

制度变迁、盈余质量和债务契约

—来自中国银行业改革的经验证据¹

薛云奎² 朱秀丽³

摘要

Diamond (2004) 指出, 在利率受到较多管制的情况下, 贷款期限结构成为银行业的重要契约工具。因此, 对具体企业的不同期限的贷款规模成为信贷资源配置的重要指标, 它既受到宏观制度环境因素的影响, 也受到(宏观因素制约下的)微观企业因素的影响。那么2003年的银行业改革, 将会改变原有因素对信贷资源配置的作用效果吗? 本文以上市公司的新增短期贷款(*DLS*)和新增长期贷款(*DLL*)为被影响变量, 在宏观层面选取了银行业腐败(谢平和陆磊, 2005)因素; 在微观层面选取了借款企业的盈余质量因素, 考察了它们在改革前后对*DLS*和*DLL*影响的差异, 主要结论是: (1)改革前, 银行业腐败对*DLS*和*DLL*都有显著影响, 而改革后, 银行业腐败对*DLS*的影响受到了抑制, 但对*DLL*的影响没有显著改善。(2)在控制了腐败的地区性差异后: 改革前, 盈余质量对*DLS*影响不稳定, 但与*DLL*负相关; 改革后, 盈余质量与*DLS*正相关, 但与*DLL*负相关没有得到显著改善。本文研究发现, 受制度环境和银行业腐败因素的影响, 债务期限无法发挥其作为风险控制的作用, 金融体制改革效果主要表现在短期信贷市场, 强制性的制度变迁无法在短期内达到预期效果。

关键词: 制度变迁、盈余质量、债务契约、短期信贷市场、长期信贷市场

中图分类号: F121.1、F123.16、F832.1

¹ 本文特别感谢本刊执行编辑吴东辉博士的指导和建设性意见, 感谢两位匿名评审人的建设性意见。感谢“2009年中国会计与财务研究国际研讨会”期间, 南京大学陈冬华教授的评论和建设性建议。感谢上海财经大学会计学院陈文浩教授、袁树民教授、张鸣教授、张人骥教授的建设性意见。感谢上海财经大学博士生钱友文的有益建议。当然, 文责自负。本文感谢国家自然科学基金项目“政府治理对国有企业绩效的影响”(项目批准号70602026)的资助。

² 薛云奎, 长江商学院, 教授, 博导, 副院长, E-mail: ykxue@ckgsb.edu.cn。

³ 朱秀丽, 南京财经大学会计学院, 博士, E-mail: xlzhuzhu@163.com。

一、引言

传统关于信贷问题的研究认为公司的微观特征是影响债务契约签订和执行的主要因素：其他条件相同的情况下，债务契约的签订成本和执行成本取决于债务人借款创造的收益和债权人风险评估及控制能力。然而，借款公司经理人员机会主义行为(Sweeney, 1994; Dichev and Skinner, 2002)和无限膨胀的虚荣心(亚当·斯密, 1776)导致损害债权人利益的行为并不少见。在法律制度环境较差，债权人事后监督机制薄弱的金融环境，更容易发生上述第二种行为。

如果制度失灵限制竞争、扭曲投资或销售方式，使企业的注意力从经济性的生产活动转向寻求租金，交易成本随之增加。如果金融管制缺乏透明度，法律和行政缺乏一致性就可能增加官僚的自由裁量权，诱使政府官员寻租的机会主义(斯通等, 2003)。博弈进化论观点认为，制度变迁同时也是经济主体之间利益协调的过程，正是因为经济体制中的个人在构成体制的各个制度框架内一直采取了维持这些制度的行动，各种经济体制在不断地进行更新改造的同时也保持着不同程度的自律性(青木昌彦和奥野正宽, 2005)。

转型时期中国政府通过国有独资商业银行，对负有政策性负担的国有企业施行预算软约束，从而形成了对国有企业和国有独资商业银行的双重预算软约束。2003年金融体制改革之前，政府的预算软约束替代债权人保护机制的行为，虽然在一定程度上降低了商业银行由于法律制度执行带来的损失，⁴但也因此造成国有商业银行懈怠风险控制，没有意愿也没有动力花费成本监督借款公司的信贷风险。与此同时，拥有垄断金融资源的国有商业银行，必定要对进入者设租，薄弱的金融法治环境和预算软约束对国有商业银行的隐性担保使得银行内部的腐败问题由个别现象演变为集体行为，导致金融资源误配，并带来整个社会的信用低下，形成恶性循环，潜在威胁金融市场安全。预算软约束和银行业腐败的交互作用导致中国金融市场一直无法形成真正的资金供给方——商业银行。

面对国有商业银行各种问题的日渐暴露和入世银行业开放的压力，中国政府于2003年末，再次为国有商业银行注资，并引进战略投资者，以上市为最终改革目标，开始在法律环境、管理体制及风险管理领域进行改革。在此制度背景下，本文分别从影响债务契约签订和执行的外部制度环境和企业微观特征，考察制度变迁过程中金融市场经济主体的利益调整，研究债务契约签订各方行为的变化，实证地分析制度环境的变化对交易成本和市场资源配置效率的影响。本文研究按如下两个部分阐述：首先，研究金融体制改革前后银行业腐败对债务契约的影响变化。主要包括金融法治环境的变化和国有商业银行自身发展的要求是否能够有效抑制银行业腐败在债务契约中的作用；银行业腐败对不同期限的债务契约影响变化是否一致。其次，研究金融体制改革前后上市公司盈余质量对债务契约的影响变化。主要包括金融法制环境变化是否能够加强银行控制风险的需求和能力，作为体现信贷风险特征

⁴ 银行对违约贷款的诉讼和申请执行所付出的成本高昂，抵押物处理过程交易成本高昂，违约案件执行率低，商业银行“赢了官司赢不到钱”的现象比比皆是。银行起诉的拖欠按胜诉率在全国达95%以上，但是执行率只有15%左右(蒋正华2002年12月初，在前国家经贸委经济研究中心和全国工商联市场经济监督管理研究中心联合举办的首届中国企业信用论坛上的讲话)。

的上市公司盈余质量在债务契约中的作用是否得到有效应用；企业是否能够观察到银行对盈余质量的要求，做出相应的融资决策调整。

二、文献回顾和理论分析

经济活动的宏观制度环境对债务契约的影响通过企业的微观特征体现，企业的微观特征对债务契约的影响受到宏观制度环境的制约。本文分别从影响债务契约签订和执行的企业微观特征和宏观制度因素两方面进行相关的文献回顾：

（一）影响债务契约的企业微观特征

传统关于信贷问题的研究基于借贷双方的信息不对称和违约风险控制权的转移，认为银行可以通过借款企业的财务指标对其信贷风险进行考核(Altman, 1968; Zmjewski, 1984; Ohlson, 1980; Shumway, 2001)，其中影响公司盈余的一些随机性的，暂时性的经济因素被证明是对公司的经营风险衡量的重要指标。Francis *et al.* (2003) 采用了7个时间序列的盈余质量指标(包括4个会计指标和3个市场指标)考察盈余质量对债务成本的影响，结果发现盈余质量指标独立或共同反映了盈余的基本特征，但是它们之间没有绝对的主次之分。相对市场基础的盈余质量指标，会计基础的盈余质量指标在降低企业融资成本方面的作用更强。Francis *et al.* (2005) 发现应计项盈余质量指标是衡量公司财务风险的有效指标，应计项质量的提高有助于降低企业的融资成本。周国良(2008)对中国上市公司盈余质量和债务融资成本的研究发现，虽然中国新兴加转型的市场特征与西方国家在产权制度、法治建设、政府对市场的干预等方面有很大的不同，但上市公司的盈余质量与企业的债务成本仍然呈显著负相关关系，会计盈余质量越高的公司债务融资成本越低。

同样是债权人，由于信息渠道不同，会计信息质量对不同借方市场契约安排的影响也会不同。Diamond (1991b) 认为，相对其他债权人而言，银行在信息收集和信
息获得渠道上拥有更大的优势，这种情况下，盈余质量较差的公司会选择银行贷款而不是债券投资人融资，从而将财务风险较高的情况限定于较小的范围(Sudipto and Gabriella, 1995)，并降低借款公司在公共债券市场上会面临更大的逆向选择问题。作为补偿，银行对会计信息质量较差的借款公司设更高的租金(Rajan, 1992)，公司融资需求越高时，公司的信息租金越大。Bharath *et al.* (2008) 实证地检验了会计信息质量对借款方在债务契约选择的影响，发现盈余质量较差的公司更倾向于选择银行贷款融资而非发行债券，银行可以利用价格(利率)和非价格条款(贷款期限)为盈余质量较差的公司提供更加灵活的债务契约。

（二）影响债务契约的宏观制度因素

不同的制度环境下，经济主体的行为也有所不同。最近的研究发现一个国家的法律税收体系，腐败程度和信息透明度都是决定公司债务契约的重要因素。在法律环境相对完善、契约执行成本较低的情况下，如果借款方违反债务契约，贷款方会

根据契约条款要求借款人赔偿违约带来的损失。但由于个人的有限理性，⁵外在环境的复杂性、不确定性，⁶信息的不对称和不完全性，契约当事人或契约的仲裁者无法证实或观察一切因素 (Grossman and Hart, 1986)，就会造成契约条款的不完全性，并且履约的度量费用也很高 (Klein, 1980)。由于契约当事人本身不能做出有效的承诺，例如不能承担契约规定的活动或计划，或者不能归还贷款人的资金 (Hellwig, 1977; Stiglitz and Weiss, 1981)，这样一来，被用于增加激励或契约能力，从而将有益风险从有害风险中分离出来的某些设计就可能是无效的。

在法律环境不完善、契约成本较高的经济环境里，贷款人很难对违反债务契约的借款企业提起诉讼并要求其立即变现抵押资产 (Kornai, 1979; Mitchell, 1993; Dewatripont and Maskin, 1995)，契约的事后执行不仅会导致借款人的损失，而且会使贷款人的情况变得更糟 (Diamond, 2004)。这种情况下，贷款方的懈怠行为不可避免。债务短期化被认为是解决贷款人懈怠行为的重要途径，贷款人可以通过及时终止合同或减少贷款额度惩罚借款人的违约行为 (Diamond, 1991b, 2004)，更多的公司因此选择短期债务融资来传递公司财务状况良好的信号 (Flannery, 1986; Diamond, 1991b)。实证研究的结果也表明，在债权人保护较好的国家，贷款集中于股权集中度较高的公司，期限较长，利率也较低，这种情况依赖于借款公司的微观特征；债权人保护较差的国家，股权集中度对银行贷款的影响较低，而且银行会通过非价格条款——信贷期限代替价格条款 (利率) 调整贷款并控制借方风险 (Qian and Strahan, 2007)。而在中国这样的转轨经济国家里，政府关系在市场化程度低的地区为长期贷款发挥了隐性担保作用 (孙铮等, 2005)，股权性质和政治关系削弱了债权人对借款企业微观特征的依赖 (周国良, 2008)。

事实上，商业银行本身也存道德风险和经理人腐败浪费问题，并引发银行业的危机。⁷ Bliss and Di Tella (1997) 对金融市场腐败问题的研究认为，腐败者为了获得最大化收益，会保留盈利水平最高的企业，剔除低质量的企业，导致市场效率的提高。而谢平和陆磊 (2005) 则认为，如果金融机构自身是腐败的当事人，他们更倾向于和不具备偿还能力的借款人共谋，因为这比有效率的借款人所提供的租金要高得多——毕竟双方直接分割本金，而不是依靠企业利润支付租金。在新兴的市场经济国家中，腐败不仅有损于经济活动的公平和效率，使向自由的市场经济过渡更加困难，而且腐败扭曲了公众对一个正常的市场经济如何运行——其具有的高效率——的正确看法 (艾略特, 1999)。

由于经济主体自我约束的存在，一旦实现了的制度很难顺利地变更 (青木昌彦和奥野正宽, 2005)。本次金融体制改革作为政府主导的强制性制度变迁，能否从道德以外对银行业的集体腐败行为形成有效的约束？借贷双方在此过程中如何调整利益分配？利益分配的调整如何影响债务契约签订各方的预期，进而影响信贷资源的配置？

⁵ Simon (1995) 认为，如果假定我们所选择的对象不是一个有限集合，并设想会产生各种方案，也可以假设不知道结果的概率分布，而将将这些情况的估计程序引入分析，或者寻找那些不确定性的策略。也就是说，人的理性是有限的，对外在环境的不确定性是无法完全预期的，不可能把所有可能发生的未来时间都写入契约条款中，更不可能制定好处理未来事件的所有具体条款。

⁶ 不确定性意味着存在大量可能的偶然因素，且要预先了解和明确针对这些所有可能的反应，其费用相当高 (Klein, 1980)。

⁷ 1980年到1996年间有超过130个国际货币基金组织成员国的银行业陷入过困境 (Lindgren *et al.*, 1996)。

三、制度背景和研究假设

(一) 中国银行业改革

中国的信贷市场脱胎于前苏联模式计划经济体制下的单一银行制。⁸为了与资本市场的改革相适应,中国金融市场先后经过了二级银行体制的建立(1979-1983年)、专业银行企业化(1984-1994年)、银行体系的商业化改革(1995-1997年)以及银行体系垂直化管理体制改革(1998-2003年)等四个阶段。为应对金融危机的冲击,中国政府于1998年首次接受四家国有商业银行剥离资产1.4万亿元(其中9800万元为不良资产),定向发行2700亿特别国债,用于补充国有商业银行资本金。然而,银行剥离不良贷款和注资后整体表现没有达到期望值(刘鹏,2008),甚至在一定程度上加强了国有商业银行对政府预算软约束的稳定预期。

随着WTO协议规定的2006年底中国金融市场对外资银行全面放开最后期限的逼近,⁹为帮助处于“技术性破产”(谢平和陆磊,2005)边缘的国有商业银行从容应对入世后来自国内外银行的竞争,并借此对金融体制进行实质性的改革,中国政府于2003年底2004年初开始了新一轮的国有商业银行改革,本次改革共涉及以下几个方面:

(1) 注资和财务重组。2003年末2004年初,中国银行、中国建设银行分别获得国家外汇注资225亿美元和450亿美元外汇储备补充资本金,并通过公开拍卖的形式,将2787亿可疑类不良资产出售给信达资产管理公司;2005年4月中央汇金公司向中国工商银行注资150亿美元。至2005年,三大商业银行的不良贷款比例下降到了5%以下,资本充足率达到了2006年巴塞尔新资本协议(Basel II)规定的8%以上。

(2) 完善公司治理制度。根据2002年6月中国人民银行颁布的《股份制商业银行公司治理指引》、中国银监会于2004年发布的《关于中国银行、中国建设银行公司治理改革与监管指引》和2006年4月出台的《国有商业银行公司治理及相关监管指引》,三家银行按照现代企业制度的要求搭建了公司治理的组织架构,并引进了国际著名的投资银行作为战略投资者,以优化股权结构。

(3) 完成上市。经过了一系列的注资、重组和发行新股,中国建设银行于2005年10月27日在香港联交所挂牌交易;中国银行于2006年6月1日在香港联合交易所挂牌交易,同年7月5日在上海证券交易所挂牌交易;中国工商银行于2006年10月27日同步在上海证券交易所和香港联交所挂牌上市。

(4) 金融法制建设。为配合金融体制改革的顺利进行,全国人大常委会第六次会议通过了《中华人民共和国中国人民银行法》、《中华人民共和国商业银行法》的修改决定,并通过了《中华人民共和国银行业监督管理法》,三法于2004年初正式实施。中国人民银行和中国银监会于2004年单独或联合发布的法规及规范性文件近六十项,并加大了打击金融腐败的力度。

⁸ 1978年改革开放之前,“计划经济条件下的银行只是作为国家财政的出纳机构存在,只承担微不足道的资源配置功能”(吴敬琏,1999)。

⁹ 2001年底中国加入世界贸易组织,承诺五年后(2006年12月)金融业全面开放,银行业开放步骤如下:入世当年允许外资银行办理全部外币业务;2年内允许办理中资企业人民币存款业务;5年内允许外资银行办理城乡居民人民币业务,而且不再有地域限制;每年增加4个城市向外资银行开放人民币业务。

2008年11月6日汇金公司向农行注资190亿美元，2009年1月16日中国农业银行股份有限公司挂牌成立，2010年6月18日农行招股说明书披露，预计于当年7月15日A股上市，国有银行改革进入收官之战。

(二) 假说形成

根据上文分析，由于企业投资项目风险的不可预测性和借款公司的机会主义行为，银行知道企业无法偿还到期贷款但又没有足够的证据时，对长期贷款的风险控制能力较弱，很多银行会选择短期贷款代替长期贷款，以便在借款公司犯罪实施之时(*crime in progress*)及时阻止企业对金融资源的误用(Diamond, 2004)。所以，不考虑腐败因素的前提下，在债权人保护法律环境薄弱、契约执行成本较高的情况下，信贷期限是贷款方减少懈怠和风险管理的有效契约工具(Diamond, 2004)，这种情况下企业获得长期贷款相对比较困难。

