2007年9月　第9卷　第3期
中　国　会　计　与　财　务　研　究
China Accounting and Finance Review
Volume 9, Number 3, September 2007

会计师事务所规模会改变投资者对审计质量的判断吗？[1]

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摘要

本文利用会计盈余价值相关性的回报模型，研究我国会计师事务所的规模与投资者感知的审计质量之间的关系。我们没有发现规模大的事务所能显著增加其客户的会计盈余价值相关性。在我国目前的制度环境下，事务所规模不会影响投资者对审计质量的感知和判断，即投资者不能区分规模大的事务所和规模小的事务所的审计质量存在差异。这一制度特征对政府制定行业政策、上市公司聘请会计师事务所具有一定的参考价值。

关键词：事务所规模、投资者感知的审计质量、价值相关性

一、前言

会计师事务所的审计质量难以直接观察和衡量，相互之间也无法进行直观地比较，因此，投资者对事务所审计质量的感知和判断就显得更为重要。他们是否认为规模大的事务所能够提供更高质量的审计，从而对其审计的盈余信息更为信任和依赖？上市公司选择大事务所审计年报，在投资者看来是否有

[1] 本文得到教育部新世纪优秀人才培养计划的资助。作者特别感谢两位匿名审稿人和陈世敏教授的建设性修改意见。当然，作者对文中可能出现的错误负责。
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意义？我国监管机构大力推动小所合并组成“航空母舰”，这一做法是否能得到投资者的认同？对此问题的正确回答无疑具有重要的意义。

国外的现有文献已经证实，规模大的事务所和高质量的审计可以划等号，且投资者也认同这一点，对大事务所审计的会计信息给予了更积极的反映（Teoh and Wong, 1993; Francis *et al.*, 1999; Schipper and Vincent, 2003; Pittman and Fortin, 2004）。但是，国内学者们却还没有就这一问题达成一致。国内的文献大多用Jones模型或是审计意见的类型作为审计质量的衡量方法，前者大多能够得到事务所规模大即高质量的结论（章永奎和刘峰，2002；漆江娜等，2004）；后者则认为规模的大小并不影响审计质量（原红旗和李海建，2003；方军雄等，2004）。而从投资者角度研究审计质量的文献还非常少。

在我国，事务所的审计质量对研究方法和研究期间的选择比较敏感，无法得到一致的结果。本文在已有文献的基础上，选择投资者感知的审计质量作为研究的切入点，并利用会计盈余价值相关性作为表征，研究事务所规模是否会改变投资者对审计质量的判断。

对于国内事务所规模大小的划分，已有文献大多只是用一年的数据按某一标准（审计客户数、收入额或是客户总资产数）进行排名，随机性很大，而且还会影响到各研究之间的可比性。因此，本文在章永奎和刘峰（2002）、原红旗和李海建（2003）以及方军雄等（2004）的基础上，将研究样本从1年扩展至3年，克服主观分类的不足，通过不同样本的实际统计特征分析确定“大所”与“小所”的分界。

本文的统计检验结果没有发现“大所”能够显著增加其客户会计盈余的价值相关性，说明我国投资者不能确认“大所”的审计质量高于其他事务所，事务所的规模并不会改变投资者对审计质量的感知和判断。我们还进行了一系列稳健性检验：“四大”与“非四大”的对比、剔除了研究期间被特殊处理的公司、进行“大所”和“小所”的直接比较。另外，我们还以不同的标准对模型中的“大所”进行了再次划分和统计检验，但是这些检验结果都没有发现“大所”的审计质量高于其他事务所。

本文的第二部分对国内外相关文献进行回顾，并提出研究的问题；第三部分建立模型；数据来源和样本选择在第四部分予以描述；第五、第六部分列示了包括稳健性检验在内的实证过程和研究结果；最后总结全文。

二、文献综述与问题提出

1. 文献综述

对于会计师事务所规模与其审计质量关系的研究，文献主要有两个切入点。其一是利用各种模型或方法衡量规模大的事务所提供的真实的审计质量是

否高于小规模的事务所，其二是比较投资者对不同规模事务所审计质量的感知（perception）是否不同。

DeAngelo（1981）将审计质量定义为发现会计报表的重大错漏及报告该错漏的联合概率，并以现有客户数作为衡量事务所规模的标准。她认为：当事务所拥有较多客户的时候（称这些事务所为“大所”），单一客户的审计收入就显得无足轻重了，因此审计师的独立性不会受到影响，有足够的动机报告客户会计报表中已发现的错误。同时，更为重要的是，正如抵押品促使债务人按时还本付息的作用一样，这时的“大所”从众多其他客户的审计服务中可以得到的收入“准租”，能够防止“大所”在为某一家客户提供审计时进行机会主义行为，从而保证了“大所”的高审计质量。因此，“大所”是高质量审计的代表。

国外的文献也用不同的方法证实了规模大的事务所可以提供高质量的审计服务。Francis *et al.*（1999）分析了NASDAQ市场1975年到1994年的数据，结论是“六大”的客户虽然普遍有着很高的总应计额（total accruals），但是其任意应计（又称可操纵应计，discretionary accruals）的数额却相对较小，由此他们认为“六大”的审计可以限制客户的盈余管理行为，以提高报告盈余的可靠性。Chung *et al.*（2005）也得到了相同的结论。另外，Pittman and Fortin(2004)发现，“六大”的审计可以帮助那些上市年限较短、还不为债权人所熟悉的上市公司显著降低债务融资成本，原因是他们的高质量审计可以增加会计报表的可信度，减少债权人的监管成本。

基于投资者对不同规模事务所审计质量感知的角度，Teoh and Wong（1993）发现“八大”的客户能够得到更大的盈余反映系数（ERC），这表明市场认为经“八大”审计的会计报表更具可信性，即投资者将“八大”视为具有更高审计质量的事务所。可见，无论是衡量真实的审计质量还是投资者感知的审计质量，国外文献的结论一致——规模大的事务所提供了高质量的审计，且市场上的投资者对此也有正确的认知和反应。

实际上，关于审计质量的这两个切入点之间有着明显的差异，前者偏重“实质”，后者偏重“感知”。正如Dopuch *et al.*（2003）经调研后得出“形式上的独立”（independence in appearance）远比“实质上的独立”（independence in fact）更为重要，Ghosh and Moon（2005）在研究审计任期和投资者感知的审计质量两者关系之前，也花了很多的篇幅论证后一个切入点更为重要。他们认为，会计师事务所实际的审计质量是没有办法直接观察到的，因此，从市场角度出发，投资者感知的审计质量更能体现审计服务的价值所在。

在我国，学者们一般都把关注的焦点放在事务所的审计质量上，对投资者感知的审计质量研究得相对较少。而且，就“规模大的事务所是否提供了更好的审计服务”这一问题，由于选择的研究年度、采用的研究方法不同，已有文献也并没有达成一致。

武晓玲等（2005）借助效用函数理论解释事务所规模与审计质量之间的关系，认为事务所规模的扩大可以促进审计质量的提高，但前提是完善的内部控制制度和健康的审计市场环境。章永奎和刘峰（2002）以1998年被出具非标意见的上市公司为研究样本，发现规模大的事务所具有识别盈余管理并出具较严厉审计意见的能力显著强于规模小的事务所。漆江娜等（2004）利用2002年上市公司数据研究了“四大”与国内所的客户在任意应计方面是否有显著不同，发现“四大”的审计质量高于国内所。[4]另一方面，原红旗和李海建（2003）研究了事务所的组织形式、出资方式、规模与审计意见之间的关系，认为事务所规模与审计质量并不显著相关。方军雄等（2004）、蔡春等（2005）研究了审计意见类型的影响因素，但都没有发现有力的证据支持事务所规模大即意味着高质量审计的假设。王艳艳和陈汉文（2006）以稳健性、及时性和收益激进度作为会计信息透明度的替代变量，研究不同类型会计师事务所的审计质量是否存在差异，结果发现，“四大”审计的上市公司会计信息的透明度明显高于其他公司，而国内不同类型的事务所之间并没有显著差异。

在投资者感知的审计质量研究方面，张奇峰（2005）以公司市场价值和资产收益率两者的相关系数计量事务所的声誉，首次在高度管制买方市场中检验了审计师类型与可觉察审计质量的关系，也发现了我国审计行业中“事务所规模与审计质量背离”的情况。但是，该篇文献的出发点是事务所的声誉，同时讨论了不同类型的事务所定价是否有差异。本文将专注于事务所规模与投资者感知的审计质量之间的关系研究，可以与该文献相互之间形成补充。

纵观已有文献，研究期间大多只有一年，也没有详细描述衡量事务所规模的标准，有些只是按照一些报刊的排名来决定我国的“十大”事务所，这样极有可能影响研究结论的可靠性和文献之间的可比性。我们在承袭和发展这些研究文献的基础上，将试图对这些不足做出改进。

2. 问题提出

本文试图研究的问题是投资者感知的审计质量，即：会计师事务所的规模是否会影响投资者对审计质量的感知和判断；换句话说，投资者是否认为规模大的事务所审计质量就高。选取这一切入点的原因有两个：

首先，在我国，研究事务所的审计质量时，采用不同的研究方法，得到的结论也不同。用Jones模型计算任意应计的大小，大多能够得到事务所规模大即高质量的结论（章永奎和刘峰，2002；漆江娜等，2004）；而以审计意见的类型作为研究对象，则会得到事务所规模的大小与审计质量不相关的观点（原红旗和李海建，2003；方军雄等，2004）。可见，我国市场上事务所审计质量对研究

[4] 运用任意应计衡量审计质量的文献还有蔡春等（2005）、吴水澎等（2006）。这些文献的结论大都是规模大的事务所可以提供更高的审计质量。

方法非常敏感。因此，继续对这一问题进行研究，即使换一种新的方法，仍然无法得到肯定的答案。

其次，我国学者对投资者感知的审计质量探讨得还比较少，而这恰恰是审计质量很重要的一个方面，甚至比真实的审计质量更为关键（Dopuch *et al.*, 2003; Ghosh and Moon, 2005)。尤其是在无法确定真实的审计质量的情况下，投资者对审计质量的感知反映了市场对于不同规模事务所的定位，这对于追求股东价值最大化的上市公司和以保护投资者利益为工作重心的证监会来说，具有重要的参考价值。

张奇峰（2005）将“事务所规模与审计质量的背离”归结为上市公司缺乏高质量独立审计的需求以及我国缺乏对质量低下的审计师的严厉惩罚，这与之前很多学者的分析是一致的。陈武朝和郑军（2001）、邓明然等（2002）认为在我国，对审计的需求并不是投资者自发产生的，而是政府强制要求的结果；王广明等（2003）认为由于大股东内部控制、产权不明晰、股权分置等因素的存在，中国的审计行业普遍缺乏提供高质量服务的动力。

