公司控制权安排影响外部审计需求吗？
—以上市公司的审计师选择及其审计费用为例[1]

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摘要

本文研究了公司控制权安排对外部审计需求的影响。以客户的盈余反应系数较高的八大会计师事务所作为高质量审计师的替代，我们发现：（1）在控制了其他相关的影响因素后，公司选择八大所的概率及其付出的审计费用与第一大股东的国有身份负相关，这种负相关关系在非经营性国有控股公司中更为显著。（2）公司股权集中度与外部审计需求之间表现为非线性关系，呈现区间效应。本文的研究为第一大股东在公司外部治理机制中的作用提供了经验证据，论证了目前我国大多数公司国有控股是独立审计需求不足的主要原因之一。

关键词：公司控制权安排、审计师选择、审计定价

一、导言

独立审计行业在我国发展已逾二十年，注册会计师行业的产生从一开始就是政府法规的产物，其发展更是依托于政府的推动，目前独立审计市场还处于

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不成熟的买方市场阶段。因此从需求方研究审计市场，怎样拓展独立审计市场的自愿性需求仍然是目前我国审计市场的中心问题。

从目前研究现状来看，国内对审计市场的研究大多用特定年度审计师聘任情况对审计需求进行统计性描述，研究者都发现了审计自愿性需求不充分的现象（李树华，2000；朱红军等，2004；孙铮、曹宇，2004）。由于该类研究缺乏对审计定价的考虑，因此对审计需求的考察不够细致、充分。更重要的是，对审计需求不充分原因的研究相当匮乏，亟待深入。

作为公司的外部监督与担保机制，独立审计的最终目的是减少公司各利益相关者之间的信息不对称、缓解委托人与代理人之间的代理冲突，从而降低交易成本。从理论上看，不同的控制权安排会影响到企业的代理结构，进而影响到企业对外部审计的需求，这将通过审计师选择和审计定价两个方面反映出来。从目前选择审计师与确定审计费用的决策过程来看，由于目前我国审计市场行业集中度低，企业的外部审计需求主要来自于政府的法定要求，对高质量审计需求严重不足，因此对审计师选择与审计费用的决定权主要掌握在公司的控股股东与经理人手中。有鉴于此，本文通过考察第一大股东在外部审计决策中的作用，剖析我国审计需求不充分的根本原因。

对于政府部门以及国家授权投资机构而言，首先，作为公司的控股股东，他们既没有足够的激励，也缺乏相应的约束，对公司高管人员进行监督，相反还可能利用其管理者身份，对注册会计师的审计过程进行干预而谋取私利；其次，国有企业的预算软约束使得他们更容易获得外部资金，这降低了他们对高质量审计服务的信息需求。这样，我们预期，国有控股公司，尤其是非经营性国有控股公司，更不愿意聘任高质量审计师，付出的审计费用更低。

公司股权集中度对独立审计需求的影响存在着两种效应。一方面，随着股权集中度增加，信息不对称增大，第一大股东更有能力并受激励通过聘请高质量的审计师来降低企业的代理成本，向其他利益相关者传递其信息披露透明的信号，从而提高企业的市场价值，即激励效应；另一方面，随着股权集中度的增加，大股东掠夺与侵占中小股东的机会和能力增加，大股东与经理人受到高质量审计师的披露制约成本增大，他们越没有意愿来聘请高质量的审计师，即壕沟效应（entrenchment effect）。在两种效应的影响下，我们预期，公司股权集中度与外部审计需求的关系表现为非线性，即，公司的第一大股东持股比例与选择高质量审计师的决策及审计费用之间表现为非线性关系，在不同区间具有不同效应。

用 2001 至 2003 年我国上市公司及其主审事务所为样本，以客户盈余反应系数较高的八大会计师事务所作为高质量审计师的替代，我们发现，在控制了其它相关影响因素后，与非国有控股公司相比，国有控股的公司，尤其是非经营性国有企业，更不愿意聘请八大事务所作为其审计师，付出的审计费用更低。同时，公司第一大股东持股比例与选择八大所呈 N 型区间效应，与审计费用之间表现为 U 型关系。

本研究的主要贡献主要在于：首先，基于转型经济中高度政府管制下买方主导的证券审计市场这一制度背景，本研究分析了第一大股东[5]在外部审计决策中的作用，论证了公司的国有控股，尤其是非经营性国有控股是目前独立审计需求不充分的主要原因之一，这对于拓展目前我国独立审计需求与深化企业产权改革都具有较强的政策含义。其次，本研究有助于理解公司股权集中度与审计需求的相互关系，我们识别了第一大股东对外部审计需求影响的两种作用力的区间范围，拓展了公司财务中关于第一大股东作用的实证研究。第三，通过客户盈余反应系数来识别我国现阶段的高质量审计师，我们补充了关于审计师信息作用的经验文献。

本文其余部分的结构安排如下：第二部分回顾以往文献，讨论我国上市公司第一大股东在审计师选择和审计定价中的决策机制，提出本文假设；第三部分展示样本数据和模型设计；第四部分报告经验分析的结果，第五部分总结全文。

二、文献回顾与假设推演

（一）文献回顾

以往文献识别了公司对外部审计的三种需求，即监督需求、信息需求与保险需求。首先，公司对独立审计的监督需求主要来自于企业两权分离中股东与经理层之间契约实施的需要，并不依赖于政府的强制法规（Watts and Zimmerman, 1983; Chow, 1982）。其次，公司聘用独立审计师也能够转移部分财务披露的责任。在美国，一旦公司经营失败，注册会计师经常是投资者和债权人可起诉的主要对象（Wallace, 1980）。正是由于独立审计在公司治理中的监督与担保作用，使得独立审计能够降低企业内部人与外部投资者之间的信息不对称，提高企业的评估价值。分析性模型已证明客户所聘请的会计师事务所类型能影响初次公开发行新股的定价（Titman and Trueman, 1986; Beatty, 1989),也能影响股东权益比率（Datar et al., 1991）。

目前上市公司进行独立审计已成为一种法定要求。大多数学者假设审计服务是异质的，不同审计师类型代表不同审计质量，进而通过观察企业选择不同质量（类型）的审计师的行为来研究审计需求。对美国审计市场的研究发现，大规模公司或者公司发行证券时聘请大规模事务所，但是他们没有发现审计师选择与公司财务杠杆以及管理层持股之间的显著关系（Francis and Wilson, 1988; Johnson and Lys, 1990; DeFond, 1992）。一个可能的原因在于美国大量存在能降低企业代理成本的其他内外部公司治理机制，例如独立董事制度、

5　鉴于我国第一大股东持股比例均值高达42%，第二大股东持股占第一大股东持股比例仅29%。整体来看，第一大股东往往相当于控股股东。因此，本文对第一大股东与控股股东不做区分。

公司控制权市场、经理人市场等，削弱了审计师选择与代理成本之间的联系（Fan and Wong, 2005）。

Fan and Wong（2005）研究了国际五大所在新兴市场中的作用，以控股股东现金流权与投票权之间差额来度量公司所有权所蕴藏的代理冲突，用1994至1996年上市公司股权集中的东亚地区的数据研究表明，代理冲突越大的公司更倾向于聘请国际五大，也付出了更多的审计费用。

DeFond, Wong and Li（1999）以及李树华（2000）用 1993 至 1996 年我国上市公司的资料发现，十大事务所在出具非标意见的比例上显著地高于非十大，在独立审计准则的颁布实施前后，十大所的市场份额反而显著下降，同时，公司选择十大所与外资股比例以及公司规模显著正相关。这为我国独立审计市场自愿性需求不足提供了直接的经验证据。

基于 2001 至 2002 年初次发行新股审计市场的资料，朱红军等（2004）的分析表明，事务所在这个审计市场的份额与事务所出具非标意见的比例负相关，与是否首次获得初次发行新股专项复核资格的事务所显著正相关，与是否本地所以及事务所规模（按客户数）显著正相关，与事务所是否受过行政处罚负相关。该文认为，我国企业在初次发行新股时有规避高质量审计师的迹象，对审计服务的需求主要来自于管制便利、地缘关系，对高质量审计服务需求不足。

孙铮、曹宇（2004）研究了股权性质与审计师选择的关系，用2001年上市公司资料，研究发现，国际"五大"或国内"五大"的选择与企业国有股、法人股以及境内流通股比例负相关，与外资股比例正相关。曾颖、叶康涛（2005）分析了股权结构与审计师选择的关系，用 2001 至 2002 年的上市公司为样本，研究发现，公司第一大股东持股比例与选择国际四大的比例呈倒 U 型关系。夏立军（2005）与 Wang et al.（2005）考察了制度环境、政府干预对审计师选择的影响，发现地方政府控股的企业更倾向于聘请本地小所，而且这种逆向选择行为更可能发生在法律环境、信用市场较差的地区。

近期不少研究者沿用 Simunic（1980）的思路，考察了我国审计定价的决定因素，发现我国审计定价主要受到客户规模、审计业务复杂程度的影响，对某些财务指标计量的审计风险不敏感（王振林，2002；韩厚军、周生春，2003；刘斌等，2003；李连军，2004 等）。

总的来说，这些研究大多直接沿用国外的现有模型，较少分析第一大股东在公司进行审计师选择与确定审计费用中的作用，没有找出我国企业对高质量审计需求不足的根本原因。

（二）假设推演

在本节中，我们首先描述影响我国上市公司独立审计供求的一些制度性因素，然后从第一大股东性质与控制力两方面分析公司控制权安排对外部审计需求的影响，提出研究假设。

1. 影响独立审计市场供求的制度性因素

（1）积极因素

近年来政府监管部门采取了大量的措施来提高审计质量、改善上市公司会计信息质量。[6]张奇峰（2005）分析了政府管制对审计质量的正面与负面双重影响，发现在我国审计市场上，已有少数高质量的会计师事务所能够脱颖而出，例如国际四大事务所具有更高的可觉察审计质量，能够被市场所认可。

目前我国上市公司的股权比较集中，这样控股股东与中小股东之间存在着较严重的利益冲突。同时由于公司控制权接管市场、经理人市场的不健全，公司其他外部治理机制的缺失，使得独立审计成为公司治理机制中缓解控股股东与中小股东之间代理冲突的重要组成部分（Fan and Wong, 2005）。例如，证监会于 2001 年 12 月 22 日发布了《公开发行证券的公司信息披露编报规则第 14 号—非标准无保留审计意见及其涉及事项的处理》，该规定把上市公司被出具非标准无保留审计意见与股票停牌、利润分配联系起来。这表明独立审计不但成为缓解公司大股东与小股东之间代理冲突的重要治理机制，而且是减少监管部门与上市公司之间信息不对称的重要制度安排。

（2）负面因素

与西方发达国家相比，我国也有一些特有的制度因素制约着独立审计的供求。

首先，我国证券市场受到高度管制，公司是否具有上市资格以及能否获得配股资格、是否被特殊处理(ST)或停牌，都与其财务盈利指标密切相关，公司具有强烈的利润操纵动机来获取上市资格、配股增发资格，避免被特殊处理和停牌（Aharony et al., 2000；陈小悦等，2000；李东平，2001），这样在市场有效程度不高的情况下，上市公司强烈的盈余管理动机促使其规避高质量审计师。

其次，由于我国上市公司大多数股权集中且国有控股，在国有股权监督职能弱化的情况下，公司存在实际的"内部人控制"（钱颖一，1995），对审计师的选择权实际掌握在经理人与控股股东手中，他们没有激励选择高质量审计师来监督自己。

第三，由于我国上市公司股权高度集中，公司控股股东能通过投票权比较有效地控制企业，控股股东与管理层之间的信息不对称相对较低，因此公司对高质量审计师的监督需求相对较弱。

第四，由于股权分置的存在，即作为非流通股，大多数占据垄断地位的国有股与法人股难以转让，这样大股东并不关心企业的市场价值，也缺乏激励聘

6　例如，1998年强制事务所脱钩改制，还有推动事务所合并、试行补充审计、推行初次发行新股的专项复核审计等。

请高质量审计师来提升企业的市场价值。因此，股权分置下大股东对市场价值的淡漠，使得企业对高质量审计的信息需求严重不足。

最后，我国事务所民事赔偿制度的不健全，使得投资者缺乏对高质量审计的保险需求（张奇峰，2006a）。根据我国证券民事赔偿的法律规定，投资者对上市公司的财务报表虚假陈述提请诉讼有着许多苛刻的条件：（1）只有上市公司因财务报告虚假而受到监管部门的行政处罚，法院才予以受理该项诉讼；（2）不允许股东集体诉讼。考虑到诉讼成本，投资者几乎不可能从事务所获得赔偿因财务报表虚假陈述而造成的投资损失。事务所对投资者的保险职能几乎事实上不存在。这样，事务所民事赔偿机制的不健全，客观上使得投资者难以对事务所的审计业务质量产生信任感，企业也缺乏对事务所的保险需求。

会计师事务所是一个盈利性组织，他们确保审计质量的动机主要来自于以下两个方面。首先，市场对高质量审计服务的需求。其次，对审计质量不合格的事务所的严厉惩罚。但是，目前对高质量审计需求的匮乏使得事务所缺乏提高审计质量的激励，而对事务所的法律诉讼几乎不存在。这样，我国证券审计市场审计质量整体水平不高，审计失败时有发生。

总的来说，在这些影响独立审计市场发展的制度性因素中，制约因素更居于主导方面。因此我国审计市场表现出市场集中度不高、区域分隔与市场分散比较明显的特征，审计师选择与审计定价的决策权更多地掌握在公司经理人与控股股东手中。

2. 控股股东性质和外部审计需求：国有股东的双重身份与激励匮乏

按照控股股东身份或性质，目前我国上市公司可以分为国有控股公司和非国有控股公司两类。[7]国有控股公司又可根据控股股东的身份进一步细分为经营性和非经营性两类，其中非经营性国有企业的控股股东主要为财政局等政府机构及其授权的投资机构，它们主要行使政府的行政管理职能，其目标是保证国有资产的保值和增值，不直接从事具体的生产经营活动；而经营性国有控股公司的控股股东为国有独资企业、企业集团或各种控股公司等生产经营性单位。不同身份的控股股东选择高质量审计师的成本与收益各异，其对审计师的影响也不一样，因此他们对外部审计需求会具有较大的差异。

（1）不同控股股东对审计师的影响力比较：国有控股股东的双重身份

众所周知，我国证券市场在 20 世纪 90 年代基本上采用了行政审批和计划额度相结合的证券发行制度。国有企业在地方政府的扶持下，基本上把持了

7 　还有一类公司：行政事业单位，例如科研机构、高校等事业单位为第一大股东。由于它们的样本量极少，不到总样本的 2%，此处不展开分析。在实际检验中，我们剔除了该类公司。

上市额度。对于国有控股的上市公司，从初始上市到增发配股，上市公司的利益与地方政府的利益紧密地联系在一起，使得地方政府、中介机构和上市公司在争夺融资权方面结成了利益共同体（李增泉，2002）。陈晓、李静（2001）的研究发现，为了在资本市场争夺资源，地方政府积极参与了上市公司的盈余管理，对上市公司提供了大面积的税收优惠和财政补贴，极大的扭曲了会计信息；如果没有地方政府的财政支持，近一半的上市公司无法获得配股资格。

　　无论是经营性的，还是非经营性的国有企业，其最终股权行使者都是政府，而审计师业务的开展，一方面离不开政府的支持，因为政府本身是上市公司的股东代理人，审计关系成立的最终决策者；另一方面，审计师业务的开展还受到当地政府的行政管理。可以预期，与非国有控股公司相比，国有企业的董事（会）在确定审计师选择与报酬方面具有更大的话语权。但是，不同审计师抵制来自公司控股股东（地方政府）的压力是不同的。由于高质量审计师在审计执业方面具有更强的独立性，在审计定价方面具有更大的谈判力量，因此高质量审计师对国有企业具有更大的披露制约作用。因此，从控股股东对审计师的影响力看，与非国有控股公司相比，国有控股公司将更不愿意聘请高质量审计师，将付出更少的审计费用。

（2）不同控股股东来自高质量审计的收益比较：国有控股股东的激励匮乏

　　对于非经营性的国有企业控股股东而言，来自高质量审计的监督收益更少，披露制约成本更大。这是因为：首先，他们没有上市公司的剩余索取权，而且他们所持的股票不能流通且难以转让，即使选择高质量审计师具有信号传递作用，提升了公司的市场价值，这种收益也难以转化为现金流，被自己掌握，反而有可能被升迁而失去对企业的控制（张维迎，1999）；其次，高质量审计师的独立性更能够抵抗地方政府的压力，会让更多不利于控股股东的信息披露出来。相对来说，经营性的国有企业和非国有企业的控股股东还能够从高质量的审计中获得监督收益、信号传递收益和附加的服务，增加企业市场价值，进而通过其他手段（如资金占用、资金转移等方式）转化为自身的私下收益（private benefits）。最后，国有企业的预算软约束使得他们更容易获得外部资金，对独立审计的信号需求也更少。这样，从聘任外部审计师的激励来看，非经营性国有控股公司更没有意愿聘请高质量的审计师，其支付的审计费用也最低。

　　综合上述分析，我们提出以下假设：

　　假设 1-1：公司选择高质量审计师的决策与第一大股东的国有身份负相
　　　　关，而且这种负相关关系在非经营性国有控股公司中更为显著。

　　假设1-2：公司付出的审计费用与第一大股东的国有身份负相关，而且这
　　　　种负相关关系在非经营性国有控股公司中更为显著。

3. 股权集中度与审计需求：激励效应和壕沟效应

对于股权高度集中的公司，大股东在公司治理中的作用一直处于争议之中。持正面观点的认为，由于大股东在公司中投入较大份额的"赌注"，大股东有激励来收集信息、监督高管人员以降低委托—代理人之间的代理成本（Jenson and Meckling, 1976），同时大股东也有激励通过接管或代理权之争（proxy fight）来驱逐不合格的管理者（Shleifer and Vishny, 1997），即所谓的激励效应（incentive effect）。持反面观点的认为，股权集中于大股东使得大股东指派的高管人员难以被替代，公司控制权市场、经理人才市场难以对现任高管构成挑战，大股东可能凭其控制力来掠夺、侵占中小股东的利益，获取私利，即所谓的"壕沟效应"（entrenchment effect）。Claessens et al.（2002）用东亚八国股权集中的上市公司的数据发现，随着股权集中度的增加企业价值也随之增加；但是随着控制权与现金流权分离的增加，企业价值逐渐下降。这表明壕沟效应和激励效应都得到支持。

同样，公司控股股东在进行审计师选择与审计定价的决策中，也同时存在激励效应和壕沟效应。一方面，随着股权集中度增加，信息不对称增大，企业越有激励通过聘请高质量的审计师来降低企业的代理成本，向其他利益相关者传递其信息披露透明的信号，从而提高企业的市场价值，即所谓激励效应；另一方面，随着股权集中度的增加，企业掠夺与侵占中小股东的机会和能力增加，企业受到高质量审计师的披露制约成本越大，企业越没有意愿来聘请高质量的审计师。但是，壕沟效应对审计定价的预测具有不确定性，因为给定第一大股东持股比例的增加，大股东盈余管理的动机和能力增加，其对高质量审计师的需求越小，其愿意付出的审计费用越低；同时大股东收买审计师购买审计意见的动机反而增大。在这两种相对的作用力下，股权集中度与外部审计需求的关系将表现为非线性，在不同区间表现为不同的主导效应。

综合上述分析，我们提出以下假设：

假设 2-1：公司选择高质量审计师的决策与第一大股东持股比例的关系具有区间效应，表现为非线性关系
假设 2-2：公司付出的审计费用与第一大股东持股比例的关系具有区间效应，表现为非线性关系。

三、研究设计

（一）样本筛选和数据来源

本文选取2001至2003年A股上市公司及其主审会计师事务所作为样本。由于数据缺失和行业特殊性等原因，本文对数据进行如下筛选：（1）剔除金融类企业：由于金融类企业财务指标的含义与其他企业不同，而且审计师选择和审计费用的决策与其他企业存在系统性差异（Simunic, 1980），本文剔除金融类企业；（2）同时发行 B 股或 H 股的公司：这是因为该类公司被法定要

