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多元化经营的价值效应
—来自我国上市公司的经验证据*

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摘要

本文以我国上市公司2002至2003年的数据，通过综合分部信息和控股子公司信息构造了一个有效的多元化经营衡量指标，在此基础上实证考察了多元化经营与公司价值之间的关系。结果表明，平均来看我国上市公司的多元化经营与公司业绩间呈显著的负相关关系，当公司经营4个及4个以上行业时，公司价值开始显著降低。进一步研究表明，多元化经营与公司价值之间的负相关关系受到政府干预程度、控股股东的产权性质和集团隶属关系的影响。

关键词：多元化经营、政府干预、控股股东

一、引言

无论在实务界还是学术界，多元化经营一直是个有争议的话题。本文将运用中国上市公司的经验证据，实证分析多元化经营对公司价值的影响。

20世纪60年代，多元化经营在美国受到极力推崇，跨行业兼并成为60年代

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企业并购浪潮的主流，超过三分之二的财富500强公司实施了多元化的发展战略（Rumelt, 1977）。然而，到了80年代初，多元化经营不再受到人们的青睐，许多企业纷纷将自己的非核心资产剥离出售，以缩小经营范围，实行专业化的经营方式。[4]进入90年代后期，随着新一轮并购浪潮在世界范围内的兴起，[5]又有许多企业通过实施并购进入了不同的行业和领域，多元化经营也再次成为人们关注的焦点。与美国的情况非常类似，中国实务界对多元化问题也争论不一：在越来越多的专业化经营的企业开始大规模进行多元化投资的同时，也有不少曾经是多元化“典型”的企业开始做起了“减法”，前者如海尔、TCL、美的、联想、春兰、创维、格林柯尔、五粮液、蓝星等，后者如联想、创维等（《财经时报》，2004）。

不仅实务界对多元化的争论没有终结，学术界截至目前也没有得到一致的结论。这个现象在20世纪90年代前的研究中尤为明显（例如，Miller, 1969; Carter, 1977; Imel and Helmberger, 1971; Grinyer, Yasai-Ardekani and Al-Bazzaz, 1980; McDougall and Round, 1984; Montgomery, 1985）。虽然90年代中期的实证研究逐渐趋向于陈报多元化公司的折价现象（例如，Lang and Stulz, 1994; Berger and Ofek, 1995; Servaes, 1996）。[6]然而，最近却有许多学者对上述文献的方法论提出质疑，认为多元化公司较低的价值并非多元化战略所致（例如，Hyland, 1999; Campa and Kedia, 2002）。相比于绝大多数现有的文献所研究的美国公司，中国上市公司的多元化问题至少在以下几个方面表现出其特殊性：

首先，中国是世界上最大的转轨经济国家，各种不完善的市场机制增加了多元化战略的复杂性。多元化问题的实质是企业的边界问题。由 Coase（1937）、Cheung（1983）、Williamson（1985）等发展的交易成本经济学从交易成本的角度对企业的边界进行了解释，而 North（1981, 1990）则给出了制度影响交易成本的理论分析框架。立基与此，Khanna and Palepu（1997）在对新兴市场中不尽完善的资本市场、产品市场、经理人市场等各种市场机制进行分析后指出，在新兴市场中，多元化战略可以弥补外部市场的缺陷，应该表现出比专业化战略更高的企业价值。Fan *et al.*（2006）针对中国上市公司的研究也提供了制度风险可以对企业多元化战略的选择进行解释的经验证据。然而，截至目前，有关多元化问题的研究主要针对的是美国等市场机制相对完善的发达国家，新兴市场中多元化战略的价值效应问题仍缺乏充分的经验证据，少数仅有的几篇文献也提供了完全相反的研究结论。例如，Khanna and Palepu（2000）对印度公司的研究发现，附属于多元化企业集团的公司表现出比附属于专业化集

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[4] 尽管如此，1990至1996年美国多元化经营的上市公司雇佣了近50%的员工，拥有的资产占市场的60%左右（Martin and Sayrak, 2003）。

[5] 据统计，1999年世界范围的并购总金额达到了23亿美元（Pryor, in press）。

[6] 即多元化经营企业的市场价值低于以市场平均值计算的各业务分部的价值之和。

团的公司和独立经营的公司更高的企业绩效；但Lins and Servaes（2002）对亚洲七个新兴市场国家的考察，则发现了相反的证据。因此，研究中国上市公司的多元化与企业价值的关系可以丰富新兴市场中多元化问题的相关文献。

其次，中国上市公司的股权结构高度集中，集团属性增加了多元化战略的复杂性。La Porta *et al.*（1999）对全球47个国家上市公司的考察，显著改变了财务学者对上市公司股权结构的认识，涌现出一系列针对企业集团的研究。上市公司附属于企业集团虽然可以弥补外部市场的制度约束（Almeida and Wolfenzon, 2006），从而可以实施专业化战略。然而，近期众多研究也表明，当外部的司法体系无法对中小投资者的权益实施有效保护时，控股股东可能凭借其对上市公司的控制权，通过集团间的关联交易侵占上市公司的利益（Bae, Kang and Kim, 2002; Bertrand, Mehta and Mullainathan, 2002; 李增泉，孙铮和王志伟，2004；李增泉，余谦和王晓坤，2005）。因此，研究中国上市公司的多元化问题有助于我们加深对新兴市场中企业集团内部市场的了解。

最后，中国上市公司大多为国家控股，政府的多元化目标和企业的寻租行为增加了多元化战略的复杂性。除了各种不尽完善的市场机制外，新兴市场的另外一个显著特点就是政府在各种社会资源的配置中仍发挥着重要作用。政府与企业的关系历来有“掠夺之手”和“帮助之手”的争议（Shleifer and Vishny, 1998）。作为国有企业改革的政策举措，我国证券市场在发展过程中很长一段时期内一直向国有企业倾斜，民营企业很少有直接上市的机会。直到最近，才有许多民营企业通过深圳创业板得以上市融资。针对中国上市公司的一系列研究表明，在财政分权硬化地方政府预算的情况下，一方面，国有企业或地方政府控股的上市公司仍然承担着众多的政策性负担（Fan, Wong and Zhang, 2007; 夏立军和方轶强，2005）；另一方面，为了帮助当地上市公司保持融资资格，进而竞争全国性资源，地方政府会通过各种方式对企业进行支持（陈晓和李静，2000；李增泉，余谦和王晓坤，2005）。给定政府对众多资源的垄断性和政府与企业关系的两面性，上市公司的多元化投资战略即可能是其获得政府优惠的一种表现，也可能是政府实现其政策目标的结果。因此，中国上市公司的多元化问题为我们进一步了解政府与企业的关系提供了机会。

以上的分析表明，中国上市公司的多元化经营对公司绩效的影响是一个经验性命题。截至目前，关于我国上市公司多元化经营的研究相对较少，在为数不多的几篇经验研究中，有关多元化经营与企业业绩间关系的结论也不尽一致。譬如，有研究认为多元化经营与公司业绩负相关（岑成德，1997；李敬，2002；张翼、刘巍和龚六堂，2005），也有研究发现多元化经营与公司业绩间没有相关关系（朱江，1999；金晓斌等，2002），还有研究发现多元化经营提高了公司价值（苏冬蔚，2005）。但上述研究都存在一个缺陷，即关于我国上市公司多元化经营的衡量问题。由于我国上市公司年报中披露的分行业信息很不规范，有的只是对公司的产品进行了罗列，有的则将公司的经营业务简略地

分为农业、工业、商业和服务业，因此上市公司的分行业信息难以很好地衡量公司的多元化经营。正如，朱江（1999）在其文中所指出的，”（分行业信息）在公司年报中仍然很少进行完全披露，即使对有关信息进行了披露，所提供的信息还是不足于衡量公司多元化经营的程度”。另外，上述文献都没有考虑到中国上市公司特有的制度背景，包括政府干预、集团属性及产权性质等的影响。

本文在综合上市公司分部报告和控股子公司信息的基础上构造了一个有效的公司多元化经营衡量指标，并以我国上市公司2002和2003年的经验数据为基础对多元化经营与公司价值间的关系进行了实证考察。结果表明，平均来看，我国上市公司的多元化经营显著降低了公司的业绩，特别当公司经营超过4个行业时，公司价值显著降低。进一步的研究表明，多元化经营对公司价值的这种消极影响主要存在于政府干预较弱、第一大股东为国有和经营性实体的公司之间，没有证据表明上述关系也适于政府干预较强、第一大股东为非国有或非经营性实体的公司。

文章后面的结构安排如下：第二部分对公司多元化经营的理论和研究文献进行了回顾；第三部分讨论了中国企业多元化经营所面临的特殊的市场环境和制度背景，并提出本文的研究假说；第四部分是实证检验，该部分首先考察了多元化经营与公司业绩间的关系，然后检验了公司多元化经营的程度效应，最后对政府干预、所有权性质和集团隶属关系的影响进行了考察；第五部分是敏感性检验，我们采用了不同的公司业绩和多元化经营指标，并检验了多元化经营与公司业绩的内生性问题；最后总结全文。

二、理论与文献综述

西方文献关于多元化经营绩效的研究主要沿着两个方面展开，一是理论上关于公司多元化经营优劣的讨论，另一是多元化经营与公司业绩的实证研究。

（一）多元化经营如何影响企业绩效？

理论上，多元化经营的收益主要表现为，降低企业经营风险、增强企业借债能力和形成一个有效的内部资本市场。有文献指出，由于实施多元化经营的企业同时涉足多个行业，不会受到一个行业经营失败的威胁，因此降低了企业的破产风险，破产风险的降低则可以进一步增强企业的借债能力。例如，Lewellen（1971）认为，多元化企业相比单一经营企业可以举借更多的债务，从而获得更多的税盾优惠。通过多元化经营建立内部资本市场对企业的益处主要表现在：首先，因为企业内部融资避免了外部融资的交易成本，同时也不会产生公司证券对外发行时的信息不对称折价，因此可以降低企业的筹资成本。其次，内部资本市场的建立可以避免企业投资不足的问题。Myers（1977）指出，

当外部潜在投资者与企业的信息不对称较为严重时，企业可能会因为无法按照合理的融资成本筹措到足够的资金而不得不放弃一些具有收益的投资项目。企业内部资本市场的建立，可以通过企业内部资金的调度解决这一问题。最后，由于内部资本市场的存在，经理人对项目的选择拥有更多的自主权，而无需将企业的投资决策权交给更不了解企业的外部投资者，从而能更好地对项目进行选择。[7]

尽管多元化经营对企业价值的积极影响在理论上是清晰的，但也有文献指出，多元化经营对企业也会有负面效应。首先，多元化经营虽然可以避免由于信息不对称而导致的投资不足问题，但也可能会造成过度投资。例如，Stulz（1990）指出，由于内部资本市场的建立为企业提供了较多可使用的资金，经理由此可能会选择一些缺乏效益的投资项目，从而损害了企业的价值。其次，多元化战略的实施容易降低股票期权的激励作用。这是因为，对于多元化经营企业，各分部经理的努力程度只能影响本部门的经营绩效，而对企业整体业绩的影响不大，因而企业整体的股票期权计划对各分部经理来说缺乏激励。第三，多元化经营还会造成跨行业的过度补贴。Meyer, Milgrom and Roberts（1992）发现，单一经营企业很少会产生净资产为负值的现象，因为在此之前这些企业通常已经破产了。但如果上述企业不是单独经营的企业，而是作为多元化经营企业的一个分部存在，则资不抵债时仍继续经营的可能性便大大增加，这是因为多元化经营企业可以用其它行业的利润对亏损行业进行补贴。很显然，这种跨行业的过度补贴对企业的价值造成损害。最后，多元化经营的企业更容易由于信息的不对称导致资源配置缺乏效率。这是因为，多元化经营企业的最高管理层与各分部管理层之间更容易存在信息不对称，从而会导致各分部经理出于自身利益的考虑，想方设法从企业内分得更多的资金而不顾各自行业的发展前景，结果造成企业资源的配置缺乏效率（Harris *et al.*, 1982）。多元化战略的其它一些负面影响还包括对高层管理者的过多限制 (McDougall and Round, 1984）和适应环境的能力较差等（Bettis and Mahajan, 1985）。

（二）经验证据

早期关于多元化经营与企业业绩间关系的实证研究比较零散，概括起来主要有两类，一类是直接研究多元化战略对企业绩效的影响，另一类则比较了相关多元化与非相关多元化，但无论哪类研究都没有取得统一的结论。20世纪90年代，有关多元化经营的研究文献开始使用 Tobin's Q 作为企业价值的衡量指标，并逐渐取得一致结论，认为多元化经营损害了企业价值。例如，Lang and Stulz（1994）首次采用 Tobin's Q 作为公司绩效的衡量指标，研究发现多元化经营公司的 Tobin's Q比专业化经营公司降低了8%；Berger and Ofek（1995）考察了

