

关联交易、企业价值与公司特征

—来自上市公司2000至2004年的经验证据¹

高雷² 宋顺林³ 薛云奎⁴

摘要

本文利用中国上市公司2000至2004年五年的面板数据,实证检验了关联交易与企业价值的关系,并检验了公司特征对关联交易与企业价值关系的交互影响。我们发现,关联交易与企业价值显著负相关,总体上支持了关联交易的掏空观。并且,公司具体特征能够影响关联交易的性质。具体来说,上市公司附属于集团公司,加大了关联交易为掏空的可能性;信息披露透明度越高,企业绩效越好,关联交易为掏空的可能性越小;关联交易为掏空的可能性与第一大股东持股比例呈倒“U”型关系;第二至第五大股东的持股比例并不能改变关联交易的性质;不同盈余管理动机对关联交易性质的影响不一致。

关键词:关联交易、企业价值、掏空、公司特征、公司治理、股权结构

一、引言

近年来,大股东掏空事件接二连三地曝光。从97年的“琼民源”事件,到05年的“三九集团”事件,大量的轶事证据显示出上市公司关联交易的危害。大股东掏空让人触目惊心,小股东对此无不义愤填膺,严重地影响了我国资本市场的正常发展。

¹ 我们衷心地感谢《中国会计与财务研究》两位匿名审稿人的宝贵意见及执行编辑俞伟峰教授的出色工作。错误和疏漏之处由作者负责。

² 高雷,博士,副教授,汕头大学商学院,联系地址:广东汕头大学路243号,515063。联系电话:0754-2902383,13342736990。E-mail: gaoleifinance@163.com。

³ 宋顺林,研究生,汕头大学商学院。E-mail: dalin507@163.com。

⁴ 薛云奎,长江商学院教授,汕头大学商学院院长、教授。E-mail: ykxue@ckgsb.edu.cn。

一方面,为谋取私利,大股东赤裸裸地占用上市公司资金,让上市公司为其巨额贷款提供担保。⁵另一方面,为避免报告亏损或获取配股资格,上市公司收取大股东资金占用费,向关联方高价出售公司资产。⁶陈晓、王琨(2005)列出了关联交易的五大罪状:掏空(Tunnelling)、操纵利润、制造炒作题材、转移利润、骗取贷款。各种罪状使关联交易成为了“贬义词”。实际上,关联交易是“中性词”,关联交易并不必然损害投资者的利益。有一部分研究认为,在新兴市场附属于商业集团的公司利用关联交易和内部资本市场获得了独立公司所不具备的优势,增强了效率(Leff, 1978; Hubbard and Palia, 1999; Khanna and Palepu, 2000a)。另一部分研究探讨了关联交易的机会主义观,关联交易可用来进行盈余管理(刘焯, 2001; Jian and Wong, 2003),关联交易为控股股东提供了最为隐蔽的掏空途径(Khanna and Palepu, 2000b; 李增泉等, 2004),并且掏空得到了经验上的广泛支持(Bertrand *et al.*, 2002; Baek *et al.*, 2004; Bae *et al.*, 2002; Chang, 2003)。

尽管近年来我国有不少文献从理论上探讨了关联交易的披露及规范,但仅少数研究提供了关于关联交易的经验证据。陈晓、王琨(2005),李增泉等(2005a),高雷等(2006),Jian and Wong(2003),贺建刚、刘峰(2005)分别从多种关联交易、关联并购、资金占用、关联贷款、资产收购角度研究了大股东掏空。另一些研究从现金股利角度研究了大股东利益侵占(李增泉等, 2005b; 吕长江、王克敏, 2002)。然而,大多文献集中在研究所有权结构对掏空的影响,仅少量研究检验了关联交易与企业价值的关系。并且,以往研究至今仍未取得所有权结构与掏空的一致证据。本文先从理论上详细分析了关联交易的两种不同观点:效率加强和掏空。结合国外的文献理论以及我国的制度背景,我们认为,总体上掏空更适合解释我国上市公司的关联交易行为。利用上市公司2000至2004年五年的面板数据,我们找到了支持我们预期的经验证据。掏空严重地损害了企业价值。如何减轻大股东掏空行为,保护中小投资者的利益,已成为现代公司治理的重点。李增泉等(2005a)研究了所有权结构对掏空的影响,高雷等(2006)研究了所有权结构以及其它治理机制对掏空的影响,如信息披露透明度、产品市场竞争程度。本文另辟蹊径,把公司治理等公司特征变量作为交叉变量引入方程,检验公司特征对关联交易与企业价值的交互影响。我们发现,公司特征能够影响关联交易的性质。

本文余下部分内容作如下安排:第二部分为理论分析与文献回顾;第三部分为研究设计;第四部分列出了经验结果;第五部分为结论与局限性。

⁵ 典型例子有ST猴王、ST棱光、三九医药。例如,据《证券日报》2001年9月14日报道:“2001年2月27日猴王股份的母公司猴王集团突然宣布破产,不仅使猴王集团欠猴王股份的近11亿元债务付诸东流,而且猴王股份还因为集团承担的逾2亿元的担保及自身的上亿元债务而被三大债权人申请破产”。

⁶ 典型例子有ST桦林、中科健、南开戈德。例如,《证券市场周刊》2002年6月4日报道:“2001年,当南开戈德面对经营困难时,利用关联销售调高利润,报告利润竟有99.9%来自关联交易”。

二、理论分析与文献回顾

(一) 关联交易与企业价值

在世界范围内商业集团(在共同管理和财务控制下的形式上独立的聚合体)非常流行,集团内的关联交易也十分普遍(Granovetter, 1995; Ghemawat and Khanna, 1998; Keister, 1992)。商业集团既有好处,也有成本(Claessens *et al.*, 2006)。总结起来,前人的研究表明商业集团的关联交易可以产生两个相反的效应:效率加强与掏空。效率加强观认为,企业集团可以通过内部市场的关联交易降低交易成本与交易风险,减轻融资约束,实现资源共享,从而实现价值增值;机会主义观认为,商业集团使得掏空更容易发生,大股东通过关联交易掏空公司,损害了公司价值。

1、效率加强观

一些学者探讨了商业集团所带来的好处。在新兴市场,附属于商业集团的公司利用内部交易和内部资本市场获得了独立公司所不具备的优势(Leff, 1978; Hubbard and Palia, 1999; Khanna and Palepu, 2000a)。Khanna and Palepu (1997, 2000a)认为发展中国的商业集团具有发达国家的市场机制的有益功能。当一种具体的市场机制尚未形成时,商业集团通过提供类似的解决方法(如内部交易)克服市场的不完善,增加了企业的价值。Khanna and Palepu (2000a)比较了附属集团的印度公司与独立的印度公司之间的利润率差异,结果发现商业集团增加了公司盈利。以往的研究表明,以下几方面原因加强了商业集团的效率。

第一,商业集团的组建形成的内部市场减少了交易成本。这种思想最早可以追溯到Coase (1937),他认为,企业之所以能够作为价格机制的替代物,是因为市场的运行是有成本的,包括寻找交易对象的信息搜集、讨价还价的时间等成本。而通过形成一个组织,并允许某个企业家来支配资源,就能节约某些市场运行成本。这种观点同样可以用来解释商业集团的形成,集团形成是因为内部交易节约的市场运行成本大于增加的集团管理费用。尤其是当外部市场尚不成熟时,外部交易成本较高,组建集团往往可以大大提高效率。

第二,关联交易降低了交易风险。外部交易至少包括以下几种风险:对方违约带来的损失风险,自己违约产生的成本风险,契约的不稳定性带来的风险。关联交易的交易双方信息不对称程度低,大大减少了双方违约的可能性。并且,关联方之间可以通过建立长期的贸易关系减少外部市场的不确定性,减少收入的波动。Lincoln *et al.* (1996)的研究表明日本财团(Keiretsu)内成员企业有相对更少的利润波动。

第三,集团内公司遭受更少融资约束。Shin and Young (1999)发现商业集团建立的内部资本市场,使得附属于韩国最大30个商业集团的公司遭受了更少的融资约束。首先,以集团名义比以单个企业名义向银行借款可获得更优惠的条件(Kim, 2004)。其次,集团内公司可以相互提供资金,由于贷款者对借款者的信息了解更多,信息的不对称程度更低(La Porta *et al.*, 2003)。最后,获得银行大额贷款往往需

要一家有信誉的公司提供担保。集团内公司相互提供信用担保,尤其是拥有较多信用资源的公司给集团内其它公司提供担保,使得集团内公司更容易获得贷款。

第四,资源与信息共享。集团内公司可以共享信息、商标、专利、非专利技术、人力等资源,节约成本,提高与外界企业的竞争力。商业集团可以促进集团成员间的信息流动,减少搜集信息的成本,有利于传播技术和管理专门技术(Leff, 1978)。Keister (1998)利用中国40家最大的商业集团1988至1990年三年的面板数据,实证发现交叉董事(集团内成员公司董事间的相互兼职)提高了集团内公司的财务绩效和生产率,因为交叉董事促进了集团内企业间的信息流动,减少了信息不对称程度。Leff (1978)认为,当劳动力市场不够有效时,集团内的人员配置扩大了人力资源招聘的渠道。Granovetter (1995)认为,集团内关联公司之间共同研究与开发可以提高与外部的竞争力。

2、掏空观

自从Jensen and Meckling (1976)对代理成本的开创性研究之后,管理者与股东之间的代理问题得到了广泛关注。在股权高度分散的公司,管理者控制公司的能力强,这类代理问题较为严重。然而,La Porta *et al.* (1999)指出,在许多国家,大型上市公司的股权并不是高度分散的,而是由一个控股股东控制公司。这个控股股东有权力任命监督管理者,有能力征用小股东和债权人的利益。这类公司的主要代理问题并不是管理者和股东之间的代理问题,而是大股东与小股东及债权人之间的代理问题,大股东通常会利用其对公司的绝对控制权来掏空公司。Johnson *et al.* (2000b)使用掏空(tunnelling)一词描述捷克共和国公司大股东秘密地转移公司资产及征用小股东利润的行为,掏空的形式有给经理支付高薪、向大股东或经理低价出售资产、为大股东或经理的贷款提供担保以及赤裸裸的资金占用。亚洲金融危机提供了许多大股东掠夺公司资源的例子,他们转移公司资产,从债权人那里吸走利润。Johnson *et al.* (2000a)实证发现,脆弱的公司治理和大股东的掏空行为能够解释亚洲金融危机期间的汇率贬值和股市崩溃。Baek *et al.* (2004)实证发现,1997年韩国金融危机期间,信息披露质量越低的公司股票价格下跌越多,家族股东控制的集中所有权的财阀成员企业股票价格下降更快,控制权超过现金索取权的企业股票价格下降更多,因为这些企业的掏空更严重。

在中小投资者和债务人权利保护不好的新兴市场,商业集团尤其流行(La Porta *et al.*, 1999)。随着市场化的推进,企业集团克服市场不完善的潜在收益减少,而集团内部形成的资本市场和要素市场,使控股股东有可能通过关联交易这种最为隐蔽的途径掏空上市公司(Khanna and Palepu, 2000b; 李增泉等, 2004)。商业集团的控股股东常常通过间接的金字塔式的持股结构控制集团成员公司,他们有很强的动机和多样的方法征用集团成员公司的资源,因此商业集团的掏空通常比非商业集团更为严重(Jian and Wong, 2003)。Johnson *et al.* (2000b)认为,欧洲商业集团的控制者有很强的动机转移成员公司资源,增加个人财富。控股股东通过商业集团形式掏空

上市公司的行为已得到了经验上的广泛支持。Bertrand *et al.* (2002) 利用1989至1999年间的18600个印度公司检验了商业集团中的掏空行为，他们发现金字塔股权结构的商业集团的最终控制者有很强的动机将金字塔底层公司的资源转移到金字塔顶层。Bae *et al.* (2002) 实证发现，韩国最大30个商业集团的公司的小股东普遍在兼并重组交易中遭受损失，控股股东却由于增加了财团内被兼并企业的价值而受益。商业集团可以通过多种方式，如“金字塔型控股” (pyramiding)、 “交叉持股” (cross-holding)、 “双层持股” (dual-class) 等方式增加控制权与现金索取权的分离度，降低控制权私人收益对控制权共享收益的抵消作用 (Claessens *et al.*, 2002; La Porta *et al.*, 2002)。商业集团的控制者经常被指责征用小股东的利润，征用途径是把资源从他们拥有低现金索取权的公司转移到高现金索取权的公司 (Bertrand *et al.*, 2002)。Joh (2003) 实证发现，在控制权与现金索取权分离的公司，控股股东把商业集团子公司的资源从一个公司转移到另一个公司，降低了被掏空公司的盈利能力。Claessens *et al.* (2002) 利用东南亚公司的数据实证发现，控制权与现金索取权的分离度与企业价值显著负相关。La Porta *et al.* (2002) 实证发现，高投资者利益保护水平以及高现金索取权对应更高的企业价值。除此之外，Claessens *et al.* (2000) 利用亚洲九国的公司数据证明大股东对小股东利益的征用是普遍现象而非特例。这种征用行为不仅存在于亚洲公司，Bergstrom and Rydqvist (1990), Barclay and Holder-ness (1989), Zingales (1994) 和Atanasov (2005) 分别在瑞典、美国、意大利和保加利亚找到了大股东掏空的证据。Atanasov (2005) 利用保加利亚私有化拍买中的数据，以控制权溢价测量投资者预期的大股东征用程度，得到一个令人十分惊讶的结果，即控股股东可以征用企业价值的85%。Dyck and Zingales (2004) 基于39个国家1990至2000年412起控制权转移交易的经验数据发现，控制权的价值在-4% 到+65%之间，平均达14%。他们还发现，法律对中小投资者利益的保护水平越高，法律执行力越强，媒体传播力度越强，纳税率越高，产品市场竞争越激烈，控制权的私人收益越低。

在国内，掏空也是投资者和学者一直关注的热点问题。大量研究从不同角度提供了大股东掏空的证据。李增泉等 (2004, 2005a) 以上市公司关联交易数据为基础，分别从资金占用和关联方并购的角度找到了控股股东掏空上市公司的证据。他们还发现，所有权结构是决定控股股东掏空程度的重要因素，国家控制和控股股东以集团形式存在的公司遭受了更严重的掏空。高雷等 (2006) 从资金占用角度研究了大股东的掏空行为，并检验了公司治理机制对控股股东掏空的影响。他们发现，股权集中加剧了控股股东的掏空，股权制衡对控股股东的掏空无影响，附属企业集团加剧了控股股东的掏空，提高信息披露透明度和投资者利益保护水平均能显著减轻控股股东的掏空。贺建刚、刘峰 (2005) 实证发现，控股股东利用资产交易掏空上市公司，掏空与控股股东的持股比例呈倒“U”型关系。Jian and Wong (2003) 利用131个中国原料业上市公司样本数据实证发现，关联出借额与企业价值显著负相关。马曙光等 (2005) 认为现金股利也是控股股东掏空公司的一种手段，它可以作为资金占

用的替代方式,并且这种方式越来越流行。大量研究从现金股利的角度研究了控股股东与其他股东的代理问题(李增泉等,2005b;吕长江、王克敏,2002)。夏立军、方轶强(2005)则从治理环境角度研究了大股东掏空行为。他们认为,由于监管和法律难以限制政府权力控制的上市公司,这些公司有更强的掏空能力和更低的企业价值。

(二) 关联交易、企业价值与公司特征

效率加强和掏空,那个更能解释我国上市公司的关联交易行为?答案可能主要取决于我国的特殊制度背景。并且,公司的一些具体特征也可能会影响关联交易的性质。因此,接下来我们结合我国的制度背景,分析公司具体特征对关联交易性质的影响。

1、商业集团

早期的经验证据表明,集团内形成的内部市场可以克服外部市场带来的不完善,并因此加强了效率。但是,随着市场化的推进,商业集团克服市场不完善的潜在收益减少。Khanna and Palepu (2000b)来自新兴市场智利的长期证据表明,虽然非多元化大规模企业集团能带来收益,但这种收益随时间的推移而消逝。他们推断,制度环境的演进减少了商业集团的价值创造能力,包括外部的资本市场、劳动市场、产品市场的发展。借鉴日本财团(Keiretsu)和韩国财阀(Chaebol)七八十年代的成功经验,我国在八九十年代发展了大量的企业集团(Keister, 2000)。⁷九十年代初,为了给国有企业解决融资问题,我国建立了证券市场。当时,国有大型企业集团纷纷上市,但它们大部分不是整体上市,而是从集团公司中抽出一部分优质资产改造上市,使得上市公司与生俱来与集团公司联系紧密,关联交易频繁。众所周知,我国经历二十多年的改革开放后,市场化程度已较高,⁸但法律对投资者利益的保护水平仍较低。⁹因此,掏空比效率加强更能解释我国上市公司的关联交易。集团内部形成的资本市场和要素市场,使控股股东可通过关联交易这种最为隐蔽的途径掏空上市公司(Khanna and Palepu, 2000b; 李增泉等,2004),并且企业集团可以通过多种方式降低掏空成本。因此,我们预期,集团内公司关联交易为掏空的可能性更大。

⁷ 1997至1998年,为了解决国有企业严重亏损问题,我国政府推动国有企业做大做强。这时,大量国有企业合并,进一步推进了商业集团的发展。

⁸ 根据张晓晶(2004),中国的总体市场化水平已达到中等市场化程度,制造业和产品市场发展程度最高。根据北师大的换算方法,2001年中国的总体市场化程度是69%,这一数字跟官方的60%接近。

⁹ La Porta *et al.* (1997), La Porta *et al.* (1998, 2000) 论述了法律在形成有效的投资者利益保护中的作用。La Porta *et al.* (1997) 基于49个国家的样本分析得出,普通法国家对投资者利益的保护显著优于大陆法国家,会计质量、资本市场的发展程度均与投资者保护程度正相关。La Porta *et al.* (2002) 又证明了大陆法系国家的公司的托宾Q值比普通法系国家更低,因为大陆法系国家的投资者利益保护水平往往比普通法系国家低。

2、所有权结构

所有权结构能够影响大股东对其他股东进行侵占的能力和动机。特别是当投资者权益无法得到司法体系等机制的有效保护时，所有权结构的影响显得尤为重要。学者们对大股东的作用持两种观点。第一种是监督观。相对于小股东，大股东有更强的动机和能力监督管理者并改善绩效。Shleifer and Vishny (1986) 认为，大股东作为监督者会为所有股东带来利益。第二种是征用观。La Porta *et al.* (1999) 发现，在法律对中小投资者利益保护欠佳的国家，股权趋于集中，大股东的征用行为非常普遍，大股东与小股东之间的利益冲突严重。La Porta *et al.* (2002) 发现，控制权与现金索取权高度分离的股权结构在世界范围内广泛存在。在这些公司，当大股东征用公司资源的收益超过成本时，他们会为了获取私人收益而不惜损害其他股东的利益。而且，当大股东参与公司管理时，他们更有可能追求与小股东利益不一致的目的 (Claessens *et al.*, 2000)。Barclay and Holderness (1989), Barclay *et al.* (1993), Nenova (2002), Dyck and Zingales (2004) 和 Atanasov (2005) 的经验证据表明，控股股东榨取了不与小股东分享的私人收益。相对于监督观，近年来，越来越多研究采纳了大股东的征用观。我国上市公司股权结构有“一股独大”的特点，这为大股东征用公司资源创造了条件，使得关联交易更为可能作为掏空行为。但这并不意味着控股股东持股比例越高，掏空越严重。Morck *et al.* (1988) 认为，第一大股东持股比例与掏空之间的关系不是线性的。目前，国外许多文献都认为控股股东的持股比例存在二种效应：壕沟防御效应 (Entrenchment Effect) 和利益协同效应 (Alignment Effect)，并有不少经验证据的支持 (Morck *et al.*, 1988; Claessens *et al.*, 2002)。控股股东的“双效应”观与控股股东的“控制权与现金索取权”观紧密相关。控股股东的掏空能力与其控制权正相关，而其掏空成本与其现金索取权正相关。当控股股东持股比例很低时，控股股东的控制能力较弱，其他大股东也能发挥一定的制衡作用，控股股东掏空公司的可能性较少。随着控股股东持股比例的增加，控股股东的控制能力增强，其他大股东的制衡能力相应减弱，这时控股股东的掏空行为将随持股比例的上升而增加 (表现为壕沟防御效应大于利益协同效应)。但是，当控股股东的持股达到一定比例后，掏空将随着控股股东持股比例的上升而下降，因为这时控股股东的掏空成本增加，掏空收益下降 (表现为利益协同效应大于壕沟防御效应)。李增泉等 (2004)，贺建刚、刘峰 (2005) 均发现掏空与第一大股东持股比例呈倒“U”型关系，从而支持了大股东的“双效应观”。因此，我们预期，关联交易为掏空的可能性与控股股东持股比例呈倒“U”型关系。