在中国经济体制转轨过程中，长期的政策性负担使得国有企业一直无法成为真正自主经营、自担风险、具有竞争力的企业，政府也不得不长期对其实行预算软约束政策，国有商业银行和国有上市公司之间的产权不明晰使得很多国有上市公司将银行贷款当作国家提供的“免费资本金”使用，一旦贷款到手，往往挤占挪用，或利用改制、破产、兼并、多头开户等手段千方百计悬空银行债务，并一度成为“废逃债”的主体。而相关法律的缺失¹⁰加大了商业银行追债的难度和成本(陈显春和高踪啸，2003)，“短债长借”、“长债不还”成为了我国信贷市场上的平常现象。在这种情况下，商业银行风险控制的成本大大上升，银行风险控制的意思也有原来的主动渐渐转为被动，甚至与企业合谋损害国家利益，长时期的转轨和对金融资源的垄断造就了银行业的集体腐败行为。中国银行业腐败显著影响债务契约签订(Fan *et al.*, 2006)，并加剧金融资源误配和银行经理人员腐败行为(田利辉，2004，2005；谢平和陆磊，2005；朱凯和陈信元，2007)。

本次的金融体制改革，由政治决策贯彻至经济决策，强制性制度变迁的过程实质上是各方利益强制调整的过程，作为利益受损的银行业腐败官员必然采取相应的措施减少受损的程度，这本身也符合经济学个人利益最大化的假设。¹¹考虑到腐败的影响，Krueger (1974) 和 Bhagwati (1982) 认为，银行寻租行为受经济主体准入障碍的影响，准入障碍越高，经济主体越有动力缴纳租金。制度变迁降低交易成本的要求受经济体制本身自律性因素的影响，交易成本的降低必然会在成本收益配比较小的市场首先得到改善，例如逃债的机会相对较小，税盾优势相对较弱的短期信贷市场。长期贷款期限较长，责任界定相对困难的特征，使得责任人员机会主义选择倾向也越高，而且国家对国有控股上市公司的预算软约束支持的对象一般都是风险较大，期限较长的项目投资，¹²债务期限此时更容易成为商业银行寻求租金的工具；

¹⁰ 目前为止，能够查找到的对废逃债企业的规范是国务院1998年发布的《关于在国有中小型企业集体改制过程中加强金融债权管理的通知》规定，商业银行对废逃债企业有制裁权，但无认定权，认定权归中国人民银行。

¹¹ 个人最大化行为有利于社会，因为它能给所有人带来好处。不过，偷窃、欺骗、撒谎、偷懒或违背诺言等同样都是最大化行为，在这种情况下，所有其他的成本(包括其他类型的交易成本)将是非常高的，以致会使这种经济崩溃(张五常，1990)。

¹² 本文在实证部分予以补充证明。

另一方面，对于没有偿还贷款意愿的企业而言，频繁地贷款申请也增加了企业的负担（朱凯和陈信元，2007），所以他们更愿意在长期贷款上花费更多的租金，跟商业银行做“一次性交易”。国家对商业银行仍然绝对控股的政策，无法消除长期以来商业银行对政府预算软约束的预期，现阶段对腐败的惩罚力度仍然没有对腐败官员构成应有的震慑力，¹³商业银行的某些腐败官员也很难依靠“自律”约束其不良行为。这种情况下，商业银行原本赖以控制风险的工具很容易演变为银行寻求更高租金的手段，例如债务期限。

根据以上分析，提出本文的假设1：

假设1a：金融体制改革之前，银行业腐败与上市公司新增短期贷款显著正相关，与新增长期贷款显著正相关；

假设1b：金融体制改革之后，银行业腐败与上市公司新增短期贷款正相关关系减弱，与新增长期贷款正相关关系增强。

银行贷款相对于配股、增发等门槛较低的优势¹⁴和国家的政策性导向，使得上市公司对银行融资产生依赖。国有商业银行明显的政府干预色彩和银行贷款可谈判性，使得一些盈利能力较差，达不到证监会配股增发融资条件的上市公司也可能通过各种方式寻求银行贷款来满足其融资需求，由此产生大量的“关系贷款”和“腐败贷款”，最终形成商业银行政策性和经营性不良贷款，都由国家承担损失。很多学者认为，在这种情况下，上市公司的会计信息质量无法作为国有商业银行控制风险的有效指标。Richard(2006)分析了自1997至2004年间的贷款增幅、贷款价格及地区信贷模式，期望发现大型国有商业银行经营模式改变的迹象，研究发现国有商业银行的信贷规模虽然减缓，但是在贷款利率定价上仍然没有差别，同时发现，银行在作出贷款决定时，似乎并没有将企业的盈利能力考虑进来。田利辉(2005)认为商业银行的市场化改革没能对贷款公司形成强有力的事后监督约束。

承接第一部分的研究，本文从债务契约签订成本的角度，研究金融体制改革是否改变了商业银行事前的风险控制能力。如果金融体制改革至少能够在某些领域内（例如短期信贷市场）改善银行业腐败在债务契约中的作用，那么在那些领域，银行控制风险的能力与改革之前相比会有所改变，根据“逃往质量”理论，银行会将贷款从该领域代理成本较高的借方公司撤出，投放到更加安全的公司，而那些改革没有触及到的领域相关变化则不明显。与此同时，国有商业银行和借款公司之间的关系也会产生微妙的变化，一些盈余质量较好的公司就会转向银行腐败作用得到改善的领域，减少信贷申请支付的租金，降低企业实际融资成本。而盈余质量较差的公司

¹³ 贺江兵，2007：《金融腐败蔓延 银监会誓灭潜规则》，<http://www.jrj.com>。

¹⁴ 《上市公司新股发行管理办法》(2001)规定上市公司配股要求为“经注册会计师核验，公司最近3个会计年度加权平均净资产收益率平均不低于6%；扣除非经常性损益后的净利润与扣除前的净利润相比，以低者作为加权平均净资产收益率的计算依据；设立不满3个会计年度的，按设立后的会计年度计算”。增发新股要求为“经注册会计师核验，公司最近3个会计年度加权平均净资产收益率平均不低于10%，且预测本次发行完成当年加权平均净资产收益率不低于10%”。发行可转换债券的要求为“上市公司发行可转换债券需满足最近3年连续盈利，且最近3年净资产利润率平均在10%以上；属于能源、原材料、基础设施类的公司可以略低，但是不得低于7%”，2006年证监会《上市公司证券发行管理办法》取消了上市公司配股关于盈利方面的硬性规定，同时降低了增发和债券发行的门槛。

制度变迁、盈余质量和债务契约—来自中国银行业改革的经验证据

会选择腐败作用未得到明显改善的领域寻求融资机会，代价就是支付更高的租金，从这一角度来说，盈余质量不仅是银行信贷风险控制的衡量标准，而且是衡量银行业腐败的间接证据。

结合本部分分析，金融体制改革之前，由于银行业腐败在金融市场上的影响，盈余质量在信贷市场中的作用是个有待检验的命题；金融体制改革之后，如果银行业腐败作用在短期信贷市场上得到有效抑制，寻租行为集中在长期信贷市场的情况下，盈余质量在短期信贷市场上的作用应该得到提高，在长期信贷市场上会有恶化的趋势。

根据以上分析，提出本文的假设2：

假设2a：金融体制改革前，上市公司盈余质量与新增短期贷款不相关，与新增长期贷款不相关；

假设2b：金融体制改革后，上市公司盈余质量越高，新增短期贷款显著越高，新增长期贷款越低。

四、样本、变量和描述性统计

（一）样本

本文研究覆盖了1998至2006区间的上市公司财务数据，公司财务数据来自深圳国泰安公司开发的CSMAR数据库和上海万得信息技术股份有限公司开发的WIND资讯金融系统；公司当年的法定税率数据系手工收集。样本剔除了金融保险类上市公司，并winsorize主要变量上下1%的极端值。选取1998至2006年度的样本数据基于以下几点考虑：

（1）本文采用现金流量表方法计算应计项盈余质量，中国1998年开始披露现金流量表，故研究起始年度为1998年；此外，

（2）对公司盈余质量的考察需要基于一个相对一致的会计政策环境。中国1998年之前上市公司会计报表编制主要依据《企业会计准则》、《股份制试点企业会计制度》，这期间上市公司信息披露不规范、不透明，尤其是关联交易频繁发生。1998年1月27日财政部发布了财会字7号文件——《股份有限公司会计制度——会计科目和会计报表》，随后发布了10个具体准则，¹⁵形成了上市公司基本的会计规范，直至2007年1月1日新会计准则的正式执行。选取这一时间段有利于减少上市公司盈余质量指标的噪音。

本文研究2003年金融体制改革对债务契约签订各方行为的影响，考察公司微观特征对债务契约的影响是否以来制度环境的变化而变化。受盈余质量指标计量的约束，本文研究期间为2002年至2006年，以2004年为界分为金融体制改革之前和金融体制改革之后两个期间，¹⁶即2002至2003年为改革前，2004至2006为改革后。

¹⁵ 包括《现金流量表准则》、《资产负债表日后事项准则》、《债务重组准则》、《收入准则》、《投资准则》、《建造合同准则》和《会计政策、会计估计变更、会计差错更正准则》、《中期财务报告准则》、《存货准则》、《固定资产准则》。

¹⁶ 严格说来，国有商业银行改革从2003年12月31日开始，全面改革包括金融法治环境改革在2004年进行，基于实证研究的需要和金融市场各方对改革反应的滞后性，下文以2004年作为金融体制改革的分界点。

(二) 主要变量设计

(1) 银行业腐败指数

本文选取了银行业腐败(谢平和陆磊, 2005)指数作为银行业腐败的衡量标准,¹⁷该指标以2002至2003年全国范围内29个城市(6省会城市和计划单列市)的银行监管部门、银行机构、企业、农户和个体工商户为对象,发放5种6000份(有效问卷3561份)问卷调查,内容涵盖主观和客观10项指标进行,包括:你认为“银行监管部门是否干预金融机构信贷行为”、“不良贷款剥离中是否处理责任人”、“银行监管当局处罚金融机构是否具有弹性”,在此基础上汇集各类判断占总回答人数的百分比,再以此百分比乘以所赋权重,¹⁸加总后得到全国和各地区银行业腐败指数,指数值越大,说明腐败程度越高。随着制度环境的变化,指数的定量衡量应该会有所变化,但由于该指数是按照地区编制,指数的排序在一定期间内应该不会产生变化,所以虽然只有以2002至2003年数据计算而来的总指数,对本文的研究结论没有影响。

本文选取了该指数中与企业贷款相关的三个指标:贷款是否需要好处(BENEFIT)、企业信贷申请费(APPLY)和企业信贷关系维护费(RELATION)衡量银行业腐败作为制度变迁过程中经济体制自律性的表现,对金融资源配置的影响。表1列示了各地区银行业腐败指数数据:从贷款是否需要好处指标看,西部和华北地区最高,华中、华东和华南地区其次,东北地区最低;贷款申请费华北地区最高,东北其次,以下依次为西部、华中、华南地区,华东地区最低;信贷关系维系费西部地区最高,华中地区其次,华北、东北、华南地区,华东地区最低。以上三个指标存在明显的地区差异,一方面说明由于中国各地区金融发展和法治环境的差异造成债务契约执行成本不一致,另一方面也说明各地区公众对银行业腐败的心理承受能力及其对反腐败的诉求存在差异。

表1 银行业腐败指数

地区	好处费	信贷申请费	信贷关系维系费
华北	5.2203	6.3003	5.1934
东北	3.7887	5.2291	4.1589
华中	4.2937	3.2852	6.0942
华东	4.1620	1.4654	3.3933
华南	4.2295	2.5167	4.0256
西部	5.2347	4.4897	6.2835

资料来源:谢平和陆磊, 2005,《中国金融腐败的经济学分析——体制、行为与机制设计》。

¹⁷ 在谢平和陆磊(2005)之前,银行业腐败并非是个专有名词,学者们更多的是讨论金融腐败,谢平和陆磊(2005)将金融腐败细分为证券业腐败、银行业腐败两类。

¹⁸ 权重的具体计算见谢平和陆磊(2005)附录一,第197页。

(2) 盈余质量研究设计

本文主要从影响主营业务利润、净利润和会计利润波动的因素三个方面来考察上市公司盈余质量。对于主营业务利润的考察以应计项质量为主,采用现金流量表为基础的修正Dechow and Dichev (2002,以下简称DD)模型来衡量上市公司应计项盈余质量;对于净利润的考察以Lev(1983),Ali and Zarowin(1992)盈余变动的预测性来考察上市公司盈余中的暂时性项目变化对盈余质量的影响;对会计利润的考察以Schmidt(2006)中由实际税率变化,即税收应计项变动引起盈余变动质量的变化。三个指标本质上都是衡量盈余不同组成部分暂时性误差项导致的盈余质量的波动。

我们选取1998至2006年期间的财务数据,以5年为一个周期滚动计算上市公司连续三年的盈余质量指标。由于我国资本市场发展历史较短,在此期间会计信息披露规范化也经历了一个过程,令我们计算盈余质量的时间序列受限,但我们认为这对我们的研究问题影响不大,我们用三个最终影响上市公司盈余质量的互补性指标弥补这一缺陷。此外,中国资本市场退市制度的不完善,虽然证监会于2001年11月30日发布了《亏损上市公司暂停上市和终止上市实施办法(修订)》,但退市制度显得过于“仁厚”,不能起到清理劣质公司的作用,亦无法对不良上市公司形成应有的威慑力,¹⁹但这一点却令我们的盈余质量指标信息含量更高,²⁰研究也显得更有意义。

1. 应计项质量

Dechow and Dichev(2002)认为可以通过应计项和企业现金流的配比估算应计项的质量,应计项的估算误差越小,盈余越能够代表未来现金流的情况,因此,控制了销售收入和固定资产投资变化的修正DD模型更能够反映应计项质量(McNichols, 2002)。

由于现金流量表数据的缺失,²¹以往的文献研究都采用资产负债表数据计算应计项模型需要的数据(Healy, 1985; DeAngelo, 1986; Jones, 1991; Dechow and Sloan, 1996),但Hribar and Collins(2002)发现由于并购重组、资产剥离和汇兑损益等原因,使用资产负债表方法计算应计项会夸大操纵性应计项或超常应计项,导致研究人员在公司管理层没有盈余管理行为的情况下得出错误的结论。根据以上文献,本文采用现金流量表为基础税收调整后的修正DD模型衡量应计项盈余质量。

本文采用1998至2006年期间公司滚动5年的时间序列数据,计算2002至2006年公司的盈余质量数据:

$$\begin{aligned} \frac{TCA_{it}}{AVASSET_{it}} = & \alpha_0 + \alpha_1 \frac{CFOBT_{it-1}}{AVASSET_{it}} + \alpha_2 \frac{CFOBT_{it}}{AVASSET_{it}} + \alpha_3 \frac{CFOBT_{it+1}}{AVASSET_{it}} \\ & + \alpha_4 \frac{\Delta REV_{it}}{AVASSET_{it}} + \alpha_5 \frac{PPE_{it}}{AVASSET_{it}} + \varepsilon_{it} \end{aligned} \quad (I)$$

¹⁹ 成思危在十届全国人大常委会第十八次会议今天分组审议《证券法》修订草案三审稿会议上的发言。

²⁰ Francis *et al.* (2003)认为他们研究得出盈余质量指标降低公司成本的一个可能原因是样本选择偏差,因为(存在严格退市制度的情况下)能够存活10年的公司本身就规模较大、经营比较成功的公司,更容易获得较低成本的资本,而非盈余质量的结果。

²¹ 美国的现金流量表数据自1988年公开披露(the effective year of SFAS No.95)。

$TCA_{i,t}$: i 公司 t 年的应计项, 当年主营业务利润减去税收调整后的经营现金流;²²
 $CFOBT_{i,t}$: i 公司 t 年税收调整后的经营现金流, 公司现金流量表上披露的经营现金流减去公司的所得税返还加上支付的所得税;

$AVASSET_{i,t}$: i 公司 t 年年初和年末的总资产平均值;

$\Delta REV_{i,t}$: i 公司 t 年销售收入的变化值;

$PPE_{i,t}$: i 公司 t 年固定资产总值;

采用模型中残差的标准差负数作为公司盈余质量的衡量, 本文用 EQI 表示:

$EQI = -\sigma(\hat{\varepsilon}_{i,t})$, 即 EQI 越大, 应计项盈余质量越高。

2. 盈余预测性

本文采用Lev (1983), Ali and Zarowin (1992), Francis *et al.* (2002)的研究, 以盈余变动的可预测性衡量净盈余质量:

$$\Delta E_{i,t} = \beta_0 + \beta_1 \Delta E_{i,t-1} + v_{i,t} \quad (\text{II})$$

同修正DD模型, 本文采用公司5年时间序列数据滚动计算公司的盈余预测性, 采用自回归最大似然估计方法估计模型的相关系数, 并计算出时间序列的残差标准差估计值, 采用其负数衡量净收益的会计质量指标。本文用 $EQ2$ 表示:

$EQ2 = -\sqrt{\hat{\sigma}^2(V_i)}$, $EQ2$ 越高, 盈余变动可预测性越高, 净收益的质量越高。

3. 税收应计项质量

Schmidt (2006)将税前会计收益划分为税率不变由公司盈利变化引起的盈余变动和由税率变动引起的盈余变动部分, 即盈余中包含的税收的信息含量:

$$\Delta E_{i,t} = \Delta PTE_{i,t} (1 - ETR_{i,t-1}^I) + PTE_{i,t} (ETR_{i,t-1}^I - ETR_{i,t}^I),$$

其中:

$PTE_{i,t}$: i 公司 t 年的税前会计利润;

$ETR_{i,t}^I$: i 公司 t 年的实际税率 $ETR_{i,t}^I = \frac{IncomeTaxExpense_{i,t}}{PTE_{i,t}}$;

$IncomeTaxExpense_{i,t}$: i 公司 t 年当期支付的所得税费用;