求双重审计，它们具有不同的投资者，面临不同的监管环境和市场压力，其财务状况、审计师选择与审计费用方面具有系统性差异；（3）为了简化分析，我们剔除了第一大股东为行政事业单位的公司；（4）部分数据缺失的公司，其中主要包括部分未明确披露审计费用的公司；（5）为了排除极值的影响，我们剔除了公司审计费用与公司规模最大和最小 1% 的观测值。

表 1　样本数据筛选过程

Panel A：超额累积报酬数据样本筛选过程

	2001 年至 2003 年	2001 年	2002 年	2003 年
各年末上市公司总数	3671	1160	1224	1287
减：含 B 股或 H 股的公司数	(417)	(137)	(139)	(141)
金融企业	(25)	(7)	(8)	(10)
被出具非标审计意见的公司	(316)	(126)	(123)	(67)
数据缺失	(292)	(91)	(90)	(111)
最大与最小 1% 的极值	(118)	(39)	(38)	(41)
样本数	2503	760	826	917
Beta 缺失	(442)	(178)	(167)	(97)
最终样本数	2061	582	659	820

Panel B：审计师选择数据样本筛选过程

	2001 年至 2003 年	2001 年	2002 年	2003 年
各年末上市公司总数	3671	1160	1224	1287
减：含 B 股或 H 股的公司数	(417)	(137)	(139)	(141)
金融企业	(25)	(7)	(8)	(10)
第一大股东为行政事业单位的公司	(75)	(22)	(27)	(27)
公司规模最大或最小 1% 的极值	(75)	(24)	(23)	(28)
最终样本数	3079	971	1027	1081

Panel C：审计费用数据样本筛选过程

	2001 年至 2003 年	2001 年	2002 年	2003 年
各年末上市公司总数	3671	1160	1224	1287
减：含 B 股或 H 股的公司数	(417)	(137)	(139)	(141)
金融企业	(25)	(7)	(8)	(10)
第一大股东为行政事业单位的公司	(75)	(21)	(27)	(27)
审计费用披露不完善	(259)	(135)	(68)	(56)
审计费用最高或最低 1% 的极值	(67)	(18)	(25)	(24)
最终样本数	2828	842	957	1029

表 1 列示了样本数据的筛选过程。经过上述程序，我们获得公司累积超额报酬 2061 个观测值，审计师选择 3079 个观测值，审计费用 2828 个观测值。

本文的数据包括上市公司股价、股权结构、事务所选择、审计意见、审计费用和财务数据。其中上市公司控股股东身份、审计费用、子公司数目、审计意见及其主审事务所的资料，由笔者根据上市公司年度报告进行逐一整理，上市公司年度报告来自于中国证监会网站。上市公司的股价、股权结构和财务数据来自于 CSMAR 数据库和 Wind 资讯系统，并把他们进行交叉核对，把不一致数据根据中国证监会网站披露的年度报告进行调整。

（二）模型设定

本文从审计师选择与审计定价两个角度来考察独立审计需求。首先要解决的问题是高质量审计师的计量。

1. 高质量审计师的计量

事务所提供的审计服务是对公司财务报表的合法性、公允性和一致性发表意见。作为一种监督与担保机制，高质量的审计师能够增加公司财务报表的可信性。而证券市场上财务报表的主要功能之一就是提供企业盈利信息给投资者，让他们评估企业市场价值，以之做出买—卖—持有的交易决策。可以预期，如果投资者认为某些事务所的审计质量更可信赖，那么他们在评估公司的市场价值时就会更多地依赖经这些事务所审计的会计盈利信息，公司的市场回报与非预期盈利的相关度（盈利反应系数，ERC）就会更高。这样，我们就能够用盈利反应系数来计量投资者对公司盈利质量的信赖程度，进而用事务所的客户的平均盈利反应系数来计量投资者对事务所审计质量的信赖程度，即可觉察审计质量（perceived audit quality）。

虽然企业可能不会根据盈利反应系数（ERC）来作为选择审计师的标准，但是 ERC 为我们验证市场认可的审计师提供了依据。以往国内研究主要用审计师出具非标意见的比例以及被审计单位盈余管理程度（可操控性应计项目）来计量审计质量。[8] 与以往计量方法相比，本文以盈利反应系数衡量审计质量，具有以下优点：（1）以往研究主要从报表编制者的角度来考察，本文则从市场需求角度来考察审计质量，而审计师的高质量必须为客户所察觉，才能引致审计市场需求的变化；（2）在资本市场中，企业愿意花高价聘请高质量审计师，正是预期高质量审计师能够提升企业的市场评估价值。因此用 ERC 找出市场认可的审计师，更切合本文对审计需求研究的需要。

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[8] 例如李树华（2000）、夏立军（2005）等，可参见张奇峰（2006b）对审计质量文献的回顾。

借鉴 Toeh and Wong（1993）与 Gul *et al.*（2003）的研究方法，我们用以下盈余反应系数模型来识别高质量审计师。

累积超额报酬（cumulative abnormal return）模型：

$$CAR = \alpha_1 + \alpha_2 Auditor * UE + \alpha_3 UE + \alpha_4 Auditor + \alpha_5 LNMV + \alpha_6 FORLG$$
$$+ \alpha_7 FORLG * UE + \alpha_8 LEV * UE + \alpha_9 MBR * UE + \alpha_{10} BETA * UE$$
$$+ \alpha_{11} LEV + \alpha_{12} MBR + \alpha_{13} BETA + \alpha_{14} YEAR + \sum_{i=1}^{20} \alpha_{14+i} Ind_i + \varepsilon \qquad (1)$$

其中，α_1 为截距；$\alpha_2 \sim \alpha_{34}$ 为系数；ε 为残差。模型（1）中各变量的含义如下：

（1）因变量

CAR 表示年度累计超额报酬，其中公司年度回报用法定盈余披露期限日后的次月月初（本年度 5 月初）至本年度法定盈余披露期限日的月末（下年度 4 月末）之间 12 个月按复利计算的回报平减同时期内按流通市值计算的市场回报。

（2）测试变量

Auditor*UE 表示审计师可觉察审计质量的高低，α_2 表示审计师的盈利反应系数。其中，*Auditor* 表示事务所类型。在实际检验中，我们分别使用八大事务所（*BIG8*）、国际四大(*INT4*)、国内三大（*DBIG3*）、国内四大（*DBIG4*）这些哑变量的一个或几个来替代模型中的 *Auditor* 变量，用以识别我国高质量审计师。其中八大事务所指安永大华、安永华明、毕马威华振、普华永道中天、德勤华永、上海立信长江、北京京都与信永中和事务所。[9]国内三大指上海立信长江、北京京都、信永中和事务所。国内四大包括前述国内三大与浙江天健事务所。

UE 表示非预期盈利（unexpected earnings），通常用实际盈利与预期盈利之差计算，我们采用上期盈利代替预期盈利。为了控制异方差问题，本文用期初股价进行调整，这与 Fan and Wong（2002）的研究方法一致。

（3）控制变量

LNMV 代表公司期初流通股市值的自然对数，控制公司规模对盈余反应系数的影响。

LEV 代表公司年初资产负债率，控制公司财务杠杆对 ERC 的影响。

9　根据张奇峰（2005），我们以国际四大为一类，测算了国内十大事务所（以客户资产计量）每个审计师的盈利反应系数，发现国际四大、国内三大事务所（上海立信长江、北京京都与信永中和）的盈余反应系数为正，其余审计师为负。

MBR 代表年初市净率，用每股市价与每股净资产的比值计量，控制公司成长性与盈利持续性对 ERC 的影响。

BETA 代表期初的公司风险，我们用 100 个观测值估计出 CAPM 模型的斜率来计量，控制公司风险对 ERC 的影响。

FORLG 是哑变量，如果公司有外资机构股，则取 1，否则为 0。这控制外资机构股对 ERC 的影响。

YEAR 与 IND 分别表示年度与行业的统称，控制时间与行业的影响。其中 YEAR 用 Y2001（观测值是否 2001 年度）与 Y2002（观测值是否 2002 年度）放入模型；而行业则按照 2001 年证监会颁布的《上市公司行业分类指引》进行分类，样本公司共 21 类，本文以机械、设备、仪表类上市公司（C7）作为参照。为简便起见，我们在检验结果中未报告行业控制变量的回归系数及显著性。这些控制变量与 Toeh and Wong（1993）以及 Fan and Wong（2002）的研究方法基本一致。

为了控制审计意见对盈利反应系数的影响，我们在样本中剔除了被出具非标准无保留审计意见的公司（参见表 1 的样本筛选过程）。

2. 审计师选择与审计费用模型

通过借鉴国内外同类研究成果（Simunic，1980；王振林，2002；李爽、吴溪，2004 等），我们建立了以下两个模型来检验公司控制权安排对审计师选择与审计定价之间的影响。

审计师选择模型：Logistic 回归

$$
\begin{aligned}
BIG8 =& \alpha_1 + \alpha_2 ID\_OWNER + \alpha_3 TOP1CEN + \alpha_4 TOP1C\_SQ + \alpha_5 TOP1C\_CB \\
& + \alpha_6 HERF2\_5 + \alpha_7 MNGSH + \alpha_8 FORLG + \alpha_9 LNASSET \\
& + \alpha_{10} SUB\_SQT + \alpha_{11} MROA + \alpha_{12} INVREC + \alpha_{13} LEV + \alpha_{14} PRELOSS \\
& + \alpha_{15} PROV + \alpha_{16} IPO + \alpha_{17} ISSU\_NX + \alpha_{18} FIXED + \mu_i
\end{aligned} \tag{2}
$$

审计定价模型：OLS 回归

$$
\begin{aligned}
LNFEE =& \alpha_1 + \alpha_2 ID\_OWNER + \alpha_3 TOP1CEN + \alpha_4 TOP1C\_SQ + \alpha_5 TOP1C\_CB \\
& + \alpha_6 HERF2\_5 + \alpha_7 MNGSH + \alpha_8 FORLG + \alpha_9 LNASSET + \alpha_{10} MROA \\
& + \alpha_{11} INVREC + \alpha_{12} LEV + \alpha_{13} SUB\_SQT + \alpha_{14} PROV + \alpha_{15} IPO \\
& + \alpha_{16} ISSU\_NX + \alpha_{17} ISSU\_PR + \alpha_{18} BIG8 + \alpha_{19} OPIN + \alpha_{20} LOSS \\
& + \alpha_{21} FIXED + \mu_i
\end{aligned} \tag{3}
$$

其中，α_1 为截距，$\alpha_2, \alpha_3, \ldots \alpha_{21}$ 为系数，μ_i 为残差。模型中各变量的含义如下：

（1）因变量

BIG8 是哑变量，如果上市公司聘请八大所，则取 1 ，否则取 0 。

LNFEE 代表审计费用的自然对数，这与 Chaney *et al.*（2004）、王振林
（2002）等的研究方法是一致的。

（2）测试变量

*ID_OWNER*是公司控股股东身份的统称，在实际检验中，我们以私有企
业控股的上市公司（*ID_N*）为基准，使用 *ID_GI*（控股股东为非经营性国有
单位时，取 1 ，否则为 0）、*ID_S*（控股股东为经营性国有企业时，取 1；
否则为 0）以及 *ID_STA*（控股股东是否为国有）这些变量分别放入模型。根
据提出的假设，我们预期它们的系数为负。

TOP1CEN、*TOP1_SQ* 与 *TOP1_CB* 分别表示按照样本均值调整的第一
大股东持股比例及其平方项与立方项。我们对*TOP1*的变量进行中心化处理，
是为了控制模型中的多重共线性问题。以往文献对股权集中度在公司治理中的
区间效应还未达成一致。较具代表性的结论有两种：一种是 Morck *et al.*
（1988）以及徐晓东、王霞（2006）发现股权集中度与公司绩效之间呈 N 型区
间效应；[10]另一种是白重恩等（2005）及夏立军、方轶强（2005）的研究表明
股权集中度与公司市场价值（Tobin's Q）之间呈 U 型关系。在此，我们依次
用公司第一大股东持股的平方项与立方项来测试股权集中度的区间效应。如果
TOP1_CB（第一大股东持股比例的立方项）的系数为正，则意味着曲线为 N
型，具有两个拐点。如果 *TOP1C_SQ*（第一大股东持股比例的平方）的系数
为正，则意味着曲线呈 U 型结构。

（3）控制变量

HERF2_5 表示第二至第五大股东持股比例的平方和的自然对数，用以控
制股权制衡度对审计需求的影响。我们预期，*HERF2_5*的系数都为正，因为
股权制衡度越高，公司里中小大股东越有激励与能力来提议聘请高质量审计师
以监督控股股东和管理层的机会主义行为，公司付出的审计费用越高。

当公司如具有管理层持股，*MNGSH*取 1，否则取 0。国外研究（Francis
and Wilson, 1988; DeFond, 1992）通常用管理层持股比例作为自变量，考虑
到我国管理层持股尚不普遍，而且持股比例非常低，本文用哑变量计量。代理
理论认为，一定的管理层持股能够减少公司的代理成本，这将降低公司对独立
审计的监督需求（Jenson and Merkling, 1976; DeFond, 1992）。与发达国家
情况不同的是，我国尚没有完善的经理人市场，大多数国有控股的上市公司存
在着不同程度的"内部人控制"，对管理层的约束极度匮乏。由于聘任审计师
以及审计定价的决策权很大部分掌握在管理层手中，这样管理层出于自利的目

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[10] 更准确地说，徐晓东、王霞（2006）的结果为 M 型结构，但是其对代理成本的
      分析与 Morck *et al.* (1988)一致，因此 M 型可看成 N 型的变形。

的有强烈的盈余管理的动机，他们会规避选择高质量的审计师，以免其编制财务报表过程中的机会主义行为被察觉。我们预期，具有管理层持股的公司更不愿意选择高质量审计师，付出的审计费用更低。

当公司有外资法人持股时，*FORLG* 取 1，否则为 0。我们预期，*FORLG* 的系数为正。因为外资法人持股（*FORLG*）描述了股东的信息不对称程度，外资法人受到地域、文化等因素的限制，与企业内部人的信息不对称更大，他们对审计的需求更大，因此他们更愿意聘请高质量审计师并付出更高的审计费用来监督高管人员。

LNASSET、*SUB_SQT*、*MROA*、*INVREC* 分别控制公司规模、业务复杂程度、盈利能力、固有风险的因素对审计师选择和审计费用的影响，这与DeFond（1992）、Chaney *et al.*（2004）、Simunic（1980）、王振林（2002）与李爽、吴溪（2004）的研究方法基本一致。其中 *LNASSET* 表示公司本年度总资产的自然对数；*SUB_SQT* 表示公司纳入合并报表的子公司的平方根；*MROA* 表示公司当年的主营营业利润与年末总资产的比值；*INVREC* 表示公司年末存货与应收帐款之和占总资产的比重。[11]

LEV 表示公司年末资产负债率，用以控制公司债务风险对审计需求的影响。资产负债率可以计量公司内部人与债权人之间的代理成本，国外不少研究发现（Chaney *et al.*, 2004; DeFond, 1992），财务杠杆比例越高，债权人越有动机要求公司聘请高质量审计师，同时公司出于降低债务代理成本，更愿意聘请高质量审计师，因此资产负债率与选择高质量审计师及其审计费用都具有正相关。但是在我国，公司债券市场不成熟，公司主要的长期债权人是银行。由于国有企业存在着普遍的预算软约束，债权人难以对公司的决策施加有效的影响；相反，资产负债率较高的公司反而更不愿意聘请高质量审计师，以防他们披露出对公司不利的债务风险信息。因此，我们预期，资产负债率（*LEV*）与选择八大所之间的相关系数为负。另一方面，公司财务杠杆越高，审计风险越大，事务所收取的审计费用越高（Simunic, 1980）。我们预期，*LEV* 与审计费用的相关系数为正。[12]

PRELOSS（*LOSS*）分别表示公司上（本）年度如亏损，则取 1，否则取0。我们预期 *PRELOSS* 与选择八大所之间的相关系数为负，因为该类公司面

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[11] 也有不少研究（Simunic, 1980；王振林，2002）将公司固有风险（inherent risk）用公司年末应收帐款与年末存货占总资产的比重两个指标计量。本文将这两个指标合并为一个，一方面因为这两个指标在模型测试中均不显著，出于简化的目的，将之合并；另一方面我国上市公司具有强烈的盈余管理动机，这两个指标又易于操纵，合并为一个指标有助于控制公司整体的固有风险。

[12] 用长期资产负债率与速动比率代替资产负债率放入模型，我们发现在全样本中，长期资产负债率在审计选择与审计费用的模型中系数为正，但是统计上不显著；速动比率的系数不显著地为负，研究主要结论不变。

临被特殊处理（ST）、摘牌的危险，具有更大的盈余管理的动机，聘请八大所不但增大其审计费用，而且将遭受更大的披露制约成本。同时因为亏损公司具有更高的审计风险，事务所将收取的费用更高（Simunic, 1980），我们预期 LOSS 与审计费用的相关系数为正。

公司当年如被出具非标准无保留审计意见（包括带解释段的无保留意见、保留意见、无法表示意见与否定意见四种，简称非标意见），OPIN 则取 1，否则为 0。由于公司被出具非标意见表示公司具有更大的财务报表风险，事务所需要花费更多审计成本来证实非标审计意见的合理性。同时，事务所需要收取更多的费用来补偿客户蕴藏的审计风险（Simunic, 1980；韩厚军、周生春，2003）。我们预期，OPIN 与审计费用的相关系数为负。

PROV 是哑变量，公司注册所在地如位于经济发达地区（北京、上海、深圳、广东），则取 1，否则为 0。我们预期，PROV 的系数都为正，因为八大所坐落在这四个地区，位于该地区的公司有更大的地域便利来选择八大所。同时在经济发达地区的事务所的人工成本更高，他们的审计收费也更高（刘斌等，2004；李爽、吴溪，2004）。

进一步，我们控制了审计师身份（BIG8）对审计费用的影响。我们预期，高质量审计师收费更高。因为审计质量越高，付出审计努力越多，需要更多的收费来补偿其成本投入；而且更高的审计师声誉使得客户愿意付出更高的费用。

IPO 与 ISSU_NX 分别表示公司是否当年初次发行新股与公司是否下年度增发配股，用以控制发行证券的公司对独立审计的信息需求。因为该类公司更需要高质量的审计师来传递信号，我们预期它们与选择八大所以及审计费用的系数为正。

公司当年的下半年如增发配股，ISSU_PRE 则取 1，否则取 0。根据法规要求，下半年增发配股的公司需要进行中期审计，这将减轻事务所年报工作的业务量，我们预期 ISSU_PRE 与审计费用的相关系数为负。

FIXED 表示年度与行业的统称，与模型（1）一致，控制年度与行业对审计费用的影响。为简便起见，我们在检验结果中未报告它们的回归系数及显著性。

(三) 数据描述

根据李东平（2001）与李增泉（2002）的研究，我们将上市公司的第一大股东分为以下四种类型：（1）政府部门，是指国有资产管理局、财政部等直接纳入国家财政预算的政府机构；（2）不直接从事生产经营活动的国家授权投资的机构，包括国有资产经营公司、投资管理公司、控股公司等得到国家授权从事国有资产运营的机构；（3）一般国有企业或企业集团，主要是指直接从事生产经营活动的工厂制企业、国有独资或国家控股的股份有限公司或有

限责任公司；（4）私有企业，指集体所有制企业、中外合资或外商独资以及民营企业等国民生产核算体系中未定义为国有企业的单位或个人。为了简化分析，我们将第（1）、（2）类合并统称为非经营性国有控股公司。在我们的样本中，非经营性国有控股公司共 397 例，占总体样本的 12.9%；经营性国有控股公司共 1859 例，占总体样本的 60.4%；私有企业控股公司 823 例，占总体样本的 26.7%。

表 2 按照第一大股东身份报告了主要变量的描述性统计。从审计师选择来看，八大事务所的市场份额（BIG8）占 12.9%。其中非经营性国有控股公司选择八大事务所的比例不足平均水平的一半，仅达 6.1%。从审计费用来看，虽然非经营性国有企业的规模（ASSET）略大于非国有企业，但是付出的审计费用反而较低。