我们之所以要研究会计师事务所规模与审计质量的关系，主要是由于我国特有的制度背景。基于成熟的市场环境，许多文献从大所尤其是“四大”所拥有的优势（技术、专业、职业声誉、法律风险等）角度，论证了其提供高质量的审计服务。那么，这些优势是否在中国的制度背景下同样能实现审计质量的提高？

首先，我国的审计市场远没有达到DeAngelo（1981）的充分竞争市场条件，国内规模大的会计师事务所因为历史、行政的原因在市场中享有垄断地位，“四大”最初也是通过与国内大所合作进入中国审计市场。对于“四大”，政府更赋予其有利的垄断资源。2001年，中国证监会和财政部分别下文要求银行证券保险行业上市公司应同时聘请中外各一家会计师事务所分别提供会计报表审计服务，并正式“四大”发放了为期一年的临时许可证。同年，要求A股公司在初次发行股份或再筹资时，应聘请国际知名会计师事务所进行补充审计。此后，“四大”在国内重要的大企业中享有的市场份额逐年增加。大所或四大的审计市场份额一方面是出于行政而非市场的推动，另一方面其占据的市场份额，与成熟市场相比还存在差距，很难形成DeAngelo（1981）所要求的审计独立性。从审计质量来看，近年来中国资本市场上所发生的一些个案也涉及到四大，如财政部检查公告点名的普华永道中天、锦州港事件中的毕马威、科龙事件的德勤等。其次，从审计风险来看，尽管法律允许投资者对注册会计师的不当行为提起诉讼，但过高的成本和偏低的收益，使注册会计师被真正起诉的概率很低。“四大”在我国低法律风险的环境下，因为“本土化”而降低了审计质量（刘峰和许菲，2002）。李志钢和邓亦农（2007）通过调查问卷研究证监会披露的审计失败事件发现，目前事务所规模对审计质量控制带来更多的是弱化影响。最后，从我国注册会计师执业的供给与需求来看，《注册会计师

执业环境问题研究》课题组（2006）的一份调查问卷表明，公司选择和辞聘注册会计师并不是以事务所规模等作为审计质量高低的标准。基于此，我国特有的制度背景可能会导致事务所规模与审计质量关系的缺失。

然而，我们也应该看到，在2000年的事务所合并大潮中，通过合并和联合，一批较大规模的事务所已经形成，且具备了很好的发展潜力。2001年，新的《企业会计制度》和《企业会计准则》纷纷问世，为上市公司和审计师提高会计盈余的质量提供了标准。证监会为保护投资者利益，也不断地对年报的披露提出更多更高的要求。而《关于审理证券市场因虚假陈述引发的民事赔偿案件的若干规定》也在2003年1月9日由最高人民法院正式颁布。这些大环境和制度背景的积极改变，在理论上，应该可以激励规模大的事务所提供更高的审计质量以维持自己的声誉和公众形象。但是，在投资者眼中，他们是否认可这些行政改变对事务所的作用，尚需市场的检验。

三、研究设计

1. 事务所规模的替代变量

在国外，确定规模大的事务所已有统一的标准，即现在的“四大”。但在我国，目前对于规模大的事务所，还没有一个权威的划分。以往文献都采用了不一样的标准，有些按照收入（蔡春等，2005），有些按照客户数（章永奎和刘峰，2002；原红旗和李海建，2003；方军雄等，2004），有些按照客户总资产（吴水澎等，2006）。而且我们注意到，由于已有文献大多将研究期间选择在某一年，且这些文献对于规模大的事务所的确立也只用了这一年按某一标准的排名，难免存在样本选择性偏差和时间偶然性的嫌疑，并且不利于文献间的比较。

基于以往文献的不足，本文使用2001年到2003年三年的数据来划分我国规模大事务所的标准。我们参照DeAngelo（1981）对于事务所规模划分的方法，以现有上市公司客户数作为事务所排名的标准。这一信息的来源是国泰安信息技术有限公司开发的CSMAR数据库（2005版本）。该数据库提供了2001年到2003年所有A股上市公司聘请会计师事务所的数据，整理后，我们得到了三个年度内每一家事务所分别审计的客户数和每一家事务所三年的平均客户数，其总体分布见表1所示。

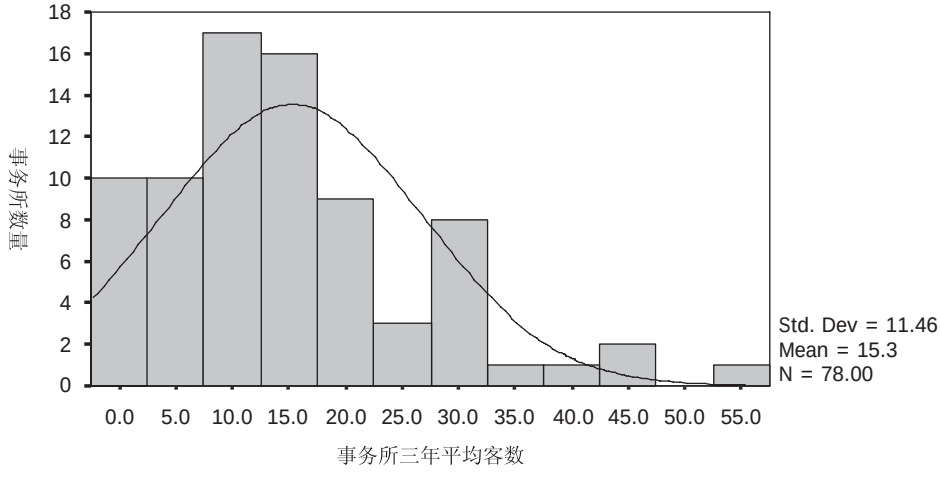
我们认为，事务所的审计质量在年度间是平稳的，除被披露出比较大的财务丑闻，投资者对其审计质量的感知也不会经常发生很大的变化。因此，我们选取事务所三年的平均客户数对所有涉及的事务所进行排名，以确定本文规模大的事务所的范围。事务所三年平均客户数的频数分布图如图1所示。

从2001年到2003年，各会计师事务所审计的上市公司数的平均值为15家，

表1 会计师事务所客户数的描述性统计

	观察值	均值	中位数	最小值	20%	40%	60%	80%	最大值	标准差
2001	74	15.05	12.5	1	6	11	15	23	50	10.83
2002	75	15.96	14	1	7	12	16.6	23.8	52	11.14
2003	77	16.39	15	1	7	12.2	17	24.6	65	12.04
平均	78	15.28	14	0	5.8	11	15	23.2	56	11.46

图1 事务所三年平均客户数的频数分布



相互之间的差异也很大。最少的为0（只在其中一年审计过一家A股上市公司，因此平均值为0），最多的为56家，其中大多数事务所的平均客户数都在24家以下。从详细的数据来看，平均客户数在24家到26家之间，有一个明显的分界点。因此，我们将本文的“大所”定义为三年的平均客户数在26家以上的事务所，具体见表2所示。由表1可知，这些“大所”都处于80分位之后，即每年客户数最多的20%的事务所之列。

章永奎和刘峰（2002）和方军雄等（2004）也使用了相同的划分方法，但是他们都将客户数限定在20家以上；原红旗和李海建（2003）没有具体说明他们的标准。从图1可以看出，平均审计客户数在20家左右的事务所并不在少数，这样将导致其余的9家事务所进入本文“大所”的行列，且无法解释为什么平均客户数为19家的就不是“大所”。权衡之下，我们选用了“26家”的标准以突出大所的“大规模”。在后文的稳健性检验中，我们也采取了80分位、中位数等不同的标准对事务所进行再划分，发现结论一致。

表 2 2001年到2003年我国的“大所”

	客户数			
	2001	2002	2003	平均
上海立信长江会计师事务所有限公司	50	52	65	56
深圳鹏城会计师事务所	42	46	49	46
浙江天健会计师事务所有限责任公司	39	42	47	43
安永大华会计师事务所有限责任公司	44	38	33	38
湖北大信会计师事务所有限公司	35	34	36	35
普华永道中天会计师事务所有限公司	19	40	38	32
天津五洲联合会计师事务所	30	33	32	32
北京京都会计师事务所有限责任公司	34	31	27	31
上海上会会计师事务所有限公司	29	28	32	30
五联联合会计师事务所有限公司	29	28	29	29
深圳大华天诚会计师事务所	28	27	29	28
四川君和会计师事务所有限责任公司	29	27	27	28
岳华会计师事务所有限责任公司	28	26	28	27
湖南开元有限责任会计师事务所	26	26	27	26
合计	462	478	499	480
当年披露事务所信息的上市公司数	1137	1198	1262	1199
“大所”审计的公司比例	40.63%	39.90%	39.54%	40.00%

从表2可以看出，共有14家事务所三年的平均客户数在26家以上。她们所审计的上市公司数，每年保持在470家上下，并有着明显的增加的趋势，在当年披露事务所信息的上市公司总数中的比例也维持在40%，称得上是名副其实的“大所”。

2. 审计质量的替代变量

国内学者们对审计质量的衡量普遍采用两种方法：Jones模型和审计意见类型，前者大多能够得到“大所”即高质量审计的结论，后者则不然。我国会计师事务所的规模与其审计质量之间的关系对研究方法、研究期间的选取十分敏感，至今也还没有形成最后的定论。因此，本文试图从另一个角度来研究审计质量，即投资者感知的审计质量。与张奇峰（2005）以公司市场价值对资产收益率进行回归的做法不同，我们选择了国外已经使用得相当成熟和普遍的模型—会计盈余的价值相关性。

会计盈余的价值相关性是公司的市场回报率对公司会计盈余的回归。Francis and Schipper（1999）在分析、比较了对价值相关性的四种解释之后，认

为会计盈余的价值相关性说明了会计盈余对股票回报率的解释能力，可以体现会计信息是否决策有用。即：价值相关性越高，说明投资者认为该会计信息的相关性和可靠性越高，由此更加依赖于该会计信息做出投资决策，价值相关性反映了投资者对会计信息质量的度量和评价。

从审计的角度来说，如果投资者认为某一家事务所的审计质量是高于其他事务所、值得信任的，那么对其审计的上市公司年报的会计信息就会更加肯定和信赖，从而更多地反映到公司的股价中。因此，投资者对事务所感知的审计质量越高，其客户的会计盈余价值相关性也就越高。在国外，已经有很多学者采用会计盈余价值相关性的提高作为审计质量的表征，例如Teoh and Wong（1993）、Schipper and Vincent（2003）以及Ghosh and Moon（2005）。Gul *et al.*（2002）甚至利用这个模型研究了事务所实际的审计质量。