由于中国上市公司不同程度地享受政府税收优惠政策,²³实际执行33%法定税率的公司比例较少(王延明和李韬, 2003), 而且税收优惠政策每年执行的力度也有所不同, 大部分上市公司实行两免三减半政策。当年法定税率变动会引起按上述模

²² 国外的文献一般采用的是扣除非经常性损益后的净利润减去应计项作为经营现金流, 但中国上市公司从2003年开始才要求披露扣除非经常性损益后的净利润, 所以本文采用营业利润代替, 这样, 经营现金流也同样调整到税前以保持口径一致。

²³ 这也是中国政府对上市公司预算软约束的方式之一: 2002年之前, 中国实行分地区税收优惠政策; 2002年之后, 实行分行业税收优惠政策。

制度变迁、盈余质量和债务契约—来自中国银行业改革的经验证据

型计算的实际税率的大幅度波动，从而高估了管理层盈余管理行为，将税收优惠变动引起的实际税率的变化误认为是盈余管理行为，对公司盈余质量估计产生偏差。本文在Schmidt(2006)研究基础上考虑了中国上市公司税收优惠的情况，将实际税率按照所得税返还调整后进一步划分为实际税率和税收优惠变动两部分，剔除了税收优惠引起的模型估计误差：

$$\Delta E_{i,t} = \Delta PTE_{i,t} (1 - ETR_{i,t-1}^2) + PTE_{i,t} [(ETR'_{i,t-1} - ETR'_{i,t}) + (ETR''_{i,t-1} - ETR''_{i,t})],$$

其中：

$$ETR'_{i,t} : i \text{ 公司 } t \text{ 年调整后的实际税率 } ETR'_{i,t} = (ETR_{i,t-1} - ETR''_{i,t-1});$$

$$ETR''_{i,t} : i \text{ 公司 } t \text{ 年实际税率 } ETR''_{i,t} = \frac{IncomeTaxExpense_{i,t} - IncomeTaxReturn_{i,t}}{PTE_{i,t}} \quad 24 \text{ (Scholes et al., 2002; 王延明, 2004)};$$

$ETR''_{i,t}$: i 公司 t 年的法定税率；

$IncomeTaxReturn_{i,t}$: i 公司 t 年当期的所得税返还。

其中 $PTE_{i,t} (ETR'_{i,t-1} - ETR'_{i,t})$ 就是我们要研究的盈余中税收包含的信息含量。由于中国上市公司披露的公开财务报表为合并财务报表和母公司财务报表，各子公司所得税和税率具体数据披露不全，所以本文采用母公司法定税率代替合并报表税率，由于母公司占合并利润的比重较高，²⁵ 本文认为该指标作为替代性指标对结果影响不大，这也是我们能够想到的最好的替代方法。

本文根据检验税收盈余质量的模型如下：

$$TCC_{i,t} = \gamma_0 + \gamma_1 TCC_{i,t-1} + \omega_{i,t} \quad (III)$$

其中：

$TCC_{i,t}$: 盈余变化中由实际税率变化引起的变动的信息含量， $TCC_{i,t} = PTE_{i,t} (ETR'_{i,t-1} - ETR'_{i,t})$ ；

同样，本文采用公司5年时间序列数据滚动计算公司的税收预测性，采用自回归最大似然估计方法估计模型的相关系数，并计算出时间序列的残差标准差估计值，采用其负数衡量税收中包含的盈余质量信息，本文用 $EQ3$ 表示：

$$EQ3 = -\sqrt{\hat{\sigma}^2(\omega)}, \text{ } EQ3 \text{ 越大, 税收质量越高。}$$

²⁴ $ETR > 1$ 时令其等于1， $ETR < 0$ 时令其等于0 (Gupta and Newberry, 1997)。

²⁵ 2002至2006年母公司利润占合并报表利润分别为53.56%、86.88%、85.16%、81.53%和83.70%。

(3) 外部融资需求研究设计

由于公司投资政策的时滞性，公司当年的资本性支出所需的外部资金应该由公司滞后一期的经营现金流决定，所以本文采用修正后的外部融资需求 (Rajan and Zingales, 1998) 指标控制公司当年的外部融资需求：

$$EXDEP_{it} = \frac{CAPX_{it} - CFO_{it-1}}{CAPX_{it}},^{26}$$

$CAPX_{it}$ ：为公司 t 年的资本性支出，公司当年的长期投资、固定资产、无形资产和其他长期资产的增加额。 $CAPX_{it}$ 为负时， $EXDEP$ 取负数。

CFO_{it-1} ：为滞后一期的经营现金流。

(4) 银行贷款研究设计

本文分别以上市公司新增短期贷款 (DLS) 和新增长期贷款 (DLL) 考察新增贷款规模和债务期限，其中，新增短期贷款为该公司当年的短期借款期末期初余额之差占总资产的比例；新增长期贷款为该公司当年的长期借款期末期初余额之差加上一年内到期的长期借款占总资产的比例。

(5) 控制变量研究设计

在已有文献的基础上，引入如下控制变量：公司规模、盈利能力、资产负债率、成长机会、资产结构、国内生产总值、年份和行业，并在检验假设 2 时控制腐败的地区性因素。考虑到长期资产投资的时滞性，所有企业特征的控制变量取滞后一期的数值。

(三) 描述性统计

表 2 列示了主要变量金融体制改革前后均值和中值的描述性统计检验结果。结果显示金融体制改革之后新增短期贷款的均值和中值均显著下降，其中，新增短期贷款的均值甚至由改革前的 16.8% 下降到了 -0.12%，但新增长期贷款的均值和中值没有显著变化，描述性统计的结果说明上市公司金融体制改革后的信贷缩减主要体现在短期贷款上，也说明短期贷款比长期贷款更容易受外部环境波动的影响，初步验证了理论分析中金融体制改革对不同期限信贷市场风险与收益分析的假设。

上市公司应计项盈余质量和盈余预测性金融体制改革后显著增加，但税收盈余质量指标没有显著变化。

上市公司的外部融资需求均值没有显著变化，中值有了显著下降，说明银行对贷款规模的控制一定程度上抑制了企业的投资冲动；公司规模、资产负债率、公司成长机会和资产结构有了显著增长，但盈利能力离散程度较高；受宏观政策调控的影响，国内生产总值增量显著。

²⁶ 本文采用公司当年资本性支出为正的。如果当期的资本性支出为正时， $EXDEP$ 越大，外部融资需求越高，但如果当期的资本性支出为负时， $EXDEP$ 越大，外部融资需求越低， $EXDEP$ 取负数与资本性支出为正时保持一致。Rajan and Zingales (1998) 和 Francis *et al.* (2005) 的研究中采用时间序列的数据，平滑了资本性支出为负的情况。

表2 金融体制改革前后主要变量统计检验结果

变量符号	金融体制改革前		金融体制改革后		T-test		Wilcoxon	
	均值	中位数	均值	中位数				
<i>DLS</i>	0.0168	0.0098	-0.0012	0.0000	5.2800	<.0001	5.9779	<.0001
<i>DLL</i>	0.0285	0.0000	0.0272	0.0000	0.0400	0.9707	-0.7537	0.2255
<i>EQ1</i>	-0.0384	-0.0241	-0.0360	-0.0214	-1.8400	0.0652	-3.3528	0.0004
<i>EQ2</i>	-0.0618	-0.0281	-0.0613	-0.0226	-0.2800	0.7827	-4.1585	<.0001
<i>EQ3</i>	-0.0086	-0.0034	-0.0090	-0.0038	0.6900	0.4906	0.0126	0.4950
<i>EXDEP</i>	-3.3165	-0.8299	-4.1136	-0.8919	1.2900	0.1957	2.0224	0.0216
<i>LAGSIZE</i>	20.9371	20.9260	21.2113	21.1856	-7.6500	<.0001	-7.4042	<.0001
<i>LAGROE</i>	-0.0676	0.0505	0.0076	0.0462	-1.0700	0.2838	0.0810	0.4677
<i>LAGLEV</i>	0.5314	0.5011	0.5949	0.5335	-2.3200	0.0204	-4.3020	<.0001
<i>LAGGROWTH</i>	0.0631	0.0361	0.0784	0.0591	-1.1600	0.2468	-4.1997	<.0001
<i>LAGFIX</i>	0.3338	0.3105	0.3593	0.3388	-3.7600	0.0002	-3.7070	0.0001
<i>GDP</i>	9.2637	9.3915	9.6612	9.7492	-34.3600	<.0001	-29.6119	<.0001
N	1036	1036	2491	2491				

变量定义：*DLS* = 当年的短期借款期末期初余额之差占总资产的比例；*DLL* = 当年的长期借款期末期初余额之差加上一年内到期的长期借款占总资产的比例；*EQ1* = 公司滞后一期、当期和未来一期现金流对应计项的残差标准差的负数；*EQ2* = 盈余变动自回归的残差标准差负值；*EQ3* = 实际税率变动自回归的残差标准差负值；*EXDEP* = 当期长期投资与上期现金流之差占当期长期投资比率；*LAGSIZE* = 滞后一期总资产的自然对数；*LAGROE* = 滞后一期净资产收益率；*LAGLEV* = 滞后一期资产负债率；*LAGGROWTH* = 滞后一期销售收入增长率；*LAGFIX* = 滞后一期固定资产与总资产的比率；*GDP* = 各地区当年国内生产总值的自然对数；

五、实证检验结果

(一) 银行业腐败对债务契约的影响

为分析银行业腐败在债务契约中的作用，本文建立如下模型：

$$DIFLOAN(DIFLOANS, DIFLOANL) = f(CORRUPT(BENEFIT, APPLY, RELATION), EXDEP, SIZE, ROE, LEV, GROW, FIX, GDP, YEAR, INDUS); \quad (1)$$

表3列示了金融体制改革前后银行业腐败对上市公司新增短期贷款的影响。实证结果显示，金融体制改革之前，银行业腐败的三个指标与上市公司新增短期贷款均为显著正向相关关系；金融体制改革以后，银行业腐败指数的三个指标与新增短期贷款之间的关系不再为负，且关系维持费负向显著。

金融体制改革之前，公司当期的外部融资需求和新增短期贷款为弱负向关系，统计结果不显著；金融体制改革以后，融资需求与新增短期贷款为弱正向相关关系，统计结果不显著；

关于公司特征的控制变量结果显示,公司规模与新增短期贷款之间的关系由改革前的负向不显著关系转为正向显著关系;公司盈利能力由正向显著关系转为不显著;资产负债率保持负向显著关系;公司成长机会在改革前后持续保持正向显著关系,金融体制改革以后显著性加强;公司固定资产比例与新增短期贷款在改革前后持续保持正向关系,金融体制改革后由不显著转为显著;*GDP*指数负向趋势增强。

表3的结论验证了本文第一部分理论分析形成的假设1中关于银行业腐败对短期信贷市场的影响分析,说明金融体制改革带来的制度环境的变化,有效地抑制了腐败在短期信贷市场上的影响,结合描述性统计检验结果,可以看出,寻租行为的减弱与商业银行在短期信贷市场紧缩性政策相辅相成。

表3 金融体制改革前后银行业腐败对新增短期贷款的影响

变量符号	<i>DLS</i>					
	金融体制改革前			金融体制改革后		
	(1)	(2)	(3)	(1)	(2)	(3)
intercept	0.0347 (0.23)	0.1004 (0.89)	-0.4912** (-2.00)	-0.0943 (-1.34)	-0.1154* (-1.96)	0.0439 (0.46)
<i>BENEFIT</i>	0.0133* (1.74)			-0.0043 (-1.12)		
<i>APPLY</i>		0.0048** (2.47)			-0.0014 (-1.33)	
<i>RELATION</i>			0.0202*** (3.18)			-0.0061** (-2.38)
<i>EXDEP</i>	0.0000 (-0.31)	-0.0001 (-0.40)	-0.0001 (-0.35)	0.0001 (1.11)	0.0001 (1.13)	0.0001 (1.08)
<i>LAGSIZE</i>	-0.0012 (-0.36)	-0.0016 (-0.48)	-0.0015 (-0.48)	0.0082*** (4.58)	0.0083*** (4.62)	0.0083*** (4.64)
<i>LAGROE</i>	0.0106*** (4.45)	0.0107*** (4.48)	0.0109*** (4.57)	0.0006 (1.27)	0.0006 (1.27)	0.0006 (1.25)
<i>LAGLEV</i>	-0.0270*** (-4.48)	-0.0267*** (-4.43)	-0.0266*** (-4.41)	-0.0106*** (-6.44)	-0.0107*** (-6.45)	-0.0106*** (-6.41)
<i>LAGGROWTH</i>	0.0267** (2.44)	0.0278** (2.55)	0.0269** (2.46)	0.0189*** (3.44)	0.0186*** (3.40)	0.0182*** (3.32)
<i>LAGFIX</i>	0.0261 (1.56)	0.0207 (1.24)	0.0187 (1.12)	0.0372*** (3.85)	0.0381*** (3.95)	0.0388*** (4.02)
<i>GDP</i>	-0.0060 (-0.49)	-0.0072 (-0.68)	0.0487** (2.08)	-0.0088 (-1.53)	-0.0083 (-1.54)	-0.0225** (-2.60)
<i>YEAR</i>	控制	控制	控制	控制	控制	控制
<i>INDUS</i>	控制	控制	控制	控制	控制	控制
Adj R-Sq	0.0510	0.0537	0.0573	0.0520	0.0521	0.0536
F	5.84***	6.12***	6.47***	12.89***	12.93***	13.28***
N	1036	1036	1036	2491	2491	2491

注: 括号中为*t*值; *、**、***分别表示在0.1、0.05和0.01的显著性水平线显著。

控制变量的显著变化也可以说明银行在短期信贷市场上风险控制能力加强。新增短期贷款对公司规模和固定资产比例要求的提高说明规模越大，提供资产抵押能力更强的公司在金融改革后更容易获得短期贷款；资产负债率负向显著关系的增强也说明，公司资产负债率越低的公司越容易得到短期贷款，与Leland and Toft(1996)的研究结论保持一致。公司盈利能力由正向显著关系转为正向不显著关系，可能是由于信贷规模的缩减，盈利能力较强的公司为减少融资成本选择内部融资的结果，这一解释也符合融资顺序理论。

表4列示了金融体制改革前后银行业腐败对上市公司新增长期贷款的影响。实证结果显示金融体制改革前后，银行业腐败的三个指标与上市公司新增长期贷款均为正向关系，其中申请费和关系维系费均为显著正相关，改革后三个指标的正相关关系减弱，但没有显著变化。总体而言，金融体制改革以后，银行业腐败在长期信贷市场上没有显著改善。

金融体制改革之前，公司当期的外部融资需求与新增长期贷款显著正相关关系，金融体制改革以后正向相关关系变得不显著。

关于公司特征的控制变量结果显示，公司规模与新增长期贷款保持正向相关关系，金融体制改革以后由改革前的不显著变为显著；改革后公司盈利能力由改革前的正向但不显著关系转为负向显著关系；公司的资产负债率与新增长期贷款规模在改革前后相关关系均不显著；改革后公司的成长机会负向关系显著增强；公司的固定资产比例在改革前后与新增长期贷款持续保持正向显著关系；GDP指数对长期信贷市场的影响仍然不显著。

表4进一步验证了本文第一部分理论分析的假设1中关于银行腐败对长期信贷市场的影响分析，虽然商业银行进行了股份制改革，但银行业仍然垄断着大量的金融资源，只要寻租的收益大于付出的成本，商业银行的寻租行为仍然会不可避免的发生，实证结果也表明长期信贷市场仍是银行业权利腐败不愿放弃的领地。

控制变量的结果显示，金融体制改革以后，商业银行在长期信贷市场上的信贷风险控制能力也有所加强。金融体制改革后公司规模越大的公司，固定资产比重越高的公司越容易获得长期贷款；盈利能力越强，成长机会越高的公司越不容易得到长期借款。

(二) 盈余质量对债务契约的影响

为分析盈余质量在债务契约中的作用，本文建立如下模型：

$$DIFLOAN(DIFLOANS, DIFLOANL) = f(EQ(EQ1, EQ2, EQ3), EXDEP, SIZE, ROE, LEV, GROW, FIX, GDP, DISTR, YEAR, INDUS); \quad (2)$$

表5列示了金融体制改革前后上市公司盈余质量对新增短期贷款的影响。实证结果显示，控制了银行业腐败的地区性差异后，金融体制改革之前，上市公司新增短期贷款只与应计项盈余质量指标显著正相关，与盈余预测性和税收盈余质量指标之间的关系不显著，并且影响方向相反，盈余预测性指标为正向关系，而税收盈余

质量指标为负向关系；金融体制改革后，三个盈余质量指标与短期贷款都呈现出一致的显著正相关关系，其中应计项盈余质量的相关性显著增加，由改革前的0.2173增加到了0.3408，显著性也明显增强。

