

## 新会计准则与会计盈余的债务合约有用性<sup>1</sup>

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### 摘要

本文考察了中国 2007 年会计准则变动后, 会计盈余在债务合约中的作用是否发生变化。研究发现, 2007 年执行新会计准则后, 会计盈余对银行贷款的解释力显著降低; 受准则变动影响程度较大的公司, 会计盈余对银行贷款解释力的下降程度更大; 国有控股和非国有控股公司的会计盈余与新增贷款的敏感性均显著下降, 但相较于国有控股公司, 非国有控股公司的下降程度更大。本文的研究表明, 执行新会计准则后, 会计盈余在债务合约中的作用显著下降。

关键词: 新会计准则、会计盈余、债务合约

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## 一、导论

2006年2月,中国颁布了包括1项基本准则和38项具体准则在内的新会计准则体系,并于2007年1月1日在上市公司范围内实施。除少数项目外,新准则实现了与国际财务报告准则(International Financial Reporting Standards,以下简称IFRS)的基本趋同。新会计准则的实施不仅是中国会计改革的重要事件,也是国际会计准则全球趋同的重要组成部分。新会计准则的执行效果如何?会产生何种经济后果?无论对准则制定者、实务界还是学术研究,都是非常重要的问题。目前关于准则执行效果的研究基本以权益估值功能为出发点,即考察IFRS下的会计信息是否更好的反映企业价值,IFRS的实施对权益资本市场的经济后果。<sup>3</sup>但是有关会计准则变化对债权人影响的研究却非常有限。本文的研究将会拓宽这一方面的文献。

讨论会计准则变化对债权人的影响,主要有几方面的原因。首先,债务融资是企业重要的融资方式,会计准则变化势必影响到债务合约中的会计数字。考虑到债权人对会计信息的依赖,Watts(2003)认为债权人的信息需求对会计信息质量有重要的影响。Ball, Robin, and Sadka(2008)的研究认为,债券市场而非股票市场对财务报告产生了最重要的影响。因此,我们无法忽视会计准则变化对债权人的影响,有必要对其进行深入的讨论。其次,估值和合约对会计信息质量有不同的需求。根据Gjesdal(1981)和Lambert and Larcker(1987)的观点,会计信息投资决策有用性的提高,可能会降低会计信息的契约有用性。Holthausen and Watts(2001)和O'Connell(2007)等研究认为,会计信息在公司合约和治理中发挥重要作用,合约或治理的需求是影响会计实务的主导因素。仅从估值角度并不能全面、公允的评价会计准则国际趋同的效果。相对于资本市场价值相关性研究,会计政策变更对契约执行效果的研究为会计准则的经济后果提供更为直接、更为重要的证据。但是,目前从会计信息契约功能为出发点展开的研究很少。

银行在做出贷款决策时需要借助企业的会计信息。作为重要的会计信息使用者,银行对会计准则变化引起的信息质量变化会如何反应?在这项研究中,我们着重讨论会计准则改变后对会计信息在债务契约中作用的影响。具体而言,本文研究了以下三个问题:(1)会计准则变化是否改变了会计信息在债务合约中的有用性?

(2)如果会计信息债务合约有用性的改变是准则变化引起的,那么受准则变化影响程度不同的公司,其会计信息债务合约有用性的变化是否不同?(3)对不同控股股东类型的公司,会计准则变化对其会计信息债务合约作用的影响程度是否一致?

本文以2004至2006年与2008至2010年中国A股上市公司为样本,从债务合约的角度研究了新会计准则的执行效果,主要有以下研究发现:(1)执行新会计准则后,会计盈余与新增贷款的敏感性显著降低,说明准则变化降低了会计盈余在债务合约中的作用。新会计准则引入公允价值计量属性,增加了会计盈余作为评价企

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<sup>3</sup> 参看 Leuz and Wysocki(2008)、Hail and Leuz(2007)的文献。

业经营业绩指标时的噪音；同时，在中国目前制度环境下，管理层对会计信息判断空间的增加降低了会计信息的可靠性和可验证性，从而降低了其在合约中的作用。

(2) 执行新会计准则后，受准则变化影响程度较大的公司，其会计盈余与新增贷款敏感性降低的程度更大。说明准则变动前后，会计利润与新增贷款解释力的降低是准则变化引起的，而不是其他的因素。

(3) 控股股东不同，准则变化对会计信息债务合约作用的影响程度不同。具体表现为：执行新会计准则后，国有控股和非国有控股公司的会计盈余与新增贷款的敏感性均显著下降，但相较于国有控股公司，非国有控股公司的下降程度更大。由于存在政府干预、政府隐性担保以及预算软约束等问题，降低了国有企业贷款合约对会计信息的依赖程度，准则变更时，会计信息债务合约的变化程度小于非国有控股公司。这部分研究结果表明，会计信息在合约中的作用受到治理环境的约束，同样，准则变更时，会计信息合约作用的变化程度受到治理环境的影响。

本文从债务合约的角度研究了新会计准则的执行效果，主要有以下研究贡献：

(1) 提供了强制性会计准则变更对会计信息债务契约功能的证据。从债务契约方面讨论会计准则变更影响的文献很少，目前仅有 Kim, Tsui, and Yi (2011)、Christensen, Lee, and Walker (2009)、Wu and Zhang (2009b)、Chen, Chen, Wang, and Yao (2012) 等几篇文献对 IFRS 采用后会计信息对信贷市场的影响进行了讨论。Kim, Tsui, and Yi (2011) 采用的自愿采用 IFRS 样本讨论会计信息和债务利率的关系，他们的研究发现，企业自愿采用 IFRS 后，银行会降低借款利率。Christensen, Lee, and Walker (2009) 以英国上市公司为样本，研究了企业发布 IFRS 和英国原有会计准则差异调整表时的市场反应，发现差异调整有显著的信息含量，市场反应的原因在于，会计规则变化对债务契约产生影响，导致股东和债权人的财富分配发生变化。Wu and Zhang (2009b) 讨论了 IFRS 的采用对会计信息和信用评级敏感性的影响。他们的研究发现，自愿采用会计 IFRS 后，债务评级和会计信息的敏感性会显著提高，而强制采用 IFRS 后，只有在法律执行强的国家中，才能观察到敏感性的变化。和他们的研究不同，本文以中国上市公司强制采用新会计准则为制度背景，采用直接的信贷指标讨论了会计信息在债务合约中的作用。Chen, Chen, Wang, and Yao (2012) 以跨国研究为背景，讨论了 IFRS 采用后，会计信息在契约中的有用性是否变化。他们发现采用 IFRS 后，会计信息的有用性显著下降，银行对贷款抵押的要求显著上升。但这项研究中，不包括中国的证据。作为使用 IFRS 的单一最大经济体，银行如何使用新会计准则提供的会计信息是重要的研究课题，本文试图做一些探索。

(2) 提供了公司治理环境对会计准则执行效果影响的证据。孙铮、李增泉和王景斌 (2006) 研究表明，国有企业的会计信息在债务合约中的有用性低于私有企业。因此，公司所处的治理环境不同，会计信息在其合约中的有用性不同。那么准则变更引起会计信息质量特征发生变化时，治理环境不同的公司，会计信息合约作用的变化程度是否一致？目前国内外尚没有文献对此研究，本文利用中国特殊的制度背景，考察了不同治理环境下，准则变化对会计信息合约作用的影响程度。

除第一部分导论外, 本文其他部分安排如下: 第二部分我们在回顾了准则变化对会计信息合约作用的影响研究和会计信息债务合约有用性的相关研究后, 提出了本文的研究假说。第三部分为研究设计, 第四部分是实证检验结果, 第五部分为稳健性检验, 第六部分提出研究结论及研究的启示意义。

## 二、理论分析与研究假说

### (一) 新准则对会计信息债务合约作用的影响

作为企业财务状况和经营成果的综合反映, 会计信息不仅为银行信贷决策提供有用的信息, 还是银行实施贷款监督、减少信息不对称的重要工具。众多文献研究表明, 会计信息在债务合约中发挥重要作用。根据 Smith and Warner (1979) 和 Leftwich (1980) 的研究, 会计信息是债务合约安排的基础; Watts and Zimmerman (1986) 表明, 债务合约中以会计信息为基础的限制性条款可以防止股东或经理通过发放清算性股利或高风险项目侵占债权人利益; Sloan (2001) 认为, 会计信息在违约或破产事件中对债权人权利的履行也起到了重要作用。

大量的研究表明, 银行信贷是会考虑会计信息的质量。Leftwich (1983) 通过对私有公司债务合约的调查发现, 债务合约对会计政策选择更倾向于限制管理层的机会主义行为。Watts (2003) 认为债务合约是引起会计稳健性的重要因素, 如稳健性可以加强对股利发放的限制, 有助于保护债权人的权益; 另外, 相对于股东来说, 债权人更加保守, 更加关注企业资产的清算价值。Beatty, Ramesh, and Weber (2002) 研究发现, 企业在和银行签订债务合约时, 如果要保留更多的会计灵活性, 将会承担更高的借款成本; Francis, LaFond, Olsson, and Schipper (2005) 研究表明, 盈余质量较低的企业, 借款利率更高。说明会计信息质量影响企业债务融资的成本。Bharath, Sunder, and Sunder (2006) 研究表明, 盈余质量较低的企业, 利率更高, 贷款期限更严格、更需要抵押。Li (2010) 的研究认为, 有效的债务合约要求会计信息更能反映企业未来的经营情况, 银行信贷合约通常不包括暂时性项目。根据以上研究, 债务合约对会计政策选择更倾向于减少企业会计政策自由选择的空间, 更加稳健, 更倾向于持续性较强的项目。

在中国, 随着金融体制改革的不断深入, 银行逐步引入风险管理体制, 建立以风险管理为基础的“贷款五级分类制度”, 信贷资产的质量评级和考核体系也逐步完善。会计信息在银行信贷决策、贷款监督、违约风险预测等方面的作用愈加明显。如饶艳超和胡奕明 (2005) 通过问卷调查, 发现银行对财务信息高度重视。根据胡奕明、林文雄、李思琦和谢诗蕾 (2008) 的研究, 从贷款利率和贷款续新两个角度考察银行在上市公司角色, 样本区间为 2000 至 2005 年, 研究发现贷款利率与借款人财务状况之间有负相关关系, 即业绩越好, 贷款利率越低, 说明银行依赖会计信息进行放款决策。孙铮、李增泉和王景斌 (2006) 和廖秀梅 (2007) 的研究表明,

会计信息降低了银行信贷过程中的信息不对称，会显著影响企业的贷款决策。

新准则赋予企业更多对会计信息自由裁量的空间，比如活跃的市场交易价格不存在时公允价值的确定、开发支出资本化、商誉的减值等都需要管理层的判断和估计，加大了管理层盈余操纵的空间。Daske, Hail, Leuz, and Verdi (2008) 对强制采用国际会计准则国家的会计信息质量进行了研究，发现在法律执行力强的国家，会计信息的质量显著提高，而在法律执行弱的国家，则没有显著的经济后果。Wu and Zhang (2009b) 发现，<sup>4</sup> 公司自愿采用 IFRS 后，会计信息和信用评级的敏感性显著提高；而强制性采用 IFRS 后，只有法律执行体系严格的国家中，才能够观察到二者关系的提高，在法律执行体系弱的国家中，IFRS 的强制采用不会带来会计信息和信用评价敏感性的变化。他们的研究支持了公司采用 IFRS 的动机，会影响其会计信息的质量。<sup>5</sup> 在中国法律执行弱的条件下，会计准则施行的后果如何呢？He, Wong, and Young (2012) 提供了新会计准则下，企业利用公允价值进行盈余管理的证据。在中国目前治理环境下，利润操纵空间的加大可能会增加银行与企业之间的信息不对称程度，增加会计信息反映企业经营状况时的噪音，从而降低会计信息在借款合同中的有用性。同时，引入公允价值计量属性。新会计准则下，部分资产采用公允价值计量，期末公允价值的变化计入利润表，由于这部分收益与企业主营业务无关，且具有较高的暂时性，会导致利润波动性提高，降低利润对企业未来业绩的预测能力，加大银行与企业之间的信息不对称程度 (Chen, Chen, Wang, and Yao, 2012)。

从上面的分析可以看出，中国的银行在信贷决策时会使用会计信息，但是在会计信息可靠性弱化、噪音增大的条件下，可能会降低会计信息在合约中的有用性。Ke, Li, and Yuan (2012) 以中国上市公司为样本，发现新会计准则施行后，会计信息在薪酬合约中的有效性显著下降；而 Chen, Chen, Wang, and Yao (2012) 的跨国研究表明，IFRS 实施后，会计信息在贷款合约中的作用显著下降。<sup>6</sup> 银行和企业之间的信息不对称程度可能会加大，银行在贷款决策中对会计信息的依赖程度应当会随之而发生变化。据此，我们提出研究假说 1：

**假说 1：执行新会计准则后，会计利润与新增贷款的敏感性显著降低。**

根据假说 1，如果准则变化导致了执行新准则后会计利润与新增贷款敏感性降低，那么受准则变化影响程度较大的公司，其会计利润与新增贷款敏感性下降的程度应该更大，否则，执行新准则后，会计利润与新增贷款敏感性的降低就不是由于准则变化引起的，而可能是其他因素导致的。因此，我们提出研究假说 2：

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<sup>4</sup> 他们选择了 16 个自愿采用 IFRS 和 18 个强制采用 IFRS 的国家中 2,800 家公司为样本。其中自愿采用 IFRS 的公司数目为 883 家，强制采用 IFRS 的公司数目为 1,917 家。

<sup>5</sup> 可以参考 Christensen, Lee, and Walker(2007)、Barth, Landsman, and Lang(2008)、Daske, Hail, Leuz, and Verdi (2007) 等的研究。

<sup>6</sup> 这项研究没有包括中国的公司，我们的研究则以中国为背景讨论会计准则实施后，银行如何使用会计信息。

假说 2: 执行新会计准则后, 准则影响程度较高的公司其会计利润与新增贷款的敏感性下降程度更高。

## (二) 不同治理环境下新会计准则对会计信息债务合约有用性的影响

控股股东的所有权性质是考察债务合约治理环境的重要维度。虽然近年来中国国有银行的市场化改革取得了实质性进展。但长期以来, 政府在国家资源配置当中仍占有重要地位。特别是国有银行和国有企业同属国家控股的情况下。孙铮、李增泉和王景斌(2006)研究表明, 政府为国有企业提供隐性担保, 银行在信贷过程中向国有企业倾斜, 降低了会计信息在国有企业债务合约中的有用性。廖秀梅(2007)的研究表明, 会计信息降低了企业与银行之间的信息不对称, 有助于银行的信贷决策。但会计信息的这种作用受到所有权性质的制约, 非政府控制企业中会计信息的信贷有用性要明显优于政府控制的企业。