3. 研究模型

本文使用的是会计盈余价值相关性的回报模型，并同时考虑盈余水平和盈余变化。将盈余的永久性部分和临时性部分同时包括在内，可以增加模型的解释力度（Ghosh and Moon, 2005）。具体的模型如下式所示：

$$RET_{it} = \alpha + \beta_1 \cdot E_{it} + \beta_2 \cdot \Delta E_{it} + \beta_3 \cdot D_{it} \cdot E_{it} + \beta_4 \cdot D_{it} \cdot \Delta E_{it} + \beta_5 \cdot D_{it} + \varepsilon_{it} \quad (1)$$

其中，

RET_{it}：公司i第t年的持有收益率，计算期间是这一年的后八个月到第二年的前四个月，计算公式是$\Pi(1+Rj)-1$，Rj表示在上述期间内第j个月份的考虑现金分红再投资的月个股收益率；

E_{it}：公司i第t年的每股净利润，计算公式是$NI_{it}/STOCK_{it}$（当年净利润／当年股本），并除以当年4月30日的该股收盘价；

ΔE_{it}：公司i第t年的每股净利润的变动，计算公式是（$NI_{it} - NI_{it-1}$）/ $STOCK_{it}$，并除以当年4月30日的该股收盘价；

D_{it}：代表“大所”的哑变量，公司i第t年聘请的事务所是本文确定的“大所”范围内的，取值为1，否则取值为0。

另外，由于我国股市尚处在发展阶段，个股股价的变动很容易受到整个股市、经济大环境和其他力量的影响，因此我们参照Francis and Schipper（1999）以及Ghosh and Moon（2005）的做法，将个股的回报率减去当年所在沪市或深市以流通市值加权的市场回报率（考虑现金分红再投资的），也作为模型中的因变量进行统计分析，并将其记为$MARET_{it}$（Market-Adjusted Return）。

四、数据及来源

1. 样本选择

本文的数据来源是国泰安信息技术有限公司开发的CSMAR数据库（2005版本）。由于该数据库中没有收录沪、深两市B股上市公司聘请会计师事务所的信息，本文的研究样本仅是我国A股上市公司，研究期间为2001年到2003年。样本的选择过程如表3所示。

表 3 样本的筛选过程

	2001	2002	2003	01–03
数据库中披露聘请事务所信息的公司数	1137	1198	1262	3597
减：				
安达信华强会计师事务所审计的公司数[5]	23	1	0	24
金融类的上市公司数	7	8	10	25
同时发行B股的上市公司	66	73	74	213
同时发行H股的上市公司	15	23	23	61
财务数据、回报率信息缺失的公司数	134	109	114	357
各年极端值得剔除[6]	49	54	56	159
最终样本公司数	843	930	985	2758

通过上述程序，我们共得到2758个公司-年度的观察值。

2. 描述性统计

表4列示了本文研究模型中各变量的描述性统计。可以看到，在我们的研究期间内，我国A股个股回报率的均值（中位数）为–16.26%（–19.75%），经市场调整的回报率的均值（中位数）为–2.80%（–4.87%）；同时，四分位值表明两种回报率都是左偏的，说明大多数公司的回报率都是负数，这与我国A股市场2001年到2003年的走势是一致的。另外，盈余水平（E）的均值（中位数）只有0.0094(0.0120)，可见上市公司整体处于微利的状态；而盈余变化（ΔE）的均值（中位数）为–0.0021（–0.0005），说明上市公司的盈利情况在这三年中呈现下降的趋势。

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[5] 安达信华强会计师事务所2001年审计了23家A股上市公司，但是由于安然事件的爆发，于2002年并入其他事务所，之后基本不再出现。对此，我们很难决定将其纳入“大所”还是“非大所”，因此剔除了安达信华强审计的2001年的23家公司和2002年的1家公司。

[6] 我们将模型中各个变量（个股回报率、盈余水平和盈余变化）的变量值处在最大以及最小的1%范围内的样本删去，以消除异常值的作用。

表 4 研究变量的描述性统计

	观察值	均值	最小值	25%	中位数	75%	最大值	标准差
RET	2758	–0.1626	–0.5980	–0.2887	–0.1975	–0.0731	0.6470	0.19
MARET	2758	–0.0280	–0.5341	–0.1477	–0.0487	0.0596	0.6900	0.18
E	2758	0.0094	–0.2434	0.0041	0.0120	0.0216	0.0893	0.03
Δ*E*	2758	–0.0021	–0.1849	–0.0064	–0.0005	0.0036	0.1747	0.03

表 5 Pearson相关系数矩阵

	RET	*MARET*	*E*	Δ*E*
RET	1.000			
MARET	0.924***	1.000		
E	0.356***	0.335***	1.000	
Δ*E*	0.264***	0.234***	0.613***	1.000

3. 变量间的相关系数

本文研究变量之间的Pearson相关系数如表5所示。

结果显示，无论是个股本身的回报率还是经市场调整的回报率，与盈余水平（*E*）及盈余变化（Δ*E*）都是显著正相关。从数值上来看，盈余水平与两种回报率的相关系数为0.35左右，盈余变化与两种回报率的相关系数为0.25左右，这说明盈余水平比盈余变化更与股票回报率相关，即我国会计信息的盈余水平更能解释股价的变动。此外，两种回报率之间、盈余水平与盈余变化之间，也都是显著正相关，这为下一步的研究奠定了基础。

五、实证检验结果

1. 会计盈余价值相关性

我们在统计回归之前，先证实中国的会计盈余在本文的研究期间内是否有价值相关性。其结果列示在表6中。

表6显示，与Chen *et al.*（2001）的结论一致，我国资本市场上会计盈余的确存在价值相关性。而且，即使把全样本分为由“大所”审计的和由“非大所”审计的两个子样本，它们各自的盈余水平系数和盈余变化系数在统计上显

表 6 中国上市公司2001年至2003年会计盈余的价值相关性

	全样本	“大所”审计	“非大所”审计
α	−0.181***	−0.182***	−0.180***
$E(\beta_1)$	2.065***	1.862***	2.195***
$\Delta E(\beta_2)$	0.533***	0.661**	0.446**
F值	206.108***	64.021***	142.141***
Adj. R^2	0.130	0.102	0.146
观察值	2758	1106	1652

注：以个股自身的回报率为因变量进行的回归结果；*、**、*** 分别表示在10%、5%和1%水平上显著，下同。

著，由此支持了本文这一方法的使用。另外可以看到，两个子样本回归系数的大小和显著程度没有很大的差异，这也在一定程度上说明我国投资者对“大所”并没有区别对待。

2. 检验事务所规模与投资者感知的审计质量之间的关系

本文利用会计盈余的价值相关性，试图发现我国市场上事务所规模与投资者感知的审计质量之间的关系。如果投资者认为“大所”代表高质量的审计服务，那么在研究模型（1）式中，代表“大所”的哑变量与盈余水平、盈余变化的交叉项前的两个系数（β_3和β_4），应该与0存在显著差异。

统计检验的结果列示在表7中，共两个部分。第一部分是以个股自身的年持有收益率作为因变量对（1）式回归得到的结果；第二部分是以经过当年市场加权回报率调整的个股回报率作为因变量对（1）式回归得到的结果。每部分还分别列示了全样本的回归结果和分年度回归的结果。

从全样本的回归结果来看，盈余水平的系数（β_1）在两个回归方程中都显著大于0，盈余变化的系数（β_2）在以个股自身回报率为因变量的回归方程中显著，这表示个股的股价和上市公司的每股盈余是密切相关的。但是，上下两个部分中，代表“大所”的哑变量与盈余水平的交叉项前的系数（β_3）分别为−0.333和−0.470，哑变量与盈余变化的交叉项前的系数（β_4）分别为0.214和0.279，统计上都不显著。这意味着投资者在决策时没有依赖于“大所”审计客户的会计盈余，即他们不能区分“大所”与其他事务所的审计质量差异。

从分年度的回归来看，各个年份的结果也与全样本的结论一致。同时，表7的第二部分也显示，当我们以经当年市场加权回报率调整的个股回报率作为因变量时，三个年度的回归结果与第一部分相比，结论一致，即三年的β_3和β_4与0都没有显著差异。

表7 事务所规模对投资者感知的审计质量的影响分析

	全样本	2001	2002	2003
第一部分：以个股自身的回报率（*RET*）为因变量的回归结果				
α	−0.180***	−0.203***	−0.209***	−0.117***
$E(\beta_1)$	2.195***	0.203	1.812***	2.806***
$\Delta E(\beta_2)$	0.446**	2.370***	0.285	−0.059
$D^*E(\beta_3)$	−0.333	−0.210	0.066	−0.702
$D^*\Delta E(\beta_4)$	0.214	0.032	0.826	−0.011
$D(\beta_5)$	−0.002	0.001	0.003	−0.008
F值	82.768***	16.505***	22.850***	39.954***
Adj. R^2	0.129	0.084	0.105	0.165
第二部分：以经过市场调整的回报率（*MARET*）为因变量的回归结果				
α	−0.046***	0.023***	−0.069***	−0.064***
$E(\beta_1)$	2.159***	0.193	1.807***	2.775***
$\Delta E(\beta_2)$	0.199	2.247***	0.296	−0.051
$D^*E(\beta_3)$	−0.470	−0.327	0.042	−0.706
$D^*\Delta E(\beta_4)$	0.279	0.208	0.832	0.026
$D(\beta_5)$	0.000	0.000	0.003	−0.009
F值	71.333***	15.042***	22.701***	39.002***
Adj. R^2	0.115	0.077	0.105	0.162
观察值	2758	843	930	985

因此，无论是全样本的回归结果，还是分年度的回归结果，都说明投资者并不认为“大所”比规模小的事务所提供更高质量的审计服务。

3. 控制其他因素

从表7可以看出，虽然分年度回归后得到的统计结果是一致的，事务所的规模与其感知的审计质量并不相关，但是各个系数在大小和符号上都有着一定的差别。2001年β_3为负、β_4为正，2002年全正，2003年全负，这说明年度间存在着差异，可能会导致表7结论的不可靠。因此，我们在回归方程（1）式中加入两个年度变量（*YEAR*）。同时，公司所在行业的经营特点和会计结算方式也是投资者在决策时经常会考虑的因素，进而在很大程度上影响了会计盈余的价值相关性，需要对行业进行控制，我们在回归方程（1）式中继续加入行业变量（*INDUSTRY*）。