表4 金融体制改革前后银行业腐败对新增长长期贷款的影响

变量符号	DLL					
	金融体制改革前			金融体制改革后		
	(1)	(2)	(3)	(1)	(2)	(3)
intercept	-0.0427 (-0.39)	-0.0416 (-0.50)	-0.3959** (-2.19)	-0.0179 (-0.35)	-0.0174 (-0.40)	-0.1409** (-2.01)
BENEFIT	0.0083 (1.49)			0.0022 (0.79)		
APPLY		0.0046*** (3.22)			0.0013* (1.69)	
RELATION			0.0134*** (2.85)			0.0048*** (2.59)
EXDEP	0.0003** (2.28)	0.0002** (2.15)	0.0003** (2.25)	0.0001 (1.32)	0.0001 (1.28)	0.0001 (1.35)
LAGSIZE	0.0007 (0.31)	0.0004 (0.16)	0.0005 (0.21)	0.0032** (2.45)	0.0031** (2.38)	0.0031** (2.38)
LAGROE	0.0002 (0.14)	0.0002 (0.12)	0.0004 (0.23)	-0.0008** (-2.17)	-0.0008** (-2.18)	-0.0008** (-2.15)
LAGLEV	-0.0047 (-1.05)	-0.0043 (-0.96)	-0.0044 (-0.98)	0.0010 (0.86)	0.0011 (0.88)	0.0010 (0.83)
LAGGROWTH	-0.0084 (-1.04)	-0.0073 (-0.91)	-0.0083 (-1.03)	-0.0127*** (-3.17)	-0.0124*** (-3.09)	-0.0121*** (-3.02)
LAGFIX	0.0631*** (5.12)	0.0587*** (4.78)	0.0583*** (4.73)	0.0430*** (6.11)	0.0422*** (6.00)	0.0418*** (5.94)
GDP	-0.0022 (-0.25)	0.0012 (-0.15)	0.0343 (1.99)	-0.0056 (-1.33)	-0.0048 (-1.22)	0.0062 (0.98)
YEAR	控制	控制	控制	控制	控制	控制
INDUS	控制	控制	控制	控制	控制	控制
Adj R-Sq	0.0497	0.0569	0.0550	0.0425	0.0432	0.0447
F	5.72***	6.44***	6.24***	10.62***	10.79***	11.15***
N	1036	1036	1036	2491	2491	2491

注：括号中为t值；*、**、***分别表示在0.1、0.05和0.01的显著性水平线显著。

盈余预测性指标的相关性由改革前的0.0183增加到了0.1125，并在1%的水平上通过了显著性检验；税收盈余质量指标由-0.0459转变为0.5007，并在1%的水平上通过了显著性检验。验证了本文假设2中关于盈余质量对短期信贷市场影响的分析。融资需求和其他控制变量的结果变化趋势与第一部分的实证检验结果一致。

表5 金融体制改革前后上市公司盈余质量对新增短期贷款的影响

变量符号	<i>DLS</i>					
	金融体制改革前			金融体制改革后		
	(1)	(2)	(3)	(1)	(2)	(3)
intercept	-0.9882 (-0.39)	-1.1641 (-0.46)	-1.1720 (-0.46)	-0.9246 (-1.19)	-1.1187 (-1.44)	-1.2112 (-1.55)
<i>EQ1</i>	0.2173*** (2.77)			0.3403*** (8.25)		
<i>EQ2</i>		0.0183 (0.49)			0.1125*** (5.98)	
<i>EQ3</i>			-0.0459 (-0.24)			0.5007*** (4.76)
<i>EXDEP</i>	0.0000 (-0.31)	-0.0001 (-0.35)	-0.0001 (-0.35)	0.0001 (0.98)	0.0001 (1.13)	0.0001 (1.10)
<i>LAGSIZE</i>	-0.0049 (-1.43)	-0.0023 (-0.65)	-0.0015 (-0.47)	0.0031* (1.67)	0.0030 (1.54)	0.0068*** (3.77)
<i>LAGROE</i>	0.0100*** (4.16)	0.0108*** (4.54)	0.0109*** (4.53)	0.0004 (0.76)	0.0004 (0.83)	0.0005 (1.06)
<i>LAGLEV</i>	-0.0161** (-2.28)	-0.0244*** (-3.48)	-0.0264*** (-4.27)	-0.0068*** (-4.00)	-0.0069*** (-3.96)	-0.0103*** (-6.29)
<i>LAGGROWTH</i>	0.0243** (2.22)	0.0256** (2.33)	0.0257** (2.34)	0.0121** (2.23)	0.0174*** (3.19)	0.0144*** (2.62)
<i>LAGFIX</i>	0.0183 (1.08)	0.0189 (1.12)	0.0187 (1.10)	0.0379*** (3.96)	0.0416*** (4.32)	0.0407*** (4.22)
<i>GDP</i>	0.1296 (0.44)	0.1437 (0.49)	0.1427 (0.48)	0.0952 (1.10)	0.1167 (1.33)	0.1184 (1.35)
<i>YEAR</i>	控制	控制	控制	控制	控制	控制
<i>INDUS</i>	控制	控制	控制	控制	控制	控制
Adj R-Sq	0.0627	0.0562	0.0560	0.0822	0.0709	0.0663
F	5.02***	4.57***	4.56***	13.27***	11.46***	10.72***
N	1036	1036	1036	2491	2491	2491

注：括号中为t值；*、**、***分别表示在0.1、0.05和0.01的显著性水平上显著。

表6列示了金融体制改革前后上市公司盈余质量对新增长长期贷款的影响。实证结果显示,控制了银行业腐败地区性差异后,金融体制改革之前,上市公司新增长长期贷款与盈余质量指标均为负相关关系;金融体制改革以后,新增长长期贷款与所有的盈余质量指标都呈现出显著负相关关系。验证了本文假设2关于盈余质量对长期信贷市场影响的分析。

融资需求和其他控制变量的结果变化趋势与第一部分的实证检验结果一致。

表6 金融体制改革前后上市公司盈余质量对新增长长期贷款的影响

变量符号	DLL					
	金融体制改革前			金融体制改革后		
	(1)	(2)	(3)	(1)	(2)	(3)
intercept	-1.0234 (-0.55)	-1.0265 (-0.55)	-0.9903 (-0.53)	0.3237 (0.57)	0.4045 (0.71)	0.4222 (0.74)
<i>EQ1</i>	-0.0117 (-0.20)			-0.1168*** (-3.83)		
<i>EQ2</i>		-0.0194 (-0.70)			-0.0236* (-1.70)	
<i>EQ3</i>			-0.2276 (-1.61)			-0.1649** (-2.14)
<i>EXDEP</i>	0.0002** (2.17)	0.0002** (2.18)	0.0002 (2.18)	0.0001 (1.36)	0.0001 (1.31)	0.0001 (1.30)
<i>LAGSIZE</i>	0.0005 (0.21)	0.0011 (0.42)	0.0007 (0.29)	0.0048*** (3.49)	0.0042*** (2.90)	0.0035*** (2.66)
<i>LAGROE</i>	0.0003 (0.18)	0.0003 (0.16)	0.0007 (0.38)	-0.0007* (-1.94)	-0.0007** (-2.03)	-0.0007** (-2.08)
<i>LAGLEV</i>	-0.0045 (-0.87)	-0.0058 (-1.13)	-0.0055 (-1.20)	-0.0003 (-0.24)	0.0002 (0.18)	0.0009 (0.77)
<i>LAGGROWTH</i>	-0.0083 (-1.03)	-0.0085 (-1.05)	-0.0076 (-0.95)	-0.0101** (-2.51)	-0.0118*** (-2.95)	-0.0109*** (-2.71)
<i>LAGFIX</i>	0.0575*** (4.61)	0.0572*** (4.59)	0.0577*** (4.64)	0.0421*** (5.95)	0.0409*** (5.77)	0.0411*** (5.81)
<i>GDP</i>	0.1173 (0.54)	0.1163 (0.54)	0.1129 (0.52)	-0.0470 (-0.73)	-0.0543 (-0.84)	-0.0549 (-0.85)
<i>YEAR</i>	控制	控制	控制	控制	控制	控制
<i>INDUS</i>	控制	控制	控制	控制	控制	控制
Adj R-Sq	0.0550	0.0554	0.0572	0.0486	0.0443	0.0449
F	4.49***	4.52***	4.64***	8.00***	7.35***	7.44***
N	1036	1036	1036	2491	2491	2491

注: 括号中为t值; *、**、***分别表示在0.1、0.05和0.01的显著性水平线显著。

六、敏感性分析

在上述检验的基础上，本文还做了以下相关的敏感性测试：

(一) 全国银行业腐败总指数(*BCI*)替代单项银行腐败指标考察金融体制改革前后银行业腐败对债务契约的影响。全国银行业腐败指数为4.17，其中华北(4.97)、西部(4.71)、华中(4.39)、华南(4.05)、东北(3.70)和华东(3.07)(谢平和陆磊, 2005)，实证检验结果与针对企业信贷的单项银行业腐败指数对上市公司新增贷款的影响结论保持一致。

(二) 以盈余持续性指标作为盈余质量指标对上述结论进行分析。本文采用模型(II)中的盈余自回归相关系数衡量盈余持续性，和模型(III)中的税收自回归相关系数衡量税收持续性，实证检验结果与盈余波动性指标影响趋势基本保持一致。

(三) 此外，以Tobin's *Q* 替代公司成长机会，以总资产收益率替代公司盈利能力，以销售收入的自然对数替代公司规模，对公司控制变量做相关的敏感性测试，实证检验结果对本文结论没有影响。

限于篇幅，本文没有汇报这些结果。

七、研究结论和局限

(一) 主要研究结论

制度变迁能够有效地降低金融市场的交易成本，但在强制性制度变迁的过程中，已有的经济体制无法在短期内作出彻底的调整，本文研究发现金融体制改革对银行在短期信贷市场上的风险控制能力有显著改善，在长期信贷市场上的风险控制能力的改善不太显著，债务期限作为风险控制能力的有效工具仍然没有得到很好的利用。

1. 金融体制改革前，银行业腐败是影响上市公司债务契约的重要因素，无论是短期信贷市场还是长期信贷市场都受到银行业腐败的显著影响；金融体制改革后，金融法治环境的变化和国有商业银行改革的交互作用抑制了银行业腐败对短期信贷市场的影响，但在长期信贷市场上没有显著改善，并且短期信贷市场对长期信贷市场替代作用加强。研究结果显示，金融体制改革显著抑制了银行业腐败在短期信贷市场上的影响，但在长期信贷市场的改善并不明显。

2. 金融体制改革加强了商业银行在短期信贷市场上的风险控制。金融体制改革前，由于银行业腐败在债务契约中的影响，盈余质量在短期信贷市场上的表现不稳定，不同盈余质量指标在短期信贷市场上没有一致的表现，但在长期信贷市场都呈现了负向影响；金融体制改革后，盈余质量在短期信贷市场呈现出了显著的正向影响，但在长期信贷市场上的负向影响显著恶化。说明金融体制改革强化了会计信息在债务契约中的应用，部分盈余质量较高的公司为规避租金选择短期贷款代替长期贷款。

(二) 研究局限和后续研究

在中国这样一个制度环境不断变迁的转型经济国家，研究债务契约的影响因素对金融市场上的资源配置有效性和资本市场资金使用效率都有非常重要的意义，尽

管作者在理论基础和研究方法上做了大量的工作,但受各种因素的影响,本文研究仍存在一些不可避免的不足,主要包括:

1. 指标计量局限。如何正确衡量企业的盈余质量是学术界的一大难题,也由此产生了一些公认简单而精妙的模型,但受各种不同因素的影响(例如会计政策选择、制度环境的变化),衡量盈余质量的标准也有所侧重;此外,不同的契约签订对盈余质量的要求也有所不同,经理人员薪酬契约对盈余质量的要求侧重于对可操控项目的控制,而基于价值观为基础签订的契约则要求将公司中与预测未来盈余不相关的因素全部扣除。至今,无法形成一个能够衡量盈余质量的完美模型,未来也不太可能会产生这样的模型。本文在对盈余质量文献研究的基础上,选择了其中反映信贷风险的代表性的三个盈余质量指标,可能会存在指标选择上的偏误,这也是我们后续研究需要完善的地方。

2. 样本局限。中国资本市场发展时间较短,而且这期间会计制度进行了几次很大的调整,给我们研究公司盈余质量指标带来了很大的限制,如果我们的研究能够有更长时间的数据计算盈余质量,可能结果会更加稳定。

3. 数据局限。本文采用的银行业腐败指数只有2005年当年的数据,虽然本文假设经济体制本身在制度变迁过程中会存在一定的自律性,腐败行为受到制度环境和腐败人员心理预期的影响,会有一定的惯性,但研究结论多多少少会受到数据限制的影响。

其次,本文研究的金融体制改革主要是针对国有独资商业银行而言,相应的银行贷款指标也应该是国有商业银行对企业的贷款,但一来贷款来源数据收集耗费成本巨大,二来中国国有独资商业银行总资产占了银行总资产的60%左右(李扬等,2005),根据Wind数据显示,其他股份制商业银行(除深发展)其实际控制人和控股股东也是政府和国有企业,而且制度性原因造成的腐败使得非国有独资商业银行也无法置身事外,只是腐败程度可能会有所差异,在中国这样的情况下,针对国有商业银行的改革无法不触动到其他非国有商业银行的信贷政策,所以本文并未按贷款来源计算上述指标,这可能也会使研究结论有偏差。

参考文献

- 安德鲁·斯通,布赖恩·利维、里卡多·帕雷德斯.2003.“公共制度与私人交易:对巴西和智利商业交易的法律与监管环境的比较分析”.见:道格拉斯·C·诺思等(著).2003.《制度变革的经验研究》.经济科学出版社.111-149。
- 陈显春、高踪啸.2003.“八家银行“封杀”讨债企业遭败诉——全国首例人民银行因金融债券管理工作涉诉案纠纷始末”.《法制与经济》第6期,4-7。
- 李扬等.2005.《中国金融法治2005》.中国金融出版社。
- 刘鹏.2008.《中国国有银行改革的制度选择》.中国人民大学博士学位论文。
- 金伯利·A·艾略特.1999.《国际政策中的反腐败问题:透视和建议》.见:金伯利·A·艾略特艾略特(主编).《腐败与全球经济》.北京出版社195-257。
- 青木昌彦、奥野正宽.2005.《经济体制的比较制度分析(修订版)》.中国发展出版社。
- 孙铮,刘凤委,李增泉.2005.“市场化程度、政府干预与企业债务期限结构——来自我国上市公司的经验证据”.《经济研究》第5期,52-63。

- 田利辉.2004.“杠杆治理、预算软约束和中国上市公司绩效”.《经济学季刊》第13期, 119-134。
- 田利辉.2005.“国有产权、预算软约束和中国上市公司杠杆治理”.《管理世界》第7期, 123-147。
- 王延明,李韬.2003.“不同地区上市公司所得税优惠的实证分析”.《税务研究》第4期, 53-57。
- 王延明.2004.《中国公司所得税负担研究——来自上市公司的经验证据》.上海财经大学博士学位论文。
- 吴敬琏.1999.《中国当代经济改革战略与实施》.上海远东出版社。
- 谢平,陆磊.2005.《中国金融腐败的经济学分析——体制、行为与机制设计》.中信出版社。
- 亚当·斯密.1776.《国富论》.商务印书馆(2006)。
- 中国人民银行金融稳定分析小组.2005.《中国金融稳定报告》.中国金融出版社。
- 张五常.1990.《关于新制度经济学》.见:科斯等(著).1999.《契约经济学》.经济科学出版社.61-83。
- 周国良.2008.《会计盈余质量与公司债务融资成本》.上海财经大学博士学位论文。
- 朱凯和陈信元.2007.“银行腐败和资本结构决策”.《金融研究》第1期,28-40。
- Ali, A. and Zarowin, P. (1992), ‘The role of earnings levels in annual earnings-returns studies’, *Journal of Accounting Research* 30 (2): 286-296.
- Allen, F., Qian, J., and Qian, M. J. (2005a), ‘Law, Finance, and Economic Growth in China’, *Journal of Financial Economics* 77 (1): 57-116.
- Altman, E. I. (1968), ‘Financial ratios, discriminate analysis and the prediction of corporate bankruptcy’, *The Journal of Finance* 23 (4): 589-609.
- Bae, K. H. and Goyal, V. K. (2004), ‘Property Rights Protection and Bank Loan Pricing’, Working Paper, Korea University and Hong Kong University of Science and Technology.
- Baumol, W. J. (1990), ‘Entrepreneurship: Productive, Unproductive, and Destructive’, *Journal of Political Economy* 90 (5): 988-1002.
- Berglöf, E. and Roland, G. (1997), ‘Soft Budget Constraints and Credit Crunches in Financial Transition’, *European Economic Review* 41 (3-5): 807-817.
- Bhagwati, J. N. (1982), ‘Directly Unproductive, Profit-Seeking (DUP) Activities’, *The Journal of Political Economy* 90 (5): 988-1002.
- Bharath, S. T., Sunder, J., and Sunder, S. V. (2008), ‘Accounting Quality and Debt Contracting’, *The Accounting Review* 83 (1): 1-28.
- Bliss, C. and Di Tella, R. (1997), ‘Does Competition Kill Corruption?’, *The Journal of Political Economy* 105 (5): 1001-1023.
- Calomiris, C. W. and Kahn, C. M. (1991), ‘The role of demandable debt in structuring optimal banking arrangements’, *American Economic Review* 81 (3): 497-513.
- DeAngelo, L. (1986), ‘Accounting Numbers as Market Valuation Substitutes: A Study of Management Buyouts of Public Stockholders’, *The Accounting Review* 61 (3): 400-420.