因此, 若会计信息在国有企业债务合约中的有用性小于非国有企业, 那么当准则变更引起会计信息质量发生变化时, 国有企业会计信息债务合约作用的变化程度也要小于非国有企业。提出假说 3:

假说 3: 相较于国有控股公司, 执行新准则后, 非国有控股公司的会计利润与新增贷款敏感性的下降程度更大。

## 三、研究设计

### (一) 研究样本选择和数据来源

本节采用 2004 至 2006 年与 2008 至 2010 年全部 A 股上市公司为样本, 剔除金融和保险行业, 净资产小于 0 以及财务数据和公司治理数据缺失的公司, 最后得到 8,808 家样本。其中 2004 至 2006 年为原准则执行阶段, 2008 至 2010 年为新会计准则执行阶段, 样本之所以不包括 2007 年, 是因为银行当期信贷决策通常依据前期的财务数据, 2006 年的财务数据是依据原会计准则体系得到的, 而 2006 年的报告中, 需要披露新会计准则的影响, 这些信息的披露是否会影响银行的决策? 即银行是否对会计信息进行了调整还不清楚。因此本文主要回归中不包括 2007 年的样本, 稳健性检验中会加入 2007 年的样本数据。表 1 是样本选择过程。本文财务数据来自 WIND 金融数据库, 公司治理数据来自 CSMAR 数据库。为了减轻异常值的影响, 本文在数据处理时对所有连续变量进行上下 1% 的 Winsorize 处理。所有数据分析和统计结果采用 Stata 完成。

### (二) 研究方法

#### 1. 研究模型

为检验新准则对会计信息在债务合约有用性的影响, 构造模型 (1), 在模型中

表 1 样本选择

	Total	2004	2005	2006	2008	2009	2010
当年上市的全部 A 股上市公司	9332	1307	1321	1387	1590	1689	2038
剔除金融行业	158	18	18	20	31	33	38
剔除净资产小于 0 的	308	31	53	63	53	59	49
剔除财务指标缺失的	23	1	2	0	6	6	8
剔除治理数据缺失的	35	5	2	2	6	10	10
最后样本	8808	1252	1246	1302	1494	1581	1933

加入执行新准则与会计利润的交叉变量 ( $NEW*ROA$ ), 若其在模型中的回归系数显著为负, 说明执行新准则后, 会计利润与新增贷款的敏感性显著降低, 会计利润在债务合约中的作用明显下降。

$$\begin{aligned}
 DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
 & + \alpha_4 CUR_{i,t-1} + \alpha_5 TAN_{i,t-1} + \alpha_6 EQUITY_{i,t-1} + \alpha_7 GROSS_{i,t-1} \\
 & + \alpha_8 SIZE_{it} + \alpha_9 GROW_{it} + \alpha_{10} CF_{it} + \alpha_{11} OFFER_{it} + \alpha_{12} MKT \\
 & + \sum \beta_j INDUSTRY + \varepsilon
 \end{aligned} \quad (1)$$

对于新增贷款, 本文采用以下两种方法计算:

(1) 直接采用现金流量表中的本期借款所取得的现金项目来衡量企业的新增贷款。即新增借款 ( $DEBT\_1$ ) = 本期借款所取得的现金 / 期初总资产。

(2) 根据以往文献, 采用期初期末借款的差额以及偿还的借款估算出本期新增贷款,<sup>7</sup> 即新增借款 ( $DEBT\_2$ ) = (期末借款余额 + 本期偿还借款支付的现金 - 期初借款余额) / 期初总资产, 这里的借款包括短期借款、一年内到期的长期借款和长期借款。

是否执行新会计准则哑变量 ( $NEW$ ), 当样本时间为 2004 至 2006 年时,  $NEW = 0$ , 当样本时间为 2008 至 2010 年时,  $NEW = 1$ 。

根据以往文献, 债务合约包含的会计信息主要是集中于反映企业偿债能力和盈利能力的财务指标, 本文在回归模型中选取了以下财务指标:

总资产回报率 ( $ROA$ ), 净利润除以期初总资产。<sup>8</sup> 如果会计的信息质量提高, 其在合约中的有用性会提高, 即  $ROA$  和新增贷款成正相关关系; 反之, 如果会计的信息质量降低, 其在合约中的作用会降低,  $ROA$  和新增贷款成负相关关系。

<sup>7</sup> 孙铮、李增泉和王景斌 (2006) 和陆正飞、祝继高和孙便霞 (2008) 采用期末总借款余额减期初总借款得到贷款可能性指标; 胡奕明、林文雄、李思琦和谢诗蕾 (2008) 对新增贷款的衡量方法为: 期末长期总借款余额 - 期初长期借款余额 + 偿还的长期借款 - 长期借款应计提的利息。

<sup>8</sup> 我们在稳健性检验中也采用净资产收益率 ( $ROE$ ) 作为盈利的替代变量 (该结果未报告), 结论和采用资产收益率 ( $ROA$ ) 一致。

### 控制变量:

除盈利能力以外, 银行在进行贷款的时候, 也会对企业的偿债能力进行评估, 偿债能力越强, 银行的新增贷款越多。在文献中下列指标常作为偿债能力的重要指标。

流动比率 (*CUR*), 流动资产除以流动负债。

有形资产比例 (*TAN*), 有形资产除以总资产, 有形资产为总资产扣除无形资产得到, 执行新准则后, 有形资产为总资产扣除无形资产、商誉和开发支出得到。根据经典财务学研究, 有形资产比例越高, 企业未来违约破产的风险越小。

股东权益比率 (*EQUITY*), 所有者权益除以总资产, 该指标越高, 未来偿债风险越小。

营业毛利率 (*GROSS*), 主营业务利润 / 主营业务收入, 该指标越高, 其收益的稳定性越强, 未来发生违约风险越小。

公司规模 (*SIZE*), 采用期末总资产的自然对数衡量。根据孙铮、李增泉和王景斌 (2006), 规模较大的公司, 贷款的风险较小, 更容易取得银行借款; 同时规模较大企业的借款需求较多, 因此, 本文预期规模在模型中的回归系数为正。

主营业务收入增长率 (*GROW*), 表示公司的成长性, 具体计算方法为当期主营业务收入除以上期主营业务收入。根据胡奕明、林文雄、李思琦和谢诗蕾 (2008), 主营业务收入增长率越高, 说明公司获利能力越强, 贷款的风险较小, 越有可能取得借款, 因此, 本文预期其在模型中的回归系数为正。

自有资金比率 (*CF*), 反映企业自有资金的充裕程度, 采用经营性现金流量净额扣除投资活动产生的现金流量净额后除以期初总资产衡量。企业的自有资金越多, 对贷款的需求越低, 贷款越少, 但同时, 自有资金越多, 更容易保证获得银行贷款, 因此, 对其在模型中的符号不做预期。

权益筹资能力 (*OFFER*), 采用本期配股或增发筹集的资金除以期初总资产衡量。企业权益筹资越多, 对银行贷款的需求越低; 但另一方面, 权益筹资越多也可能说明资金需求较大, 银行贷款也越多, 同时权益筹资越多, 说明企业融资能力较强, 同样在银行更容易贷款。因此, 本文对其在模型中的符号不做预期。

市场发展程度 (*MKT*), 根据樊纲等 (2006) 报告的各省市的市场化发展指数, 排名前 15 位的, 认为是市场化程度较高的地区,  $MKT = 1$ ; 其他省市, 认为是市场化程度较低的地区,  $MKT = 0$ 。

## 2. 准则影响程度不同公司的比较

为考察准则影响程度不同的公司, 执行新准则后, 会计利润债务合约作用的变化程度是否一致, 本文在模型 (1) 中加入准则影响程度 (*GAP*) 与执行新准则 (*NEW*) 以及会计利润的交叉项, 若该回归系数显著为负, 说明准则影响程度较大的公司, 执行新准则后其会计利润对新增贷款的解释力下降程度更大。



$$\begin{aligned}
DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
& + \alpha_4 GAP + \alpha_5 GAP * NEW + \alpha_6 GAP * ROA \\
& + \alpha_7 GAP * NEW * ROA + \alpha_8 CUR_{i,t-1} + \alpha_9 TAN_{i,t-1} \\
& + \alpha_{10} EQUITY_{i,t-1} + \alpha_{11} GROSS_{i,t-1} + \alpha_{12} SIZE_{it} \\
& + \alpha_{13} GROW_{it} + \alpha_{14} CF_{it} + \alpha_{15} OFFER_{it} + \alpha_{16} MKT \\
& + \sum \beta_j INDUSTRY + \varepsilon
\end{aligned} \tag{2}$$

准则变化影响程度 (*GAP*): 考察准则影响程度最好的方法是, 在执行新会计准则后, 每年能够知道新旧会计准则计算的利润差异。但是, 在 2007 年后我们无法取得这些数据。在 2007 年新会计准则执行的第 1 年, 所有的上市公司需要分别按照新旧会计准则披露 2006 年净利润, 根据两份利润表可以计算出新会计准则对会计利润的影响。和 Ke, Li, and Yuan (2012) 的研究一致, 我们以此差异衡量准则变化对公司的影响程度。<sup>9</sup> 其计算方法为:

$$\begin{aligned}
CHANGE &= \frac{NI_{new} - NI_{old}}{NI_{old}} \\
GAP &= \ln(1 + |CHANGE|)
\end{aligned}$$

### 3. 不同治理环境下的分组检验

为考察不同控股股东的公司, 准则变化对会计业绩债务合约作用的影响程度是否一致。本文在模型 (1) 中加入股权性质 (*NSOE*) 与执行新准则 (*NEW*) 以及会计利润的交叉项, 模型如下:

$$\begin{aligned}
DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
& + \alpha_4 NSOE + \alpha_5 NSOE * NEW + \alpha_6 NSOE * ROA \\
& + \alpha_7 NSOE * NEW * ROA + \alpha_8 CUR_{i,t-1} + \alpha_9 TAN_{i,t-1} \\
& + \alpha_{10} EQUITY_{i,t-1} + \alpha_{11} GROSS_{i,t-1} + \alpha_{12} SIZE_{it} \\
& + \alpha_{13} GROW_{it} + \alpha_{14} CF_{it} + \alpha_{15} OFFER_{it} + \alpha_{16} MKT \\
& + \sum \beta_j INDUSTRY + \varepsilon
\end{aligned} \tag{3}$$

在上述模型 (3) 中, *NSOE* 为股权性质的虚拟变量, 控股股东为国家时, 该指标为 0。国有控股公司, 包括国资委、地方国资部门、国有投资公司以及国有企业终极控股的公司。控股股东为非国有时, 该指标为 1, 非国有控股公司包括民营、外资公司以及集体等非国有控股的公司。*NSOE\*NEW\*ROA<sub>i,t-1</sub>* 的系数  $\alpha_7$  如果显著为负, 说明新会计制度实施后, 非国有企业的盈利指标在借款合同中的作用下降的更快。

<sup>9</sup> 我们也对分两组对正、负 *CHANGE* 的公司分别进行检验, 结果和目前完全一致。

## 四、实证检验结果

### (一) 假说 1 的检验结果

#### 1. 描述性统计

表 2 报告了各变量在新准则执行前后的描述性统计结果。新增贷款指标 *DEBT\_1* 在准则执行前的均值为 0.28 (中位数为 0.25)。在准则执行后均值为 0.28 (中位数为 0.23)。中位数 Z 检验显示在新会计准则期间, 企业的新增贷款显著下降。*DEBT\_2* 也是同样的结果。<sup>10</sup> 业绩指标, 无论是 *ROA* 还是 *ROE*, 新准则实施阶段明显高于原准则执行阶段。其他财务指标, 如有形资产比重 *TAN*, 相较于原准则实施阶段, 新准则实施阶段有形资产占总资产的比重显著降低, 两阶段比较 T 值为 8.93, Z 值为 10.88, 这主要是由于新准则增加了部分无形资产的确认要求, 如开发支出和商誉, 有形资产为总资产扣除无形资产的部分, 无形资产增加了, 有形资产的比重自然会下降; 毛利率指标与利润指标一致, 在新准则实施阶段明显增加; 除此以外其他财务指标执行新准则前后没有显著变化。控制变量方面, 公司规模 (*SIZE*)、自有资金比率 (*CF*) 和其他权益筹资能力 (*OFFER*) 在新准则实施阶段都有明显增加。

我们也对各变量的 Pearson 相关系数进行了分析。<sup>11</sup> 我们发现, 两种方法计算出的新增借款之间具有较强的相关关系, Pearson 系数为 0.96; 前一期财务指标与贷款指标具有较强的相关关系; 解释变量之间, 部分变量之间的相关性较强, 如股东权益比率 *EQUITY* 与流动比率 *CUR* 之间的 Pearson 系数为 0.64, 因此, 在多变量回归分析中, 为减少共线性问题, 我们对模型中所有连续性解释变量按全样本进行了 *demean* 处理。<sup>12</sup>

表 3 报告了模型 (1) 的回归结果。在两个回归结果中, *ROA* 的系数均显著为正, 说明银行的贷款决策会考虑企业的盈利能力。而执行新准则与资产回报率交叉变量 *NEW\*ROA* 均显著为负, 以第一种计算方法得出的新增借款被解释变量时, *NEW\*ROA* 的估计系数为 -0.72, t 值为 -9.28; 以第二种计算方法得出的新增借款被解释变量时, *NEW\*ROA* 的估计系数为 -0.73, t 值为 -8.59; 均在 1% 水平下显著为负。说明执行新准则后, 会计利润与新增贷款的敏感性显著降低。这就支持了我们的假说 1, 新会计准则实施后, 在会计信息可靠性弱化、噪音增大、稳健性改变