[7] Stein（1997）指出，经理人由于有信息优势能更好地对投资项目进行选择。

1986至1991年美国公司多元化经营的绩效，也发现多元化经营公司平均存在10%至15%的价值损失；之后，Servaes（1996）研究了更长期间公司多元化经营的绩效，结果表明20世纪60年代存在显著的多元化折价，而到了70年代这种价值损失有所降低。另有一些研究间接分析了多元化战略对企业绩效的影响。如，Comment and Jarrell（1995）以1978至1989年在NYSE和ASE上市的公司为样本，考察了经营领域的集中对股票收益率的影响，结果发现每减少一个业务部门，两年间公司股票的收益率提高了5%；Desai and Jain（1999）的研究也证实了在资产剥离后的三年期间，业务集中的资产剥离比其它形式的资产剥离带来更高的超额收益；最后，针对经营业绩的考察，John and Ofek（1995）发现导致公司业务集中的资产出售提高了公司资产出售后三年的经营绩效。

当人们逐渐认识到多元化折价现象后，许多文献开始探究多元化折价存在的原因。已有的研究主要从代理成本和无效的内部资本市场两个角度进行分析。Denis *et al.*（1997）认为经理人的代理问题应对多元化折价负责；Anderson *et al.*（2000）提供了进一步的证据，他们发现多元化经营公司的CEO拥有公司的股权较少，报酬较高，且薪酬与公司业绩的关联度较低；Palia（1999）也发现，当公司采用与业绩挂钩紧密的薪酬计划且公司的董事会规模较小时，多元化折价减少。关于无效资本市场的解释主要包括：多元化公司各部门的资本支出并不以其投资机会为标准（Shin and Stulz, 1998）；多元化经营企业在 Tobin's Q 低的行业投资过多，而在 Tobin's Q 高的行业投资却很少（Scharfstein, 1998）；多元化企业的分部经理利用与总部管理层间的信息不对称扭曲了企业内部资源的配置（Scharfstein and Stein, 2000）。

然而，令人疑惑不解的是，尽管大家都认识到多元化战略损害了企业的价值，但仍有许多企业实行多元化经营，尤其是新兴市场的企业。于是，最近一些研究开始质疑多元化折价现象，指出多元化经营企业价值的降低可能并不是由多元化战略造成的。例如，Hyland（1999）考察了1978至1992年转变为多元化经营的公司，研究发现当单一经营企业陷入困境时，有很强的动机采用多元化的战略来获得成长机会，因而我们所观察到的多元化经营与企业业绩间的负相关关系是内生的。Graham *et al.*（1999）的研究也发现，被集团并购前单一经营企业的价值折价了15%。Lamont and Polk（2001）从未来现金流的角度对公司多元化经营的价值进行了分析，他们认为多元化折价的存在是因为人们对多元化企业有着更高的期望收益率。[8]Mansi and Reeb（2002）的研究则换了一个视角，他们承认多元化经营减少了股东的价值，但认为多元化经营增加了债权人的价值，因而多元化战略对企业整体的价值并无影响。Campa and Kedia（2002）

[8] 根据股利贴现模型，在股利相同的情况下，高期望收益率，高折现因子，企业价值更低。

使用了三种方法控制多元化经营与公司业绩间的内生性问题，结果发现多元化经营公司的价值并没有降低，有时甚至存在多元化溢价。

还有一些研究对新兴市场公司的多元化经营进行了考察。如，Khanna and Palepu（2000）研究发现，隶属于某一集团的公司业绩随集团多元化程度的增加，先下降后提高，为非线性关系。Fauver *et al.*（2003）也发现多元化经营价值与资本市场的发达程度和国际化水平负相关，由于新兴资本市场的发展和国际化水平较低，多元化经营提高了企业价值。但也有研究得出不同的结论，Lins and Servaes（2002）利用七个新兴市场国家1000多家公司的数据，研究发现多元化经营企业比单一经营企业市场价值降低了7%。

三、制度背景、理论分析与研究假说

从企业的性质考虑，多元化经营的实质就是将原本由市场或另一企业组织的不同行业的生产归并到企业内部，考虑的是企业的边界问题。企业边界理论最早由Coase（1937）提出，认为市场和企业是两种可相互替代的资源配置手段，二者之间的选择依赖于市场交易成本与企业内组织成本的对比关系。企业之所以出现，是因为能大量减少市场交易所需签订的契约，从而节约了市场交易成本。Klein, Crawford and Alchian（1978）首次将机会主义行为引入到Coase（1937）的交易成本框架，论证了资产专有性对企业纵向一体化的影响。Williamson（1979）则进一步从不确定性、交易频率和资产专有性三个纬度分析了机会主义行为对合约结构（包括市场交易和纵向一体化）的影响，指出合约结构内生于交易的特征。中国是目前世界上最大的转轨经济国家，各项市场制度正处于完善过程之中。North（1981, 1990）的制度分析框架为我们从交易成本的角度分析市场制度对多元化经营的价值效应提供了强而有力的工具。根据North的制度变迁理论，制度特征对组织结构（包括企业、市场和政府等）具有重要影响，各种组织结构都是交易各方在制度约束下实现交易成本最小化的一种选择。

在转轨经济中，多元化战略对交易成本的节约体现在多个方面。首先，转轨经济的一个显著特点是各种市场机制（包括产品市场、资本市场、经理人市场等）不尽完善。多元化战略通过将市场交易转移到企业内部，可以弥补各种市场制度的缺陷。例如，在不完善的产品市场中，产品信息的流动性较低，企业需要花费较高的成本才能获得消费者的认可，然而“品牌”一旦建立，企业就可以通过已有的品牌优势进入新的行业和领域，因而多元化战略的实施降低了消费者的认可成本；在不完善的资本市场上，多元化经营创造的内部资本市场，也可在一定程度上降低由于投资者的信息不对称所导致的高融资成本（Khanna and Palepu, 1997）。其次，政府在资源配置中的重要影响也是转轨经济的显著特点（陈信元和黄俊，2006）。政府行为对多元化战略的影响主要体

现在两个方面：一方面，各种市场化的交易将会由于政府行为的短期性而面临较高的不确定性，多元化战略可以节约由于市场交易的不确定性而增加的交易成本（Fan *et al.*, 2006）。另一方面，当政府对稀缺资源具有垄断权时，多元化战略比专业化战略有利于与政府关系密切的企业获取更多的“租金”，因为此时企业的价值更多地依赖资源的垄断性，而非专业化的技能。[9]上述分析表明，在转轨经济中多元化战略比专业化战略具有更强的适应性。

然而，与英美等之外的其它国家非常类似（La Porta *et al.*, 1999），我国上市公司的股权结构也高度集中，几乎所有的公司都存在一个绝对或相对控股的法人大股东，上市公司的行为不能独立于企业集团。考虑到高度集中的股权结构，多元化战略是否可以为上市公司创造更高的价值则不甚清晰。一方面，在外部市场机制不健全的情况下，上市公司也不一定从事多元化经营，而是可以利用母公司内部的各种市场来节约交易成本；另一方面，当大股东能够控制或对上市公司的经营活动施加重大影响时，上市公司的经营策略并非完全基于上市公司价值的利益，而是服从于大股东集团整体利益最大化的需要。特别当外部司法体系无法对投资者权益实施有效保护时，控股股东可能通过关联交易从上市公司转移利润（Bae, Kang and Kim, 2002; Bertrand, Mehta and Mullainathan, 2002; 李增泉，孙铮和王志伟，2004；李增泉、余谦和王晓坤，2005）。这说明，在新兴市场中，附属于企业集团的上市公司并非必须通过多元化战略来弥补外部市场机制的不完善，上市公司的多元化策略应有更复杂动因。例如，当控股股东为国有性质时，由于股份的不可自由流动性，地方政府可能让上市公司承担政策性负担，以缓解由于财政分权所导致的地方预算的硬约束 (Fan, Wong and Zhang, 2007)，此时可能导致上市公司不得不从事多元化的经营。[10]再者，由于国有公司的所有者缺位，也可能形成政府干预下的内部人控制。此时，内部人为了扩大自己的权力或增加自己的报酬而实施的多元化经营行为也会损害公司的价值。

综上所述，从理论上来讲，多元化战略虽然可以弥补转轨经济中各种市场机制的不完善和适应“寻租”的需求，但对于存在一个相对或绝对控股的法人大股东（即附属于企业集团）的上市公司来讲，即可以利用企业集团内部形成的各种市场节约交易成本，也方便控股股东对上市公司的侵占行为，多元化战略就有了更为复杂的解释。例如，企业的寻租、政府的补助或者控股股东的掏空和企业的政策性负担等都可在一定程度上解释公司的多元化行为，其中前者

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[9] 例如，为了保持上市公司的融资资格，地方政府也会通过各种方式对上市公司进行补助（陈晓和李静，2000；李增泉，余谦和王晓坤，2005），此时上市公司的多元化战略可能就是政府补助的一种结果。

[10] 例如，当上市公司所在的行业缺乏新的投资机会时，在资金充足的情况下公司虽然可以迅速进入一些投资机会更好的行业，但为了保证职工的充分就业，却可能无法从缺乏投资机会的行业迅速退出。

意味着多元化与公司价值的正相关关系，而后者则可推出两者之间的负相关关系。因此，本文认为，我国上市公司的多元化程度与公司价值之间的关系是一个经验性命题，依上市公司的股权结构和公司所处环境的市场化程度等内外环境的不同而有所差异。

四、实证检验

（一）研究设计

1. 样本筛选

本文选取2002至2003年的上市公司为研究样本，在剔除金融类公司和摘牌、主业停顿及数据缺失等观测点后，最后得到1897个观测值，其中2002年和2003年分别有916和981个观测点。本文所用的财务数据来自中国股票市场研究数据库 (CSMAR) 和上市公司多维统计分析系统 (SA2000)，上市公司基本资料来自南方证券分析交易系统(V4.12)。

2. 公司多元化经营的衡量

已有的研究都是以公司披露的分部报告来衡量公司多元化经营的程度。但是，我国上市公司目前分部报告的披露还很不规范，有的公司只是对产品进行了罗列，有的公司则将经营的行业简略地分为农业、工业和服务业。另一方面，由于分行业信息的披露是以业务收入为对象，由此造成如果某一分部的收入为零，则不会予以披露。相反，上市公司的年报中详细披露了其控股子公司的业务性质、主要产品或服务、注册资本、实际投资额、权益比例及是否纳入合并报表等信息。[11]因此，我们通过综合分部报告和控股子公司的业务信息来衡量上市公司的多元化经营。通过综合分部报告和控股子公司的业务信息，既可以考察上市公司通过业务分部形式而进行的多元化经营，也对其控股子公司的多元化经营加以考虑。同时，这一方法避免了分部报告中只有当年业务收入满足披露标准的行业投资才予以披露的不足，从而更为准确地反映公司的多元化经营。为此，本文同时结合分部报告和控股子公司两方面的信息构造了一个新的指标，来衡量公司多元化经营的程度。具体方法如下：

首先，根据上市公司的分部报告，确定分部报告披露的公司经营的行业；

其次，利用年报中披露的纳入合并报表的控股子公司的业务性质、主要产品或服务等信息划分其所属行业；

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[11] 根据财政部颁布的《合并会计报表暂行规定》和财会字（1996）第2号文件《关于合并会计报表合并范围请示的复函》的规定，资产总额、销售收入和净利润三项指标中有一项高于合并报表相应指标10%的控股子公司应纳入合并会计报表。

最后，汇总上市公司分部报告和控股子公司的行业信息，求得上市公司经营的业务数（*NUM*）。

3. 研究模型

我们采用如下模型考察多元化经营对公司业绩的影响，

$$PER_i = \alpha_0 + \alpha_1 NUM_i + \alpha_2 INT + \alpha_3 LSN + \alpha_4 GROUP + \alpha_5 SIZE_i + \alpha_6 LEV_i + \alpha_7 LSH_i + \alpha_8 GROWTH + \alpha_9 AGE_i + \varepsilon_i \quad (1)$$

其中：

*PER*是公司价值指标 Tobin' Q。其计算方法为，以公司当年度最后一个月平均收盘价计算的总股本的市场价值加上负债的帐面价值除以公司年末总资产的帐面价值。[12]下文的回归中，我们使用了未调整行业中值和调整行业中值的 Tobin' Q。其中，行业调整的 Tobin' Q 等于单个公司的 Tobin' Q 减去占其业务收入比重最大的一个行业所有公司 Tobin' Q 的中值。本文敏感性检验部分同时给出了以会计指标来衡量公司业绩的分析结果。

NUM、*INT*、*LSN*、*GROUP*是本文主要关注的变量。其中，*NUM*是公司多元化经营变量。*INT*衡量政府对经济的干预程度，取自樊纲和王小鲁（2003）编制的《中国市场化指数—各地区市场化相对进程报告》，该数值越高，表明该地区政府对经济的干预越少。*LSN*是股东性质变量，如果上市公司的最终控制人为政府，取值为1，否则为0。*GROUP*衡量公司是否隶属于一个集团，当上市公司的第一大股东为政府部门、资产管理机构、高校等科研机构或自然人等非经营性实体时取值1，否则为0。如前所述，本文不对上述变量的回归符号进行预期。