控股股东掏空攫取了不与他人分享的私人收益，这无疑损害其他投资者利益。中小投资者的能力有限，只能采用用脚投票的方式来反抗控股股东的掏空。而大股东可以单个地对控股股东的行为实施监督，也可以联合起来抵制大股东的掏空。因而，其他大股东对控股股东的监督制衡作用一直以来也是公司治理关注的焦点问题。大量研究证据显示多个大股东的存在可以增加投资者利益保护水平，减少控股

股东对公司资源的征用 (Bennedson and Wolfenzon, 2000)。Maury and Pajuste (2005) 也用经验证据证明了大股东制衡的价值, 他们发现多个大股东的存在与公司价值显著正相关。国内也有不少研究支持了其他大股东的监督制衡观。孙永祥、黄祖辉 (1999), 白重恩等 (2005) 都证明股权制衡度与公司价值正相关。李增泉等 (2004) 发现, 第二至五大股东持股比例与掏空显著负相关。因此, 我们预期, 其他大股东持股比例的增加能减少关联交易为掏空的可能性。

3、信息披露透明度

La Porta *et al.* (1998), Johnson *et al.* (2000) 认为会计标准及信息披露透明度是投资者利益保护的重要因素。大量的研究论述了信息披露质量在公司治理中的作用, 高信息披露度 (透明度) 降低了控股股东与小股东之间的信息不对称程度, 因而减少了控股股东对小股东利益的征用 (La Porta *et al.*, 1998; Johnson *et al.*, 2000a; Baek *et al.*, 2004; Mitton, 2002)。高雷等 (2006) 发现信息披露透明度可以减轻控股股东的掏空。我国财政部于1997年5月颁布了我国第一个具体会计准则《企业会计准则——关联方关系及其交易的披露》。随后, 证监会陆续出台了几十部会计准则、规定或通知以规范上市公司关联交易的信息披露。但是, 我国上市公司的信息披露制度才刚起步, 大部分上市公司对关联交易的披露不甚规范, 例如不披露关联交易的定价原则等信息。我国信息披露制度很不完善, 这将难以保证控股股东与上市公司的关联交易不会侵占其他投资者的利益。尽管如此, 不同上市公司的信息披露透明度仍存在较大差别, 主要是各个公司的审计质量和面临的监管环境的差别。审计质量高的公司被认为信息披露透明度更高, Mitton (2002), Aggarwal *et al.* (2005) 已经将“六大” (“五大”) 审计师与更高的审计质量联系在一起。Aggarwal *et al.* (2005), 王克敏、陈井勇 (2004) 将审计意见作为衡量会计信息披露透明度的代理变量。Bai *et al.* (2004) 认为, 发行H股或B股的公司有更高的信息披露透明度。目前, 我国一部分公司发行了A、H股或A、B股, 聘请了“五大”会计事务所在中国的合作伙伴作为审计师, 被出具了非标准无保留审计意见。因此, 我国上市公司虽同处一个披露环境, 不同公司的信息披露透明度仍会有较大差别。我们预期, 在信息披露透明度较高的公司, 关联交易为掏空的可能性较低。

4、盈余管理

尽管大量证据表明控股股东常常利用关联交易掏空公司, 在特定的动机下,¹⁰ 控股股东也可能用关联交易进行盈余管理。上市制度、公司治理结构以及关联

¹⁰ 我国上市公司有配股、“避亏”等盈余管理动机。Haw *et al.* (2005), 张祥建、徐晋 (2005) 等研究找到了我国上市公司为获取配股资格而进行盈余管理的证据, 陆建桥 (1999), 邵军、边泓 (2005) 等研究找到了我国上市公司为“避亏”、“扭亏”而进行盈余管理的证据。

交易披露中的制度缺陷,使得我国上市公司关联交易盈余管理行为较为普遍,调高收益以高价配股是关联交易盈余管理的主要目的(刘焯,2001)。关联交易盈余管理存在效率加强和反效果两种可能。效率加强观认为关联交易盈余管理实现了所有股东的利益,增加了企业价值。虽然大股东有征用公司资源的动机,他们同样有可能为了合法地分享公司利润或明天可以征用公司资源而支持公司(Friedman *et al.*, 2003)。如果关联交易与正常交易一样以支付货币为结束且具有可持续性,则预期关联交易盈余管理是为了支持上市公司,通过实现所有股东的利益而加强了企业效率。相对于效率加强观,反效果观认为关联交易通常不以支付货币为结束,只是一种利益驱动下的机会主义行为,产生的盈余不具有可持续性。现实中,我们很难区分关联交易的效率加强观和反效果观。相对于掏空,支持更加秘密。在投资者利益保护较弱的情况下,隐秘地转进资产相对较为容易。而且,小股东和债权人并不会像抗议掏空那样抗议上市公司的支持行为,因此没有关于支持的公开信息(Friedman *et al.*, 2003)。不过,如果我们认为投资者能够识别经营者的行为,那么上市公司的股票价格就可以成为一个有用信号(Friedman *et al.*, 2003)。当投资者认为这部分关联交易实现的收益可以持续时,会给关联交易积极的反应,反之亦然。

5、会计绩效

Johnson *et al.* (2000a) 通过一个简单的模型表明,投资回报率(会计绩效)越高,掏空发生的可能性越少,因为高回报率增加了掏空的边际机会成本。当控股股东持股比例较高,掏空对投资回报率更加敏感,即投资回报率的增加将引起掏空的更快减少。如果他们的推断无误,我国控股股东的持股比例较高,良好的会计绩效将大大降低控股股东利用关联交易掏空的动机。我们预期,会计绩效越好,关联交易为掏空的可能性越小。

三、研究设计

(一) 数据与样本

1、数据来源

基于如下两个原因,本文选取了2000至2004年五年的非金融业上市公司作为研究样本。第一,1997年第一个关联交易披露准则公布之前,我国上市公司对关联交易的披露不甚规范。1997至2000年间,证监会陆续颁布了几十项会计准则或规定,关联交易的披露更加规范,因此选择2000年及以后的上市公司作为研究样本,获得的数据的可靠性、准确性更高。第二,1998年后,企业集团形式在我国已十分普遍,集团规模越来越大,集团成员之间的关联交易也越来越频繁,这有助于我们对关联交易进行研究。

本文的样本数据主要来自CSMAR与CCER数据库。

(1) 关联交易数据。

关联交易数据通过收集和整理CSMAR的公司类关联交易数据库中的相关数据而来。最初，我们共获得2000至2004年间上市公司的关联交易共67710笔，其中对外担保（*MORTGAGE*）、资金占用（*OCCUPY*）、资产交易（*ASSET*）和股权交易（*EQUITY*）分别为5387、2995、3212和1499笔。然后，我们把关联方划分为第一大股东集团和非第一大股东集团两类。同时，参照1997年5月中华人民共和国财政部颁布的《企业会计准则——关联方关系及其交易的披露》，我们把关联交易按不同性质划分为对外担保（*MORTGAGE*）、资金占用（*OCCUPY*）、资产交易（*ASSET*）和股权交易（*EQUITY*）等17类。最后，加总同类关联方的同类性质的关联交易。例如，2000年，上市公司A给第一大股东集团提供担保5次，每次金额为1000万，上市公司A给非第一大股东集团提供担保2次，每次金额为2000万。加总后的数据为，2000年，上市公司A与第一大股东集团的对外担保的金额和次数分别为5000万、5次，上市公司A与非第一大股东集团的对外担保的金额和次数分别为4000万、2次。

(2) 公司治理及财务数据。

公司所有权等公司治理数据通过整理CCER数据库的公司治理数据库的相关数据而来，财务数据通过整理CCER数据库的上市公司财务数据库而来。

(3) 配股文件数据通过整理CSMAR数据库的配股数据库的相关数据而来。

2、样本处理

我们以2000至2004年五年非金融业的上市公司作为研究样本。最初，我们得到样本共5940个。为了控制极值对分析结果的影响，我们剔除了一些极值，表1列出了样本的剔除过程。最终得到总样本5268个，2000至2004年分别有967、1039、1104、1174、984个样本。

表 1 样本剔除过程

最初样本	5904
减：净资产少于零的公司	98
净资产收益率大于1或少于-1的公司	96
<i>TOBIN-Q</i> 、 <i>M/B</i> 值为均值三倍标准差以外的公司	306
关联交易金额与总资产比例为均值三倍标准差以外的公司	136
最终样本	5268 ¹¹

¹¹ 由于部分样本关联交易金额的缺失以及部分公司特征变量（主要是政府干预指数变量）的缺失，回归分析中的样本比总样本略少。

(二) 变量定义及说明

1、关联交易变量

根据上海证券交易所2001年最新修订的《股票上市规则》，上市公司的关联交易被定义为上市公司及其控股子公司与关联人发生的转移资源或义务的事项，其中的上市公司关联人包括关联法人、关联自然人和潜在关联人。

由于各类关联交易的性质不同，本文选取了较具代表性的四类关联交易作为研究对象，即对外担保(MORTGAGE)、资金占用(OCCUPY)、资产交易(ASSET)和股权交易(EQUITY)。这四类关联交易的共同特点有：(1) 关联交易的可避性。由于剥离上市，改制不彻底的原因，有些上市公司没有自己独立的购销系统，关联购销等关联交易通常是经常性的、不可避免的。而资产交易等关联交易通常是避免的(例如公司可以将资产买给其他非关联方)，这些关联交易为机会主义行为的可能性更大。(2) 关联交易金额及频率较大。这些关联交易对投资者利益影响重大，研究它们更具意义。¹²有些关联交易，如债务交易、共同投资，虽然是可避的，但它们发生的频率和金额都不大，研究它们的意义较小。

本文第二部分从整体上分析了关联交易的两种观点，并结合我国的制度背景分析了公司具体特征对关联交易性质的影响。下文简要分析我们研究的四类关联交易。

对外担保。上市公司与其主要股东之间的关联担保是双向的，既可能是上市公司为主要股东的贷款担保，也可能是主要大股东为上市公司的贷款提供担保。关联担保对被担保公司有利，可能加强整个企业集团的效率。但是，由于上市公司拥有较多的社会资源和声誉，控股股东往往要求上市公司为其巨额贷款提供担保。对外担保极易异化为大股东掏空公司的工具，会降低上市公司的企业价值(刘小年、郑仁满，2005)。La Porta *et al.* (2003) 发现，墨西哥银行的控股股东不仅控制银行，还控制了其它非金融公司。银行的控制者有很大的动机把资金转移到他们控制的公司，只要他们在这个公司的股份大于他们在银行中的股份。这时，关联借款对借款公司十分有利，但可能导致贷款公司破产。对外担保给上市公司带来了极大的风险，加大了陷入诉讼纠纷和财务困境的可能(冯根福等，2005)。马亚军、韩文明(2003)认为上市公司对外担保类似于用股东财富进行风险投资，担保与净资产比率越高，股东财富所面临的风险就越大，股东财富总价值就越低。上市公司为关联方提供担保但收益几乎为零(不收取担保费)，但风险却比一般担保更大(违约可能性更高)。

资产交易。资产交易是指关联方购买资产(除商品以外的其它固定资产和无形资产)、转让资产、资产置换等一切与资产有关的业务。为了掏空上市公司，控股股东可以将母公司的不良资产高价买给上市公司，也可以低价购买上市公司的优质资

¹² 例如，《证券日报》2001年09月14报道的十起大股东掏空案例中，七起是关于大股东资金占用的，另一起同时涉及资金占用和担保，另外二起是关于担保的。

产。大量的轶事证据表明上市公司与关联方的资产交易损害了投资者的利益。贺建刚、刘锋(2004)以1998至2001年间我国A股上市公司为样本,检验了资产交易的财富效应。他们发现,在资产交易事件公告后(尤其是在后5天内),市场获得了显著为负的累计超额报酬。事件公告日后15天的市场累计超额回报率最大值为+18.8%,最小值为-31.8%,平均达-2.4%。Cheung *et al.* (2004)实证发现,公告关联方资产交易事件带来了显著为负的异常回报(经市场调整后的回报率)。平均而言,公告后10日内,出售资产的交易获得-7.1%的异常回报,而购买的异常回报为-6.7%。如果投资者的反应无误,大股东与上市公司的资产交易,在一定程度上是大股东对上市公司的掏空。

资金占用。大股东通常以借债名义,占用上市公司资金。通过这种方式,大股东获取了所需资金,并可在特定情况下向上市公司支付资金占用费进行盈余管理。因此,资金占用有一箭双雕的效果。作为侵占上市公司利益的一种重要方式,控股股东对上市公司资金的无偿占用受到了人们的普遍关注。¹³资产占用作为大股东直接侵占小股东利益的一种形式,被称为赤裸裸的利益侵占,李增泉等(2004)、高雷等(2006)等研究均采纳了这种观点。马曙光等(2005)认为资金占用同是大股东实现其股权价值最大化的手段。

股权交易。上市公司与关联公司之间发生的股权转让等交易。通过低价出售公司所拥有的股权或者高价购买关联公司股权,大股东可以对上市公司实施掏空。¹⁴并且,为了进行盈余管理,上市公司也可将其拥有的公司股权高价出售给关联公司。Cheung *et al.* (2004)实证发现,关联方股权交易公告十日内,出售股权获得了-10.1%的异常回报。

2、企业价值变量

本文用 $TOBIN-Q$ 和 M/B 衡量上市公司的企业价值。 $TOBIN-Q$ 是西方文献常用的企业价值衡量指标。通常, $TOBIN-Q$ 以资产的市场价值除以资产的重置成本得来。考虑到中国上市公司的特殊情况, $TOBIN-Q$ 的计算有所不同。由于我国上市公司的非流通股不能按流通股等价计算,否则会高估公司的市场价值,我们计算 $TOBIN-Q$ 时股权的市场价值由考虑非流通因素的股权的市场价值代替,负债的市场价值和资产的重置成本分别由负债账面价值和总资产的账面价值代替。 M/B 的计算亦是如此。具体计算见表2。本文中 $TOBIN-Q$ 的计算方法与夏立军、方轶强(2005)、孙永祥、黄祖辉(1999)等类似, M/B 的计算方法与Jian and Wong(2003)类似。2000至2004年, $TOBIN-Q$ 和 M/B 的均值分别为1.52和2.11。

¹³ 据《财经》(2003)的披露,中国证监会在2001年上市公司治理检查中发现,当前上市公司治理中最为严重的问题就是控股股东占用上市公司资金的问题(李增泉等,2004)。

¹⁴ 例如,三九医药集团,将三九健康城80%的股权转让给上市公司三九医药,作为偿还5.2亿元贷款的对价,而三九健康城总投资仅3000余万元。

3、公司特征变量

发行H股或B股的公司被认为有更高的信息披露透明度，因为面临着双重的监管环境和更高的披露要求 (Bai *et al.*, 2004)。吴超鹏、吴世农 (2005) 用上市公司是否在境外成熟市场挂牌上市表示信息披露透明度高低。大量研究将“五大”会计事务所与更高的审计质量联系在一起，因为它们要维持更高的声誉而保持更高的信息披露透明度与准确度 (Mitton, 2002; Aggarwal *et al.*, 2005)。Aggarwal *et al.* (2005) 将审计意见作为衡量会计信息披露透明度的代理变量，因为获得清洁审计意见的公司有更高的信息披露透明度。王克敏、陈井勇 (2004) 用审计意见类型表示信息披露质量高低。因此，我们用是否发行H股 (*HSHARE*，是则为1，否则为0)，是否发行B股 (*BSHARE*，是则为1，否则为0)，会计事务所是否为国际五大¹⁵ (*BIGFIVE*，是则为1，否则为0)，审计意见是否为标准无保留 (*AUDIT*，是则为1，否则为0) 作为信息披露质量或透明度的代理变量。为了使变量更具有有效性和更加精简，我们用这四个变量构造一个信息披露透明度指数 (*TRANSPARENCE*， $TRANSPARENCE = HSHARE + BSHARE + BIGFIVE + AUDIT$)。2000至2004年，*TRANSPARENCE*的均值为1.06，中值为1。

根据有关文献，¹⁶上市公司主要有四种盈余管理动机，即配股、“避亏”、“扭亏”、“摘帽”。“避亏”、“扭亏”、“摘帽”盈余管理动机实际上同属一类，都是为了避免本期亏损而通过一些手段 (如关联交易) 取得微盈，因此我们把它们统称为“避亏”盈余管理动机。本文中，*LOSS*表示是否有“避亏”盈余管理动机，如果上市公司上年度报告了亏损或者上市公司报告的净资产收益率 (*ROE*) 处于 (0, 0.015) 区间，就认为其有“避亏”盈余管理动机。根据我们的鉴定，2000至2004年，共846家公司有“避亏”盈余管理动机，占有所有样本的16.1%。

由于2000至2004年配股政策有所变化，¹⁷我们分阶段界定配股盈余管理动机。

(1) 2000年的样本：如果上市公司当年*ROE*处于区间 (0.06, 0.075)，最近三年*ROE*平均值处于区间 (0.1, 0.115)，一年或二年后有配股行为，就认为其有配股盈余管理动机。(2) 2001至2004年的样本：如果上市公司最近三年加权平均*ROE*处于区间 (0.06, 0.075)，一年或二年后有配股行为，就认为其有配股盈余管理动机。¹⁸根据

¹⁵ 2002年，安达信中国业务并入普华永道，五大变为四大。

¹⁶ 如Haw *et al.* (2005)，张祥建和徐晋 (2005)，陆建桥 (1999) 等研究。

¹⁷ 2000年的配股绩效条件是*ROE*最近三年平均在10%以上，同时每年不低于6%；2001以后的配股绩效条件是最近三个会计年度加权平均*ROE*不低于6%；加权平均*ROE* = 当期净利润 ÷ [(期初净资产 + 期末净资产) / 2 + 当期发行新股或配股新增净资产 × (缴款结束日下一月份至报告期末的月份数 - 6) ÷ 12]。

¹⁸ 由于我们没有2004年以后的配股数据，因此界定配股盈余管理动机时，2003年的样本只包括一年后有配股的公司，2004年的样本不包括一年或二年后有配股的公司。

我们的鉴定，2000至2004年，共有734家公司有配股盈余管理动机，占所有样本的14.0%。

我们把第一大股东名称中有“集团”两字的公司界定为集团内公司，*GROUP*变量的均值为0.597；我们用最常用也是投资者最为关注的净资产收益率（*ROE*）作为会计绩效的衡量指数，*ROE*的均值为0.036；我们用*CR25/TOPONE*衡量第二至第五大股东的制衡能力，*CR25/TOPONE*值越大，第二至第五大股东的制衡能力越强，*CR25/TOPONE*的均值为0.517。另外，*TOPONE*，*LEVER*，*SIZE*的均值分别为0.44，0.46，21.08。各变量的具体定义见表2。