另外，国外学者们指出，一些有关公司特征、会计盈余特征的其他变量也

会影响价值相关性（Teoh and Wong, 1993; Chen *et al.*, 2001; Ghosh and Moon, 2005等）。因此，我们在研究模型（1）式中加入如下五个控制变量，以及它们分别与盈余水平、盈余变化的交叉项：（1）*SIZE*：总资产的自然对数，是公司规模的替代变量；（2）*LEV*：资产负债率（总负债除以总资产），是公司风险的替代变量；（3）*GRTH*：当年主营业务收入相较于上一年的增长率，是公司成长性的替代变量；（4）*PERS*：计算公式为（税前利润总额–主营业务利润）/税前利润总额，是会计盈余持续性的替代变量，该变量的数值越大，表示会计盈余越缺乏持续性；（5）*DNI*：是一个哑变量，当盈余水平为正数时，取值1，否则取值0。Chen *et al.*（2001）在研究了我国会计盈余的价值相关性后提出：会计盈余的持续性越大，价值相关性越强（但没有得到证实）；另外，当报告的利润大于0时，会计盈余在股价的形成过程中更为重要（结论得到了支持）。由此，我们预期：*SIZE*、*GROWTH*、*PERSISTENCE*和*DNI*都会增加会计盈余的价值相关性，而*LEVERAGE*则会降低会计盈余与市场回报率之间的关系。最后，我们还在模型中加入了*OPN*变量，用以控制审计意见对会计盈余价值相关性可能产生的影响：当上一年出具的审计意见为标准无保留意见时，取值0，否则取值1。

本文使用的2758个样本中，有少量的公司缺失这些控制变量计算所需要的公司或财务信息，样本数有所减少。2001年缺少了2家，2002年减少了6家，2003年缺少了3家，最后的样本数为2747个公司/年度观察值，回归结果见表8。

从表8可以看到，无论是分别只包含年度变量、行业变量、控制变量，还是将三者都纳入模型中，对有关事务所规模和投资者感知的审计质量的结论都没有任何的影响。代表“大所”的哑变量与盈余水平的交叉项前的系数（β_3）始终为负（分别是–0.260、–0.440、–0.366和–0.344）、与盈余变化的交叉项前的系数（β_4）始终为正（分别是0.002、0.278、0.223和0.064），但在统计上都不显著。说明我国投资者对“大所”审计的会计信息没有比其他公司的盈余更为重视，即他们不能认为“大所”能提供高于其他事务所的审计质量。以市场加权回报率调整的回报率为因变量所作的回归结果，也不影响结论，篇幅所限没有报告。

从表8还可以得到一些其他有价值的结论。代表公司特征的三个控制变量中，公司规模显著增加了盈余变化的价值相关性，但同时显著降低了盈余水平的价值相关性，因此它的作用是不确定的，这与Teoh and Wong（1993）的结论一致。另外，公司风险和公司成长性对会计盈余价值相关性的作用不显著，投资者在决策时并不关注这两个信息，而已有文献对这一问题也没有形成一致的看法。代表会计盈余特征的两个控制变量中，我们没有发现会计盈余的持续性对价值相关性有显著的增加作用，而正的盈余水平可以明显增加价值相关性，这与Chen *et al.*（2001）对我国的研究结果相同。

表 8 事务所规模对投资者感知的审计质量的影响分析——加入其他控制变量

	（1）	（2）	（3）	（4）
α	−0.716***	−0.227***	−0.204***	−0.749***
$E(\beta_1)$	11.164***	2.180***	2.148***	11.772***
$\Delta E(\beta_2)$	−7.274	0.294	0.467**	−7.898
$D^*E(\beta_3)$	−0.260	−0.440	−0.366	−0.344
$D^*\Delta E(\beta_4)$	0.002	0.278	0.223	0.064
$D(\beta_5)$	0.004	0.001	−0.002	0.004
*SIZE*E*	−1.281***			−1.306***
*SIZE*ΔE*	0.868**			0.932**
*LEV*E*	0.198			0.117
*LEV*ΔE*	−0.390			−0.415
*GRTH*E*	−0.289			−0.235
*GRTH*ΔE*	−0.075			−0.090
*PERS*E*	0.115			0.123
*PERS*ΔE*	−0.024			−0.020
*DNI*E*	5.780***			4.793***
*DNI*ΔE*	1.831***			1.561***
SIZE	0.050***			0.051***
LEV	−0.013			−0.024
GRTH	0.001			0.001
PERS	0.000			−0.001
DNI	0.026			0.021
OPN	−0.009			−0.002
YEAR		控制		控制
INDUSTRY			控制	控制
F值	43.749***	99.809***	49.114***	41.652***
Adj. R^2	0.246	0.201	0.136	0.286
观察值	2747	2747	2747	2747

4.“四大”与“非四大”的比较

国际四大会计师事务所，无论从年审计收入、客户总资产、客户主营业务收入，还是从聘用的员工数、在社会上的声誉和地位来说，即使与国内规模较大的事务所相比，也具有显著优势。因此，研究投资者是否认为“四大”的审计质量高于“非四大”，以进一步检验事务所规模与投资者感知的审计质量之间的关系，就显得十分必要。

我们遵循Teoh and Wong（1993）的方法，采用配对样本对“四大”和“非四大”进行检验。配对的规则如下：对每一家由“四大”审计的上市公司（以下称为“目标公司”），在同一年度、同一行业、由“非四大”审计的公司范围内选择公司规模位于目标公司规模90%至110%区间内的上市公司；如果有两家或以上的公司可供选择，就选取每股盈余水平（EPS）与目标公司最为接近的一家作为配对公司，纳入统计检验的范围。

配对的结果如下：在本文的样本中，2001年“四大”共审计了40家上市公司（本文样本中删去了同时发行B股和H股的A股上市公司，而这些公司大多是由“四大”审计的，因此样本中由“四大”审计的公司数较少），其中2家没有办法找到配对公司，因此最后的样本数为76个；2002年和2003年分别有48家和51家目标公司，但各有4家和7家无法找到配对的，因此样本数都是88个。这样，总样本量是252个公司/年度观察值。回归方程如下所示：

$$RET_{it}=\alpha+\beta_1\cdot E_{it}+\beta_2\cdot\Delta E_{it}+\beta_3\cdot D_{it}\cdot E_{it}+\beta_4\cdot D_{it}\cdot\Delta E_{it}+\beta_5\cdot D_{it}+\varepsilon_{it} \quad (2)$$

其中，因变量是个股自身的回报率。哑变量D的含义如下：当公司i第t年聘请的事务所是国际四大会计师事务所的，取值为1；否则取值为0。

“四大”与“非四大”的比较结果列示在表9。可以看出，在全样本的统计结果中，代表“四大”的哑变量与盈余水平交叉项前的系数为–1.843、与盈余变化交叉项前的系数为3.138，但是都未达到统计显著。这表示投资者没有对“四大”审计客户的会计信息给予更大的反映，意味着他们并不认为“四大”的审计质量与“非四大”存在显著差异。分年度样本的统计结果结论一致。

表9 “四大”与“非四大”的比较

	全样本	2001	2002	2003
α	–0.224***	–0.126***	–0.284***	–0.165***
$E(\beta_1)$	4.516***	–3.667	6.116***	4.804***
$\Delta E(\beta_2)$	1.438	5.201	1.510	0.926
$BIG4^*E(\beta_3)$	–1.843	1.504	–3.329	–2.358
$BIG4^*\Delta E(\beta_4)$	3.138	–0.822	2.343	7.964
$BIG4(\beta_5)$	0.067**	–0.039	0.096**	0.102
F值	13.447***	1.793	8.216***	5.992***
Adj. R^2	0.199	0.050	0.293	0.223
观察值	252	76	88	88

六、稳健性检验

1. 剔除被特殊处理的公司

一般来说，在当年被特殊处理（ST或PT）的上市公司，急需扭亏为盈，因此有更大的动机进行盈余管理，甚至操纵会计盈余。理性的投资者都会意识到这一点，于是不再依赖这些公司的会计信息做出投资决策，从而使得全样本的会计盈余不再具有价值相关性，最终导致表7的系数不显著，统计结果也产生偏差。因此，我们从样本中剔除研究期间内被特殊处理的公司，试图消除这一影响。实证结果（表略）与表7非常一致。ST和PT公司被剔除之后，全样本的回归结果显示，代表“大所”的哑变量与盈余水平的交叉项的系数为–0.298、与盈余变化的交叉项前的系数为0.232，有负有正，但是统计上都不显著。而分年度的样本各自回归之后，各交叉项前的系数也与0没有显著差异。因此，在剔除了被特殊处理的公司之后，我们得到的结论仍然是我国投资者不能认为“大所”代表着高审计质量。

2.“大所”与“小所”的直接比较

为深入研究会计师事务所规模与投资者感知的审计质量之间的关系，我们将三年里按客户数排名得到的前15家事务所和后15家事务所分离出来，进行直接的比较。因为各年涉及的事务所都在75家左右，这一做法相当于将“大所”的范围大致划分在80分位以上。在进行回归的过程中，我们不再使用全样本，而是把样本局限在每年按客户数排名得到的前15家和最后15家事务所的审计客户。这样，2001年有420个观察值，2002年有437个，2003年有465个，共得到1322个公司/年度观察值。

我们以个股自身的年持有率（*RET*）和经市场加权回报率调整后的个股回报率（*MARET*）分别作为应变量进行回归（表略），结果没有发生变化。

3. 以不同的标准划分本文“大所”的范围

我们采用不同的标准对“大所”进行再定义，并重新检验事务所规模与投资者感知的审计质量之间的关系，以增加研究的稳健性。

（1）三年平均客户数的中位数

首先，我们采用事务所三年平均客户数的中位数作为划分“大所”的标准。从表1可知，这一数据是14家客户。共有38家事务所进入了这个稳健性检验重新划分的“大所”范围，他们的客户数2001年是640家，2002年是703家，2003年是724家。回归结果（表略）显示，代表这些“大所”的哑变量与盈余水平和盈余变化交叉项前在统计上并不显著，说明投资者不认为这些事务所的审

计质量高于其他事务所，这与之前“三年平均客户数大于26家”的“大所”标准下的结论一致。

（2）“百强排行榜”

我们以中国注册会计师协会公布的《2003年度会计师事务所全国百家信息》的前十大和前二十大作为模型中的大所，再次进行稳健性检验。中注协的这一排名按照的是各事务所的年业务收入，与本文之前的排序原则–三年平均客户数完全不同。两次回归结果（表略）显示，虽然“大所”的划分标准不同，样本量也不同，但是两次回归中代表“大所”的哑变量与盈余水平和盈余变化交叉项前的系数仍然不显著，投资者没有对这些事务所审计的年报信息更为信任和依赖，也就是说，我国投资者并不认为“大所”和“小所”的审计质量存在差异。