从股权集中度来看，经营性国有控股公司（ID_GI）最高，非经营性国有控股公司其次，非国有控股公司最低。即使在非国有控股公司中，第一大股东持股比例均值仍然达到 33.3%，第二大股东占第一大股东持股的比重均值为 44.7%。这表明我国上市公司股权集中度非常高，股权制衡程度较低。从财务指标来看，经营性国有控股公司的总资产较大，资产负债率较低；非国有控股公司的总资产较小，资产负债率较高。

四、实证结果及分析

(一) 谁是高质量审计师

表 3 列示了审计师盈利反应系数的估计表。结果表明：

首先，UE 的系数在 0.01 的水平上显著为正，表明非预期盈利是累积超额报酬的主要影响因素，这是进一步计算审计师盈利反应系数的基础。

其次，从第（1）、（2）列可以看出，八大事务所的盈利反应系数（BIG8*UE）在 0.01 的水平上显著地高于其他审计师。[13] 我们进一步将八大事务所细分为国际四大与国内三大。在第（3）列中，国际四大与国内三大的盈利反应系数分别在 0.01 与 0.1 的水平上显著为正。在第（4）列中，国际四大的盈利反应系数在 0.01 的水平上显著为正，但是国内四大的盈利反应系数已不再显著。我们的分析深化了 Gul, Sun and Tsui（2003）与张奇峰（2005）的研究。Gul et al.（2003）用 1996 至 1997 年沪市上市公司的数据发现，十大

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[13] 由于 BETA 需要利用公司 100 周的股价交易数据进行计算，因此数据缺失较多。第 1 列中，所有自变量的 VIF 值不超过 2.5，表明不存在多重共线性。在第 2 列中，我们利用 UE 与 MBR、LEV、BETA 的交互项进一步控制公司成长性、财务杠杆与公司风险的影响。即使具有一定程度的多重共线性问题，八大事务所的 ERC 仍然显著为正。

表 2　主要变量的描述性统计（按照第一大股东的身份划分）

	ID_GI = 1 (n = 397)		ID_S = 1 (n = 1859)		ID_N = 1 (n = 823)		合计 (n = 3079)	
	均值	中位数	均值	中位数	均值	中位数	均值	中位数
BIG8	0.061	0	0.140	0	0.136	0	0.129	0
LNFEE[a]	12.741	12.766	12.871	12.887	12.850	12.848	12.849	12.848
TOP1 (%)	39.805	38.230	49.203	51	33.314	29.360	43.582	42.810
TOP3 (%)	52.264	53.725	58.932	60.860	50.792	52.110	55.820	57.330
TOP2RA	0.305	0.164	0.206	0.0733	0.447	0.4596	0.286	0.1515
SHDIF (%)	30.705	28.155	42.253	45.580	21.266	13.970	34.936	33.830
CTRL	0.285	0	0.522	1	0.157	0	0.390	0
HERF2_5	3.579	4.009	2.676	3.026	4.597	5.194	3.326	4.028
ASSET	155.760	106.044	193.586	139.173	139.781	101.838	173.798	122.425
LEV	0.525	0.501	0.449	0.436	0.506	0.484	0.474	0.453
MROA	−0.006	0.020	0.024	0.027	0.006	0.026	0.015	0.026
SUB	5.860	4	5.031	3	7.549	5	5.839	4
INVREC	0.209	0.1875	0.232	0.208	0.233	0.214	0.229	0.208
FORLG	0.010	0	0.042	0	0.073	0	0.047	0
MNGSH	0.088	0	0.067	0	0.089	0	0.076	0
CAR[b]	−0.048	−0.058	−0.038	−0.053	−0.051	−0.074	−0.043	−0.061
UE[b]	−0.001	0.000	−0.001	0.000	0.001	0.000	0.000	0.000
LNMV[b]	20.598	20.503	20.758	20.706	20.664	20.610	20.713	20.662
MBR[b]	3.866	2.998	3.385	2.858	4.538	3.448	3.771	2.996
BETA[b]	1.076	1.080	1.046	1.061	1.007	1.026	1.041	1.057

注：BIG8：如果公司选择八大事务所，则取 1，否则为 0；LNFEE：公司付出的审计费用的自然对数；TOP1：第一大股东持股比例；TOP3：前三大股东持股比例之和；TOP2RA：第二大股东与第一大股东持股比例之比；SHDIF：第一大股东持股比例与第二大股东持股比例之差；CTRL：如果第一大股东持股比例超过 50%，则为 1，否则为 0；HERF2_5：第二大股东持股比例至第五大股东持股比例的平方和的自然对数；ASSET：年末总资产（千万元）；LEV：年末资产负债率；MROA：年末核心资产收益率；SUB：年末纳入合并报表的子公司数目；INVREC：年末存货与应收账款占总资产的比重；FORLG：如果公司有外资机构股，则取 1，否则为 0；MNGSH：如果公司管理层持股，取 1，否则为 0。CAR：按照本年 5 月至次年 4 月之间十二个月复利计算的回报，然后减同期市场回报；UE：非预期盈利。（当年每股收益减去上年每股收益）/期初的开盘价；LNMV：公司期初流通股市值的自然对数；MBR：年初每股股价 / 年初每股净资产；BETA：用 100 个观测值估计出 CAPM 模型的斜率计量期初的公司风险。
a LNFEE 变量按照第一大股东身份划分的样本数分别为 359、1708、761、2828。
b CAR、BETA、UE、LNMV、MBR 的样本数按照是否第一大股东身份划分分别为 258、1213、546、2061（包括行政事业单位控股公司 44 例）。

表3 审计师盈利反应系数估计表

| 自变量 | 因变量：累积超额报酬（CAR） | | | | | | | |
| | (1) | | (2) | | (3) | | (4) | |
	系数	T值	系数	T值	系数	T值	系数	T值
UE	1.922***	10.749	4.875***	4.170	5.015***	4.263	5.031***	4.274
UE*BIG8	2.740***	3.755	2.818***	3.631				
BIG8	0.029***	2.893	0.024**	2.234				
UE*INT4					3.947***	3.527	3.958***	3.535
INT4					0.041***	2.603	0.041**	2.549
UE*DBIG3					1.807*	1.732		
DBIG3					0.012	0.871		
UE*DBIG4							1.507	1.628
DBIG4							0.004	0.389
UE*FORLG	1.083	1.141	0.996	0.985	0.965	0.955	0.979	0.968
FORLG	-0.040**	-2.416	-0.066***	-3.417	-0.068***	-3.516	-0.068***	-3.501
LEV	0.018	0.831	-0.002	-0.079	-0.001	-0.036	-0.001	-0.052
MBR	0.005***	2.953	0.005***	3.055	0.005***	3.070	0.005***	3.063
LNMV	0.035***	5.294	0.041***	5.654	0.040***	5.592	0.041***	5.696
BETA			0.030*	1.903	0.030*	1.910	0.031*	1.945
UE*MBR			-0.010	-0.144	-0.007	-0.097	-0.006	-0.089
UE*BETA			-1.736**	-2.143	-1.844**	-2.260	-1.862**	-2.284
UE*LEV			-1.839*	-1.670	-1.895*	-1.721	-1.896*	-1.720

表 3　续

因变量：累积超额报酬（CAR）

自变量	(1)		(2)		(3)		(4)	
	系数	T 值	系数	T 值	系数	T 值	系数	T 值
IND	控制		控制		控制		控制	
Y2001	-0.014	-1.441	-0.011	-1.076	-0.011	-1.042	-0.011	-1.040
Y2002	-0.075***	-9.058	-0.071***	-7.700	-0.071***	-7.691	-0.071***	-7.700
(Constant)	-0.763***	-5.602	-0.910***	-5.883	-0.902***	-5.832	-0.914***	-5.939
ad_R²	0.137		0.144		0.145		0.144	
F	14.698		11.484		10.962		10.931	
sig	0.000		0.000		0.000		0.000	
n	2503		2061		2061		2061	

注：***、** 和 * 分别表示在 0.01 、 0.05 和 0.10 水平以下统计显著（双尾检验）。 n 表示本样量。

累积超额报酬（CAR），按照当年 5 月至次年 4 月之间十二个月复利计算著的回报，然后平威同期市场回报； UE ：非预期盈利，（当年每股收益减去上年每股收益）/ 期初的开盘价。 INT4 ：如果公司跨任国际四大事务所作为其审计师，则取 1 ，否则为 0 ； DBIG3 ：公司聘任的审计师如为国内三大（上海立信长江，北京京都与信永中和），取 1 ，否则为 0 ； DBIG4 ：公司聘任的审计师如为国内四大事务所（国内三大加上浙江天健）取 1 ，否则为 0 ； BIG8 ：如果公司聘任八大事务所（包括国际四大与国内三大）作为其审计师，则取 1 ，否则为 0 ； FORLG ：公司如有外资机构投资著时取 1 ，否则取 0 ； LEV ：年初负债 / 年初总资产； MBR ：年初每股股价 / 年初每股净资产； LNMV ：公司期初流通股市值的自然对数。 BETA ：用 CAPM 模型的自然对数来计量期初的公司风险。 Y2001 、 Y2002 与 IND 分别表示年度与行业控制变量。 Constant ：常数项。

事务所具有更高的盈利反应系数；张奇峰（2005）用 2001 至 2003 年上市公司数据发现，国际四大的客户的市场价值与会计盈利指标更具相关性，而国内十大事务所的可觉察审计质量并不更高。我们进一步细分了国内十大所，发现国际四大与国内三大所都具有更高的盈余反应系数。

从控制变量看，公司规模（$LNMV$）、公司成长性（MBR）、公司风险（$BETA$）的系数都显著地为正；有外资机构股的公司的盈利反应系数以及公司财务杠杆（LEV）的系数不显著地为正，这与以往的研究发现基本一致（Toeh and Wong, 1993; Fan and Wong, 2002）。

从模型整体来看，模型 F 值都在 0.001 的水平上显著，表明模型具有一定的解释力。这意味着目前八大事务所已被投资者认为具有较高的审计质量。

（二）公司控制权安排与审计师选择

1、八大事务所的客户特征

表 4 列示了八大事务所的客户的主要特征。可以看出，八大的客户通常第一大股东持股比例（$TOP1$）更高、审计收费（$LNFEE$）更高、规模（$LNASSET$）较大、资产负债率（LEV）较低、核心资产收益率（$MROA$）更高、存货与应收帐款在总资产中的比重（$INVREC$）较低、子公司（SUB_SQT）更多、上年度亏损的比例（$PRELOSS$）更小、本年度亏损的比例（LOSS）更小、位于八大所本地的比例（$PROV$）更大、非经营性国有控股公司的比例（ID_GI）更小。

2. 多元回归分析

表 5 列示了上市公司选择八大所决策的 Logistic 回归结果，结果表明：

首先，从控股股东的身份看，在第（1）列中，国有控股公司（ID_STA）的系数在 0.05 的水平上显著为负；在第（2）列中，非经营性国有控股公司（ID_GI）的系数在 0.01 的水平上显著为负，经营性国有控股公司（ID_S）的系数不显著地为负。这与假设1的预测一致，即国有控股公司，尤其是非经营性国有控股公司更不愿意聘请高质量审计师。

其次，从股权集中度来看，在第（1）列中，第一大股东持股的 2 次项系数（$TOP1C\_SQ$）不显著。而在第（2）列中，第一大股东持股比例的 3 次项系数（$TOP1C\_CB$）显著为正，这意味着股权集中度与八大所的选择是 N 型结构，与假设 2-1 的预测一致。

第三，"外资法人是否持股"（$FORLG$）的系数显著为正；"管理层是否持股"（$MNGSH$）的系数显著地为负；第二至第五大股东持股集中度（$HERF2\_5$）的系数不显著地为正，这与我们预期的符号一致。

第四，从控制变量看，公司规模（$LNASSET$）的系数在 0.01 的水平上显著为正；财务杠杆（LEV）的系数不显著地为负；子公司数目（SUB_SQT）的

表 4   八大事务所与非八大事务所的客户特征

	$BIG8 = 0$	$BIG8 = 1$		$BIG8 = 0$	$BIG8 = 1$	Mann-Whitney 检验
	n = 2683	n = 396	T 检验	n = 2683	n = 396	
	均值	均值	T 值	中位数	中位数	Z 值
ID_GI	0.135	0.061	5.425***	0	0	−4.168***
ID_S	0.587	0.649	−2.399**	1	1	−2.344**
ID_N	0.278	0.290	−0.511	0	0	−0.511
$TOP1$	43.020	47.386	−4.686***	41.763	45.530	−4.449***
$LNFEE^{a}$	12.810	13.113	−11.944***	12.766	13.122	−11.791***
CAR^{b}	−0.046	−0.032	−1.314	−0.062	−0.056	−1.287
UE^{b}	0.000	0.000	−0.070	0.000	0.000	−0.792
$LNMV^{b}$	20.679	20.885	−5.983***	20.629	20.883	−6.478***
MBR^{b}	3.812	3.568	2.022**	2.986	3.019	−0.292
$BETA^{b}$	1.039	1.051	−0.796	1.058	1.056	−0.504
$LNASSET$	20.913	21.341	−10.440***	20.871	21.276	−9.747***
LEV	0.478	0.452	1.653*	0.455	0.434	−2.472**
$MROA$	0.014	0.024	−1.840*	0.026	0.030	−2.793***
SUB_SQT	1.953	2.482	−6.507***	2	2.449	−6.661***
$FORLG$	0.040	0.096	−3.692***	0	0	−4.966***
$MNGSH$	0.082	0.038	3.990***	0	0	−3.066***
$INVREC$	0.230	0.224	0.672	0.208	0.1925	−2.059**
$PRELOSS$	0.112	0.048	5.166***	0	0	−3.890***
$LOSS$	0.131	0.066	4.635***	0	0	−3.692***
$PROV$	0.175	0.601	−16.579***	0	1	−18.821***

注：***、**和*分别表示在 0.01、0.05 和 0.10 水平以下统计显著（双尾检验）。
n 表示样本数。 $BIG8 = 1$ 表示公司聘请八大作为其审计师，$BIG8 = 0$ 则相反；
ID_GI：公司控股股东为不直接从事经营活动的政府部门及其授权投资机构，则取
1，否则为0；ID_S：公司控股股东为直接从事经营活动的国有企业或企业集团，则取
1,否则为0；ID_N：公司控股股东为私人企业或自然人，则取1，否则为0；$TOP1$：
第一大股东持股比例；$LNFEE$：公司付出的审计费用的自然对数；CAR：按照本年5月
至次年4月之间十二个月回报的复利计算，然后平减同期市场回报；UE：非预期盈
利，（当年每股收益减去上年每股收益）/期初的开盘价；$LNMV$：公司期初流通股市
值的自然对数；MBR：年初每股股价 / 年初每股净资产；$BETA$：用 CAPM 模型的斜
率来计量期初的公司风险；$LNASSET$：公司年末总资产的自然对数；LEV：年末总负
债 / 总资产；$MROA$：（营业利润 – 其他业务利润）/ 总资产；SUB_SQT：纳入合并
报表范围的子公司数目的平方根；$FORLG$：公司如有境外法人股取 1，否则取 0；
$MNGSH$：公司如有管理层持股，则取 1，否则为 0；$INVREC$：（应收账款 + 存货）/
总资产；$PRELOSS$：如果公司上年度亏损，则取 1，否则为 0；$LOSS$：如果公司本年
度亏损取 1，否则取 0；$PROV$：如果公司注册地位于北京、上海、深圳、广东，则取
1，否则为 0。
a $LNFEE$ 变量的样本数按照是否八大所划分分别为 360、2469。
b CAR、$BETA$、UE、$LNMV$、MBR 的样本数按照是否八大所划分分别为 346、
1715。

表 5 公司选择八大所的 Logistic 回归分析的结果

	预期符号	(1)		(2)	
		系数	Wald 值	系数	Wald 值
ID_STA	—	−0.316**	4.050		
ID_GI	—			−0.959***	12.910
ID_S	—			−0.211	1.741
TOP1CEN	?	0.020***	14.544	0.002	0.072
TOP1C_SQ	?	0	1.192	0	0.014
TOP1C_CB	?			0***	7.029
FORLG	+	0.521**	4.615	0.464*	3.614
MNGSH	—	−1.084***	12.992	−1.038***	11.809
HERF2_5	+	0.046	2.071	0.030	0.835
LNASSET	+	0.620***	42.497	0.580***	36.649
LEV	—	−0.515	1.751	−0.450	1.298
MROA	+	−1.259	2.163	−1.374	2.392
INVREC	?	0.051	0.011	−0.034	0.005
SUB_SQT	+	0.048	0.915	0.066	1.678
PRELOSS	—	−0.570**	4.047	−0.610**	4.594
PROV	+	1.725***	175.470	1.716***	173.058
IPO	+	0.211	0.647	0.234	0.788
ISSU_NX	+	−0.215	0.172	−0.285	0.304
FIXED		控制		控制	
Constant		−15.731***	64.778	−14.826***	56.628
Nagelkerke R²		0.272		0.281	
Chi-square		484.987		502.962	
sig		0.000		0.000	
n		3079		3079	

注：***、** 和 * 分别表示在 0.01、0.05 和 0.10 水平以下统计显著（双尾检验）。n 表示样本数。

因变量：*BIG8* 是哑变量，如公司选择八大所为其审计师则取 1，否则为 0；*ID_STA*：公司控股股东为国有单位（*ID_GI* 与 *ID_S* 之和），取 1，否则为 0；*ID_GI*：公司控股股东为不直接从事经营活动的政府部门及其授权投资机构，则取 1，否则为 0；*ID_S*：公司控股股东为直接从事经营活动的国有企业或企业集团，则取 1；*TOP1CEN*：公司第一大股东持股比例减去样本的均值；*TOP1C_SQ*：平减样本均值后的公司第一大股东持股比例的平方；*TOP1C_CB*：平减样本均值后的公司第一大股东持股比例的立方；*FORLG*：公司如有境外法人股取 1，否则取 0；*MNGSH*：公司如有管理层持股，则取 1，否则为 0；*HERF2_5*：公司第二大股东持股比例至第五大股东持股比例的平方和的自然对数；*LNASSET*：公司年末总资产的自然对数；*LEV*：公司年末总负债与总资产的比值；*MROA*：（营业利润 − 其他业务利润）/ 总资产；*INVREC*：（应收账款 + 存货）/ 总资产；*SUB_SQT*：公司当年纳入合并报表范围的子公司数目的平方根；*PRELOSS*：如果公司上年度亏损，则取 1，否则为 0；*PROV*：如果公司注册地为北京、上海、广东、深圳，则取 1，否则为 0；*IPO*：如果公司本年度 *IPO*，则取 1，否则为 0；*ISSU_NX*：如果公司下一年度增发配股，取 1，否则取 0；*FIXED*：行业与年度的哑变量。*Constant*：常数项。

系数不显著地为正；"上年度是否亏损"（PRELOSS）的系数显著地为负；"公司是否位于经济发达地区"（PROV）的系数在 0.01 的水平上显著为正；存货与应收帐款在资产中所占比重（INVREC）以及公司核心资产收益率（MROA）的系数不显著。

第五，从上市公司的证券发行来看，公司"是否下年度增发"（ISSU_NX）与"是否当年度初次发行"（IPO）的系数都不显著。可能的原因在于我国上市公司选择审计师并非向投资者传递信号，而是向监管者传递信号，这样选择政府认可的事务所，而不仅仅是八大事务所，都可以成为信号，这削弱了八大所的信息作用。因此难以发现公司证券发行与八大所选择之间的显著关系。

第六，模型的调整后 R^2 在 0.27 以上；Chi-Square 值在 0.001 的水平上显著，表明模型具有较强的解释力。

3. 对股权集中度的进一步分析

图 1 按照控股股东身份列示了根据第一大股东持股区间划分的上市公司"选择八大所"的比例。与国有企业相比，非国有控股公司（ID_N）选择八大所的比例较高。整体来看，公司第一大股东持股比例与"选择八大所"呈现 N 型关系。具体说来，当第一大股东持股比例在小于 40% 左右或超过 65% 左右时，上市公司选择八大所的决策与股权集中度正相关；当第一大股东持股比例在 40% 至 65% 之间时，上市公司选择八大所的决策与股权集中度负相关。与非国有控股公司相比，在国有控股公司中曲线的斜率较低。可能的原因在于国有控股公司中所有者自身的代理性质减弱了其对经理人的监督动机，也减弱了对其他投资者的侵占动机。这使得股权激励效应的强度（斜率）降低。