根据现有的文献（许小年和王燕，1998；徐晓东和陈小悦，2003），模型中同时控制了公司规模（*SIZE*）、资产负债率（*LEV*）、第一大股东的持股比例（*LSH*）和公司成长性（*GROWTH*）。其中，*SIZE*、*LEV*和*LSH*均为年末的数值，*GROWTH*用公司当年度主营业务收入的增长率来衡量。另外，有研究表明我国上市公司在初次发行股份时普遍存在盈余管理（Aharony *et al.*, 2000）行为，随着上市年限的增长，应计项目的反转将逐渐减少公司的利润，因此，我们在模型中加入了上市年限（*AGE*）对此予以控制。

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[12] 考虑到中国资本市场同时存在流通股和非流通股，我们采用了另一计算公司 Tobin's Q的方法，即Tobin's Q等于流通股的市场价值、非流通股的账面价值和负债的账面价值之和除以总资产，其回归结果相似。

（二）结果及分析

1. 我国上市公司多元化经营的现状

表1是我国上市公司多元化经营的描述性统计。结果表明，上市公司平均涉足了3.4017个行业，最多的一个上市公司甚至经营了14个行业。我们还发现，2003年上市公司经营行业数的均值要高于2002年，从而表明上市公司的多元化经营呈逐年递增的趋势。

图1是样本公司经营行业数的分布示意图（总样本）。从中可以看出，专业化经营的公司占总样本的比例只有21.30%，多元化经营公司的行业数主要集中在2到5之间，其中经营2个行业的上市公司最多，占总样本的23.04%。

为了考察多元化经营对公司业绩的影响，我们计算了经营业务数不同的公司经行业调整后业绩指标的均值，结果如图2所示。我们看到，不论是以市场价值（Tobin's Q）还是会计业绩指标（*CROA*和*CFROA*）衡量公司绩效，随着经营业务数的增加，公司业绩都呈逐渐下降的趋势。由此说明，多元化经营降低了公司的绩效。

2. 基本结果

表2是对模型（1）进行回归的结果。从中可以看出，政府干预变量*INT*的系数显著为正，说明在政府干预经济越少的地区，公司表现越好。集团隶属关系变量*GROUP*的系数为负，在1%水平显著，说明隶属于一个集团提高了公司业

表1 上市公司多元化经营的描述性统计

年度	观测值	均值	中位数	标准差	最小值	Q1	Q3	最大值
2002	916	3.2467	3.00	2.1939	1.00	2.00	4.00	14.00
2003	981	3.5464	3.00	2.3455	1.00	2.00	5.00	13.00
总样本	1897	3.4017	3.00	2.2779	1.00	2.00	5.00	14.00

图 1 上市公司经营行业数分布示意图

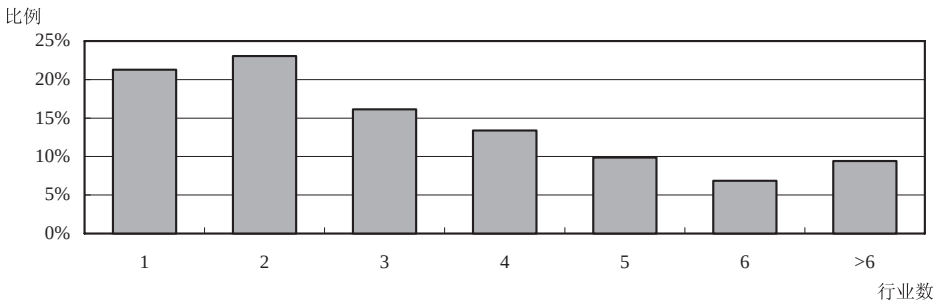
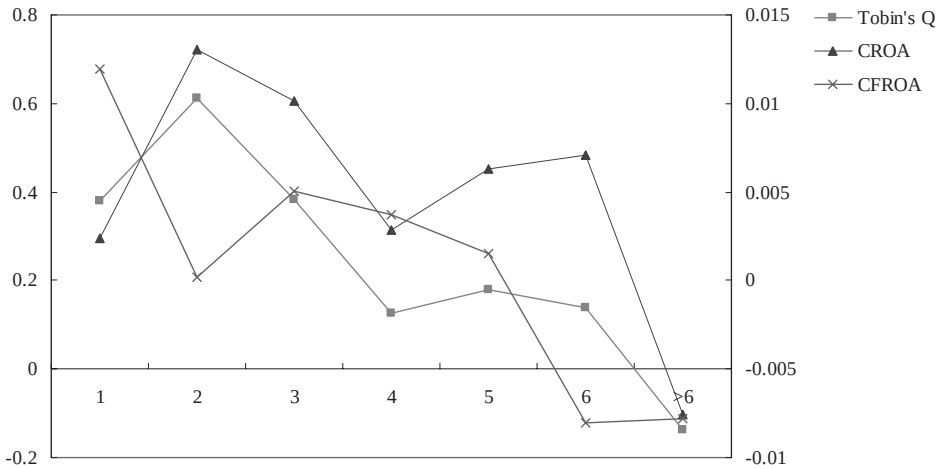


图 2 公司业绩与多元化经营间关系



绩。公司规模与公司价值负相关，这可能是因为中国资本市场的“小盘股”现象所引起的，即规模越小的公司，股价越易被操纵，价格越高。我们还发现，负债比率(*LEV*)的系数显著为正，表明负债越多的公司，市场价值越高。

最为重要的是，在控制了以上变量的影响后，我们发现，不论是否调整行业绩效，总样本和分年度的回归结果中，公司多元化经营变量（*NUM*）的系数均显著为负，说明平均来看我国上市公司的多元化经营行为损害了公司价值。为了验证我们的结论，我们也使用了固定效应模型进行回归，结果相似。

3. 多元化经营的程度效应

我们进一步考察了公司多元化经营的程度效应，即公司增加的第j个业务对其经营业绩的影响，模型如下：

$$PER_i = \beta_0 + \sum_j \beta_j \times NUM(j) + \text{控制变量} + \varepsilon_i \qquad (2)$$

其中，j = 2, 3, 4。*NUM(j)*是哑变量，当公司经营的业务数大于或等于j时，取值为1，否则为0。通过上述模型，我们可以考察公司在进行多元化经营时，增加第j个业务对其绩效的影响，即多元化经营的程度效应。模型中的β_j是第j个业务对公司业绩的边际贡献。其它变量的定义与前面一致。

回归结果如表3所示。我们看到，不论总样本还是分年度的回归中*NUM4*的系数都显著为负，从而表明公司经营的第4个行业显著降低了公司绩效。公司业绩经行业调整和未经行业调整的回归结果相类似。

表 2 上市公司多元化经营绩效的回归结果

变量	未调整行业业绩			调整行业业绩		
	总样本	2002	2003	总样本	2002	2003
NUM	−0.060***	−0.044**	−0.046***	−0.065***	−0.062***	−0.045***
	(−4.96)	(−2.43)	(−5.64)	(5.67)	(3.49)	(5.49)
INT	0.031**	0.030*	0.025***	0.028***	0.028	0.025***
	(2.33)	(1.80)	(2.95)	(3.07)	(1.66)	(2.96)
LSN	0.198***	−0.030	0.134*	0.187**	0.016	0.136*
	(2.72)	(−0.23)	(1.85)	(2.61)	(0.12)	(1.83)
GROUP	−0.369***	−0.433***	−0.265***	−0.368***	−0.402**	−0.252***
	(−3.38)	(−2.92)	(−2.89)	(3.57)	(2.70)	(3.00)
SIZE	−0.686***	−0.949***	−0.464***	−0.641***	−0.894***	−0.450***
	(−11.77)	(−18.37)	(−10.90)	(11.03)	(16.99)	(10.27)
LEV	2.124**	2.728**	0.578***	2.116**	2.710**	0.608***
	(2.31)	(2.56)	(3.57)	(2.32)	(2.53)	(3.93)
LSH	0.030	0.013	0.503**	0.027	0.014	0.484***
	(1.22)	(0.75)	(2.67)	(1.07)	(0.79)	(2.83)
GROWTH	−0.009	−0.027*	0.005	−0.006	−0.027**	0.009
	(−0.83)	(−1.83)	(0.32)	(0.47)	(2.06)	(0.55)
AGE	0.008	0.009	0.053***	0.018	0.007	0.053***
	(0.37)	(0.29)	(5.68)	(0.85)	(0.22)	(5.91)
Constant	15.399***	21.044***	10.771***	12.545***	17.853***	8.753***
	(12.94)	(18.45)	(12.97)	(10.53)	(15.55)	(10.25)
观测值	1844	870	974	1844	870	974
Adj-R^2	0.47	0.62	0.31	0.48	0.61	0.32

说明：1. ***表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

4. 政府干预、产权性质和集团隶属关系的影响

为了考察政府干预对多元化经营与公司价值之间关系的影响，我们以*INT*的中位数将上市公司分为政府干预较弱和干预较强的两组，然后分别进行回归。回归结果列示在表4的第(1)列和第(2)列。我们看到，尽管其他变量与公司价值的关系基本不受政府干预程度的影响，但政府干预却对多元化程度的价值效应具有显著影响：在政府干预较弱的地区，公司多元化经营变量（*NUM*）的系数显著为负，从而说明在政府干预经济较少的地区多元化经营降低了公司

表3 公司多元化经营程度效应的回归结果

变量	未调整行业业绩			调整行业业绩		
	总样本	2002	2003	总样本	2002	2003
NUM2	0.118	0.137	0.126*	0.101	0.114	0.116
	(1.36)	(0.93)	(1.86)	(1.18)	(0.74)	(1.65)
NUM3	−0.090	−0.030	−0.069	−0.064	−0.044	−0.049
	(−1.05)	(−0.24)	(−0.67)	(0.73)	(0.33)	(0.47)
NUM4	−0.257***	−0.236*	−0.237***	−0.314***	−0.295**	−0.264***
	(−3.55)	(−1.77)	(−3.04)	(4.30)	(2.13)	(3.54)
INT	0.030**	0.030*	0.024***	0.028***	0.028	0.025***
	(2.26)	(1.78)	(2.89)	(3.00)	(1.64)	(2.93)
LSN	0.200***	−0.011	0.122	0.188**	0.037	0.124
	(2.75)	(−0.08)	(1.70)	(2.62)	(0.27)	(1.69)
GROUP	−0.364***	−0.425***	−0.265***	−0.363***	−0.393**	−0.252***
	(−3.31)	(−2.87)	(−2.77)	(3.50)	(2.65)	(2.85)
SIZE	−0.689***	−0.950***	−0.464***	−0.644***	−0.898***	−0.448***
	(−11.51)	(−17.34)	(−10.86)	(10.72)	(16.12)	(10.35)
LEV	2.119**	2.729**	0.574***	2.111**	2.709**	0.605***
	(2.29)	(2.53)	(3.65)	(2.31)	(2.51)	(4.06)
LSH	0.028	0.011	0.519***	0.025	0.013	0.488***
	(1.10)	(0.66)	(2.80)	(0.96)	(0.70)	(2.96)
GROWTH	−0.009	−0.029*	0.005	−0.006	−0.029**	0.009
	(−0.85)	(−1.98)	(0.37)	(0.49)	(2.25)	(0.61)
AGE	0.006	0.007	0.052***	0.016	0.005	0.052***
	(0.26)	(0.23)	(5.51)	(0.74)	(0.15)	(5.79)
Constant	15.342***	20.931***	10.662***	12.487***	17.791***	8.611***
	(12.53)	(16.51)	(12.77)	(10.15)	(13.96)	(10.23)
观测值	1844	870	974	1844	870	974
Adj-R^2	0.47	0.62	0.32	0.48	0.61	0.32

