

所有权性质、治理环境与企业社会责任信息披露的经济后果：基于分析师盈利预测的研究视角¹

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摘要

近年来，随着社会公众对企业社会责任问题的日益关注，监管部门陆续制定和出台了一系列与企业社会责任信息披露有关的政策和法规进行规范和引导，要求部分上市公司从2008年开始披露企业社会责任报告。本文从证券分析师盈利预测的角度，考察了企业社会责任信息的披露是否可以为投资者提供有用的信息。具体地，我们首先考察了企业社会责任信息披露对分析师盈利预测准确性和预测分歧度的总体影响。研究结果显示，企业社会责任信息披露质量越高，其分析师盈利预测误差越低，同时预测分歧度也较小。在尽可能控制内生性问题后，研究结论依然成立。进一步地，我们考察了所有权性质、治理环境以及公司所处行业特征的影响。研究结果显示，企业社会责任信息披露对分析师盈利预测准确性的正面影响在民营企业、处于治理环境较好地区以及社会责任高敏感性行业的公司更加明显。这些证据表明，企业社会责任信息为投资者提供了有用的信息，降低了信息不对称的程度。同时，其作用还会受到公司的所有权性质、所处地区的治理环境以及行业特征等因素的影响。

关键词：企业社会责任信息披露、分析师盈利预测、所有权性质、治理环境
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一、引言

近年来,随着公众对企业家及企业慈善捐款、企业环境污染等一系列社会问题的持续讨论和关注,企业社会责任问题已经引起了政策界的高度重视。监管部门陆续制定和出台了一系列与企业社会责任信息披露有关的政策和法规进行规范和引导,¹要求部分上市公司从2008年开始在披露年报的同时披露企业社会责任报告。这些政策出台后,披露社会责任报告的上市公司数量大幅增加,从2007年的54家上升至2009年的471家。同时,公众和政策界对企业社会责任问题的关注,也催生了对相关研究的需求。例如,企业社会责任信息披露相关政策和法规的实施效果如何?企业社会责任信息披露是否可以为投资者提供有用的信息,从而降低信息不对称的程度,改善公司的信息环境?企业的所有权性质、所处地区的外部治理环境等制度因素对此又有何影响?对这些问题的探求,不仅有助于我们加深对我国企业社会责任问题的理解,还可为相关政策的后续完善提供理论依据和实证基础。

然而,与这一现实需求形成对照的是,目前我国对企业社会责任问题的实证研究还相对匮乏。现有的为数不多的实证研究,主要关注的是企业社会责任信息披露的影响因素(例如,沈洪涛,2007;王建明,2008;毛洪涛和张正勇,2009;沈洪涛等,2010)及其对投资决策价值的影响(例如,陈玉清和马丽丽,2005;李正,2006;刘长翠和孔晓婷,2006;宋献中和龚明晓,2006,2007;李正和向锐,2007;温素彬和方苑,2008),而对其他方面经济后果的探索则较为缺乏。这些研究为我们更好地理解中国企业的社会责任问题奠定了良好的基础。但同时,相关文献也存在很大的拓展空间。特别是,现有的研究一般使用调查数据或者根据年报中分散的信息进行归纳,往往侧重于企业社会责任的某些方面,而对近年来在监管层要求下披露的完整的企业社会责任报告的分析和研究较为少见。可以说,目前我们对企业社会责任信息披露政策的实施效果还缺乏了解,亟需相关经验证据的反馈和支持。因此,对于我国企业社会责任问题的研究具有重要的现实意义和学术价值。

事实上,基于我国资本市场的企业社会责任问题研究,其贡献边界并不止于增进对我国企业社会责任问题的理解,还可对该领域的国际研究文献进行有益的拓展(Ingram, 1978; Anderson and Frankle, 1980; Milne and Patten, 2002; Gross and Roberts, 2011; Dhaliwal *et al.*, 2011, 2012)。Margolis and Walsh (2001)通过对相关领域的研究文献的回顾和归纳发现,尽管目前已有不少文献对企业社会责任及其披露的经济后果进行了研究,但是研究结论存在很大的争议和分歧。不同的研究由于研究样本和研究设计的差异,得到的结论往往不尽相同,甚至大相径庭。因此,该领域的研究亟须不同资本市场和不同视角的研究来加以推进和完善(Wang and Qian, 2011)。更为重要