- Dechow, P. and I. Dichev.(2002), 'The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors', *The Accounting Review* 77 (supplement): 35-59.
- Dechow, P., Sloan, R., and Sweeney, A. (1996), 'Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC', *Contemporary Accounting Research* 13 (1): 1-36.
- Dewatripont, M. and Maskin, E. (1995), 'Credit and Efficiency in Centralized and Decentralized Economies', *Review of Economic Studies* 62 (4): 541-555.
- Diamond, D. W. (1991a), 'Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt', *Journal of Political Economy* 99 (4): 689-721.
- Diamond, D. W. (1991b), 'Debt maturity structure and liquidity risk', *The Quarterly Journal of Economics* 106 (3): 709-738.
- Diamond, D. W. (2004), 'Presidential Address, Committing to Commit: Short-term Debt When Enforcement Is Costly', *The Journal of Finance* 59 (4): 1447-1480.
- Dichev, I. D. and Skinner, D. J. (2002), 'Large-sample evidence on the debt covenant hypothesis', *Journal of Accounting Research* 40 (4): 1091-1123.
- Fan, J. P. H., Rui, O. M., and Zhao, M. (2006), 'Rent Seeking and Corporate Finance: Evidence from Corruption Cases', Working Paper, The Chinese University of Hong Kong.
- Flannery, M. J. (1986), 'Asymmetric information and risky debt maturity choice', *The Journal of Finance* 41 (1): 19-37.
- Francis, J., Khurana, I. K., and Pereira, R. (2005), 'Disclosure Incentives and Effects on Cost of Capital around the World', *The Accounting Review* 80 (4): 1125-1162.
- Francis, J., LaFond, R., Olsson, P., and Schipper, K. (2002), 'The market pricing of earnings quality', Working Paper, Duke University, University of Wisconsin, and the FASB.
- Francis, J., LaFond, R., Olsson, P., and Schipper, K. (2003), 'Earnings quality and the pricing effects of earnings patterns', Working Paper, Duke University, University of Wisconsin, and the FASB.
- Gao, S. and Schaffer, M. E. (1998), 'Financial Discipline in the Enterprise Sector in Transition Countries: How Does China Compare?', Center for Economic Reform and Transition Discussion Paper: 98/1, Heriott-Watt University, Edinburgh.
- González, V. and González, F. (2008), 'Influence of Bank Concentration and Institutions on Capital Structure: New International Evidence', *Journal of Corporate Finance* 14 (4): 363-375.
- Grossman, S. and Hart, O. (1986), 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration', *Journal of Political Economy* 94 (4): 691-719.
- Gupta, S. and Newberry, K. (1997), 'Determinants of the Variability in Corporate Effective Tax Rates: Evidence from Longitudinal Data', *Journal of Accounting and Public Policy* 16(1): 1-34.

- Healy, P. (1985), 'The Effect of Bonus Schemes on Accounting Decisions', *Journal of Accounting and Economics* 7 (1-3): 85-107.
- Hellwig, M. (1977), 'A Model of Borrowing and Lending with Bankruptcy', *Econometrica* 45 (8): 1879-1906.
- Hribar, P. and Collins, D. W. (2002), 'Errors in estimating accruals: implications for empirical research', *Journal of Accounting Research* 40 (1): 105-134.
- Jones, J. (1991), 'Earnings management during import relief investigations', *Journal of Accounting Research* 29 (2): 193-228.
- Klein, B. (1980), 'Borderlines of Law and Economic Theory: Transaction Cost Determinants of Unfair Contractual Arrangements', *American Economic Review* 70 (2) Papers and Proceedings (May, 1980): 356-362.
- Kornai, J. (1979), 'Resource-constrained versus Demand-constrained Systems', *Econometrica* 47 (4): 801-819.
- Krueger, A. O. (1974), 'The Political Economy of the Rent-Seeking Society', *American Economic Review* 64 (3): 291-303.
- Leland, H. E. and Toft, K. B. (1996), 'Optimal Capital Structure, Endogenous Bankruptcy, and The Term Structure of Credit Spreads', *Journal of Finance* 51 (3): 987-1019.
- Lev, B. (1983), 'Some economic determinants of the time-series properties of earnings', *Journal of Accounting and Economics* 5 (1): 31-48.
- Lindgren, C., Garcia, G., and Saal, M. (1996), *Bank Soundness and Macroeconomic Policy*, Washington, D.C.: International Monetary Fund.
- McNichols, M. (2002), 'Discussion of the quality of accruals and earnings: The role of accrual estimation errors', *The Accounting Review* 77 (Supplement): 61-69.
- Mitchell, J. (1993), 'Creditor passivity and bankruptcy: Implications for Economic Reform', in Mayer, C. and Vives, X. (eds), *Capital Markets and Financial Intermediation*, Cambridge, UK: Cambridge University Press, 197-227.
- Ohlson, J. A. (1980), 'Financial Ratios and the Probabilistic Prediction of Bankruptcy', *Journal of Accounting Research* 18 (1): 109-131.
- Podpiera, R. (2006), 'Progress in China's Banking Sector Reform: Has Bank Behavior Changed?', IMF Research Working Paper.
- Qian, J. and Strahan, P. E. (2007), 'How Law and Institutions Shape Financial Contracts: the Case of Bank Loans', *Journal of Finance* 62 (6): 2803-2834.
- Qian, Y. (1994), 'A Theory of Shortage in Socialist Economies Based on the Soft Budget Constraint', *American Economic Review* 84 (1): 145-156.
- Rajan, R. (1992), 'Insiders and Outsiders: The Choice between Informed and Arm's-length Debt', *Journal of Finance* 47 (4): 1367-1400.
- Rajan, R. and Zingales, L. (1998), 'Financial Dependence and Growth', *American Economic Review* 88 (3): 559-586.

- Schmidt, A. (2006), 'The Persistence, Forecasting, and Valuation Implications of The Tax Change Component of Earnings', *The Accounting Review* 81 (2): 589-616.
- Scholes, M., Wolfson, M., Erickson, M., Maydew, E., and Shevlin, T. (2002) *Taxes and Business Strategy: A Planning Approach*, 2nd edition. Upper Saddle River, NJ: Prentice Hall.
- Shumway, T. (2001), 'Forecasting Bankruptcy More Accurately: A Simple Hazard Model', *Journal of Business* 74 (1): 101-124.
- Simon, H. A. (1995), 'A Behavioral Model of Rational Choice', *The Quarterly Journal of Economic* 69 (1): 99-118.
- Stiglitz, J. E. and Weiss, A. (1981), 'Credit rationing in markets with imperfect information', *American Economic Review* 71 (3): 393-410.
- Sudipto, B. and Gabriella, C. (1995), 'Proprietary Information, Financial Intermediation, and Research Incentives', *Journal of Financial Intermediation* 4 (4): 328-357.
- Sweeney, A. P. (1994), 'Debt Covenant Violations and Managers' Accounting Responses', *Journal of Accounting and Economics* 17 (3): 281-308.
- Zmijewski, M. E. (1984), 'Methodological Issues Related to The Estimation of Financial Distress Prediction Models', *Journal of Accounting Research* 22 (supplement): 59-82.

Institutional Changes, Earnings Quality, and Debt Contracts – Empirical Evidence from the Chinese Banking System Reform¹

Yunkui Xue² and Xiuli Zhu³

Abstract

Diamond (2004) suggests that debt maturity is very important for borrowers subjected to high costs of intervention who are thereby forced to use short-term debt. Both debt size and the maturity of specific firms are important for measuring the efficiency of credit resource allocation, which is influenced by both the macroeconomic system and microeconomic factors. This study focuses on the financial system reform promoted at the end of 2003 by the Chinese government to investigate the behavioural changes in parties participating in debt contracts before and after the reform. We use new short-term and long-term loans to study debt contracts, the bank corruption index (Xie and Lu, 2005) to measure the autonomy of an institution, and earnings quality to measure borrowers' credit risk. We find the following. First, before the financial system reform, both the short-term and long-term credit markets are subject to corrupt influence, but after the reform, this influence is alleviated in the short-term market but not improved in the long-term market. And second, once regional differences in corruption are controlled for, the performance of earnings quality before the reform is mixed in the short-term credit market but negative in the long-term market; after the reform, performance in the short-term market becomes significantly positive but is not improved in the long-term market. Owing to the influence of the institutional environment and banking corruption, debt

¹ This paper has been benefited greatly from the comments and suggestions of Dr. Donghui Wu, Executive Editor, and the two anonymous referees. We are thankful to our discussant Professor Donghua Chen from Nanjing University for his comments and suggestions at the China Accounting and Finance Review International Symposium 2009. We also thank Professor Wenhao Chen, Shuming Yuan, Ming Zhang, and Renji Zhang from Shanghai University of Finance and Economics for their suggestions, and Dr. Youwen Qian from Shanghai University of Finance and Economics for his suggestions as well. Of course, all remaining errors are ours. This paper is supported by the National Natural Science Foundation, China, under the project "The Influence of Government Governance on Performance of State-Owned Enterprise Performance" (Grant No. 70602026).

² Yunkui Xue, Professor, Associate Dean, Cheung Kong Graduate School of Business. E-mail: ykxue@ckgsb.edu.cn.

³ Xiuli Zhu, PhD, School of Accountancy, Nanjing University of Finance and Economics. E-mail: xlzhuzhu@163.com.

maturity is limited to playing a role as a form of risk management, while the financial system reform has improved mainly resource allocation efficiency in the short-term credit market. Thus, a mandatory change in the system has not been able to achieve the desired results in the short term.

Keywords: Institutional Changes, Earnings Quality, Debt Contract, Short-Term Credit Market, Long-Term Credit Market

CLC codes: F121.1, F123.16, F832.1

I. Introduction

Traditional research analyses of the determinants of credit risk have focused on microeconomic characteristics that are related mainly to a borrower's financial ratio and the lender's risk assessment and controlling capability. But debt covenants are often violated by the opportunistic behaviour of firm managers (Sweeney, 1994; Dichev and Skinner, 2002) and unlimited expansion of vanity (Adam Smith, 1776). In poor contracting environments, managers are more vulnerable to the latter situation.

If institutional malfunction restricts competition and distorts investment or sale, the enterprise will pay more attention to seeking rent, and transaction costs will increase. If financial regulation lacks transparency, the inconsistency between the legal and administrative systems may increase bureaucratic discretion to induce government officials to seek opportunistic lease (Stone, 2003). According to the Game Theory of Evolution, institutional change is in essence the process of coordinating interests among economic subjects. Because the individuals within the framework of a system are apt to maintain the existing system, the economic system may remain autonomous during a continual reform period (Aoki and Okuno, 2005).

During the current transitional period in China, the government has supported state-owned enterprises through state-owned commercial banks, leading to dual soft budget constraints. Before the financial system reform at the end of 2003, the soft budget constraints replaced credit guarantees that the losses of a commercial bank would be reduced to some extent,⁴ but the willingness and capability of creditors in supervision have also been weakened. Comparison with the benefits and costs of corruption worsens a bank's rent-seeking behaviour and undermines its risk-controlling system. The fragile banking system becomes more fragile, which leads to mis-distribution of financial resources. The influence of interaction between soft budget constraints and banking corruption has thus stopped the process of establishing competitive commercial banks.

⁴ The execution cost for claiming for default loans and liquidation is expensive, the enforcement rate of default debt contracts is low, and most commercial banks win lawsuits but without any compensation. Although the win rate is above 95 per cent, the execution rate is only around 15 per cent (Zhenghua Jiang, 2002, Speech on the First Enterprise Credit Forum of China jointly organised by the former Center for Economic Research of the State Economic and Trade Commission and the Supervision and Management of the Market Economy Research Center of State Administration for the Industry and Commerce of China).

To promote the competition of domestic banks, the Chinese government implemented an all-round reform in the financial market at the end of 2003, including capital injections and introduction of strategic investors. This paper empirically analyses the influence of institutional changes on the economic system by studying the behaviour of economic subjects during the process of institutional change. We focus on the financial system reform promoted by the Chinese government at the end of 2003 to investigate behavioural changes in parties participating in debt contracts before and after the reform. The paper emphasises two issues. First, we investigate the influence of banking corruption on debt contracts before and after the financial reform, including whether such corruption is effectively restrained under the pressure of legal institutional changes and the improvement of commercial banks, as well as how the reform works. And second, we investigate the influence of the earnings quality of listed companies on debt contracts both before and after the reform, including whether improving the financial and legal environment helps to improve a bank's ability to control risk, whether commercial banks take seriously the earnings quality of listed companies with respect to credit risk control, and whether companies have observed the changes in the credit environment and made corresponding adjustments in financing policy.

II. Related Literature and Theory Analysis

The impact of institutional environment on debt contracts is embodied by firm-level characteristics, while the impact of firm-level characteristics on debt contracts is constrained by the institutional environment. Prior papers related to debt contracting focus on institutional environment and firm-level characteristics, as follows.

1. The Impact of Firm-level Characteristics on Debt Contracts

Traditional research analyses on credit risk focus on information asymmetry and default risk transfers and indicate that banks can assess credit risk through a borrower's financial indicators (Altman, 1968; Zmijewski, 1984; Ohlson, 1980; Shumway, 2001). Some random, temporary economic attributes are identified as important to associate with business risk. Francis *et al.* (2003) examine the relation between the cost of equity capital and seven attributes of earnings (including four accounting-based and three market-based attributes) and find that firms with the most favourable values of each attribute individually, or sometimes in pairs, capture the beneficial features of earnings, but none of these attributes are absolutely dominant. The largest cost of capital effects are found from the accounting-based attributes. Francis *et al.* (2005) indicate that a material portion of total accruals quality reflects economic fundamentals, and investors accord greater weight to accruals that reflect intrinsic features in determining the costs of capital. Chow (2008) suggests that despite the differences in the property rights system and legal environment and in government intervention between China and Western

countries, earnings quality has a significantly negative influence on the capital costs of Chinese listed companies.

The impact of the quality of accounting information on debt contracting arrangements differs with respect to lenders' access to information. Diamond (1991b) suggests that banks have superior information-processing abilities and access to private information that are used both for designing the terms of the contract and for monitoring the loan *ex post*. Firms are relatively more willing to share their proprietary information with a small group of lenders than with dispersed bondholders (Bhattacharya and Chisel, 1995). This superior access to information could reduce the adverse selection costs faced by borrowers with poor accounting quality and consequently affect the choice of lending market for them. As compensation, the firm that has poorer quality accounting information extracts higher rents (Rajang, 1992). Bharath *et al.* (2008) find that private debt contracts are easier to re-negotiate relative to public debt, and consequently banks have greater recontracting flexibility that results in more customised contracts, varying in both price and non-price terms in response to the borrower's accounting quality.

2. The Impact of Institutional Environment on Debt Contracts

Institutional conditions are also important in explaining firm behaviour. The empirical literature reveals that corporate debt-contracting decisions are closely related to a country's tax system, legal system, corruption levels, and transparency of information. Under a legal system with effective contract enforcement, lenders have the right to claim compensation from borrowers, but individual bounded rationality,⁵ the complexity of the external environment, uncertainty,⁶ and asymmetric and incomplete information (Grossman and Hart, 1986) lead to incomplete contracts and higher contract costs (Klein, 1980). If the contractual parties themselves cannot commit to effective implementation (Hellwig, 1977; Stiglitz and Weiss, 1981), the incentive mechanism separating benefit and risk will be ineffective.

Under a legal system with expensive or ineffective contract enforcement, it is difficult to induce lenders to enforce debt contracts (Kornai, 1979; Mitchell, 1993; Dewatripont and Maskin, 1995). In an economy with large enforcement costs, lenders may be worse off if they enforce their contracts *ex post* (Diamond, 2004). Lender passivity is thus inevitable, but short-term debt can be an effective solution to this problem. Reliance on the role of debt maturity allows lenders to intervene rapidly to stop the contract or reduce loans (Diamond, 1991, 2004); thus, more companies choose short-term debt contracts to send the signal of good financial condition (Flannery,

⁵ Simon (1995) suggests that if the object we choose is not a finite set, we can imagine various proposals, or we may assume uncertainty in the probability distribution of the results, and the estimated model of which would be introduced into the analysis, or we may find an uncertainty strategy. This means that individual rationality is bounded, and one cannot fully expect uncertainty in the external environment, which would lead to an incomplete contract.

⁶ Uncertainty means that a great number of accidents or possibilities exist, and the cost of understanding and specifying responses in advance is expensive (Klein, 1980).

1986; Diamond, 1991b). Empirical results also show that strong creditor protection is associated with ownership, longer-term lending, and lower interest rates, and that this depends on the firm-level characteristics of borrowers; under weak creditor protection, banks will fine-tune debt contracts on non-price dimensions (Ian and Strachan, 2007). In transitional economies, the degree of market development is highly correlated with the debt maturity structure, while the government provides implicit assurance for credit loans in less developed markets (Sun *et al.*, 2005). Ownership and political relations also reduce lenders' reliance on firm characteristics (Chow, 2008).

In fact, problems of moral hazard, corruption, and waste exist in the commercial bank system, triggering financial crises.⁷ Bliss and Tell (1997) suggest that corruption participants prefer high-quality corporations to obtain the largest benefits, which leads to market efficiency. But Xian and Lu (2005) argue that if the financial institution itself is the corrupt party, it will be inclined to collude with borrowers who lack the ability to repay loans, because it will provide more rent through partitioning the principal with lenders. In emerging markets, corruption is not only detrimental to equity and the efficiency of economic activities, but is also a hazard to the transition to a free market economy; it also distorts the public's view of a normal market economy (Elliott, 1999).

Owing to the autonomy of an economic body, it is difficult to reform an existing system successfully (Aoki and Keno, 2005). Thus we ask, can the compulsory financial system reform led by the government constrain banking corruption? How do the contract parties adjust the allocation of benefits? And how does this allocation of benefits then affect allocation of resources?