说明：1. *** 表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

价值；而在政府干预经济较强的地区，多元化经营对公司业绩的影响则不显著。

同样的，为了考察不同所有权性质的公司多元化经营的绩效是否不同，我们按上市公司的最终控制人将样本公司分为国有和非国有公司，分别回归每组

表4 政府干预、产权性质与集团隶属关系的影响

变量	政府干预的影响		产权性质的影响		集团属性的影响	
	干预弱	干预强	国有	非国有	集团	非集团
	(1)	(2)	(3)	(4)	(5)	(6)
NUM	−0.041***	−0.030	−0.041***	−0.026	−0.068***	0.001
	(−3.18)	(−1.31)	(−3.74)	(−0.68)	(−4.88)	(0.03)
INT			0.035***	0.022	0.029***	0.051***
			(6.56)	(1.23)	(4.21)	(3.93)
LSN	0.051	0.239**			0.220***	−0.427
	(0.68)	(2.07)			(3.07)	(−0.80)
GROUP	−0.231**	−0.515***	−0.243***	0.366		
	(−2.08)	(−3.46)	(−3.23)	(0.33)		
SIZE	−0.703***	−0.650***	−0.643***	−0.792***	−0.683***	−0.719***
	(−20.40)	(−12.12)	(−22.97)	(−8.27)	(−19.53)	(−9.22)
LEV	0.960***	3.662***	0.811***	3.502***	2.302***	1.121***
	(12.88)	(33.85)	(11.32)	(26.32)	(29.92)	(9.46)
LSH	0.983***	0.023	0.722***	0.020	0.029	0.824**
	(5.24)	(0.77)	(4.84)	(0.51)	(0.96)	(2.06)
GROWTH	0.013	−0.028*	−0.004	−0.004	−0.011	0.396***
	(0.94)	(−1.93)	(−0.28)	(−0.24)	(−0.95)	(2.74)
AGE	0.055***	−0.020	0.039***	−0.051*	0.013	−0.007
	(5.09)	(−1.05)	(4.22)	(−1.69)	(1.10)	(−0.30)
Constant	15.936***	14.100***	14.682***	17.167***	15.252***	16.254***
	(22.26)	(12.55)	(25.37)	(8.55)	(20.81)	(9.69)
观测值	1077	767	1432	412	1680	164
Adj-R^2	0.41	0.66	0.36	0.71	0.48	0.61

说明：1. *** 表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

3. 分年度检验的结果与此类似，但限于篇幅未列出。

公司的业绩与多元化经营变量，结果列示在表4的第(3)列和第(4)列。我们看到，对于国有公司，多元化经营与公司业绩间呈显著的负相关关系，但对于非国有公司，没有证据表明多元化经营降低了公司的绩效。

表4的第(5)列和第(6)列是按照上市公司的集团隶属关系进行分组检验的结果。从中可以看出，对于隶属集团的公司，多元化经营与公司业绩间呈显著的

负相关关系，表明多元化经营降低了隶属于集团的公司的价值，但上述关系在未隶属于集团的公司中则不存在。

我们对上述检验也进行固定效应模型的回归，并使用了经行业调整的公司业绩指标，结果如表5所示。结果表明，对于政府干预较弱、国有和隶属集团的公司，多元化经营与公司价值间呈显著的负相关关系。

五、敏感性检验

（一）衡量指标

1. 公司价值的衡量指标

考虑到我国上市公司的股权分置状况，用Tobin's Q衡量公司的价值存在一定的偏颇性，我们又采用了会计业绩指标作为公司业绩的衡量变量对多元化经营的绩效进行了检验。根据已有的研究，我国上市公司普遍存在盈余管理，且多通过非主营业务实现 (Chen and Yuan, 2004)；因此，我们以主营业务资产收益率（*CROA*）和经营性现金流资产收益率（*CFROA*）作为业绩衡量指标。其中，*CROA*等于主营业务利润与总资产的比值，*CFROA*为经营性活动现金流量净额与总资产的比值。回归结果如表6所示。我们看到，无论以*CROA*还是*CFROA*作为因变量，公司多元化经营变量*NUM*的系数均显著为负，而且公司业绩经行业调整和未经行业调整得到一致的结果，从而说明本文的基本结论并非由公司业绩变量的计量偏差而致。

2. 多元化经营的衡量指标

为了进一步验证上述结论是否由于多元化指标的衡量引起的，我们又采用了传统的公司多元化经营衡量指标（包括按照分部报告计算行业数和计算行业收入的Herfindahl指数）对模型（1）进行了回归。回归结果如表7所示。其中，*D*和*HER*分别为根据分部报告计算的公司经营行业数和收入Herfindahl指数（该数值越大，公司多元化经营的程度越低）。我们看到，不论是公司经营行业数（*D*）还是收入Herfindahl指数（*HER*），在调整行业绩效和未调整行业绩效的回归中都在1%水平显著，说明本文的基本结论不受多元化衡量指标的影响。

（二）内生性问题

Lang and Stulz（1994）发现多元化经营企业在实施多元化战略前相对与非多元化企业业绩较差，Campa and Kedia（2002）也发现多元化经营的动机与公司业绩间呈显著的负相关关系，多元化经营是公司的一种自我选择。因此，我们观察到的多元化经营与公司业绩的负相关关系，可能还无法完全认定是多元化经营损害了公司业绩。因为，公司可能会由于业绩差而实施多元化战略，从而

表5 公司业绩经行业调整的固定效应模型的回归结果

变量	政府干预的影响		产权性质的影响		集团属性的影响	
	干预弱	干预强	国有	非国有	集团	非集团
	(1)	(2)	(3)	(4)	(5)	(6)
NUM	–0.047***	–0.039*	–0.047***	–0.033	–0.072***	–0.022
	(3.81)	(1.76)	(4.43)	(0.93)	(5.31)	(0.88)
INT			0.032***	0.017	0.026***	0.045***
			(6.32)	(0.97)	(3.82)	(3.91)
LSN	0.046	0.204*			0.199***	–0.370
	(0.65)	(1.82)			(2.87)	(0.78)
GROUP	–0.237**	–0.524***	–0.244***	0.054		
	(2.25)	(3.63)	(3.39)	(0.05)		
SIZE	–0.647***	–0.612***	–0.598***	–0.728***	–0.636***	–0.636***
	(19.78)	(11.76)	(22.33)	(7.97)	(18.74)	(9.21)
LEV	0.962***	3.635***	0.813***	3.480***	2.292***	1.125***
	(13.63)	(34.69)	(11.88)	(27.47)	(30.78)	(10.73)
LSH	0.928***	0.019	0.730***	0.010	0.024	0.917**
	(5.22)	(0.65)	(5.13)	(0.27)	(0.83)	(2.58)
GROWTH	0.015	–0.022	–0.002	0.003	–0.007	0.363***
	(1.07)	(1.56)	(0.15)	(0.16)	(0.61)	(2.84)
AGE	0.065***	–0.006	0.050***	–0.028	0.026**	0.000
	(6.27)	(0.30)	(5.51)	(0.97)	(2.31)	(0.01)
Constant	12.844***	11.382***	11.802***	13.855***	12.321***	12.616***
	(18.88)	(10.45)	(21.31)	(7.23)	(17.34)	(8.47)
观测值	1077	767	1432	412	1680	164
Adj-R^2	0.42	0.67	0.36	0.72	0.49	0.64

说明：1. *** 表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

表现为公司业绩与多元化经营间的负相关关系。为了控制多元化经营与公司业绩间的这种内生性问题，我们对多元化经营与公司业绩间的关系进行了二阶段回归。方法如下：

首先回归以下方程：

$$PER_i = \alpha_0 + \alpha_1 NUM_i + \alpha_2 INT + \alpha_3 LSN + \alpha_4 GROUP + \alpha_5 SIZE_i + \alpha_6 LEV_i + \alpha_7 LSH_i + \alpha_8 GROWTH + \alpha_9 AGE_i + \varepsilon_i \quad (3)$$

表6 会计业绩指标的敏感性检验结果

业绩指标	未调整行业业绩		调整行业业绩	
	CROA	*CFROA*	*CROA*	*CFROA*
NUM	−0.003***	−0.006***	−0.003***	−0.004***
	(−4.83)	(−5.30)	(3.93)	(3.89)
INT	0.001**	0.001	0.001***	0.001*
	(2.07)	(1.03)	(3.24)	(1.82)
LSN	0.003	0.012***	0.002	0.004
	(0.63)	(2.74)	(0.40)	(1.12)
GROUP	−0.003	−0.008	−0.004	−0.012*
	(−0.55)	(−1.26)	(1.00)	(1.99)
SIZE	0.012***	0.019***	0.013***	0.015***
	(4.34)	(8.31)	(4.91)	(7.19)
LEV	−0.044***	−0.069**	−0.041***	−0.067**
	(−3.53)	(−2.47)	(3.38)	(2.34)
LSH	−0.001*	−0.002***	−0.001***	−0.003***
	(−1.95)	(−2.84)	(3.33)	(3.56)
GROWTH	0.002	0.001	0.002	0.001
	(1.41)	(0.46)	(1.66)	(0.88)
AGE	0.000	0.002**	0.000	0.003***
	(0.21)	(2.48)	(0.55)	(3.46)
Constant	−0.121**	−0.328***	−0.252***	−0.302***
	(−2.01)	(−6.76)	(4.36)	(6.76)
观测值	1844	1844	1844	1844
Adj-R^2	0.09	0.16	0.09	0.13

说明：1. *** 表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

3. 分年度检验的结果与此类似，但限于篇幅未列出。

求得回归方程的残差e_i，再用多元化经营变量对残差e_i和其它控制变量进行回归，以考察公司业绩对多元化经营的影响。具体模型如下：

$$NUM = \gamma_0 + \gamma_1 e_i + \gamma_2 LSN + \gamma_3 GROUP + \gamma_4 SIZE_i + \gamma_5 LEV_i + \gamma_6 GROWTH + \gamma_7 AGE_i + \varepsilon_i \quad (4)$$

其中，*NUM*是公司多元化经营指标。*LSN*是股东性质变量，以控制不同性质公司多元化经营的差异。*GROUP*衡量公司是否隶属于一个集团。如果一个公

表7 多元化衡量指标的敏感性检验结果

变量	未调整行业业绩		调整行业业绩	
	D	*HER*	*D*	*HER*
D/*HER*	−0.061***	0.365***	−0.068***	0.446***
	(−3.80)	(3.53)	(4.62)	(4.48)
INT	0.028**	0.027**	0.025***	0.024***
	(2.10)	(2.08)	(2.75)	(2.76)
LSN	0.218***	0.207***	0.208***	0.194**
	(2.90)	(2.74)	(2.80)	(2.60)
GROUP	−0.373***	−0.378***	−0.373***	−0.379***
	(−3.32)	(−3.37)	(3.50)	(3.56)
SIZE	−0.715***	−0.725***	−0.672***	−0.684***
	(−12.17)	(−12.30)	(11.33)	(11.50)
LEV	2.110**	2.108**	2.100**	2.098**
	(2.29)	(2.29)	(2.30)	(2.30)
LSH	0.034	0.034	0.031	0.030
	(1.21)	(1.22)	(1.08)	(1.08)
GROWTH	−0.010	−0.011	−0.006	−0.008
	(−0.86)	(−0.99)	(0.50)	(0.66)
AGE	0.003	0.002	0.012	0.011
	(0.11)	(0.07)	(0.54)	(0.50)
Constant	16.007***	15.807***	13.212***	12.976***
	(13.38)	(13.33)	(10.91)	(10.84)
观测值	1844	1844	1844	1844
Adj-R^2	0.47	0.47	0.47	0.47

说明：1. *** 表示在99%置信水平上显著；** 表示在95%置信水平上显著；* 表示在90%置信水平上显著。括号内是各估计参数的T值。

2. 观测值减少是因为有些公司的所有权信息未披露。

3. 分年度检验的结果与此类似，但限于篇幅未列出。

司隶属于集团，由于内部资本市场的优势业已取得，可能更不会多元化经营。我们也控制了公司规模（*SIZE*）对多元化经营的影响。相对来说，规模越大的公司可能更易进行多元化经营。*LEV*是公司负债率。如果公司的债务负担过重，由于资金缺乏而更不易实施多元化的经营战略。Hyland（1999）指出，当企业的经营陷入困境时，有很强的动机进行多元化经营而获得成长机会。因此，在模型中我们加入了公司成长性变量（*GROWTH*）。最后，我们控制了上市年限（*AGE*）对公司多元化经营的影响。

回归结果如下所示，其中括号内为t值：

$$NUM = -9.3573 + 0.0001e - 0.4915LSN + 0.0243GROUP + 0.5682SIZE$$
$$(0.00) \quad (-3.91) \quad (0.13) \quad (9.74)$$
$$+ 0.1802LEV + 0.0042GROWTH + 0.1665AGE$$
$$(1.42) \quad (0.20) \quad (8.84)$$
$$\text{F值} = 27.05 \quad \text{Adj } R^2 = 0.0900$$

我们看到，残差*e*在回归方程中不显著，从而表明本文的研究结果并非由于内生性问题引起。有趣的是，我们还发现非国有公司多元化经营的程度更高；规模越大的公司更易实行多元化经营；最后，随着公司上市年限的增加，经营的业务数也逐渐增多。