曾颖、叶康涛（2005）发现，第一大股东持股比例与选择国际四大的 N 型结构的两个拐点分别在 45% 与 80%，与我们的研究结论略不一致。主要原因有二：（1）样本不一致。他们的样本期间为 2001 至 2002 年，包括发行境

图 1　第一大股东持股比例与选择八大事务所的比例的关系图
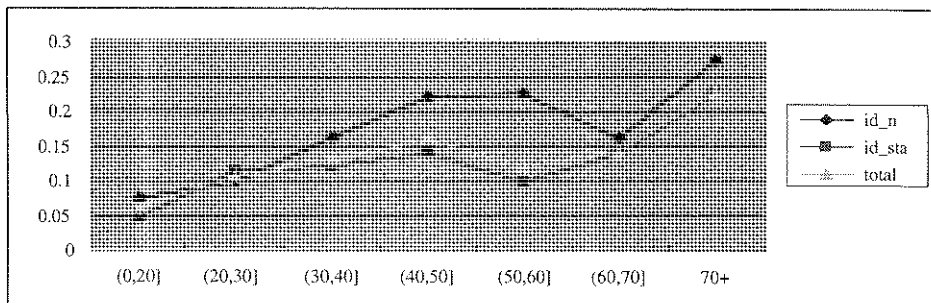
外流通股的公司与超大规模公司；（2）模型不同。因变量以及自变量不同，他们的模型没有控制证券发行、地域以及公司业务复杂性的影响。

进而根据图 1 的结果，我们按照第一大股东持股比例将样本分为三段：（1）0 至 40% 之间；（2）40% 至 65%；（3）65% 以上。分区间的 Logistic 回归结果（表略）证实，选择八大所的决策与第一大股东持股比例具有区间效应。在股权高度集中（第一大股东持股大于 65%）与股权比较分散（第一大股东持股比例小于 40%）的公司中，第一大股东持股比例（TOP1CEN）的系数在 0.01 的水平上显著为正；而当第一大股东持股在 45% 至 65% 之间时，第一大股东持股比例（TOP1CEN）的系数在 0.1 的水平上显著为负。

为什么第一大股东持股比例与高质量审计师选择呈 N 型结构呢？我们推测，在第一大股东持股较低的区域，公司的所有权和经营权处于相对分离状态，代理问题主要为"所有者和经理人之间"的委托代理问题（Jenson and Meckling, 1976）。此时，大股东与经理人共享审计师的选择权。随着第一大股东持股比例的增加，股东越有能力与动力聘请高质量审计师来监督经理人，这时公司股权集中度与选择高质量审计师表现为正相关关系；当第一大股东持股达到一定程度进入居中的区域，大股东取得了公司的相对控制权，"控股股东对外部投资者利益侵害"问题逐渐取代"所有者和经理人之间"的代理问题。在缺乏其他股东权力制衡而大股东能基本控制经理人的情况下，第一大股东持股比例的增加引起的边际"壕沟效应"将超过边际"激励效应"，即大股东规避高质量审计师所获得的收益大于其聘请高质量审计师监督经理人的增量收益，这时公司股权集中度与选择高质量审计师负相关。当第一大股东持股进入较高的区域时，第一大股东持股达到绝对控股或超额控股，这时公司偷盗收益开始小于偷盗成本，大股东需要聘请高质量审计师来传递信号提升其市场评估价值，此时股权集中度与高质量审计师选择正相关。

总的来说，我们的结果支持了假设 1-1 与 2-1，即国有控股的公司，尤其是非经营性国有控股公司，更倾向于选择非八大所，第一大股东持股与选择八大所之间具有区间效应。

(三) 公司控制权安排与审计费用

1. 多元回归分析

表 6 列示了审计费用模型多元回归结果。结果表明：

首先，在第（1）列中，国有控股公司（ID_STA）的系数在 0.05 的水平上显著为负。在第（2）列中，经营性国有控股（ID_S）与非经营性国有控股（ID_GI）的系数都为负，尤其是非经营性国有控股（ID_GI）的系数在 0.01 的水平上显著。这支持了假设 1-2 的预测。

其次，在第（1）列中，第一大股东持股比例（TOP1CEN）的系数不显著，而第一大股东持股的 2 次项（TOP1C_SQ）系数在 0.01 的水平上显著为正。在第（2）列中，TOP1_CB（第一大股东持股的 3 次方）的系数不显著，

表 6　　审计费用的多元回归结果

	预期符号	(1)		(2)	
		系数	T 值	系数	T 值
ID_STA	−	−0.034**	−2.045		
ID_GI	−			−0.100***	−4.298
ID_S	−			−0.017	−0.981
TOP1	?	0	0.311	0.001	1.078
TOP1C_SQ	?	0***	2.960	0***	3.126
TOP1C_CB				0	−1.433
FORLG	+	0.026	0.791	0.021	0.643
MNGSH	−	−0.061**	−2.449	−0.060**	−2.432
HERF2_5	+	0.005	1.451	0.006*	1.691
LNASSET	+	0.242***	24.059	0.239***	23.841
SUB_SQT	+	0.070***	11.858	0.071***	12.096
LEV	+	0.092***	3.253	0.090***	3.201
MROA	+	0.135*	1.656	0.128	1.576
INVREC	?	−0.082	−1.601	−0.088*	−1.728
OPIN	+	0.053**	2.214	0.055**	2.282
LOSS	+	0.020	0.820	0.023	0.940
ISSU_NX	−	−0.010	−0.170	−0.013	−0.231
ISSU_PRE	+	0.009	0.109	0.018	0.215
IPO	+	0.037	1.297	0.033	1.155
BIG8	+	0.170***	8.198	0.168***	8.049
PROV	+	0.021	1.250	0.020	1.185
FIXED		控制		控制	
(Constant)		7.578***	36.988	7.581***	36.415
ad_R²		0.365		0.368	
F		41.541		40.240	
sig		0.000		0.000	
n		2828		2828	

注：***、** 和 * 分别表示在 0.01，0.05 和 0.10 水平以下统计显著（双尾检验）。n 表示样本数。

因变量是 LNFEE：公司付出的审计费用的自然对数；ID_STA：公司控股股东为国有单位（ID_GI 与 ID_S 之和），则取 1，否则取 0；ID_GI：控股股东为不直接从事经营活动的政府部门及其授权投资机构，则取 1，否则为 0；ID_S：控股股东为直接从事经营活动的国有企业或企业集团，则取 1，否则为 0；TOP1CEN：公司第一大股东持股比例减去样本的均值；TOP1C_SQ：平减样本均值后的公司第一大股东持股比例的平方；TOP1C_CB：平减样本均值后的公司第一大股东持股比例的立方；FORLG：公司如有境外法人股取 1，否则取 0；MNGSH：公司如有管理层持股，则取 1，否则为 0；HERF2_5：第二大股东持股比例至第五大股东持股比例的平方和的自然对数；LNASSET：年末总资产的自然对数；SUB_SQT：纳入合并报表范围的子公司数目的平方根；LEV：年末总负债 / 总资产；MROA：（营业利润 − 其他业务利润）/ 总资产；INVREC：（应收账款 + 存货）/ 总资产；OPIN：公司被出具标准无保留审计意见取 0，否则取 1；LOSS：如公司本年度亏损，则取 1，否则为 0；ISSU_NX：如公司下一年度增发配股，取 1，否则取 0；ISSU_PRE：如公司本年度下半年增发配股，取 1，否则取 0；IPO：如公司本年度初次发行新股，则取 1，否则为 0；BIG8：公司聘请审计师为八大所，则取 1，否则为 0；PROV：公司注册地为北京、上海、广东、深圳，则取 1，否则为 0；FIXED：行业与年度的哑变量。Constant：常数项。

表明第一大股东持股比例与审计费用为正 U 型函数关系，这与假设 2-2 预测一致。

第三，股权制衡度（HERF2_5）以及外资法人是否持股（FORLG）的系数为正，但是在统计上都不显著。这意味着其他股东的制衡作用与外资法人持股在决定审计费用的过程中表现不明显。

第四，管理层是否持股（MNGSH）的系数在 0.05 的水平上显著为负。这是因为我国公司普遍存在的"内部人控制"（钱颖一，1995），高管人员在外部审计决策中起着决定性作用，尤其在审计费用的决定上。同时，在经理人市场、公司控制权接管市场与资本市场还不健全有效的环境下，对管理层的外部监督极度弱化。这样当管理层持股时，管理层出于自利，对独立审计的需求较弱，从而更不愿意选择八大所作为其审计师，付出的审计费用更低。

第五，从控制变量看，公司规模（LNASSET）、子公司数目（SUB_SQT）、财务杠杆比例（LEV）、公司是否被出具非标审计意见（OPIN）、审计师是否八大所（BIG8）与审计费用显著正相关，这些都与预期一致。此外，公司核心资产收益率（MROA）、存货与应收帐款占资产比重（INVREC）、是否位于经济发达地区（PROV）、本年度是否亏损（LOSS）、下年度是否增发配股（ISSU_NX）、本年度是否增发配股（ISSU_PRE）、本年度是否初次发行新股（IPO）这些变量与审计费用的相关系数都不显著。

最后，模型的调整后 R^2 达到了 0.35 以上，F 值在 0.001 的水平上显著，模型总体具有较强的解释力。

2. 进一步分析

(1) 第一大股东持股比例与审计费用的关系

图 2 描述了第一大股东持股比例与审计费用的关系。可以看出，股权集中度与审计费用呈 U 型关系，当第一大股东持股比例低于 40% 左右时，审计费用与股权集中度负相关；当第一大股东持股比例高于 40% 左右时，审计费用与股权集中度正相关。

图 2　第一大股东持股比例与审计费用关系图
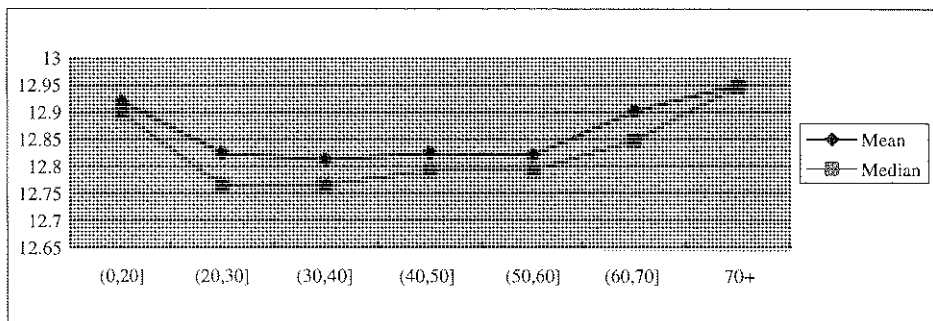
我们把样本按照第一大股东比例是否大于 40% 划分为两个子样本分别进行多元回归（表略），结果表明在第一大股东持股比例小于 40% 的子样本中，股权集中度与审计费用在 0.1 的水平上显著负相关；在第一大股东持股比例大于 40% 的子样本中，股权集中度与审计费用在 0.11 的水平上正相关。这支持了我们的假设 2-2 ，即股权集中度与审计费用之间具有区间效应。

（2）审计费用的自选择问题

用吴溪（2005）以及 Chaney et al.（2004）的方法，首先用第（2）个 Logistic 回归方程估计公司选择八大所的概率，代入第（3）个审计费用模型来控制自选择问题。

表 7 列示了控制自选择问题后审计费用模型估计表。在表 7 中，大多数自变量的符号及其显著性与表 6 的结果一致。略有不同的是，在第 1 列中，MATCH_B8 的系数在 0.01 的水平上显著为正，这意味着预期与实际都选择八大所的公司付出了显著的审计服务溢价（溢价达 $21.9\% = e^{0.198} - 1$）。UNDER_B8 的系数在 0.01 的水平上显著为正，表明预期不会选择八大而实际选择八大所的公司也付出了显著的审计服务溢价（溢价达 $17\% = e^{0.157} - 1$），而预期会选择八大而实际没有选择八大所的公司（OVER_B8）付出的审计费用略低于平均水平，但并不显著，这意味着公司不选择八大所并非由于节省审计费用的考虑。

在第（2）列与第（3）列中，逆米尔斯（inverse mills）系数（IMR_B8）不显著，这意味着自选择问题对审计费用没有显著影响。在第 3 列中，ID_GI 的系数不显著为负，ID_S 的系数不显著为正，这意味着国有企业相对于非国有企业在审计费用决策中更强的谈判能力受到了高质量审计师（八大所）的限制。[14]

总的来说，上述结果支持了假设 1-2 与 2-2，即，与私有企业控股公司相比，国有控股公司尤其是非经营性国有控股公司付出的审计费用更低；第一大股东持股比例与审计费用之间具有区间效应，表现为 U 型的非线性关系。

（四）稳定性检验

1. 关于审计风险的替代解释

对于表 5 国有控股公司更不愿意选择八大所的实证结果，也存在另一种基于审计风险的替代解释，即由于国有控股公司的审计风险较高，八大所更不

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[14] 感谢评审人的意见：八大所中，非经营性国有控股公司的审计费用并不较低，主要是由于在国际四大的样本中，非经营性国有控股公司的谈判能力并不更高。剔除国际四大的客户公司后，在国内三大的子样本中，非经营性控股公司的审计费用仍然显著地低。

表 7 控制自选择情况下，审计费用多元回归结果

	全样本		BIG8 = 0		BIG8 = 1	
	系数	T 值	系数	T 值	系数	T 值
ID_GI	−0.089***	−3.845	−0.102***	−3.555	−0.140	−1.371
ID_S	−0.004	−0.253	−0.017	−0.917	0.032	0.611
TOP1	0	−0.096	0	0.411	0.001	0.370
TOP1C_SQ	0***	3.027	0***	2.696	0**	2.167
HERF2_5	0.005	1.594	0.005	1.260	0.025**	2.246
FORLG	0.024	0.715	−0.009	−0.221	0.017	0.196
MNGSH	−0.061**	−2.452	−0.060**	−1.984	−0.091	−0.827
LNASSET	0.238***	23.342	0.250***	16.147	0.185***	3.884
SUB_SQT	0.072***	12.268	0.065***	9.670	0.108***	6.101
LEV	0.093***	3.310	0.085***	2.733	0.019	0.204
MROA	0.130	1.597	0.066	0.680	0.197	1.127
INVREC	−0.086*	−1.681	−0.093*	−1.687	−0.014	−0.103
OPIN	0.054**	2.275	0.063**	2.508	−0.051	−0.656
LOSS	0.022	0.918	0.003	0.102	0.191**	2.040
ISSU_NX	−0.013	−0.235	−0.006	−0.101	−0.093	−0.582
ISSU_PRE	0.021	0.240	−0.015	−0.162	0.277	0.924
IPO	0.037	1.302	0.041	1.331	0.035	0.425
PROV	0.020	1.130	0.032	0.675	0.103	0.815
FIXED	控制		控制		控制	
MATCH_B8	0.198***	4.443				
UNDER_B8	0.157***	7.048				
OVER_B8	−0.049	−0.826				
IMR_B8			0.008	0.779	−0.008	−0.316
(Constant)	7.649***	36.675	7.338***	18.655	8.788***	7.498
ad_R²	0.367		0.318		0.421	
F	39.172		29.058		7.523	
sig	0.000		0.000		0.000	
n	2828		2468		360	

注：***、** 和 * 分别表示在 0.01，0.05 和 0.10 水平以下统计显著（双尾检验）。
n 表示样本数。
因变量是 LNFEE：公司付出的审计费用的自然对数。ID_GI：控股股东为不直接从事
经营活动的政府部门及其授权投资机构，则取 1，否则为 0；ID_S：控股股东为直接
从事经营活动的国有企业或企业集团，则取 1，否则为 0；TOP1CEN：公司第一大股
东持股比例减去样本的均值；TOP1CEN_SQ：平减样本均值后的公司第一大股东持股
比例的平方；HERF2_5：第二大股东持股比例至第五大股东持股比例的平方和的自然
对数；FORLG：公司如有境外法人股取 1，否则为 0；MNGSH：公司如有管理层持
股，则取 1，否则为 0；LNASSET：年末总资产的自然对数；SUB_SQT：纳入合并报
表范围的子公司数目的平方根；LEV：年末总负债 / 总资产；MROA：（营业利润 −
其他业务利润）/ 总资产；INVREC：（应收账款 + 存货）/ 总资产；OPIN：公司被出
具标准无保留审计意见取 0，否则取 1；LOSS：如果公司本年度亏损，则取 1，否则
为 0；ISSU_NX：如果公司下一年度增发配股，取 1，否则取 0；ISSU_PRE：如果公
司本年度下半年增发配股，取 1，否则取 0；IPO：如果公司本年度初次发行新股，则
取 1，否则为 0；PROV：如果公司注册地为北京、上海、广东、深圳，则取 1，否则
为 0；FIXED：行业与年度的哑变量；MATCH_B8：公司预期与实际都选择八大所取
1，否则为 0；UNDER_B8：公司预期不会选择八大所，而实际选择八大所时取 1，
否则为 0；OVER_B8：公司预期选择八大所，而实际未选择八大所时取 1，否则为 0；
IMR_B8：公司选择八大所的逆米尔斯系数，Logistic 模型中八大所预测值的累积正态
分布值与密度函数值之比，计量自选择对审计费用模型的影响程度；Constant：常数
项。

愿意选择国有控股公司。诚如此，事务所应该对国有控股公司的高风险收取更高的审计收费溢价，但表6的结果表明国有控股公司的审计费用反而较低，因此拒绝了该替代解释。

同理，表 6 的实证结果也可能因为国有控股公司审计风险较低所致。但从表 2 的描述性统计可以看出，无论是公司特有风险，例如资产负债率（LEV）、盈利能力（$MROA$），还是公司系统风险（$BETA$），国有控股的公司风险并不低于非国有控股公司。如果国有控股公司的审计风险低于非国有控股公司，那么这可能源于其政治风险较低。这与国有控股公司在审计费用的谈判能力更高的假设推演殊途同归。

2. 其他稳定性测试

为了检验结论的可靠性，我们进一步做了如下稳定性测试：（1）对样本进行分年度检验；（2）对全样本按照规模大小两分；（3）注意到表 5 第 1 列中 $FORLG$（有境外法人股公司）与选择八大所的显著正相关关系，剔除有境外法人股公司的 144 例观测值；（3）为了确保第一大股东成为控股股东，剔除第一大股东持股比例低于 20% 的 217 例观测值；（4）考虑到国际四大与国内所可能存在的市场细分，我们首先用国际四大作为高质量审计师的替代，模型（2）与模型（3）的测试结果与表 5、表 6 的结果基本相似。然后我们剔除国际四大的客户公司，以国内三大所作为高质量审计师的替代，主要研究结论仍不变。这表明我们的研究结论具有较强的稳定性。

五、研究结论

用 2001 至 2003 年上市公司及其主审事务所的资料，我们考察了公司控制权安排对外部审计需求的影响。用客户的盈利反应系数较高的八大事务所作为高质量审计师的替代，在控制了公司规模、财务杠杆、盈利能力、审计风险以及证券发行等其它相关影响因素后，我们发现：首先，国有控股公司，尤其是非经营性国有控股公司，更不愿意聘任八大事务所，付出的审计费用更低。其次，第一大股东持股与公司聘任八大所的决策以及审计费用之间具有区间效应。具体说来，第一大股东持股与选择八大所之间表现为 N 型结构，与审计费用之间表现为 U 型结构。

本研究对于理解我国买方主导的独立审计市场结构的形成原因具有重要意义。DeFond *et al.*（1999）发现我国独特的"审计质量提高导致审计市场的背离"后，指出我国独立审计需求不足的主要原因可能是大多数公司是国有控股，我们的经验研究证实了他们的推测。

注意到第二节中制约目前独立审计需求的诸多因素，本文的研究结论需要与我国转型经济下高度管制的证券市场这一独特制度背景联系起来。我们并不

认为，仅仅调整控制权安排就能彻底改善独立审计需求。同样重要的是，进一步推进股权分置改革、完善审计师民事赔偿制度等基础性制度安排是促进独立审计市场发展的必要条件。

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DOES THE ARRANGEMENT OF CORPORATE CONTROL RIGHTS AFFECT THE DEMAND FOR EXTERNAL AUDIT SERVICES?
— EVIDENCE FROM AUDITOR CHOICES AND AUDIT FEES OF LISTED FIRMS[1]

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ABSTRACT

Using the Big Eight auditors whose clients have higher earnings response coefficients as the proxy for quality auditors, this paper investigates the impact of the arrangement of corporate control rights on the demand for external audit services. After isolating the impact of related factors, we find that state-owned enterprises, especially non-profit state-owned enterprises, are less likely to hire Big Eight auditors and to pay higher audit fees. The relationship between the demand for quality audit services and the proportion of shares held by the largest shareholder is non-linear and shows the interval effect. Our study provides evidence to support the role of the largest shareholder in deciding on the external audit services, and identifies state ownership as the main hindrance to quality audit service in China.