七、结论

我们从投资者的角度来研究事务所规模与审计质量之间的关系，试图回答这样一个现实的问题：我国会计师事务所的规模是否会改变投资者对其审计质量的感知和判断。实证结果表明，投资者在决策过程中，并没有对“大所”审计客户的会计信息更为信任和依赖，事务所的规模不影响我国投资者对审计质量的判断，他们不能区分规模大的事务所与规模小的事务所的审计质量差异。我们还进行了一系列稳健性检验，都没有改变本文的结论。

基于我国特有的审计市场制度背景，我们认为，目前尚不能以会计师事务所规模的大小替代审计质量的高低。投资者不能识别事务所规模与审计质量之间的关系，这一结论对政府监管部门和上市公司都具有一定的现实意义。首先，我国特有的经济、法律环境不同于国外发达国家，投资者并不认为事务所“做大等于做强”。政府监管部门在制定审计行业政策的时候，要为执业的所有会计师事务所创造一个公平竞争的审计环境，对大小会计师事务所一视同仁。同时，要对我国审计行业进行管理和规范，不能简单地将事务所合并，就意味着审计质量的提高，关键要提高事务所的执业质量。其次，对于上市公司而言，仅仅通过聘请规模大的事务所进行年报审计，不从实质上提高公司的竞争力，不可能得到市场的认可，投资者不会对“大所”的审计客户另眼相看，上市公司应该从自身出发，依靠业绩表现和发展潜力在市场上树立起良好的形象，赢得市场。

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2007年9月 第9卷 第3期
中 国 会 计 与 财 务 研 究
China Accounting and Finance Review
Volume 9, Number 3, September 2007

DOES AUDITOR SIZE CHANGE INVESTORS' PERCEPTIONS OF AUDIT QUALITY?[1]

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ABSTRACT

Based on the return model of value relevance of accounting income, we investigate the relationship between auditor size and investors' perceptions of audit quality in China. We find that larger-sized auditors do not bring about a significant increase in the value relevance of their clients' accounting income. Under the current institutional environment of China, auditor size does not change the investors' perceptions of audit quality; in other words, the investors do not think that there is any difference in audit quality between large and small auditors. The results can help the government to formulate industry policies and listed companies to choose auditors.

Keywords: Auditor Size, Perceived Audit Quality, Value Relevance of Accounting Income

I. INTRODUCTION

Since it is not easy to measure audit quality directly and compare it between auditors, the investors' perceived audit quality appears to be more important. Do investors believe that large auditors can provide audits of higher quality, and thus put

[1] This research was supported by the Program for New Century Excellent Talents in University. We would like to thank the two anonymous referees and Professor Shimin Chen for their valuable comments and advice. We are nonetheless responsible for all the errors in this paper.

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more trust and reliance on the accounting income of the auditors' clients? Do investors think that it is meaningful for listed companies to employ large audit firms? And do investors agree on the Chinese government's strong promotion of mergers between small auditors to form a large audit firm? Doubtless the answers to these questions have important implications.

Western studies have shown that audit quality is positively related to auditor size. Investors are aware of this finding and pay more attention to the accounting income of large auditors' clients (Teoh and Wong, 1993; Francis *et al*., 1999; Schipper and Vincent, 2003; Pittman and Fortin, 2004). However, Chinese academics cannot reach a consistent conclusion; they find a positive relationship between auditor size and audit quality using the Jones model (Zhang and Liu, 2002; Qi *et al*., 2004), but no relationship between the two when using the audit opinion type to measure audit quality (Yuan and Li, 2003; Fang *et al*., 2004). Moreover, research on audit quality from the investors' perspective has rarely been conducted.

In China, the findings concerning audit quality are sensitive to the research design as well as the sample period. Therefore, we choose investors' perceived audit quality as a new measure for the research. Using the value relevance of accounting income as a proxy for perceived audit quality, we try to find if auditor size changes investors' perceptions of audit quality.

As to the classification of auditors in terms of size in China, previous research generally ranks them by one particular criterion, such as the number of clients, revenue, or total assets of clients, and with data for one year only, resulting in high randomicity. In addition, it is not proper to make a comparison among studies with different sample periods. On the basis of Zhang and Liu (2002), Yuan and Li (2003), and Fang *et al*. (2004), we extend the sample period from one year to three years and identify the large and small auditors according to their actual statistical characteristics, thus overcoming the weakness of classification by subjective judgments.

The empirical results of this research indicate that the value relevance of the accounting income of large auditors' clients does not increase significantly. This shows that Chinese investors do not consider the audit quality of large auditors to be higher than that of other audit firms, suggesting that investors' perceived audit quality will not be changed by auditor size. We also conduct some robustness tests, including comparing the Big Four firms with the non-Big Four firms, excluding ST or PT firms, and comparing the large auditors with the small auditors. In addition, we re-rank the auditors in the model by different criteria and repeat the robustness tests, the results of which do not change our conclusion.

The paper is organised as follows. The next section summarises the related literature and puts forward the research question. Sections III and IV discuss the research design and sample selection. Sections V and VI present our empirical results. The last section concludes the paper.

II. LITERATURE REVIEW AND RESEARCH QUESTION

2.1. Literature Review

There are two ways to examine the relationship between auditor size and audit quality. The first one is to investigate whether the actual audit quality of large auditors is higher than that of small auditors; the second is to test whether the investors' perceptions of audit quality change with auditor size.

DeAngelo (1981) defines audit quality as the joint probability that a given auditor will both discover a breach in the client's accounting system and report the breach. She points out that for those auditors who have higher numbers of clients (referred to as "large auditors" below), the revenue from a particular client is not significant enough to impact the independence of the auditor or induce the auditor not to report a discovered breach. More importantly, the total quasi-rents from all the other clients can, like collateral of a loan, prevent auditors from taking opportunistic behaviour, and guarantee the high quality of large auditors. The conclusion is thus that audit quality is dependent of auditor size.

Other research adopting different methods also supports this finding. Using a large sample of NASDAQ firms over the period from 1975 to 1994, Francis *et al*. (1999) show that although firms audited by the Big Six have higher levels of total accruals, they also have lower amounts of estimated discretionary accruals. Hence, they conclude that the Big Six can restrain earnings management of their clients and increase the reliability of their clients' accounting information. The results of Chung *et al*. (2005) are consistent with theirs. In addition, Pittman and Fortin (2004) find that the Big Six can help those firms that are newly listed and less known to the public to reduce their cost of debt because the high audit quality of Big Six firms can enhance the credibility of financial statements and reduce the debt-monitoring costs of the lenders.

Using the investors' perspective, Teoh and Wong (1993) indicate that the earnings response coefficients of Big Eight clients are higher than that of non-Big Eight clients. This implies that the market treats accounting information audited by the Big Eight to be more credible; in other words, the investors regard the Big Eight as high-quality audit service providers. Therefore, Western academics have drawn a consistent conclusion that audit quality is positively related to auditor size, and the investors are aware of this and take action accordingly.

In fact, there is an obvious difference between the two approaches to research on audit quality; one focuses on actual quality while the other focuses on perceived quality. Dopuch *et al*. (2003) emphasise that "independence in appearance" is much more important than "independence in fact". Ghosh and Moon (2005) also believe that the perceived audit quality is more important when they try to test the relationship between audit tenure and perceptions of audit quality. They argue that the value of auditing services depends on perceived quality because the actual quality cannot be measured directly.

In China, academics often pay more attention to actual audit quality than to the perceived quality. In addition, existing literature does not provide consistent conclu-

sions on the relationship between actual audit quality and auditor size due to different research designs and periods.

Using the utility function to clarify the relation between audit quality and auditor size, Wu *et al*. (2005) suggest that audit quality can benefit from a larger auditor size only when the firm has proper internal controls and there exists a healthy auditing market. Zhang and Liu (2002) conduct their research based on listed firms that were given non-standard audit opinions in 1998, and find that large auditors are more competent at identifying earnings management and express more severe opinions. Qi (2004) calculates the discretionary accruals of listed firms for 2002, and finds that the audit quality of the Big Four is higher than that of local auditors.[4] On the other hand, Yuan and Li (2003) analyse the relation between an audit opinion and the organisational structure, ownership, and size of an auditor, and find that audit quality is independent of auditor size. Fang *et al*. (2004) and Cai *et al*. (2005) carry out research on the factors of audit opinion type, and find no evidence to support the hypothesis that large auditors provide audits of higher quality. Wang and Chen (2006) use conservatism, timeliness, and earnings aggressiveness as the proxies for transparency of accounting income and try to find if there exist differences in audit quality among auditors of different types. Their results suggest that the transparency of firms audited by the Big Four is significantly greater than that of other firms, but no variance between local auditors is found.

In respect of perceived audit quality, Zhang (2005) measures the reputation of an auditor by the correlation between their clients' market value and returns on assets, and test the relation between the auditor type and perceived audit quality for the first time in a highly regulated buyers' market. As a result, he also finds a deviation between audit quality and auditor size in China; however, his research focuses on the reputation of auditors, and it also covers some other areas, such as whether the pricing of various types of auditors is different. Since we will focus on the relation of perceived audit quality to auditor size, our research can complement Zhang's.

From an overview of the above research, we can find that the sample periods are usually limited to one year only, and the criteria for the large auditor classification are not clearly described. Some research just uses the top 10 auditors in China ranked by certain newspapers, thus reducing the reliability and comparability of the results. We try to extend the research by making some improvements.

2.2. Research Question

This paper tries to answer the following question: Does auditor size change the investors' perceptions of audit quality? In other words, do investors think that the

[4] The literature using discretionary accruals to measure audit quality also include Cai *et al*. (2005), Wu *et al*. (2006), and so on. Most of them conjecture that large auditors can provide higher audit quality.

audit quality of a large auditor is higher than that of other audit firms? We choose this topic for two reasons.

First, researchers in China have reached different conclusions about the relationship between audit quality and auditor size due to differences in research design. Using the Jones model to calculate the amount of discretionary accruals, most studies find that large auditors provide higher audit quality (Zhang and Liu, 2002; Qi *et al*., 2004). However, if the type of audit opinions is used as the measuring criterion, auditor size and audit quality will be found to have no relation (Yuan and Li, 2003; Fang *et al*., 2004). Therefore, it is obvious that research on audit quality in China is sensitive to the design and sample period. We think that no ultimate answers can be found to the question on audit quality even if we employ a new research method.

Second, there is relatively little research on investors' perceptions of audit quality in China, even though it is a very important factor in audit quality, sometimes even more important than the actual audit quality (Dopuch *et al*., 2003; Ghosh and Moon, 2005). In particular, when it is impossible to ascertain the actual audit quality, the perceived audit quality reflects the market's perspective on auditors of different sizes, which can greatly help listed companies to maximise shareholder value and the China Securities Regulatory Commission (CSRC) to protect the interests of investors.