表2 变量定义

企业价值变量	
<i>TOBIN-Q</i> ¹⁹	$TOBIN-Q = (\text{流通股的市场价值} + \text{非流通股总股数} * \text{每股净资产} + \text{负债的账面价值}) / \text{总资产}$ 。 流通股的市场价值的计算包括B股和H股的市场价值。
<i>M/B</i>	$M/B = (\text{流通股的市场价值} + \text{非流通股总股数} * \text{每股净资产}) / \text{净资产}$ 。流通股的市场价值的计算包括B股和H股的市场价值。
关联交易变量	
<i>MORTGAGE</i>	对外担保：上市公司为关联方的贷款提供担保。
<i>OCCUPY</i>	资金占用：上市公司以现金或实物形式给关联方提供资金，包括提供借款。
<i>ASSET</i>	资产交易：上市公司与关联方之间相互购买或销售商品以外的其他资产。
<i>EQUITY</i>	股权交易：上市公司与关联方之间的股权转让或收购。
公司特征变量	
<i>GROUP</i>	是否附属企业集团：当控股股东以企业集团形式存在时取1，否则取0。
<i>TRANSPARENCE</i>	信息披露透明度指数。
<i>TOPONE</i>	第一大股东持股比例。
<i>CR25/TOPONE</i>	第二至第五大股东持股比例之和 / 第一大股东持股比例
<i>LOSS</i>	是否有“避亏”盈余管理动机，有则为1，否则为0。
<i>OFFER</i>	是否有配股盈余管理动机，有则为1，否则为0。
<i>GOV</i>	政府干预指数：取值为1-10，数值越大，表示政府干预越少。
<i>ROE</i>	净资产收益率：净利润 / 净资产
<i>LEVERAGE</i>	资产负债率：负债总额 / 资产总额
<i>SIZE</i>	总资产的自然对数。

¹⁹ 在回归分析中，本文使用的因变量*TOBIN-Q*均是经行业均值调整后的变量，等于上市公司*TOBIN-Q*值减去所在行业*TOBIN-Q*均值，*M/B*亦是如此。

(三) 研究模型

方程(1)：

$$\begin{aligned} FIRMVALUE_{it} = & \alpha + \beta_1 MORTGAGE_{it} + \beta_2 OCCUPY_{it} + \beta_3 ASSET_{it} + \beta_4 EQUITY_{it} \\ & + \beta_5 TRANSPARENCE_{it} + \beta_6 TOPONE_{it} + \beta_7 TOPONE_{it}^2 + \beta_8 GOV_{it} \\ & + \beta_9 ROE_{it} + \beta_{10} LEVERAGE_{it} + \beta_{11} SIZE_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

方程(2)：

$$\begin{aligned} FIRMVALUE_{it} = & \alpha + \beta_1 MORTGAGE_{it} + \beta_2 OCCUPY_{it} + \beta_3 ASSET_{it} + \beta_4 EQUITY_{it} \\ & + \beta_5 MORTGAGE \times CROSS_{it} + \beta_6 OCCUPY_{it} \times CROSS_{it} + \beta_7 ASSET_{it} \\ & \times CROSS_{it} + \beta_8 EQUITY_{it} \times CROSS_{it} + \beta_9 TRANSPARENCE_{it} \\ & + \beta_{10} TOPONE_{it} + \beta_{11} TOPONE_{it}^2 + \beta_{12} GOV_{it} + \beta_{13} ROE_{it} + \\ & \beta_{14} LEVERAGE_{it} + \beta_{15} SIZE_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

我们用方程(1)检验各类关联交易对企业价值的影响。因变量*FIRMVALUE*分别为*TOBIN-Q*与*M/B*，自变量包括关联交易变量与控制变量。根据本文第二部分对关联交易的理论分析以及第三部分对四类关联交易的分析，我们预期变量*MORTGAGE*、*OCCUPY*、*ASSET*、*EQUITY*与*TOBIN-Q*或*M/B*负相关。根据Johnson *et al.* (2000a), Baek *et al.* (2004) 等研究，信息透明度可以减轻大股东与小股东的代理问题，从而帮助提升企业价值。因此，我们引入信息披露透明度 (*TRANSPARENCE*) 作为控制变量，并预期*TRANSPARENCE*与*TOBIN-Q*或*M/B*正相关。根据夏立军、方轶强 (2005)、白重恩等 (2005) 等研究，第一大股东持股比例与企业价值呈正“U”形结构。所以，我们引入*TOPONE*、*TOPONE*²作为控制变量，并预期*TOPONE*、*TOPONE*²分别与*TOBIN-Q*或*M/B*负相关、正相关。根据夏立军、方轶强 (2005)，政府干预会降低企业价值。因此，我们引入政府干预指数 (*GOV*) 作为控制变量，并预期*GOV*与*TOBIN-Q*或*M/B*正相关。白重恩等 (2005) 发现资产负债率与企业价值显著负相关。所以，我们引入资产负债率 (*LEVERAGE*) 作为控制变量，并预期*LEVERAGE*与*TOBIN-Q*或*M/B*负相关。最后，我们将净资产收益率和企业规模作为控制变量。企业会计绩效越好，通常有更高的企业价值。小规模公司由于规模效应和较好的成长潜力，一般比大公司有更高的企业价值。因此，我们预期，*ROE*、*SIZE*分别与*TOBIN-Q*或*M/B*正相关、负相关。在进行多变量回归分析之前，需要解决多重共线性的问题。本文中的关联交易变量在理论上具有相关性，所以我们将*MORTGAGE*、*OCCUPY*、*ASSET*、*EQUITY*分别引入方程。事实上，关联交易变量之间的相关性系数并不大 (小于0.2)，把它们同时引入方程也不会造成严重的共线性问题。

我们用方程(2)检验公司特征变量对关联交易与企业价值的交互影响。在不同的回归中，*CROSS*变量分别为*GROUP*、*TOPONE*与*TOPONE*²、*CR25/TOPONE*、*TRANSPARENCE*、*LOSS*、*OFFER*、*ROE*。根据我们第二部分的理论分析，交叉变量

$CR25/TOPONE$ 、 $TRANSPARENCE$ 、 ROE 回归系数的预期符号为正， $GROUP$ 系数的符号预期为负， $TOPONE$ 与 $TOPONE^2$ 的系数分别为负和正， $LOSS$ 、 $OFFER$ 的系数符号可能为正，也可能为负。

方程(1)和方程(2)均用非平衡面板广义最小二乘法(Unbalanced Panel EGLS)估计。非平衡面板数据模型既克服了简单混合数据横截面回归模型固有的样本自相关问题，也克服了平衡面板数据模型的样本选择偏差问题。为了克服异方差性和序列相关性，我们使用广义最小二乘法估计(GLS)。在稳健性检验部分，为了克服关联交易变量的内生问题，我们用两阶段广义最小二乘法(2SGLS)替代广义最小二乘法估计回归方程。

四、经验结果

(一) 描述性统计

表3的Panel A1、Panel A2报告了关联交易的发生概率。总体上，2000至2004年，上市公司关联交易的发生概率有上升趋势，2000至2004年平均达89.6%，2004年达94.7%。其中，上市公司与第一大股东集团间的关联交易发生概率也呈上升趋势，2000至2004年平均达82.9%，2004年达91.6%。从上市公司与第一大股东集团间的各类关联交易来看，资产交易的发生概率最高，对外担保与股权交易其次，资金占用最低；2000至2004年，各类关联交易的发生概率均有上升趋势。与此同时，上市公司与非第一大股东集团间的关联交易发生概率无论是总体上还是分类上都明显低于第一大股东集团，发生概率并没有明显的上升趋势。

表3 关联交易的发生概率、比例、频率

关联交易类别	2000	2001	2002	2003	2004	2001-2004
Panel A1:						
<i>ASSET</i>	0.202	0.240	0.260	0.197	0.288	0.239
<i>EQUITY</i>	0.100	0.123	0.111	0.106	0.177	0.125
<i>MORTGAGE</i>	0.105	0.117	0.159	0.165	0.257	0.165
<i>OCCUPY</i>	0.046	0.074	0.088	0.050	0.088	0.070
<i>TOPONE-ALL</i>	0.771	0.829	0.842	0.772	0.916	0.829
Panel A2:						
<i>ASSET</i>	0.066	0.102	0.082	0.070	0.051	0.073
<i>EQUITY</i>	0.042	0.049	0.040	0.029	0.024	0.036
<i>MORTGAGE</i>	0.084	0.127	0.159	0.162	0.143	0.137
<i>OCCUPY</i>	0.043	0.043	0.063	0.043	0.026	0.043
<i>NON-TOPONE-ALL</i>	0.515	0.579	0.616	0.584	0.458	0.549
<i>ALL</i>	0.858	0.897	0.922	0.846	0.947	0.896

表3 关联交易的发生概率、比例、频率(续)

关联交易类别	2000	2001	2002	2003	2004	2001-2004
Panel B1:						
<i>ASSET</i>	0.034	0.057	0.041	0.036	0.027	0.038
<i>EQUITY</i>	0.060	0.032	0.031	0.032	0.033	0.035
<i>MORTGAGE</i>	0.077	0.056	0.092	0.058	0.066	0.068
<i>OCCUPY</i>	0.026	0.048	0.035	0.054	0.048	0.044
<i>TOPONE-ALL</i>	0.155	0.160	0.163	0.171	0.217	0.177
Panel B2:						
<i>ASSET</i>	0.032	0.05	0.054	0.034	0.018	0.038
<i>EQUITY</i>	0.041	0.053	0.015	0.022	0.012	0.030
<i>MORTGAGE</i>	0.037	0.029	0.033	0.041	0.049	0.039
<i>OCCUPY</i>	0.018	0.028	0.039	0.040	0.041	0.034
<i>NON-TOPONE-ALL</i>	0.082	0.080	0.080	0.079	0.068	0.078
<i>ALL</i>	0.185	0.214	0.207	0.242	0.276	0.229
Panel C1:						
<i>ASSET</i>	3.216	1.659	2.101	1.585	1.923	1.806
<i>EQUITY</i>	1.991	1.562	1.481	1.586	1.621	1.575
<i>MORTGAGE</i>	2.728	2.795	2.478	2.825	3.846	3.101
<i>OCCUPY</i>	2.864	1.634	2.058	2.444	2.933	2.228
<i>NON-TOPONE-ALL</i>	6.778	8.410	9.805	10.370	13.530	10.100
Panel C2:						
<i>ASSET</i>	1.326	1.404	1.526	1.216	1.362	1.394
<i>EQUITY</i>	1.456	1.630	1.340	1.703	1.273	1.463
<i>MORTGAGE</i>	2.965	3.304	4.065	4.173	4.533	3.948
<i>OCCUPY</i>	1.614	1.958	1.560	2.389	2.001	1.879
<i>NON-TOPONE-ALL</i>	3.938	4.857	5.327	5.895	5.730	5.212
<i>ALL</i>	8.450	10.910	12.510	13.550	15.870	12.550

注: Panel A1报告的是上市公司与第一大股东集团的关联交易发生概率,即发生此类关联交易的公司占有所有上市公司的比例;Panel A2:上市公司与非第一大股东集团的关联交易发生概率。Panel B1:上市公司与第一大股东集团的关联交易比例,即关联交易发生金额占总资产的比例;Panel B2:上市公司与非第一大股东集团的关联交易比例。Panel C1:上市公司与第一大股东集团的关联交易频率,即发生此类关联交易的次数;Panel C2:上市公司与非第一大股东集团的关联交易频率。*TOPONE-ALL*为上市公司与第一大股东集团的所有关联交易。*NON-TOPONE-ALL*为上市公司与非第一大股东集团的所有关联交易。*ALL*包括所有关联方所有关联交易。表中列出的数据为均值。

表3的Panel B1、Panel B2报告了关联交易比例。总体上,2000至2004年,上市公司关联交易比例较高且有上升趋势,2000至2004年平均达22.9%,2004年达27.6%。其中,上市公司与第一大股东集团间的关联交易比例也较高且呈上升趋势,2000至2004年平均达17.7%,2004年达21.7%。从上市公司与第一大股东集团间的各类关联交易来看,对外担保的比例较高,资金占用其次,资产交易与股权交易较低;各类关联交易的比例无明显上升趋势。与此同时,上市公司与非第一大股东集团间的关联交易比例总体上明显低于第一大股东集团,并呈下降趋势。

表3的Panel C1、Panel C2报告了关联交易频率。2000至2004年,上市公司关联交易的频率呈上升趋势,2000至2004年平均达12.55次,2004年达15.87次。其中,上市公司与第一大股东集团间的关联交易频率较高并呈上升趋势,2000至2004年平均达10.10次,2004年达13.53次。从上市公司与第一大股东集团间的各类关联交易来看,对外担保次数相对较高,其次是资金占用,最后是股权交易和资产交易。并且,对外担保与资金占用类关联交易频率有上升趋势。上市公司与非第一大股东集团间的关联交易频率总体和分类上明显低于第一大股东集团,近年来有上升趋势。

上市公司关联交易比例的上升速度不如关联交易频率的上升速度,可能是因为近年来一系列监管政策的出台加强了对发生金额较大的关联交易的监管。为了逃避监管,上市公司增加了关联交易的发生次数,减少了每次关联交易的发生金额。总的来说,上市公司关联交易行为呈递增趋势,这与关联交易的效率加强观不符。效率加强观认为,关联交易因克服外部市场不完善而带来收益。当市场越来越完善时,这种收益变小,因而关联交易也会相应减少。但我国上市公司关联交易行为却越来越流行,原因可能是企业集团的规模变得越来越大或大股东的掏空越来越严重。

(二) 多元回归分析

这部分内容我们检验关联交易与企业价值的关系,并且引入了公司特征变量作为交叉变量检验公司具体特征对关联交易与企业价值关系的交互影响。上市公司的关联交易按关联方分类可分为上市公司与第一大股东集团、²⁰非第一大股东集团之间的关联交易。这部分内容涉及的关联交易均为上市公司与第一大股东集团之间的关联交易。

²⁰ 据我们统计,在所有的关联交易中,上市公司与第一大股东集团之间的关联交易占所有关联交易的70%以上。同时,上市公司与第一大股东集团之间的关联交易的金额也普遍大于非第一大股东集团。事实上,第一大股东利用关联交易掏空上市公司的能力显著高于其它关联方。第一大股东集团包括第一大股东自身、第一大股东的母公司以及第一大股东母系集团内部的所有成员(即上市公司的实际控制人能够实施直接或间接控制的所有公司)。

1、关联交易与企业价值

表4列出了TOBIN-Q与关联交易变量及控制变量的回归结果。表4显示，MORTGAGE、OCCUPY、ASSET、EQUITY均与TOBIN-Q在1%的显著性水平上负相关。这说明总体上，对外担保、资金占用、资产交易、股权交易严重损害了上市公司的企业价值，这与我们的理论分析与预期一致，支持了关联交易的掏空观。另外，控制变量的符号基本与预期相符，这里不再详述。表5中，我们用M/B替代TOBIN-Q作为

表4 关联交易与企业价值 (TOBIN-Q) 回归分析结果

	预期符号					
MORTGAGE	-	-1.513*** (0.000)				-1.537*** (0.000)
OCCUPY	-		-1.961*** (0.000)			-1.915*** (0.000)
ASSET	-			-1.838*** (0.000)		-1.448*** (0.000)
EQUITY	-				-1.081*** (0.000)	-1.110*** (0.000)
TRANSPARENCE	+	0.130*** (0.000)	0.135*** (0.000)	0.116*** (0.000)	0.133*** (0.000)	0.126*** (0.000)
TOPONE	-	-0.963*** (0.000)	-0.848*** (0.000)	-0.840*** (0.000)	-0.959*** (0.000)	-0.957*** (0.000)
TOPONE ²	+	0.804*** (0.000)	0.672*** (0.000)	0.697*** (0.009)	0.828*** (0.000)	0.798*** (0.000)
GOV	+	0.020*** (0.000)	0.018*** (0.000)	0.011*** (0.000)	0.020*** (0.000)	0.018*** (0.000)
ROE	+	0.091*** (0.000)	0.068*** (0.000)	0.048 (0.123)	0.062*** (0.008)	0.079*** (0.001)
LEVERAGE	-	-0.313*** (0.000)	-0.364*** (0.000)	-0.295*** (0.000)	-0.361*** (0.000)	-0.304*** (0.000)
SIZE	-	-0.303*** (0.000)	-0.304*** (0.000)	-0.287*** (0.000)	-0.301*** (0.000)	-0.304*** (0.000)
C	?	6.190*** (0.000)	6.199*** (0.000)	5.892*** (0.000)	6.140*** (0.000)	6.223*** (0.000)
Adj-R ²		0.634	0.435	0.219	0.378	0.590
F-stat.		970.3***	430.6***	174.1***	341.0***	582.6***
OBS		4473	4474	4936	4473	4438

注：回归模型是方程(1)，因变量为Tobin-Q，括号内为P检验值，*、**、***分别表示回归系数在10%、5%、1%的显著性水平下显著。关联交易变量均进行了规模调整，即用关联交易金额除以企业总资产。

表5 关联交易与企业价值(M/B)回归分析结果

	预期符号					
<i>MORTGAGE</i>	-	-4.541*** (0.000)				-4.383*** (0.000)
<i>OCCUPY</i>	-		-4.977*** (0.000)			-5.094*** (0.000)
<i>ASSET</i>	-			-4.324*** (0.000)		-3.179*** (0.001)
<i>EQUITY</i>	-				-4.591*** (0.000)	-4.141*** (0.000)
<i>TRANSPARENCE</i>	+	0.350*** (0.000)	0.394*** (0.000)	0.333*** (0.000)	0.391*** (0.000)	0.333*** (0.000)
<i>TOPONE</i>	-	-2.379*** (0.000)	-2.800*** (0.000)	-2.264*** (0.001)	-2.796*** (0.000)	-2.594*** (0.000)
<i>TOPONE</i> ²	+	2.015*** (0.000)	2.648*** (0.000)	1.799*** (0.001)	2.711*** (0.000)	2.228*** (0.000)
<i>GOV</i>	+	0.070*** (0.000)	0.100*** (0.000)	0.044*** (0.000)	0.106*** (0.000)	0.071*** (0.000)
<i>ROE</i>	+	-0.225* (0.052)	-0.263** (0.020)	-0.378*** (0.001)	-0.227** (0.050)	-0.245** (0.043)
<i>LEVERAGE</i>	-	0.877*** (0.000)	0.567*** (0.000)	0.963*** (0.000)	0.604*** (0.000)	0.868*** (0.000)
<i>SIZE</i>	-	-0.617*** (0.000)	-0.623*** (0.000)	-0.632*** (0.000)	-0.619*** (0.000)	-0.615*** (0.000)
C	?	11.204*** (0.000)	11.191*** (0.000)	11.732*** (0.000)	11.040*** (0.000)	11.256*** (0.000)
Adj-R ²		0.214	0.215	0.164	0.214	0.359
F-stat.		152.9***	154.0***	122.3***	152.7***	227.2***
OBS		4458	4459	4932	4458	4438

企业价值的衡量。结果显示，关联交易变量与企业价值变量的关系与表4的结果基本一致。

2、公司特征、关联交易与企业价值

表6、表7报告了加入公司特征交叉变量后的回归结果。*MORTGAGE*GROUP*、*OCCUPY*GROUP*、*ASSET*GROUP*、*EQUITY*GROUP*均与*TOBIN-Q*在至少10%的显著性水平下负相关。这与我们的预期一致，表明投资者对集团内上市公司的关联

表 6 关联交易、企业价值与公司特征回归 (一)

	CROSS = GROUP		CROSS = TOPONE		CROSS = TOPONE ²		CROSS = CR25/ TOPONE	
	系数	p值	系数	p值	系数	p值	系数	p值
MORTGAGE	-1.127***	0.000	2.186***	0.004			-2.482***	0.000
OCCUPY	-1.530***	0.000	-0.591	0.875			-1.240	0.130
ASSET	0.678*	0.063	3.753	0.100			-0.220	0.507
EQUITY	-0.132	0.833	4.549	0.143			-0.991***	0.009
MORTGAGE*CROSS	-0.873***	0.001	-15.934***	0.000	23.217	0.320	0.856***	0.000
OCCUPY*CROSS	-1.243*	0.058	-14.797	0.450	15.333	0.118	-1.806*	0.076
ASSET*CROSS	-0.874**	0.039	-16.680*	0.096	22.846	0.119	0.311	0.588
EQUITY*CROSS	-1.237*	0.073	-24.401*	0.090	11.790**	0.041	-1.231	0.134
TRANSPARENCE	0.129***	0.000	0.148***	0.000			0.150***	0.000
TOPONE	-1.020***	0.000	-0.807***	0.000			-0.956***	0.000
TOPONE ²	0.892***	0.000	0.680***	0.000			0.811***	0.000
GOV	0.020***	0.000	0.013***	0.004			0.015***	0.001
ROE	0.077***	0.000	0.070***	0.009			0.075***	0.004
LEVERAGE	-0.323***	0.000	-0.182***	0.000			-0.169***	0.000
SIZE	-0.301***	0.000	-0.323***	0.000			-0.325***	0.000
C	6.160***	0.000	6.512***	0.000			6.574***	0.000
Adj-R ²		0.633			0.330			0.331
F-stat		515.0***			117.7***			149.8***
OBS		4466			4505			4504