<sup>10</sup> 这个结果和孔爱国、张铁凡 (2012) 的研究一致。他们以 2006 至 2010 为研究样本, 发现在 2008 年后宽松的货币政策下, 企业贷款显著下降。为什么宽松的货币政策下企业的贷款会下降? 一个重要的原因是货币政策对不同的行业影响非常大, 比如 4 万亿的经济刺激计划中, 主要受惠于铁路、公路、机场等交通设施、安居工程、农村基础建设、地震灾区建设、文化建设、节能减排等方面 (有关 2008 年开始的四万亿经济刺激计划的主要支出方向, 请参阅中华人民共和国国家发展和改革委员会网页 [http://www.ndrc.gov.cn/xwzx/xwtt/t20090521\\_280383.htm](http://www.ndrc.gov.cn/xwzx/xwtt/t20090521_280383.htm)), 大部分的上市公司并未受惠。有一些行业如建筑业、房地产行业反而受到了融资的限制, 造成这些行业新增贷款显著下降。我们在稳健性检验部分去除受影响比较大的行业, 发现会计准则的变化依然非常显著, 说明我们的结果是会计准则变化导致, 而非宏观经济变化影响的结果。

<sup>11</sup> 限于篇幅, 本文未报告完整的相关系数表格。

<sup>12</sup> 我们也对连续型变量分年度进行了 *Demean* 后, 对主要的回归进行了稳健性检验, 所有的结果均保持一致。

的条件下，银行在贷款决策中对会计信息的依赖程度应当会随之调整，会计利润与新增贷款的敏感性显著降低。新会计准则降低了会计盈余在合约中的有用性，银行必须要调整贷款的依据，更深入的问题需要讨论银行的调整对贷款决策效率的影响。

表 2 各变量在执行新会计准则前后的统计结果

	2004 – 2006 (n = 3800)			2008 – 2010 (n = 5008)			T	Z
	Mean	Median	Sd	Mean	Median	Sd		
<b>新增贷款</b>								
<i>DEBT_1</i>	0.28	0.25	0.23	0.28	0.23	0.25	1.45	3.26
<i>DEBT_2</i>	0.29	0.26	0.25	0.28	0.23	0.26	1.62	3.56
<b>控制变量</b>								
<i>ROA</i>	0.02	0.02	0.06	0.04	0.04	0.07	-15.38	-15.83
<i>ROE</i>	0.04	0.06	0.18	0.08	0.09	0.18	-12.15	-17.39
<i>CUR</i>	1.56	1.22	1.23	1.57	1.22	1.32	-0.43	1.83
<i>TAN</i>	0.97	0.98	0.05	0.96	0.97	0.06	8.93	10.88
<i>EQUITY</i>	0.48	0.46	0.19	0.48	0.47	0.20	-0.50	-0.52
<i>GROSS</i>	0.23	0.20	0.15	0.24	0.21	0.16	-2.17	-1.52
<i>SIZE</i> (百万)	3,270	1,590	6,660	5,980	2,090	12,000	-12.56	-12.51
<i>GROW</i>	1.23	1.16	0.51	1.22	1.15	0.54	0.60	2.53
<i>CF</i>	0.14	0.11	0.17	0.15	0.13	0.19	-2.33	-1.97
<i>OFFER</i>	0.01	0.00	0.05	0.03	0.00	0.11	-12.16	-13.11

## 2. 多元回归检验

其他财务指标，如流动比率和股东权益比率，其在模型中的估计系数显著为负，说明企业前期流动性越差、净资产比重越低，当期贷款越多，反映了企业的融资需求，而不是银行对贷款企业财务指标的监督作用。控制变量方面，规模在两个回归结果中的估计系数都显著为正，说明公司规模越大，新增贷款越多；同样，成长性指标的估计系数也都显著为正，说明公司成长性越高，新增贷款越多；自有资金比率在模型中的估计系数显著为正，说明企业资金越多，越有保证从银行获得贷款，这与孙铮、李增泉和王景斌（2006）的结果一致；其他权益融资能力在模型中的回归系数显著为正，说明企业从权益市场融资能力越强，同样更容易在债务市场融资，二者并非替代关系，而是互补关系；最后，市场化程度在模型中的估计系数都显著为正，说明市场化程度较高地区，上市公司整体新增贷款水平较高。<sup>13</sup>

<sup>13</sup> 我们也根据市场化指数，对不同市场化地区在实施新会计准则后，会计信息在合约中的有用性进行了讨论，发现不论是市场化程度高还是低的地区，会计准则实施后，盈余在合约中的作用均有显著下降。

表 3 新准则对会计盈余指标与新增贷款关系影响

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-4.16)	-0.03*** (-4.98)
<i>ROA</i>	0.64*** (8.86)	0.64*** (8.11)
<i>NEW*ROA</i>	-0.72*** (-9.28)	-0.73*** (-8.59)
<i>CUR</i>	-0.03*** (-9.55)	-0.03*** (-9.12)
<i>TAN</i>	0.23*** (3.67)	0.22*** (3.42)
<i>EQUITY</i>	-0.26*** (-10.09)	-0.24*** (-8.99)
<i>GROSS</i>	-0.13*** (-4.46)	-0.15*** (-5.11)
<i>SIZE</i>	0.02*** (4.42)	0.02*** (5.22)
<i>GROW</i>	0.04*** (5.67)	0.06*** (7.64)
<i>CF</i>	0.08*** (3.41)	0.09*** (3.81)
<i>OFFER</i>	0.28*** (7.46)	0.42*** (9.57)
<i>MKT</i>	0.04*** (5.02)	0.04*** (4.85)
控制行业		
Constant	0.36*** (10.87)	0.37*** (11.02)
Observations	8,808	8,808
R-squared	0.2231	0.2325

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

表 4 准则变化程度的影响

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.01** (-2.27)	-0.02*** (-2.88)
<i>ROA</i>	0.50*** (6.12)	0.48*** (5.40)
<i>NEW*ROA</i>	-0.59*** (-6.34)	-0.57*** (-5.68)
<i>GAP</i>	0.01 (0.71)	0.01 (0.90)
<i>GAP*NEW</i>	-0.05*** (-2.61)	-0.06*** (-3.05)
<i>GAP*ROA</i>	0.51*** (3.72)	0.61*** (4.10)
<i>GAP*NEW*ROA</i>	-0.43** (-2.55)	-0.54*** (-3.03)
<i>CUR</i>	-0.03*** (-9.38)	-0.03*** (-8.93)
<i>TAN</i>	0.23*** (3.70)	0.23*** (3.52)
<i>EQUITY</i>	-0.25*** (-9.01)	-0.23*** (-7.99)
<i>GROSS</i>	-0.12*** (-3.97)	-0.14*** (-4.62)
<i>SIZE</i>	0.02*** (4.19)	0.02*** (4.95)
<i>GROW</i>	0.04*** (5.64)	0.06*** (7.62)
<i>CF</i>	0.10*** (3.84)	0.11*** (4.25)
<i>OFFER</i>	0.28*** (7.24)	0.41*** (9.33)
<i>MKT</i>	0.05*** (5.16)	0.05*** (5.01)
控制行业		
Constant	0.35*** (10.05)	0.36*** (10.21)
Observations	8,281	8,281
R-squared	0.2222	0.2331

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

## （二）假说 2 的检验结果

表 4 报告了模型 (2) 的回归结果。同模型 (1) 一致, 在两个回归模型中,  $ROA$  的系数均显著为正, 交叉项  $NEW*ROA$  的系数均显著为负。准则影响程度与执行新准则和会计业绩交叉项  $GAP*NEW*ROA$  在两个回归模型中回归系数分别为 -0.43 和 -0.54, T 值分别为 -2.55 和 -3.03, 分别在 5% 和 1% 检验水平下显著为负。说明执行新会计准则后, 受准则变化影响程度较大的公司, 其会计利润对新增贷款的解释力下降程度更大, 这也说明执行新准则后, 会计收益与新增贷款敏感性下降, 是由于会计准则的变化, 而不是其他的因素。

## （三）假说 3 的检验结果

表 5 报告了假说 3 的回归结果, 在两组回归中,  $NSOE*ROA$  的系数分别为 0.41 ( $T = 3.14$ ) 和 0.46 ( $T = 3.08$ ), 均在 1% 检验水平下显著为正, 说明相较于国有控股公司, 非国有控股公司会计业绩与新增贷款的敏感性更大, 会计业绩在非国有公司贷款合同中更有用。这与孙铮、李增泉和王景斌 (2006) 的结论一致。以  $DEBT\_1$  为因变量的回归中,  $NSOE*NEW*ROA$  的系数为 -0.39, t 值为 -2.36, 在 5% 水平下显著为负, 以  $DEBT\_2$  为因变量的回归中,  $NSOE*NEW*ROA$  的系数为 -0.47, t 值为 -2.59, 在 1% 水平下显著为负, 说明相较于国有控股公司, 执行新准则后, 非国有公司会计业绩与新增贷款敏感性的下降程度更大。说明银行对非国有企业贷款时更看重会计业绩, 准则发生变化引起会计信息质量改变时, 银行对非国有企业贷款合同中会计业绩的调整也更加及时。

表 5 证据支持了本文的假说 3。由于会计信息在国有企业债务合约中的有用性小于非国有企业, 准则变更引起会计信息质量发生变化时, 国有企业会计信息债务合约作用的变化程度也要小于非国有企业。即执行新准则后, 非国有控股公司的会计利润与新增贷款敏感性的下降程度更大。

## 五、稳健性检验

1、我们首先采用了不同的业绩替代指标。采用净资产回报率  $ROE$  代替资产回报率作为盈利指标对模型 (1) 进行回归, 表 6 是回归结果, 净资产收益率与执行新准则交叉变量  $NEW*ROE$  在两个回归中的估计系数为 -0.21, t 值为 -7.36 和 -6.48, 均在 1% 的水平下显著为负, 说明执行新准则后, 净资产回报率与新增贷款的敏感性明显降低。这与本文的主要结果一致。

2、2008 年 10 月, 为抵御世界金融危机对中国的影响, 国家提出了 4 万亿的投资计划, 使得 2008 年第四季度银行信贷规模扩大, 这同样会发现 2008 至 2010 年会计指标与新增贷款关系下降的结果。因此, 剔除 2008 年的样本公司, 以 2004 至 2006 年和 2009 至 2010 年的样本公司重新对模型 (1) 进行回归, 表 7 报告了回归

表 5 不同治理环境下, 新准则对会计利润与新增贷款关系影响的回归结果

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.03*** (-4.58)	-0.04*** (-5.15)
<i>ROA</i>	0.47*** (5.50)	0.46*** (4.88)
<i>NEW*ROA</i>	-0.63*** (-5.94)	-0.60*** (-5.25)
<i>NSOE</i>	0.03*** (2.92)	0.03*** (2.96)
<i>NEW*NSOE</i>	0.01 (0.49)	0.01 (0.42)
<i>NSOE*ROA</i>	0.41*** (3.14)	0.46*** (3.08)
<i>NEW*NSOE*ROA</i>	-0.39** (-2.36)	-0.47*** (-2.59)
<i>CUR</i>	-0.03*** (-9.56)	-0.03*** (-9.13)
<i>TAN</i>	0.23*** (3.68)	0.22*** (3.44)
<i>EQUITY</i>	-0.26*** (-9.72)	-0.23*** (-8.64)
<i>GROSS</i>	-0.14*** (-4.84)	-0.16*** (-5.48)
<i>SIZE</i>	0.02*** (5.42)	0.03*** (6.16)
<i>GROW</i>	0.04*** (5.50)	0.06*** (7.51)
<i>CF</i>	0.07*** (3.29)	0.09*** (3.71)
<i>OFFER</i>	0.28*** (7.41)	0.42*** (9.52)
<i>MKT</i>	0.04*** (4.60)	0.04*** (4.44)
控制行业		
Constant	0.35*** (10.35)	0.36*** (10.48)
Observations	8,808	8,808
R-squared	0.2279	0.2370

注: 括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ , \*\*表示  $p < 0.05$ , \*表示  $p < 0.1$ 。

表 6 稳健性检验：新准则对净资产回报率与新增贷款影响的回归结果

变量	(1)	(2)
	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-4.00)	-0.03*** (-4.83)
<i>ROE</i>	0.20*** (9.38)	0.19*** (7.98)
<i>NEW*ROE</i>	-0.21*** (-7.36)	-0.21*** (-6.48)
<i>CUR</i>	-0.03*** (-9.44)	-0.03*** (-8.99)
<i>TAN</i>	0.24*** (3.91)	0.24*** (3.65)
<i>EQUITY</i>	-0.26*** (-10.09)	-0.24*** (-8.97)
<i>GROSS</i>	-0.12*** (-4.60)	-0.15*** (-5.25)
<i>SIZE</i>	0.02*** (4.47)	0.02*** (5.28)
<i>GROW</i>	0.04*** (5.63)	0.06*** (7.55)
<i>CF</i>	0.08*** (3.54)	0.09*** (3.95)
<i>OFFER</i>	0.29*** (7.52)	0.42*** (9.62)
<i>MKT</i>	0.04*** (4.96)	0.04*** (4.80)
控制行业		
Constant	0.36*** (10.85)	0.36*** (10.99)
Observations	8,808	8,808
R-squared	0.2227	0.2318

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

结果,执行新准则与资产回报率交叉项 *NEW\*ROA* 在两个回归中的估计系数均在 1% 的水平下显著为负,说明 2008 至 2010 年,会计指标对新增贷款解释力的下降并非是信贷政策变化引起的。



表 7 稳健性检验：剔除 2008 年样本公司后的回归结果

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.03*** (-4.52)	-0.03*** (-5.41)
<i>ROA</i>	0.68*** (9.31)	0.70*** (8.64)
<i>NEW*ROA</i>	-0.78*** (-9.66)	-0.80*** (-8.98)
<i>CUR</i>	-0.03*** (-9.61)	-0.03*** (-9.04)
<i>TAN</i>	0.19*** (2.93)	0.18** (2.55)
<i>EQUITY</i>	-0.28*** (-10.53)	-0.26*** (-9.44)
<i>GROSS</i>	-0.12*** (-4.24)	-0.15*** (-5.12)
<i>SIZE</i>	0.02*** (3.98)	0.02*** (4.60)
<i>GROW</i>	0.04*** (5.26)	0.06*** (7.28)
<i>CF</i>	0.06** (2.45)	0.07*** (2.73)
<i>OFFER</i>	0.28*** (6.25)	0.41*** (8.02)
<i>MKT</i>	0.04*** (4.75)	0.04*** (4.62)
控制行业		
Constant	0.38*** (11.07)	0.38*** (11.06)
Observations	7,314	7,314
R-squared	0.2269	0.2340

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

3、新会计准则执行后，除了业绩指标，其他会计指标也会受到影响。对模型（1）中加入的其他变量与执行新会计准则的交叉项，表 8 报告了回归结果，控制了其他变量在执行新准则前后与新增贷款关系的变化后，*NEW\*ROA* 仍在 1% 的水平上显著为负。