Keywords: Arrangement of Corporate Control Rights, Auditor Choice, Audit Pricing

I. INTRODUCTION

The independent audit industry has been developing for more than two decades in China. From the outset, the development of the CPA industry has gone hand in hand with government regulation. Currently, the independent audit market is still immature and dominated by buyers; it is therefore important to investigate and to promote the demand for independent andit services in China.

By statistically depicting the audit market structure in China, it is documented in prior literature that the demand for quality auditors is insufficient (Li, 2000; Zhu et al., 2004; Sun and Cao, 2004). However, these studies seldom take into account audit pricing, which is closely related to the demand for audit services, and there is little investigation into the causes of insufficient demand.

As a monitoring and bonding mechanism, an independent audit can mitigate information asymmetry among the stakeholders of a firm and alleviate the agency conflicts between the principals and the agents in order to lower transaction costs. Theoretically, firms with different arrangements of control rights should have different agency problems so that they have different demands for audit services, which can be exhibited by their auditor choices and audit fees. Practically, since the industry concentration of the audit market in China is low, and the demand for audit services is mainly the direct result of statutory requirements from the government, the choice of auditor and the determination of audit fees are dominated by the controlling shareholder and managers of a listed firm. The purpose of this study is thus to analyze the effect of the arrangement of corporate control rights on the demand for audit services, and to find the cause of the insufficient demand for quality audit services in China.

As the controlling shareholders of state-owned enterprises (SOEs), government departments or institutions in charge of investment do not have enough incentives and are not constrained to monitor top management. On the contrary, they may interfere in the audit and try to get benefits through their positions as government officers. Moreover, the soft budget constraints of SOEs allow them to have easier access to financial markets, reducing their demand for quality audit services to signal external investors. Therefore, we hypothesise that a firm where the controlling shareholder is state-owned, especially where it is a non-profit state-owned entity, will be less likely to employ quality auditors and will pay lower audit fees.

The impact of ownership concentration on the demand for audit services has two opposite effects. On the one hand, the information asymmetry between the largest shareholder and the minority shareholders increases with an increase in the proportion of shares held by the largest shareholder. Meanwhile, the largest shareholder has more abilities and incentives to hire quality auditors to mitigate agency problems and signal the outside investors, thereby increasing the market value of the firm. This is consistent with the incentive effect of ownership concentration. On the other hand, with the increase in ownership concentration, the largest shareholders are more motivated to expropriate the minority shareholders, and are thus unwilling to hire qnality auditors who will monitor their opportunistic behaviours. This is consistent with the entrenchment effect of ownership concentration. Under the im-

pact of the combination of these two effects, we hypothesise that the relationship between the concentration of ownership and the decision of a firm about hiring a quality auditor or about its audit fees will be non-linear and will show the interval effect.

Based on the sample of listed firms from 2001 to 2003, and using the Big Eight auditors whose clients have higher earnings response coefficients (ERCs) as the proxy for quality auditors, we find that a firm where the controlling shareholder is state-owned, especially where it is a non-profit SOE, is less likely to select a Big Eight auditor and pays lower audit fees; meanwhile, there is a non-linear relationship between ownership concentration and the demand for quality audit services. In particular, the proportion of shares held by the largest shareholder has an N-shaped relationship with the probability of selecting a Big Eight auditor and a U-shaped relationship with audit fees.

This paper addresses an important issue in the Chinese audit market and contributes to the literature by identifying state ownership as the main hindrance to quality audit services, which is considered as one of the major external mechanisms for providing a sound corporate governance framework. This has important implications for policy makers in China in developing the audit market and intensifying the reform of corporate ownership. Based on strong theoretical arguments, this paper also differentiates the relevant range of ownership concentration where the incentive effect and the entrenchment effect prevail. Finally, we document the informational role of the auditor by identifying quality auditors whose clients have higher ERCs in an emerging market like China.

The remainder of this paper proceeds as follows. Section II reviews prior literature and discusses the decision mechanism of the largest shareholder in selecting the auditor and determining audit fees, and develops our hypotheses for the relations between the ownership of the largest shareholder and the demand for external audit services. Section III presents the sample data and model design, and Section IV reports the empirical analyses. In Section V, we conclude the paper.

II. LITERATURE REVIEW AND DEVELOPMENT OF HYPOTHESES

2.1 Literature Review

Prior literature identifies three types of demand for external audit services, namely monitoring demand, information demand, and insurance demand. The monitoring demand for independent auditing is not dependent on mandatory regulation by the government but originates from the need to implement the contract between the shareholders and management, which results from the separation of ownership and control (Watts and Zimmerman, 1983; Chow, 1982). In addition, the demand for independent auditing can partially offset the financial disclosure responsibility of the firm. In the United States, the auditor often becomes a target sued by investors and creditors when a firm runs into failure (Wallace, 1980). The monitoring and bonding roles of independent auditing in corporate governance mitigate the infor-

mation asymmetry between insiders and outside investors, and hence improve the assessed value of the firm. As evident from analytic models, different types of auditors can affect the pricing of an IPO (Titman and Trueman, 1986; Beatty, 1989) and the ratio of equity to debt (Datar *et al.*, 1991).

Listed companies are now required by law to have independent audits. As audit services are said to be heterogeneous, meaning that different auditors represent different audit qualities, the researchers investigate the demand for auditing through observing the behaviours of firms in hiring different auditors. The studies on the US audit market show that large firms or firms ready for securities issuance will hire big auditor firms or name-brand auditors or firms which are both. But they fail to find any significant relation between auditor choice and the financial leverage and management ownership of a firm (Francis and Wilson, 1988; Johnson and Lys, 1990; DeFond, 1992). One possible interpretation of this may be that the other internal and external governance mechanisms, such as independent directors, and the market for corporate control and managers, mitigate the correlation between auditor choice and the agency problem (Fan and Wong, 2005).

Fan and Wong (2005) investigate the role of the Big Five auditors in emerging markets. Using a sample of listed firms in the East Asian economies from 1994 to 1996, their study shows that the firms with more agency conflicts, which are measured by the separation between the cash flow rights and voting rights of controlling shareholders, are more likely to employ Big Five auditors and to pay higher audit fees.

Using a sample of listed firms in China from 1993 to 1996, DeFond, Wong, and Li (1999) find that the Big Ten auditors set a higher threshold for issuing a standard unqualified opinion, while nou-Big Ten auditors do not. But the big auditor firms lost their market shares after 1994 when the enforcement of the independent audit standards began. Meanwhile, the probability of a firm selecting a Big Ten auditor is positively associated with the size of firm and the equity share of overseas shareholders. Their research provides direct evidence for the lack of demand for quality auditors among Chinese firms.

Based on the data of IPO firms from 2001 to 2002, Zhu, Chen, and Xia (2004) find that the share of an auditor in the IPO audit market is negatively correlated with the probability of the auditor issuing an unqualified audit opinion and with whether the auditor has been punished by the government; whereas, it is positively associated with the auditor size in terms of the client base, with whether the auditor is located in the same province as its clients, and with whether the auditor is qualified as an IPO reviewer by the government. Such evidence suggests that Chinese IPO firms are averse to quality auditors; the firms select auditors mainly to comply with the government regulations and for geographical reasons, and there is insufficient demand for quality auditors.

Sun and Cao (2004) investigate the relationship between firm ownership and auditor choice. Using a sample of listed firms for 2001, they find that the probability of a firm selecting an international Big Five or local Big Five auditor is negatively correlated with the proportions of state shares, legal person shares, and domestic

tradable shares, while it is positively correlated with the proportion of foreign institutional shares. Zeng and Ye (2005) find that the function between the probability of a firm selecting an international Big Four auditor and the largest shareholding shows a reverse U shape. Furthermore, Xia (2005) and Wang *et al.* (2005) investigate the impact of the institutional environment and government intervention on auditor choice. They find that the firm where the controlling shareholder is the local government authority is more likely to employ a small auditor located in the same jurisdiction as the local government authority, and this inverse selection is more predominant when the firm is in regions where the credit markets and legal systems are less developed.

Recently, many researchers have examined the determinants of audit fees by using the research method of Simunic (1980). They demonstrate that the audit fees mainly depend on the size and the business complexity of a firm, and are independent of the audit risks measured by the financial indicators of the firm (Wang, 2002; Han and Zhou, 2003; Liu *et al.*, 2003; Li, 2004).

Overall, these studies follow the analysis method used in US audit research. There is very little research that examines the role of the largest shareholder in selecting auditors and audit pricing, or identifies the causes of insufficient demand for quality auditors among Chinese firms.

2.2 Hypotheses Development

In this section, we describe the institutional factors that determine the supply and demand of the Chinese audit market, and discuss the impact of the nature and control rights of the largest shareholder on the demand for audit services. Based on the above analysis, we develop our hypotheses.

2.2.1 Influence of Institutional Factors on the Supply and Demand of the Audit Market

2.2.1.1 Positive Factors

Recently, the Chinese government has taken many measures to improve the quality of auditing and accounting information.[5] Zhang (2005) analyses the positive and negative impacts of government regulation on audit quality, and finds that international Big Four auditors have a higher perceived audit quality than other auditors as measured by ERCs, indicating that the international Big Four auditors are accepted by the market.

The concentration of ownership in Chinese listed firms has created serious agency conflicts between the controlling shareholder and minority shareholders. Meanwhile, the lack of other corporate governance mechanisms, such as the market for corporate control and managerial labour, makes the auditors an important intermediary to mitigate the agency conflicts between the controlling owner and minor-

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[5] For example, disaffiliation and privatisation of audit firms in 1998, mergers of small auditors in 2000, pilot enforcement of dual auditing, and implementation of the IPO audit review system.

ity shareholders (Fan and Wong, 2005). For instance, in 2001 the China Securities Regulatory Commission issued Rule No. 14 on the information disclosure of listed corporations, which stipulates that a firm being issued a qualified audit opinion could be delisted and be forbidden to pay the dividends. This demonstrates that an independent audit is not only a corporate governance mechanism to alleviate the agency conflicts between the controlling owner and minority shareholders, but also an important institutional arrangement to mitigate the information asymmetry between government regulators and listed firms.

2.2.1.2 Negative Factors

An emerging audit market like China faces several special institutional impediments to its development. First, the initial public offerings, seasoned equity offerings, special treatment, or delisting of firms are closely related to financial and earnings indicators in the highly regulated Chinese stock market, and thus listed firms have intense incentives to manage earnings (Aharony et al., 2000; Chen et al., 2000; Li, 2001). Listed firms with strong incentives to manage earnings elude quality auditors in an inefficient market.

Second, listed firms in China are mainly state-owned and have concentrated ownership. As the monitoring role of state-owned shareholders is weak, the firm is in fact controlled by the internal managers (Qiau, 1995), who choose the auditor and have no incentive to employ a quality auditor who might restrain their opportunistic behaviours.

Third, the concentration of ownership in listed firms allows the controlling shareholders to effectively designate the managers through their voting rights. Since the information asymmetry between the controlliug shareholders and the managers is weak, the controlling shareholders have little monitoring demand for quality auditors.

Fourth, the majority of the Chinese listed companies are owned by government entities whose shares are untradeable under the split share strncture system. As a result, the controlling shareholders are indifferent to the market value of their firms, resulting in their inadequate information demand for quality auditing.

Finally, since the system of civil compensation in China is still underdeveloped, investors lack insnrance demand for quality auditing (Zhang, 2006a). According to the law on securities civil compensation, iuvestors cannot bring lawsuits on false representations in finaucial statements of listed firms unless they have met certain stringent conditions. For example, the court will not accept a lawsuit on false represeutations in financial statements until the listed firm has received an administrative penalty; class action lawsuits are prohibited under the law on securities civil compensation. Considering the costs of a lawsuit, investors can hardly obtain any compensation from the auditors for losses resulting from false representations in financial statements, culmiuating in the absence of insurance functions in auditing. Therefore, under the unsound system of civil compensation, the auditing services provided by audit firms are unreliable, resulting in the inadequate insurance demand for audit services.

Accounting firms are profit-making organisations. They assure their audit quality

mainly for satisfying the market demand for quality auditing and in order to avoid strict punishment from sub-standard auditing. The audit firms have, therefore, less incentive to improve their auditing quality because of the inadequate demand for quality and the absence of lawsuits by investors. It is thus obvions that auditing quality in China is poor on the whole, and audit failures occasionally take place.

In general, the impediments to the development of the audit market in China prevail; the audit market shows the characteristics of lower concentration and apparent regional segmentation, and the auditor choices and audit fees are mainly determined by the controlling shareholder and managers.

2.2.2 Impact of the Nature of the Controlling Shareholder on External Audit Demand

The listed firms cau be divided iuto state-owned enterprises (SOEs) and non-state-owned enterprises based on the nature of the controlling shareholders. The SOEs can be further divided into for-profit SOEs and non-profit SOEs. The controlling shareholders of non-profit SOEs are government departments like the Finance Bureau or investment institutions authorised by the government. The non-profit SOEs do not engage in concrete production and operating activities. They exercise the administrative functions of the government and aim at the value preservation and appreciation of state-owned assets. On the other hand, the controlling shareholders of for-profit SOEs include solely state-owned enterprises, conglomerates, or holding companies engaging in various production and operating activities. As for the different types of controlling shareholders, the cost and benefit of auditor choice are different, resulting in a great difference in the demand for quality auditing.

2.2.2.1 Dual Role of the Controlling Shareholder in SOEs

During the 1990s, the Chinese securities markets adopted a securities-issuing system combining administrative approval with quota control. The quota is mainly allocated to SOEs, which are supported by the local government authority. From IPOs to seasoned equity offerings, the interests of state-owned listed firms are aligned with those of the local authority so that they form a coalition to win the contest for financial resources. The findings of Chen and Li (2001) show that local authorities actively participate in the earnings management of listed firms. They provide many tax privileges and financial allowances to listed firms, which greatly distort the accounting information. Almost half of the listed firms would not have obtained the qnalification for seasoned equity offerings if they had not had financial support from local authorities.

Whether the SOE is for-profit or not, the government department concerned is not only the decision maker on auditor choice but also the administrative supervisor for the audit business. Therefore, the controlling shareholder of an SOE has more power to determine the audit engagement, and is thus unwilling to hire a quality auditor, who has more independence to resist pressure from the controlling shareholder and who imposes more restraints on the opportunistic behaviours of the controlliug owners and managers of an SOE.

2.2.2.2 Incentives for the SOE Controlling Shareholders to Employ Quality Auditors

The controlling shareholders of non-profit SOEs obtain fewer supervisory benefits but bear higher costs of disclosure restraints from quality auditing. First, the controlling shareholders have no residual claims in the listed firms, and their shares are untradeable. Even if a quality auditor can signal and enhance the market value of the firm, it is difficult for the controlling shareholders to transform the benefits from employing the quality auditor into cash flows. Instead, they may lose the control rights of the firm because of the possibility of job promotion (Zhang, 1999). Second, a quality auditor with more independence can resist the pressure from the local authority and compel the firm to disclose the information that is disadvantageous to the controlling shareholders; whereas, the controlling shareholders of non-SOEs and for-profit SOEs can benefit from the monitoring and signalling roles of quality auditors and transform the gains into their private benefits by means like increasing the market value of the firm or expropriating the minority shareholders. Finally, the soft budget constraints make the SOEs easier to find external capital support in times of financial distress. The SOEs, especially the non-profit SOEs, are thus less likely to employ a quality auditor and are willing to pay lower audit fees.

To sum up, we develop the following hypotheses:

H1-1: The probability of a firm selecting a quality auditor will be negatively correlated with the state-owned nature of the largest shareholder, especially for non-profit SOEs.
H1-2: The audit fees will be negatively correlated with the state-owned nature of the largest shareholder, especially for non-profit SOEs.

2.2.3 Relationship between Ownership Concentration and the Audit Demand

In firms with highly concentrated ownership, the roles of the largest shareholder in corporate governance are still open to dispute. The proponents argue that investors holding large stakes in the firm have strong incentives to maximise the value of their firm, and are able to collect information and oversee managers to alleviate the agency costs (Jenson and Meckling, 1976). Large shareholders also have incentives to oust non-performing managers through a proxy fight or a takeover (Shleifer and Vishny, 1997). This is called the incentive effect. The opponents argue that the concentration of ownership makes the managers designated by the largest shareholder difficult to replace, as a result of which the large owners could acquire private benefits through their control rights by expropriating minority shareholders. This is called the entrenchment effect. Using the data of eight economies in East Asia, Claessens et al. (2002) find that the firm value increases with the cash-flow ownership of the largest shareholder, consistent with a positive incentive effect. Meanwhile, the firm value falls when the control rights of the largest shareholder exceed its cash-flow ownership, consistent with the entrenchment effect.

Similarly, the incentive effect and the entrenchment effect co-exist when the controlling shareholder decides on the choice of auditor and audit fees. On the one

hand, the information asymmetry increases with ownership concentration. The firm has more incentives to hire a quality auditor to mitigate the agency problem and signal outside investors in order to increase the market value of the firm; this is consistent with the incentive effect. On the other hand, as the ownership concentration increases, the controlling shareholder has more abilities and opportunity to encroach on the minority owners. Hence, the controlling shareholder is more likely not to employ a quality auditor who might try to restrain the opportunistic behaviours of the controlling shareholder and managers; this is consistent with the entrenchment effect.

Under the combined impact of the incentive effect and the entrenchment effect, it is hard to predict the effect of ownership concentration on the external audit demand of firms, and we expect that the relationship between the concentration of corporate ownership and the external audit demand will be non-linear.

To sum up, we develop the following hypotheses:

H2-1: The relationship between the probability of a firm selecting a quality auditor and the proportion of shares held by the largest shareholder will be non-linear and show the interval effect.

H2-2: The relationship between the audit fees paid by a firm and the proportion of shares held by the largest shareholder will be non-linear and show the interval effect.

III. RESEARCH DESIGN

3.1 Data and Sample Selection

Our sample consists of companies listed from 2001 to 2003 in the Chinese A-share market. The following firms are excluded from our sample: (1) financial firms, as their decisions on auditor choice and audit fees are systematically different from those of the other firms (Simunic, 1980); (2) firms that also issue B shares or H shares, because they are required to receive dual audits in which the investors, regulatory environment, and market pressure are different, resulting in systematic differences in their auditor choices and audit fees; (3) companies whose controlling shareholders are administrative institutions, such as research institutes or schools of higher education, to simplify the analysis; (4) firms without available data; and (5) observations with audit fees or firm size at maximum or minimum levels of 1 per cent, to eliminate the influence of extreme values.

Table 1 presents the procedures for sample selection. We obtain 2061 firm-year observations on cumulative abnormal returns (CAR), 3079 observations on auditor choice, and 2828 observations on audit fees.