注：回归模型是方程 (2)，因变量为 TOBIN-Q，*、**、*** 分别表示回归系数在 10%、5%、1% 的显著性水平下显著。关联交易变量均进行了规模调整，即用关联交易金额除以企业总资产。

表 7 关联交易、企业价值与公司特征回归(二)

	CROSS = TRANSPARENCE		CROSS = LOSS		CROSS = OFFER		CROSS = ROE	
	系数	p值	系数	p值	系数	p值	系数	p值
MORTGAGE	-2.139***	0.000	-1.376***	0.000	-1.486***	0.000	-1.448***	0.000
OCCUPY	-5.765***	0.000	-2.215***	0.000	-2.399***	0.000	-1.938***	0.000
ASSET	-0.571**	0.038	0.042	0.762	-0.275*	0.056	-0.755***	0.003
EQUITY	-3.506***	0.000	-0.564	0.280	-1.469***	0.000	-1.085***	0.000
MORTGAGE*CROSS	0.591***	0.034	-1.025***	0.000	0.400	0.463	-3.609***	0.000
OCCUPY*CROSS	3.998***	0.000	-0.215	0.851	2.589***	0.000	5.497***	0.001
ASSET*CROSS	0.407**	0.034	-0.568*	0.073	1.302***	0.008	10.775***	0.000
EQUITY*CROSS	2.182***	0.001	-1.962*	0.099	2.548**	0.022	1.131	0.548
TRANSPARENCE	0.110***	0.000	0.155***	0.000	0.159***	0.000	0.128***	0.000
TOPONE	-0.951***	0.000	-1.044***	0.000	-1.165***	0.000	-0.976***	0.000
TOPONE ²	0.816***	0.000	0.906***	0.000	1.074***	0.000	0.823***	0.000
GOV	0.021***	0.000	0.012***	0.006	0.013***	0.000	0.020***	0.000
ROE	0.064**	0.012	0.059**	0.036	0.046	0.102	0.098***	0.000
LEVERAGE	-0.299***	0.000	-0.176***	0.000	-0.208***	0.000	-0.306***	0.000
SIZE	-0.298***	0.000	-0.329***	0.000	-0.330***	0.000	-0.299***	0.000
C	6.092***	0.000	6.698***	0.000	6.728***	0.000	6.099***	0.000
Adj-R ²		0.450		0.333		0.331		0.505
F-stat.		244.8***		150.7***		149.6***		305.2***
OBS		4466		4505		4505		4466

注：回归模型是方程(2)，因变量为TOBIN-Q，*、**、***分别表示回归系数在10%、5%、1%的显著性水平下显著。关联交易变量均进行了规模调整，即用关联交易金额除以企业总资产。

交易有更加消极的反应。假定投资者反应正确，我们可以认为集团内上市公司的关联交易为掏空的可能性更大。

$MORTGAGE*TOPONE$ 、 $OCCUPY*TOPONE$ 、 $ASSET*TOPONE$ 、 $EQUITY*TOPONE$ 与 $TOBIN-Q$ 负相关，而 $MORTGAGE*TOPONE^2$ 、 $OCCUPY*TOPONE^2$ 、 $ASSET*TOPONE^2$ 、 $EQUITY*TOPONE^2$ 与 $TOBIN-Q$ 正相关，且大多数系数显著或接近显著。这表明，关联交易为掏空的可能性与第一大股东持股比例呈倒“U”型关系，与我们的预期一致。

$MORTGAGE*CR25/TOPONE$ 与 $TOBIN-Q$ 在1%的显著性水平下正相关， $OCCUPY*CR25/TOPONE$ 与 $TOBIN-Q$ 在10%的显著性水平下负相关， $ASSET*CR25/TOPONE$ 与 $TOBIN-Q$ 正相关，但不显著。 $EQUITY*CR25/TOPONE$ 与 $TOBIN-Q$ 负相关，但不显著。这与我们的预期不尽一致。因此，我们用Z指数和HFD_5指数²¹代替 $CR25/TOPONE$ 衡量第二至第五大股东的制衡能力进一步检验股权制衡的作用，得出的结果仍然与 $CR25/TOPONE$ 类似。原因可能是：（1）其他大股东的持股比例过低，监督激励不足或制衡能力不足。据我们统计， $CR25/TOPONE$ 的均值为0.517，也即第二至第五大股东持股比例之和只有第一大股东的一半。（2）股权制衡的程度越高，往往意味着第一大股东的持股比例越低，反而降低了控股股东的掏空成本。而且，制衡的股权可能导致各大股东合谋，共同掏空公司。（3）持股相近的股权结构也可能导致股东权力争夺、勾心斗角、各自为政，无暇顾及生产经营，最终无法起到保护中小投资者利益的作用（朱红军、汪辉，2004；邵东亚，2003）。高雷等（2006）实证研究发现，制衡的股权并不能显著降低资金占用。而徐莉萍等（2006）实证发现股权制衡程度高的公司绩效更差。

$MORTGAGE*TRANSPARENCE$ 、 $OCCUPY*TRANSPARENCE$ 、 $ASSET*TRANSPARENCE$ 、 $EQUITY*TRANSPARENCE$ 与 $TOBIN-Q$ 至少在5%的显著性水平上正相关。这与我们的预期一致，即信息披露透明度较高的公司，关联交易为掏空的可能性较小。

$MORTGAGE*LOSS$ 与 $TOBIN-Q$ 负相关，但不显著。 $OCCUPY*LOSS$ 、 $ASSET*LOSS$ 、 $EQUITY*LOSS$ 与 $TOBIN-Q$ 至少在10%的显著性水平上正相关，说明投资者对有“避亏”盈余管理动机的公司的关联交易给予更消极的反应，支持了关联交易盈余管理的反效果观。由于 $MORTGAGE$ 并不对利润产生影响， $MORTGAGE*LOSS$ 与 $TOBIN-Q$ 无显著关系。

$OCCUPY*OFFER$ 、 $ASSET*OFFER$ 、 $EQUITY*OFFER$ 与 $TOBIN-Q$ 至少在5%的显著性水平上正相关。 $MORTGAGE*OFFER$ 与 $TOBIN-Q$ 正相关，但不显著。并且，

²¹ Z指数等于第二大股东持股比例与第一大股东持股比例之比。HFD_5指数为前五位大股东持股比例的平方和，可表示前五大股东的持股比例差距，HFD_5指数越大，说明前五大股东的持股比例差距越大。因此，这两个指标可用来表示第一大股东的绝对控制能力以及第二或第二至第五大股东的制衡能力。

$OCCUPY*OFFER$ 与 $TOBIN-Q$ 显著正相关,而 $OCCUPY$ 与 $TOBIN-Q$ 显著负相关,且两者回归系数之和大于零; $ASSET*OFFER$ 与 $TOBIN-Q$ 显著正相关, $ASSET$ 与 $TOBIN-Q$ 显著负相关,且两者回归系数之和大于零; $EQUITY*OFFER$ 与 $TOBIN-Q$ 显著正相关,而 $EQUITY$ 与 $TOBIN-Q$ 显著负相关,且两者回归系数之和大于零。这说明投资者给予有配股盈余管理动机公司的关联交易更少消极甚至积极的反应,支持了关联交易盈余管理的效率加强观。

上述结果表明,对于“避亏”和配股盈余管理动机,投资者对关联交易的反应是不同的。产生这种差别的原因可能是,控股股东往往利用关联交易操纵利润以实现“避亏”所需的短期收益,而利用关联交易支持上市公司以实现配股所需的长期收益。

$MORTGAGE*ROE$ 与 $TOBIN-Q$ 在1%的显著性水平下负相关。 $OCCUPY*ROE$ 、 $ASSET*ROE$ 与 $TOBIN-Q$ 在1%的显著性水平下正相关。而 $EQUITY*ROE$ 与 $TOBIN-Q$ 正相关,但不显著。这些结果与我们的预期基本一致。不一致的是,会计绩效越好,担保越能降低企业价值,原因可能是对外担保给绩效越好的公司产生的潜在损失越大。

(三) 稳健性检验

1、变量定义与估计方法

参照白重恩等(2005)的做法,计算 $TOBIN-Q$ 时,非流通股价格由股票市场价格折价70%或80%计算;用是否发生关联交易哑变量代替关联交易金额除总资产比例变量;借鉴唐清泉等(2005)的研究,我们将国有资产管理局、科研机构、高校、社会团体、银行、保险及投资公司界定为集团外上市公司,而除此之外的公司均被界定为集团内上市公司(按这种界定方式,集团内上市公司占所有公司的比例从原来的59.7%上升到80.1%);修改盈余管理动机的鉴定方法,例如将上年度报告了亏损或者当年 ROE 处于(0, 0.01)区间的上市公司鉴定为有“避亏”盈余管理的公司;用非平衡面板数据最小二乘法随机效应(random effect)估计文中回归方程。以上对变量定义和估计方法所作的修改并不改变本文的基本结论。

2、内生性问题

对两变量之间的关系进行实证检验可能会遇到内生性问题。我们通常假定自变量促进或引起因变量,因变量对自变量没有促进或反馈效应。但如果自变量能够引起因变量的同时因变量能反馈于自变量,内生性问题就产生了。本文的研究模型的因变量是企业价值,自变量包括关联交易变量与控制变量,控制变量主要是公司治理变量。我们的回归结果依赖于一个假定,即企业价值并不影响关联交易的发生和公司治理的变革。国内外研究通常将公司治理变量作为外生变量,即公司治理影响企业价值,而不是相反。并且,基于一个国家的数据的研究通常能够避免内生性问

题，因为同一个国家面临相同的制度环境与法律保护，可以避免股权结构与制度环境的内生性结构 (Joh, 2003)。在我国，股权结构、信息披露等公司治理机制都是在我国特有的法律制度背景下形成，而不是由企业价值决定。因此，我们将公司治理变量论述为外生变量。

La Porta *et al.* (2002) 通过一个模型证明，掏空与投资者利益保护水平及控制权与现金索取权的分离度有关，而与企业绩效 (投资回报率) 无关。Friedman *et al.* (2003) 认为，对负债率高的企业而言，低回报率并不一定导致掏空，因为大股东要确保其偿债能力。我国的上市公司通常害怕戴帽 (在股票代码上冠以ST标记，以提醒投资者注意) 或退市，所以大股东有避免亏损的动机。因此，低回报率不一定会导致掏空。而且，大股东在公司绩效好的时候同样会掏空。这是因为公司绩效好时，更难发现企业资源或利润被征用 (本文的经验证据显示，会计绩效越好，投资者认为关联交易为掏空的可能性越小)。Cheung *et al.* (2004) 发现发生关联交易的公司，在交易前一年的企业价值并一定会更低，所以较低的企业价值并一定会导致掏空。如果以上的推断是正确的，企业绩效并不影响掏空，那么企业价值与关联交易并无内生问题。然而，Johnson *et al.* (2000a) 的模型表明，投资回报率越低，掏空发生的可能性越大，因为低回报率降低了掏空的边际机会成本。所以，关联交易可能是内生的，我们需要找到合适的工具变量 (instrumental variable)，用工具变量法、两阶段最小二乘法 (2SLS) 等方法进行回归分析。通过研究，我们发现企业集团与企业价值无显著关系，而与是否发生关联交易显著正相关。因此，是否属于企业集团可作为关联交易变量的工具变量，表8列出两阶段广义最小二乘法的估计结果。我们看到，在考虑了关联交易与企业价值内生性问题后，关联交易变量与企业价值仍然显著负相关。

五、结论与局限性

本文的经验证据表明，关联交易与企业价值显著负相关，总体上支持了关联交易的掏空观。我们还发现，公司具体特征能够影响关联交易性质。本文得出的具体结论如下：(1) 我国上市公司与第一大股东集团间的关联交易发生概率、比例与频率都较高，并且发生概率与频率呈递增趋势。(2) 关联交易与企业价值显著负相关，总体上支持了掏空观。(3) 上市公司附属于商业集团，加大了关联交易为掏空的可能性。(4) 关联交易为掏空的可能性与第一大股东持股比例呈倒“U”型关系。第二至第五大股东的制衡并不能限制控股股东利用关联交易进行掏空。(5) 信息披露透明度越高，企业绩效越好，关联交易为掏空的可能性越小。(6) 投资者给有“避亏”盈余管理动机的公司的关联交易更消极的反应，支持了关联交易盈余管理的反效果观；投资者给有配股盈余管理动机的公司的关联交易较少消极甚至积极的反应，支持了关联交易盈余管理的效率加强观。

如何规范关联交易及保护中小投资者的利益？近年来，许多研究强调法律对投

表8 关联交易与企业价值

		预期符号			
<i>MORTGAGE</i>	-	-2.526*** (0.000)			
<i>OCCUPY</i>	-		-1.877** (0.018)		
<i>ASSET</i>	-			-0.707*** (0.000)	
<i>EQUITY</i>	-				(-2.086)*** 0.000
<i>TRANSPARENCE</i>	+	0.028** (0.015)	0.130*** (0.000)	0.126*** (0.000)	0.101*** (0.000)
<i>TOPONE</i>	-	-0.888** (0.017)	-0.252 (0.985)	-0.461 (0.124)	-0.880*** (0.000)
<i>TOPONE²</i>	+	0.627*** (0.000)	0.007*** (0.008)	0.383*** (0.001)	0.791*** (0.000)
<i>GOV</i>	+	0.039*** (0.000)	0.013*** (0.000)	0.017*** (0.001)	0.037*** (0.000)
<i>ROE</i>	+	-0.179*** (0.000)	-0.076 (0.183)	0.071* (0.072)	0.098* (0.067)
<i>LEVERAGE</i>	-	0.258*** (0.000)	-0.083* (0.069)	-0.286*** (0.000)	-0.034 (0.406)
<i>SIZE</i>	-	-0.215*** (0.000)	-0.287*** (0.000)	-0.269*** (0.000)	-0.265*** (0.000)
C	?	4.328*** (0.000)	5.704*** (0.000)	5.480*** (0.000)	5.292*** (0.000)
Adj-R ²		0.339	0.333	0.171	0.487
F-stat.		86.5***	144.9***	162.5***	139.5***
OBS		4961	4990	4961	4961

注：回归模型是方程(1)，估计方法为两阶段广义最小二乘法，因变量为*TOBIN-Q*，工具变量均为*GROUP*，括号内为P检验值，*、**、***分别表示回归系数在10%、5%、1%的显著性水平下显著。关联交易变量均为是否发生此类关联交易的哑变量。

资者利益保护的作用。但是，法律的建设需要一个长期的过程，并且受制度环境的制约。尽管如此，我们可以寻求公司内部治理对投资者利益的保护。根据本文的研究结果，提高信息披露透明度，在股权分散大势所趋之下减少第一大股东的持股比例，加强集团内关联交易的监管，可以降低关联交易为掏空的可能性，保护投资者利益。另外，公司治理等公司特征能够影响投资者对关联交易性质的预期，因而上

市公司可以通过建设良好的公司内部治理向投资者传递一个好的信号,即其关联交易不是掏空。

本文的研究有一定的局限性。首先,虽然我们努力克服变量间的内生性问题,内生性问题仍是研究关联交易与企业价值关系的重要问题,今后的研究要用新的工具变量,用更为先进的估计方法估计关联交易与企业价值的关系。其次,尽管上市公司与非第一大股东集团进行的关联交易比第一大股东集团明显要低许多,但也仍可能是掏空行为。上市公司与非第一大股东集团间的关联交易的性质是否与第一大股东集团相同?第一大股东是否与其他大股东合谋一起掏空公司?这些都是以后进一步研究的方向。

参考文献

- 白重恩、刘俏、陆洲、宋敏、张俊喜. 2005. “中国上市公司治理结构的实证研究”.《经济研究》第2期, 81-91。
- 陈晓、王琨. 2005. “关联交易, 公司治理与国有股改革——来自我国资本市场的实证证据”.《经济研究》第4期, 77-97。
- 冯根福、马亚军、姚树洁. 2005. “中国上市公司担保行为的实证分析”.《中国工业经济》第3期, 13-21。
- 高雷、何少华、黄志忠. 2006. “公司治理与掏空”.《经济学季刊》第4期, 1157-1178。
- 贺建刚、刘峰. 2005. “大股东控制、利益输送与投资者保护: 基于上市公司资产收购关联交易的实证研究”.《中国会计与财务研究》第3期, 101-170。
- 李增泉、王志伟、孙铮. 2004. “‘掏空’与所有权安排——来自我国上市公司大股东资金占用的经验证据”.《会计研究》第12期, 3-13。
- 李增泉、余谦、王晓坤. 2005a. “掏空、支持与并购重组”.《经济研究》第1期, 95-105。
- 李增泉、孙铮、任强. 2005b. “所有权安排与现金股利政策——来自我国上市公司的经验证据”.《中国会计与财务研究》第4期, 48-75。
- 刘小年、郑仁满. 2005. “公司业绩、资本结构与对外信用担保”.《金融研究》第4期, 156-164。
- 刘焯. 2001. “我国上市公司关联交易盈余管理解析”.《财经理论与实践》第9期, 92-95。
- 陆建桥. 1999. “中国亏损上市公司盈余管理实证研究”.《会计研究》第9期, 25-35。
- 吕长江、王克敏. 2002. “上市公司资本结构、股利分配及管理股权比例相互作用机制研究”.《会计研究》第3期, 39-48。
- 马亚军、韩文明. 2003. “上市公司国有资产价值流失分析”.《中国工业经济》第5期, 71-78。
- 马曙光、黄志忠、薛云奎. 2005. “股权分置、资金占用与上市公司现金股利政策”.《会计研究》第9期, 44-50。
- 孙永祥、黄祖辉. 1999. “上市公司的股权结构与绩效”.《经济研究》第12期, 23-30。
- 邵东亚. 2003. “公司治理的机制与绩效——案例分析与制度反思”.《管理世界》第12期, 115-127。

- 邵军、边泓. 2005. “A股公司利用线下项目进行盈余管理的实证分析”.《统计与决策》第2期, 101-103。
- 唐清泉、罗党论、王莉. 2005. “大股东的隧道挖掘与制衡力量——来自中国市场的经验证据.”《中国会计评论》第4期。
- 王克敏、陈井勇. 2004. “股权结构、投资者保护与公司绩效”.《管理世界》第7期, 127-133。
- 吴超鹏、吴世农. 2005. “基于价值创造和公司治理的财务状态分析与预测模型研究”.《经济研究》第11期, 99-110。
- 夏立军、方轶强. 2005. “政府控制、治理环境与公司价值——来自中国证券市场的经验证据”.《经济研究》第5期, 40-51。
- 徐莉萍、辛宇、陈工孟. 2006. “股权集中度和股权制衡及其对公司经营绩效的影响”.《经济研究》第1期, 90-100。
- 朱红军、汪辉. 2004. “‘股权制衡’可以改善公司治理吗——宏智科技股份有限公司控制之争的案例研究”.《管理世界》第10期, 114-156。
- 张晓晶. 2004. “中国市场化进程报告：现状分析与未来预测”.《管理世界》第3期, 5-13。
- 张祥建、徐晋. 2005. “盈余管理、配股融资与上市公司业绩滑坡”.《经济科学》第1期, 56-65。
- Atanasov, V. (2005), ‘How Much Value Can Block Holders Tunnel? Evidence from the Bulgarian Mass Privatization Auctions’, *Journal of Financial Economics* 76: 191-234.
- Aggarwal, R., Klapper, L., and Wyszocki, P. D. (2005), ‘Portfolio Preferences of Foreign Institutional Investors’, *Journal of Banking and Finance* 29: 2919-2946.
- Bae, K. H., Kang, J. K., and Kim, J. M. (2002), ‘Tunneling or Value Addition? Evidence from Mergers by Korean Business Groups’, *Journal of Finance* 57(6): 2695-2740.
- Baek, J. S., Kang, J. K., and Park, K. S. (2004), ‘Corporate Governance and Firm Value: Evidence from the Korean Financial Crisis’, *Journal of Financial Economics* 71(2): 265-313.
- Bai, C. E., Liu, Q., Lu, J., Song, M., and Zhang, J. X. (2004), ‘Corporate Governance and Market Valuation in China’, *Journal of Comparative Economics* 32 (4): 599-616.
- Barclay, M. and Holderness, C. G. (1989), ‘Private Benefits from Control of Public Corporation’, *Journal of Financial Economics* 25: 371-395.
- Barclay, M., Holderness, C. G., and Pontiff, J. (1993), ‘Private Benefits from Block Ownership and Discounts on Closed-end Funds’, *Journal of Financial Economics* 33: 263-291.
- Bennedson, M. and Wolfenzon, D. (2000) ‘The Balance of Power in Closely-Held Corporations’, *Journal of Financial Economics* 58: 113-139.
- Bergstrom, C. and Rydqvist, K. (1990), ‘Ownership of Equity in Dual-Class Firms’, *Journal of Banking and Finance* 14: 255-269.
- Bertrand, M., Mehta, P., and Mullainathan, S. (2002), ‘Ferretting out Tunneling: An Application to Indian Business Groups’, *Quarterly Journal of Economics* 117: 121-148.
- Burkart, M., Gromb, D., and Panunzi, F. (1998), ‘Why Higher Takeover Premium Protect Minority Shareholders’, *Journal of Political Economy* 106: 172-204.