六、研究结论

本文在综述西方多元化经营研究文献的基础上，分析了中国上市公司多元化经营的特殊性，并综合上市公司的分部报告和控股子公司信息构造了一个有效的公司多元化经营衡量指标，在此基础上以我国上市公司2002至2003年度的经验数据实证考察了多元化经营与公司价值间的关系，研究发现我国上市公司大部分都实行多元化经营，上市公司平均经营了3.4017个行业，最多的公司甚至涉足了14个行业。回归结果表明，多元化经营与公司价值间呈显著的负相关关系。进一步研究发现，当上市公司经营4个及4个以上行业时，公司价值开始显著降低。更为重要的是，本文发现多元化程度与公司价值之间的负相关关系受到政府干预、控股股东产权性质和集团隶属关系的显著影响：多元化程度对公司价值的消极影响主要存在于政府干预较弱、第一大股东为国有和经营性实体的公司之间，没有证据表明上述关系也适于政府干预较强、第一大股东为非国有或非经营性实体的公司。敏感性检验的结果表明，在控制多元化经营与公司价值之间的内生性关系后，上述结论仍然成立，并且，该结论也不受公司绩效和多元化衡量指标的影响。

对于新兴市场中的企业，由于外部的产品、资本和劳动力市场不发达，多元化经营可以通过建立内部市场降低交易成本。并且，相比于专业化经营，多元化经营也更适合企业跟政府之间的“寻租”行为。但是，当公司的股权高度集中到大股东可以直接控制或对公司的生产经营活动施加重大影响时，控股股东的掏空动机（包括国有控股股东附加给上市公司的政策性负担）和上市公司隶属的企业集团属性都增加了多元化经营的复杂性。本文针对新兴市场中上市公司信息披露普遍不够完善的现状，对多元化经营的衡量指标进行了创新，考察了公司价值与多元化经营间的关系，并分析了政府干预经济、所有权性质和

集团隶属关系对多元化绩效的影响，研究结论加深了我们对新兴市场中上市公司多元化问题的理解。

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THE VALUATION EFFECTS OF DIVERSIFICATION: EVIDENCE FROM CHINA-LISTED COMPANIES*

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ABSTRACT

This paper empirically investigates the potential effects of a diversification strategy upon firm value by developing a composite diversification measure based on both divisional and subsidiary information using a sample of listed companies from the years 2002 and 2003. We find that diversification of operations has, on average, remarkably negative effects upon firm value. In particular, when a firm engages in four industries or more, firm value starts to fail. Furthermore, this negative correlation between diversification and firm value could be attributed to government intervention, controlling shareholders' ownership, and the firm's organisational structure.

Key words: Diversification, Government Intervention, Controlling Shareholders

I. INTRODUCTION

Over the past few decades, diversification has been a controversial topic both in research and business. In this paper, we try to analyse the effects of a diversification strategy upon firm value using empirical evidence from listed companies in mainland China.

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During the 1960s, the operational models of large corporate enterprises in the United States underwent a dramatic shift to substantial diversification, such that more than two-thirds of Fortune 500 firms adopted a strategy of diversification (Rumelt, 1977). However, this prevalence faded away in the early 1980s; companies spun off unprofitable assets, cut operations, and focused on their core business.[4] Diversification strategies came back in the 1990s when global mergers and acquisitions (M&As) prevailed.[5] Numerous companies began to engage in diversified industries and sectors through M&As. Diversification has gained global popularity again. As in the United States, the advantages and disadvantages of diversification for firms in China have been much discussed; while an increasing number of specialised companies are beginning to invest in different businesses, some well-known conglomerates are starting to divest. The former firms include Haier, TCL, Midea, Lenovo, Chunlan, Skyworth, Greencool, Wuliangye, and Bluestar, and the latter firms include Lenovo and Skyworth (*China Business Post*, 2004).

The controversy over diversification exists not only in the business world but also in academia. Studies carried out before the 1990s could not reach a consistent conclusion on whether firms should diversify (Miller, 1969; Carter, 1977; Imel and Helmberger, 1971; Grinyer, Yasai-Ardekani, and Al-Bazzaz, 1980; McDougall and Round, 1984; Montgomery, 1985). Although in the mid-1990s most of the empirical studies showed that diversified firms were devalued (Lang and Stulz, 1994; Berger and Ofek, 1995; Servaes, 1996),[6] recently, researchers have increasingly questioned the methodology used in these studies. In addition, they point out that the discounted firm value is not due to the diversification strategy (Hyland, 1999; Campa and Kedia, 2002). Compared with the US companies studied in most of the existing literature, diversification in China-listed companies has its own special characteristics, which are summarised below.

First, China is the world's largest transitional economy. Its unsound market system makes the choice of a diversification strategy more complicated. In essence, the problem of diversification lies in firm boundaries. The transaction-cost economics developed by Coase (1937), Cheung (1983), and Williamson (1985) explain firm boundaries from a transaction-cost perspective. North (1981, 1990) put forward the theoretical framework for the effect of institutions on transaction costs. Based on the above two frameworks, Khanna and Palepu (1997) analyse immature institutions in emerging markets, such as the capital market, the product market, and the managers' market, and conclude that a diversification strategy can help to overcome the shortcomings in external markets in an emerging economy and can create higher

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[4] Nonetheless, during 1990 to 1996 diversified operating listed firms in the US hired nearly half of the total labour force and owned about 60 per cent of total assets on the market (Martin and Sayrak, 2003).

[5] According to statistics, global M&A transactions in 1999 amounted to US$2.3 billion (Pryor in press).

[6] The firm value of a diversified company is smaller than the sum of its divisional values in respective industries, which are measured by the average market value.

firm value than a specialised strategy can. Using a sample of China-listed companies, Fan *et al*. (2000) provide empirical evidence on whether institutional risks can explain the diversification choice of a firm. However, existing diversification research has been mainly concentrated upon developed countries, such as the US; little literature discusses or empirically studies the valuation effects of diversification in developing markets. Moreover, a few papers that focus on emerging markets provide contrary conclusions. For example, Khanna and Palepu (2000) take an empirical test on Indian firms and find that companies affiliated to diversified groups perform better than those affiliated to specialised groups or independent operating companies. Lins and Servaes (2002) find contrary evidence based upon their investigations into seven emerging market countries in Asia. In view of these research results, a study on the relationship between diversification and firm value for China-listed companies will enrich the diversification literature on emerging economies.

Second, the highly concentrated ownership structure and group organisational structure make the diversification strategy more complicated. The pioneering paper of La Porta *et al*. (1999) that studies listed companies from 47 countries introduces theoretical views about the corporate ownership structure and stimulates a series of research papers on corporate groups. According to Almeida and Wolfenzon (2006), listed companies join groups to overcome the institutional constraints imposed on them and to implement specialised strategies more easily. In contrast, other studies prove that in economies with poor investor protection, controlling shareholders expropriate minority shareholders by tunnelling via related party transactions (Bae, Kang, and Kim, 2002; Bertrand, Mehta, and Mullainathan, 2002; Li, Sun, and Wang, 2004; Li, Yu, and Wang, 2005). Therefore, studying diversification in China-listed companies helps us to gain knowledge about the internal market of corporate groups in transitional economies.

Finally, China-listed companies are mostly owned by the state. The multifunctions pursued by the government and the rent-seeking intentions of corporations complicate the diversification strategy. Apart from an unsound market system, government intervention in social resource allocations is another characteristic found in an emerging economy. The government could be either a "helping hand" or a "grabbing hand" for firms (Shleifer and Vishny, 1998). As part of the reform of state-owned enterprises (SOEs), the Chinese securities markets have long existed only to serve the SOEs. Few private corporations have the opportunity to go public; not until recently have a number of private companies been able to raise capital on the Shenzhen Small and Medium Enterprise Board. After the financial rights had been clearly delineated between the central and local governments, the budget constraints of local government were largely relaxed. On the one hand, SOEs or local government-controlled listed companies still bear many policy burdens (Fan, Wong, and Zhang, 2007; Xia and Fang, 2005); on the other hand, the local governments will try by all possible means to support these local companies to help them keep their listing qualifications and even compete for national economic resources (Chen and Li, 2000; Li, Yu and Wang, 2005). Considering the government's

monopoly on many resources and the helping and grabbing relationship between government and firms, diversification could be seen either as a signal to confirm the benefits listed companies gain from local governments or as a political achievement by the government through its policies. From this perspective, studying corporate diversification will furnish us with an opportunity to measure the relationship between government and firms.

All of the above show that the study on the effects of diversification upon performance of China-listed companies is an empirical research topic. Literature on diversification of China-listed companies is rare. Furthermore, the existing research provides inconsistent findings. Some conclude that diversification is negatively correlated with firm performance (Cen, 1997; Li, 2002; Zhang, Liu, and Gong, 2005); some find a positive correlation (Su, 2005); some even find no correlation (Zhu, 1999; Jin *et al*., 2002). However, the above research does not take the measurement of diversification into account in the empirical design. This can be largely attributed to the non-standard sectorial information disclosure in annual reports. Some companies only itemise their products; some roughly categorise their operations into agriculture, industrial, commerce, and service. Thus sectorial information cannot be used directly to measure diversification. As pointed out by Zhu (1999), sectorial information is so poorly disclosed that such sections in the annual reports are far from adequate to be used to measure the degree of diversification, although listed firms are obliged to disclose related information. Furthermore, the above research does not consider the special institutional background of China-listed companies, including government intervention, group attributes, and the ownership structure.

This paper configures an effective diversification measurement based upon listed companies' divisional reports and subsidiary information to empirically investigate the relationship between diversification and corporate performance by employing a sample of China-listed companies between the years 2002 and 2003. We find that diversified operations bring down corporate performance remarkably; particularly, when the firm operates more than four lines of business, firm value decreases more sharply. A further test shows that the negative effects appear mainly in companies with weak government intervention and in which the largest shareholders are state-owned operating entities. No exact evidence shows that this negative correlation exists in companies with strong government intervention and in which the largest shareholders are non-state-owned or non-operating entities.

The paper proceeds as follows. In Section II, we review theories and literature on diversification. In Section III, we discuss the special market and institutional environment in which China-listed companies carry out diversification strategies, and present our hypothesis. In Section IV, we report statistics of diversification and our empirical analysis on the valuation effects of diversification on firm performance. In Section V, we perform a sensitivity test to re-address the issue by employing different performance and diversification proxies and to examine the endogeneity problem. In Section VI, we conclude this paper by summarising our findings.

II. THEORIES AND LITERATURE REVIEW

Western theories on the valuation effects of diversification are mainly developed from two approaches: one group of research studies normally discusses whether diversification has good or bad effects upon corporate operations, while the other provides empirical evidence on the valuation effects of diversification.

1. How Does Diversification Influence Firm Performance?

Theoretically, the benefits of diversification include lower business risks, higher debt capacity, and having an internal capital market. Some research shows that a diversified company can avoid the business risk of suffering loss from one business failure, and thus lower the risks of bankruptcy; lower bankruptcy risks can better guarantee its debt capacity. For example, Lewellen (1979) finds that diversified firms are able to borrow more loans than single-business firms, so that the former enjoy more tax allowances. The benefits of establishing an internal capital market within organisations through diversification are as follows. First, since internal financing does not incur high transaction costs as in the case of external financing, that is, no price discounts result from information asymmetry when shares are issued, the firms' financing costs can be reduced. Second, the establishment of an internal capital market can prevent the problem of inadequate investment from arising. Myers (1977) points out that when serious information asymmetry exists between external potential investors and the firm, the firm will not be able to obtain sufficient capital to support some lucrative investments. With an internal capital market, this problem can be solved by means of internal capital transfer. Finally, instead of relying on external investors who may not know the operations of the company, management have more discretion over investments thanks to the internal capital market. In this sense, management are motivated to make better investment decisions.[7]

Although diversification does bring positive effects to firm value, according to other research on diversification, it can have a negative influence on firms as well. First, diversification can avoid the problem of insufficient investment due to information asymmetry, but it may also cause the problem of over-investment. Stulz (1990) finds that management may choose unprofitable projects to entrench firm value because the internal capital market can provide ample funds. Second, stock options offered as incentives lack attractiveness for diversified companies, because divisional managers can exercise influence only on operations within their own business scope and have little influence on the performance of the whole organisation. Third, diversification may lead to uneconomic compensation for losses. Meyer, Milgrom, and Roberts (1992) find that no single-business companies have negative net assets, as they would have gone bankrupt before reaching that state of affairs. However, if the single-business concern is not an independent entity but a part of a diversified company, it can possibly exist even if it has more debts than total

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[7] Stein (1997) finds that management can make better investment decisions with their information advantage.

assets. This is quite common, as diversified companies can transfer profits created by other sectors to make up for losses, in which case firm value will fall. Finally, diversified companies are more likely to be ineffective in resource allocation due to information asymmetry. The senior management of diversified companies is more likely to have information asymmetry problem with divisional management, resulting in sub-optimisation because divisional managers aim to gain more resources for their own benefit at the expense of the whole organisational development and make organisational resource allocation inefficient (Harris *et al*., 1982). Other negative effects of diversification include strong constraints upon senior management (McDougall and Round, 1984) and weak adaptability (Bettis and Mahajan, 1985).