The data on the nature of the controlling shareholder, audit fees, the number of subsidiaries, audit opinions, and the auditor choice of the firm are collected manually from annual reports of sample firms provided by the website of the Chinese Securities Regulatory Commission (CSRC). The share prices, ownership structures, and financial data of the sample firms are mainly sourced from the CSMAR and Wind databases. We crosscheck the data from these databases and

Table 1 Sample Selection Process

Panel A: Sample Selection Process for CAR Data

	2001–2003	2001	2002	2003
Number of listed firms as at the end of the year	3671	1160	1224	1287
Excl: Firms with B or H shares	(417)	(137)	(139)	(141)
Firms in the financial industry	(25)	(7)	(8)	(10)
Firms being issued a qualified audit opinion	(316)	(126)	(123)	(67)
Firms without available data	(292)	(91)	(90)	(111)
Outliers at the maximum or minimum 1% of CAR	(118)	(39)	(38)	(41)
Sample	2503	760	826	917
Excl: Firms without Beta data	(442)	(178)	(167)	(97)
Final sample	2061	582	659	820

Panel B: Sample Selection Process for Auditor Choice Data

	2001–2003	2001	2002	2003
Number of listed firms as at the end of the year	3671	1160	1224	1287
Excl: Firms with B or H shares	(417)	(137)	(139)	(141)
Firms in the financial industry	(25)	(7)	(8)	(10)
Firms with the largest shareholder being an administrative institution	(75)	(22)	(27)	(27)
Outliers at the maximum or minimum 1% of firm size	(75)	(24)	(23)	(28)
Final sample	3079	971	1027	1081

Panel C: Sample Selection Process for Audit Fees Data

	2001–2003	2001	2002	2003
Number of listed firms as at the end of the year	3671	1160	1224	1287
Excl: Firms with B or H shares	(417)	(137)	(139)	(141)
Firms in the financial industry	(25)	(7)	(8)	(10)
Firms with the largest shareholder being an administrative institution	(75)	(21)	(27)	(27)
Firms without audit fees data	(259)	(135)	(68)	(56)
Outliers at the maximum or minimum 1% of audit fees	(67)	(18)	(25)	(24)
Final sample	2828	842	957	1029

adjust the differences according to the annual reports disclosed in the CSRC website.

3.2 Model Specification

We examine the demand for external audit services from the perspectives of auditor choice and audit fees. The first issue to resolve concerns the measurement of quality auditors in the market.

3.2.1 Measurement of High Quality Auditors

As part of their audit services, auditors are required to issue opinions on the legitimacy, fairness, and consistency of the financial statements of the auditees. Auditing is considered as an external monitoring and bonding mechanism; high-quality auditors can increase the reliability of financial statements, whose main function is to provide earnings information for investors to evaluate the market value of the firm and make decisions on their investment activities. It is expected that the more trust the investors place in the quality of the auditor, the more they will rely on the accounting earnings information assured by the quality auditor to evaluate the market value of the firm. Therefore, the degree of association between market returns of the firm and its unexpected earnings (that is, the ERC) can reflect the perceived reliability of the fiuancial statements assured by the auditor. According to the above analysis, we can measure the perceived quality of an auditor by the mean ERC of his clients.

Although a firm is less likely to select an auditor based on ERC in practice, the ERC provides a basis for us to verify the auditor accepted by the market. Prior studies on the Chinese market usually use the proportion of qualified opinious of an auditor or the degree of earnings mauagement, such as abnormal accruals, as a proxy for audit quality.[6] Unlike in these studies, we use ERCs to measure the audit quality for the following reasons: (1) A firm would be more likely to employ an auditor only if the quality of the auditor can be perceived in the market. We investigate the quality of an auditor from the view of the demand for audit services, while prior studies focus on the supply characteristics of audit services. (2) When the firms anticipate that higher market values can be generated from quality auditing, they are willing to pay a premium for the quality services. Therefore, identifying the auditor accepted by the market through ERCs accords with our research on the demand in the audit market.

Consistent with Toeh and Wong (1993) and Gul *et al.* (2003), we identify high-quality auditors by the following ERC model:

$$
\begin{aligned}
CAR_i = {} & \alpha_1 + \alpha_2 AUDITOR_i * UE_i + \alpha_3 UE_i + \alpha_4 AUDITOR_i + \alpha_5 LNMV_i + \alpha_6 FORLG_i \\
& + \alpha_7 FORLG_i * UE_i + \alpha_8 LEV_i * UE_i + \alpha_9 MBR_i * UE_i + \alpha_{10} BETA_i * UE_i \\
& + \alpha_{11} LEV_i + \alpha_{12} MBR_i + \alpha_{13} BETA_i + \alpha_{14} YEAR_i + \sum_{i=1}^{20} \alpha_{14+i} Ind_i + \varepsilon_i \qquad (1)
\end{aligned}
$$

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[6]   For example, Li (2000) and Xia (2005) use the proportion of qualified opinions of an auditor to measure the audit quality. For further literature reviews of audit quality, please see Zhang (2005b).

where α_1 is the intercept, $\alpha_2 \sim \alpha_{34}$ are coefficients, and ε is the residual. The definitions of the variables in the model are given below.

3.2.1.1 Dependent Variables

CAR is the cumulative net-of-market stock returns for 12 months from the beginning of May in the current year to the end of April iu the following year.

3.2.1.2 Experimental Variables

We use the variable *AUDITOR*UE* to measure the perceived quality of an auditor, whose coefficient α_2 is the ERC of the auditor. *AUDITOR* is a dummy variable for the types of auditors including the Big Eight auditors (*BIG8*), the international Big Four auditors (*INT4*), the domestic Big Three auditors (*DBIG3*), and the domestic Big Four auditors (*DBIG4*). The Big Eight auditors are Ernst & Young Da Hua, Ernst & Young Hua Miug, KPMG Hua Zheng, PricewaterhouseCoopers Zhong Tian, Deloitte & Touche Hua Yong, Shanghai Lixiu, Beijing Jingdu, and Xiuyong Zhonghe; the domestic Big Three auditors are Shanghai Lixin, Beijing Jingdu, and Xinyong Zhonghe; the domestic Big Four auditors include the above Big Three auditors as well as Zhejiang Tianjian. In our regression tests, we substitute one or more of the above variables for *AUDITOR*.

UE is the unexpected earnings computed by the difference between actual earnings and expected earnings measured by actual earnings of the previous year.

3.2.1.3 Control Variables

Consistent with Toeh and Wong (1993) aud Fan and Wong (2002), we use the following control variables to control the impact of other factors on the ERC of an auditor.

LNMV is the natural logarithm of the tradable market value of the firm as at the beginning of the year to control the impact of size.

LEV represents total liabilities divided by total assets as at the beginning of the year to control the effect of financial leverage.

MBR is the market-to-book ratio, which is equal to market value per share divided by net assets per share, to control the influeuce of growth and persistence of earnings.

BETA is estimated by the slope of the CAPM model using 100 observatious to control the impact of the firm risk.

FORLG is a (0,1) variable which is assigned a value of 1 when the firm has a foreign institutional investor.

Furthermore, we use *YEAR* and *IND* as controls in the regression model. *YEAR* is a dummy variable to control for the effects of calendar years; we add *Y2001* and *Y2002* in our model. *IND* is also a dummy variable controlling for the effects of different industries, which are classified according to the Guidelines on the Industry Classification of Listed Companies issued by the CSRC.

3.2.2 Models for Auditor Choice and Audit Fees

In order to investigate the impact of the arrangement of corporate control rights on auditor choice and audit fees, we construct the following two regression models in consistency with Simunic (1980), Wang (2002), and Li and Wu (2004):

Model for auditor choice: Logistic Regression Model

$$
\begin{aligned}
BIG8 = {} & \alpha_1 + \alpha_2 ID\_OWNER + \alpha_3 TOP1CEN + \alpha_4 TOP1\_SQ + \alpha_5 TOP1\_CB \\
& + \alpha_6 HERF2\_5 + \alpha_7 MNGSH + \alpha_8 FORLG + \alpha_9 LNASSET \\
& + \alpha_{10} SUB\_SQT + \alpha_{11} MROA + \alpha_{12} INVREC + \alpha_{13} LEV + \alpha_{14} PRELOSS \\
& + \alpha_{15} PROV + \alpha_{16} IPO + \alpha_{17} ISSU\_NX + \alpha_{18} FIXED + \mu_i
\end{aligned} \tag{2}
$$

Model for audit fees: OLS Regression Model

$$
\begin{aligned}
LNFEE = {} & \alpha_1 + \alpha_2 ID\_OWNER + \alpha_3 TOP1CEN + \alpha_4 TOP1\_SQ \\
& + \alpha_5 TOP1\_CB + \alpha_6 HERF2\_5 + \alpha_7 MNGSH + \alpha_8 FORLG \\
& + \alpha_9 LNASSET + \alpha_{10} MROA + \alpha_{11} INVREC + \alpha_{12} LEV \\
& + \alpha_{13} SUB\_SQT + \alpha_{14} PROV + \alpha_{15} IPO + \alpha_{16} ISSU\_NX \\
& + \alpha_{17} ISSU\_PR + \alpha_{18} BIG8 + \alpha_{19} OPIN + \alpha_{20} LOSS + \alpha_{21} FIXED + \mu_i,
\end{aligned} \tag{3}
$$

where α_1 is the intercept, $\alpha_2 \sim \alpha_{21}$ are coefficients, and ε is the residual. The definitions of the variables in the model are given below.

3.2.2.1 Dependent Variables

BIG8 is a (0,1) variable that is assigned a value of 1 when a firm hires a Big Eight auditor. In the latter OLS regression model, *LNFEE* is the natural logarithm of total audit fees.

3.2.2.2 Experimental Variables

The arrangement of corporate control rights is described in terms of the nature of and the proportion of shares held by the largest shareholder. *ID_OWNER* is an aggregate variable representing the nature of the largest shareholder, which can be replaced with the variables *ID_STA*, *ID_GI* and *ID_S* in the regression tests.

ID_STA takes the value of 1 when the largest shareholder is a state-owned enterprise, and 0 otherwise; *ID_GI* takes the value of 1 when the largest shareholder is a non-profit state-owned enterprise, and 0 otherwise; *ID_S* takes the value of 1 when the largest shareholder is for-profit and state-owned, and 0 otherwise. We add the above variables into the regression model respectively and expect the coefficients to be negative.

TOP1CEN, TOP1_SQ, and *TOP1_CB* refer to the proportion of shares held by the largest shareholder adjusted by the mean valne of the sample, its square, and its cube, respectively. In order to mitigate the multi-linear problem in the OLS regres-

sion model, we centralise the variables of *TOP1*. Prior studies have not reached a consensus on the interval effect of ownership concentration on corporate governance. There exist two representative conclusions, one of which is the N-shaped relationship between ownership concentration and the performance of a firm as documented by Morck *et al.* (1988), and Xu and Wong (2006); the other one is the U-shaped relationship between ownership concentration and the corporate value (Tobin's Q) as documented by Bai *et al.* (2005), and Xia and Fang (2005). Therefore, we use the square or cube of the proportion of shares held by the largest shareholder (*TOP1_SQ* and *TOP1_CB*) to test the interval effect of ownership concentration. If the coefficieut of *TOP1_CB* is positive, the curve will have two inflections and show an N shape. If the coefficient of *TOP1_SQ* is positive, it indicates that there is a U-shaped relationship between ownership concentration and the demand for audit services.

3.2.2.3 Control Variables

HERF2_5 refers to the natural logarithm of the snm of squares of proportions of shares held by the second to the fifth largest shareholders, which isolates the impact of ownership check and balance on the demand for audit service's. It is expected that the sign of α_6 is positive because the minority owners have more incentives and abilities to employ a qnality auditor to monitor the opportunistic behaviours of the controlling shareholder and managers, and thus more audit fees will be paid.

MNGSH takes the value of 1 if there is management ownership of shares, and 0 otherwise. Francis and Wilson (1988) and DeFond (1992) find that management ownership measured by shares held by management is negatively correlated with the demand for audit services, consistent with the hypothesis of agency theory that management ownership can alleviate the agency cost between the shareholders and managers and lower the monitoring role of auditors (Jenson and Merkling, 1976; DeFond, 1992). Unlike in developed countries, the managerial labour market in China is immature, and firms are often controlled by managers, who have the power to choose the auditor and determine audit fees. Therefore, managers are inclined to avoid quality auditors, who are more likely to find and report the opportunistic behaviours of managers in preparing the financial statements. It is expected that a firm with management ownership is less likely to employ a quality auditor and will pay smaller audit fees.

FORLG takes the value of 1 when a foreign institutional investor holds the shares of the firm, and 0 otherwise. In view of the higher degree of information asymmetry between the foreign institutional shareholders and managers, the foreign institutional shareholders have more incentives to employ a quality auditor and to pay more audit fees to monitor the managers. Therefore, it is expected that the sign of α_8 in both models is positive.

LNASSET is the natural logarithm of total assets as at the end of the year; *SUB_SQT* is the square root of the number of subsidiaries that are included in the consolidated financial statement of the auditee; *MROA* is the net income from major operations divided by total assets as at the end of the year; and *INVREC* is the sum

of inventory and receivables divided by total assets as at the end of the year. Consistent with DeFond (1992), Chaney *et al.* (2004), Simunic (1980), Wang (2002), and Li and Wu (2004), we use these variables to isolate the impact of firm size, business complexity, earnings power, and inherent risks on auditor choice and audit fees.[7]

LEV represents total liabilities divided by total assets as at the end of the year, which measures the degree of agency conflicts between the creditors and the managers, and means the impact of the financial leverage of the firm on audit demand in both models. Chaney *et al.* (2004) and DeFond (1992) document that the financial leverage of a firm is positively correlated with the demand for audit services, which shows that the creditors and management have more incentives to hire a quality auditor in order to mitigate the agency costs of financial leverage. However, the bond market in China is underdeveloped, and the creditors of a firm are mainly banks. Owing to the soft budget constraints of SOEs, creditors have difficulty in influencing the decisions of managers. Therefore, the managers are unwilling to hire a quality auditor, who would be more likely to disclose adverse information about the debts of the firm. It is expected that the financial leverage of a firm will be negatively correlated with the decision of the firm to select a quality auditor. Besides, Simunic (1980) argues that a higher financial leverage means higher audit risks, and therefore more fees charged by the auditor. We expect the sign of the coefficient of *LEV* in the model for audit fees to be positive.[8]

PRELOSS/LOSS takes the value of 1 if the firm incurs a net loss in the previous/current year, respectively, and 0 otherwise. We expect that the firms incurring losses are unwilling to hire quality auditors, who are likely to find and report their earnings management behaviours and to charge more fees. Simunic (1980) documents that the firm incurring a loss has higher audit risks, so the auditor tends to charge more audit fees. Therefore, we expect that the firm incurring a loss will be positively correlated with its audit fees.

OPIN is a (0,1) variable that is assigned a value of 1 if an auditee receives a qualified opinion in the current year. A qualified opiniou is given when there exist significant risks in the financial statements of the auditee that the auditor needs to make a greater effort to verify the justifiability of the audit opinion; meanwhile, the auditor tends to charge higher fees to cover the audit risks (Simunic, 1980; Han and Zhou, 2003). Therefore, it is expected that a firm receiving a qualified opinion will have to pay more fees.

PROV is a (0,1) variable that is assigned a value of 1 if au auditee is domiciled in the developed districts, such as Beijing, Shanghai, Shenzhen, and Guangdong

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[7]   Simunic (1980) and Wang (2002) use two indicators, the year-end inventory divided by total assets and the year-end receivables divided by total assets, to measure the inherent risks of a firm. We merge the two indicators into one because both are insignificantly associated with auditor choice and audit fees in both models. Moreover, the indicators can easily be manipulated by managers in view of their strong incentives to manage earnings. The merging of the two indicators can describe the aggregate inherent risks of a firm.

[8]   Apart from *LEV*, we test the ratio of long debts to total assets and to quick ratio. Both are insignificantly correlated with the decision of a firm to select a Big Eight auditor and with audit fees. The major conclusions still hold.

province. It is expected that the auditees in these districts are more likely to select a Big Eight auditor and to pay higher fees, because the Big Eight auditors are located in these districts, which have higher living standards, meaning that higher costs for employee compensation in these districts lead to higher audit fees (Liu *et al.*, 2004; Li and Wu, 2004).

We use a (0,1) variable *BIG8*, which is assigned a value of 1 if an auditee hires a Big Eight auditor, to isolate the influence of the type of auditor on audit fees. It is expected that a Big Eight auditor will charge higher audit fees because a Big Eight auditor of higher quality will make a greater effort to find out if there are any material errors in the financial statements of the auditee, and the auditee is willing to pay higher fees in view of the reputation of a quality auditor, which can enhance the market value of the firm.

To measure the influence of securities issuance on the demand for audit services, we use three (0,1) variables, *IPO*, *ISSU_NX*, and *ISSU_PRE*, which are assigned a value of 1 if a firm launches an initial public offering in the current year, a seasoned equity offering in the following year, and a seasoned equity offering during the second half of the current year, respectively, and 0 otherwise. It is expected that a firm launching an initial public offering in the current year and a seasoned equity offering in the following year will have a greater incentive to employ a quality auditor, who can provide more information to send a signal to investors. However, a firm launching a seasoned equity offering during the second half of the current year is required by law to have an interim audit conducted by an external auditor, which will ease the workload of the year-end audit and make the auditor lower his charges.

Finally, consistent with Model (1), we include *FIXED* as a control for year and industry factors that affect the relation between ownership and audit demand. For simplicity, we have not reported their impact on our results.

3.2.3 Data Description

According to Li (2001) and Li (2002), the largest shareholders of listed firms can be divided into four types: (1) government departments, such as bureaus for state-owned assets administration and the Ministry of Finance, whose expenditure is incorporated into the national budget; (2) non-profit investment institutions authorised by the government, including state-owned assets management corporations, investment management corporations, and holding companies, which are empowered by the state to run state-owned assets; (3) state-owned enterprises or conglomerates, including factories and state-owned or state-controlled limited companies directly engaging in production and operating activities; and (4) private enterprises, including collectively owned enterprises, Chinese-foreign joint ventures, solely foreign-owned companies, and private firms. To simplify the analysis, we merge the first and second types into one, which is entitled non-profit state-owned enterprises. Our sample covers 397 non-profit SOEs (12.9%), 1859 for-profit SOEs (60.4%), and 823 private enterprises (26.7%).

Table 2 Descriptive Statistics of Main Variables by the Nature of the Largest Shareholder

	ID_GI = 1 (N = 397)		ID_S = 1 (N = 1859)		ID_N = 1 (N = 823)		Total (N = 3079)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
BIG8	0.061	0	0.140	0	0.136	0	0.129	0
LNFEE[a]	12.741	12.766	12.871	12.887	12.850	12.848	12.849	12.848
TOP1(%)	39.805	38.230	49.203	51	33.314	29.360	43.582	42.810
TOP3(%)	52.264	53.725	58.932	60.860	50.792	52.110	55.820	57.330
TOP2RA	0.305	0.164	0.206	0.0733	0.447	0.4596	0.286	0.1515
SHDIF(%)	30.705	28.155	42.253	45.580	21.266	13.970	34.936	33.830
CTRL	0.285	0	0.522	1	0.157	0	0.390	0
HERF2_5	3.579	4.009	2.676	3.026	4.597	5.194	3.326	4.028
ASSET	155.760	106.044	193.586	139.173	139.781	101.838	173.798	122.425
LEV	0.525	0.501	0.449	0.436	0.506	0.484	0.474	0.453
MROA	-0.006	0.020	0.024	0.027	0.006	0.026	0.015	0.026
SUB	5.860	4	5.031	3	7.549	5	5.839	4
INVREC	0.209	0.1875	0.232	0.208	0.233	0.214	0.229	0.208
FORLG	0.010	0	0.042	0	0.073	0	0.047	0
MNGSH	0.088	0	0.067	0	0.089	0	0.076	0
CAR[b]	-0.048	-0.058	-0.038	-0.053	-0.051	-0.074	-0.043	-0.061
UE[b]	-0.001	0.000	-0.001	0.000	0.001	0.000	0.000	0.000
LNMV[a]	20.598	20.503	20.758	20.706	20.664	20.610	20.713	20.662
MBR[b]	3.866	2.998	3.385	2.858	4.538	3.448	3.771	2.996
BETA[b]	1.076	1.080	1.046	1.061	1.007	1.026	1.041	1.057

Notes: *BIG8* takes the value of 1 when the auditor is a Big Eight accounting firm, and 0 otherwise; *LNFEE*: the natural logarithm of total audit fees; *TOP1*: the proportion of shares held by the largest shareholder; *TOP3*: the sum of the proportions of shares held by the three largest shareholders; *TOP2RA*: the ratio of the proportion of shares held by the second largest shareholder to that held by the largest shareholder; *SHDIF*: the difference between the proportion of shares held by the largest shareholder and that held by the second largest shareholder; *CTRL*: dummy variable, which takes the value of 1 if the largest shareholder holds a stake of more than 50 per cent, and 0 otherwise; *HERF2_5*: the natural logarithm of the sum of squares of the proportions of shares held by the second to the fifth largest shareholders; *ASSET*: the total assets of the firm as at the end of the year in RMB 10 million; *LEV*: total liabilities divided by total assets as at the end of the year; *MROA*: major operating earnings divided by assets as at the end of the year; *SUB*: the number of subsidiaries; *INVREC*: the sum of inventory and receivables divided by total assets as at the end of the year; *FORLG* takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; *MNGSH* takes the value of 1 if there exists management ownership, and 0 otherwise; *CAR*: the cumulative net-of-market stock returns for 12 months from the beginning of May in the current year to the end of April in the following year; *UE*: the difference between actual earnings and expected earnings divided by the market value of equity as at the beginning of May; *LNMV*: the natural logarithm of the tradable market value of the firm as at the beginning of the year; *MBR*: the market-to-book ratio; *BETA* is estimated by the slope of the CAPM model using 100 observations to measure firm risks.

