 1998 to 2002, which was before the mandatory rotation of signing partners policy was introduced, this paper studies how auditors' industry expertise at the partner level affects the relationship between auditors' tenure and audit quality. We find that when partners who sign the auditing reports have less expertise, their tenure is positively related to audit quality; that is, with the extension of the tenure, the accumulation of client-specific knowledge plays an important role in enabling partners with less industry experience to improve audit quality. In this situation, the positive role of the client-specific knowledge effect dominates the negative role of the independence-decreasing effect. For those audit partners with industry expertise, the client-specific knowledge effect brought by long tenure is significantly weakened.

This paper makes a contribution to the academic literature and to practice. For academics, this study introduces the industry expertise of audit partners into the relation between auditor tenure and audit quality, enriching the existing literature at the partner level. We find that compared to analysis at the firm level, tenure and industry expertise at the partner level play a more decisive role in audit quality. For practitioners, the results of this study can help stakeholders to predict the relationship between auditor tenure and audit quality. The results of this study have important implications for policy makers as well. For example, the policy of the mandatory rotation of signing partners has different effects on auditors with and without industry expertise. Regulators should be especially concerned about auditors without industry expertise because they will be negatively affected by the rotation policy.

In this paper, we have only used discretionary accruals as the proxy variable for audit quality to obtain the above conclusions. In future research, alternative audit quality measures should be tested.

References

Please refer to pp. 130-133.