¹ 例如,上海证券交易所于2008年发布了《关于做好上市公司2008年履行社会责任的报告及内部控制自我评估报告披露工作的通知》,要求在上交所上市的“上证公司治理板块”样本公司、发行境外上市外资股的公司以及金融类公司在发布2008年年度报告的同时披露社会责任报告。同时,鼓励其他有条件的公司披露社会责任报告。深圳证券交易所也于同年发布了《关于做好上市公司2008年年度报告工作的通知》,要求纳入“深证100指数”的上市公司披露社会责任报告,同时鼓励其他公司披露。在本文的第二部分,本文将对我国企业社会责任信息披露制度进行介绍。

的是,上述文献主要是以美国等成熟资本市场国家为研究对象,而缺乏对新兴市场国家的考察。众所周知,新兴市场国家在治理环境、产权制度等各方面与成熟资本市场存在显著差异。因此,如果将基于成熟市场的研究结论直接套用于新兴市场国家,往往会失之于简单。制度上的差异既对基于中国这样的新兴市场国家的研究带来了挑战,但同时也为从不同的视角考察企业社会责任的经济后果提供了良好的研究场所。例如,国有企业和民营企业在企业社会责任方面的表现是否具有不同的经济后果?治理环境对企业社会责任的经济后果又会产生怎样的影响?对于这些问题的研究,可以对现有的企业社会责任文献进行有益的拓展和补充。

在企业社会责任信息披露可能产生的众多经济后果中,一个尤受政策界和学术界关注的问题便是其对投资者的信息解读能力、信息解读成本,继而对公司信息环境的影响,这是评价企业社会责任信息披露制度执行效果的关键考量之一。由于公司的信息环境难以直接观测和量化,在实证研究中通常用替代性的指标来进行度量。分析师的盈利预测特征便是其中较为常用的衡量方法(Lang *et al.*, 2003)。证券分析师作为资本市场重要的信息媒介,在投资者和企业之间扮演着“信息传递”的角色,他们利用专业知识与信息搜集加工的相对优势,向市场参与者提供合理反映证券内在价值的信息,从而提高市场定价的效率,降低证券市场的价格偏离(朱红军等, 2007)。可以说,在信息日益膨胀的资本市场,证券分析师的工作成果已经成为普通投资者的重要信息来源。他们在资本市场的信息传递、吸收和转化中占据了重要的地位。因此,该方法被学者广泛采用(Land and Lundholm, 1996; Barron *et al.*, 1998; Healy *et al.*, 1999; Gebhardt *et al.*, 2001)。本文希望通过考察企业社会责任信息披露对分析师盈利预测行为的影响,研究上市公司披露的企业社会责任报告是否可以为投资者提供有用的信息,进而为企业社会责任信息披露制度的执行效果提供一个维度的经验证据。

具体地,我们首先考察了企业社会责任信息披露对分析师盈利预测误差和预测分歧度的总体影响。研究结果显示,企业社会责任信息披露质量越高,其分析师盈利预测误差越低,同时预测分歧度也较小。在采用变化模型控制内生性问题后,该研究结论依然成立。进一步地,我们考察了所有权性质、治理环境以及公司所处行业特征的影响。研究结果显示,企业社会责任信息披露对分析师盈利预测准确性的正面影响在民营企业、处于治理环境较好地区以及社会责任高敏感性行业的公司更加明显。这些证据表明,企业社会责任信息为投资者提供了有用的信息,降低了信息不对称的程度。同时,其作用还会受到公司的所有权性质和所处地区的治理环境等制度因素的影响。

本文的研究可能存在以下几个方面的贡献:

首先,本文对我国企业社会责任经济后果的相关文献进行了有益的拓展。现有的文献主要关注于企业社会责任对公司绩效和价值相关性等的影响,本文则从信息披露的角度考察了其与公司信息环境的关系,丰富和拓展了有关企业社会责任经济后果的研究,为理解企业社会责任行为影响公司价值的途径提供了更为直接的证据。本文的研究表明,企业社会责任信息披露可能扮演着与财务信息披露类似的角色,信息披露质量的提高能够显著降低企业和投资者之间的信息不对称,提高分析师盈利预测准确性,改善公司信息环境。