- Chang, S. J. (2003), 'Ownership Structure, Expropriation, and Performance of Group-affiliated Companies in Korea', *Academy of Management Journal* 46(2): 238–253.
- Cheung, Y. L., Rau, R., and Stouraitis, A. (2006), 'Tunneling, Propping and Expropriation: Evidence from Connected Party Transactions in Hong Kong', *Journal of Financial Economics* 82(2): 343–386.
- Claessens, S., Djankov, S., and Lang, H. P. (2000), 'The Separation of Ownership and Control in East Asian Corporations', *Journal of Financial Economics* 58: 81–112.
- Claessens, S., Djankov, S., Fan, J., and Lang, H. P. (2002), 'Disentangling the Incentive and Entrenchment Effects of Large Shareholdings', *Journal of Finance* 57: 2741–771.
- Claessens, S., Joseph, P. H., Lang, H. P. (2006), 'The Benefits and Costs of Group Affiliation: Evidence from East Asia', *Emerging Markets Review* 7: 1–26.
- Coase, R. H. (1937), *The Firm, The Market and Law*, University of Chicago Press.
- Dyck, A. and Zingales, L. (2004), 'Private Benefits of Control: An International Comparison', *Journal of Finance* 59: 537–600.
- Friedman, E., Johnson, S., and Mitton, T. (2003), 'Propping and Tunneling', *Journal of Comparative Economics* 31: 732–750.
- Granovetter, M. (1995) 'Coase Revisited: Business Groups in the Modern Economy', *Industrial and Corporate Change* 4: 93–130.
- Ghemawat, P. and Khanna, T. (1998), 'The Nature of Diversified Business Groups: A Research Design and Two Case Studies', *Journal of Industrial Economics* 46: 35–61.
- Haw, I. M., Qi, D. Q., Wu, D. H., and Wu, W. (2005), 'Market Consequences of Earnings Management in Response to Security Regulations in China', *Contemporary Accounting Research* 22: 95–140.
- Hubbard, R. G. and Palia, D. (1999), 'A Re-Examination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View', *Journal of Finance* 54: 1131–1152.
- Jensen, M. C. and Meckling, W. H. (1976), 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics* 3: 305–360.
- Jian, M. and Wong, T. J. (2003), 'Earnings Management and Tunneling through Related Party Transactions: Evidence from Chinese Corporate Groups', *Working Paper*.
- Joh, S.W. (2003), 'Corporate Governance and Firm Profitability: Evidence from Korea before the Economic Crisis', *Journal of Financial Economics* 68: 287–322.
- Johnson, S., Boone, P., Breach, A., and Friedman, E. (2000a), 'Corporate Governance in the Asian Financial Crisis 1997–1998', *Journal of Financial Economics* 58: 141–186.
- Johnson, S., La Porta, R., Lopez-De-Silanes, F., and Shleifer, A. (2000b), 'Tunnelling', *American Economic Review* 90: 22–27.
- Keister, L. A. (1992), 'Industrial Groups as Systems of Contractual Governance', *Oxford Review of Economic Policy* 8(3): 24–44.
- Keister, L. A. (1998), 'Engineering Growth: Business Group Structure and Firm Performance in China's Transition Economy', *American Journal of Sociology* 104(2): 404–440.

- Keister, L. A. (2000), *Chinese Business Groups. The Structure and Impact of Inter-firm Relations during Economic Development*, Oxford University Press.
- Khanna, T. and Palepu, K. (1997), 'Why Focused Strategies may be Wrong for Emerging Markets', *Harvard Business Review*, July–August: 41–51.
- Khanna, T. and Palepu, K. (2000a), 'Is Group Affiliation Profitable in Emerging Markets: An Analysis of Diversified Indian Business Groups', *Journal of Finance* 55: 867–891.
- Khanna, T. and Palepu, K. (2000b), 'The Future of Business Groups in Emerging Markets: Long-run Evidence from Chile', *Academy of Management Journal* 43: 268–285.
- Kim, S. J. (2004), 'Bailout and Conglomeration', *Journal of Financial Economics* 71: 315–347.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., and Vishny, R. W. (1998), 'Law and Finance', *Journal of Political Economy* 106: 1113–1155.
- La Porta, R., Lopez-de-Silanes, F., and Shleifer, A. (1999), 'Corporate Ownership around the World', *Journal of Finance* 54: 471–517.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., and Vishny, R. W. (2002), 'Investor Protection and Corporate Valuation', *Journal of Finance* 57: 1147–1170.
- La Porta, R., Lopez-De-Silanes, F., and Zamarripa, G. (2003), 'Related Lending', *Quarterly Journal of Economics* 106: 231–268.
- Leff, N. (1978), 'Industrial Organization and Entrepreneurship in the Developing Countries', *Economic Development and Cultural Change* 26: 661–675.
- Lincoln, J. R., Geriach, M. L., and Ahmadjian, C. L. (1996), 'Keiretsu Networks and Corporate Performance in Japan', *American Sociological Review* 61: 67–88.
- Maury, B. and Pajuste, A. (2005), 'Multiple Large Shareholders and Firm Value', *Journal of Banking and Finance* 29: 1813–1834.
- Mitton, T. (2002), 'A Cross-firm Analysis of the Impact of Corporate Governance on the East Asian Financial Crisis', *Journal of Financial Economics* 64: 215–241.
- Morck, R., Shleifer, A., and Vishny, R. W. (1988), 'Management Ownership and Market Valuation: An Empirical Analysis', *Journal of Financial Economics* 20: 293–315.
- Morck, R., Strangeland, D., and Yeung, B. (2000), 'Inherited Wealth, Corporate Control and Economic Growth: The Canadian Disease?', In Morck, R. (Ed.), *Concentrated Corporate Ownership*, The University of Chicago Press, Chicago.
- Nenova, T. (2002), 'The Value of Corporate Votes and Control Benefits: A Cross-Country Analysis', *Journal of Financial Economics* 68: 325–352.
- Shleifer, A. and Vishny, R. (1986), 'Large Shareholders and Corporate Control', *Journal of Political Economic* 94: 461–488.
- Shin, H. H. and Young, S. P. (1999), 'Financing Constraints and Internal Capital Markets: Evidence from Korean Chaebols', *Journal of Corporate Finance* 5: 169–191.
- Zingales, L. (1994), 'The Value of the Voting Right: A Study of the Milan Stock Exchange Experience', *Review of Financial Studies* 7: 125–148.

CONNECTED PARTY TRANSACTIONS, FIRM VALUE, AND FIRM CHARACTERISTICS: AN EMPIRICAL STUDY ON CHINESE LISTED COMPANIES FOR THE YEARS 2000 TO 2004¹

Lei Gao², Shunlin Song³, and Yunkui Xue⁴

ABSTRACT

Employing the panel data of Chinese listed companies for the years 2000 to 2004, this paper empirically tests the relationship between connected party transactions and firm value as well as the influence of firm characteristics on this relationship. We find that firm value is significantly and negatively correlated with connected party transactions, lending support to the suggestion of tunnelling being the purpose of these transactions, and that some firm characteristics can affect the nature of connected party transactions. In particular, listed companies of business groups suffer more from tunnelling through connected party transactions; the more transparent the information disclosure, the better the accounting performance is, and the less possible tunnelling through connected party transactions is. Moreover, there is a reverse U-shaped relationship between the probability of tunnelling through connected party transactions and the proportion of the largest shareholding. The proportions of the second to the fifth largest shareholdings will not affect the nature of connected party transactions, while different motivations for earnings management can result in different influences on the nature of connected party transactions.

Keywords: Connected Party Transactions, Firm Value, Tunnelling, Firm Characteristics, Corporate Governance, Ownership Structure

¹ We would like to express our gratitude to two anonymous referees for their valuable advice and to Professor Wayne W. Yu, the executive editor of *China Accounting and Finance Review*, for his excellent work. We are nonetheless responsible for all errors, if any, in this paper.

² Lei Gao, PhD, Associate Professor, School of Business at Shantou University. Postal address: 243 Daxue Road, Shantou, Guangdong, PRC, 515063. Tel.: 0754-2902383, 13342736990. E-mail: gaoleifinance@163.com.

³ Shunlin Song, graduate, School of Business at Shantou University. E-mail: dalin507@163.com.

⁴ Yunkui Xue, Professor of the Cheung Kong Graduate School of Business, Dean and Professor of the School of Business at Shantou University. E-mail: ykxue@ckgsb.edu.cn.

I. INTRODUCTION

In recent years, several scandals involving tunnelling by major shareholders have been brought to light. From the “Qiongminyuan” incident in 1997 to the “Sanjiu Group” incident in 2005, there is plenty of anecdotal evidence that points to the evil of connected party transactions. Tunnelling by major shareholders does severe harm to the development of the capital market in China, and minority shareholders are filled with righteous indignation. On the one hand, major shareholders undisguisedly appropriate funds of listed companies, and require the listed companies to guarantee their big loans. On the other hand, listed companies charge major shareholders fees for funds appropriation or sell assets to connected parties at a high price to avoid reporting losses or acquire qualifications for rights offerings. Chen and Wang (2005) list the five sins of connected party transactions: tunnelling, manipulating profits, initiating news speculation, transferring profits, and defrauding loans. In fact, connected party transactions may not necessarily do harm to the interests of investors. Some research finds that listed subsidiaries of business groups can gain exclusive advantages that are unavailable to independent companies in emerging markets (Leff, 1978; Hubbard and Palia, 1999; Khanna and Palepu, 2000a). Other research explores the opportunism of connected party transactions, such as earnings management (Liu, 2001; Jian and Wong, 2003) and tunnelling (Khanna and Palepu, 2000b; Li *et al.*, 2004), and tunnelling has received extensive empirical support (Bertrand *et al.*, 2002; Baek *et al.*, 2004; Bae *et al.*, 2002; Chang, 2003).

Although a lot of Chinese literature has theoretically discussed the disclosure and regulation of connected party transactions in recent years, only a few studies have provided empirical evidence on connected party transactions. Chen and Wang (2005), Li *et al.* (2004), Gao *et al.* (2006), Jian and Wang (2003), and He and Liu (2005) investigate connected party transactions from the perspectives of multi-connected transactions, connected mergers, funds appropriation, connected lending, and connected acquisition, respectively. Li *et al.* (2005b) and Lu and Wang (2002) study tunnelling through cash dividend payouts by major shareholders. However, most Chinese research concentrates on the influence of ownership structure on tunnelling, of which only a few test the relationship between connected party transactions and firm value. Moreover, the existing literature has not reached any consensus on the relationship between ownership structure and tunnelling. This paper theoretically analyses two different views about connected party transactions, namely efficiency enhancement and tunnelling. Based on Western theories and in view of the Chinese institutional environment, we think that generally tunnelling can be used to better explain the connected party transactions of Chinese listed companies. Using panel data from Chinese listed companies between the years 2000 and 2004, we have found supportive empirical evidence. Tunnelling by major shareholders makes firm value deteriorate; therefore, how to countercheck tunnelling and protect the interests of small investors has become the focus of current corporate governance. Li *et al.* (2005a) test the influence of ownership structure on

tunnelling, and Gao *et al.* (2006) investigate the influences of some other corporate governance mechanisms on tunnelling, such as information disclosure and competition in a product market. This paper introduces firm characteristics as cross variables into the regression equations in order to test the interactive influences of firm characteristics on connected party transactions and firm value. We find that firm characteristics can influence the nature of connected party transactions.

The remainder of this paper is organised as follows: Section II contains the literature review and theoretical analysis; Section III describes the methodology, including the research models, methods, hypotheses, data sources, and sample selection; Section IV presents the empirical results and analysis; and finally Section V summarises the research conclusions and discusses the limitations of this paper.

II. LITERATURE REVIEW AND THEORETICAL ANALYSIS

2.1 Connected Party Transactions and Firm Value

Business groups are commonly found around the world, as are connected party transactions within business groups (Granonetter, 1995; Ghemawat and Khanna, 1998; Keister, 1992). The formation of business groups has its own benefits and costs (Claessens *et al.*, 2006). The existing literature holds two views about connected party transactions within business groups, namely efficiency enhancement and tunnelling. In respect of efficiency enhancement, business groups can reduce transaction costs and business risks, release financial constraints, and share resources and information through connected party transactions to realise value appreciation; whereas, as suggested by the tunnelling view, major shareholders can carry out tunnelling more easily through connected party transactions within business groups.

2.1.1 Efficiency Enhancement

Some literature has discussed the benefits of business groups. In emerging markets, companies of business groups can obtain advantages that are unavailable to independent companies through connected party transactions and the internal capital market (Leff, 1978; Hubbard and Palia, 1999; Khanna and Palepu, 2000a). Khanna and Palepu (1997, 2000a) suggest that business groups in developing countries have some useful functions of a market mechanism that are found in developed countries. Before the establishment of a sound market mechanism, business groups can overcome market imperfections and increase firm value. Khanna and Palepu (2000a) compare listed companies of business groups with independent listed companies in India, and find that the former has more profits. The existing literature uncovers the reasons that business groups can improve efficiency as follows.

First, transaction costs can be lowered when doing transactions through the internal market of business groups, especially when the external market is immature and its transaction costs are high. Generally speaking, the consolidation created by

business groups can help improve efficiency because the increased group administrative costs are more than offset by the market operational costs saved in internal transactions.

Second, connected party transactions can reduce risks. Less information asymmetry between the two transacting parties can mitigate moral hazards. Moreover, connected party transactions can help to establish long-term trade relationships so that the parties concerned are less affected by uncertainties of the external market, and the volatility in their earnings is lower. Lincoln *et al.* (1996) report that Japanese consortium (keiretsu) members have relatively low profit volatility.

Third, member companies of business groups face fewer financial constraints. Shin and Young (1999) find that the internal capital markets established by the 30 biggest Korean business groups enable member companies to suffer fewer financial constraints. This is because borrowing money from banks in the name of business groups rather than individual companies can lead to the securing of better terms (Kim, 2004). And member companies of business groups can provide funds to each other without information asymmetry (La Porta *et al.*, 2003). Moreover, it is easier to get credit guarantees from member companies when applying for bank loans.

Fourth, member companies of business groups can share resources and information. Member companies may share information, trademarks, patents, unpatented techniques, and human resources in order to decrease costs and increase competitiveness against external rivals. Business groups facilitate information flows and technology transfers within the group (Leff, 1978). Based on the panel data of the 40 biggest Chinese business groups for the years 1988 to 1990, Keister (1998) empirically finds that interlocking directors improve the performance and productivity of the member companies of business groups. Leff (1978) reports that the internal labour force allocation of business groups broadens the channel of recruitment when the labour market is not efficient. Granovetter (1995) believes that the research and development of business groups can improve the competitiveness of member companies against outside companies.

2.1.2 Tunnelling

Since the pioneering research on agency costs by Jensen and Meckling (1976), the agency problem between management and shareholders has generated much concern. In a company with a well-diversified ownership structure, management has strong control over the company, and the principal-agent problem is critical. However, La Porta *et al.* (1999) point out that in many countries, the ownership structures of large listed companies are not diversified but are concentrated in controlling shareholders, who have the rights to appoint and supervise management and the ability to appropriate the interests of minority shareholders and creditors. In such companies, the main agency problem is not between management and shareholders but between the major shareholders and minority shareholders and creditors. Johnson *et al.* (2000b) coin the term “tunnelling” to describe in the Czech Republic such behaviours of major shareholders as appropriating interests of minority shareholders in the form of offering high compensations to executives, selling assets at a low

price to major shareholders or senior managers, guaranteeing loans of major shareholders or senior managers, and appropriating funds. Johnson *et al.* (2000a) find that weak corporate governance and tunnelling are the reasons for the currency depreciation and stock price plunge during the Asian financial turmoil. Baek *et al.* (2004) find that stock prices of Korean listed companies with poor information disclosure or concentrated family ownership or more control rights than cash flow rights fall faster and further during the 1997 financial crisis due to higher levels of tunnelling.

Business groups are commonly found in emerging markets, where the interests of minority shareholders and creditors are not well protected (La Porta *et al.*, 1999). As the market develops, the benefits of business groups shrink; the internal capital and factor markets of business groups thus become the best venue for major shareholders to carry out tunnelling through connected party transactions (Khanna and Palepu, 2000b; Li, 2004). The major shareholders of business groups usually control member companies using a pyramid ownership structure. They have strong incentives and multiple means to appropriate resources of member companies. Therefore, tunnelling in business groups is more severe than that in non-business groups (Jian and Wong, 2003). Johnson *et al.* (2000b) claim that the controllers of European business groups have strong incentives to transfer resources of member companies to increase their own wealth. Bertrand *et al.* (2002) investigate the tunnelling behaviours of 18,600 Indian companies for the years 1989 to 1999, and find that business groups with a pyramid ownership structure have strong incentives to move resources from the bottom of the pyramid to the top. Bae *et al.* (2002) report that minority shareholders of the 30 biggest business groups in Korea encounter losses in mergers and restructuring, whereas the controlling shareholders receive benefits. Business groups can aggravate the separation of control rights and cash flow rights through pyramid or cross or dual-class shareholding structures (Claessens *et al.*, 2002; La Porta *et al.*, 2002). The controlling shareholders of business groups are often accused of appropriating the interests of minority shareholders by transferring resources from companies with low cash flow rights to those with high cash flow rights (Bertrand, 2002; Joh, 2003). Claessens *et al.* (2002) empirically study the listed companies in Southeast Asia, and find that the degree of separation of control rights and cash flow rights bears a negative relationship to firm value. La Porta *et al.* (2002) claim that companies with better investor protection and cash flow rights have higher firm value. Furthermore, based on company-level data from nine Asian countries, Claessens *et al.* (2000) find that it is a common phenomenon that major shareholders appropriate interests of minority shareholders. In fact, tunnelling takes place not only in Asia but also in Sweden, the USA, Italy, and Bulgaria, according to Bergstrom and Rydqvist (1990), Barclay and Holderness (1989), Zingales (1994), and Atanasov (2005), respectively. Atanasov (2005) measures the magnitude of major shareholder appropriation expected by investors using control premiums on the basis of the privatisation auction data of Bulgaria, and arrives at shocking results that controlling shareholders can appropriate 85 per cent of firm value. Dyck and Zingales (2004) use data of 412 control rights transfer transactions

in 39 countries between the years 1990 and 2000, and find that the value of control rights lies between -4 per cent and $+65$ per cent with the average at 14 per cent. They also find that private gains from control rights are lower with higher levels of legal protection for small investors, stronger legal implementation, more extensive media transmission, higher tax rates, and stronger competition in product markets.