Zhang (2005) attributes the deviation between auditor size and audit quality to the lack of demand for high audit quality and the lack of severe punishment for low audit quality. Previous research also makes similar findings. Chen and Zheng (2001) and Deng *et al*. (2002) find that in China, the demand for an audit is generated by the government through compulsory regulations rather than by the investors. Wang *et al*. (2003) suggest that due to the existence of internal controls by large shareholders, the unclear ownership of property rights, and the split share structure, Chinese audit firms generally lack motivation to provide high-quality services.

We carry out our research on the relationship between audit quality and auditor size mainly because of the special institutional background in China. Many researchers argue that in a mature market, large auditors, especially the Big Four, can provide higher audit quality with their advantages in technology, professionalism, reputation, and legal risks. However, can these advantages also help to increase audit quality in China?

The Chinese auditing market is far from fully competitive, as judged by the conditions discussed by DeAngelo (1981). Large local auditors used to monopolise the market because of some historical and administrative reasons. The Big Four collaborated with large local auditors to enter into the Chinese market, and were endowed with monopolised resources by the government. In 2001, the CSRC and the Ministry of Finance required that banks, securities houses, and insurance companies be doubly audited by a local auditor as well as an international auditor. The Big Four were officially issued a temporary one-year licence. In the same year, the CSRC required that an A-share listed company should employ a famous international auditor to conduct a supplementary audit when launching an initial public offering

or refinancing. Since then, the shares of the Big Four in the market of important local firms have been increasing. On the one hand, the numbers of clients of the Big Four and large auditors are driven by administrative forces rather than by the market; on the other hand, their shares in the Chinese audit market are still far from those in the mature market. It is thus difficult to establish the required independence described by DeAngelo (1981). Besides, even Big Four firms were involved in some scandals in the Chinese capital market. For example, PWC was criticised by the Ministry of Finance; KPMG and DTT were found to be involved in the Jinzhougang incident and Kelong incident, respectively. Moreover, although the investors may sue auditors for their misconduct, the actual probability of suing is quite low due to the high costs but low gains. As the legal risks in China are low, the audit quality of Big Four firms decreases because of localisation (Liu and Xu, 2002). After conducting a survey on the audit failure disclosed by the CSRC, Li and Deng (2007) also find a negative relation between auditor size and audit quality. Lastly, from the perspective of demand and supply of audit services, a study team doing research on CPAs' practising environment indicates that when companies decide on an auditor, they will not measure audit quality in terms of the auditor size. Above all, the special institutional background in China is likely to result in the deviation between audit quality and auditor size.

However, we also note that through mergers and affiliations in 2002, some large auditors have been established with good potential for development. In 2001, the new Accounting Systems and Accounting Principles were issued; these new regulations provide listed companies and auditors with the standards for improving the quality of accounting income. In order to protect the investors, the CSRC continues to stipulate requirements for the disclosure of accounting information. The "Regulation on Civil Indemnity Cases Resulting from False Statements in the Capital Market" was promulgated on 9 January 2003 by the Supreme Court of the People's Republic of China. All these positive changes should be, in theory, adequate enough to urge large auditors to provide higher audit quality in order to protect their reputation and public image. Nevertheless, whether the investors consider these changes to have an impact on auditors or not will remain to be tested by the market.

III. RESEARCH DESIGH

3.1. Proxy for Auditor Size

Western academics use a uniform standard for large auditors, namely the Big Four. In China, however, no authoritative standards have been established to classify large auditors. Previous research employs different criteria, such as an auditor's revenue (Cai, 2005), the number of clients (Zhang and Liu, 2002; Yuan and Li, 2003; Fang *et al*., 2004), and clients' total assets (Wu, 2006). We also find that in those studies, auditors are often ranked and the hypotheses are tested using data for one year only. Inevitably, there exists the concern about the existence of selective distortion of the sample and the occasionality of time. In addition, it is not easy to make comparisons between the studies.

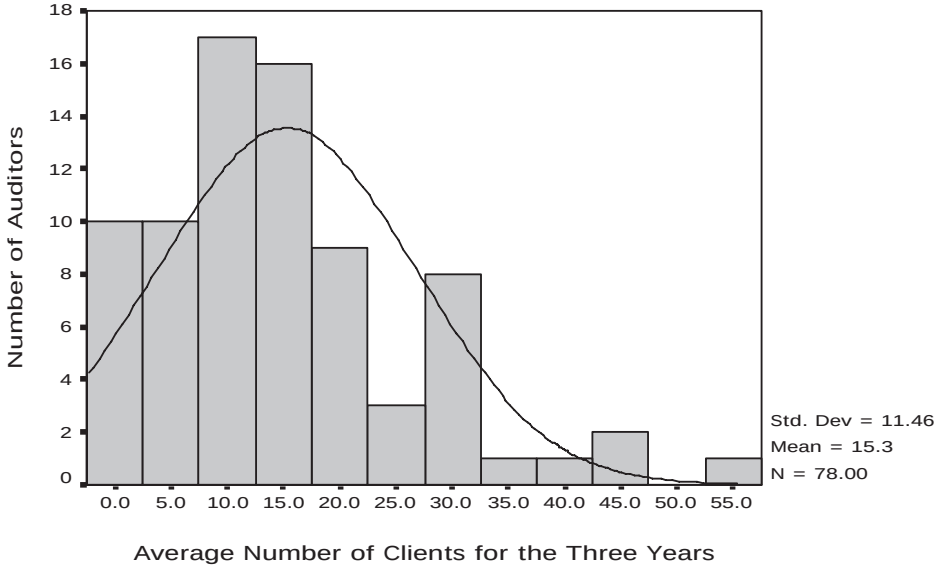
In view of the above, we use the data for the three years from 2001 to 2003 to classify large auditors in China. Following DeAngelo (1981), we choose the number of clients as our criterion for ranking, and such data are taken from the CSMAR Database (Ver. 2005). This database provides information on all A-share listed companies and their auditors, thus helping us to obtain the number of clients for each auditor for the three years. We also calculate the average number of clients for each auditor for the three years. The distributions of these data are shown in Table 1.

Table 1 Descriptive Statistics for Auditors' Number of Clients

	N	Mean	Median	Min.	20%	40%	60%	80%	Max.	Std. Dev.
2001	74	15.05	12.5	1	6	11	15	23	50	10.83
2002	75	15.96	14	1	7	12	16.6	23.8	52	11.14
2003	77	16.39	15	1	7	12.2	17	24.6	65	12.04
Avg.	78	15.28	14	0	5.8	11	15	23.2	56	11.46

We believe that audit quality should be stable throughout the sample period, so the investors' perceptions of audit quality will not be likely to change unless financial scandals are reported. Hence, we rank the auditors based on their average number of clients for the three years to identify the large auditors. Figure 1 presents the frequency distribution of the average number of clients (referring to the listed companies only).

Figure 1 Frequency Distribution of the Average Number of Clients



From 2001 to 2003, the mean number of clients is 15; the minimum is 0 (one auditor has only one client in a year, so the average number of clients for the three years is zero), and the maximum is 56, showing a huge variance. Most auditors have an average number of clients of less than 24. We can find from the detailed data that there is a clear gap from 24 to 26, so those auditors with the average number of clients for the three years higher than 26 are defined as large auditors, as listed in Table 2. According to Table 1, these large auditors are higher than the 80th percentile, meaning that their annual number of clients is within the top 20 per cent.

Zhang and Liu (2002) and Fang *et al*. (2004) use the same method to classify auditors, but they all set the cut-off point at 20. Yuan and Li (2003) do not disclose their standard. We can see from Figure 1 that quite a large number of auditors have their average number of clients at around 20. If we set the cut-off point at 20, another nine auditors will fall into the category of large auditors, and it is hard to explain why those auditors with the average number of clients at 19 cannot be classified as "large auditors". The number of 26 is chosen finally because it can demonstrate "the largeness" of these large auditors. We also use such other standards as the median and the 80th percentile to classify large auditors to conduct the robustness tests, and find that the conclusion still holds.

In Table 2, there are 14 auditors with the average number of clients for the three

Table 2 Large Auditors in China from 2001 to 2003

	Number of Clients			
	2001	2002	2003	Average
Shulun Pan CPAs	50	52	65	56
Shenzhen Pengcheng CPAs	42	46	49	46
Zhejiang Pan-China CPAs	39	42	47	43
Ernst & Young Da Hua CPAs	44	38	33	38
Daxin CPAs	35	34	36	35
PricewaterhouseCoopers CPAs	19	40	38	32
Wu Zhou CPAs	30	33	32	32
Beijing Jingdu CPAs	34	31	27	31
Shanghai CPAs	29	28	32	30
Wu Lian United CPAs	29	28	29	29
Shenzhen Dahua Tiancheng CPAs	28	27	29	28
Sichuan Jun He CPAs	29	27	27	28
Yue Hua CPAs	28	26	28	27
Hunan Carea CPAs	26	26	27	26
Total	462	478	499	480
No. of listed companies disclosing information on their auditors	1137	1198	1262	1199
Percentage of companies audited by large auditors	40.63%	39.90%	39.54%	40.00%

years higher than 26. Their total number of clients is about 470 annually, accounting for 40 per cent of all listed companies, and shows a steady increasing trend. Therefore, they are really the large auditors in China.

3.2. Proxy for Audit Quality

Academics in China used to employ the Jones model or the types of audit opinion to measure audit quality, and they usually come to different conclusions: audit quality is positively related to auditor size by the former method, but not related by the latter method. The conclusions are not consistent because the relationship between audit quality and auditor size is sensitive to the research design and sample period. So we turn to use perceived audit quality to conduct the research from a new angle. Different from using firm value to regress on returns of assets as described in Zhang (2005), we choose a mature model that is often used overseas, namely the value relevance of accounting income.

The value relevance of accounting income is the regression on a firm's accounting information using market returns of the firm. After analysing and comparing the four explanations of value relevance, Francis and Schipper (1999) argue that the result indicates the power of accounting income to explain market returns, thus demonstrating whether the accounting information is helpful to decision making. In other words, higher value relevance means that investors consider the accounting information to be more credible, and they will rely more on it to make decisions. Therefore, value relevance reflects how investors evaluate the quality of accounting information.

In the case of auditing, if investors believe that a given auditor provides higher audit quality than others, they will put more trust in the annual reports of the auditor's clients, whose stock prices will contain more accounting information. Higher perceived audit quality of the auditor can thus result in more value relevance of its clients' accounting income. Many Western academics have used the value relevance of accounting income as the proxy for audit quality, including Teoh and Wong (1993), Schipper and Vincent (2003), and Ghosh and Moon (2005); Gul *et al*. (2002) even use it to measure the actual audit quality.