其次,本文提供了所有权性质和治理环境与企业社会责任经济后果关系的新兴市场证据,对现有的企业社会责任文献从上述两个维度进行了有益的拓展(Ingram, 1978; Abbott and Monsen, 1979; Anderson and Frankle, 1980; Milne and Patten, 2002; Li and Zhang, 2010; Gross and Roberts, 2011; Dhaliwal *et al.*, 2011, 2012; Wang and Qian, 2011)。

Dhaliwal *et al.* (2012) 的跨国研究发现,企业社会责任信息披露对分析师盈利预测具有正面影响,并且这一影响在财务信息披露透明度较低的国家 and 公司更加明显。本文在他们研究的基础上进行了拓展,利用中国的特殊制度背景深入考察了所有权性质和治理环境在企业社会责任信息披露影响分析师盈利预测中的作用。同时,本文利用一个国家的 data 也较好地避免了跨国研究存在的难以很好地控制遗漏变量等固有的局限性。更为重要的是,不同于他们的研究发现,本文的结果显示,在我国这样的新兴市场国家,企业社会责任信息披露对分析师盈利预测准确性的正面影响在受政府干预较少的公司(民营企业和治理环境好的地区)更加明显。这一研究结论与 Dhaliwal *et al.* (2012) 的发现形成了鲜明的对比(他们的研究发现这一正面影响在财务信息披露透明度较低的国家 and 公司更加明显)。这说明,对企业社会责任问题的深入考察,需要结合公司的所有权性质和所处地区的治理环境等制度因素进行分析,在我国这样的新兴市场国家尤其如此。本文的研究结果对于其他新兴市场国家亦具有一定的借鉴意义,特别是对于那些国有产权比重较高以及政府干预较多的国家。

最后,本文的经验证据有助于政府相关部门更好地了解企业社会责任信息披露制度的执行效果,为相关政策的进一步完善提供经验依据,因而具有重要的政策启示意义。

本文其余部分安排如下:第二部分对我国企业社会责任信息披露制度的建立和发展作简要介绍;第三部分在文献回顾和理论分析的基础上,提出本文的研究假说;第四部分为本文的数据来源和研究设计;第五部分报告了本文实证分析的结果;最后为本文的结论和启示。

二、我国企业社会责任信息披露制度的建立和发展

我国上市公司企业社会责任信息披露制度的建立虽起步较晚,但近年来发展较快。2002年之前,我国企业社会责任信息披露的规范主要散落于《公司法》的相关条款中(上海国家会计学院,2008)。此时,我国的监管层、企业界和社会公众对于企业社会责任这一概念相对陌生,尚不存在比较成熟的企业社会责任信息披露规范。2002年1月,中国证监会和原国家经贸委联合制定并颁布了我国《上市公司治理准则》,该准则首次对上市公司提出了履行社会责任的要求,明确了公司要尊重和维护相关利益者的利益,重视社会责任,并要求上市公司按照法律、法规及其他有关规定,披露有关信息(李正和向锐,2007)。该准则出台后,我国上市公司企业社会责任信息的披露有了明显的改善,有相当一部分公司在年报中披露了公司履行社会责任的相

关信息（沈洪涛和金婷婷，2006）。

2006年9月，深圳证券交易所颁布了《上市公司社会责任指引》，鼓励上市公司根据指引要求建立社会责任制度，定期检查和评价公司社会责任制度的执行情况和存在的问题，形成社会责任报告，并与年度报告同时披露（孟晓俊等，2010）。这是我国的证券监管和发行机构首次颁布上市公司的企业社会责任指引。该指引要求披露上市公司对股东、债权人、职工、客户、消费者、供应商、社区等利益相关方以及自然环境等方面履行的社会责任情况。

2008年5月上海证券交易所颁布了《关于加强上市公司社会责任承担工作的通知》和《上海证券交易所上市公司环境信息披露指引》，鼓励上市公司积极承担社会责任，在披露公司年度报告的同时在上海证券交易所网站上披露公司的年度社会责任报告；对重视社会责任承担工作，并能积极披露社会责任报告的公司，将优先考虑其入选上证公司治理板块，并相应简化对其临时公告的审核工作（孟晓俊等，2010）。