[a] Observations of *LNFEE* are broken down into 359, 1708, 761, and 2828 based on the nature of the largest shareholder.

[b] Observations of *CAR*, *BETA*, *UE*, *LNMV*, and *MBR* are broken down into 258, 1213, 546, and 2061 based on the nature of the largest shareholder.

Table 2 presents the descriptive statistics of the main variables broken down by the nature of the largest shareholder. For auditor choice, the market share of Big Eight auditors accounts for 12.9 per cent, but drops to only 6.1 per cent for the sub-sample of non-profit SOEs, which is below half the average market share. For audit fees, although the non-profit SOEs are of a larger size than private enterprises, the audit fees paid by the non-profit SOEs are lower than those paid by private listed firms.

The for-profit SOEs have the highest ownership concentration, followed by the non-profit SOEs, and the private enterprises have the lowest. Even in private enterprises, the largest shareholder has a 33.3 per cent stake on average, and the ratio of shares held by the second largest shareholder to those held by the largest shareholder is 44.7 per cent on average. This shows the very high concentration and low ownership check and balance in Chinese listed firms. In addition, the size of for-profit SOEs is the biggest, and the financial leverage of for-profit SOEs is the lowest; whereas, the size of private enterprises is the smallest, and the financial leverage of private enterprises is relatively higher.

IV. EMPIRICAL RESULTS AND INTERPRETATIONS

4.1 Who Are the High-Quality Auditors?

Table 3 presents the estimation of ERC for auditors. As shown in Table 3, the coefficients of *UE* are positive and statistically significant at the 1 per cent level, which provides a basis for calculating the ERC for different auditors. Columns (1) and (2) show that the ERCs for Big Eight auditors are significantly higher than those for others. Furthermore, we divide the Big Eight auditors into international Big Four and domestic Big Three auditors.[9] The results show that (i) in Column (3), the ERCs of the international Big Four and the domestic Big Three auditors are positive and statistically significant at the 1 per cent and 10 per cent levels, respectively; (ii) in Column (4), the ERCs of the international Big Four auditors are still positive and significant, while the ERCs for the domestic Big Four auditors are no longer significant. Our analysis extends the research of Gul *et al.* (2003) and Zhang (2005). Using the sample of companies listed in the Shanghai stock market from 1996 to 1997, Gul *et al.* (2003) find that the Big Ten auditors have higher ERCs than the others. Based on the sample of listed companies from 2001 to 2003, Zhang (2005) finds that the response coefficients between the market values of the clients of international Big Four auditors and the earnings indicators of these clients are higher, but he does not find any higher perceived audit quality among the domestic Big Ten auditors. We further sub-divide the domestic Big Ten auditors, and

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[9]   In Column (1), the VIF values of all variables are less than 2.5, suggesting that there is little multi-linear problem in the regression. In Column (2), we use the interaction terms of *UE* between *MBR*, *LEV*, and *BETA*, respectively, to control the impact of firm growth, leverage, and risks on the ERCs of auditors. Although there is a certain multi-linear problem, the coefficient of *BIG8*UE* is significantly positive.

Table 3 ERC Estimates of Auditors

Independent Variables	Dependent Variable: Cumulative Abnormal Return (CAR)							
	(1)		(2)		(3)		(4)	
	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value
UE	1.922***	10.749	4.875***	4.170	5.015***	4.263	5.031***	4.274
UE*BIG8	2.740***	3.755	2.818***	3.631				
BIG8	0.029***	2.893	0.024**	2.234				
UE*INT4					3.947***	3.527	3.958***	3.535
INT4					0.041***	2.603	0.041**	2.549
UE*DBIG3					1.807*	1.732		
DBIG3					0.012	0.871		
UE*DBIG4							1.507	1.628
DBIG4							0.004	0.389
UE*FORLG	1.083	1.141	0.996	0.985	0.965	0.955	0.979	0.968
FORLG	-0.040**	-2.416	-0.066***	-3.417	-0.068***	-3.516	-0.068***	-3.501
LEV	0.018	0.831	-0.002	-0.079	-0.001	-0.036	-0.001	-0.052
MBR	0.005***	2.953	0.005***	3.055	0.005***	3.070	0.005***	3.063
LNMV	0.035***	5.294	0.041***	5.654	0.040***	5.592	0.041***	5.696
BETA			0.030*	1.903	0.030*	1.910	0.031*	1.945
UE*MBR			-0.010	-0.144	-0.007	-0.097	-0.006	-0.089
UE*BETA			-1.736**	-2.143	-1.844**	-2.260	-1.862**	-2.284
UE*LEV			-1.839*	-1.670	-1.895*	-1.721	-1.896*	-1.720

Table 3 *Continued*

	Dependent Variable: Cumulative Abnormal Return (CAR)							
	(1)		(2)		(3)		(4)	
Independent Variables	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value
IND	control		control		control		control	
Y2001	-0.014	-1.441	-0.011	-1.076	-0.011	-1.042	-0.011	-1.040
Y2002	-0.075***	-9.058	-0.071***	-7.700	-0.071***	-7.691	-0.071***	-7.700
(Constant)	-0.763***	-5.602	-0.910***	-5.883	-0.902***	-5.832	-0.914***	-5.939
ad_R²	0.137		0.144		0.145		0.144	
F	14.698		11.484		10.962		10.931	
sig	0.000		0.000		0.000		0.000	
N	2503		2061		2061		2061	

Notes: ***, **, and * represent significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively (two-tailed test). N is the number of observations.

CAR: the cumulative net-of-market stock returns for 12 months from the beginning of May in the current year to the end of April in the following year; *UE*: the year-on-year difference in actual earnings divided by the market value of equity as at the beginning of May; *BIG8* takes the value of 1 when a firm hires a Big Eight auditor, and 0 otherwise; *INT4* takes the value of 1 when a firm hires an international Big Four auditor, and 0 otherwise; *DBIG3* takes the value of 1 when a firm hires a domestic Big Three auditor, and 0 otherwise; *DBIG4* takes the value of 1 when a firm hires a domestic Big Four auditor, and 0 otherwise; *FORLG* takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; *LEV*: total liabilities divided by total assets as at the beginning of the year; *MBR*: the market-to-book ratio; *LNMV*: the natural logarithm of the tradable market value of the firm as at the beginning of the year; *BETA* is estimated by the slope of the CAPM model using 100 observations to measure firm risks; *Y2001, Y2002,* and *IND* are dummy variables as controls representing the year and industry; *Constant*: intercept.

find that the international Big Fonr auditors and the domestic Big Three auditors have higher ERCs.

In respect of the control variables, the coefficients of *LNMV*, *MBR*, and *BETA* are significant with a positive sign, but the ERC and the coefficient of corporate leverage (*LEV*) for the company having a foreign institutional shareholder are both insignificantly positive, consistent with the evidence of prior research (Toeh and Wong, 1993; Fan and Wong, 2002).

4.2 Arrangement of Corporate Control Rights and Auditor Choice
4.2.1 Characteristics of Big Eight Clients
Are there any systematic differences between the characteristics of Big Eight clients and those of non-Big Eight clients? Table 4 lists the results of the parametric and non-parametric tests on the client characteristics.

The results listed in Table 4 show that there are significant differences between the two kinds of clients. According to the one-way analysis, the clients of the Big Eight auditors have the following characteristics when compared with the clients of the non-Big Eight anditors: a significantly higher proportion of shares held by the largest shareholder, less controlled by non-profit state-owned enterprises, higher audit fees, larger in size, greater earnings power as measured by the core return on assets, more subsidiaries, lower leverage ratio, lower percentage of inventory and receivables in total assets, lower percentage of loss for the previous year, and lower percentage of loss for the current year.

4.2.2 Multivariate Analysis of Logistic Regression
We report the logistic regression results of auditor choice in Table 5. With regard to the nature of the controlling shareholder, Column (1) shows that the coefficient of state-owned enterprise (*ID_STA*) is negative and statistically significant at the 5 per cent level. But when we further divide the state-owned enterprises into non-profit and for-profit state-owned enterprises, we find that the coefficient of non-profit state-owned enterprise is still negative and statistically significant at the 1 per cent level, while the coefficient of for-profit state-owned enterprise is negative and insignificant. The results are consistent with our prediction in H1-1, which hypothesises that state-owned enterprises, especially non-profit state-owned enterprises, will be less likely to select high-quality auditors. For ownership concentration, the coefficient of *TOP1C_SQ* is not statistically significant iu Column (1), but the coefficient of *TOP1C_CB* is positive and statistically significant, consistent with the prediction in H2-1, which hypothesises that the relation between ownership concentration and the incentives for the firm to select Big Eight auditors will show an N shape.

By examining the other variables depicting ownership structure, we find that the coefficients of *FORLG* and *MNGSH* are positive and negative, respectively, and both are statistically significant, which is consistent with our prediction. The coefficient of *HERF2_5* is positive and not statistically significant. This indicates that although the other shareholders have incentives to hire a high-quality auditor to

Table 4 Characteristics of Big Eight Clients versus Non-Big Eight Clients

	$BIG8 = 0$	$BIG8 = 1$	T test	$BIG8 = 0$	$BIG8 = 1$	Mann-Whitney test
	$N = 2683$	$N = 396$		$N = 2683$	$N = 396$	
	Mean	Mean	T Value	Median	Median	Z Value
ID_GI	0.135	0.061	5.425***	0	0	−4.168***
ID_S	0.587	0.649	−2.399**	1	1	−2.344**
ID_N	0.278	0.290	−0.511	0	0	−0.511
TOP1	43.020	47.386	−4.686***	41.763	45.530	−4.449***
LNFEE[a]	12.810	13.113	−11.944***	12.766	13.122	−11.791***
CAR[b]	−0.046	−0.032	−1.314	−0.062	−0.056	−1.287
UE[b]	0.000	0.000	−0.070	0.000	0.000	−0.792
LNMV[b]	20.679	20.885	−5.983***	20.629	20.883	−6.478***
MBR[b]	3.812	3.568	2.022**	2.986	3.019	−0.292
BETA[b]	1.039	1.051	−0.796	1.058	1.056	−0.504
LNASSET	20.913	21.341	−10.440***	20.871	21.276	−9.747***
LEV	0.478	0.452	1.653*	0.455	0.434	−2.472**
MROA	0.014	0.024	−1.840*	0.026	0.030	−2.793***
SUB_SQT	1.953	2.482	−6.507***	2	2.449	−6.661***
FORLG	0.040	0.096	−3.692***	0	0	−4.966***
MNGSH	0.082	0.038	3.990***	0	0	−3.066***
INVREC	0.230	0.224	0.672	0.208	0.1925	−2.059**
PRELOSS	0.112	0.048	5.166***	0	0	−3.890***
LOSS	0.131	0.066	4.635***	0	0	−3.692***
PROV	0.175	0.601	−16.579***	0	1	−18.821***

Notes: ***, **, and * represent significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively (two-tailed test). N is the number of observations.

BIG8 takes the value of 1 when a firm hires a Big Eight auditor, and 0 otherwise; *ID_GI* takes the value of 1 when the largest shareholder is a non-profit state-owned enterprise, and 0 otherwise; *ID_S* takes the value of 1 when the largest shareholder is a for-profit state-owned enterprise, and 0 otherwise; *ID_N* takes the value of 1 when the largest shareholder is a private enterprise, and 0 otherwise; *TOP1*: the proportion of shares held by the largest shareholder; *LNFEE*: the natural logarithm of total audit fees; *CAR*: the cumulative net-of-market stock returns for 12 months from the beginning of May in the current year to the end of April in the following year; *UE*: the year-on-year difference in actual earnings divided by the market value of equity at the beginning of May; *LNMV*: the natural logarithm of the tradable market value of the firm as at the beginning of the year; *MBR*: the market-to-book ratio; *BETA* is estimated by the slope of the CAPM model using 100 observations to measure firm risks; *LNASSET*: the natural logarithm of total assets as at the end of the year; *LEV*: total liabilities divided by total assets as at the end of the year; *MROA*: major operating earnings divided by assets as at the end of the year; *SUB_SQT*: the square root of the number of subsidiaries; *FORLG* takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; *MNGSH* takes the value of 1 if there is management ownership, and 0 otherwise; *INVREC*: the sum of inventory and receivables divided by total assets as at the end of the year; *PRELOSS/LOSS* takes the value of 1 if the firm incurs a net loss in the previous or in the current year, respectively, and 0 otherwise; *PROV* takes the value of 1 if an auditee is domiciled in the developed districts, such as Beijing, Shanghai, Shenzhen, and Guangdong province, and 0 otherwise.

[a] Observations of *LNFEE* are broken down into 360 and 2469 based on the type of auditor.
[b] Observations of *CAR*, *BETA*, *UE*, *LNMV*, and *MBR* are broken down into 346 and 1715 based on the type of auditor.

Table 5 Results of the Logistic Regression of Auditor Choice for the Big Eight Auditors

	Expected sign	(1)		(2)	
		Coefficient	Wald Value	Coefficient	Wald Value
ID_STA	−	−0.316**	4.050		
ID_GI	−			−0.959***	12.910
ID_S	−			−0.211	1.741
TOP1CEN	?	0.020***	14.544	0.002	0.072
TOP1C_SQ	?	0	1.192	0	0.014
TOP1C_CB	?			0***	7.029
FORLG	+	0.521**	4.615	0.464*	3.614
MNGSH	−	−1.084***	12.992	−1.038***	11.809
HERF2_5	+	0.046	2.071	0.030	0.835
LNASSET	+	0.620***	42.497	0.580***	36.649
LEV	−	−0.515	1.751	−0.450	1.298
MROA	+	−1.259	2.163	−1.374	2.392
INVREC	?	0.051	0.011	−0.034	0.005
SUB_SQT	+	0.048	0.915	0.066	1.678
PRELOSS	−	−0.570**	4.047	−0.610**	4.594
PROV	+	1.725***	175.470	1.716***	173.058
IPO	+	0.211	0.647	0.234	0.788
ISSU_NX	+	−0.215	0.172	−0.285	0.304
FIXED		control		control	
Constant		−15.731***	64.778	−14.826***	56.628
Nagelkerke R^2		0.272		0.281	
Chi–square		484.987		502.962	
sig		0.000		0.000	
N		3079		3079	

Notes: ***, **, and * represent significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively (two-tailed test). N is the number of observations.

Dependent variables: BIG8, a dummy variable, which takes the value of 1 when a firm hires a Big Eight auditor, and 0 otherwise; ID_STA takes the value of 1 when the largest shareholder is a state-owned enterprise, and 0 otherwise; ID_GI takes the value of 1 when the largest shareholder is a non-profit state-owned enterprise, and 0 otherwise; ID_S takes the value of 1 when the largest shareholder is a for-profit state-owned enterprise, and 0 otherwise; TOP1CEN, TOP1_SQ, and TOP1_CB are the proportion of shares held by the largest shareholder adjusted by the mean value of the sample, its square, and its cube, respectively; FORLG takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; MNGSH takes the value of 1 if there is management ownership, and 0 otherwise; HERF2_5: the natural logarithm of the sum of squares of the shares held by the second to the fifth largest shareholders; LNASSET: the natural logarithm of total assets as at the end of the year; LEV: total liabilities divided by total assets as at the end of the year; MROA: major operating earnings divided by assets as at the end of the year; INVREC: the sum of inventory and receivables divided by total assets as at the end of the year; SUB_SQT: the square root of the number of subsidiaries; PRELOSS takes the value of 1 if the firm incurs a net loss in the previous year, and 0 otherwise; PROV takes the value of 1 if an auditee is domiciled in the developed districts, such as Beijing, Shanghai, Shenzhen, and Guangdong province, and 0 otherwise; IPO and ISSU_NX take the value of 1 if a firm conducts an initial public offering in the current year and a seasoned equity offering in the following year, respectively, and 0 otherwise; FIXED: a control for the year and industry factors; Constant: intercept.

monitor the controlling shareholder, they have no significant influence on audit choice.

The test results of variables for securities issuance of listed companies suggest that the coefficients of *ISSU_NX* and *IPO* are not statistically significant. This is inconsistent with the prediction; a possible reason for this is that the listed company selects an auditor for sending a signal to the regulators rather than to the investors. The listed companies issuing securities during the current or following year may select the auditors licensed by the government or the Big Eight auditors, thus weakening the information role of the Big Eight auditors. Therefore, it is difficult to find any significant correlation between securities issuance and the choice of Big Eight auditors.

The test results of other variables are roughly consistent with those explained in prior literature. By examining the complexity of auditees, we find that the size of the client is significantly and positively correlated with the choice of Big Eight auditors, while the number of subsidiaries is positively correlated with the choice of Big Eight auditors but insignificantly. The test results of financial risk show that the coefficient of *PRELOSS* is significantly negative, which means the company incurring a loss in the previous year has less incentive to choose a high-quality auditor. But we also find that the coefficients of financial leverage, percentage of inventory and receivables in total assets, and core return on total assets are not significant.

4.2.3 Further Analysis for Ownership Concentration

Figure 1 shows the one-way analysis and plots of the association between the proportion of shares held by the largest shareholder and the proportion of companies selecting Big Eight auditors. According to Figure 1, when the proportion of shares held by the largest shareholder is less than 40 per cent or more than 65 per cent, the curve moves up. When the proportion of shares held by the largest shareholder is between 40 per cent and 65 per cent, the proportion of the companies selecting Big Eight auditors drops and reaches a trough at the shareholding level of 65 per cent. As a result, we suggest that there is an N-shaped relationship between the propor-

Figure 1 Relationship between the proportion of shares held by the largest shareholder and the selection of a Big Eight auditor
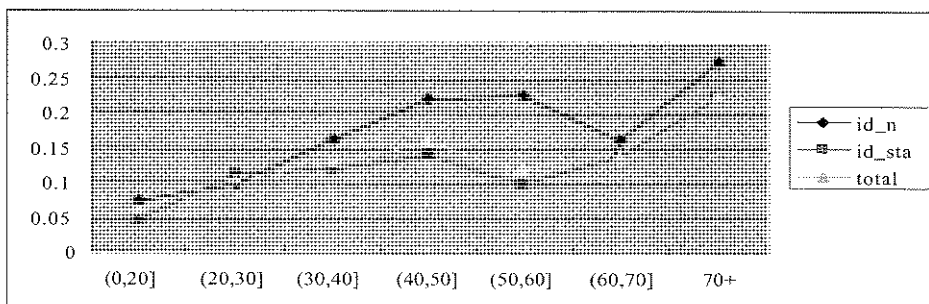
tion of shares held by the largest shareholder and the demand for high-quality audit services. Meanwhile, the non-state-owned companies are more likely to select Big Eight auditors than the state-owned companies. The slope of the curve for non-state-owned companies is larger than that for state-owned companies. One possible reason for this is that the agency problems in state-owned companies weaken their incentives to monitor the management and expropriate other investors.

Our results are slightly different from those of Zeng and Ye (2005), who find that the two inflections of the N-shaped relationship between the proportion of shares held by the largest shareholder and the proportion of companies selecting international Big Four auditors are at 45 per cent and 80 per cent respectively. We think that the difference is due to the sample selection and the test model. First, the sample of Zeng and Ye (2005) includes mega-cap companies and the firms issuing tradable stocks in foreign markets during the period 2001 to 2002, while ours exclude these companies. Second, the test model of Zeng and Ye (2005) does not consider the effect of securities issuance and the business complexity of the auditee, while in our model we control for these variables.