在主要的结果中，我们可以看到，在实行新会计准则前，*ROA* 的系数显著为正，

即银行的贷款决策依赖于企业的盈利；实行新会计准则后， $NEW*ROA$  的系数显著为负，说明会计信息的作用显著下降。 $ROA$  和  $NEW*ROA$  的系数之和变得不显著，这说明在新会计准则实施后，盈利能力和贷款变得不相关。为什么新会计准则实施后，会计盈利指标和借款金额不相关？从表 8 中我们可以看出，有形资产 ( $TAN$ ) 在 IFRS 采用前不显著，在 IFRS 后显著为正。一个可能的解释是，由于新会计准则施行后，会计利润的操纵空间加大，银行对利润数字更不相信，在贷款的时候更依赖于企业有形资产的价值，因为有形资产是企业借款抵押的重要标的。当然，在银行贷款的实务中，抵押有形资产还需要经过银行认定的资产评估公司进行评估，从而增加了交易成本。我们对主要结果的  $NEW*TAN$  都进行了稳健性检验，所有的结果中， $NEW*TAN$  的系数均显著为正。Chen, Chen, Wang, and Yao (2012) 的跨国研究在一定程度上支持我们的推测，他们的研究发现，施行新会计准则后，银行更加依赖于抵押进行贷款。<sup>14</sup>

4、考虑到 2007 年的贷款决策是依据 2006 年原准则下的财务数据做出的，因此在本文主要的回归中剔除了 2007 年的样本。这里我们加入 2007 年的样本，重新对模型 (1) 进行回归，表 9 报告了回归结果， $NEW*ROA$  仍在 1% 的水平下显著为负。

5、在主样本中，2008 年以后的公司数目多于 2006 年以前，是否因为新增公司的特征导致了新增贷款额与业绩敏感性关系的变化？我们采用 2004 至 2010 年的不平衡面板数据 (unbalanced panel data, 保证所有公司在 IFRS 采用前后均同时至少出现一次) 进行稳健性检验。2004 至 2006 年以及 2008 至 2010 年共得到 7,954 个观测值。表 10 为回归结果。可以看出，交叉变量  $NEW*ROA$  的系数均在 1% 检验水平下显著为负。说明不是新增公司的特征、而是新会计准则的实施导致了新增贷款额与业绩敏感性关系的变化。

#### 6、对行业影响的进一步检验

我们在上述所有的回归中已经控制了行业的因素，但是由于 2008 年开始的四万亿的刺激计划对不同的行业有不同影响，我们在此进一步排除行业的影响。四万亿主要受惠于铁路、公路、机场等交通设施、安居工程、农村基础建设、地震灾区建设、文化建设、节能减排等方面，大部分的上市公司并未因此受惠而改变融资状况。其他一些行业如建筑业、房地产则受到宏观调控的影响，新增贷款反而受到严格的控制。我们对每个行业两个期间新增贷款的变化进行了显著性检验，发现有两个行业（水电煤气公用事业、金属行业）的新增贷款显著增加，4 个行业（医药、信息技术、建筑业、传媒与文化产业）的新增贷款显著减少。为排除宏观政策的影响，我们做了如下检验。

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<sup>14</sup> 由于中国现在的信息披露制度下，我们无法获取数据去检验是否中国银行在新会计准则施行后是否更依赖于抵押。未来可在这一方面继续研究。

表 8 稳健性检验：模型中加入控制变量与执行新准则 (*NEW*) 的交叉项

变量	(1)	(2)
	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	0.00 (0.21)	0.00 (-0.52)
<i>ROA</i>	0.64*** (7.98)	0.64*** (7.32)
<i>NEW*ROA</i>	-0.71*** (-7.04)	-0.72*** (-6.63)
<i>CUR</i>	-0.03*** (-6.73)	-0.03*** (-6.14)
<i>NEW*CUR</i>	0.01 (1.04)	0.00 (0.81)
<i>TAN</i>	0.10 (1.02)	0.09 (0.96)
<i>NEW*TAN</i>	0.20* (1.86)	0.20* (1.80)
<i>EQUITY</i>	-0.27*** (-7.63)	-0.24*** (-6.57)
<i>NEW*EQUITY</i>	0.00 (0.04)	-0.00 (-0.10)
<i>GROSS</i>	-0.12*** (-3.48)	-0.16*** (-4.45)
<i>NEW*GROSS</i>	-0.02 (-0.42)	0.01 (0.37)
<i>SIZE</i>	0.02*** (2.92)	0.02*** (3.41)
<i>NEW*SIZE</i>	0.00 (0.16)	0.00 (0.13)
<i>GROW</i>	0.02** (2.39)	0.05*** (4.46)
<i>NEW*GROW</i>	0.03*** (2.62)	0.02 (1.39)
<i>CF</i>	0.10*** (3.04)	0.12*** (3.30)
<i>NEW*CF</i>	-0.04 (-1.02)	-0.05 (-1.05)
<i>OFFER</i>	0.02 (0.19)	0.30** (2.40)
<i>NEW*OFFER</i>	0.28** (2.43)	0.12 (0.91)
<i>MKT</i>	0.06*** (5.64)	0.06*** (5.35)
<i>NEW*MKT</i>	-0.03** (-2.53)	-0.03** (-2.41)
控制行业		
Constant	0.35*** (10.23)	0.35*** (10.45)
Observations	8,808	8,808
R-squared	0.2271	0.2344

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

表 9 稳健性检验：加入 2007 年的样本

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-3.57)	-0.02*** (-4.17)
<i>ROA</i>	0.57*** (8.42)	0.56*** (7.67)
<i>NEW*ROA</i>	-0.65*** (-9.23)	-0.65*** (-8.48)
<i>CUR</i>	-0.03*** (-9.76)	-0.03*** (-9.58)
<i>TAN</i>	0.25*** (4.01)	0.26*** (4.04)
<i>EQUITY</i>	-0.26*** (-9.84)	-0.24*** (-8.69)
<i>GROSS</i>	-0.13*** (-4.55)	-0.15*** (-5.20)
<i>SIZE</i>	0.02*** (4.53)	0.02*** (5.39)
<i>GROW</i>	0.04*** (6.06)	0.06*** (8.21)
<i>CF</i>	0.07*** (3.34)	0.09*** (3.83)
<i>OFFER</i>	0.26*** (7.96)	0.39*** (10.14)
<i>MKT</i>	0.05*** (5.36)	0.05*** (5.30)
控制行业		
Constant	0.36*** (10.68)	0.36*** (10.79)
Observations	10,226	10,226
R-squared	0.2208	0.2314

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

首先，我们去除掉新增贷款显著增加的两个行业，对模型 1 进行回归，结果如表 11。可以看出在两种新增贷款的衡量指标下， $NEW*ROA$  的系数均为 -0.69，都在 1%检验水平下显著为负。

其次，我们扣除新增贷款显著增加和减少的 6 个行业，对模型 1 进行回归，结果如表 12。可以看出在两种新增贷款的衡量指标下， $NEW*ROA$  的系数分别为 -0.73 和 -0.71，均在 1%检验水平下显著为负。

表 10 新准则对会计盈余指标与新增贷款关系影响—采用非平衡面板数据的结果

变量	(1) <i>DEBT_1</i>	(2) <i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-3.31)	-0.02*** (-4.04)
<i>ROA</i>	0.58*** (7.92)	0.59*** (7.23)
<i>NEW*ROA</i>	-0.61*** (-7.25)	-0.62*** (-6.63)
<i>CUR</i>	-0.03*** (-9.54)	-0.03*** (-9.01)
<i>TAN</i>	0.24*** (3.75)	0.24*** (3.55)
<i>EQUITY</i>	-0.25*** (-8.57)	-0.22*** (-7.52)
<i>GROSS</i>	-0.11*** (-3.52)	-0.13*** (-4.26)
<i>SIZE</i>	0.02*** (4.17)	0.02*** (4.93)
<i>GROW</i>	0.04*** (5.30)	0.06*** (7.31)
<i>CF</i>	0.10*** (4.02)	0.12*** (4.43)
<i>OFFER</i>	0.28*** (7.21)	0.43*** (9.30)
<i>MKT</i>	0.05*** (4.89)	0.05*** (4.73)
控制行业		
Constant	0.35*** (9.66)	0.36*** (9.82)
Observations	7,954	7,954
R-squared	0.2206	0.2322

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

表 11 稳健性检验：剔除新增贷款显著增加的样本公司后的回归结果

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.03*** (-5.15)	-0.03*** (-5.61)
<i>ROA</i>	0.63*** (8.54)	0.64*** (7.70)
<i>NEW*ROA</i>	-0.69*** (-8.66)	-0.69*** (-7.82)
<i>CUR</i>	-0.03*** (-8.86)	-0.03*** (-8.38)
<i>TAN</i>	0.24*** (3.92)	0.23*** (3.65)
<i>EQUITY</i>	-0.26*** (-9.37)	-0.24*** (-8.45)
<i>GROSS</i>	-0.12*** (-4.03)	-0.14*** (-4.65)
<i>SIZE</i>	0.02*** (4.64)	0.02*** (5.06)
<i>GROW</i>	0.03*** (4.78)	0.06*** (6.80)
<i>CF</i>	0.05** (2.30)	0.06** (2.50)
<i>OFFER</i>	0.29*** (7.31)	0.40*** (8.76)
<i>MKT</i>	0.05*** (4.82)	0.05*** (4.73)
控制行业		
Constant	0.37*** (10.98)	0.37*** (11.06)
Observations	7,683	7,683
R-squared	0.2172	0.2210

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

表 12 稳健性检验：去除新准则执行阶段新增贷款显著增加和显著下降的行业

	(1)	(2)
变量	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-3.74)	-0.03*** (-4.24)
<i>ROA</i>	0.66*** (7.93)	0.65*** (6.98)
<i>NEW*ROA</i>	-0.73*** (-7.95)	-0.71*** (-6.96)
<i>CUR</i>	-0.03*** (-7.53)	-0.02*** (-6.92)
<i>TAN</i>	0.25*** (3.64)	0.23*** (3.33)
<i>EQUITY</i>	-0.28*** (-8.87)	-0.26*** (-8.07)
<i>GROSS</i>	-0.10*** (-2.85)	-0.13*** (-3.47)
<i>SIZE</i>	0.02*** (4.85)	0.03*** (5.18)
<i>GROW</i>	0.03*** (4.81)	0.06*** (6.59)
<i>CF</i>	0.04 (1.43)	0.04* (1.69)
<i>OFFER</i>	0.27*** (6.44)	0.40*** (8.03)
<i>MKT</i>	0.05*** (4.56)	0.05*** (4.36)
控制行业		
Constant	0.37*** (10.87)	0.37*** (10.97)
Observations	6,303	6,303
R-squared	0.2116	0.2151

注：括号内是稳健性 T 值。\*\*\*表示  $p < 0.01$ ，\*\*表示  $p < 0.05$ ，\*表示  $p < 0.1$ 。

从上述检验可以看出，新会计准则实施后，会计业绩和新增贷款关系的显著下降不是宏观调控导致，而是新会计准则变化所导致。

## 六、研究结论

本文检验了执行新准则前后上市公司新增贷款与会计指标关系的变化情况，主要有以下发现：

(1) 执行新准则后，会计利润与新增贷款的敏感性显著下降，说明新准则加大了利润操纵的空间，降低了会计利润评价企业经营业绩的能力，从而降低了利润在债务合约中的有用性；(2) 受准则变化影响程度较大的公司，执行新准则后，其会计盈余指标与新增贷款敏感性下降程度更高；说明相较于原准则实施阶段，新准则实施后，会计盈余对新增贷款解释力的下降，是准则变化导致的，而不是其他的因素；(3) 无论是国有控股公司，还是非国有控股公司，执行新准则后，会计盈利指标与新增贷款敏感性均显著降低，但非国有公司降低的程度明显大于国有控股公司。说明由于政府干预和国有企业预算软约束等问题的存在，降低了会计指标在国有企业债务合约中的有用性，准则变化导致会计信息质量发生变化时，银行对会计利润在国有企业贷款合约中的调整程度也要低于非国有企业。

总之，本文研究发现，新会计准则降低了会计信息的合约作用；且准则变化对会计信息合约作用的影响受到公司环境的约束。

本文从债务合约的角度研究了新会计准则的执行效果，有以下研究启示：

决策有用观和契约观对会计信息质量的要求并不一致，旨在提高会计信息决策有用的会计准则可能会降低了会计信息在合约中的作用。如公允价值会计，资产或负债采用公允价值计量，对投资者来说，相较于历史成本为基础的资产价值信息，更能反映资产未来现金流量的信息，更有助于投资决策；<sup>15</sup> 但从合约的角度，资产公允价值的变动计入利润表，加大了利润的波动性，且这部分波动与管理层努力程度无关，持续性较差。再加上公允价值估计时的偏差以及管理层盈余操纵动机的存在，会计利润不仅不能减轻契约各方的代理问题，反而增加了契约签订和执行的成本，降低会计信息在合约中的有用性；再如对部分无形资产进行表内确认，比如商誉、研发支出等，这些资产的价值反映了未来现金流量的能力，更有助于投资者评价企业的价值，但由于在初始确认以及持有期间进行摊销时，需要大量估计和管理层的判断，无疑增加了管理层操纵的空间，降低了会计信息的可验证性，从而降低了其在合约中的作用。因此，对准则制定者来说需要在会计信息两种功能之间进行权衡。

其次，会计信息存在的制度环境对会计信息在合约中的作用有显著的影响。除了股票投资者外，在中国，政府和银行也是会计信息的主要使用者，政府通过会计业绩评价国企经营者受托责任履行情况，银行采用会计信息评价企业的偿债能力和财务风险，因此，相较于估值作用，会计信息在合约、监管和税收中的应用更为普遍。同时，由于中国法律体系、公司治理机制和审计质量等制度保障并不完善，如何限制企业利用准则判断空间的增加进行盈余操纵、提高会计信息的可信度显得更

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<sup>15</sup> 薛爽、赵立新、肖泽中和程绪兰（2008）、张然和张会丽（2008）等的研究发现，新会计准则下会计信息含量比旧准则有显著提高。



为现实,因此,准则制定者需要在与 IFRS 趋同、提高会计信息可比性的同时兼顾中国会计信息存在的现实环境。

本文的研究还存在一定的局限性。首先,由于公司借款信息披露的局限性,我们无法取得借款合同的其他重要指标(如利率),这些指标是否受到会计准则变化的影响,本文还没有办法进行检验。其次,尽管我们的研究试图排除混合事件的影响,如我们发现,受会计准则不同影响的公司、不同性质的公司在采用新会计准则前后,会计信息的有用性显著不同。我们也对宏观货币政策的变化进行了一些控制。但是我们无法找到控制样本来更好的控制混合事件的影响,还不能完全排除其他混合事件的影响。

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# New Chinese Accounting Standards and the Usefulness of Accounting Information in Debt Contracts<sup>1</sup>

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## Abstract

This paper investigates whether the usefulness of accounting profitability in debt contracts changes after the adoption of the new Chinese accounting standards (“NCAS”) in 2007. We find that the sensitivity of new debts to accounting profitability declines after the adoption and that firms are heavily influenced by the adoption of the new accounting standards and experience a more significant decrease in sensitivity. Moreover, such a decrease in sensitivity is more pronounced for non-state-owned companies than for state-owned companies. Overall, our results indicate that the usefulness of accounting profitability decreases after the adoption of the new accounting standards.