III. Institutional Background and Hypotheses

1. Chinese Banking System Reform

China's credit market is a unit banking system born out of a planned economic system based on the former Soviet model.⁸ In accordance with capital market reform, the following have been established within China's financial market: a secondary tier of the banking system (1979-1983), enterprise management of special banks (1984-1994), commercial reform of banks (1995-1997), and vertical management reform of the banking system (1998-2003). To cope with the financial crisis, the Chinese government stripped off 1.4 trillion renminbi of assets (including 98 million renminbi of bad assets) from four state-owned commercial banks, and issued targeted treasury notes of 270 billion renminbi to recapitalize these banks. This reform, however, did not meet expectations as a whole (Liu, 2008), and to a certain extent even strengthened the expectation of state-owned commercial banks for soft budget constraints.

⁷ The banks of over 130 members of the International Monetary Fund were in trouble from 1980 to 1996 (Lindgren *et al.*, 1996).

⁸ Before the 1978 opening reform, banks under the planned economic system were simply state cashiers and hardly bore any functions of resource allocation (Wu, 1999).

As the deadline for China's financial market opening to foreign banks under the World Trade Organisation (WTO) agreement approached,⁹ the Chinese government began a new round of financial reform at the end of 2003 to improve the competitiveness of those state-owned commercial banks that were at the edge of "technical bankruptcy" (Xie and Lu, 2005), including the following:

1. Capital injection and financial restructuring. At the end of 2003 and the beginning of 2004, Bank of China and China Construction Bank were injected with foreign reserves of 22.5 billion and 45 billion US dollars, respectively, and they sold doubtful bad assets of 278.7 billion renminbi to Xinda Assets Management Company. In April 2005, Central Huijin Investment injected 15 billion US dollars into China Industrial and Commercial Bank. By 2005, the proportion of non-performing loans of the three commercial banks had fallen to below 5 per cent, and their capital adequacy ratio had reached 8 per cent or above, as required by the Basel New Capital Accord (Basel II) of 2006.
2. Corporate governance system improvement. In accordance with the *Guidance on the Corporate Management of Joint-Stock Commercial Banks* released by the People's Bank of China in June 2002, the *Guidance on the Corporation Governance Reform and Supervision of Bank of China and China Construction Bank* released by the China Banking Regulatory Commission in 2004, and the *Guidance on the Corporation Governance Reform and Supervision of Stated-Owned Commercial Banks* released in April 2006, these three banks set up a corporate governance structure and introduced international investment banks as strategic investors to optimise the shareholding structure.
3. Completion of listing. After a series of capital injections, financial restructuring, and issuance of new shares, China Construction Bank was listed in the Hong Kong Stock Exchange on 27 October 2005; Bank of China was listed in the same exchange on 1 June 2006 and in the Shanghai Stock Exchange on 5 July the same year; and China Industrial and Commercial Bank was listed in both exchanges on 27 October 2006 concurrently.
4. Financial legal system construction. To ensure a smooth financial system reform, the sixth meeting of the Standing Committee of the National People's Congress promulgated the Law of the People's Republic of China on the People's Bank of China (Revised), the Law of the People's Republic of China on Commercial Banks (Revised), and the Banking Supervision Law of the People's Republic of China;

⁹ At the end of 2001, China entered the WTO and promised overall liberalisation of its financial market by December 2006. The opening steps were as follows: allow foreign banks to handle foreign currency business in the year China joins the WTO; allow foreign banks to handle domestic currency deposits of Chinese enterprises within two years; allow foreign banks to handle domestic currency deposits of urban and rural residents without district restriction in five years; and add four cities per year to opening domestic currency business for foreign banks.

all three laws were executed in early 2004. The People's Bank of China and the China Banking Regulatory Commission individually or jointly issued nearly 60 regulations and norms in 2004.

Central Huijin Investment injected 19 billion US dollars into the Agricultural Bank of China on 6 November 2008, and the Agricultural Bank of China Co. Ltd. was established on 16 January 2009 and was to be listed on 15 July 2010 according to the prospectus of 17 June 2010. The state-owned bank reform thus entered the final stage.

2. Hypotheses

Owing to the unpredictability risk of investment projects and the opportunistic behaviour of borrowers, it is difficult for lenders to stop lending whenever there is sufficiently bad news. Reliance on short-term debt, however, allows lenders to intervene rapidly to stop a "crime in progress" and helps them *ex post* (Diamond, 2004). Without taking corruption into account, in countries with high costs or weak creditor rights, debt maturity should be effective in eliminating lender passivity and help lenders to control risk (Diamond, 2004).

In the Chinese transitional economy, the long-term policy burden on state-owned enterprises hinders them from transforming into competitive producers and operators with independent management. The mixed property rights between state-owned commercial banks and state-owned listed companies induce some state-owned companies to regard credit loans from state-owned commercial banks as "free capital". Once they obtain these loans, diversion and embezzlement of funds are inevitable; they also misuse restructuring, bankruptcy, mergers, and the opening of various accounts to default on their obligations. The weak legal system adds cost to lenders' claims (Chen and Gao, 2003),¹⁰ and so borrowers usually take short-term loans as long-term loans, and long-term loans as permanent use of capital. Under these circumstances, the cost of risk management increases for commercial banks; lenders will passively roll over their claims, leading to the collusion of banks and corporations and ultimately to banking corruption. China's banking corruption thus has a significant impact on debt design (Fan *et al.*, 2006) and aggravates inefficient financial resource distribution and bank manager misbehaviour (Tian, 2004, 2005; Xie and Lu, 2005; Zhu and Chen, 2007).

The 2003 financial system reform was essentially a political decision. The mandatory institutional changes have been in essence a process of adjustments in interests. In such a situation, banking officials whose interests are damaged will take corresponding measures, which is in line with the assumption of individual interest

¹⁰ So far, the regulation focusing on default firms has been the *Notice on Strengthening the Financial Creditor's Rights Management in Small- and Medium-Sized State-Owned Enterprises and Enterprises under the Collective Reform*, which provides that commercial banks have power of punishment but no identification right to default firms. The identification right goes to the People's Bank of China.

maximisation.¹¹ Taking into account the impact of corruption, Kruger (1974) and Bhagwati (1982) suggest that the rent-seeking behaviour of banks is affected by obstacles to access, which induces economic subjects to pay higher rent. The level of cost reduction is limited by the autonomy of the economic system, and transaction costs will be reduced firstly in less beneficial markets, such as the short-term credit market. The longer the debt contract, the more difficult it is for lenders to control risk, and the higher the tendency towards opportunistic options. Under this circumstance, the government will help state-owned companies obtain long-term loans,¹² and debt maturity is more likely to be misused for seeking rent in an imperfect legal environment with higher transaction costs. On the other hand, frequent applications for loans increase the burden of enterprises that are unwilling to abide by the contract (Zhu and Chen, 2007), and so they prefer to spend more in rent for long-term loans. Since commercial banks are still controlled absolutely by the government, their expectations towards soft budget constraints cannot be eliminated. The penalties against corruption are unable to restrain corrupt officials effectively at this stage,¹³ and it is difficult to rely on their “self-discipline”. The risk management tools will therefore easily be turned into rent-seeking means, such as debt maturity. This is summarised as Hypothesis 1.

H1a: Before the financial system reform, banking corruption will have a significant influence on both short-term and long-term debt contracts;

H1b: After the financial system reform, the influence of banking corruption will be alleviated for short-term debt contracts but will worsen for long-term debt contracts.

Most listed companies prefer loans based on “covenant-lite”¹⁴ terms and the national policy orientation, leading to their reliance on financing from banks. Borrowers with poor accounting quality, on the other hand, prefer bank loans based on government

¹¹ The maximisation of individual interest is beneficial to society, but stealing, cheating, lying, laziness, and breaking promises is also maximisation behaviour; in such a case, other transaction costs will be much higher, leading to economic collapse (Cheung, 1990).

¹² The evidence is provided in the following section.

¹³ Jiangbin He, 2007: “Financial corruption spreads, China Banking Regulatory Commission firmly eliminates potential rules”, available at: <<http://www.jrj.com>>.

¹⁴ *The Managing Measures on Public Offering Shares* (2001) provides the following: the requirements for share allotments are “examined by a certified public accountant, the weighted average ROE must be no less than 6% in the most recent 3 years; the lower of net income earnings after deduction of extraordinary items and before deduction of extraordinary items must be chosen; if the history of the enterprise is less than 3 years, the fiscal year on establishment is adopted”. The requirements for seasoned equity offerings are “examined by a certified public accountant, the weighted average ROE must be no less than 10% in the most recent 3 years; the predicted weighted average ROE of the issuing year must be no less than 10%; the average ROE of energy, raw materials, and infrastructure construction firms must be no less than 7%”. The requirements for issuing convertible bonds are that “the enterprise must be profitable continuously for 3 years, and the average ROE must be higher than 10%”. The *Regulations for Securities Issuance of Listed Companies* (2006) abolished the hard rules on earnings for new share allotments, while lowering the thresholds for seasoned equity offerings and the issuance of convertible bonds.

intervention and the possibility of negotiation on terms of credit contracts, resulting in a large number of “relationship loans” or “corruption-related loans”, and eventually producing large numbers of non-performing loans in which the losses are borne by the government. Scholars conclude that the quality of accounting information of Chinese listed companies cannot be taken as a valid risk control indicator. Richard (2006) analyses credit growth, credit price, and credit models between districts from 1997 to 2004 and finds no difference in interest pricing, while the credit size of state-owned commercial banks is reduced; also, banks do not seem to take profitability into consideration when approving loans. Tian (2005) shows that commercial banks have failed to establish loan supervision *ex post* since the market-oriented reform.

Considering the cost of debt contract design, we investigate whether the financial system reform has improved banks’ risk control capacity *ex post*. If the reform has at least alleviated banking corruption in a specific field, following the “flight to quality” theory (Gertler and Gilchrist, 1996), then borrowers facing high agency costs should receive a relatively lower share of credit extended at the onset of a recession. At the same time, the relation between state-owned commercial banks and borrowing corporations will undergo subtle changes. Companies with good accounting quality will turn to fields in which banking corruption has been alleviated, while companies with poor quality will remain in corrupted fields to seek financing opportunities, meaning they will pay higher rents. From this perspective, accounting quality is the indicator used to measure not only credit risk, but also banking corruption indirectly.

Considering banking corruption, the role of earnings quality in credit markets before the financial system reform needs to be proved; after the financial reform, assuming that banking corruption has been alleviated in the short-term credit markets, rent-seeking behaviour will concentrate in the long-term credit market; earnings quality will thus be positive in the short-term credit market and more negative in the long-term credit market. This is summarised as Hypothesis 2.

H2a: Before the financial system reform, earnings quality will have negligible influence on new short-term and long-term loans;

H2b: After the financial system reform, the listed companies with higher earnings quality will prefer short-term loans to long-term loans.

IV. Sample, Variables, and Descriptive Analysis

1. Sample

Our data cover all listed companies with bank loans from 1998 to 2006. We obtain the sample of bank loans and other annual data from the China Stock Market and Accounting Research (CSMAR) and Wind databases, and we collect the companies' statutory tax rate manually. We exclude all loans issued by utilities and financial institutions, and we winsorise major variables at the 1 per cent and 99 per cent levels. We cover data from 1998 to 2006 for the following reasons:

1. We calculate earnings quality using the method of direct cash flow statement; because accurate accrual data in the statement of cash flows are available since 1998, we begin our study with that year; and,
2. A stable systematic accounting policy is needed to measure a firm's earnings quality. Before 1998, Chinese listed companies prepared financial reports based mainly on the *Enterprise Accounting Standards* and the *Accounting System for Pilot Enterprises Adopting the Shareholding System*, during which period the information disclosure of listed companies was not standardised and lacked transparency; in particular, related transactions occurred frequently. On 27 January 1998, China's Ministry of Finance (MOF) issued the No. 7 accounting document – *Accounting System of Limited liability Companies-Account Title and Financial Statement* – and released 10 specific guidelines.¹⁵ The latest accounting standards took effect on 1 January 2007. We thus select the period from 1998 to 2006 to reduce the noise of earnings quality.

We investigate the impact of the financial reform on the behaviour of debt-contracting parties. Restricted by the measurement of earnings quality, the sub-period of our study is between 2002 and 2006, and is divided by 2004¹⁶ into two stages: the period between 2002 and 2003 represents the period before the reform, whilst that between 2004 and 2006 is the period after the reform.

2. Variables Measurement

(i) Bank Corruption Index

We adopt the bank corruption index developed by Xie and Lu (2005) as the measurement for banking corruption,¹⁷ which they based on five categories of 6000 (3561

¹⁵ Including “Standards for Cash Circulation Forms”, “Events Occurring after the Balance Sheet Date”, “Debt Restructuring Standards”, “Revenue Standards”, “Investment Standards”, “Standards for Constructing Contracts”, “Accounting Policy Change, Accounting Estimate Change, and Accounting Error Correction Standards”, “Standards for Interim Financial Reporting”, “Inventory Standards”, and “Fixed Asset Standards”.

¹⁶ Strictly speaking, the reform of state-owned commercial banks began at the end of 2003, and the overall reform, including the financial legal system reform, was implemented at the beginning of 2004; because of the lag effect of financial reform, we use 2004 as the dividing point in the following research.

¹⁷ Prior literature focuses on financial corruption, but Xie and Lu (2005) sub-divide this corruption into securities corruption and banking corruption.

valid) questionnaires surveyed among banking regulators, bank institutions, enterprises, farmers, and commercial households in 29 cities (including six provincial capitals and other planned independent cities). The questionnaire covered 10 subjective and objective indicators where interviewees were asked “whether banking regulators intervene in the financial institutions lending loans”, “whether the responsible person is penalised during the stripping off of non-performing loans”, and “whether banking supervisory authorities are flexible in punishing financial institutions”. After collecting the data from the survey, the authors weighed the classifications to obtain the bank corruption index;¹⁸ the higher the corruption index, the higher the degree of corruption. As the institutional environment changes, the index of quantitative measures should change accordingly; however, because the index is compiled according to individual districts, the order of the index will not change within a relative period, and therefore the effects on our research results should be negligible.

We select three indicators that are related to business loans from the corruption index: additional fees required for credit achievement (*BENEFIT*), additional fees required for credit application (*APPLY*), and relationship maintenance fees for credit (*RELATION*) as measures of the autonomy of the system during the institutional changes. Table 1 shows the regional bank corruption index data. The benefit indices of Western and Northern China are the highest, followed by Central, Eastern, and Southern China, while North-Eastern China is the lowest. As for *APPLY*, the highest is Northern China, followed by North-Eastern China, Western China, Central China, and Southern China, while Eastern China is the lowest. The relationship maintenance index is the highest in Western China, followed by Central China, Northern China, North-Eastern China, Southern China, and Eastern China. The marked regional differences not only show that diversity in financial development and legal environment leads to cost variances in debt contracts, but also highlight the differences in public psychological ability and demand for anti-corruption.

(ii) Earnings Quality

We organise our discussion of this research around three earnings attributes, namely main operating profit, net income, and accounting profit. We modify the model of Dechow and Dichev (2002) (hereinafter “the DD model”) to capture the quality attribute of main operating profit. We also use earnings predictability, following Lev (1983) and Ali and Zarowin (1992), to capture the prediction of net income, and tax predictability,

¹⁸ Please refer to the appendix of Xie and Lu (2005, 197) for the calculation of weight.

following Schmidt (2006), to capture the difference between taxable profit and accounting profit. All three variables measure the temporary variability in composition of earnings.

Table 1 Bank Corruption Index

District	<i>BENEFIT</i>	<i>APPLY</i>	<i>RELATION</i>
Northern China	5.2203	6.3003	5.1934
North-Eastern China	3.7887	5.2291	4.1589
Central China	4.2937	3.2852	6.0942
Eastern China	4.1620	1.4654	3.3933
Southern China	4.2295	2.5167	4.0256
Western China	5.2347	4.4897	6.2835

Source: Xie and Lu (2005), "Economic Analysis of China's Financial Corruption: System, Behaviour, and Mechanism Design".

We measure the three attributes on firm-and year-specific bases, using relevant accounting information for rolling five-year windows between 1998 and 2006. The three complementary measures help us compensate for the disadvantage of a shorter time series. In addition, although the China Securities Regulatory Commission issued *Implementing Measures on Suspending or Terminating the Listing of Listed Companies with a Deficit (Revised)* on 30 November 2001, the Chinese delisting system remains weak.¹⁹ But this defect also reduces the sample bias²⁰ mentioned in previous research.

(1) Accrual Quality

Dechow and Dichev (2002) propose and test a measure of earnings quality that captures the mapping of current accruals into last-period, current-period, and next-period cash flows. McNichols (2002) suggests that a modified DD model, including sales revenue and investment changes in property, plant, and equipment, significantly increases its explanatory power.

Owing to the unavailability of accrual data in statements of cash flow,²¹ most studies use an indirect balance sheet approach to calculate accruals (Healy, 1985; DeAngelo, 1986; Jones, 1991; Dechow and Sloan, 1996). But Hribar and Collins (2002) find that the error induced by using a balance sheet estimation approach contaminates computations of discretionary abnormal accruals and can lead to an erroneous conclusion that earnings management exists when in fact no such opportunistic activity is present. Our measure of accrual quality is based on the modified DD model adjusted by tax taken directly from cash flow statements.

¹⁹ The Speech of Siwei Cheng at the thematic session for discussing the third draft revisions on the *Securities Law* at the 18th meeting of the 10th Standing Committee of the National People's Congress.

²⁰ Francis *et al.* (2003) suggest that the time-series requirement (10 years, in our analyses) biases the sample towards surviving firms, which are likely to be larger and more successful than firms that do not meet the data requirement. This likely reduces variation in the attributes they study.