Tunnelling is also the focus of current Chinese corporate governance research. Some Chinese literature provides evidence on tunnelling of major shareholders from different perspectives. Li *et al.* (2004, 2005a) provide evidence on tunnelling of major shareholders from the perspectives of funds appropriation and connected mergers and acquisitions. They also find that the ownership structure is an important factor for determining the magnitude of tunnelling of the controlling shareholders. Companies controlled by the government or business groups suffer the worst tunnelling. Gao *et al.* (2006) investigate tunnelling from the perspective of funds appropriation, and test the influence of corporate governance on tunnelling. They find that a centralised ownership structure and business group membership can increase tunnelling, while transparency of information disclosure and investor protection can decrease tunnelling significantly; a check-and-balance ownership structure does not have any effect on tunnelling. He and Liu (2005) find that controlling shareholders carry out tunnelling through connected asset transactions, and that the proportion of the controlling shareholding bears a reverse U-shaped relationship to tunnelling. Jian and Wong (2003) report that related lending negatively correlates with firm value based on data of 131 Chinese companies in the materials industry. Ma *et al.* (2005) suggest that cash dividends are increasingly used as a channel for tunnelling. Li *et al.* (2005b) and Lu and Wang (2002) investigate the agency problem between the controlling shareholders and other shareholders from the perspective of cash dividends. Xia and Fang (2005) find that listed companies controlled by the government are more vulnerable to tunnelling and thus have lower firm value.

2.2 Connected Party Transactions, Firm Value, and Firm Characteristics

Which can better explain connected party transactions of Chinese listed companies, efficiency enhancement or tunnelling? The answer mainly depends on the special institutional environment in China and specific firm characteristics. Therefore, we analyse the influence of specific firm characteristics on the nature of connected party transactions under Chinese systems.

2.2.1 Business Groups

Existing empirical evidence shows that the internal market of business groups can overcome the imperfections of an external market, thereby improving efficiency. However, these advantages for business groups fade as marketisation increases. Khanna and Palepu (2000b) investigate the emerging market in Chile, and find that the benefits brought by non-diversified business groups shrink over time because

their ability to create value decreases as the institutional environment improves. Learning from Japanese keiretsus and Korean chaebols in the 1970s and 1980s, China built up many business groups during the 1980s and 1990s (Keister, 2000).⁵ In the early 1990s, China established the stock markets in order to help state-owned enterprises to raise capital. At the time, many large state-owned enterprises spun off some quality assets into separate listed companies. Therefore, Chinese listed companies were born with close connections to business groups, resulting in frequent connected party transactions. Although the Chinese markets have become relatively open after 20 years of reformation,⁶ legal protection of the interests of investors remains weak.⁷ Therefore, tunnelling can generally better explain connected party transactions in China. Using the internal markets of business groups, it is possible for controlling shareholders to secretly carry out tunnelling through connected party transactions (Khanna and Palepu, 2000b; Li *et al.*, 2004). Therefore, we expect that listed companies of business groups will tend to make use of connected party transactions for tunnelling.

2.2.2 Ownership Structure

The ownership structure will influence the ability of and incentives for major shareholders to expropriate other shareholders, especially when the legal protection for small investors is weak. The existing literature expresses two opinions on the role of major shareholders: supervision and appropriation. Compared with minority shareholders, major shareholders have stronger incentives and ability to monitor managers for improving company performance. Shleifer and Vishny (1986) believe that the major shareholder, as a supervisor, would bring benefits to all shareholders. On the other hand, La Porta *et al.* (1999) find that in countries where legal protection for minority shareholders is weak, the ownership is usually concentrated, appropriation of major shareholders is commonly found, and the major governance problem is the conflict of interests between the major and minority shareholders. Morck *et al.* (2000) discuss how major shareholders pursue goals inconsistent with the interests of the minority shareholders. La Porta *et al.* (2002) find that an owner-

⁵ From 1997 to 1998, the Chinese Government encouraged national companies to strengthen their capabilities in order to address the serious problem of earnings loss. Many state-owned enterprises merged with each other, which promoted the development of business groups.

⁶ According to Zhang (2004), marketisation in China has reached the medium level on the whole, at which the manufacturing and product markets are at the highest level of development. According to Beijing Normal University, the overall level of marketisation in China reached 69 per cent in 2001, which was close to the official estimation of 60 per cent.

⁷ La Porta *et al.* (1997) and La Porta *et al.* (1998, 2000) discuss the function of law in establishing effective protection for the interests of investors. La Porta *et al.* (1997) study 49 countries and find that common law countries provide investors with better protection than civil law countries, and that the accounting quality and capital market development are positively correlated with investor protection. La Porta *et al.* (2002) demonstrate that civil law countries have a lower Tobin's Q than common law countries due to weaker investor protection in the former.

ship structure with an evident separation between control rights and cash flow rights exists worldwide. In companies with such an ownership structure, major shareholders would pursue their own interests at the cost of other shareholders when earnings of appropriation exceed the costs. And if major shareholders engage in company management, they are more likely to pursue their own interests (Claessens *et al.*, 2000). Barclay and Holderness (1989), Barclay *et al.* (1993), Nenova (2002), Dyck and Zingales (2004), and Atanasov (2005) empirically find that controlling shareholders squeeze earnings from minority shareholders. Unlike the supervision view, the appropriation view receives increasing empirical support. In China, the ownership structure of many listed companies is concentrated in only “one shareholder”, allowing the controlling shareholders to carry out appropriation and tunnelling more easily through connected party transactions. But this does not necessarily mean that the higher the proportion of the controlling shareholding, the worse the tunnelling is. Morck *et al.* (1988) claim that the relationship between the proportion of the largest shareholding and tunnelling is not linear. Current literature holds the opinion that the proportion of the controlling shareholding has two effects, namely the entrenchment effect and the alignment effect, which are supported by a great deal of empirical evidence (e.g. Morck *et al.*, 1988; Claessens *et al.*, 2002). The “dual effect” is closely related to the view of “control rights and cash flow rights”. The ability of the controlling shareholder to carry out tunnelling bears a positive correlation with control rights, while the cost of tunnelling bears a positive correlation with cash flow rights. A low shareholding proportion results in weak control of the controlling shareholder. As the proportion increases, the controlling shareholder gains more control rights while other shareholders lose more. Hence, tunnelling by the controlling shareholder increases with the proportion of his or her shareholding (the entrenchment effect is stronger than the alignment effect). But when the shareholding proportion reaches a certain level, tunnelling would decrease due to the increasing costs of tunnelling (the alignment effect is stronger than the entrenchment effect). Li *et al.* (2004) and He and Liu (2005) find a reverse U-shaped relationship between tunnelling and the proportion of the controlling shareholding, supporting the suggestion of a “dual effect”. Therefore, we expect that the possibility of tunnelling through connected party transactions will have a reverse U-shaped relationship to the proportion of the controlling shareholding.

The tunnelling of controlling shareholders undoubtedly does harm to the interests of other investors. Thanks to their limited ability, minority shareholders can do nothing but show their discontent by selling their shares; whereas, other major shareholders can either individually monitor controlling shareholders or jointly resist the tunnelling of controlling shareholders. Therefore, the ability of other major shareholders to provide checks and balances against controlling shareholders is the key to corporate governance. Many papers report that the existence of more major shareholders can help protect the interests of investors and reduce appropriation of controlling shareholders (e.g., Bennedson and Wolfenzon, 2000). Maury and Pajuste (2005) also find a positive correlation between the number of major shareholders and firm value, which is supported by many Chinese studies, too (e.g. Sun and

Huang, 1999; Bai *et al.*, 2005). Li *et al.* (2004) find that the proportions of other major shareholdings are negatively correlated with tunnelling of the controlling shareholders. Therefore, we expect that an increase in the proportion of other shareholdings will decrease the possibility of tunnelling through connected party transactions.

2.2.3 Transparency of Information Disclosure

La Porta *et al.* (1998) and Johnson *et al.* (2000) believe that accounting standards and information disclosure transparency are important factors for protecting the interests of investors. Lots of research papers have discussed the role of information disclosure in corporate governance. With highly transparent information disclosures, information asymmetry between controlling shareholders and other shareholders can be lessened, thereby reducing appropriation of the controlling shareholders (La Porta *et al.*, 1998; Johnson *et al.*, 2000a; Baek *et al.*, 2004; Mitton, 2002). In China, Gao *et al.* (2006) find that a higher level of transparency in information disclosure can reduce tunnelling of the controlling shareholders. The Ministry of Finance of China promulgated the first accounting standards, “Accounting Standards for Business Enterprises—Related Party Disclosure”, in May 1997. Afterwards, the China Securities Regulatory Commission successively promulgated dozens of accounting standards, rules, and notices to regulate the information disclosure of connected party transactions of listed companies. However, since the information disclosure system in China is still developing, most listed companies do not formally disclose their connected party transactions. With inadequate information disclosures, it is hard to prohibit connected party transactions between controlling shareholders and listed companies from appropriating the interests of other shareholders. In addition, the degree of information disclosure transparency varies among listed companies due to differences in the audit quality and regulatory environment. Mitton (2002) and Aggarwal *et al.* (2005) relate better audit quality with Big Six (Big Five) auditors. Aggarwal *et al.* (2005) and Wang and Chen (2004) use audit opinions as the proxy for transparency of accounting information disclosure. Bai *et al.* (2004) suggest that companies dually listed in the H-share or B-share market are more transparent in terms of information disclosure. We expect that the more transparent the information disclosure, the less possible tunnelling through connected party transactions will be.

2.2.4 Earnings Management

Although a great deal of evidence shows that controlling shareholders often use connected party transactions for tunnelling, they may manage earnings through connected party transactions as well.⁸ The institutional imperfections in systems of

⁸ Chinese listed companies manage earnings for rights offerings or to avoid reporting losses. Haw *et al.* (2005) and Zhang and Xu (2005) have found evidence of earnings management for rights offerings. Lu (1999) and Shao and Bian (2005) have found evidence of earnings management to avoid reporting losses or for turning losses into profits.

IPOs, corporate governance, and information disclosure result in the prevalence of earnings management through connected party transactions in China. And the main purpose of earnings management through connected party transactions is to offer rights issues at a high price (Liu, 2001). Generally, there are two effects of earnings management through connected party transactions: the efficiency-enhancing effect and the counter-productive effect. The efficiency-enhancing effect means that earnings management through connected party transactions can realise the interests of all shareholders and increase firm value. Although the controlling shareholders have incentives to appropriate company resources, they may support the company as well for legally sharing profits or appropriating company resources in the future (Friedman *et al.*, 2003). The counter-productive effect means that connected party transactions are opportunistic behaviours and cannot generate sustainable earnings. In reality, we can hardly tell the difference between the two effects because propping is more covert than tunnelling. However, if we believe that investors can make the correct decisions, the stock price of a listed company will be an effective signal (Friedman *et al.*, 2003). If investors consider the earnings generated by connected party transactions to be sustainable, they will positively react to connected party transactions, and vice versa.

2.2.5 Accounting Performance

Johnson *et al.* (2000a) use a simple model to demonstrate that a higher level of returns on investment (accounting performance) leads to a lower possibility of tunnelling because the returns on investment are positively related to the marginal opportunity cost of tunnelling. The higher the proportion of the controlling shareholding, the more sensitive tunnelling is to the returns on investment. If Johnson *et al.* (2000a) are right, good accounting performance will make controlling shareholders much less motivated to carry out tunnelling through connected party transactions in China, where the proportion of the controlling shareholding is relatively high. We expect that better accounting performance will result in a lower possibility of tunnelling.

III. RESEARCH DESIGN

3.1 Data and Samples

3.1.1 Data Source

We choose non-financial Chinese listed companies between the years 2000 and 2004 as our research sample for the following two reasons. First, before the first disclosure principles of connected party transactions were promulgated in 1997, Chinese listed companies were not required to disclose connected party transactions formally. From 1997 to 2000, the China Securities Regulatory Commission promulgated dozens of accounting principles and rules to improve the disclosure of connected party transactions. Therefore, selecting listed companies for the year 2000 and after as the research sample can ensure the reliability and accuracy of data. Second, the facts that more business groups have been established and con-

nected party transactions are more frequent since 1998 can help facilitate our research on connected transactions.

The sample data of this paper are mainly collected from the CSMAR and CCER databases. We collect the data on connected party transactions from the China Stock Market Related Party Transaction Research Database of CSMAR. Initially, we obtain 67,710 connected party transactions of listed companies for the years 2000 to 2004, of which 5387 are mortgaging transactions (*MORTGAGE*), 2995 funds appropriation transactions (*OCCUPY*), 3212 asset transactions (*ASSET*), and 1499 equity transactions (*EQUITY*). Then we divide all related parties into two groups: the largest shareholder and the non-largest shareholder. We categorise all connected party transactions into 17 subgroups by the nature of transaction according to the Accounting Standards for Business Enterprises—Related Party Disclosure issued by the Ministry of Finance of the People’s Republic of China in May 1997. Finally, we aggregate the connected party transactions of the same nature for the same group. For example, in 2000, Company A was mortgaged to five loans of the largest shareholder group at RMB10 million each and to two loans of the non-largest shareholder group at RMB20 million each. After aggregation, Company A was mortgaged to five loans of the largest shareholder group totalling RMB50 million, and to two loans of the non-largest shareholder group totalling RMB40 million. On the other hand, we collect the data on corporate governance from the China Corporate Governance Research Database of CCER, the data on corporate finance from the China Stock Market Financial Database of CCER, and the data on rights offerings from the China Seasoned and New Issues and Rights Offerings Research Database of CSMAR.

3.1.2 Sample Extreme Values

We choose Chinese non-financial listed companies between the years 2000 and 2004 as our sample. Initially, we have 5940 sample companies. In order to control the influence of extreme values on our conclusions, we eliminate the data with extreme values. Table 1 lists the procedure of elimination. Finally, we obtain 5268

Table 1 Procedure of Elimination

Raw sample	5904
Less: companies with negative net assets	98
companies with $ROE > 1$ or $ROE < -1$	96
companies with extreme <i>TOBIN-Q</i> or <i>M/B</i> values	306
companies with extreme values in respect of the proportion of total connected party transaction amount in total assets	136
Final sample	5268 ⁹

⁹ The sample used in the regressions is slightly less than the final sample due to the unavailability of some connected transaction amounts and some variables of firm characteristics (mainly the government intervention index).

sample companies, including 967 for the year 2000, 1039 for the year 2001, 1104 for the year 2002, 1174 for the year 2003, and 984 for the year 2004.

3.2 Variables and Description

3.2.1 Variables of Connected Party Transactions

According to the Stock Listing Rules issued by the Shanghai Stock Exchange in 2001, connected party transactions of listed companies are defined as transfers of resources or obligations between listed companies (including their subsidiaries) and related parties. Related parties include related legal persons, related natural persons, and potential related parties.

We select from the 17 subgroups of connected party transactions four representative subgroups, namely mortgaging (*MORTGAGE*), funds appropriation (*OCCUPY*), asset transaction (*ASSET*), and equity transaction (*EQUITY*). These four subgroups have two common features: (1) Avoidability. Since some listed companies are spin-offs and have not undergone complete institutional reformation, they do not have their own purchase and sales systems; therefore, some connected party transactions such as related purchasing or sales are unavoidable, but connected asset transactions are often avoidable. (2) Massive and frequent. Connected party transactions in large amounts or of high frequency have a strong influence on the interests of investors, and are thus a very important research topic.¹⁰

Next, we will analyse the four representative subgroups of connected party transactions.

Mortgaging. This type of connected party transaction between listed companies and major shareholders is bidirectional; listed companies may be mortgaged to loans of the major shareholders, and major shareholders may also be mortgaged to loans of the listed companies. Related mortgaging would benefit the borrower and possibly improve the efficiency of the whole business group. However, since listed companies have more social resources and a higher reputation, the controlling shareholders often ask the listed companies to guarantee their big loans. Major shareholders are thus prone to use related mortgaging for tunnelling, which can reduce the firm value of the listed companies (Liu and Zheng, 2005). La Porta *et al.* (2003) report that the controlling shareholders of Mexican banks also control other non-financial companies. The controlling shareholders of banks have great incentives to shift bank funds to other non-financial companies controlled by them, as long as they hold more shares in other non-financial companies than in the banks. Ma and Han (2003) consider the mortgaging of listed companies as using shareholders' wealth to make risky investments. The higher the ratio of mortgaging to net assets, the more risks the shareholders will face, and the lower the total value of shareholders' wealth is. The listed companies receive almost no earnings, such as guarantee fees, but bear higher risks from guaranteeing loans of related parties.

¹⁰ For instance, out of the 10 cases of tunnelling reported by *Stock Daily* on 14 September 2001, seven belong to the category of "funds appropriation" and two to "mortgaging", while the remaining case involves both "funds appropriation" and "mortgaging".

Asset transactions. Related asset transactions refer to purchases, transfers, and replacements of assets in connection with related parties. To carry out tunnelling, the controlling shareholders may sell bad assets to listed companies at a high price or buy good assets from listed companies at a low price. Plenty of evidence shows that asset transactions between listed companies and related parties prejudice the interests of investors. He and Liu (2004) test the wealth effect of related asset transactions using a sample of listed companies in the Chinese A-share market for the years 1998 to 2001. They find that after the announcement of an asset transaction, especially during the following five days, the cumulative market returns are significantly negative. After 15 days, the maximum, minimum, and average cumulative return rates are 18.8 per cent, -31.8 per cent, and -2.4 per cent, respectively. Cheung *et al.* (2004) find that the announcement of a connected party transaction results in significantly negative abnormal returns (market-adjusted). On average, the abnormal returns on selling and buying assets during the 10 days after the announcement are -7.1 per cent and -6.7 per cent, respectively. If investors are able to respond correctly, asset transactions between major shareholders and listed companies are possibly tunnelling.

Funds appropriation. Major shareholders can appropriate funds of listed companies by borrowing; they can also manage earnings by paying appropriation fees to the listed companies under certain circumstances. Funds appropriation as an important means of tunnelling has generated extensive concern.¹¹ Li *et al.* (2004), Gao *et al.* (2006), and Ma *et al.* (2005) regard funds appropriation as a method employed by the major shareholders to maximise their share value and to directly expropriate the interests of minority shareholders.

Equity transactions. Equity transactions refer to share transfers between listed companies and related parties. Major shareholders can carry out tunnelling by selling their stakes in the listed companies at a low price or by buying stakes of related parties at a high price. Moreover, in order to manage earnings, listed companies may sell their shares to related parties at a high price. Cheung *et al.* (2004) find that abnormal returns from equity sales reach -10.1 per cent during the 10 days after the announcement of a related equity transaction.

3.2.2 Variables of Firm Value

We use *TOBIN-Q* and *M/B* to evaluate firm value. *TOBIN-Q* (Tobin's Q ratio) is a common measure of firm value in the existing literature. It is usually calculated from the market value of assets divided by the replacement cost of assets. Since in China the non-floating shares cannot be valued at equivalent floating share prices, or otherwise the market value of a company will be overestimated, we substitute book value of liabilities for the market value of liabilities, and book value of total assets for the cost of asset replacement. The same adjustment is made to the calcu-

¹¹ As reported by the *Caijing* magazine (2003), the China Securities Regulatory Commission examined corporate governance in Chinese companies in 2001, and found that appropriating funds of listed companies by the controlling shareholders is the worst problem in corporate governance (Li *et al.*, 2004).

lation of M/B . Details of the calculations are listed in Table 2. Our calculation method for $TOBIN-Q$ is similar to that adopted by Xia and Fang (2005) and Sun and Huang (1999), and the calculation method of M/B is similar to that adopted by Jian and Wong (2003). The mean values of $TOBIN-Q$ and M/B of our sample are 1.52 and 2.11, respectively, for the years 2000 to 2004.

3.2.3 Variables of Firm Characteristics

Companies listed in the H-share or B-share market are regarded as more transparent due to the fact that these companies are under dual governance and have to meet higher standards of information disclosure (Bai *et al.*, 2004). Wu and Wu (2005) report that Chinese companies listed in mature markets are more transparent in terms of information disclosure. The existing literature relates Big Five auditors to better audit quality because a higher level of information disclosure and accuracy can help maintain their reputations (Mitton, 2002; Aggarwal *et al.*, 2005). Aggarwal *et al.* (2005) and Wang and Chen (2004) employ audit opinions as the proxy of accounting information disclosure transparency because companies with a clean opinion are usually more transparent in terms of information disclosure. Therefore, we use the issuance of H or B shares ($HSHARE$ or $BSHARE$), or Big Five auditors¹² ($BIGFIVE$), or clean opinions ($AUDIT$) (1 for true, 0 for false) as the proxy of information disclosure quality or transparency. To enhance the validity of variables, we use the above-mentioned four variables to formulate an index of information disclosure transparency ($TRANSPARENCE$). $TRANSPARENCE = HSHARE + BSHARE + BIGFIVE + AUDIT$. The mean and median of $TRANSPARENCE$ are 1.06 and 1, respectively.