**Keywords:** New Accounting Principles, Earnings, Debt Contracts

**CLC Codes:** F275.2, F830

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## I. Introduction

On 15 February 2006, China's Ministry of Finance issued a set of new Chinese accounting standards (hereinafter referred to as "NCAS"). The NCAS consist of one basic principle and 38 detailed principles and took effect for listed companies on 1 January 2007. Except for a few items, the NCAS largely converge with the International Financial Reporting Standards (hereinafter referred to as "IFRS"). The NCAS are not only a milestone in China's accounting reform but also an important step in the process of the international convergence of accounting standards. What are the economic consequences of the adoption of the NCAS? The answer to this question is important to regulators, practitioners, and scholars. The current research on this issue basically uses the valuation perspective. Specifically, most current research focuses on the economic consequences of IFRS adoption on the equity market; for example, most studies examine whether accounting information becomes more relevant after IFRS adoption.<sup>3</sup> However, few studies have reported the impact of IFRS adoption on debt holders. Our study attempts to fill this void in the literature.

We are interested in the impact of IFRS adoption on debt holders for three reasons. First, debt is an important financing method, and NCAS adoption has definitely had an impact on the accounting numbers used in debt contracts. Watts (2003) argues that the demand from debt holders affects the quality of accounting information, and Ball, Robin, and Sadka (2008) show that the debt market has a larger impact on financial reporting quality than the equity market. Therefore, it is critical to investigate the impact of NCAS adoption on debt holders.

Second, valuation and contracting pose different demands as regards the quality of accounting information. According to Gjesdal (1981) and Lambert and Larcker (1987), the improvement of accounting information's usefulness to investment decisions may weaken its contracting role. Holthausen and Watts (2001) and O'Connell (2007) suggest that accounting information plays an important role in contracting and governance, which are major determinants of accounting practice. Therefore, studying the economic consequences of NCAS adoption from the relevance perspective paints an incomplete picture of its economic consequences.

Third, studies on the impact of standards convergence on contracting provide more direct evidence than those that examine accounting information relevance. However, we find that few studies explore this issue from the contracting perspective.

Accounting information is widely used in banks' decision-making. In this study, we are interested in how the banks, as important accounting information users, have reacted

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<sup>3</sup> Please refer to Leuz and Wysocki (2008) and Hail and Leuz (2007).

to NCAS adoption. Specifically, we raise three research questions: (1) Does the usefulness of accounting profitability in debt contracting change after NCAS adoption? (2) Do firms heavily influenced by NCAS adoption experience a larger change in the usefulness of accounting profitability? (3) Does the nature of ownership have an impact on the change in usefulness?

Using Chinese listed companies between (a) 2004 and 2006 and (b) 2008 and 2010 as our sample, our study produces three major findings. First, the amount of a new debt becomes less sensitive to accounting profitability in the post-NCAS period, which suggests that NCAS adoption weakens the usefulness of accounting profitability in debt contracts. This finding is consistent with our argument that NCAS adoption has introduced fair value accounting, which makes earnings a noisier measure for corporate operating performance. Meanwhile, the increased discretion introduced by the NCAS also weakens the reliability and testability of earnings, mitigating the usefulness of accounting information in debt contracts.

Second, firms that are heavily influenced by NCAS adoption experience a more significant decrease in the usefulness of accounting numbers, which further supports our argument that the decreased sensitivity of new debts to accounting profitability can be attributed to the change in standards rather than to other factors.

Third, the change in such sensitivity varies according to the nature of ownership. Specifically, while the sensitivity of new debts to accounting profitability decreases for both state-owned and non-state-owned companies in the post-NCAS period, the latter see a higher degree of decrease in sensitivity. These findings are consistent with our argument that state-owned companies are less sensitive to this policy change than non-state-owned companies due to government intervention, government implicit guarantees, and soft budget constraints. Our findings also indicate that corporate governance influences the role of accounting information in debt contracting. Moreover, the change in the usefulness of accounting information in contracting decisions is also influenced by institutional factors.

This study makes two contributions to the accounting literature. First, it provides evidence regarding the impact of mandatory accounting policy change on the contracting role of accounting information. As previously stated, few studies have investigated the economic consequences of IFRS convergence from the contracting perspective. To the best of our knowledge, only Kim, Tsui, and Yi (2010), Christensen, Lee, and Walker (2009), Wu and Zhang (2009b), and Chen, Chen, Wang, and Yao (2012) have studied the impact of IFRS adoption on the debt market. For example, Kim, Tsui, and Yi (2010) study the impact of IFRS adoption on interest rate using firms that voluntarily adopt IFRS and find that banks ask for lower interest rates for those firms. Christensen, Lee, and Walker

(2009) study the market reaction when firms disclose reconciliations from local generally accepted accounting principles (GAAP) to IFRS and find that the market reacts to such reconciliation information. This finding is consistent with their argument that reconciliation items have information content because the policy change will affect debt contracts, which causes different wealth allocation between debt holders and equity holders. Wu and Zhang (2009b) examine the impact of IFRS adoption on the sensitivity of credit ratings to earnings. They find that credit ratings become more sensitive to earnings for voluntary adopters. In contrast, sensitivity increases only for mandatory adopters under strong rule of law. Different from their study, our paper adopts a more direct debt ratio to discuss the role of earnings in debt contracts. Chen, Chen, Wang, and Yao's (2012) international study investigates the change in accounting information's usefulness in debt contracts before and after IFRS adoption and finds that accounting information is less useful in debt contracts after IFRS adoption. However, their sample does not include China. As China is currently the biggest economic entity that converges with IFRS, how Chinese banks react to NCAS adoption is an interesting and important research question.

Second, this paper offers evidence that corporate governance will influence the effects of accounting standard changes. Sun, Li, and Wang (2006) find that accounting information is less useful in debt contracts for state-owned companies than for non-state-owned companies. Their findings suggest that the importance of accounting information in debt contracts varies according to corporate governance. Their finding leads to a question: Does the impact of NCAS adoption on the usefulness of accounting information in debt contracts vary according to corporate governance? To the best of our knowledge, no studies have offered such evidence. Our study raises this research question and finds that the change in accounting information's usefulness in debt contracts varies for firms with different levels of governance.

The remainder of our paper proceeds as follows. The next section reviews related studies and develops our hypotheses. Section III describes the research design, and the empirical results are presented and discussed in Section IV. Robustness checks are provided in Section V. Section VI concludes the paper and discusses the implications of the study.

## **II. Literature Review and Hypothesis Development**

1. The impact of NCAS adoption on the usefulness of accounting information in debt contracts

Accounting information helps to reveal a firm's financial status and its operating performance. It is not only an important input for banks to make credit decisions but also a useful tool for supervising firms and reducing the information asymmetry between banks and firms. Previous studies find that accounting information plays an important role in designing debt contracts. For example, early research by Smith and Warner (1979) and Leftwich (1983) documents the existence and function of accounting-based covenants in public debt contracts. Watts and Zimmerman (1986) argue that debt covenants based on accounting information could prevent equity holders or managers from damaging debt holders' interests by declaring dividends or taking high risk projects. Sloan (2001) also suggests that accounting information helps debt holders to exercise their rights.

Findings from the prior literature suggest that banks take accounting quality into consideration when they make lending decisions. Leftwich (1983) examines private lending agreements and finds that banks tend to choose a set of measurement rules that restricts management's ability to choose accounting rules that favour shareholders at the expense of debt holders. Watts (2003) argues that debt contracting is one of the most important explanations for conservative accounting; for instance, conservative accounting can protect debt holders by restricting shareholders' dividends in bad situations. Moreover, debt holders welcome conservative accounting because their payoff function makes them more conservative and careful about liquidation value. According to Beatty, Ramesh, and Weber (2002), firms are willing to pay substantially higher interest rates to retain accounting flexibility in their debt contracts, and Francis, Lafond, Olsson, and Schipper (2005) find that interest rates are higher for firms with poor accounting quality. All of this evidence implies that accounting quality affects firms' financial costs. Bharath, Sunder, and Sunder (2006) also find that firms with poor accounting quality bear higher interest rates; moreover, such firms have more stringent maturity and collateral terms in their debt contracts. Li (2010) argues that efficient debt contracting requires accounting information to be good at revealing firms' future operating performance, and hence transitory earnings are relatively less useful in debt contracts. Overall, all of the evidence suggests that those involved in debt contracting prefer accounting information to be less subject to manipulation, more conservative, and less transient.

With financial reform in China going deeper, Chinese banks have begun to introduce the concept of risk management and have already established five categories of loan. Meanwhile, the bank rating and evaluation system of credit assets has gradually matured as well. Consequently, accounting information has become widely used in credit decisions, debt supervision, and default risk predictions. Rao and Hu's survey (2005) finds that banks value accounting information. Hu, Lin, Li, and Xie (2005) find that



interest rates are negatively related to accounting performance, suggesting that banks make their credit decisions based on accounting information. Sun, Li, and Wang (2006) and Liao (2007) show that accounting information helps to reduce the information asymmetry between lenders and borrowers and therefore significantly influences credit decisions.

The NCAS give management more discretion to manipulate earnings. For example, management has more discretion in determining the fair value of assets when an active market of those assets does not exist. Also, management has more discretion in decisions regarding the capitalisation of development expenses and goodwill impairment. Studying the change in accounting quality in countries that have mandatorily adopted the IFRS, Daske, Hail, Leuz, and Verdi (2008) find that accounting quality improves after IFRS adoption in strong law enforcement countries, while the change in accounting information quality is insignificant for countries with weak law enforcement. Wu and Zhang (2009b) find that the voluntary adoption of the IFRS/US GAAP comes with significant increases in the sensitivity of credit ratings to the accounting default factor.<sup>4</sup> No such evidence is found for mandatory adoption except in countries with a stronger rule of law. Their findings suggest that the incentive to adopt IFRS affects accounting quality.<sup>5</sup> What are the consequences of the adoption of new accounting standards in weak law enforcement countries such as China? He, Wong, and Young (2011) provide evidence that firms manipulate earnings through judgments related to fair value after NCAS adoption. Under the current situation in China, larger discretion over earnings may increase the information asymmetry between firms and banks and introduce more noises into earnings, which make earnings less useful in debt contracts. Meanwhile, according to the NCAS, some assets are recognised in the balance sheet based on their fair value and changes in value of those assets are recognised as earnings. This part of earnings is unrelated to a firm's major business. Moreover, this part of earnings is relatively more transient. All of these features make earnings under the NCAS more volatile and less predictive of future performance, increasing the information asymmetry between firms and banks (Chen, Chen, Wang, and Yao, 2012).

The overall evidence suggests that (1) Chinese banks use accounting information when they make credit decisions and (2) the accounting numbers under the NCAS might be less useful in debt contracts due to deteriorated reliability and larger noises. Using a sample of Chinese listed companies, Ke, Li, and Yuan (2012) find that the usefulness of

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<sup>4</sup> There are 883 firm-year observations from 16 countries in the voluntary adoption sample. The mandatory adoption sample has 1,917 firm-year observations from 18 countries. The total sample size is 2,800 firm-year observations.

<sup>5</sup> Please refer to Christensen, Lee, and Walker (2007), Barth, Landsman, and Lang (2008), and Daske, Hail, Leuz, and Verdi (2007) for more details.

accounting information decreases significantly after NCAS adoption. Chen, Chen, Wang, and Yao (2012) also find that the usefulness of accounting information decreases in debt contracts after IFRS adoption.<sup>6</sup> The NCAS may increase the information asymmetry between banks and firms. Accordingly, banks will adjust their reliance on accounting numbers. This leads to our first hypothesis:

**H1: The sensitivity of new debts to accounting profitability decreases after NCAS adoption.**

According to Hypothesis 1, if the change in sensitivity is due to NCAS adoption, then firms that are heavily influenced by NCAS adoption should experience a larger sensitivity change; if not, the change in sensitivity may be due to other factors rather than to NCAS adoption. We test this prediction with our second hypothesis:

**H2: Firms heavily influenced by NCAS adoption will experience a larger sensitivity change.**

2. The impact of NCAS adoption on the usefulness of accounting information: the role of corporate governance

The nature of ownership has a great influence on debt contracting in China. Although the state-owned banks have gone through huge marketisation in recent years, the Government still plays an important role in allocating resources, especially when both the companies and the banks are controlled by the state. Sun, Li, and Wang (2006) find that the Government provides implicit collaterals to state-owned companies. They also find that banks are more willing to lend money to state-owned companies. Thus, accounting information is less useful in debt contracting for state-owned companies. Liao (2007) suggests that accounting information reduces the information asymmetry between banks and firms, which is very helpful to banks when making credit decisions. Considering that the usefulness of accounting information is affected by the nature of ownership, it is more likely that accounting information will be useful for non-state-owned companies than for state-owned companies.

Hence, if the usefulness of accounting information in debt contracting is mitigated for state-owned companies, when accounting quality changes due to NCAS adoption, the change in usefulness will be smaller for state-owned companies. Therefore, we develop Hypothesis 3 as follows:

**H3: Compared to state-owned companies, the change in the sensitivity of new**

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<sup>6</sup> Their sample does not include China. Our paper focuses on how Chinese banks use accounting information after NCAS adoption.