2. Empirical Evidence

Earlier empirical literature on the relationships between diversification and corporate performance is not theoretically framed. Roughly, it can be categorised into two schools: one contains studies on the direct effects of diversification upon corporate performance; the other compares related diversification with non-related diversification. No consistent conclusions are derived in either school of literature until the 1990s when Tobin's Q ratio is introduced into diversification research as a measurement for firm value. It is mostly agreed since then that diversification harms firm value creation. Lang and Stulz (1994) first employ Tobin's Q ratio in diversification research to measure firm performance. They find that the Tobin's Q ratios of diversified firms are lower than those of specialised firms by 8 per cent. Berger and Ofek (1995) observe the performance of US diversified companies from the years 1986 to 1991, and they also find that these companies suffer an average value loss of 10 to 15 per cent. Servaes (1996) takes a much longer window to study the performance of diversified companies and finds that the sharp price discount of diversification found in the 1960s is not so prominent in the 1970s. In addition to the above direct empirical evidence, some research indirectly analyses the influence of diversification on firm performance. Based on a large sample of listed companies in NYSE and ASE from 1978 to 1989, Comment and Jarrell (1995) investigate the relationship between corporate focus and stock returns, and discover that stock returns increase by 5 per cent in two years when one business is closed down. Desai and Jain (1999) find similar evidence that during the three years after asset spinoffs, the abnormal returns brought by business-focused spinoffs are significantly higher than those brought by other spinoffs. John and Ofek (1995) take a closer look at the performance effects of diversification, and the result shows that corporate performance improves during the three years after the sale of assets, which makes the firm's operations more focused.

As more and more papers document the discount of diversification, researchers begin to explore the reasons for the discount. Existing literature mainly explains the discount from the perspectives of agency costs and inefficient internal capital market. The agency theory-based literature includes the work of Denis *et al*. (1997), who consider that management are responsible for the discount; Anderson *et al*.

(2000) find that the CEOs of diversified firms have relatively smaller stakes in the company but higher levels of salaries, which are loosely related to corporate performance. This is confirmed by Palia (1999), who finds that the diversification discount is lower when diversified companies adopt pay packages that are closely linked to performance and when the board of directors is smaller in size. The inefficient internal capital market-based literature includes Shin and Stulz (1998), who find that investments by a division of a diversified firm depend on the cash flows of the firm's other divisions, but are significantly less dependent on its own cash flows. Scharfstein (1998) finds that divisions of diversified conglomerates engaging in manufacturing industries with high Tobin's Q ratios tend to invest less than their single-business industry peers, while divisions of diversified conglomerates engaging in manufacturing industries with low Tobin's Q ratios tend to invest more than their single-business industry peers. Scharfstein and Stein (2000) develop a model that shows how information asymmetry between division managers and headquarters subverts the workings of an internal capital market.

There is substantial evidence to suggest that the market places a lower value on diversified firms than on specialised firms, yet many firms still implement diversification. Therefore, some recent research begins to doubt that stock price discounts truly result from diversification. Hyland (1999) tests a sample of specialised firms that announced a diversification event from 1978 to 1992, and finds that specialised firms have strong incentives to diversify to gain growth opportunities when they meet business difficulties. Diversification can thus be seen as an endogenous solution to bad performance. Graham *et al*. (1999) find that the value of a single-business firm is already discounted by 15 per cent before it is acquired by a corporate group. Lamont and Polk (2001) think that diversified firms have different values due to differences in market expectations for either future cash flows or future returns. Diversification discounts indicate higher expected returns by investors.[8] Mansi and Reeb (2002) find that shareholder value declines with diversification whereas debtors gain value. The overall results indicate that diversification is insignificantly related to changes in firm value. Campa and Kedia (2002) use three alternative econometric techniques to control for the endogeneity of diversification decision. They find that the diversification discount always drops and sometimes turns into a premium.

Some recent research turns to the subject of diversification in emerging economies. Khanna and Palepu (2000) find a non-linear correlation between diversification and firm performance, which suggests that a higher degree of diversification in a corporate group will first lead to a decrease and then an increase in the divisional performance. Fauver *et al*. (2003) find that the value of corporate diversification is negatively correlated with the level of development and internationalisation of the capital market, because diversification can improve firm performance in a developing capital market with a low level of globalisation. However, Lins and Servaes (2002) use a sample of over 1000 firms from seven emerging markets in 1995, and

[8] According to the discounted dividends model, high expected returns mean high discount rates, and other things being equal, the firm value is thus lower.

find that diversified firms trade at a discount of approximately 7 per cent when compared with single-business firms.

III. INSTITUTIONAL CONTEXT, THEORETICAL ANALYSIS, AND HYPOTHESIS

Diversification is in nature an internal price mechanism that organises production activities which are originally coordinated by the market or other organisations; in other words, it takes into account the firm's boundaries. The theory of firm boundaries first appears in Coase's *The Nature of the Firm* (1937). Coase thinks that the market and the firm are two types of production coordination mechanisms. Whether we choose the market or the firm to realise the production is determined by whether market transaction costs are higher or lower than the costs of internal organisational transfers. A firm exists because the firm organisation of production can save the costs otherwise incurred by using a price mechanism—the most obvious costs are those for finding out what the relevant prices are and for negotiating separate contracts for each transaction. To add to the firm theory, Klein, Crawford, and Alchian (1978) explore one particular cost of the market system—post-contractual opportunistic behaviour, and they discuss the influence of specific assets on a vertical integration of the firm. Williamson (1979) describes the effects of opportunistic behaviour on contractual relations (including market transactions and the vertical integration) from three dimensions, namely uncertainty, transaction frequency, and asset specificity; he points out that contracts endogenously originate from transactions. As the largest transitional economy in the world, China is learning to develop its market system. In this institutional context, we refer to the theoretical framework of institutional economics established by North (1981, 1990) for our transaction-cost-based discussions about the institutions and valuation effects of diversification. According to the institutional change theory (North, 1990), an institutional context has a significant influence on the organisational structure, including the firm, the market, and government. Any organisational structure is the compromised choice of every related party to the organisation under institutional constraints with the aim of realising cost minimisation.

Diversification can save transaction costs in transitional economies. First, a transitional economy has the particular shortcoming that all market mechanisms are underdeveloped, including the product market, the capital market, and the managers' market. Diversification can overcome this weakness by internalising the market mechanism. In an inefficient product market, a single-business firm has to struggle hard to gain consumer recognition because of information asymmetry; however, once a "brand" has been established, the firm can enter into other industries and other business, taking advantage of its brand name. Diversification can therefore reduce recognition costs. As for the capital market, the internal capital market originating from a diversification strategy can be considered as a kind of cost-saving mechanism to reduce the huge financing expenditure resulting from information asymmetry (Khanna and Palepu, 1997). Second, another prominent feature of a transitional economy is government intervention in resource allocation (Chen and

Huang, 2006). The advantages of diversification for firms that wish to avoid government intervention can be easily explained as follows: on the one hand, diversification can mitigate the high risk of uncertainties brought about by rapidly changing government behaviour so that transaction costs are reduced (Fan *et al*., 2006); on the other hand, when the government has monopolistic claims over scarce resources, diversified firms that are closely connected to the government can harvest more rents than specialised firms, because firm value is directly determined by whoever possesses the scarce resources, but not by who owns more advanced technology.[9] In general, diversification is more suitable than specialisation in a transitional economy.

As with firms in other countries, excluding the US and the UK (La Porta *et al*., 1999), China-listed companies have a highly concentrated ownership structure. Listed companies cannot act independently of their mother corporations because these companies are usually absolutely or relatively controlled by one largest shareholder. It is not clear whether diversification can create more value for listed companies taking the concentrated ownership structure into account. On the one hand, although the external price mechanism is underdeveloped, listed companies do not have to diversify since they can cheaply borrow resources from their mother corporations; on the other hand, if the largest shareholder controls or can impose significant influence on the listed company's operating activities, the company has to submit itself to serving the overall interests of the major shareholders rather than to optimising decision-making and maximising self-benefit. Particularly, if the legal system cannot protect the investors' interests, controlling shareholders are very likely to tunnel value from listed companies through related-party transactions (Bae, Kang, and Kim, 2002; Bertrand, Mehta, and Mullaninathan, 2002; Li, Sun, and Wang, 2004; Li, Yu, and Wang, 2005). Therefore, listed companies have no choice but to diversify in emerging markets by imitating the functions of several institutions that are only present in advanced economies. However, the diversification strategy of China-listed companies is driven by far more complicated reasons than the above. One example is that when the controlling shareholder is state-owned, meaning that the shares held are not freely tradable, the government may instead directly collect rents from listed companies, which are forced to bear policy burdens, to mitigate the constraints of an insufficient local budget that results from the financial decentralisation between the central and local governments (Fan, Wong, and Zhang, 2007). Listed firms therefore have no alternative but to diversify.[10] Another example is that, since the state-owned controlling shareholder does not have its representative in the listed company, the company may be in fact controlled by insiders under local government intervention. Those insiders may decide on a

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[9] To help local firms maintain their listing qualifications, the local government will grant beneficial loans or other allowances to firms (Chen and Li, 2000; Li, Yu and Wang, 2005). Diversification turns out to be a political choice of subsidies.

[10] For example, if the investment returns of a business are poor, firms are expected to size down or even retrieve the investment. However, because of the policy burden of guaranteeing employment for workers, firms may still have to go on operating that business.

diversification strategy for their own sake in the form of an increase in either salaries or powers, in which case the diversification might actually destroy firm value.

Overall, diversification in theory can compensate for the imperfect market mechanism in a transitional economy and meet rent-seeking needs. But since listed companies (divisions or subsidiaries of groups) are absolutely or relatively controlled by a single major shareholder, they can take advantage of the internal transfer within the group to save transaction costs. Meanwhile, this internal transfer provides a convenient channel for tunnelling by the major shareholder. Diversification can thus be explained by more complex factors, such as the firm's rent-seeking behaviour, government subsidies, the tunnelling of the controlling shareholder, and policy burdens. The first two driving forces can lead to a positive correlation between diversification and firm value, while the latter two can be concluded with a negative one. Through the above analysis, we have reasons to believe that the discussion of the valuation effects of diversification on China-listed companies is an empirical topic which depends on the ownership structure and market system development.

IV. EMPIRICAL DESIGN

1. Research Design

i) Sample Selection

Our sample consists of China-listed companies from the years 2002 to 2003. After excluding financial companies, delisted companies, and companies with missing data, a total of 1,897 firm-year observations are obtained, of which 916 are for 2002 and 981 for 2003. Financial data are sourced from the China Stock Market and Accounting Research (CSMAR) database system and the Multi-dimensional Statistical Analysis System SA2000. The basic information of listed companies is taken from the Southern Securities Analysis and Trading System (V4.12).

ii) Diversification Measurement

Present research all uses divisional reports to measure diversification, which calls for complete disclosure. But in China the divisional information disclosure is not standardised; some companies just itemise their products, and some roughly categorise divisions into agriculture, industrial, and service. Furthermore, divisional information disclosure is based on sales; if the division does not have any net income, that part of divisional information will not be disclosed. Annual reports disclose detailed information on group subsidiaries, such as operation attributes, core products or services, registered capital, issued capital, the ownership structure, and whether the report is incorporated into the consolidated annual report.[11] There-

[11] In accordance with the "Tentative Provisions of Consolidated Financial Statements" and the "Reply to the Query about the Contents of Consolidated Financial Statements" promulgated by the Ministry of Finance, if the total assets, sales income, or net income of the subsidiary accounts for 10 per cent or above of the corresponding item of the group, the financial statements of the organisation should be consolidated.

fore, we use both the divisional reports and subsidiary information in annual reports to measure diversification, which is realised either in the form of group divisions or in the form of business subsidiaries, and to allow for below-zero net income disclosure. The problem of diversification measurement in China-listed companies can therefore be solved. We then design that special measurement as below:

First, lines of business in which the firms engage are ascertained from divisional reports;

Second, operations of subsidiaries are classified into different industries according to the operational and product information disclosed in annual reports;

Finally, classified industry information in divisional reports and subsidiary information is summarised, and the number of operating industries of the listed company (*NUM*) is calculated.

iii) Model

We use the following model to investigate the valuation effect of diversification.

$$PER_i = \alpha_0 + \alpha_1 NUM_i + \alpha_2 INT + \alpha_3 LSN + \alpha_4 GROUP + \alpha_5 SIZE_i + \alpha_6 LEV_i + \alpha_7 LSH_i + \alpha_8 GROWTH + \alpha_9 AGE_i + \varepsilon_i \quad (1)$$

PER measures firm performance—Tobin's Q ratio. It is equal to the sum of the market value of the equity and the book value of debts, both divided by total assets; the market value of the equity is defined as the average closing stock price for the last month of the year times the stock volume.[12] In the regressions run below, we use Tobin's Q ratios adjusted and unadjusted by industry median. The industry-adjusted Tobin's Q is calculated by subtracting the median Tobin's Q ratio for the firm's largest operating industry from the Tobin's Q of the firm. In the robustness test, we also report the analysis results of performance measurement based on accounting indicators.