2008年12月，上海证券交易所进一步发布了《关于做好上市公司2008年履行社会责任的报告及内部控制自我评估报告披露工作的通知》，要求“A+H股、公司治理、金融三大板块上市公司在发布年报的同时披露社会责任报告，同时鼓励其他有条件的公司披露社会责任报告”。同时，深圳证券交易所也发布了《关于做好上市公司2008年年度报告工作的通知》，要求“纳入深证100指数的上市公司披露社会责任报告，同时鼓励其他公司披露社会责任报告”。两个交易所于2008年发布的《通知》可以说是我国企业责任信息披露规范初步建立的重要标志。

此外，在此期间，各地区和各行业的相关部门或协会也出台了一系列更具针对性的企业社会责任方面的政策。截至目前，我国企业社会责任信息披露的法律法规体系还在不断的完善之中，因此亟需相关的经验证据对已有政策的实施效果进行检验，以作为政府和监管机构后续修改和完善政策的参考。

三、 文献回顾、理论分析与研究假说

由于我国直到近年来才开始正式建立上市公司企业社会责任信息披露制度，因此学术界对企业社会责任信息披露经济后果的研究，特别是实证研究还不多见。一部分学者从理论层面对中国企业的社会责任问题进行了探索（例如，黄速建和余菁，2006；冯巧根，2009；李心合，2009；张兆国等，2009；高红贵，2010；李伟阳，2010；孟晓俊等，2010）。而对企业社会责任的实证研究还处于起步阶段。现有的为数不多的有关社会责任经济后果的实证研究主要集中于其对投资决策价值的影响，并且存在截然相反的证据。例如，陈玉清和马丽丽（2005）检验了市场对A股公司2003年年报中的社会责任信息的反应，发现投资者对社会责任信息不关注，市场反应不明显。宋献中和龚明晓（2006）采用问卷调查的方式对企业社会责任信息披露的决策价值进行评价，发现公司年报中披露的社会责任信息的决策价值和公共关系价值都不高，其中自愿性信息披露的公共关系价值显著大于决策价值，而强制性披露信息的决策价值大

于公共关系价值。宋献中和龚明晓（2007）采用内容分析法对年报中披露的社会责任信息进行了评价，发现我国上市公司披露的社会责任信息质量水平和决策价值都较低。相反，刘长翠和孔晓婷（2006）、沈洪涛和杨熠（2008）则分别考察了企业社会责任信息披露与财务业绩指标以及市场收益率的关系，他们的研究均发现两者呈正相关关系，表明社会责任信息具有决策价值。此外，还有一些文献对具体的社会责任事件进行了研究。例如，肖红军等（2010）以富士康公司员工连续自杀事件为例，探讨了该社会责任事件的资本市场反应，他们发现在新兴市场中富士康公司及其利益相关方的股票无论是在收益率还是交易量上均未出现显著性变化。肖华和张国清（2008）则以 2005 年“松花江事件”的肇事者“吉林化工”所属化工行业的 79 家 A 股公司为样本，探讨重大环境事故对相关行业的公司股价和环境信息披露行为的影响，研究结果表明，松花江事件发生后吉林化工及其所属化工行业样本公司的股票累积超额收益率显著为负。