**debts to accounting profitability measures is higher for non-state-owned companies.**

### III. Research Design

#### 1. Sample selection and data sources

Our sample consists of all of the Chinese listed companies that issue A-shares and covers both the pre- and post-NCAS periods (2004 to 2006 and 2008 to 2010, respectively). We then exclude firms that meet the following criteria: (1) firms from the financial and insurance industries, (2) firms with negative equity values, and (3) firms that have missing financial and governance data. The final sample contains 8,088 observations. We exclude the year 2007 from our sample because banks usually make their credit decisions based on accounting information from the previous year; therefore, the debt decision in 2007 is made based on accounting information from 2006. Accounting information from 2006 is compiled under the old Chinese accounting standards. Although firms are required to discuss the impact of NCAS in their 2006 annual reports, whether this information will influence banks' decisions is unclear. To avoid introducing unnecessary ambiguity into our data, we exclude 2007 data from our sample but rerun all of the tests with the 2007 data added in robustness checks, and we find that all of the results hold. Table 1 summarises the sample selection procedures. We obtain financial data from the WINDS database and governance data from the CSMAR database. We winsorise all of the continuous variables at the 1% and 99% percentiles to avoid outlier problems.

**Table 1 Sample Selection Procedures**

	Total	2004	2005	2006	2008	2009	2010
All Chinese listed companies that issue A shares	9332	1307	1321	1387	1590	1689	2038
Exclude firms from the financial industry	158	18	18	20	31	33	38
Exclude firms with negative equity value	308	31	53	63	53	59	49
Exclude firms with missing financial data	23	1	2	0	6	6	8
Exclude firms with missing governance data	35	5	2	2	6	10	10
Final sample	8808	1252	1246	1302	1494	1581	1933

#### 2. Research methodology

##### (1) Model

We use Model (1) to estimate the impact of the NCAS on the usefulness of accounting information in debt contracts. We are interested in the coefficient of  $NEW*ROA$ , which captures the impact of the NCAS on the usefulness of accounting information in debt contracts. A negative coefficient indicates that the sensitivity of a new debt to accounting profitability decreases after NCAS adoption, which suggests that accounting information becomes less useful in debt contracting after NCAS adoption.

$$\begin{aligned}
 DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
 & + \alpha_4 CUR_{i,t-1} + \alpha_5 TAN_{i,t-1} + \alpha_6 EQUITY_{i,t-1} + \alpha_7 GROSS_{i,t-1} \\
 & + \alpha_8 SIZE_{it} + \alpha_9 GROW_{it} + \alpha_{10} CF_{it} + \alpha_{11} OFFER_{it} + \alpha_{12} MKT \\
 & + \sum \beta_j INDUSTRY + \varepsilon
 \end{aligned} \tag{1}$$

In this paper, we adopt two proxies to measure the amount of new debt.

First, we measure the amount of a new debt by the “cash received from borrowings” item from the cash flow statement. Specifically,  $DEBT\_1$  = cash received from borrowings / total assets at the beginning of the year.

Second, following prior literature,<sup>7</sup> we measure a new debt as the difference between the ending balance and beginning balance of borrowings, where borrowings include borrowings in current liabilities, long-term borrowings due in one year, and long-term borrowings. Specifically,  $DEBT\_2$  = (closing balance of borrowings + cash repayments of borrowings – beginning balance of borrowings) / total assets at the beginning of the year.

The adoption of the NCAS ( $NEW$ ) is a dummy variable which equals 0 if the observations are from 2004 to 2006 and 1 when the observations are from 2008 to 2010.

According to the prior literature, the major accounting ratios used in debt contracts are those which reveal a firm’s profitability and debt-paying abilities. In this paper, we adopt the following ratios:

The return on assets ( $ROA$ ), which equals net income deflated by total assets at the beginning of the year.<sup>8</sup> We should find a positive coefficient on  $NEW*ROA$  if the accounting ratios become more useful in debt contracts after NCAS adoption. In contrast, a negative coefficient on  $NEW*ROA$  means that  $ROA$  becomes less useful in explaining the amount of new debt after NCAS adoption.

#### **Control variables:**

<sup>7</sup> Sun, Li, and Wang (2006) and Lu, Zhu, and Sun (2008) measure new debt as the difference between the closing balance and beginning balance of debt. Hu, Lin, Li, and Xi (2008) measure new debt as long-term borrowings at the end of the year minus long-term borrowings at the beginning of the year plus repayment of long-term borrowings and then minus the interest payable on long-term borrowings.

<sup>8</sup> We also use return on equity ( $ROE$ ) as a proxy for the profitability ratio in the robustness check. The results are similar to those using  $ROA$  as a proxy.

Other than profitability ratios, the bank will consider accounting ratios that reveal a firm's debt-paying abilities when it lends money to a firm. The amount of a new debt is higher when a firm has stronger debt-paying abilities. In this paper, we include the following variables to control for a firm's debt-paying ability:

Current ratio (*CUR*): current assets divided by current liabilities.

Tangible assets (*TAN*): tangible assets divided by total assets, where tangible assets equal total assets minus intangible assets. After NCAS adoption, tangible assets equal total assets minus intangible assets, goodwill, and development expenses. The default risk is lower when the portion of tangible assets is lower.

Equity ratio (*EQUITY*): equity divided by total assets. The default risk is lower when the value of *EQUITY* is higher.

Gross profit margin (*GROSS*): gross profit divided by sales. The default risk is lower when the value of *GROSS* is higher.

Firm size (*SIZE*): the logarithm value of total assets at the end of year. According to Sun, Li, and Wang (2006), larger companies are associated with lower default risk and it is easier for them to borrow money from banks. They also find that larger companies have larger borrowing demands. Therefore, we expect the coefficient of *SIZE* to be positive.

Sales growth (*GROW*): sales in current year divided by sales in previous year. Hu, Lin, Li, and Xie (2008) argue that firms with higher sales growth are more likely to receive loans from banks. Moreover, a large sales growth rate indicates high profitability, which further suggests that the default risk of such firms is low. Thus, we expect a positive coefficient of *GROW*.

Free cash flow (*CF*): cash flow from operating activities minus cash flow from investment activities divided by total assets at the beginning of the year. On the one hand, a higher *CF* means a lower demand for borrowing. On the other hand, it is easier to receive loans from banks if a firm has a higher *CF*. Therefore, we make no predictions on the sign of this variable.

Equity issuance (*OFFER*): capital raised by issuing equities divided by total assets at the beginning of the year. On the one hand, the amount of money that a firm needs to borrow from the bank is lower if the firm can raise a larger amount of money from the equity market. On the other hand, a larger quantity of equity issuance means that the firm needs a larger amount of funds, which suggests that the firm would also borrow a larger amount of money from the bank. Moreover, a higher value of *OFFER* indicates that the firm has strong financing ability, which makes it easier to borrow money from the bank. Therefore, we make no predictions on the sign of this variable.

Marketisation index (*MKT*): We measure the level of marketisation of different provinces in China based on the index offered by Fan *et al.* (2006). *MKT* equals 1 for the

top 15 provinces and 0 for other provinces.

### (2) Comparison between companies that are influenced differently by the NCAS

To investigate whether the usefulness of accounting information varies according to the different impact of the NCAS on different firms, we add an interaction item for the impact of the NCAS (*GAP*), the adoption of the NCAS (*NEW*), and return on assets (*ROA*) into Model (1). A negative coefficient on *GAP\*NEW\*ROA* indicates that *ROA* becomes less useful in debt contracts in the post-NCAS period for firms that are heavily influenced by NCAS adoption.

$$\begin{aligned}
 DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
 & + \alpha_4 GAP + \alpha_5 GAP * NEW + \alpha_6 GAP * ROA \\
 & + \alpha_7 GAP * NEW * ROA + \alpha_8 CUR_{i,t-1} + \alpha_9 TAN_{i,t-1} \\
 & + \alpha_{10} EQUITY_{i,t-1} + \alpha_{11} GROSS_{i,t-1} + \alpha_{12} SIZE_{it} \\
 & + \alpha_{13} GROW_{it} + \alpha_{14} CF_{it} + \alpha_{15} OFFER_{it} + \alpha_{16} MKT \\
 & + \sum \beta_j INDUSTRY + \varepsilon
 \end{aligned} \tag{2}$$

To capture the impact of NCAS adoption, it would be more precise if we have the data on the difference in net income between the adoption of the old and new Chinese accounting standards for every year. Unfortunately, we only have such data for the year 2007 because companies were required to prepare two income statements under both the old and new Chinese accounting standards in 2007. Using the data from 2007, we can calculate the difference in net income between the old and new accounting standards. Consistent with Ke, Li, and Yuan (2012), we use this difference to capture the impact of the NCAS on different firms.<sup>9</sup> The variable is calculated as follows:

$$\begin{aligned}
 CHANGE &= \frac{NI_{new} - NI_{old}}{NI_{old}} \\
 GAP &= \ln(1 + |CHANGE|)
 \end{aligned}$$

### (3) The role of corporate governance

In order to examine the difference between firms with different natures of ownership, we add an interaction item between the nature of ownership (*NSOE*), NCAS adoption (*NEW*), and return on assets (*ROA*) into Model (1). The model now is as follows:

<sup>9</sup> We also rerun the test separately for companies with positive ‘change’ and those with negative ‘change’. The results still hold.

$$\begin{aligned}
DEBT_{i,t} = & \alpha_0 + \alpha_1 NEW + \alpha_2 ROA_{i,t-1} + \alpha_3 NEW * ROA_{i,t-1} \\
& + \alpha_4 NSOE + \alpha_5 NSOE * NEW + \alpha_6 NSOE * ROA \\
& + \alpha_7 NSOE * NEW * ROA + \alpha_8 CUR_{i,t-1} + \alpha_9 TAN_{i,t-1} \\
& + \alpha_{10} EQUITY_{i,t-1} + \alpha_{11} GROSS_{i,t-1} + \alpha_{12} SIZE_{it} \\
& + \alpha_{13} GROW_{it} + \alpha_{14} CF_{it} + \alpha_{15} OFFER_{it} + \alpha_{16} MKT \\
& + \sum \beta_j INDUSTRY + \varepsilon
\end{aligned} \tag{3}$$

In Model (3), *NSOE* is a dummy variable indicating the nature of ownership. *NSOE* equals 0 if the controlling shareholder of the company is the State-Owned Assets Supervision and Administration Commission of the State Council, the State-Owned Assets Supervision and Administration Commission of the local government, a state-owned investment company, or state-owned company. *NSOE* equals 1 if the company's controlling shareholder is a private, foreign, or collective investor. A negative coefficient of *NSOE\*NEW\*ROA* ( $\alpha_7 < 0$ ) implies that the usefulness of accounting information in debt contracts decreases more for non-state-owned companies than for state-owned companies in the post-NCAS period.

## IV. Methodology and Empirical Results

### 1. Test of Hypothesis 1

#### (1) Descriptive statistics

Table 2 presents the descriptive statistics of variables in the pre- and post-NCAS periods. The mean of *DEBT\_1* is 0.28 (median = 0.28) in the pre-NCAS period and 0.28 (median = 0.23) in the post-NCAS period. The result from a Z-test indicates that the amount of new debt decreases after NCAS adoption. We find a similar result for *DEBT\_2*.<sup>10</sup> Performance ratios, including *ROA* and *ROE*, are significantly higher in the

<sup>10</sup> This finding is consistent with Kong and Zhang (2012). In their study, Kong and Zhang use data from 2006 to 2010 as their sample and find that the amount of new debt decreases due to the expansionary monetary policy in 2008. Why did the expansionary monetary policy lead to a decrease in the amount of new debt? One possible reason is that the effect of the expansionary monetary policy varied dramatically across industries. For example, except for firms involved in transportation (railway, road, and airport), affordable housing projects, infrastructure in rural areas, construction in earthquake stricken areas, cultural development, and energy conservation and emission reduction, most of the listed companies did not benefit from the 4 trillion renminbi economic stimulus plan (please refer to [http://www.ndrc.gov.cn/xwzx/xwtt/t20090521\\_280383.htm](http://www.ndrc.gov.cn/xwzx/xwtt/t20090521_280383.htm) for more details about the plan). There were financing restrictions on companies in the construction and real estate industries, leading to a significant decrease in new debt for these companies. In the robustness check section, we exclude firms from heavily influenced industries and our main result still holds, suggesting that our findings are not driven by macroeconomic changes.

post-NCAS period than in the pre-NCAS period. We also find that compared to the pre-NCAS period, the value of *TAN* is significantly lower in the post-NCAS period; this finding can be attributed to the fact that the new standards require firms to recognise both goodwill and development expenses as intangible assets. In our paper, tangible assets equal total assets minus intangible assets; an increase in intangible assets naturally leads to a decrease in tangible assets. Same as for *ROA* and *ROE*, we find that the gross profit margin is significantly higher in the post-NCAS period. Except for the ratios mentioned above, we do not find a significant difference between the two periods for the other financial ratios. Moreover, we find that the size of companies (*SIZE*), free cash flow, and equity issuance are significantly higher in the post-NCAS period.

According to the results from a Pearson correlation,<sup>11</sup> *DEBT\_1* and *DEBT\_2* are highly correlated (correlation = 0.96). *ROA* in previous year is highly correlated with both *DEBT\_1* and *DEBT\_2*. We find that the correlations among some explanatory variables are relatively high; for example, the correlation between shareholders' equity (*EQUITY*) and current ratio (*CUR*) is 0.64. To avoid the multicollinearity problem, we demean all of the continuous variables on a whole sample basis in all of our tests.<sup>12</sup>

**Table 2 Descriptive Statistics of Variables in the Pre- and Post-NCAS Periods**

	2004-2006 (n = 3800)			2008-2010 (n = 5008)			T	Z
	Mean	Median	Sd	Mean	Median	Sd		
<b>New debt</b>								
<i>DEBT_1</i>	0.28	0.25	0.23	0.28	0.23	0.25	1.45	3.26
<i>DEBT_2</i>	0.29	0.26	0.25	0.28	0.23	0.26	1.62	3.56
<b>Control variables</b>								
<i>ROA</i>	0.02	0.02	0.06	0.04	0.04	0.07	-15.38	-15.83
<i>ROE</i>	0.04	0.06	0.18	0.08	0.09	0.18	-12.15	-17.39
<i>CUR</i>	1.56	1.22	1.23	1.57	1.22	1.32	-0.43	1.83
<i>TAN</i>	0.97	0.98	0.05	0.96	0.97	0.06	8.93	10.88
<i>EQUITY</i>	0.48	0.46	0.19	0.48	0.47	0.20	-0.50	-0.52
<i>GROSS</i>	0.23	0.20	0.15	0.24	0.21	0.16	-2.17	-1.52
<i>SIZE</i> (million)	3,270	1,590	6,660	5,980	2,090	12,000	-12.56	-12.51
<i>GROW</i>	1.23	1.16	0.51	1.22	1.15	0.54	0.60	2.53
<i>CF</i>	0.14	0.11	0.17	0.15	0.13	0.19	-2.33	-1.97
<i>OFFER</i>	0.01	0.00	0.05	0.03	0.00	0.11	-12.16	-13.11

<sup>11</sup> We do not report the correlation table due to the need to save space.