²¹ Data from statements of cash flows are available from 1988 (the effective year of SFAS No. 95).

We calculate accrual quality between 2002 and 2006 using the relevant accounting information for rolling five-year windows from 1998 to 2006:

$$\begin{aligned} \frac{TCA_{i,t}}{AVASSET_{i,t}} = & \alpha_0 + \alpha_1 \frac{CFOBT_{i,t-1}}{AVASSET_{i,t}} + \alpha_2 \frac{CFOBT_{i,t}}{AVASSET_{i,t}} + \alpha_3 \frac{CFOBT_{i,t+1}}{AVASSET_{i,t}} \\ & + \alpha_4 \frac{\Delta REV_{i,t}}{AVASSET_{i,t}} + \alpha_5 \frac{PPE_{i,t}}{AVASSET_{i,t}} + \varepsilon_{i,t} \end{aligned} \quad (I)$$

where

$TCA_{i,t}$ represents firm i 's total current accruals in year t , equaling $(MOP_{i,t} - CFOBT_{i,t})$;²²

$CFOBT_{i,t}$ represents cash flows from operations adjusted by tax in year t , equaling $(CFO_{i,t} - IncomeTaxReturn + IncomeTaxExpense)$;

$AVASSET_{i,t}$ is firm i 's average total assets in years t and $t-1$;

$\Delta REV_{i,t}$ is firm i 's change in revenues in years t and $t-1$; and

$PPE_{i,t}$ is firm i 's gross value of property, plant and equipment in year t .

EQI is equal to the negative standard deviation of firm i 's estimated residuals from Equation (I); thus:

$EQI = -\sigma(\hat{\varepsilon}_{i,t})$; the large (small) values of EQI correspond to good (poor) earnings quality.

(2) Earnings Predictability

We measure earnings predictability following Lev (1983), Ali and Zarowin (1992), and Francis *et al.* (2002), as follows:

$$\Delta E_{i,t} = \beta_0 + \beta_1 \Delta E_{i,t-1} + \nu_{i,t} \quad (II)$$

We calculate earnings predictability between 2002 and 2006 using an autoregressive model for annual earnings for rolling five-year windows from 1998 to 2006. We use the negative square root of the error variance from Equation (II) as $EQ2$, as follows:

$EQ2 = -\sqrt{\hat{\sigma}^2(V_i)}$; large (small) values of $EQ2$ imply more (less) predictable earnings.

(3) Tax Accrual Quality

Schmidt (2006) decomposes the annual change in earnings ($\Delta E_t = E_t - E_{t-1}$) into two components: the change in pre-tax earnings (ΔPTE_t), and the effect of the annual tax rate change on current pre-tax earnings ($-PTE_{i,t} (ETR_{i,t-1}^1 - ETR_{i,t}^1)$), as follows:

$$\Delta E_{i,t} = \Delta PTE_{i,t} (1 - ETR_{i,t-1}^1) + PTE_{i,t} (ETR_{i,t-1}^1 - ETR_{i,t}^1),$$

²² Western literature calculates CFO by deducting total accruals from earnings after extraordinary items, but the data of earnings after extraordinary items are not available before 2003 in China. So we use operating profits instead, and the operating cash flow is adjusted to pre-tax CFO to maintain consistency with earnings.

where

$PTE_{i,t}$ represents firm i 's pre-tax profit in year t ;

$ETR_{i,t}^1$ represents firm i 's effective tax rate in year t , $ETR_{i,t}^1 = \frac{IncomeTaxExpense_{i,t}}{PTE_{i,t}}$; and

$IncomeTaxExpense_{i,t}$ is firm i 's income tax payment in year t .

Since Chinese listed companies enjoy various preferential tax policies,²³ few listed companies in fact have the statutory rate of 33 per cent (Wang and Li, 2003) imposed on them. Instead, most enjoy a two-year exemption followed by a half rate for three years. Because changes in the current statutory tax rate bring substantial changes to the effective tax rate, earnings management behaviour is overestimated, and earnings quality is erroneously biased. Following Schmidt (2006), and given the Chinese preferential tax policy, we decompose the effective tax rate into two components: the change in effective tax rate and the change in preferential tax policy. The resulting decomposition of earnings is as follows:

$$\Delta E_{i,t} = \Delta PTE_{i,t} (1 - ETR_{i,t-1}^2) + PTE_{i,t} [(ETR_{i,t-1}^1 - ETR_{i,t}^1) + (ETR_{i,t-1}'' - ETR_{i,t}'')],$$

where

$ETR_{i,t}^1$ represents firm i 's adjusted effective tax rate in year t , $ETR_{i,t}^1 = (ETR_{i,t-1} - ETR_{i,t-1}'')$;

$ETR_{i,t}^2$ is firm i 's effective tax rate in year t ,

$$ETR_{i,t}^2 = \frac{IncomeTaxExpense_{i,t} - IncomeTaxReturn_{i,t}}{PTE_{i,t}} \quad (24) \text{ (Scholes et al., 2002; Wang, 2004);}$$

$ETR_{i,t}''$ is firm i 's statutory tax rate in year t ; and

$IncomeTaxReturn_{i,t}$ represents firm i 's tax return in year t .

$PTE_{i,t} (ETR_{i,t-1}^1 - ETR_{i,t}^1)$ contains tax accrual information. The financial statements disclosed by listed companies include both consolidated and parent financial statements. We use the tax data of the parent financial statements because the income tax and tax rates of subsidiary companies are not fully disclosed, and parent company profits weigh heavily in consolidated profits,²⁵ thus having little effect on our empirical results. We use the following equation to estimate tax accrual quality:

$$TCC_{i,t} = \gamma_0 + \gamma_1 TCC_{i,t-1} + \omega_{i,t}, \quad (III)$$

²³ This is a kind of soft budget constraint: before 2002, China enforced regional tax preferences; after that year it enforced industrial tax preferences.

²⁴ The ETR is set to 1 when $ETR' > 1$ and to 0 when $ETR' < 0$ (Gupta and Newberry, 1997).

²⁵ The ratio of parent company profits to consolidated profits between 2002 and 2006 is 53.56, 86.88, 85.16, 81.53, and 83.70 per cent, respectively.

where TCC_{it} represents the tax change component of earnings by the effective tax rate, $TCC_{it} = PTE_{it} (ETR'_{i,t-1} - ETR'_{i,t})$.

Similarly, we calculate tax accrual predictability from an autoregressive model for TCC for rolling five-year windows. We use the negative square root of the error variance from Equation (III) as $EQ3$:

$EQ3 = -\sqrt{\hat{\sigma}^2(\omega_i)}$; large (small) values of predictability imply more (less) predictable earnings.

(iii) External Financing Dependence

Owing to the time lag of policies on company capital expenditures, external financing should be decided by the lagged operating cash flows in the measurement model of Rajan and Zingales (1998). We modify external financing dependence to measure a firm's external financing requirements. Thus:

$$EXDEP_{it} = \frac{CAPX_{it} - CFO_{it-1}}{CAPX_{it}},^{26}$$

where

$CAPX_{it}$ represents firm i 's capital expenditure in year t , which is equal to the sum of new long-term investments, fixed assets, intangible assets, and other long-term assets. When $CAPX$ is negative, the negative $EXDEP$ is accepted.

CFO_{it-1} is firm i 's lagged operating cash flows in year t .

(iv) Bank Loans

We use new short-term loans (DLS) and new long-term loans (DLL) to measure credit size and debt maturity, where DLS is equal to the difference between the ending and beginning short-term loan balances of firm i divided by total assets, and DLL is equal to the difference between the ending and beginning long-term loan balances of firm i plus long-term loans of maturity of less than one year, divided by total assets.

(v) Control Variables

Following prior literature, we include lagged size, lagged return on equity (ROE), lagged leverage, lagged growth, lagged asset structure, gross domestic product (GDP), year, and industry as control variables, and control for districts affected by banking corruption when testing Hypothesis 2.

²⁶ We adopt positive capital expenditure to calculate $EXDEP$. When the current $CAPX$ is positive, the higher the $EXDEP$, and the larger the external financing requirement, but when the current $CAPX$ is negative, the higher the $EXDEP$, and the smaller the same. The negative $EXDEP$ is consistent with the research. Rajan and Zingales (1998) and Francis *et al.* (2005) use time-series data to calculate $EXDEP$ to smooth the effect of negative capital expenditure.

3. Descriptive Statistics

Table 2 reports the descriptive statistics for the variables in the analysis before and after the financial reform. The mean and median values of new short-term loans (*DLS*) decrease significantly after the financial reform, the mean value of the *DLS* ratio also decreases from 16.8 to -0.12 per cent, while the mean and median values of new long-term loans (*DLL*) do not change significantly. The changes indicate that credit reduction occurs mainly in the short-term credit market after the financial reform, which is more vulnerable to external environmental fluctuations. The result is consistent with the benefit-cost analysis of the financial reform's influence on the short-and long-term credit markets.

The mean and median values of accrual quality (*EQ1*) and earnings predictability (*EQ2*) increase significantly after the financial reform, but the change in tax predictability (*EQ3*) is not significant.

The mean value of external financial dependence (*EXDEP*) does not change significantly, whereas its median decreases significantly, showing that a tight financial policy restrains a firm's irrational investment to some extent. The values for size, leverage, growth, and asset structure increase significantly, while the statistical results indicate a high discrete degree of *ROE*. Macroeconomic control policies lead to an increase in *GDP*.

Table 2 Descriptive Statistics Before and After the Financial Reform

Attributes	Pre-reform		Post-reform		T-test	Wilcoxon		
	Mean	Median	Mean	Median				
<i>DLS</i>	0.0168	0.0098	-0.0012	0.0000	5.2800	<.0001	5.9779	<.0001
<i>DLL</i>	0.0285	0.0000	0.0272	0.0000	0.0400	0.9707	-0.7537	0.2255
<i>EQ1</i>	-0.0384	-0.0241	-0.0360	-0.0214	-1.8400	0.0652	-3.3528	0.0004
<i>EQ2</i>	-0.0618	-0.0281	-0.0613	-0.0226	-0.2800	0.7827	-4.1585	<.0001
<i>EQ3</i>	-0.0086	-0.0034	-0.0090	-0.0038	0.6900	0.4906	0.0126	0.4950
<i>EXDEP</i>	-3.3165	-0.8299	-4.1136	-0.8919	1.2900	0.1957	2.0224	0.0216
<i>LAGSIZE</i>	20.9371	20.9260	21.2113	21.1856	-7.6500	<.0001	-7.4042	<.0001
<i>LAGROE</i>	-0.0676	0.0505	0.0076	0.0462	-1.0700	0.2838	0.0810	0.4677
<i>LAGLEV</i>	0.5314	0.5011	0.5949	0.5335	-2.3200	0.0204	-4.3020	<.0001
<i>LAGGROWTH</i>	0.0631	0.0361	0.0784	0.0591	-1.1600	0.2468	-4.1997	<.0001
<i>LAGFIX</i>	0.3338	0.3105	0.3593	0.3388	-3.7600	0.0002	-3.7070	0.0001
<i>GDP</i>	9.2637	9.3915	9.6612	9.7492	-34.3600	<.0001	-29.6119	<.0001
<i>N</i>	1036	1036	2491	2491				

Sample description and variable definitions: The sample consists of all firm-years in the full sample. All variables are measured each year for each firm using rolling five-year windows. *DLS* = difference between the ending and beginning short-term loan balances divided by total assets; *DLL* = difference between the ending and beginning long-term loan balances plus long-term loans of maturity of less than one year, divided by total assets; *EQ1* = the negative standard deviation of firm *i*'s estimated residuals from a regression of current accruals on lagged, current, and future cash flows from operations; *EQ2* = the negative square root of the error variance from firm *i*'s auto-regression model of annual earnings; *EQ3* = the negative square root of the error variance from firm *i*'s auto-regression model of effective tax rate; *EXDEP* = difference between current capital expenditure and lagged operating cash flows divided by current capital expenditure; *LAGSIZE* = natural logarithm of firm *i*'s lagged total assets; *LAGROE* = lagged return on equity; *LAGLEV* = lagged ratio of debt to total assets; *LAGGROWTH* = lagged sales growth rate; *LAGFIX* = lagged ratio of fixed assets to total assets; *GDP* = natural logarithm of regional gross domestic products.

V. Methodology and Results

1. The Impact of Banking Corruption on Debt Contracts

We construct Model (1) to analyse the impact of banking corruption on debt contracts:

$$\begin{aligned}
 DIFLOAN(DIFLOANS, DIFLOANL) = & \\
 f(CORRUPT(BENEFIT, APPLY, RELATION), EXDEP, SIZE, ROE, & \\
 LEV, GROW, FIX, GDP, YEAR, INDUS); & \quad (1)
 \end{aligned}$$

Table 3 reports the results of Model (1), which tests the variance of impact of banking corruption on new short-term loans before and after the financial system reform. We find that *BENEFIT*, *APPLY*, and *RELATION* have significant influence on new short-term loans before the reform, and although the influence becomes insignificant after the reform, *RELATION* takes on a significantly negative coefficient.

Before the reform, a firm's external financing dependence has a weak negative influence on new short-term loans; after the reform, the coefficient estimate becomes weakly positive.

As for the firm-specific control variables, the coefficient estimates of firm size and new short-term loans change from weakly negative before the reform to significantly positive afterwards, whereas the coefficient estimates of ROE and new short-term loans change from significantly positive before to weakly positive after. The coefficient estimate of leverage has a stable significantly positive influence on new short-term loans both before and after the reform, while a firm's growth also has a significantly positive influence on such loans before and after, while the strength is incremental. Finally, a firm's capital structure has a stable positive influence on new short-term loans before the reform; after the reform, the coefficient estimate becomes significant, while the coefficient estimate of GDP and new short-term loans is stable and negative.

The results of Table 3 are consistent with Hypothesis 1, indicating that the institutional changes brought about by the financial system reform has indeed helped to curb the influence of banking corruption in the short-term credit market, while the mitigation of rent-seeking is supported by the policy of reduction in this market as well.

The significant influence of the control variables also suggests that a bank's risk control is enhanced in the short-term credit market. A larger firm with lower leverage and more collateral assets can obtain more short-term loans, which is consistent with the research of Leland and Toft (1996). The difference in the influence of ROE may owe to the reduction in credit size in that profitable firms choose internal financing to save costs, which is consistent with the pecking order theory.

Table 3 The Impact of Banking Corruption on *DLS* by the Financial System Reform

	<i>DLS</i>					
	Pre-reform			Post-reform		
	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	0.0347 (0.23)	0.1004 (0.89)	-0.4912** (-2.00)	-0.0943 (-1.34)	-0.1154* (-1.96)	0.0439 (0.46)
<i>BENEFIT</i>	0.0133* (1.74)			-0.0043 (-1.12)		
<i>APPLY</i>		0.0048** (2.47)			-0.0014 (-1.33)	
<i>RELATION</i>			0.0202*** (3.18)			-0.0061** (-2.38)
<i>EXDEP</i>	0.0000 (-0.31)	-0.0001 (-0.40)	-0.0001 (-0.35)	0.0001 (1.11)	0.0001 (1.13)	0.0001 (1.08)
<i>LAGSIZE</i>	-0.0012 (-0.36)	-0.0016 (-0.48)	-0.0015 (-0.48)	0.0082*** (4.58)	0.0083*** (4.62)	0.0083*** (4.64)
<i>LAGROE</i>	0.0106*** (4.45)	0.0107*** (4.48)	0.0109*** (4.57)	0.0006 (1.27)	0.0006 (1.27)	0.0006 (1.25)
<i>LAGLEV</i>	-0.0270*** (-4.48)	-0.0267*** (-4.43)	-0.0266*** (-4.41)	-0.0106*** (-6.44)	-0.0107*** (-6.45)	-0.0106*** (-6.41)
<i>LAGGROWTH</i>	0.0267** (2.44)	0.0278** (2.55)	0.0269** (2.46)	0.0189*** (3.44)	0.0186*** (3.40)	0.0182*** (3.32)
<i>LAGFIX</i>	0.0261 (1.56)	0.0207 (1.24)	0.0187 (1.12)	0.0372*** (3.85)	0.0381*** (3.95)	0.0388*** (4.02)
<i>GDP</i>	-0.0060 (-0.49)	-0.0072 (-0.68)	0.0487** (2.08)	-0.0088 (-1.53)	-0.0083 (-1.54)	-0.0225** (-2.60)
<i>YEAR</i>	YES	YES	YES	YES	YES	YES
<i>INDUS</i>	YES	YES	YES	YES	YES	YES
Adj R-Sq	0.0510	0.0537	0.0573	0.0520	0.0521	0.0536
F	5.84***	6.12***	6.47***	12.89***	12.93***	13.28***
N	1036	1036	1036	2491	2491	2491

T-statistics are in parentheses. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively. Sample description and variable definitions: The sample consists of all firm-years in the full sample. All variables are measured each year for each firm using rolling five-year windows. *DLS* = difference between the ending and beginning short-term loan balances divided by total assets; *BENEFIT* = additional fees required for credit achievement; *APPLY* = additional fees required for credit application; *RELATION* = relationship maintenance fee for credit; *EXDEP* = difference between current capital expenditure and lagged operating cash flow divided by current capital expenditure; *LAGSIZE* = natural logarithm of firm *i*'s lagged total assets; *LAGROE* = lagged return on equity; *LAGLEV* = lagged ratio of debt to total assets; *LAGGROWTH* = lagged sales growth rate; *LAGFIX* = lagged ratio of fixed assets to total assets; *GDP* = natural logarithm of regional gross domestic products.