According to the existing literature,¹³ listed companies usually have four kinds of motivations for earnings management: to offer rights issues, avoid losses, reduce losses, and apply for ST status withdrawal. The latter three are all aimed at avoiding reporting current losses. Therefore, we group these three into the same category of loss-avoiding earnings management motivation. In this paper, $LOSS$ indicates whether there is any loss-avoiding earnings management motivation. If a listed company reports losses for the previous year or its ROE is between 0 and 0.015, we consider the company as having the loss-avoiding earnings management motivation. According to our investigation, 16.1 per cent of the total sample, or 846 companies, have this motivation between the years 2000 and 2004.

Thanks to changes in the rights-offering policy from the years 2000 to 2004,¹⁴ we identify the rights-offering earnings management motivation by stages: (1) for

¹² In 2002, partner groups of Andersen in Hong Kong and China merged with PricewaterhouseCoopers, and thus the Big Five has become the Big Four.

¹³ Haw *et al.* (2005), Zhang and Xu (2005), and Lu (1999).

¹⁴ In respect of the year 2000, the average ROE for the latest three years must be higher than 10 per cent and the ROE for each year must reach at least 6 per cent in order to obtain the qualification for rights offerings; in respect of the year 2001, the weighted average ROE for the latest three accounting years must reach at least 6 per cent in order to obtain the qualification for rights offerings.

the year 2000, if the *ROE* of a listed company in 2000 is between 0.06 and 0.075, and the average *ROE* for the latest three years is between 0.1 and 0.115, and if the listed company offers rights issues in the following one or two years, we consider that the listed company has the rights-offering earnings management motivation; (2) for the years between 2001 and 2004, if the weighted average *ROE* of a listed company for the latest three years is between 0.06 and 0.075, and if it offers rights issues in the following one or two years, we consider that it has the rights-offering earnings management motivation.¹⁵ Based on the identification results, we find that 734 companies have the rights-offering earnings management motivation from the years 2000 to 2004, accounting for 14 per cent of the total sample.

We define listed companies whose largest shareholders have their names incorporating the word “group” as member companies of business groups, and the mean of *GROUP* is 0.597. We employ *ROE* as the measure of accounting performance, and the mean of *ROE* is 0.036. We use *CR25/TOPONE* to measure the check-and-balance ability of the second to the fifth largest shareholders, and the mean of *CR25/TOPONE* is 0.517. Moreover, the means of *TOPONE*, *LEVER*, and *SIZE* are 0.44, 0.46, and 21.08, respectively. Definitions of other variables are listed in Table 2.

3.3 Research Model

Equation (1):

$$\begin{aligned} FIRMVALUE_{it} = & \alpha + \beta_1 MORTGAGE_{it} + \beta_2 OCCUPY_{it} + \beta_3 ASSET_{it} \\ & + \beta_4 EQUITY_{it} + \beta_5 TRANSPARENCE_{it} + \beta_6 TOPONE_{it} \\ & + \beta_7 TOPONE_{it}^2 + \beta_8 GOV_{it} + \beta_9 ROE_{it} + \beta_{10} LEVERAGE_{it} \\ & + \beta_{11} SIZE_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

Equation (2):

$$\begin{aligned} FIRMVALUE_{it} = & \alpha + \beta_1 MORTGAGE_{it} + \beta_2 OCCUPY_{it} + \beta_3 ASSET_{it} \\ & + \beta_4 EQUITY_{it} + \beta_5 MORTGAGE \times CROSS_{it} + \beta_6 OCCUPY_{it} \\ & \times CROSS_{it} + \beta_7 ASSET_{it} \times CROSS_{it} + \beta_8 EQUITY_{it} \times CROSS_{it} + \\ & \beta_9 TRANSPARENCE_{it} + \beta_{10} TOPONE_{it} + \beta_{11} TOPONE_{it}^2 \\ & + \beta_{12} GOV_{it} + \beta_{13} ROE_{it} + \beta_{14} LEVERAGE_{it} + \beta_{15} SIZE_{it} + \varepsilon_{it} \end{aligned} \quad (2)$$

We use Equation (1) to test the influence of all types of connected party transactions on firm value. The dependent variable *FIRMVALUE* is *TOBIN-Q* or *M/B*, and the independent variables include variables of connected party transactions and control variables. Based on the discussions in Sections II and III of this paper, we

¹⁵ As data on rights offerings after the year 2004 are not available, when identifying the rights-offering earnings management motivation, the sample for the year 2003 contains only the companies offering rights issues in the following one year, and the sample for the year 2004 does not contain companies offering rights issues in the following one or two years.

Table 2 Definitions of Variables

Variables of firm value	
<i>TOBIN-Q</i> ¹⁶	<i>TOBIN-Q</i> = (float capitalisation + volume of non-floating shares × net asset value per share + book debts) / net assets, where the float capitalisation includes B-share and H-share market capitalisations.
<i>M/B</i>	<i>M/B</i> = (float capitalisation + volume of non-floating shares × net asset value per share) / net assets, where the float capitalisation includes B-share and H-share market capitalisations.
Variables of connected party transactions	
<i>MORTGAGE</i>	Listed companies are mortgaged to loans of related parties
<i>OCCUPY</i>	Funds appropriation
<i>ASSET</i>	Asset transactions between listed companies and related parties
<i>EQUITY</i>	Equity transactions between listed companies and related parties
Variables of firm characteristics	
<i>GROUP</i>	Dummy variable for business groups, taking the value of 1 if the controlling shareholder is a business group, and 0 otherwise
<i>TRANSPARENCE</i>	Index of information disclosure transparence
<i>TOPONE</i>	Proportion of the largest shareholding
<i>CR25/TOPONE</i>	Sum of the proportions of the second to the fifth largest shareholdings / proportion of the largest shareholding
<i>LOSS</i>	Dummy variable for the loss-avoiding earnings management motivation, taking the value of 1 if such motivation exists, and 0 otherwise
<i>OFFER</i>	Dummy variable for the rights-offering earnings management motivation, taking the value of 1 if such motivation exists, and 0 otherwise
<i>GOV</i>	Index of government intervention, taking the value from 1 to 10 with higher values indicating lower levels of intervention
<i>ROE</i>	Net returns / net equity
<i>LEVERAGE</i>	Total debts / total assets
<i>SIZE</i>	Logarithm of total assets

expect that *MORTGAGE*, *OCCUPY*, *ASSET*, *EQUITY* will bear negative relations to *TOBIN-Q* or *M/B*. According to Johnson *et al.* (2000a) and Baek *et al.* (2004), informational transparency can ease the agency problem between major and minority shareholders, and improve firm value. Therefore, we use *TRANSPARENCE* as a control variable, and we expect that *TRANSPARENCE* will bear a positive relation to *TOBIN-Q* or *M/B*. According to Xia and Fang (2005) and Bai *et al.* (2005), there is a U-shaped relationship between the proportion of the largest

¹⁶ In regression analyses, the dependent variable *TOBIN-Q* has been adjusted by industry mean, so has the variable *M/B*.

shareholding and firm value. Therefore, we use *TOPONE* and *TOPONE*² as control variables, and expect that *TOPONE* and *TOPONE*² will bear a negative relation to *TOBIN-Q* and a positive relation to *M/B*. According to Xia and Fang (2005), government intervention will decrease firm value. Therefore, we use *GOV* as a control variable, and expect that it will bear a positive relation to *TOBIN-Q* or *M/B*. Bai *et al.* (2005) find that the total debt ratio has a significant negative impact on firm value. Therefore, we use *LEVERAGE* as a control variable, and expect that *LEVERAGE* will exert a negative influence on *TOBIN-Q* or *M/B*. Finally, we use the returns on equity and company size as control variables. The better the accounting performance, the higher the firm value is. Small companies have better growth potential and thus have higher firm value. Therefore, we expect that *ROE* and *SIZE* will bear a negative relation to *TOBIN-Q* and a positive relation to *M/B*. The problem of multicollinearity should be resolved before any multivariate regression analysis can be conducted. Since variables of connected party transaction may be correlated, we introduce *MORTGAGE*, *OCCUPY*, *ASSET*, and *EQUITY* into the regression equations successively. In fact, as the correlation coefficients of the variables of connected party transactions are not large (less than 0.2), no serious multicollinearity problem is found even after introducing these variables simultaneously into the regression equations.

We use Equation (2) to test the influence of firm characteristics variables on the interaction between connected party transactions and firm value. In different regressions, the variable *CROSS* represents *GROUP*, *TOPONE* and *TOPONE*², *CR25/TOPONE*, *TRANSPARENCE*, *LOSS*, *OFFER*, and *ROE*, respectively. Based on the theoretical analysis in Section II, the coefficients of *CR25/TOPONE*, *TRANSPARENCE*, *TOPONE*², and *ROE* are expected to be positive; those of *GROUP* and *TOPONE* are expected to be negative; and those of *LOSS* and *OFFER* could be either positive or negative.

Equations (1) and (2) are estimated by the unbalanced panel EGLS method, which addresses the sample auto-correlation problem of the simple pooled cross-sectional regression model and the sample selection bias of the balanced panel data model. We will employ GLS to solve heteroscedasticity and serial correlation, and use 2SGLS instead of GLS to solve the endogeneity among variables of connected transactions in the robustness tests.

IV. EMPIRICAL RESULTS

4.1 Descriptive Statistics

Panels A1 and A2 of Table 3 report the occurrence probability of connected party transactions. Generally speaking, there is an upward trend in the occurrence probability of connected party transactions with the five-year mean value at 89.6 per cent for the years 2000 to 2004 and the peak value at 94.7 per cent in 2004. Moreover, the occurrence probability of connected party transactions between listed companies and the largest shareholder group also rises with the mean value at 82.9 per cent for the years 2000 to 2004 and the peak value at 91.6 per cent in 2004.

The occurrence probabilities of the four types of connected party transactions all mount up, of which related asset transactions have the highest occurrence probability, followed by mortgaging, equity transaction, and funds appropriation. The occurrence probability of connected party transactions between listed companies and the non-largest shareholder group is obviously lower than that between listed companies and the largest shareholder group, and the former does not show any evident upward trend.

Panels B1 and B2 of Table 3 indicate the proportion of connected party transactions. On the whole, the proportion is relatively high and shows an upward trend from the years 2000 to 2004 with the mean value at 22.9 per cent and the peak value at 27.6 per cent in 2004. The proportion of connected party transactions between listed companies and the largest shareholder group also climbs up with the mean value at 17.7 per cent and the peak value at 21.7 per cent in 2004. The proportions of the four types of connected party transactions do not show any obvious upward trend. Of these, the proportion of mortgaging is the highest, followed by that of funds appropriation, and those of asset transactions and equity transactions are the lowest. Moreover, the proportion of the connected party transactions between listed companies and the non-largest shareholder group is obviously lower than that between listed companies and the largest shareholder group, and the former shows a downward trend.

Panels C1 and C2 of Table 3 present the frequency of connected party transactions. From the years 2000 to 2004, the frequency shows an upward trend with the mean value at 12.55 and the peak value at 15.87 in 2004. The frequency of connected party transactions between listed companies and the largest shareholder group also climbs up with the mean value at 10.10 during the sample period and the peak value at 15.53 in 2004. Among the four types of connected party transactions, mortgaging sees the highest frequency, followed by funds appropriation, equity transactions, and asset transactions. Both the frequencies of mortgaging and funds appropriation indicate an upward trend. The frequency of connected party transactions between listed companies and the non-largest shareholder group is obviously lower than that between listed companies and the largest shareholder group, but the former mounts up in recent years.

The rising speed of the proportion of connected party transactions is slower than that of the frequency, probably because of the introduction of a series of supervisory policies in recent years that have reinforced the regulation of connected party transactions in large amounts. To evade supervision, listed companies decrease the amount per transaction but increase the frequency of transactions. Overall, the upward trend of connected party transactions is inconsistent with the suggestion of efficiency enhancement, which claims that a more developed outside market will make connected party transactions less necessary. The increase in connected party transactions in China probably results from the fact that the size of business groups becomes larger or that tunnelling of the controlling shareholders has been exacerbated.

Table 3 Probability, Proportion, and Frequency of Connected Party Transactions

Type of connected party transaction	2000	2001	2002	2003	2004	2001–2004
Panel A1:						
<i>ASSET</i>	0.202	0.240	0.260	0.197	0.288	0.239
<i>EQUITY</i>	0.100	0.123	0.111	0.106	0.177	0.125
<i>MORTGAGE</i>	0.105	0.117	0.159	0.165	0.257	0.165
<i>OCCUPY</i>	0.046	0.074	0.088	0.050	0.088	0.070
<i>TOPONE-ALL</i>	0.771	0.829	0.842	0.772	0.916	0.829
Panel A2:						
<i>ASSET</i>	0.066	0.102	0.082	0.070	0.051	0.073
<i>EQUITY</i>	0.042	0.049	0.040	0.029	0.024	0.036
<i>MORTGAGE</i>	0.084	0.127	0.159	0.162	0.143	0.137
<i>OCCUPY</i>	0.043	0.043	0.063	0.043	0.026	0.043
<i>NON-TOPONE-ALL</i>	0.515	0.579	0.616	0.584	0.458	0.549
<i>ALL</i>	0.858	0.897	0.922	0.846	0.947	0.896
Panel B1:						
<i>ASSET</i>	0.034	0.057	0.041	0.036	0.027	0.038
<i>EQUITY</i>	0.060	0.032	0.031	0.032	0.033	0.035
<i>MORTGAGE</i>	0.077	0.056	0.092	0.058	0.066	0.068
<i>OCCUPY</i>	0.026	0.048	0.035	0.054	0.048	0.044
<i>TOP-ONE-ALL</i>	0.155	0.160	0.163	0.171	0.217	0.177
Panel B2:						
<i>ASSET</i>	0.032	0.050	0.054	0.034	0.018	0.038
<i>EQUITY</i>	0.041	0.053	0.015	0.022	0.012	0.030
<i>MORTGAGE</i>	0.037	0.029	0.033	0.041	0.049	0.039
<i>OCCUPY</i>	0.018	0.028	0.039	0.040	0.041	0.034
<i>NON-TOPONE-ALL</i>	0.082	0.080	0.080	0.079	0.068	0.078
<i>ALL</i>	0.185	0.214	0.207	0.242	0.276	0.229
Panel C1:						
<i>ASSET</i>	3.216	1.659	2.101	1.585	1.923	1.806
<i>EQUITY</i>	1.991	1.562	1.481	1.586	1.621	1.575
<i>MORTGAGE</i>	2.728	2.795	2.478	2.825	3.846	3.101
<i>OCCUPY</i>	2.864	1.634	2.058	2.444	2.933	2.228
<i>NON-TOPONE-ALL</i>	6.778	8.410	9.805	10.370	13.530	10.100
Panel C2:						
<i>ASSET</i>	1.326	1.404	1.526	1.216	1.362	1.394
<i>EQUITY</i>	1.456	1.630	1.340	1.703	1.273	1.463
<i>MORTGAGE</i>	2.965	3.304	4.065	4.173	4.533	3.948
<i>OCCUPY</i>	1.614	1.958	1.560	2.389	2.001	1.879
<i>NON-TOPONE-ALL</i>	3.938	4.857	5.327	5.895	5.730	5.212
<i>ALL</i>	8.450	10.910	12.510	13.550	15.870	12.550

Notes: Panel A1 reports the occurrence probability of connected party transactions between listed companies and the largest shareholder group, which refers to the proportion of listed companies having such related transactions in all listed companies. Panel A2 lists the occurrence probability of connected party transactions between listed companies and the non-largest shareholder group. Panel B1 reports the proportion of connected party transactions between listed companies and the largest shareholder group, which refers to the proportion of related transaction amounts in total assets. Panel B2 lists the proportion of connected party transactions between listed companies and the non-largest shareholder group. Panel C1 reports the frequency of connected party transactions between listed companies and the largest shareholder group. Panel C2 lists the frequency of connected party transactions between listed companies and the non-largest shareholder group. *TOPONE-ALL* and *NON-TOPONE-ALL* indicate all connected party transactions with the largest shareholder group and with the non-largest shareholder group, respectively. *ALL* includes all connected party transactions. All values reported in Table 3 are average values.

4.2 Multi-Regression Analysis

In this part, we test the relation between connected party transactions and firm value, and we introduce firm characteristics as cross variables to test the influence of firm characteristics on this relation. This part of the paper deals only with connected party transactions with the largest shareholder group.¹⁷

4.2.1 Connected Party Transactions and Firm Value

Table 4 lists the regression results of *TOBIN-Q* with variables of connected party transactions and control variables. The results indicate that *MORTGAGE*, *OCCUPY*, *ASSET*, and *EQUITY* are negatively correlated with *TOBIN-Q* at the 1 per cent significance level. This demonstrates that mortgaging, funds appropriation, asset transactions, and equity transactions clearly do harm to firm value, consistent with our theoretical analysis and expectation, and supporting the tunnelling view. In Table 5, we substitute *M/B* for *TOBIN-Q* as the measure of firm value, and obtain nearly the same results as those in Table 4.

4.2.2 Firm Characteristics, Connected Party Transactions, and Firm Value

Tables 6 and 7 report the regression results with firm characteristics variables. *MORTGAGE*GROUP*, *OCCUPY*GROUP*, *ASSET*GROUP*, and *EQUITY*GROUP* are all negatively correlated with *TOBIN-Q* at the 10 per cent significance level, consistent with our expectation that investors will show a negative response to connected party transactions within business groups. Assuming that investors have given the right response, we can conclude that connected party transactions within business groups are more likely to be tunnelling.

*MORTGAGE*TOPONE*, *OCCUPY*TOPONE*, *ASSET*TOPONE*, and *EQUITY*TOPONE* are significantly (or nearly significantly) and negatively correlated with *TOBIN-Q*, while *MORTGAGE*TOPONE*², *OCCUPY*TOPONE*², *ASSET*TOPONE*², and *EQUITY*TOPONE*² are significantly (or nearly significantly) and positively correlated with *TOBIN-Q*, consistent with our expectation that the probability of connected party transactions being tunnelling bears a reverse U-shaped relationship to the proportion of the largest shareholding.

*MORTGAG*CR25/TOPONE* is positively correlated with *TOBIN-Q* at the 1 per cent significance level; *OCCUPY*CR25/TOPONE* is negatively correlated with *TOBIN-Q* at the 10 per cent significance level; *ASSET*CR25/TOPONE* is insignificantly and positively correlated with *TOBIN-Q*; *EQUITY*CR25/TOPONE* is insignificantly and negatively correlated with *TOBIN-Q*. The results are not com-

¹⁷ According to our statistics, the connected party transactions between listed companies and the largest shareholder group account for more than 70 per cent of all connected transactions. And the amounts of connected party transactions with the largest shareholder group are usually greater than those with the non-largest shareholder group. In fact, the largest shareholders have a much stronger ability to carry out tunnelling through related transactions than other parties. The largest shareholder group includes the largest shareholder itself, its parent company, and other member companies within the parent group.