<sup>12</sup> We also carry out robustness checks for the main tests using yearly demeaned variables. The results are basically the same.



## (2) Multivariate analysis

Table 3 reports the results of Model (1). Column (1) shows the results of Model (1) using *DEBT\_1* as the dependent variable, and Column (2) shows the results of Model (1) using *DEBT\_2* as the dependent variable. For both measures, we find positive coefficients on *ROA*, indicating that the amount of new debt is positively related to a firm's profitability. The coefficient of *NEW\*ROA* is -0.72 ( $t = -9.28$ ) if the dependent variable is *DEBT\_1* and -0.73 ( $t = -8.59$ ) if the dependent variable is *DEBT\_2*. The significant negative coefficients indicate that the sensitivity of a new debt to accounting profitability ratios decreases in the post-NCAS adoption period, which is consistent with our hypothesis that the NCAS make the accounting numbers less reliable and noisier, and that banks put less weighting on accounting information when they make lending decisions. Overall, our results suggest that accounting information becomes less useful in debt contracts after NCAS adoption. It also implies that banks need to adjust their lending criteria accordingly. More research is needed on whether banks' adjustments to new accounting standards are efficient with regard to lending decisions.

We find significantly negative coefficients on *CURRENT* and *EQUITY*, suggesting that firms with a smaller shareholders' equity and a lower current ratio are associated with higher amounts of borrowing. These findings suggest that these two financial ratios, *EQUITY* and *CURRENT*, are more able to represent firms' financing demands than the ratios used by banks to monitor firms. Besides, we find that the coefficient of *SIZE* is positive, which indicates that larger firms have larger amounts of new debt. A positive coefficient on *GROWTH* suggests that firms with higher growth have larger amounts of new debt. Consistent with Sun, Li, and Wang (2006), we find a positive association between new debt and free cash flow, which suggests that firms that can raise more money from the equity market are also able to raise more money from banks. Our findings support the complementary relation between equity financing and debt financing. Lastly, the marketisation index is positively related to new debt, meaning that firms in well-developed areas have higher amounts of new debts.<sup>13</sup>

## 2. Test of Hypothesis 2

Table 4 presents the regression results of Model (2). Consistent with findings from Model (1), we find a significantly positive coefficient on *ROA* and a significantly negative coefficient on *NEW\*ROA*. The coefficient of *GAP\*NEW\*ROA* is -0.43 ( $t = -2.55$ ) when the dependent variable is *DEBT\_1* and -0.54 ( $t = -3.03$ ) when the dependent

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<sup>13</sup> We also conduct additional analyses based on the marketisation index and find that the usefulness of accounting profitability decreases for both high- and low-marketisation index firms.

**Table 3 The Impact of NCAS Adoption on Sensitivity of New Debt to Accounting Profitability**

	(1)	(2)
<b>Variables</b>	<b><i>DEBT_1</i></b>	<b><i>DEBT_2</i></b>
<i>NEW</i>	-0.02*** (-4.16)	-0.03*** (-4.98)
<i>ROA</i>	0.64*** (8.86)	0.64*** (8.11)
<i>NEW*ROA</i>	-0.72*** (-9.28)	-0.73*** (-8.59)
<i>CUR</i>	-0.03*** (-9.55)	-0.03*** (-9.12)
<i>TAN</i>	0.23*** (3.67)	0.22*** (3.42)
<i>EQUITY</i>	-0.26*** (-10.09)	-0.24*** (-8.99)
<i>GROSS</i>	-0.13*** (-4.46)	-0.15*** (-5.11)
<i>SIZE</i>	0.02*** (4.42)	0.02*** (5.22)
<i>GROW</i>	0.04*** (5.67)	0.06*** (7.64)
<i>CF</i>	0.08*** (3.41)	0.09*** (3.81)
<i>OFFER</i>	0.28*** (7.46)	0.42*** (9.57)
<i>MKT</i>	0.04*** (5.02)	0.04*** (4.85)
Industry Dummies	Yes	Yes
Constant	0.36*** (10.87)	0.37*** (11.02)
Observations	8,808	8,808
R-squared	0.2231	0.2325

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 4 The Impact of NCAS Adoption on Sensitivity of New Debt to Accounting Profitability – Comparison between firms that are influenced differently by NCAS adoption**

Variables	(1) <i>DEBT_1</i>	(2) <i>DEBT_2</i>
<i>NEW</i>	-0.01** (-2.27)	-0.02*** (-2.88)
<i>ROA</i>	0.50*** (6.12)	0.48*** (5.40)
<i>NEW*ROA</i>	-0.59*** (-6.34)	-0.57*** (-5.68)
<i>GAP</i>	0.01 (0.71)	0.01 (0.90)
<i>GAP*NEW</i>	-0.05*** (-2.61)	-0.06*** (-3.05)
<i>GAP*ROA</i>	0.51*** (3.72)	0.61*** (4.10)
<i>GAP*NEW*ROA</i>	-0.43** (-2.55)	-0.54*** (-3.03)
<i>CUR</i>	-0.03*** (-9.38)	-0.03*** (-8.93)
<i>TAN</i>	0.23*** (3.70)	0.23*** (3.52)
<i>EQUITY</i>	-0.25*** (-9.01)	-0.23*** (-7.99)
<i>GROSS</i>	-0.12*** (-3.97)	-0.14*** (-4.62)
<i>SIZE</i>	0.02*** (4.19)	0.02*** (4.95)
<i>GROW</i>	0.04*** (5.64)	0.06*** (7.62)
<i>CF</i>	0.10*** (3.84)	0.11*** (4.25)
<i>OFFER</i>	0.28*** (7.24)	0.41*** (9.33)
<i>MKT</i>	0.05*** (5.16)	0.05*** (5.01)
Industry Dummies	Yes	Yes
Constant	0.35*** (10.05)	0.36*** (10.21)
Observations	8,281	8,281
R-squared	0.2222	0.2331

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

variable is *DEBT\_2*. The negative coefficient suggests that the sensitivity of a new debt to accounting profitability measures decreases more for firms that are heavily influenced by NCAS adoption in the post-NCAS period. This finding further supports our argument that the decrease in sensitivity is driven by NCAS adoption rather than other unknown factors.

### 3. Test of Hypothesis 3

Table 5 shows the results to support Hypothesis 3. The coefficients of *NSOE\*ROA* are 0.41 ( $t = 3.14$ ) and 0.46 ( $t = 3.08$ ) for *DEBT\_1* and *DEBT\_2*, respectively. This means that a new debt is more sensitive to accounting profitability for non-state-owned companies than for state-owned companies. This finding is consistent with Sun, Li, and Wang (2006). When using *DEBT\_1* as the dependent variable, we find that the coefficient of *NSOE\*NEW\*ROA* is -0.39 ( $t = -2.36$ ), which is significant at the 5 per cent level, and the coefficient of *NSOE\*NEW\*ROA* is -0.47 ( $t = -2.59$ ) when *DEBT\_2* is the dependent variable, which is significant at the 1 per cent level. Our findings are consistent with our prediction that new debt sensitivity to accounting profitability will decrease more for non-state-owned companies than for state-owned firms after NCAS adoption. This is mainly because banks put more weighting on accounting performance for non-state-owned companies. Consequently, when accounting quality changes after NCAS adoption, banks make more adjustments based on such change for non-state-owned companies.

The evidence from Table 5 fully supports Hypothesis 3. Because accounting information is less useful in debt contracts for state-owned companies, when accounting quality changes due to NCAS adoption, the change in the usefulness of accounting information in debt contracts is also smaller for state-owned companies.

## V Robustness Tests

1. We adopt a different measure for accounting performance in our analysis. Table 6 shows the results of Model (1) when we use *ROE* as a proxy for accounting performance. The coefficient of *NEW\*ROE* is -0.21 for both regressions, suggesting that the sensitivity of a new debt to *ROE* decreases after NCAS adoption. This finding is consistent with our previous finding when we measured accounting performance using *ROA*.

2. The National Development and Reform Commission started a 4 trillion renminbi economic stimulus plan to counter the impact of the financial crisis in October 2008, leading to an increase in credit expansion in the fourth quarter. Holding *ROA* constant, an increase in credit scale will cause a decrease in the sensitivity of new debts to accounting

**Table 5 Impact of NCAS Adoption on the Sensitivity of New Debt to Accounting Profitability – The nature of ownership**

	(1)	(2)
<b>Variables</b>	<b><i>DEBT_1</i></b>	<b><i>DEBT_2</i></b>
<i>NEW</i>	-0.03*** (-4.58)	-0.04*** (-5.15)
<i>ROA</i>	0.47*** (5.50)	0.46*** (4.88)
<i>NEW*ROA</i>	-0.63*** (-5.94)	-0.60*** (-5.25)
<i>NSOE</i>	0.03*** (2.92)	0.03*** (2.96)
<i>NEW*NSOE</i>	0.01 (0.49)	0.01 (0.42)
<i>NSOE*ROA</i>	0.41*** (3.14)	0.46*** (3.08)
<i>NEW*NSOE*ROA</i>	-0.39** (-2.36)	-0.47*** (-2.59)
<i>CUR</i>	-0.03*** (-9.56)	-0.03*** (-9.13)
<i>TAN</i>	0.23*** (3.68)	0.22*** (3.44)
<i>EQUITY</i>	-0.26*** (-9.72)	-0.23*** (-8.64)
<i>GROSS</i>	-0.14*** (-4.84)	-0.16*** (-5.48)
<i>SIZE</i>	0.02*** (5.42)	0.03*** (6.16)
<i>GROW</i>	0.04*** (5.50)	0.06*** (7.51)
<i>CF</i>	0.07*** (3.29)	0.09*** (3.71)
<i>OFFER</i>	0.28*** (7.41)	0.42*** (9.52)
<i>MKT</i>	0.04*** (4.60)	0.04*** (4.44)
Industry dummies	Yes	Yes
Constant	0.35*** (10.35)	0.36*** (10.48)
Observations	8,808	8,808
R-squared	0.2279	0.2370

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 6 Robustness Check: The impact of NCAS adoption on the sensitivity of new debt to ROE**

	(1)	(2)
<b>Variables</b>	<b><i>DEBT_1</i></b>	<b><i>DEBT_2</i></b>
<i>NEW</i>	-0.02*** (-4.00)	-0.03*** (-4.83)
<i>ROE</i>	0.20*** (9.38)	0.19*** (7.98)
<i>NEW*ROE</i>	-0.21*** (-7.36)	-0.21*** (-6.48)
<i>CUR</i>	-0.03*** (-9.44)	-0.03*** (-8.99)
<i>TAN</i>	0.24*** (3.91)	0.24*** (3.65)
<i>EQUITY</i>	-0.26*** (-10.09)	-0.24*** (-8.97)
<i>GROSS</i>	-0.12*** (-4.60)	-0.15*** (-5.25)
<i>SIZE</i>	0.02*** (4.47)	0.02*** (5.28)
<i>GROW</i>	0.04*** (5.63)	0.06*** (7.55)
<i>CF</i>	0.08*** (3.54)	0.09*** (3.95)
<i>OFFER</i>	0.29*** (7.52)	0.42*** (9.62)
<i>MKT</i>	0.04*** (4.96)	0.04*** (4.80)
Industry dummies	Yes	Yes
Constant	0.36*** (10.85)	0.36*** (10.99)
Observations	8,808	8,808
R-squared	0.2227	0.2318

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 7 Robustness Check: Results excluding observations from 2008**

Variables	(1)	(2)
	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.03*** (-4.52)	-0.03*** (-5.41)
<i>ROA</i>	0.68*** (9.31)	0.70*** (8.64)
<i>NEW*ROA</i>	-0.78*** (-9.66)	-0.80*** (-8.98)
<i>CUR</i>	-0.03*** (-9.61)	-0.03*** (-9.04)
<i>TAN</i>	0.19*** (2.93)	0.18** (2.55)
<i>EQUITY</i>	-0.28*** (-10.53)	-0.26*** (-9.44)
<i>GROSS</i>	-0.12*** (-4.24)	-0.15*** (-5.12)
<i>SIZE</i>	0.02*** (3.98)	0.02*** (4.60)
<i>GROW</i>	0.04*** (5.26)	0.06*** (7.28)
<i>CF</i>	0.06** (2.45)	0.07*** (2.73)
<i>OFFER</i>	0.28*** (6.25)	0.41*** (8.02)
<i>MKT</i>	0.04*** (4.75)	0.04*** (4.62)
Industry dummies	Yes	Yes
Constant	0.38*** (11.07)	0.38*** (11.06)
Observations	7,314	7,314
R-squared	0.2269	0.2340

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

profitability ratios. Therefore, we rerun Model (1) without observations from 2008. Table 7 reports the results. Consistent with the findings in Table 3, we find a significantly negative coefficient on  $NEW*ROA$  for both proxies of new debt, indicating that our finding is not driven by the regulatory policy relating to credit scale.

3. The adoption of the NCAS will also influence other accounting measures apart from the profitability ratios. Table 8 shows the regression results after we add an interaction item for other accounting ratios and NCAS adoption into Model (1). We find that the coefficient of  $NEW*ROA$  is significant and negative at the 1 per cent level after controlling for the interaction item between other accounting ratios and  $NEW$ .

We notice that the coefficient of  $ROA$  is significantly positive, which indicates that banks take accounting performance into consideration when making lending decisions before NCAS adoption, and the loan amount is higher if firms are more profitable. Moreover, we find that the coefficient of  $NEW*ROA$  is negative, which implies that the usefulness of accounting numbers decreases after NCAS adoption. What is more, the sum of the coefficients of  $ROA$  and  $NEW*ROA$  is insignificant from zero, indicating that accounting profitability is unrelated to the amount of new debt after NCAS adoption. According to the results in Table 8, the coefficient of tangible assets is insignificant in the pre-NCAS period but significantly positive in the post-NCAS period. One possible explanation for the insignificant relation between  $ROA$  and new debt is that the banks rely more on the value of tangible assets in the post-NCAS period; this is because earnings become less reliable in the post-NCAS period and the value of tangible assets is an important indicator of collateral value. We add  $NEW*TAN$  into all of the models in this paper and find the coefficients of  $NEW*TAN$  in all models are significantly positive. Our argument is also supported by Chen, Chen, Wang, and Yao (2012), whose international study finds that banks rely more on collaterals in making their lending decisions in the post-IFRS period.<sup>14</sup>

4. We exclude the data from 2007 in our main test because the lending decision in 2007 is usually based on accounting information from 2006. In this robustness check, we add data from 2007 into the sample. Table 9 shows the results of Model (1) after adding the 2007 data. The coefficient of  $NEW*ROA$  is significant and negative at the 1 per cent level.