NUM, *INT*, *LSN*, and *GROUP* are our focal variables. *NUM* is the variable for diversification. *INT* measures the degree of government intervention, which is taken from the *NERI Index of Marketisation of Provinces in China* by Fan and Wang (2003); a higher value of *INT* means less government intervention in the region. *LSN* is the proxy for the type of ultimate ownership, and takes the value of 1 if the ultimate owner is the state, and 0 otherwise. *GROUP* measures whether the firm is an independent company or belongs to a group, and takes the value of 1 if the largest shareholder is a government agency, an administration of state assets, a scientific research institute or non-operating natural person, and 0 otherwise.

Following the literature (Xu and Wang, 1998; Xu and Chen, 2003), we control for firm size (*SIZE*), debt ratios (*LEV*), size of the largest shareholding (*LSH*), and

[12] Since in the Chinese capital market there are non-tradable shares, we construct another Tobin's Q measure, which is equal to the sum of market value of tradable shares, book value of non-tradable shares and book value of debts, all divided by total assets. The regression results are similar.

firm growth (*GROWTH*). *SIZE*, *LEV*, and *LSH* use ending values of the year, and *GROWTH* represents the annual sales growth of the main operations. Moreover, it is found that earnings management is prevalent when a Chinese firm launches its initial public offering (Aharony *et al*., 2000). The reversal of accruals will lower firm profits in the following years, so we include the period of listing (*AGE*) in the model.

2. Empirical Results and Analysis

i) Diversification in China-listed Companies

Table 1 reports the descriptive statistics of diversification for the sample firms. We find that listed companies on average engage in 3.4017 industries, and the maximum number reaches 14. Furthermore, there is an upward trend in diversification among listed companies, as seen from the fact that the average number of operating industries for 2003 is higher than that for 2002.

Figure 1 shows the distribution of the number of industries in which the firms engage. As indicated in the figure, specialised companies account for only 21.30 per cent in the sample, and the number of industries in which diversified companies engage mainly lies between 2 and 5. Most of the companies engage in two industries, representing 23.04 per cent of the total sample.

To investigate the effect of diversification on firm performance, we calculate the mean performance value of firms with different numbers of operating industries. The results are presented in Figure 2, which shows that whether firm performance

Table 1 Descriptive Statistics of Diversification for Sample Firms

Year	Obs.	Mean	Median	Std. Dev.	Min.	Q1	Q3	Max.
2002	916	3.2467	3.00	2.1939	1.00	2.00	4.00	14.00
2003	981	3.5464	3.00	2.3455	1.00	2.00	5.00	13.00
Total	1897	3.4017	3.00	2.2779	1.00	2.00	5.00	14.00

Figure 1 Distribution of the number of industries

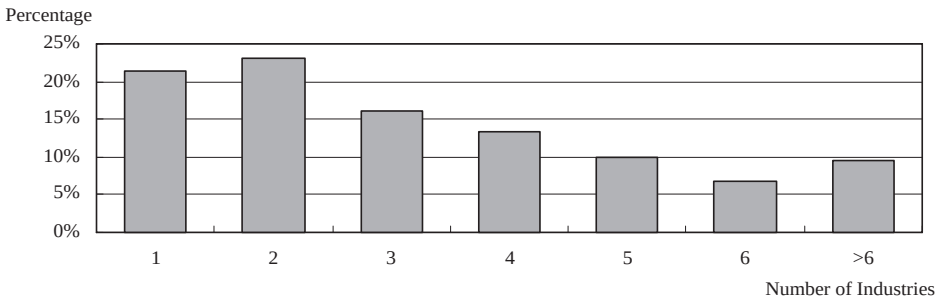
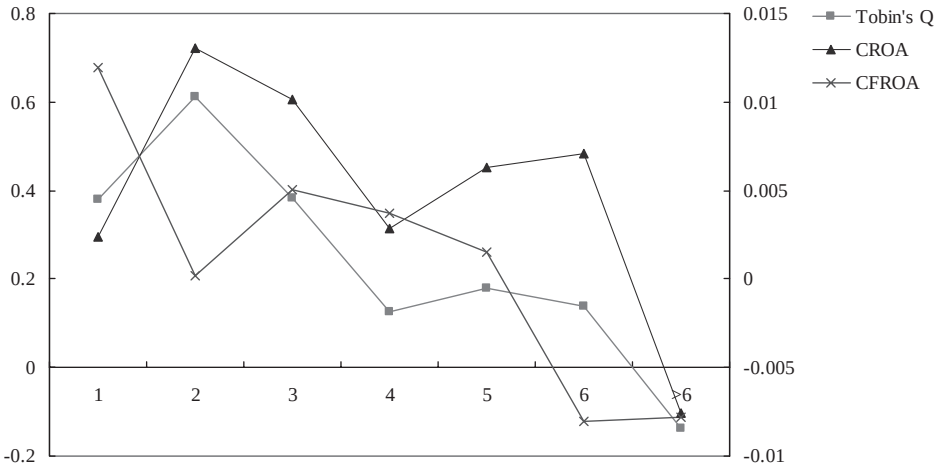


Figure 2 Relationship between firm performance and diversification



is measured by market value (Tobin's Q) or accounting indicators (*CROA* and *CFROA*), firm performance goes down as the number of industries increases. This means that diversification decreases firm performance.

ii) Empirical Results

Table 2 presents the regression results of model (1). We find that the coefficient of government intervention (*INT*) is significantly positive. This means that firms perform better in the regions where government intervention is weak. Group affiliation (*GROUP*) is significantly and negatively related to the Tobin's Q ratio, meaning that affiliation to a group improves firm performance. The coefficient of firm size (*SIZE*) is negative and significant at the 1 per cent level. This reflects the price manipulation of small-cap stocks on the Chinese capital market—the stock prices of small companies are vulnerable to manipulation, and thus generating a higher market value. We also find that the coefficient of debt ratio (*LEV*) is significantly positive, suggesting that the market values firms with more debts at a higher level.

Most importantly, after controlling for the above variables, we find a negative relationship between diversification and firm value regardless of whether or not the results are adjusted by industry performance or whether regressions are run with the total or yearly observations. This gives evidence that diversification discounts firm value. To test our conclusion, we also employ a fixed-effect model, which gives similar regression results.

iii) Incremental Effect of Diversification

We further investigate the incremental effect of diversification, that is, the marginal influence of the jth industry over firm performance. The model is as follows:

Table 2 Regression Results of Diversification and Firm Performance

Variable	Unadjusted by industry performance			Adjusted by industry performance		
	Total	2002	2003	Total	2002	2003
NUM	–0.060***	–0.044**	–0.046***	–0.065***	–0.062***	–0.045***
	(–4.96)	(–2.43)	(–5.64)	(5.67)	(3.49)	(5.49)
INT	0.031**	0.030*	0.025***	0.028***	0.028	0.025***
	(2.33)	(1.80)	(2.95)	(3.07)	(1.66)	(2.96)
LSN	0.198***	–0.030	0.134*	0.187**	0.016	0.136*
	(2.72)	(–0.23)	(1.85)	(2.61)	(0.12)	(1.83)
GROUP	–0.369***	–0.433***	–0.265***	–0.368***	–0.402**	–0.252***
	(–3.38)	(–2.92)	(–2.89)	(3.57)	(2.70)	(3.00)
SIZE	–0.686***	–0.949***	–0.464***	–0.641***	–0.894***	–0.450***
	(–11.77)	(–18.37)	(–10.90)	(11.03)	(16.99)	(10.27)
LEV	2.124**	2.728**	0.578***	2.116**	2.710**	0.608***
	(2.31)	(2.56)	(3.57)	(2.32)	(2.53)	(3.93)
LSH	0.030	0.013	0.503**	0.027	0.014	0.484***
	(1.22)	(0.75)	(2.67)	(1.07)	(0.79)	(2.83)
GROWTH	–0.009	–0.027*	0.005	–0.006	–0.027**	0.009
	(–0.83)	(–1.83)	(0.32)	(0.47)	(2.06)	(0.55)
AGE	0.008	0.009	0.053***	0.018	0.007	0.053***
	(0.37)	(0.29)	(5.68)	(0.85)	(0.22)	(5.91)
Constant	15.399***	21.044***	10.771***	12.545***	17.853***	8.753***
	(12.94)	(18.45)	(12.97)	(10.53)	(15.55)	(10.25)
Obs.	1844	870	974	1844	870	974
Adj-R^2	0.47	0.62	0.31	0.48	0.61	0.32

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.

$$PER_i = \beta_0 + \sum_j \beta_j \times NUM(j) + \text{Controlling variables} + \varepsilon_i, \quad (2)$$

where j = 2, 3, and 4. *NUM(j)* is a dummy variable, which equals to 1 when the number of industries in which the firm engages is not less than j, and 0 otherwise. Using model (2), we can investigate the effect of the jth industry on firm value when the firm diversifies. β_j captures the marginal contribution of the jth industry to firm performance. The definitions of other variables are the same as mentioned above.

Regression results are reported in Table 3. The coefficients of *NUM4* are significantly negative for the total sample or yearly regressions, which provides evidence that with the addition of the 4th industry, firm performance significantly decreases. The regression results adjusted or unadjusted by industry median are both similar.

iv) Influence of Government Intervention, Ownership Nature, and Group Affiliation

To investigate the effects of government intervention on the relationship between diversification and firm value, we divide our sample into two groups at the median of *INT*: the weak intervention group and the strong intervention group, and run regressions on them respectively. The regression results are presented in Columns (1) and (2) of Table 4. We find that firm value-related variables are not influenced by government intervention except for diversification, and the influence on diversification is remarkable. The results show that in regions where government intervention is weak, diversification undermines firm value, whereas in regions where government intervention is strong, diversification has no significant valuation effects.

Similarly, we study diversification and firm performance based on different ownerships. The sample is subdivided into two: one group where the ultimate controlling shareholder is state-owned, and another where the ultimate controlling shareholder is non-state-owned. The regression outcomes are listed in Columns (3) and (4) of Table 4. For the state-owned companies, diversification is significantly and negatively related to firm performance. But there is no striking evidence to prove this negative relationship in non-state-owned companies.

Columns (5) and (6) of Table 4 show the regression results based on group affiliation. For firms belonging to a group, diversification has negative effects upon firm performance—it undermines firm value of the subsidiary. However, this negative relationship does not exist among firms not affiliated to any group.

We re-test the above three influences using a fixed-effect dynamic model and industry-adjusted performance measures. Regression results are shown in Table 5. Again, for companies under weak government intervention and owned by the state or group entities, diversification can undermine firm value.

Table 3 Regression Results of the Incremental Effect of Diversification

Variable	Unadjusted by industry performance			Adjusted by industry performance		
	Total	2002	2003	Total	2002	2003
NUM2	0.118	0.137	0.126*	0.101	0.114	0.116
	(1.36)	(0.93)	(1.86)	(1.18)	(0.74)	(1.65)
NUM3	–0.090	–0.030	–0.069	–0.064	–0.044	–0.049
	(–1.05)	(–0.24)	(–0.67)	(0.73)	(0.33)	(0.47)
NUM4	–0.257***	–0.236*	–0.237***	–0.314***	–0.295**	–0.264***
	(–3.55)	(–1.77)	(–3.04)	(4.30)	(2.13)	(3.54)
INT	0.030**	0.030*	0.024***	0.028***	0.028	0.025***
	(2.26)	(1.78)	(2.89)	(3.00)	(1.64)	(2.93)
LSN	0.200***	–0.011	0.122	0.188**	0.037	0.124
	(2.75)	(–0.08)	(1.70)	(2.62)	(0.27)	(1.69)
GROUP	–0.364***	–0.425***	–0.265***	–0.363***	–0.393**	–0.252***
	(–3.31)	(–2.87)	(–2.77)	(3.50)	(2.65)	(2.85)
SIZE	–0.689***	–0.950***	–0.464***	–0.644***	–0.898***	–0.448***
	(–11.51)	(–17.34)	(–10.86)	(10.72)	(16.12)	(10.35)
LEV	2.119**	2.729**	0.574***	2.111**	2.709**	0.605***
	(2.29)	(2.53)	(3.65)	(2.31)	(2.51)	(4.06)
LSH	0.028	0.011	0.519***	0.025	0.013	0.488***
	(1.10)	(0.66)	(2.80)	(0.96)	(0.70)	(2.96)
GROWTH	–0.009	–0.029*	0.005	–0.006	–0.029**	0.009
	(–0.85)	(–1.98)	(0.37)	(0.49)	(2.25)	(0.61)
AGE	0.006	0.007	0.052***	0.016	0.005	0.052***
	(0.26)	(0.23)	(5.51)	(0.74)	(0.15)	(5.79)
Constant	15.342***	20.931***	10.662***	12.487***	17.791***	8.611***
	(12.53)	(16.51)	(12.77)	(10.15)	(13.96)	(10.23)
Obs.	1844	870	974	1844	870	974
Adj-R^2	0.47	0.62	0.32	0.48	0.61	0.32

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.