Table 4 Regression Results of Connected Party Transactions and Firm Value (*TOBIN-Q*)

	Expected sign				
<i>MORTGAGE</i>	-	-1.513*** (0.000)			-1.537*** (0.000)
<i>OCCUPY</i>	-		-1.961*** (0.000)		-1.915*** (0.000)
<i>ASSET</i>	-			-1.838*** (0.000)	-1.448*** (0.000)
<i>EQUITY</i>	-				-1.110*** (0.000)
<i>TRANSPARENCE</i>	+	0.130*** (0.000)	0.135*** (0.000)	0.116*** (0.000)	0.126*** (0.000)
<i>TOPONE</i>	-	-0.963*** (0.000)	-0.848*** (0.000)	-0.840*** (0.000)	-0.957*** (0.000)
<i>TOPONE</i> ²	+	0.804*** (0.000)	0.672*** (0.000)	0.697*** (0.009)	0.798*** (0.000)
<i>GOV</i>	+	0.020*** (0.000)	0.018*** (0.000)	0.011*** (0.000)	0.018*** (0.000)
<i>ROE</i>	+	0.091*** (0.000)	0.068*** (0.000)	0.048 (0.123)	0.079*** (0.001)
<i>LEVERAGE</i>	-	-0.313*** (0.000)	-0.364*** (0.000)	-0.295*** (0.000)	-0.304*** (0.000)
<i>SIZE</i>	-	-0.303*** (0.000)	-0.304*** (0.000)	-0.287*** (0.000)	-0.304*** (0.000)
<i>C</i>	?	6.190*** (0.000)	6.199*** (0.000)	5.892*** (0.000)	6.223*** (0.000)
Adj-R ²		0.634	0.435	0.219	0.590
F-stat.		970.3***	430.6***	174.1***	582.6***
OBS		4473	4474	4936	4438

Notes: The regression model is Equation (1) with *TOBIN-Q* as the dependent variable. P test values are in parentheses. *, **, and *** indicate 10 per cent, 5 per cent, and 1 per cent significance levels, respectively. Variables of connected party transactions are adjusted by scale; that is, dividing the amount of connected party transactions by total assets of the listed company.

Table 5 Regression Results of Connected Party Transactions and Firm Value (*M/B*)

	Expected sign				
<i>MORTGAGE</i>	-	-4.541*** (0.000)			-4.383*** (0.000)
<i>OCCUPY</i>	-		-4.977*** (0.000)		-5.094*** (0.000)
<i>ASSET</i>	-			-4.324*** (0.000)	-3.179*** (0.001)
<i>EQUITY</i>	-				-4.141*** (0.000)
<i>TRANSPARENCE</i>	+	0.350*** (0.000)	0.394*** (0.000)	0.333*** (0.000)	0.333*** (0.000)
<i>TOPONE</i>	-	-2.379*** (0.000)	-2.800*** (0.000)	-2.264*** (0.001)	-2.594*** (0.000)
<i>TOPONE</i> ²	+	2.015*** (0.000)	2.648*** (0.000)	1.799*** (0.001)	2.228*** (0.000)
<i>GOV</i>	+	0.070*** (0.000)	0.100*** (0.000)	0.044*** (0.000)	0.071*** (0.000)
<i>ROE</i>	+	-0.225* (0.052)	-0.263** (0.020)	-0.378*** (0.001)	-0.245** (0.043)
<i>LEVERAGE</i>	-	0.877*** (0.000)	0.567*** (0.000)	0.963*** (0.000)	0.868*** (0.000)
<i>SIZE</i>	-	-0.617*** (0.000)	-0.623*** (0.000)	-0.632*** (0.000)	-0.615*** (0.000)
C	?	11.204*** (0.000)	11.191*** (0.000)	11.732*** (0.000)	11.256*** (0.000)
Adj-R ²		0.214	0.215	0.164	0.359
F-stat.		152.9***	154.0***	122.3***	227.2***
OBS		4458	4459	4932	4438
					4458

Table 6 Regression Results of Connected Party Transactions and Firm Characteristics with Firm Value (*TOBIN-Q*) (Part 1)

	<i>CROSS = GROUP</i>		<i>CROSS = TOPONE</i>		<i>CROSS = TOPONE²</i>		<i>CROSS = CR25/ TOPONE</i>	
	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
<i>MORTGAGE</i>	-1.127***	0.000	2.186***	0.004			-2.482***	0.000
<i>OCCUPY</i>	-1.530***	0.000	-0.591	0.875			-1.240	0.130
<i>ASSET</i>	0.678*	0.063	3.753	0.100			-0.220	0.507
<i>EQUITY</i>	-0.132	0.833	4.549	0.143			-0.991***	0.009
<i>MORTGAGE*CROSS</i>	-0.873***	0.001	-15.934***	0.000	23.217	0.320	0.856***	0.000
<i>OCCUPY*CROSS</i>	-1.243*	0.058	-14.797	0.450	15.333	0.118	-1.806*	0.076
<i>ASSET*CROSS</i>	-0.874**	0.039	-16.680*	0.096	22.846	0.119	0.311	0.588
<i>EQUITY*CROSS</i>	-1.237*	0.073	-24.401*	0.090	11.790**	0.041	-1.231	0.134
<i>TRANSPARENCE</i>	0.129***	0.000	0.148***	0.000			0.150***	0.000
<i>TOPONE</i>	-1.020***	0.000	-0.807***	0.000			-0.956***	0.000
<i>TOPONE²</i>	0.892***	0.000	0.680***	0.000			0.811***	0.000
<i>GOV</i>	0.020***	0.000	0.013***	0.004			0.015***	0.001
<i>ROE</i>	0.077***	0.000	0.070***	0.009			0.075***	0.004
<i>LEVERAGE</i>	-0.323***	0.000	-0.182***	0.000			-0.169***	0.000
<i>SIZE</i>	-0.301***	0.000	-0.323***	0.000			-0.325***	0.000
<i>C</i>	6.160***	0.000	6.512***	0.000			6.574***	0.000
Adj-R ²		0.633		0.330				0.331
F-stat		515.0***		117.7***				149.8***
OBS		4466		4505				4504

Notes: The regression model is Equation (2) with *TOBIN-Q* as the dependent variable. “Coef.” and “Prob.” denote the regression coefficient and P value, respectively. *, **, and *** indicate 10 per cent, 5 per cent, and 1 per cent significance levels, respectively.

Table 7 Regression Results of Connected Party Transactions and Firm Characteristics with Firm Value (*TOBIN-Q*) (Part 2)

	<i>CROSS = TRANSPARENCE</i>		<i>CROSS = LOSS</i>		<i>CROSS = OFFER</i>		<i>CROSS = ROE</i>	
	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
<i>MORTGAGE</i>	-2.139***	0.000	-1.376***	0.000	-1.486***	0.000	-1.448***	0.000
<i>OCCUPY</i>	-5.765***	0.000	-2.215***	0.000	-2.399***	0.000	-1.938***	0.000
<i>ASSET</i>	-0.571**	0.038	0.042	0.762	-0.275*	0.056	-0.755***	0.003
<i>EQUITY</i>	-3.506***	0.000	-0.564	0.280	-1.469***	0.000	-1.085***	0.000
<i>MORTGAGE*CROSS</i>	0.591**	0.034	-1.025***	0.000	0.400	0.463	-3.609***	0.000
<i>OCCUPY*CROSS</i>	3.998***	0.000	-0.215	0.851	2.589***	0.000	5.497***	0.001
<i>ASSET*CROSS</i>	0.407**	0.034	-0.568*	0.073	1.302***	0.008	10.775***	0.000
<i>EQUITY*CROSS</i>	2.182***	0.001	-1.962*	0.099	2.548**	0.022	1.131	0.548
<i>TRANSPARENCE</i>	0.110***	0.000	0.155***	0.000	0.159***	0.000	0.128***	0.000
<i>TOPONE</i>	-0.951***	0.000	-1.044***	0.000	-1.165***	0.000	-0.976***	0.000
<i>TOPONE²</i>	0.816***	0.000	0.906***	0.000	1.074***	0.000	0.823***	0.000
<i>GOV</i>	0.021***	0.000	0.012***	0.006	0.013***	0.000	0.020***	0.000
<i>ROE</i>	0.064**	0.012	0.059**	0.036	0.046	0.102	0.098***	0.000
<i>LEVERAGE</i>	-0.299***	0.000	-0.176***	0.000	-0.208***	0.000	-0.306***	0.000
<i>SIZE</i>	-0.298***	0.000	-0.329***	0.000	-0.330***	0.000	-0.299***	0.000
C	6.092***	0.000	6.698***	0.000	6.728***	0.000	6.099***	0.000
Adj-R ²	0.450		0.333		0.331		0.505	
F-stat.	244.8***		150.7***		149.6***		305.2***	
OBS	4466		4505		4505		4466	

Notes: The regression model is Equation (2) with *TOBIN-Q* as the dependent variable. "Coef." and "Prob." denote the regression coefficient and P value, respectively. *, **, and *** indicate 10 per cent, 5 per cent, and 1 per cent significance levels, respectively.

pletely consistent with our expectations. Hence, we use the Z index and the HFD_5 index¹⁸ to substitute for *CR25/TOPONE* to measure the check-and-balance ability of the second to the fifth largest shareholders, and to further test the function of a balanced ownership structure. Similar results are found, and the possible reasons for this are as follows: (1) The proportions of other major shareholdings are too low, so these major shareholders do not have strong enough motivations and capabilities for supervision. According to our statistics, the mean of *CR25/TOPONE* is 0.517, meaning that the sum of proportions of other major shareholdings is only equivalent to half of the largest shareholding. (2) A more balanced ownership structure suggests a lower proportion of the largest shareholding, which will decrease the tunnelling costs of the controlling shareholder. And a more balanced ownership structure might result in the collusion among major shareholders for tunnelling. (3) A balanced ownership structure might consequently induce a power struggle among shareholders so that little attention is given to production and operating activities; as a result, the interests of minority shareholders would remain unprotected (Zhu and Wang, 2004; Shao, 2003). Gao *et al.* (2006) empirically find that a balanced ownership structure cannot significantly reduce funds appropriation. Xu *et al.* (2006) suggest that a more balanced ownership structure leads to worse accounting performance.

*MORTGAGE*TRANSPARENCE*, *OCCUPY*TRANSPARENCE*, *ASSET*TRANSPARENCE*, and *EQUITY*TRANSPARENCE* are positively correlated with *TOBIN-Q* at the 5 per cent significance level, consistent with our expectation that the more transparent the information disclosure, the less possible tunnelling will be.

*MORTGAGE*LOSS* is negatively and insignificantly correlated with *TOBIN-Q*. *OCCUPY*LOSS*, *ASSET*LOSS*, and *EQUITY*LOSS* are positively correlated with *TOBIN-Q* at the 10 per cent significance level, indicating that investors show negative responses to connected party transactions with the loss-avoiding earnings management motivation. This supports the counter-productive effect of earnings management through connected transactions. Since *MORTGAGE* has no influence on profits, *MORTGAGE*LOSS* does not bear any significant relationship to *TOBIN-Q*.

*OCCUPY*OFFER*, *ASSET*OFFER*, and *EQUITY*OFFER* are positively correlated with *TOBIN-Q* at the 5 per cent significance level. *MORTGAGE*OFFER* is positively but insignificantly correlated with *TOBIN-Q*. *OCCUPY*OFFER* is positively correlated with *TOBIN-Q*, while *OCCUPY* is negatively correlated with

¹⁸ The Z index equals the ratio of the proportion of the second largest shareholding to that of the largest shareholding. The HFD_5 index is the sum of squares of proportions of the five largest shareholdings, which indicates the difference in the proportions of the five largest shareholdings. A higher HFD_5 index means a larger difference in the proportions of the five largest shareholdings. Therefore, these two indices can illustrate the absolute control ability of the largest shareholder, and the check-and-balance power of the second largest shareholder or the second to the fifth largest shareholders.

TOBIN-Q, and the sum of their coefficients is bigger than zero. *ASSET*OFFER* is positively correlated with *TOBIN-Q*, while *ASSET* is negatively correlated with *TOBIN-Q*, and the sum of their coefficients is bigger than zero. *EQUITY*OFFER* is positively correlated with *TOBIN-Q*, while *EQUITY* is negatively correlated with *TOBIN-Q*, and the sum of their coefficients is bigger than zero. The results show that investors do not react negatively or even positively to connected party transactions of listed companies with the rights-offering earnings management motivation, supporting the efficiency-enhancing effect of earnings management through connected party transactions.

The above-mentioned results demonstrate that investors give different responses to earnings management with the loss-avoiding and rights-offering motivations. The reason for this may be that controlling shareholders usually manipulate earnings through connected party transactions to realise short-term profits for loss-avoiding purposes, and support listed companies through connected party transactions to realise long-term profits for rights-offering purposes.

*MORTGAGE*ROE* is negatively correlated with *TOBIN-Q* at the 1 per cent significance level. *OCCUPY*ROE* and *ASSET*ROE* are positively correlated with *TOBIN-Q* at the 1 per cent significance level. *EQUITY*ROE* is positively but insignificantly correlated with *TOBIN-Q*. These results basically meet our expectations, except that the better the accounting performance, the worse effect mortgaging has on firm value. The reason for this may be that mortgaging could bring bigger potential losses to companies with better accounting performance.

4.3 Robustness Tests

4.3.1 Definitions and Estimation Method of Variables

Following Bai *et al.* (2005), we use the 70 per cent or 80 per cent discounted market price to calculate the price of non-floating shares when calculating *TOBIN-Q*, and the dummy variable of whether or not connected party transactions occur to substitute for the variable of connection transaction amount divided by total assets. According to Tang *et al.* (2005), we define bureaux of state-owned assets administration, research institutes, universities or colleges, social associations, banks, and insurance and investment companies as independent listed companies, and the rest as member companies of business groups. After re-definition, the percentage of member companies of business groups in the total number of companies rises from 59.7 per cent to 80.1 per cent. We also re-define earnings management motivations; for example, if a listed company reports losses for the previous year or its current *ROE* is between 0 and 0.01, we consider the company as having the loss-avoiding earnings management motivation. We employ the random effects of unbalanced panel-data least squares to estimate the regression equations. Our basic conclusions still hold after all these revisions.

4.3.2 Problem of Endogeneity

Empirically testing the relation between two variables may possibly suffer from the problem of endogeneity. The dependent variable of our model is firm value, and

the independent variables include variables of connected party transactions and control variables of corporate governance. The validity of our regression results relies on the assumption that firm value has no influence on either the occurrence of connected party transactions or the reform of corporate governance. The existing literature usually takes corporate governance as an exogenous variable, meaning that corporate governance will affect firm value, but not vice versa. Moreover, an empirical study based on the data from a single country can usually avoid the endogeneity problem between the ownership structure and the institutional environment due to the uniform institutional and legal settings in which the study is conducted (Joh, 2003). In China, corporate governance mechanisms, such as the ownership structure and information disclosure requirements, are the results of the special Chinese institutional environment and are not determined by firm value. Therefore, we take corporate governance as an exogenous variable.

La Porta *et al.* (2002) demonstrate that tunnelling is related to the degree of investor protection and the degree of separation between control rights and cash flow rights, but is not related to the accounting performance of a company (returns on equity). Friedman *et al.* (2003) report that for companies with a high leverage ratio, low returns on equity do not necessarily lead to tunnelling because major shareholders want to maintain the solvency of the company. As Chinese listed companies often face the risks of delisting, their major shareholders have the motivation to avoid reporting losses. This is the reason that low returns on equity do not necessarily lead to tunnelling. Moreover, major shareholders may carry out tunnelling even when the company performs well because good accounting performance could help cover up appropriation of company resources (our empirical evidence shows that investors consider a better accounting performance as a signal of a lower possibility of tunnelling through connected party transactions). Cheung *et al.* (2004) also find that low firm value does not necessarily induce tunnelling through connected party transactions. If the conclusions mentioned above hold, that is, accounting performance does not influence tunnelling, then there should exist no endogenous problem between firm value and connected party transactions.

However, Johnson *et al.* (2000a) indicate that a worse accounting performance will result in a higher probability of tunnelling due to the reduced marginal opportunity costs of tunnelling. Therefore, connected party transactions can be endogenous, and we need to find a valid instrumental variable to carry out our regression analyses using the instrumental variable method or the two-stage least squares method. According to our research, business groups do not significantly correlate with firm value, but significantly and positively correlate with the possibility of connected party transactions. Therefore, business groups can be used as the instrumental variable of connected party transactions. In Table 8, we list the estimation results obtained by the two-stage generalised least squares method. We see that variables of connected party transactions are significantly and negatively correlated with firm value after taking into account the endogeneity problem between connected party transactions and firm value.

Table 8 Connected Party Transactions and Firm Value

	Expected sign				
<i>MORTGAGE</i>	–	–2.526*** (0.000)			
<i>OCCUPY</i>	–		–1.877** (0.018)		
<i>ASSET</i>	–			–0.707*** (0.000)	
<i>EQUITY</i>	–				(–2.086)*** 0.000
<i>TRANSPARENCE</i>	+	0.028** (0.015)	0.130*** (0.000)	0.126*** (0.000)	0.101*** (0.000)
<i>TOPONE</i>	–	–0.888** (0.017)	–0.252 (0.985)	–0.461 (0.124)	–0.880*** (0.000)
<i>TOPONE</i> ²	+	0.627*** (0.000)	0.007*** (0.008)	0.383*** (0.001)	0.791*** (0.000)
<i>GOV</i>	+	0.039*** (0.000)	0.013*** (0.000)	0.017*** (0.001)	0.037*** (0.000)
<i>ROE</i>	+	–0.179*** (0.000)	–0.076 (0.183)	0.071* (0.072)	0.098* (0.067)
<i>LEVERAGE</i>	–	0.258*** (0.000)	–0.083* (0.069)	–0.286*** (0.000)	–0.034 (0.406)
<i>SIZE</i>	–	–0.215*** (0.000)	–0.287*** (0.000)	–0.269*** (0.000)	–0.265*** (0.000)
C	?	4.328*** (0.000)	5.704*** (0.000)	5.480*** (0.000)	5.292*** (0.000)
Adj-R ²		0.339	0.333	0.171	0.487
F-stat.		86.5***	144.9***	162.5***	139.5***
OBS		4961	4990	4961	4961

Notes: The regression model is Equation (1) with *TOBIN-Q* as the dependent variable. The estimation method is 2SGLS with *GROUP* as the instrumental variable. P test values are in parentheses. *, **, and *** indicate 10 per cent, 5 per cent, and 1 per cent significance levels, respectively. All variables of connected party transactions are dummy variables, which take the value of 1 if such connected party transactions occur, and 0 otherwise.

V. CONCLUSIONS AND LIMITATIONS

The empirical results of this research show that connected party transactions are significantly and negatively correlated with firm value, supporting the view that tunnelling occurs through connected party transactions. We also find that specific firm characteristics have an impact on the nature of connected party transactions. Therefore, we reach the following conclusions: (1) The probability, proportion, and frequency of connected party transactions between Chinese listed companies and the largest shareholders are relatively high, and the probability and frequency tend to increase. (2) Connected party transactions and firm value are significantly and

negatively correlated, supporting the tunnelling view. (3) Listed companies of business groups suffer more from tunnelling. (4) There is a reverse U-shaped relationship between the probability of tunnelling and the proportion of the largest shareholding. The check-and-balance ability of the second to the fifth largest shareholders cannot restrict tunnelling through connected party transactions by the controlling shareholders. (5) The more transparent the information disclosure, the better the company performance is, and the less possible tunnelling through connected party transactions is. (6) Companies with connected party transactions having the loss-avoiding earnings management motivation receive negative responses from investors, supporting the counter-productive effect of earnings management through connected party transactions; companies with connected party transactions having the rights-offering earnings management motivation receive less negative or even positive responses from investors, supporting the efficiency-enhancing effect of earnings management through connected party transactions.

How can connected party transactions be regulated and the interests of small investors be protected? In recent years, lots of studies have emphasised the role of law in protecting the interests of investors. But the establishment of a sound legal system takes time, and is restricted by the institutional environment. Nevertheless, we can look for the internal corporate governance mechanisms to protect the interests of investors. According to the results of this research, some measures could limit tunnelling through connected party transactions, such as improving information disclosure transparency, implementing ownership decentralisation by reducing the proportion of the largest shareholding, and enhancing the regulation of connected party transactions within business groups. Moreover, some characteristics of corporate governance can change the expectations of investors with regard to the nature of connected party transactions. Therefore, listed companies can send a better signal to investors that the connected party transactions are not tunnelling by establishing a sound internal corporate governance mechanism.

Our research has some limitations. The problem of endogeneity still exists to a certain extent although we have tried our best to overcome it. Advanced approaches and new instrumental variables are warranted for further studies to estimate the relationship between connected party transactions and firm value. In addition, although the connected party transactions between listed companies and the non-largest shareholders are much less than those between listed companies and the largest shareholders, it is possible that the former transactions are also tunnelling. Is the nature of the connected party transactions with the non-largest shareholders the same as that with the largest shareholders? Will the largest shareholders carry out tunnelling in collusion with other major shareholders? All these questions demand further research.

REFERENCES

Please refer to pp. 79–82.