5. We notice that the number of observations in the post-NCAS period is much higher than that in the pre-NCAS period. To exclude the possibility that our results are

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<sup>14</sup> Due to current disclosure regulations, we do not have data to test whether Chinese banks put more weighting on collaterals when they make lending decisions. Further research could be done in this area.



**Table 8 Robustness Check: Adding interaction items between control variables and *NEW***

	(1)	(2)
Variables	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	0.00 (0.21)	0.00 (-0.52)
<i>ROA</i>	0.64*** (7.98)	0.64*** (7.32)
<i>NEW*ROA</i>	-0.71*** (-7.04)	-0.72*** (-6.63)
<i>CUR</i>	-0.03*** (-6.73)	-0.03*** (-6.14)
<i>NEW*CUR</i>	0.01 (1.04)	0.00 (0.81)
<i>TAN</i>	0.10 (1.02)	0.09 (0.96)
<i>NEW*TAN</i>	0.20* (1.86)	0.20* (1.80)
<i>EQUITY</i>	-0.27*** (-7.63)	-0.24*** (-6.57)
<i>NEW*EQUITY</i>	0.00 (0.04)	-0.00 (-0.10)
<i>GROSS</i>	-0.12*** (-3.48)	-0.16*** (-4.45)
<i>NEW*GROSS</i>	-0.02 (-0.42)	0.01 (0.37)
<i>SIZE</i>	0.02*** (2.92)	0.02*** (3.41)
<i>NEW*SIZE</i>	0.00 (0.16)	0.00 (0.13)
<i>GROW</i>	0.02** (2.39)	0.05*** (4.46)
<i>NEW*GROW</i>	0.03*** (2.62)	0.02 (1.39)
<i>CF</i>	0.10*** (3.04)	0.12*** (3.30)
<i>NEW*CF</i>	-0.04 (-1.02)	-0.05 (-1.05)
<i>OFFER</i>	0.02 (0.19)	0.30** (2.40)
<i>NEW*OFFER</i>	0.28** (2.43)	0.12 (0.91)
<i>MKT</i>	0.06*** (5.64)	0.06*** (5.35)
<i>NEW*MKT</i>	-0.03** (-2.53)	-0.03** (-2.41)
Industry dummies	Yes	Yes
Constant	0.35*** (10.23)	0.35*** (10.45)
Observations	8,808	8,808
R-squared	0.2271	0.2344

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 9 Robustness Check: Adding data from 2007 into the sample**

Variables	(1)	(2)
	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-3.57)	-0.02*** (-4.17)
<i>ROA</i>	0.57*** (8.42)	0.56*** (7.67)
<i>NEW*ROA</i>	-0.65*** (-9.23)	-0.65*** (-8.48)
<i>CUR</i>	-0.03*** (-9.76)	-0.03*** (-9.58)
<i>TAN</i>	0.25*** (4.01)	0.26*** (4.04)
<i>EQUITY</i>	-0.26*** (-9.84)	-0.24*** (-8.69)
<i>GROSS</i>	-0.13*** (-4.55)	-0.15*** (-5.20)
<i>SIZE</i>	0.02*** (4.53)	0.02*** (5.39)
<i>GROW</i>	0.04*** (6.06)	0.06*** (8.21)
<i>CF</i>	0.07*** (3.34)	0.09*** (3.83)
<i>OFFER</i>	0.26*** (7.96)	0.39*** (10.14)
<i>MKT</i>	0.05*** (5.36)	0.05*** (5.30)
Industry dummies		
Constant	0.36*** (10.68)	0.36*** (10.79)
Observations	10,226	10,226
R-squared	0.2208	0.2314

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 10 Robustness Check: The impact of NCAS on the sensitivity of new debt to accounting profitability – using unbalanced panel data**

	(1)	(2)
Variables	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.02*** (-3.31)	-0.02*** (-4.04)
<i>ROA</i>	0.58*** (7.92)	0.59*** (7.23)
<i>NEW*ROA</i>	-0.61*** (-7.25)	-0.62*** (-6.63)
<i>CUR</i>	-0.03*** (-9.54)	-0.03*** (-9.01)
<i>TAN</i>	0.24*** (3.75)	0.24*** (3.55)
<i>EQUITY</i>	-0.25*** (-8.57)	-0.22*** (-7.52)
<i>GROSS</i>	-0.11*** (-3.52)	-0.13*** (-4.26)
<i>SIZE</i>	0.02*** (4.17)	0.02*** (4.93)
<i>GROW</i>	0.04*** (5.30)	0.06*** (7.31)
<i>CF</i>	0.10*** (4.02)	0.12*** (4.43)
<i>OFFER</i>	0.28*** (7.21)	0.43*** (9.30)
<i>MKT</i>	0.05*** (4.89)	0.05*** (4.73)
Industry dummies	Yes	Yes
Constant	0.35*** (9.66)	0.36*** (9.82)
Observations	7,954	7,954
R-squared	0.2206	0.2322

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

driven by the characteristics of new firms in the post-NCAS period, we conduct a robustness test using unbalanced panel data; specifically, a firm needs to appear at least once in both the pre- and post-NCAS periods in order to be included in this sample. This criterion yields a sample containing 7,954 observations. Table 10 shows the results based on the unbalanced panel data. Consistent with our previous findings, we find a negative coefficient on  $NEW*ROA$ . The findings in Table 10 rule out the possibility that the negative coefficient of  $NEW*ROA$  is due to the characteristics of new firms in the post-NCAS period. Hence, we have more confidence in our argument that the change in sensitivity can be attributed to NCAS adoption.

6. Further investigation on the differences across industries. In all of the main tests, we control for industry effects by including industry dummies in the regressions. However, as previously discussed in Section IV, the 4 trillion renminbi economic stimulus plan has a different impact on different industries; for example, firms in certain specific industries, including transportation (railway, road, and air), affordable housing projects, infrastructure in rural areas, development of earthquake stricken areas, cultural development, and energy conservation and emission reduction, will benefit more from the plan. On the contrary, borrowings in the construction and real estate industries are under more strict supervision than the borrowings in other industries. When we compare the change in new debt around the time of NCAS adoption on an industry basis, we find that new debt significantly increases in the post-NCAS period for the utility and metal industries. Meanwhile, new debt decreases for the following four industries: medical, information, construction, and culture. To further control for the influences of macroeconomic changes in different industries, we conduct two additional analyses.

First, we rerun Model (1) excluding the two industries in which new debt increases after NCAS adoption. The results are presented in Table 11. The coefficient of  $NEW*ROA$  is -0.69 for both measures of new debt and significant at the 1 per cent level.

Second, we rerun Model (1) excluding firms in the six industries in which new debt significantly changes after NCAS adoption. As shown in Table 12, the coefficients of  $NEW*ROA$  are -0.73 and -0.71 respectively when using  $DEBT_1$  and  $DEBT_2$  as the dependent variables, and both are significant at the 1 per cent level.

Overall, our main findings hold after we carefully control for the macroeconomic effects. This shows that our findings are not driven by macroeconomic changes but by NCAS adoption.

**Table 11 Robustness Check: Excluding industries in which new debt increases after NCAS adoption**

Variables	(1)	(2)
	<i>DEBT_1</i>	<i>DEBT_2</i>
<i>NEW</i>	-0.03*** (-5.15)	-0.03*** (-5.61)
<i>ROA</i>	0.63*** (8.54)	0.64*** (7.70)
<i>NEW*ROA</i>	-0.69*** (-8.66)	-0.69*** (-7.82)
<i>CUR</i>	-0.03*** (-8.86)	-0.03*** (-8.38)
<i>TAN</i>	0.24*** (3.92)	0.23*** (3.65)
<i>EQUITY</i>	-0.26*** (-9.37)	-0.24*** (-8.45)
<i>GROSS</i>	-0.12*** (-4.03)	-0.14*** (-4.65)
<i>SIZE</i>	0.02*** (4.64)	0.02*** (5.06)
<i>GROW</i>	0.03*** (4.78)	0.06*** (6.80)
<i>CF</i>	0.05** (2.30)	0.06** (2.50)
<i>OFFER</i>	0.29*** (7.31)	0.40*** (8.76)
<i>MKT</i>	0.05*** (4.82)	0.05*** (4.73)
Industry dummies	Yes	Yes
Constant	0.37*** (10.98)	0.37*** (11.06)
Observations	7,683	7,683
R-squared	0.2172	0.2210

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

**Table 12 Robustness Check: Excluding industries with significant new debt change before and after NCAS adoption**

	(1)	(2)
<b>Variables</b>	<b><i>DEBT_1</i></b>	<b><i>DEBT_2</i></b>
<i>NEW</i>	-0.02*** (-3.74)	-0.03*** (-4.24)
<i>ROA</i>	0.66*** (7.93)	0.65*** (6.98)
<i>NEW*ROA</i>	-0.73*** (-7.95)	-0.71*** (-6.96)
<i>CUR</i>	-0.03*** (-7.53)	-0.02*** (-6.92)
<i>TAN</i>	0.25*** (3.64)	0.23*** (3.33)
<i>EQUITY</i>	-0.28*** (-8.87)	-0.26*** (-8.07)
<i>GROSS</i>	-0.10*** (-2.85)	-0.13*** (-3.47)
<i>SIZE</i>	0.02*** (4.85)	0.03*** (5.18)
<i>GROW</i>	0.03*** (4.81)	0.06*** (6.59)
<i>CF</i>	0.04 (1.43)	0.04* (1.69)
<i>OFFER</i>	0.27*** (6.44)	0.40*** (8.03)
<i>MKT</i>	0.05*** (4.56)	0.05*** (4.36)
Industry dummy		
Constant	0.37*** (10.87)	0.37*** (10.97)
Observations	6,303	6,303
R-squared	0.2116	0.2151

Note: Robustness t-statistics in parentheses. \*\*\*, \*\*, and \* denote  $p < 0.01$ ,  $p < 0.05$ , and  $p < 0.1$ , respectively.

## VI Conclusions and Implications

This study examines the impact of NCAS adoption on the sensitivity of new debt to accounting profitability. We make three major findings.

First, the sensitivity of new debt to accounting profitability measures decreases after NCAS adoption. This finding is consistent with our argument that the new accounting standards give management more discretion over earnings, which become noisier to reflect firm performance, causing earnings to be less useful in debt contracting.

Second, the sensitivity of new debt to accounting profitability decreases more for firms that are influenced heavily by NCAS adoption. This finding provides more convincing evidence that the sensitivity change is due to NCAS adoption rather than to other factors.

Third, we find that the sensitivity drops after NCAS adoption for both state-owned and non-state-owned companies. However, compared to state-owned companies, the sensitivity decreases more for non-state-owned companies. Compared to non-state-owned companies, the accounting numbers are less useful in debt contracting for state-owned companies because of government interference and soft budget constraints. Therefore, we predict that the impact of NCAS adoption on the usefulness of accounting numbers in debt contracting will be smaller for state-owned firms than for non-state-owned firms. Our finding is consistent with our prediction. In sum, we find that the NCAS weakens the contracting role of accounting numbers. Furthermore, we find that the change in the usefulness of accounting information depends on the nature of ownership.

This paper studies the economic consequences of NCAS adoption from the contracting perspective. Its findings have the following implications. First, decision usefulness and contracting roles pose different demands as regards accounting information quality. Accounting standards that aim to improve the relevance of accounting numbers might weaken the contracting role of accounting numbers; for example, fair value accounting records firms' assets and liabilities based on their fair value. From the perspective of investors, fair value accounting is better at predicting a firm's future cash flows than historical cost accounting. Therefore, fair value accounting is more useful for investors' decision-making.<sup>15</sup> However, the change in fair value is recognised in earnings under fair value accounting. This part of earnings is irrelevant to management's efforts and less persistent, leading to a higher volatility in earnings. Furthermore, earnings under fair value accounting are subject to measurement errors and management discretion. These concerns weaken the role of earnings as a tool to solve the

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<sup>15</sup> Xue, Zhao, Xiao, and Cheng (2008) and Zhang and Zhang (2008) find that information content is higher in the post-NCAS period than in the pre-NCAS period.

agency problems in contracts and increase the design and enforcement cost of contracts, which further weakens the usefulness of accounting numbers in contracts. Taking intangible assets as another example, firms are required to recognise goodwill and development expenses as intangible assets under the new accounting standards. The value of those assets definitely helps to reveal a firm's ability to generate future cash flow and therefore is useful for valuation purposes. However, assessing the initial value and amortisation expense of these assets involves lots of estimations and judgments from management, which increases the room for manipulation and therefore decreases the reliability of earnings. Thus, earnings might become less useful in contracts. To summarise, our results suggest that regulators should make a trade-off between the two objectives of accounting information.

Second, corporate governance plays an important role in determining the contracting role of accounting information. Other than equity investors, banks and governments are also important financial report users. The Government needs accounting performance information to evaluate whether the managements of state-owned companies perform their duties well. Moreover, banks need accounting information to evaluate firms' financial risk and debt-paying abilities. Compared to valuation, accounting information is more widely used in contracting, regulation, and taxation. Meanwhile, due to imperfections in the legal system, corporate governance, and the auditing system in China, it is more practical to improve the reliability and restrict the manipulation of accounting information. Thus, regulators need to consider the institutional environment of Chinese firms during the convergence to IFRS.

We note several caveats in this paper. First, because of the limited disclosure regarding bank loans, we do not have data for other important ratios, such as interest rates, in debt contracts. Therefore, we cannot examine whether other important ratios may be affected by NCAS adoption. Second, in this paper, we have attempted to rule out other possible explanations; for example, we find that the impact of NCAS adoption on the sensitivity of new debt to accounting profitability differs for firms that are influenced differently by the adoption and firms with different ownership natures. All of these findings support our argument that the change in sensitivity is due to NCAS adoption rather than other factors. Moreover, the results still hold when we control for the influence of macroeconomics. However, unless we find a perfect matching sample to test the effect of NCAS adoption, we cannot completely rule out other possible explanations.

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