3.3. Research Model

We use a return model for the value relevance of accounting income taking into account both earnings changes and earnings levels. We include transitory and permanent components of earnings in the regression because this can increase the explanatory power of the model (Ghosh and Moon, 2005). The model is as follows:

$$RET_{it} = \alpha + \beta_1 \cdot E_{it} + \beta_2 \cdot \Delta E_{it} + \beta_3 \cdot D_{it} \cdot E_{it} + \beta_4 \cdot D_{it} \cdot \Delta E_{it} + \beta_5 \cdot D_{it} + \varepsilon_{it}, \quad (1)$$

where RET_{it} is the return for firm i in year t with a calculation period comprising the last eight months of the current and first four months of the following year, and the calculation formula is "$\Pi\ (1 + Rj) - 1$", where Rj represents the monthly raw returns for the j^{th} month during the said period with cash dividends reinvested; E_{it}

is the earnings per share for firm *i* in year *t*, calculated as "net income / stock capital", and divided by the closing stock price on 30 April of the year; ΔE_{it} is the change in earnings per share for firm *i* in year *t*, calculated as "ΔNI / stock capital", and divided by the closing stock price on 30 April of the year; D_{it} is a dummy coded as 1 when the auditor of firm *i* in year *t* is one of the large auditors classified in this paper, and 0 otherwise.

Since the Chinese capital market is still under development, stock prices are exposed to influences of the whole market, the economic environment, and other forces. Therefore, we refer to Francis and Schipper (1999) and Ghosh and Moon (2005) and use market-adjusted returns ($MARET_{it}$) as another dependent variable in the model, which is the difference between raw returns and market value-weighted returns of the year (with cash dividends reinvested).

IV. DATA SOURCE

4.1. Sample Selection

The data are sourced from the CSMAR Database (Ver. 2005). Since this database does not provide information about auditors of B-share listed companies, the sample is composed of only A-share listed companies from the years 2001 to 2003. The selection process is described in Table 3.

Table 3 Selection Process

	2001	2002	2003	01–03
No. of firms disclosing their auditors	1137	1198	1262	3597
Less:				
No. of firms audited by Andersen[5]	23	1	0	24
No. of financial firms	7	8	10	25
No. of firms also issuing B shares	66	73	74	213
No. of firms also issuing H shares	15	23	23	61
No. of firms with data missing	134	109	114	357
Outliers[6]	49	54	56	159
Final sample size	843	930	985	2758

[5] Arthur Andersen Hua Qiang CPAs audited 23 A-share listed companies in 2001 but was merged with other audit firms in 2002 due to the Enron incident. It is quite hard to decide whether or not the CPA firm belongs to the category of large auditors because it basically does not exist after 2002. We thus exclude the 23 clients audited by Andersen in 2001 and the one client audited by them in 2002.

[6] We eliminate the top and bottom 1 per cent of observations for *E*, ΔE, and *RET* in the model.

Finally, we obtain a sample of 2,758 firm-year observations.

4.2. Descriptive Statistics

Table 4 presents the descriptive statistics of the continuous variables in the model. During the sample period, the mean and median of raw returns for A-share listed companies are –16.26 per cent and –19.75 per cent, respectively, and those of *MARET* are –2.8 per cent and –4.87 per cent, respectively. The quartile shows both types of returns are left-skewed, meaning that returns of most companies are negative. This is consistent with the trend in the Chinese A-share market from 2001 to 2003. In addition, the mean and median of earnings levels (E) are 0.0094 and 0.0120, respectively, and those of earnings changes (ΔE) are –0.0021 and –0.0005, respectively. This tells us that generally, the profits of listed companies show a decreasing trend during the three years.

Table 4 Descriptive Statistics

	N	Mean	Min.	25%	Median	75%	Max.	Std. Dev.
RET	2758	–0.1626	–0.5980	–0.2887	–0.1975	–0.0731	0.6470	0.19
MARET	2758	–0.0280	–0.5341	–0.1477	–0.0487	0.0596	0.6900	0.18
E	2758	0.0094	–0.2434	0.0041	0.0120	0.0216	0.0893	0.03
ΔE	2758	–0.0021	–0.1849	–0.0064	–0.0005	0.0036	0.1747	0.03

4.3. Correlations

The Pearson correlations for the continuous variables are presented in Table 5.

Table 5 Pearson Correlation Matrix

	RET	*MARET*	E	ΔE
RET	1.000			
MARET	0.924***	1.000		
E	0.356***	0.335***	1.000	
ΔE	0.264***	0.234***	0.613***	1.000

Both raw returns and market-adjusted returns are positively correlated with earnings levels (E) and earnings changes (ΔE). The correlation coefficients between earnings levels and the two returns are both around 0.35, while those between earnings changes and the two returns are around 0.25. This illustrates that earnings levels are more correlated with stock returns, and are reflected more in the stock prices than earnings changes. In addition, positive correlations also exist between the two returns and between earnings levels and earnings changes.

V. EMPIRICAL RESULTS

5.1. Value Relevance of Accounting Income

Before conducting the empirical research, we first test if the accounting information in China is value relevant during the research period. The results are shown in Table 6.

Table 6 Value Relevance of Accounting Income from 2001 to 2003

	Full Sample	Audited by Large Auditors	Audited by Other Auditors
A	–0.181***	–0.182***	–0.180***
$E(\beta_1)$	2.065***	1.862***	2.195***
$\Delta E(\beta_2)$	0.533***	0.661**	0.446**
F-statistic	206.108***	64.021***	142.141***
Adj. R^2	0.130	0.102	0.146
N	2758	1106	1652

Notes: The dependent variable is raw returns. *, **, and *** denote statistical significance at the 10 per cent, 5 per cent, and 1 per cent levels, respectively, for a two-tailed test. The same denotations apply in the following tables.

Consistent with Chen *et al*. (2001), we do find the existence of value relevance in the Chinese capital market. Furthermore, even if we divide the full sample into one sub-sample audited by large auditors and another audited by the other audit firms, the coefficients of earnings levels and earnings changes in both regressions are significantly positive. Thus, the use of value relevance of accounting information in this research is supported. We also find that the magnitude and significance of the coefficients for these two sub-samples are very much the same, suggesting that to some extent, investors in China do not differentiate between large and other auditors.

5.2. Relationship between Perceived Audit Quality and Auditor Size

Based on the value relevance of accounting income, we try to find the relationship between investors' perceived audit quality and auditor size in China. If the investors believe that large auditors can provide higher quality, the two coefficients before the interaction terms between the dummy and earnings levels/changes (β_3 and β_4) in model (1) should be significantly different from zero.

Table 7 presents the empirical results. Raw returns and the market-adjusted returns are the dependent variables in Panels A and B, respectively. Each panel also lists the regression results for the full sample and those for each year.

As shown by the regression results for the full sample in Panel A, the coefficients of earnings levels in both regressions are significantly positive and those of earnings changes are statistically significant, reflecting that stock prices and earnings per

Table 7 Impact of Auditor Size on Perceived Audit Quality

	Full Sample	2001	2002	2003
Panel A: Raw returns as the dependent variable				
α	–0.180***	–0.203***	–0.209***	–0.117***
$E(\beta_1)$	2.195***	0.203	1.812***	2.806***
$\Delta E(\beta_2)$	0.446**	2.370***	0.285	–0.059
$D^*E(\beta_3)$	–0.333	–0.210	0.066	–0.702
$D^*\Delta E(\beta_4)$	0.214	0.032	0.826	–0.011
$D(\beta_5)$	–0.002	0.001	0.003	–0.008
F-statistic	82.768***	16.505***	22.850***	39.954***
Adj. R^2	0.129	0.084	0.105	0.165
Panel B: Market-adjusted returns as the dependent variable				
α	–0.046***	0.023***	–0.069***	–0.064***
$E(\beta_1)$	2.159***	0.193	1.807***	2.775***
$\Delta E(\beta_2)$	0.199	2.247***	0.296	–0.051
$D^*E(\beta_3)$	–0.470	–0.327	0.042	–0.706
$D^*\Delta E(\beta_4)$	0.279	0.208	0.832	0.026
$D(\beta_5)$	0.000	0.000	0.003	–0.009
F-statistic	71.333***	15.042***	22.701***	39.002***
Adj. R^2	0.115	0.077	0.105	0.162
N	2758	843	930	985

share are closely related to each other. However, the coefficient before the interaction term between the dummy and earnings levels (β_3) is −0.333 in Panel A and −0.470 in Panel B; the coefficient before the interaction term between the dummy and earnings changes (β_4) is 0.214 in Panel A and 0.279 in Panel B, all without statistical significance. This suggests that investors do not rely more on the accounting information of the companies audited by large auditors; they cannot distinguish the difference in audit quality between large and other auditors.

Results of regressions by year are consistent with those for the full sample. Meanwhile, Panel B shows that using market-adjusted returns as the dependent variable for regressing on the yearly data, we also come to the same conclusion that β_3 and β_4 are not significantly different from zero.

Overall, the regression results for the full sample and those for each year both suggest that investors do not think that large auditors can provide higher audit quality than other auditors.

5.3. Controlling Other Variables

Table 7 shows the differences in coefficients between yearly regressions in terms of the magnitude and sign, despite the fact that the regression results are consistent. β_3 is negative and β_4 is positive for 2001; both are positive for 2002 and negative for 2003. The differences may cause unreliability in the results shown in Table 7.

Therefore, we add two year variables (*YEAR*) into model (1). Moreover, the investors usually take into consideration the operation and accounting features of the industry when they make their decisions, thus certainly influencing the value relevance of accounting income. We include industry variables (*INDUSTRY*) in model (1).