Table 4 reports the results of Model (1), which tests the variance of impact of banking corruption on new long-term loans before and after the financial reform. Throughout the overall research period, we find that *BENEFIT*, *APPLY*, and *RELATION* have a positive influence on new long-term loans, in which the impact of *APPLY* and *RELATION* is significant; after the reform, the coefficient estimate becomes weaker but does not change significantly. Above all, the reform does not improve banking corruption in the long-term credit market.

Before the reform, a firm's dependence on external financing has a significantly positive influence on new long-term loans; after the reform, the coefficient estimate becomes weakly positive.

The control variables show that the coefficient estimates of firm size and new long-term loans change from weakly negative before the financial reform to significantly positive after the reform, and the coefficient estimate of a firm's ROE and new long-term loans changes from weakly positive before to significantly positive after. A firm's leverage has a stable weak influence on long-term loans before and after the reform, while its growth has a significantly negative influence on new long-term loans before the reform with incremental strength after the reform. Finally, a firm's capital structure has a stable significantly positive influence on new long-term loans before and after the reform, whereas the coefficient estimate of *GDP* and long-term loans remains weak before and after.

The results of Table 4 provide further proof for Hypothesis 1. Although the government has implemented the joint-stock system reform in commercial banks, the banking system monopolises financial resources; thus, provided that the benefit of rent-seeking is greater than the cost, rent-seeking behaviour is inevitable. The empirical results thus show that rotten banks are unwilling to give up the long-term credit market.

The results of the control variables also show that the financial system reform has enhanced the risk control capability of banks in the long-term credit market. Since the reform, bigger companies with more collateral assets have been able obtain more long-term loans, but it is difficult for profitable companies with high growth to do the same.

2. The Impact of Earnings Quality on Debt Contracts

We test Model (2) to analyse the impact of earnings quality on debt contracts:

$$\begin{aligned}
 DIFLOAN(DIFLOANS, DIFLOANL) = & \\
 f(EQ(EQ1, EQ2, EQ3), EXDEP, SIZE, ROE, & \\
 LEV, GROW, FIX, GDP, DISTR, YEAR, INDUS); & \quad (2)
 \end{aligned}$$

Table 4 The Impact of Banking Corruption on *DLL* by the Financial System Reform

	<i>DLL</i>					
	Pre-reform			Post-reform		
	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	-0.0427 (-0.39)	-0.0416 (-0.50)	-0.3959** (-2.19)	-0.0179 (-0.35)	-0.0174 (-0.40)	-0.1409** (-2.01)
<i>BENEFIT</i>	0.0083 (1.49)			0.0022 (0.79)		
<i>APPLY</i>		0.0046*** (3.22)			0.0013* (1.69)	
<i>RELATION</i>			0.0134*** (2.85)			0.0048*** (2.59)
<i>EXDEP</i>	0.0003** (2.28)	0.0002** (2.15)	0.0003** (2.25)	0.0001 (1.32)	0.0001 (1.28)	0.0001 (1.35)
<i>LAGSIZE</i>	0.0007 (0.31)	0.0004 (0.16)	0.0005 (0.21)	0.0032** (2.45)	0.0031** (2.38)	0.0031** (2.38)
<i>LAGROE</i>	0.0002 (0.14)	0.0002 (0.12)	0.0004 (0.23)	-0.0008** (-2.17)	-0.0008** (-2.18)	-0.0008** (-2.15)
<i>LAGLEV</i>	-0.0047 (-1.05)	-0.0043 (-0.96)	-0.0044 (-0.98)	0.0010 (0.86)	0.0011 (0.88)	0.0010 (0.83)
<i>LAGGROWTH</i>	-0.0084 (-1.04)	-0.0073 (-0.91)	-0.0083 (-1.03)	-0.0127*** (-3.17)	-0.0124*** (-3.09)	-0.0121*** (-3.02)
<i>LAGFIX</i>	0.0631*** (5.12)	0.0587*** (4.78)	0.0583*** (4.73)	0.0430*** (6.11)	0.0422*** (6.00)	0.0418*** (5.94)
<i>GDP</i>	-0.0022 (-0.25)	0.0012 (-0.15)	0.0343 (1.99)	-0.0056 (-1.33)	-0.0048 (-1.22)	0.0062 (0.98)
<i>YEAR</i>	YES	YES	YES	YES	YES	YES
<i>INDUS</i>	YES	YES	YES	YES	YES	YES
Adj R-Sq	0.0497	0.0569	0.0550	0.0425	0.0432	0.0447
F	5.72***	6.44***	6.24***	10.62***	10.79***	11.15***
N	1036	1036	1036	2491	2491	2491

T-statistics are in parentheses. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively. Sample description and variable definitions: The sample consists of all firm-years in the full sample. All variables are measured each year for each firm using rolling five-year windows. *DLL* = difference between the ending and beginning long-term loan balances plus long-term loans of maturity of less than one year, divided by total assets; *BENEFIT* = additional fees required for credit achievement; *APPLY* = additional fees required for credit application; *RELATION* = relationship maintenance fee for credit; *EXDEP* = difference between current capital expenditure and lagged operating cash flow divided by current capital expenditure; *LAGSIZE* = natural logarithm of firm *i*'s lagged total assets; *LAGROE* = lagged return on equity; *LAGLEV* = lagged ratio of debt to total assets; *LAGGROWTH* = lagged sales growth rate; *LAGFIX* = lagged ratio of fixed assets to total assets; *GDP* = natural logarithm of regional gross domestic products.

Table 5 reports the results of this model, which tests the variance of impact of earnings quality on new short-term loans before and after the financial system reform. After controlling for district differences, we find that before the reform, only accrual quality has a significant influence on new short-term loans, whereas earnings predictability and tax predictability have a mixed influence. After the reform, the three earnings quality attributes have unanimously significant influence on new short-term loans, where the correlation between accrual quality and such loans increases from 0.2173 to 0.3408.

The correlation between earnings predictability and new short-term loans increases from 0.0183 to 0.1125 and is reliably different from zero at the 0.01 level. The correlation between tax predictability and new short-term loans also increases from -0.0459 to 0.5007 and is reliably different from zero at the 0.01 level, providing proof for Hypothesis 2. The results for a firm's dependence on external financing and other control variables are also consistent with the results in Part 1 of this section.

Table 6 reports the results of Model (2), which tests the variance of impact of earnings quality on new long-term loans before and after the financial reform. After controlling for district differences, we find that the three earnings quality attributes have a consistent negative influence on new long-term loans before and after the reform. The influence is enhanced significantly after the reform, providing proof for Hypothesis 2. The results for a firm's external financing dependence and other control variables are thus consistent with the results in Part 1 of this section.

VI. Robustness Test

Following the tests described above, we conduct additional related tests. First, we repeat all tests using the national bank corruption index (BCI) instead of the individual bank corruption index. The BCI is 4.17, in which the index of Northern China is 4.97, Western China 4.71, Central China 4.39, Southern China 4.05, North-Eastern China 3.70, and Eastern China 3.07 (Xie and Lu, 2005). The results do not change. Second, we repeat the test for Hypothesis 2 using earnings persistence as an indicator for earnings quality. We use the slope coefficient estimate from Models (II) and (III), and the results do not change. Finally, we repeat all tests using Tobin's Q to measure a firm's growth opportunity, ROA to measure a firm's profitability, and the natural logarithm of total sales to measure size. Again, the results do not change our conclusions. For simplicity, we do not report the results in this paper.

Table 5 The Impact of Earnings Quality on *DLS* by the Financial System Reform

	<i>DLS</i>					
	Pre-reform			Post-reform		
	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	-0.9882 (-0.39)	-1.1641 (-0.46)	-1.1720 (-0.46)	-0.9246 (-1.19)	-1.1187 (-1.44)	-1.2112 (-1.55)
<i>EQ1</i>	0.2173*** (2.77)			0.3403*** (8.25)		
<i>EQ2</i>		0.0183 (0.49)			0.1125*** (5.98)	
<i>EQ3</i>			-0.0459 (-0.24)			0.5007*** (4.76)
<i>EXDEP</i>	0.0000 (-0.31)	-0.0001 (-0.35)	-0.0001 (-0.35)	0.0001 (0.98)	0.0001 (1.13)	0.0001 (1.10)
<i>LAGSIZE</i>	-0.0049 (-1.43)	-0.0023 (-0.65)	-0.0015 (-0.47)	0.0031* (1.67)	0.0030 (1.54)	0.0068*** (3.77)
<i>LAGROE</i>	0.0100*** (4.16)	0.0108*** (4.54)	0.0109*** (4.53)	0.0004 (0.76)	0.0004 (0.83)	0.0005 (1.06)
<i>LAGLEV</i>	-0.0161** (-2.28)	-0.0244*** (-3.48)	-0.0264*** (-4.27)	-0.0068*** (-4.00)	-0.0069*** (-3.96)	-0.0103*** (-6.29)
<i>LAGGROWTH</i>	0.0243** (2.22)	0.0256** (2.33)	0.0257** (2.34)	0.0121** (2.23)	0.0174*** (3.19)	0.0144*** (2.62)
<i>LAGFIX</i>	0.0183 (1.08)	0.0189 (1.12)	0.0187 (1.10)	0.0379*** (3.96)	0.0416*** (4.32)	0.0407*** (4.22)
<i>GDP</i>	0.1296 (0.44)	0.1437 (0.49)	0.1427 (0.48)	0.0952 (1.10)	0.1167 (1.33)	0.1184 (1.35)
<i>YEAR</i>	YES	YES	YES	YES	YES	YES
<i>INDUS</i>	YES	YES	YES	YES	YES	YES
Adj R-Sq	0.0627	0.0562	0.0560	0.0822	0.0709	0.0663
F	5.02***	4.57***	4.56***	13.27***	11.46***	10.72***
N	1036	1036	1036	2491	2491	2491

T-statistics are in parentheses. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively. Sample description and variable definitions: The sample consists of all firm-years in the full sample. All variables are measured each year for each firm using rolling five-year windows. *DLS* = difference between the ending and beginning short-term loan balances divided by total assets; *EQ1* = the negative standard deviation of firm *i*'s estimated residuals from a regression of current accruals on lagged, current, and future cash flows from operations; *EQ2* = the negative square root of the error variance from firm *i*'s auto regression model of annual earnings; *EQ3* = the negative square root of the error variance from firm *i*'s auto regression model of effective tax rate; *EXDEP* = difference between current capital expenditure and lagged operating cash flows divided by current capital expenditure; *LAGSIZE* = natural logarithm of firm *i*'s lagged total assets; *LAGROE* = lagged return on equity; *LAGLEV* = lagged ratio of debt to total assets; *LAGGROWTH* = lagged sales growth rate; *LAGFIX* = lagged ratio of fixed assets to total assets; *GDP* = natural logarithm of regional gross domestic products.

Table 6 The Impact of Earnings Quality on *DLL* by the Financial System Reform

	<i>DLL</i>					
	Pre-reform			Post-reform		
	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	-1.0234 (-0.55)	-1.0265 (-0.55)	-0.9903 (-0.53)	0.3237 (0.57)	0.4045 (0.71)	0.4222 (0.74)
<i>EQ1</i>	-0.0117 (-0.20)			-0.1168*** (-3.83)		
<i>EQ2</i>		-0.0194 (-0.70)			-0.0236* (-1.70)	
<i>EQ3</i>			-0.2276 (-1.61)			-0.1649** (-2.14)
<i>EXDEP</i>	0.0002** (2.17)	0.0002** (2.18)	0.0002 (2.18)	0.0001 (1.36)	0.0001 (1.31)	0.0001 (1.30)
<i>LAGSIZE</i>	0.0005 (0.21)	0.0011 (0.42)	0.0007 (0.29)	0.0048*** (3.49)	0.0042*** (2.90)	0.0035*** (2.66)
<i>LAGROE</i>	0.0003 (0.18)	0.0003 (0.16)	0.0007 (0.38)	-0.0007* (-1.94)	-0.0007** (-2.03)	-0.0007** (-2.08)
<i>LAGLEV</i>	-0.0045 (-0.87)	-0.0058 (-1.13)	-0.0055 (-1.20)	-0.0003 (-0.24)	0.0002 (0.18)	0.0009 (0.77)
<i>LAGGROWTH</i>	-0.0083 (-1.03)	-0.0085 (-1.05)	-0.0076 (-0.95)	-0.0101** (-2.51)	-0.0118*** (-2.95)	-0.0109*** (-2.71)
<i>LAGFIX</i>	0.0575*** (4.61)	0.0572*** (4.59)	0.0577*** (4.64)	0.0421*** (5.95)	0.0409*** (5.77)	0.0411*** (5.81)
<i>GDP</i>	0.1173 (0.54)	0.1163 (0.54)	0.1129 (0.52)	-0.0470 (-0.73)	-0.0543 (-0.84)	-0.0549 (-0.85)
<i>YEAR</i>	YES	YES	YES	YES	YES	YES
<i>INDUS</i>	YES	YES	YES	YES	YES	YES
Adj R-Sq	0.0550	0.0554	0.0572	0.0486	0.0443	0.0449
F	4.49***	4.52***	4.64***	8.00***	7.35***	7.44***
N	1036	1036	1036	2491	2491	2491

T-statistics are in parentheses. *, **, and *** represent significance at the 1%, 5%, and 10% levels, respectively. Sample description and variable definitions: The sample consists of all firm-years in the full sample. All variables are measured each year for each firm using rolling five-year windows. *DLL* = difference between the ending and beginning long-term loan balances plus long-term loans of maturity of less than one year, divided by total assets; *EQ1* = the negative standard deviation of firm *i*'s estimated residuals from a regression of current accruals on lagged, current, and future cash flows from operations; *EQ2* = the negative square root of the error variance from firm *i*'s auto regression model of annual earnings; *EQ3* = the negative square root of the error variance from firm *i*'s auto regression model of effective tax rate; *EXDEP* = difference between current capital expenditure and lagged operating cash flow divided by current capital expenditure; *LAGSIZE* = natural logarithm of firm *i*'s lagged total assets; *LAGROE* = lagged return on equity; *LAGLEV* = lagged ratio of debt to total assets; *LAGGROWTH* = lagged sales growth rate; *LAGFIX* = lagged ratio of fixed assets to total assets; *GDP* = natural logarithm of regional gross domestic products.

VII. Conclusions and Limitations

1. Conclusions

Institutional changes effectively reduce transaction costs in financial markets, but the existing economic system has been unable to fully adjust within a short time during the mandatory reform of the financial system. We find that while the reform has improved risk control capability in the short-term credit market, the influence has worsened in the long-term market. Debt maturity is still not being effectively used by commercial banks.

Before the financial reform, banking corruption was one of the most important factors influencing the signing of debt contracts between commercial banks and listed companies such that both the short-term and long-term credit markets were subject to corrupt influence. Since the reform, the influence of corruption has been alleviated in the short-term market owing to the interactive impact from the changes in the financial legal environment and the financial system reform; the long-term credit market, however, has shown no significant improvement. Thus, the study's results show that whereas the reform has significantly inhibited banking corruption in the short-term credit market, it has not done so in the long-term market.

Additionally, the financial system reform has also enhanced the risk control capability of commercial banks in the short-term market. Before the reform, the performance of earnings quality indicators in the short-term market was mixed under the influence of banking corruption, but was unanimously negative in the long-term market. Since the reform, the performance of earnings quality indicators in the short-term market has changed to significantly positive, but has worsened in the long-term market. These changes indicate that the financial system reform has enhanced the influence of accounting information in debt contracting. Some companies with high earnings quality have thus chosen short-term loans instead of long-term loans for saving rent since the reform.

2. Limitations and Further Research

In a transitional economy like China's, it is meaningful to investigate the influence of the efficiency of financial resource allocation and capital utilisation on debt contracting. Although we have made a great effort in terms of establishing theoretical foundations and research methods, inevitable deficiencies remain that need to be further studied.

The first concerns variable measurement limitations. It is difficult for academics to estimate earnings quality correctly. Although a number of recognised simple and sophisticated models have been laid out, different models have different emphases owing to choices in accounting policies and institutional changes. Moreover, different contracts require different aspects of earnings quality to be considered; manager compensation contracts emphasise discretionary accruals, while contracts based on value require deducting the factors irrelevant to earnings predictability.

So far it has been impossible to design a perfect model for earnings quality, and it will no doubt continue to be so in the future. Thus, following prior research we choose three representative measurements to estimate credit risk, which could lead to measurement bias.

A second deficiency lies in sample selection limitations. The Chinese capital market has a short history, and during this period great changes have taken place in the accounting system, thus restricting our calculation of earnings quality. If we had a longer time series sample, the results would possibly be more stable.

A third deficiency concerns data limitation. The bank corruption index is limited to 2005, although we assume that in the institutional change process, a certain degree of autonomy will act on corruption behaviour and psychological expectations, thus leading to biased results.

Finally, the financial system reform mentioned herein has been aimed mainly at state-owned commercial banks; thus, the measurement for bank loans should have been obtained from these banks, but the cost of collecting data would have been substantial. Also, the assets of solely state-owned banks account for over 60 per cent of total bank assets (Li *et al.*, 2005); the Wind database shows that most commercial banks (except for Shenzhen Development Bank) are controlled by the government, and thus it is impossible for non-state-owned banks to remain aloof from institutional corruption. The pooled loan resources also lead to result bias.

References

Please refer to pp. 77-81.