Furthermore, we divide the sample into the following three sub-samples based on the proportion of shares held by the largest shareholder: (1) 0 to 40 per cent; (2) 40 to 65 per cent; (3) above 65 per cent. The results of the logistic regression show the interval effect between ownership concentration and the decision to select a Big Eight auditor. In particular, when the proportion of shares held by the largest shareholder is less than 40 per cent or more than 65 per cent, the coefficient of *TOP1CEN* is positive and statistically significant at the 1 per cent level, which indicates that the companies with high or dispersed ownership concentration are more likely to select Big Eight auditors. When the proportion of shares held by the largest shareholder is between 45 per cent and 65 per cent, the coefficient of *TOP1CEN* is negative and statistically significant at the 10 per cent level.

Why does the relationship between ownership concentration and the demand for high-quality auditors show an N shape? We suppose that in the company with dispersed ownership concentration, the agency problem results from conflicts between the shareholders and the management (Jensen and Meckling, 1976). The largest shareholder shares the right of selecting an auditor with managers. As the proportion of shareholding increases, the largest shareholder has more ability and incentive to hire a high-quality auditor to monitor the management. Thus, the relationship between ownership concentration and the demand for high-quality auditors is positive. When the proportion of shareholding reaches the intermediate interval, the largest shareholder can still control the company, but the agency problem changes from conflicts between shareholders and management to conflicts between the large shareholders and the minority owners. In the absence of checks and balances from other shareholders, the marginal "entrenchment effect" resulting from the increase in shares held by the large shareholders is greater than the marginal "incentive effect", meaning that the benefit from avoiding high-quality auditors is larger than the incremental benefit from hiring a high-quality auditor to monitor the management. Therefore, the relationship between ownership concen-

tration and the demand for high-quality auditors is negative. When the largest shareholder has absolnte or excess control over the company, the benefit from expropriation is less than the cost of expropriation. The largest shareholder is more likely to select a high-quality auditor to send a signal to increase the market value of the company; the relationship between ownership concentration and the demand for high-quality auditors is thus positive.

In conclnsion, consistent with the predictions in H1-1 and H2-1, our results indicate that a state-owned company, especially a non-profit state-owned company, is more likely to select a Big Eight anditor, and the relationship between the proportion of shares held by the largest shareholder and audit fees shows the interval effect.

4.3 Arrangement of Corporate Control Rights and Audit Fees
4.3.1 Multivariate Analysis

We report the multivariate regression results of audit fees in Table 6. With regard to the nature of the controlling shareholder, Column (1) shows that the coefficient of state-owned enterprise (ID_STA) is negative and statistically significant at the 5 per cent level. In Column (2), we find that the coefficient of state-owned enterprise is negative but insignificant, and the coefficient of non-state-owned company is significantly negative at the 1 per cent level. The results are consistent with our prediction in H1-2, which hypothesises that the controlling shareholders of state-owned enterprises will pay smaller audit fees.

As for ownership concentration, Column (1) in Table 6 shows that the coefficient of $TOP1CEN$ is not statistically significant, but the coefficient of $TOP1C\_SQ$ is positive and statistically significant. In Column (2), the coefficient of TOP_CB is not significant. The resnlts are consistent with the prediction in H2-2, which hypothesises that there will be a U-shaped relationship between ownership concentration and audit fees.

By examining the other variables depicting ownership structure, we find tbat the coefficients of $HERF2\_5$ and $FORLG$ are positive but insignificant, meaning that foreign institutional shareholders and the checks and balances from other shareholders do not play a key role in deciding audit fees. The coefficient of $MNGSH$ is negative and significant, which is due to "insider control" (Qian, 1995). Management of the listed companies usually plays a critical role in the decision making for external auditing, especially in determining audit fees. Since the corporate governance system, including the managerial labour and corporate control market, is inefficient, the self-serving managers will have little demand for external auditing when they hold the shares of the company. They are therefore less likely to hire a Big Eight auditor and will pay lower audit fees.

The test results of the control variables are roughly consistent with onr predictions. Audit fees are positively correlated with client size ($LNASSET$), the number of subsidiaries (SUB_SQT), leverage ratio (LEV), whether the client receives a qualified opinion ($OPIN$), and whether the auditor belongs to the Big Eight ($BIG8$); whereas, audit fees are not significantly correlated with the following

Table 6 Results of OLS Regression for Audit Fees

	Expected sign	(1)		(2)	
		Coefficient	T Value	Coefficient	T Value
ID_STA	–	–0.034**	–2.045		
ID_GI	–			–0.100***	–4.298
ID_S	–			–0.017	–0.981
TOP1	?	0	0.311	0.001	1.078
TOP1C_SQ	?	0***	2.960	0***	3.126
TOP1C_CB				0	–1.433
FORLG	+	0.026	0.791	0.021	0.643
MNGSH	–	–0.061**	–2.449	–0.060**	–2.432
HERF2_5	+	0.005	1.451	0.006*	1.691
LNASSET	+	0.242***	24.059	0.239***	23.841
SUB_SQT	+	0.070***	11.858	0.071***	12.096
LEV	+	0.092***	3.253	0.090***	3.201
MROA		0.135*	1.656	0.128	1.576
INVREC	?	–0.082	–1.601	–0.088*	–1.728
OPIN	+	0.053**	2.214	0.055**	2.282
LOSS	+	0.020	0.820	0.023	0.940
ISSU_NX	–	–0.010	–0.170	–0.013	–0.231
ISSU_PRE	+	0.009	0.109	0.018	0.215
IPO	+	0.037	1.297	0.033	1.155
BIG8	+	0.170***	8.198	0.168***	8.049
PROV	+	0.021	1.250	0.020	1.185
FIXED		control		control	
(Constant)		7.578***	36.988	7.581***	36.415
ad_R^2		0.365		0.368	
F		41.541		40.240	
sig		0.000		0.000	
N		2828		2828	

Notes: ***, **, and * represent significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively (two-tailed test). N is the number of observations.

Dependent variables: *LNFEE*, which is the natural logarithm of total audit fees; *ID_STA* takes the value of 1 when the largest shareholder is a state-owned enterprise, and 0 otherwise; *ID_GI* takes the value of 1 when the largest shareholder is a non-profit state-owned enterprise, and 0 otherwise; *ID_S* takes the value of 1 when the largest shareholder is a for-profit state-owned enterprise, and 0 otherwise; *TOP1CEN, TOP1_SQ*, and *TOP1_CB* are the proportion of shares held by the largest shareholder adjusted according to the mean value of the sample, its square, and its cube, respectively; *FORLG* takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; *MNGSH* takes the value of 1 if there is management ownership, and 0 otherwise; *HERF2_5* refers to the natural logarithm of the sum of squares of proportions of shares held by the second to fifth largest shareholders; *LNASSET*: the natural logarithm of total assets as at the end of the year; *SUB_SQT*: the square root of the number of subsidiaries; *LEV*: total liabilities divided by total assets as at the end of the year; *MROA*: major operating earnings divided by assets as at the end of the year; *INVREC*: the sum of inventory and receivables divided by total assets; *OPIN* takes the value of 1 if an auditee receives a qualified opinion in the current year, and 0 otherwise; *LOSS* takes the value of 1 if the firm incurs a net loss in the current year, and 0 otherwise; *IPO, ISSU_NX*, and *ISSU_PRE* take the value of 1 if a firm conducts an initial public offering in the current year, a seasoned equity offering in the following year, and a seasoned equity offering during the second half of the current year, respectively, and 0 otherwise; *PROV* takes the value of 1 if an auditee is domiciled in the developed districts, such as Beijing, Shanghai, Shenzhen, and Guangdong province, and 0 otherwise; *FIXED*: control for year and industry factors; *Constant*: intercept.

control variables: the core return on assets of the client; proportion of inventory and accounts receivable in assets (*INVREC*); and whether the client is located in developed districts (*PROV*), incurs a loss in the current year (*LOSS*), issues securities in the following year (*ISSU_NX*), issues securities in the current year (*ISSU_PRE*), and launches an IPO in the current year (*IPO*).

4.3.2 Further Analysis

4.3.2.1 Relationship between the Proportion of Shares Held by the Largest Shareholder and Audit Fees

Figure 2 shows the graphical one-way analysis and plots of the association between the proportion of shares held by the largest shareholder and audit fees.

From Figure 2, we find that there is a quadratic curve relationship, which goes down initially and rises afterwards, between the proportion of shares held by the largest shareholder and audit fees. When the proportion of shares held by the largest shareholder increases, the audit fees begin to drop dramatically and reach a trough at the 40 per cent shareholding level. When the proportion of shares held by the largest shareholder exceeds 40 per cent, the curve moves up. As a result, we find that audit fees have a significant U-shaped relationship with the proportion of shares held by the largest shareholder.

To further test the effect of ownership concentration on audit fees, we divide the sample into two sub-samples at the cut-off point of 40 per cent. The results for the sub-sample with ownership concentration of less than 40 per cent show a significantly negative correlation between ownership concentration and audit fees. Meanwhile, the results for the sub-sample with ownership concentration of more than 40 per cent show a significantly positive correlation between ownership concentration and audit fees. The regression results of the two sub-samples validate our prediction iu H2-2, which hypothesises that there will be an interval effect between ownership concentration and audit fees.

4.3.2.2 Self-Selection of Audit Fees

Following Wu (2005) and Chaney *et al.* (2004), we use a two-stage regression to control for the self-selection problem of audit fees. We use the logistic model to

Figure 2 Relationship between the proportion of shares held by the largest shareholder and audit fees
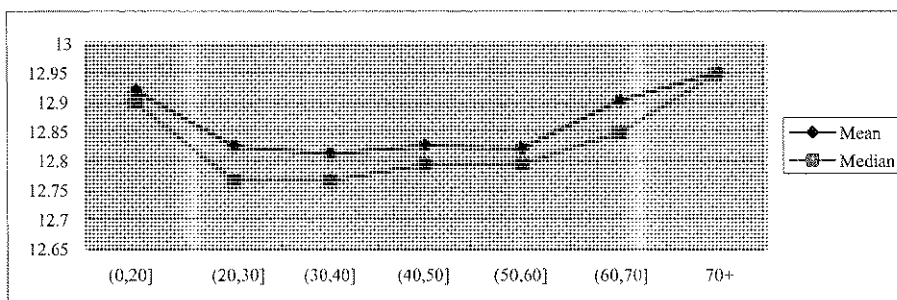
estimate the probability of clients selecting Big Eight auditors, and then we add the variable to the linear regression model of audit fees.

Table 7 lists the estimation results of audit fees after controlling for the problem of self-selection. The results of most variables shown in Table 7 are the same as those in Table 6, except that in the first column, the coefficient of *MATCH_B8* is positive and statistically significant, meaning that the companies select Big Eight auditors as expected and pay a significant premium for audit services (the preminm reaches 21.9 per cent). The coefficient of *UNDER_B8* is positive and statistically significant at the 1 per cent level, which suggests that the firms which are expected not to but do select Big Eight auditors also pay a significant premium for audit services (the premium reaches 17 per cent). For the firms who are expected to but do not select Big Eight auditors, the audit fees paid are slightly less than the average but uot significant, indicating that audit fees are not the main reason for the firm not to hire a Big Eight auditor.

In the second and the third columns, the coefficient of *IMR_B8* is not significant, which suggests that the self-selection problem has no significant effect on audit fees. In the third column, the coefficients of *ID_GI* and *ID_S* are insignificantly negative and positive, respectively. This means that the strong bargaining power of the state-owned companies in deciding on audit fees is limited by the high-quality auditor.[10]

Table 7 Regression Results of Audit Fees after Controlling for the Problem of Self-Selection

	All		BIG8 = 0		BIG8 = 1	
	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value
ID_GI	−0.089***	−3.845	−0.102***	−3.555	−0.140	−1.371
ID_S	−0.004	−0.253	−0.017	−0.917	0.032	0.611
TOP1	0	−0.096	0	0.411	0.001	0.370
TOP1C_SQ	0***	3.027	0***	2.696	0**	2.167
HERF2_5	0.005	1.594	0.005	1.260	0.025**	2.246
FORLG	0.024	0.715	−0.009	−0.221	0.017	0.196
MNGSH	−0.061**	−2.452	−0.060**	−1.984	−0.091	−0.827
LNASSET	0.238***	23.342	0.250***	16.147	0.185***	3.884
SUB_SQT	0.072***	12.268	0.065***	9.670	0.108***	6.101
LEV	0.093***	3.310	0.085***	2.733	0.019	0.204
MROA	0.130	1.597	0.066	0.680	0.197	1.127
INVREC	−0.086*	−1.681	−0.093*	−1.687	−0.014	−0.103
OPIN	0.054**	2.275	0.063**	2.508	−0.051	−0.656

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[10] We appreciate the advice of the reviewer that for the sub-sample of Big Eight clients, the coefficient of *ID_GI* is insignificant because the bargaining power of non-profit SOEs is limited by the international Big Four auditors rather than by the domestic Big Three auditors. Excluding the firms audited by the international Big Four auditors, we find that the coefficient of *ID_GI* is insignificantly negative.

Table 7 *Continued*

	All		BIG8 = 0		BIG8 = 1	
	Coefficient	T Value	Coefficient	T Value	Coefficient	T Value
LOSS	0.022	0.918	0.003	0.102	0.191**	2.040
ISSU_NX	−0.013	−0.235	−0.006	−0.101	−0.093	−0.582
ISSU_PRE	0.021	0.240	−0.015	−0.162	0.277	0.924
IPO	0.037	1.302	0.041	1.331	0.035	0.425
PROV	0.020	1.130	0.032	0.675	0.103	0.815
FIXED	control		control		control	
MATCH_B8	0.198***	4.443				
UNDER _B8	0.157***	7.048				
OVER _B8	−0.049	−0.826				
IMR_B8			0.008	0.779	−0.008	−0.316
(Constant)	7.649***	36.675	7.338***	18.655	8.788***	7.498
ad_R^2	0.367		0.318		0.421	
f	39.172		29.058		7.523	
sig	0.000		· 0.000		0.000	
N	2828		2468		360	

Notes: ***, **, and * represent significance at the 1 per cent, 5 per cent, and 10 per cent levels, respectively (two-tailed test). N is the number of observations.

Dependent variables: *LNFEE*: the natural logarithm of total audit fees; *ID_STA* takes the value of 1 when the largest shareholder is a state-owned enterprise, and 0 otherwise; *ID_GI* takes the value of 1 when the largest shareholder is a non-profit state-owned enterprise, and 0 otherwise; *ID_S* takes the value of 1 when the largest shareholder is a for-profit state-owned enterprise, and 0 otherwise; *TOP1CEN*, *TOP1_SQ*, and *TOP1_CB* are the proportion of shares held by the largest shareholder adjusted by the mean value of the sample, its square, and its cube, respectively; *HERF2_5*: the natural logarithm of the sum of squares of the proportions of shares held by the second to fifth largest shareholders; *FORLG* takes the value of 1 when there is a foreign institutional shareholder, and 0 otherwise; *MNGSH* takes the value of 1 if there exists management ownership, and 0 otherwise; *LNASSET*: the natural logarithm of total assets as at the end of the year; *SUB_SQT*: the square root of the number of subsidiaries; *LEV*: total liabilities divided by total assets as at the end of the year; *MROA*: major operating earnings divided by assets as at the end of the year; *INVREC*: the sum of inventory and receivables divided by total assets as at the end of the year; *OPIN* takes the value of 1 if an auditee receives a qualified opinion in the current year, and 0 otherwise; *LOSS* takes the value of 1 if the firm incurs a net loss in the current year, and 0 otherwise; *IPO*, *ISSU_NX*, and *ISSU_PRE* take the value of 1 if the firm launches an initial public offering in the current year, a seasoned equity offering in the following year, and a seasoned equity offering during the second half of the current year, respectively, and 0 otherwise; *PROV* takes the value of 1 if an auditee is domiciled in the developed districts, such as Beijing, Shanghai, Shenzhen, and Guangdong province, and 0 otherwise; *FIXED*: control for year and industry factors; *MATCH_B8* takes the value of 1 when a firm is expected to and does hire a Big Eight auditor, and 0 otherwise; *UNDER_B8* takes the value of 1 when a firm is expected not to but does hire a Big Eight auditor, and 0 otherwise; *OVER _B8* takes the value of 1 when a firm is expected to but does not hire a Big Eight auditor, and 0 otherwise; *IMR_B8*: the inverse Mills' ratio of auditor choice for the Big Eight, to measure the impact of the self-selection for the Big Eight on audit fees; *Constant*: intercept.

In conclusion, our results support the hypotheses H1-2 and H2-2. Compared with the privately owned companies, state-owned companies, especially non-profit state-owned companies, pay smaller audit fees. The relationship between the proportion of shares held by the largest shareholder and audit fees is non-linear and shows a U shape.

4.4 SENSITIVITY TESTS

4.4.1 Substitutive Interpretation for Audit Risks

A substitutive interpretation based on audit risks may be used to explain the empirical results that state-owned companies are less likely to select Big Eight auditors. If the Big Eight auditors are not willing to provide audit services for the state-owned companies because of the higher audit risks, the auditors should charge a higher premium on the audit fees to compensate for the higher audit risks. But the results in Table 6 show that the state-owned companies pay lower audit fees, and this rejects the substitutive interpretation for audit risks.

Similarly, the empirical results in Table 6 may be due to the lower audit risks of state-owned companies. But the descriptive statistics in Table 2 show that the firm risks of state-owned companies are not lower than those of non-state-owned companies regardless of whether the risks are firm-specific like financial leverage (*LEV*) and earnings power (*MROA*) or systematic (*BETA*). If the audit risks of state-owned companies are really lower than those of non-state-owned companies, we suppose that it may be due to the lower political risks of state-owned companies. And this is consistent with our presumption that the state-owned companies are more powerful in the negotiation of audit fees.

4.4.2 Other Sensitivity Tests

In order to verify the reliability of our results, we proceed to the following sensitivity tests. First, we test the regression models year by year and divide our sample by firm size. Considering the significant relationship between the firm with foreign institutional shareholders and the decision to select a Big Eight auditor, we exclude the 144 observations with foreign institutional shareholders. For the sake of assuring that the largest shareholder is the controlling owner, we eliminate 217 observations, with the proportion of shares held by the largest shareholder being less than 20 per cent. We find little difference in our results.

Taking into account the possible market segmentation existing between the international Big Four and domestic auditors, we first use the international Big Four auditors as the proxy for high-quality auditors, and find that the test results of Models (2) and (3) are similar to those in Tables 5 and 6. Then we exclude the firms audited by international Big Four auditors and substitute the domestic Big Three auditors for high-quality auditors. The regression results remain stable.

V. CONCLUSIONS

Based on the sample of listed companies from 2001 to 2003, and using the Big Eight auditors whose clients have higher earnings response coefficients as the proxy for high-quality auditors, we investigate the impact of the arrangements of corporate control rights on the demand for external audit services. After controlling for related factors, such as client size, financial leverage, earnings power, audit risks, and securities issuance, we find that the state-owned companies, especially non-profit state-owned companies, are less likely to hire Big Eight auditors, and these companies pay lower audit fees. Meanwhile, an interval effect between the proportion of shares held by the largest shareholder, and auditor choice and audit fees exists. In particular, the proportion of shares held by the largest shareholder has an N-shaped relationship with Big Eight auditor choice and a U-shaped relationship with audit fees.

The research contributes to the understanding of the formation of the Chinese andit market structure. Our results verify the conjecture of DeFond *et al.* (1999) that the inadequate demand for audit services may be due to the fact that most listed companies are state-owned.

In view of the many institutional factors impeding demand for independent audit services, our conclusions should be interpreted in the light of the transitional economy and highly regnlated capital market in China. It is believed that the demand for external audit services cannot be improved only through adjustment of the arrangements of corporate control rights. Further improvements in the institutional environment, such as reforms to the split share structure and the civil compensation system for audit cases, are also necessary to facilitate the development of independent audit services in China.

REFERENCES

Please refer to pp. 75–77.