In addition, the value relevance is associated with some other characteristics of firms and accounting information (Teoh and Wong, 1993; Chen *et al*., 2001; Ghosh and Moon, 2005). Therefore, we include the following five control variables and their respective interactions with earnings levels and earnings changes in model (1): (i) *SIZE* is the natural logarithm of total assets, serving as the proxy for firm size; (ii) *LEV* is the ratio of total debts to total assets, serving as the proxy for firm risks; (iii) *GRTH* is the growth rate of sales revenue, serving as the proxy for firm growth; (iv) *PERS* is calculated as (earnings before tax—operating profits) / earnings before tax, serving as the proxy for income persistence, and the higher

Table 8 Impact of Auditor Size on Perceived Audit Quality—With Control Variables

	(1)	(2)	(3)	(4)
α	–0.716***	–0.227***	–0.204***	–0.749***
$E(\beta_1)$	11.164***	2.180***	2.148***	11.772***
$\Delta E(\beta_2)$	–7.274	0.294	0.467**	–7.898
$D*E(\beta_3)$	–0.260	–0.440	–0.366	–0.344
$D*\Delta E(\beta_4)$	0.002	0.278	0.223	0.064
$D(\beta_5)$	0.004	0.001	–0.002	0.004
*SIZE*E*	–1.281***			–1.306***
*SIZE*ΔE*	0.868**			0.932**
*LEV*E*	0.198			0.117
*LEV*ΔE*	–0.390			–0.415
*GRTH*E*	–0.289			–0.235
*GRTH*ΔE*	–0.075			–0.090
*PERS*E*	0.115			0.123
*PERS*ΔE*	–0.024			–0.020
*DNI*E*	5.780***			4.793***
*DNI*ΔE*	1.831***			1.561***
SIZE	0.050***			0.051***
LEV	–0.013			–0.024
GRTH	0.001			0.001
PERS	0.000			–0.001
DNI	0.026			0.021
OPN	–0.009			–0.002
YEAR		control		control
INDUSTRY			control	control
F-statistic	43.749***	99.809***	49.114***	41.652***
Adj. R^2	0.246	0.201	0.136	0.286
N	2747	2747	2747	2747

the value, the less persistence the accounting income has; (v) *DNI* is a dummy variable coded as 1 when the earnings level is positive, and 0 otherwise. Based on the research on value relevance of accounting income in China, Chen *et al*. (2001) suggest that a higher level of persistence will lead to higher value relevance, but there is no evidence to support this suggestion. They also suggest that accounting information will have more impact on stock prices when the reported income is positive, and this conclusion is supported in their research. Therefore, we expect that *SIZE*, *GRTH*, *PERS*, and *DNI* will increase the value relevance of accounting income while *LEV* will decrease it. Finally, we include *OPN* to control the impact of audit opinions on the value relevance of accounting income; *OPN* takes the value of 0 when the firm was issued with an unqualified audit opinion for the previous year.

Of the 2758 observations, some companies do not provide the data required to calculate the above control variables. The sample has to be reduced by 2, 6, and 3 for 2001, 2002, and 2003, respectively. As a result, we obtain a final sample of 2747 firm-year observations. Table 8 presents the empirical results.

Regardless of what control variables we include in the regression—whether only *YEAR*, only *INDUSTRY*, only other control variables, or all control variables—the conclusion on auditor size and perceived audit quality still holds. The coefficients before the interaction term between the dummy and earnings levels (β_3) are all negative (−0.260, −0.440, −0.366, and −0.344, respectively), and those before the interaction term between the dummy and earnings changes (β_4) are all positive (0.002, 0.278, 0.223, and 0.064, respectively). But all are statistically insignificant. This suggests that investors in China do not give more attention to the accounting information of those firms audited by large auditors; in other words, they do not think that large auditors can provide higher audit quality. We come to the same conclusion when we use market-adjusted returns as the dependent variable, so the results are not reported in this paper.

We can also gain some other valuable information from Table 8. The firm size significantly increases the value relevance of earnings changes but decreases that of earnings levels. This conflicting effect is consistent with Teoh and Wong (1993). Firm risks and growth have no significant impact on the value relevance of accounting income, meaning that investors do not take them into account when making decisions. The previous studies make no definite conclusions about this issue either. For those two control variables representing accounting income characteristics, we find that persistence has no increasing effect on the value relevance of accounting income, but positive earnings can significantly increase the value relevance, consistent with Chen *et al*. (2001).

5.4. Comparison between Big Four and Non-Big Four Firms

Compared with local large auditors, the Big Four firms have predominance in terms of revenue, client assets, client revenue, the number of employees, or reputation. It is therefore essential to conduct thorough research on the relationship between audit quality and auditor size to check whether investors consider the audit quality of Big Four firms to be higher than that of other auditors.

Following Teoh and Wong (1993), we construct a matching sample for this comparison test. For each listed company audited by the Big Four (referred to as "the target firm"), we choose a company audited by an auditor other than the Big Four in the same year, engaging in the same industry with the firm size within the range of 90 per cent to 110 per cent of the target firm's size; if we can find two firms fulfilling these criteria, the one with its earnings per share more closer to the target firm's will be chosen as the matching firm.

The outcome of the matching can be described as follows. The Big Four had 40 clients in 2001. The number of companies audited by the Big Four is relatively small in our sample because we exclude the companies issuing B shares or H shares concurrently, which are usually audited by the Big Four. Of the 40 clients, we cannot find the matching firms for 2 of them, so the sample size for 2001 is 76. There are 48 and 51 target firms for 2002 and 2003, respectively, but we cannot find the matching firms for 4 and 7 of them, respectively. The sample size is therefore both 88 for these two years. In the end, we obtain a final sample of 252 firm-year observations. The following model is used for this test:

$$RET_{it} = \alpha + \beta_1 \cdot E_{it} + \beta_2 \cdot \Delta E_{it} + \beta_3 \cdot D_{it} \cdot E_{it} + \beta_4 \cdot D_{it} \cdot \Delta E_{it} + \beta_5 \cdot D_{it} + \varepsilon_{it}, \quad (2)$$

where the dependent variable is raw returns. The dummy is coded as 1 if firm *i* is audited by one of the Big Four firms in year *t*, and 0 otherwise.

Table 9 presents the empirical results of comparing the Big Four firms with the Non-Big Four firms. As shown by the column of the full sample, the coefficient before the interaction term between the dummy and earnings levels (β_3) is –1.843, and that before the interaction term between the dummy and earnings changes (β_4) is 3.138; both are statistically insignificant. The investors do not give more response to the accounting information of companies audited by the Big Four; they do not think that there is any clear difference in audit quality between the Big Four and the Non-Big Four firms. The results of yearly regressions are consistent.

Table 9 Comparison between Big Four and Non-Big Four Firms

	Full Sample	2001	2002	2003
α	–0.224***	–0.126***	–0.284***	–0.165***
$E(\beta_1)$	4.516***	–3.667	6.116***	4.804***
$\Delta E(\beta_2)$	1.438	5.201	1.510	0.926
$BIG4*E(\beta_3)$	–1.843	1.504	–3.329	–2.358
$BIG4*\Delta E(\beta_4)$	3.138	–0.822	2.343	7.964
$BIG4(\beta_5)$	0.067**	–0.039	0.096**	0.102
F-statistic	13.447***	1.793	8.216***	5.992***
Adj. R^2	0.199	0.050	0.293	0.223
N	252	76	88	88

VI. ROBUSTNESS TESTS

6.1. Excluding Companies with ST or PT

Generally speaking, listed companies that have been specially treated (stock names marked with ST or PT) are more likely to manage earnings, or even manipulate earnings, with the motivation to turn losses into profits. Rational investors are aware of this fact and will not rely on the accounting income of these companies to make decisions. Thus, the value relevance of accounting income of the sample will be influenced, and the coefficients in Table 7 will no longer be significant. Therefore, we exclude the firms that have been specially treated during the research period from our sample to eliminate this impact. The empirical results (unreported) are not different from those in Table 7. After excluding these companies, the coefficient before the interaction term between the dummy and earnings levels (β_3) is −0.298, and that before the interaction term between the dummy and earnings changes (β_4) is 0.232 in the regression of the full sample; both are statistically insignificant. The coefficients of the yearly regressions are also not significantly different from zero. The results indicate that investors in China do not think that large auditors can provide higher audit quality.

6.2. Comparison between the Largest and the Smallest Auditors

In order to further investigate the relationship between perceived audit quality and auditor size, we take out the top 15 and bottom 15 auditors based on the average number of clients for the three years, and make a comparison between them directly. Since the number of auditors involved is about 75 for each year, the top 20 per cent of auditors are deemed to be large auditors in this comparison. During the regression, we no longer use the full sample, but limit the sample to firms audited by the top 15 and bottom 15 auditors. The final sample includes 1322 firm-year observations, of which 420 observations are for 2001, 437 for 2002, and 465 for 2003, respectively.

We use both the raw returns and market-adjusted returns (*MARET*) as the dependent variables to run the regressions. The results (unreported) do not alter our conclusion.

6.3. Using Different Criteria to Identify Large Auditors

We employ different criteria to redefine the large auditors and test the relationship between perceived audit quality and auditor size again so as to increase the robustness of the research.

(1) Median of the average number of clients for the three years

First, we use the median of the average number of clients for the three years as the criterion to identify the large auditors. As shown in Table 1, the median is 14, and 38 auditors satisfy this new definition of large auditors. Their number of clients is 640 for 2001, 703 for 2002, and 724 for 2003, respectively. The regression results (unreported) show that the coefficients before the interaction terms between the

dummy and earnings levels/changes are statistically insignificant, meaning that the results are consistent with the previous results; investors do not think that these large auditors can provide higher audit quality.

(2) Top 100 auditors by CICPA

We select the top 10 and top 20 auditors from the Top 100 Auditors for 2003 announced by the Chinese Institute of Certified Public Accountants (CICPA) as large auditors in the model and repeat the robustness test. The CICPA ranks auditors by the auditors' annual operating income, which is different from the ranking criterion we choose in this paper. Results of the two regressions (unreported) indicate that the coefficients before the interaction terms between the dummy and earnings levels/changes remain statistically insignificant even using a different criterion and a different sample size. In other words, investors do not rely more on the accounting information audited by these large auditors; they do not believe that there exist any differences in audit quality between large and other auditors.

VII. CONCLUSION

We investigate the relationship between audit quality and auditor size from the investors' perspective, and try to answer the following question: Does the size of an auditor change the investors' perceptions of audit quality? The empirical results show that in China, investors do not rely more on the accounting information audited by large auditors when they make decisions; investors cannot distinguish any difference in audit quality between large and other auditors. We also conduct a series of robustness tests, and the conclusion still holds.

Based on the special institutional background of the auditing industry in China, we suggest that investors cannot recognise the relationship between audit quality and auditor size; therefore, it is improper to use auditor size as the proxy for audit quality. The result is to some extent meaningful for the listed companies and the government. Thanks to the fact that the economic environment and legal systems in China are quite different from those in developed countries, investors do not regard large auditors as better auditors. In view of this, the government should draft industry policies with the aim of creating a fair competitive environment for all auditors without any discrimination. Meanwhile, the management and regulation of the auditing industry should focus on improving audit quality instead of simply establishing large auditors through mergers. On the other hand, to win recognition from investors, listed companies should build their reputation in the market through enhancing their core competence, delivering better performance, and demonstrating great potential for development rather than by employing large auditors.

REFERENCES

Please refer to pp. 64–66.