Table 4 Influence of Government Intervention, Ownership Nature, and Group Affiliation

Variable	Government Intervention		Ownership Nature		Group Affiliation	
	Weak (1)	Strong (2)	State-owned (3)	Non-state-owned (4)	Group (5)	Independent (6)
NUM	–0.041***	–0.030	–0.041***	–0.026	–0.068***	0.001
	(–3.18)	(–1.31)	(–3.74)	(–0.68)	(–4.88)	(0.03)
INT			0.035***	0.022	0.029***	0.051***
			(6.56)	(1.23)	(4.21)	(3.93)
LSN	0.051	0.239**			0.220***	–0.427
	(0.68)	(2.07)			(3.07)	(–0.80)
GROUP	–0.231**	–0.515***	–0.243***	0.366		
	(–2.08)	(–3.46)	(–3.23)	(0.33)		
SIZE	–0.703***	–0.650***	–0.643***	–0.792***	–0.683***	–0.719***
	(–20.40)	(–12.12)	(–22.97)	(–8.27)	(–19.53)	(–9.22)
LEV	0.960***	3.662***	0.811***	3.502***	2.302***	1.121***
	(12.88)	(33.85)	(11.32)	(26.32)	(29.92)	(9.46)
LSH	0.983***	0.023	0.722***	0.020	0.029	0.824**
	(5.24)	(0.77)	(4.84)	(0.51)	(0.96)	(2.06)
GROWTH	0.013	–0.028*	–0.004	–0.004	–0.011	0.396***
	(0.94)	(–1.93)	(–0.28)	(–0.24)	(–0.95)	(2.74)
AGE	0.055***	–0.020	0.039***	–0.051*	0.013	–0.007
	(5.09)	(–1.05)	(4.22)	(–1.69)	(1.10)	(–0.30)
Constant	15.936***	14.100***	14.682***	17.167***	15.252***	16.254***
	(22.26)	(12.55)	(25.37)	(8.55)	(20.81)	(9.69)
Obs.	1077	767	1432	412	1680	164
Adj-R^2	0.41	0.66	0.36	0.71	0.48	0.61

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.
3. The test results by year are similar (unreported).

Table 5 Regression Results of the Fixed-Effect Dynamic Model Measured by Industry-Adjusted Performance Indices

Variable	Government Intervention		Ownership Nature		Group Affiliation	
	Weak (1)	Strong (2)	State-owned (3)	Non-state-owned (4)	Group (5)	Independent (6)
NUM	–0.047***	–0.039*	–0.047***	–0.033	–0.072***	–0.022
	(3.81)	(1.76)	(4.43)	(0.93)	(5.31)	(0.88)
INT			0.032***	0.017	0.026***	0.045***
			(6.32)	(0.97)	(3.82)	(3.91)
LSN	0.046	0.204*			0.199***	–0.370
	(0.65)	(1.82)			(2.87)	(0.78)
GROUP	–0.237**	–0.524***	–0.244***	0.054		
	(2.25)	(3.63)	(3.39)	(0.05)		
SIZE	–0.647***	–0.612***	–0.598***	–0.728***	–0.636***	–0.636***
	(19.78)	(11.76)	(22.33)	(7.97)	(18.74)	(9.21)
LEV	0.962***	3.635***	0.813***	3.480***	2.292***	1.125***
	(13.63)	(34.69)	(11.88)	(27.47)	(30.78)	(10.73)
LSH	0.928***	0.019	0.730***	0.010	0.024	0.917**
	(5.22)	(0.65)	(5.13)	(0.27)	(0.83)	(2.58)
GROWTH	0.015	–0.022	–0.002	0.003	–0.007	0.363***
	(1.07)	(1.56)	(0.15)	(0.16)	(0.61)	(2.84)
AGE	0.065***	–0.006	0.050***	–0.028	0.026**	0.000
	(6.27)	(0.30)	(5.51)	(0.97)	(2.31)	(0.01)
Constant	12.844***	11.382***	11.802***	13.855***	12.321***	12.616***
	(18.88)	(10.45)	(21.31)	(7.23)	(17.34)	(8.47)
Obs.	1077	767	1432	412	1680	164
Adj-R^2	0.42	0.67	0.36	0.72	0.49	0.64

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.

V. SENSITIVITY TEST

1. Measurement

i) Performance Measurement

Considering the split share structure in China, the Tobin's Q ratio is not a complete proxy to measure performance of listed firms. We also employ accounting measures to investigate the relationship between diversification and firm performance. According to Chen and Yuan (2004), earnings management is very common in China-listed companies, and it is usually realised through non-core operations. We therefore use *CROA* and *CFROA* to measure firm performance. *CROA* is defined as operating earnings divided by total assets, and *CFROA* equals to operating cash flows divided by total assets. The regression results are presented in Table 6. The coefficients of

Table 6 Sensitivity Test Results for Firm Performance Measurement

Variable	Unadjusted by industry performance		Adjusted by industry performance	
	CROA	*CFROA*	*CROA*	*CFROA*
NUM	–0.003***	–0.006***	–0.003***	–0.004***
	(–4.83)	(–5.30)	(3.93)	(3.89)
INT	0.001**	0.001	0.001***	0.001*
	(2.07)	(1.03)	(3.24)	(1.82)
LSN	0.003	0.012***	0.002	0.004
	(0.63)	(2.74)	(0.40)	(1.12)
GROUP	–0.003	–0.008	–0.004	–0.012*
	(–0.55)	(–1.26)	(1.00)	(1.99)
SIZE	0.012***	0.019***	0.013***	0.015***
	(4.34)	(8.31)	(4.91)	(7.19)
LEV	–0.044***	–0.069**	–0.041***	–0.067**
	(–3.53)	(–2.47)	(3.38)	(2.34)
LSH	–0.001*	–0.002***	–0.001***	–0.003***
	(–1.95)	(–2.84)	(3.33)	(3.56)
GROWTH	0.002	0.001	0.002	0.001
	(1.41)	(0.46)	(1.66)	(0.88)
AGE	0.000	0.002**	0.000	0.003***
	(0.21)	(2.48)	(0.55)	(3.46)
Constant	–0.121**	–0.328***	–0.252***	–0.302***
	(–2.01)	(–6.76)	(4.36)	(6.76)
Obs.	1844	1844	1844	1844
Adj-R^2	0.09	0.16	0.09	0.13

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.
3. The test results by year are similar (unreported).

Table 7 Sensitivity Test Results for Diversification Measurement

Variable	Unadjusted by industry performance		Adjusted by industry performance	
	D	*HER*	*D*	*HER*
D / HER	–0.061***	0.365***	–0.068***	0.446***
	(–3.80)	(3.53)	(4.62)	(4.48)
INT	0.028**	0.027**	0.025***	0.024***
	(2.10)	(2.08)	(2.75)	(2.76)
LSN	0.218***	0.207***	0.208***	0.194**
	(2.90)	(2.74)	(2.80)	(2.60)
GROUP	–0.373***	–0.378***	–0.373***	–0.379***
	(–3.32)	(–3.37)	(3.50)	(3.56)
SIZE	–0.715***	–0.725***	–0.672***	–0.684***
	(–12.17)	(–12.30)	(11.33)	(11.50)
LEV	2.110**	2.108**	2.100**	2.098**
	(2.29)	(2.29)	(2.30)	(2.30)
LSH	0.034	0.034	0.031	0.030
	(1.21)	(1.22)	(1.08)	(1.08)
GROWTH	–0.010	–0.011	–0.006	–0.008
	(–0.86)	(–0.99)	(0.50)	(0.66)
AGE	0.003	0.002	0.012	0.011
	(0.11)	(0.07)	(0.54)	(0.50)
Constant	16.007***	15.807***	13.212***	12.976***
	(13.38)	(13.33)	(10.91)	(10.84)
Obs.	1844	1844	1844	1844
Adj-R^2	0.47	0.47	0.47	0.47

Notes: 1. *** denotes a significance level at 1 per cent, ** at 5 per cent, and * at 10 per cent. T values are bracketed.
2. The number of observations is less because some listed companies have not disclosed their ownership information.
3. The test results by year are similar (unreported).

diversification are significantly negative no matter whether we use *CROA* or *CFROA* as the measure for performance. The industry-adjusted measurement for performance gives the same results. Both sets of evidence prove that our conclusion is not sensitive to firm performance measurement.

ii) Diversification Measurement

We use proxies, such as the number of divisions and the Herfindahl index, taken from divisional reports to test the sensitivity of diversification measurement. The signs for the number of divisions (*D*) and the Herfindahl index (*HER*) are both consistent with expectations and both significant at the 1 per cent. This shows that our conclusion does not depend on the diversification measurement.

2. Endogeneity Problem

Lang and Stulz (1994) find that diversified firms perform worse than single-business firms before diversification. Campa and Kedia (2002) also discover that diversification is negatively motivated by firm performance; in other words, diversification is a self-selection of firms. Therefore, we cannot assert that diversification weakens firm performance. Firms may choose to diversify because of poor performance, which is observed and concluded by researchers as a negative relationship between diversification and firm performance. To address the endogeneity problem, we attempt the two-stage least squares regression (2SLS).

First, we run the following regression and derive the residual e_i:

$$PER_i = \alpha_0 + \alpha_1 NUM_i + \alpha_2 INT + \alpha_3 LSN + \alpha_4 GROUP + \alpha_5 SIZE_i + \alpha_6 LEV_i + \alpha_7 LSH_i + \alpha_8 GROWTH + \alpha_9 AGE_i + \varepsilon_i \quad (3)$$

Then, we run another regression for diversification measurement with e_i and other control variables to estimate the effect of firm performance on diversification.

$$NUM = \gamma_0 + \gamma_1 e_i + \gamma_2 LSN + \gamma_3 GROUP + \gamma_4 SIZE_i + \gamma_5 LEV_i + \gamma_6 GROWTH + \gamma_7 AGE_i + \varepsilon_i \quad (4)$$

NUM measures firm diversification. *LSN* is a proxy for firm ownership attributes, such as whether it is state-owned. *GROUP* measures whether a firm belongs to a corporate group. If a firm is part of a group, it has no need to diversify because of the existence of an internal market. We control for firm size because large firms have a greater potential to diversify. *LEV* is the debt ratio; highly leveraged firms are less likely to diversify due to capital deficiency. Hyland (1999) believes that distressed firms have stronger incentives to diversify to earn growth opportunities. Firm growth (*GROWTH*) is accordingly introduced into the model. Finally, we control for the effect of listing period (*AGE*) on firm diversification.

The regression results are presented as follows, and t-statistics are in parentheses:

$$NUM = -9.3573 + 0.0001e - 0.4915LSN + 0.0243GROUP + 0.5682SIZE + 0.1802LEV + 0.0042GROWTH + 0.1665AGE$$

(0.00) (–3.91) (0.13) (9.74) (1.42) (0.20) (8.84)

F value = 27.05 Adj R^2 = 0.0900

Since the residual e_i is not significant in the regression as shown, our conclusion is not biased by endogeneity. Interestingly, we find that private, big, and old firms are more diversified.

VI. CONCLUSION

We observe and analyse diversification in China-listed companies within the framework of Western diversification theories. This paper makes a contribution to diversification literature by creating an effective proxy to measure diversification based

upon divisional reports and subsidiary information. We use a sample of all listed companies between the years 2002 and 2003 in China to test the relationship between diversification and firm value. The statistical results show that most of China-listed companies diversify into on average 3.4017 industries per company up to 14 industries. Regression results show that diversification devalues firm performance to a large extent. A further test shows that if a listed company engages in 4 industries or more, firm value begins to fall. More importantly, we find that this negative correlation between diversification and firm value is mainly affected by government intervention, the controlling shareholder's nature, and group affiliation; in other words, this negative effect can mainly be observed in sample firms which are weakly intervened by the government and are owned by state-owned operating entities. No exact evidence shows that this negative correlation exists in companies under strong government intervention, and of which largest shareholders are non-state-owned or non-operating entities. A sensitivity test shows that even if diversification is endogenously correlated with firm value, the above findings can be still observed by whatever performance and diversification measures.

For firms running in emerging markets, since the product, capital, and labour markets are underdeveloped, the transaction costs are relatively high. Diversification provides a means to reduce these costs by establishing an internal market. Compared with specialised operations, diversification is an easier route to rent-seeking between firms and government. However, when the ownership structure is so highly concentrated that the largest shareholders can directly control the company or dominate all significant strategies, tunnelling possibilities (including the policy burdens imposed by state-owned controlling shareholders upon listed companies) and the attributes of the group to which the listed company belongs will substantially complicate the diversification of operations. Taking into consideration the incomplete information disclosure of annual reports, we design a new measure to observe diversification and firm value. We analyse the factors that influence firm diversification, including government intervention, ownership structure and group affiliation. The conclusions drawn will broaden our knowledge about corporate diversification in emerging markets.

REFERENCES

Please refer to pp. 21–24