信息披露理论认为，信息披露能够降低投资者间的信息不对称程度，提高证券的流动性，从而降低权益资本成本（Diamond and Verrecchia, 1991; Clarkson *et al.*, 1996; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002）。Verrecchia（2001）认为，企业社会责任信息披露可能扮演着与财务信息披露类似的角色，即通过信息披露减少信息不对称从而降低交易成本和减少估计误差来降低资本成本。Cornell and Shapiro（1987）阐述了企业社会责任信息披露影响资本成本的机制，认为企业社会责任信息披露能够降低投资者的疑虑，避免因风险溢价的提高而导致更高的融资成本。Dhaliwal *et al.*（2011）的研究发现，事前具有较高资本成本的公司更有动机自愿披露企业社会责任报告，并且在披露社会责任信息后公司资本成本显著降低。Goss and Roberts（2011）的研究结果表明，社会责任信息披露也能够给公司债务融资带来便利性，使其获得较低的银行贷款利率和更长的贷款期限。Ingram（1978）以财富 500 强公司作为研究样本，发现公司披露的社会责任信息没有决策价值（信息含量），但在进一步控制样本所属行业、年度以及未预期盈余的符号等变量后，发现又具有决策价值。类似地，Abbott and Monsen（1979）和 Anderson and Frankle（1980）也以财富 500 强公司作为研究样本，他们均发现社会责任信息的披露具有决策价值。Milne and Patten（2002）通过发放调查问卷，以 76 位来自美国实务界的会计师替代市场投资者，考察他们对企业披露社会责任信息的反应，发现大多数人对于那些尽管当期环境业绩较差但信息披露较为充分的公司给予更多的长期投资。

企业社会责任信息披露对分析师盈利预测的影响路径可用下图表示：

企业社会责任信息 → 未来的业绩 → 分析师盈利预测

企业在社会责任上的表现往往会影响其未来的业绩。例如，企业的捐赠、慈善以及公益等行为，通常可以改善公司的形象，提高声誉，对其未来的销售继而公司业绩产生正面的影响（山立威等，2008）。一个突出的例子便是王老吉的案例，该公司在汶川地震后进行了大量的捐款，对公司品牌形象的树立起到了重要的作用，继而对其产品的销售起到极大的促进作用。类似地，企业在环境污染、产品安全上的不好表现，

往往会对其未来的业绩产生负面影响。例如，紫金矿业和双汇股份在环境污染和产品质量上的问题暴露后，公司价值均显著下降。双汇股份主要产品的销量更是急剧下降，对其业绩造成严重的负面影响。显然，如果公司能够在企业社会责任报告中，对相关信息进行更加及时和详细的披露，则可降低公司的信息不对称程度（Verrecchia, 2001），帮助分析师对公司未来的收入、成本、风险、业绩等做出更好地判断，降低他们评估公司时的不确定性，从而提高其盈利预测的准确性。此外，企业社会责任信息的披露增加了公有信息的供给，使得分析师能够较少地依赖于主观解读和其他私有信息来形成自己的盈利预期，从而增加其预测的一致程度。

基于以上分析，我们首先提出本文的研究假说 1：

假说 1：公司的社会责任信息披露质量越高，其分析师盈利预测准确性越高，预测分歧度越小。

企业在社会责任上的表现与未来业绩的关系，在很大程度上会受到公司所有权性质的影响。一方面，正如 Wang and Qian（2011）的研究指出，较之国有企业，民营企业在产权保护、与政府的关系（包括所有权性质带来的天然的政治关系）以及获得政府资源的能力上（包括由此带来的竞争优势）处于天然的弱势。因此，民营企业更有激励通过捐赠等社会责任行为，更好地建立和维持与监管者以及政府官员的关系。另一方面，社会公众和投资者对于民营企业在社会责任上的表现的敏感性往往较高。例如，较之于国有企业，民营企业进行大规模的慈善活动时，更容易引起社会公众和投资者的好感，从而为其创造良好的舆论环境，对其未来业绩产生更为积极的影响。一项调查显示，99%的中国官员和 80%的民营企业认为，对当地的捐赠或公益行为可以显著改善企业家在官员和社会公众中的形象，对公司的经营带来帮助。² Wang and Qian（2011）的实证分析也支持了这一观点，他们的研究结果显示，民营企业的慈善行为与业绩的关联度要显著强于国有企业。类似地，企业在环境污染、产品安全上的不好表现，对其未来业绩的负面影响，对于民营企业也更加严重。通常而言，国有企业发生上述问题后，其受当地政府保护的可能性要更高。地方政府往往会通过一系列的措施降低此类事件对企业的影响。因此，较之国有企业，民营企业在社会责任上的表现与未来业绩之间具有更强的相关性。而对于分析师而言，其获得的信息与未来的盈余关联度越大，对其盈利预测的帮助也越大，或者说对其提高预测准确性的增量价值越大。基于此，本文提出如下的研究假说 2：

假说 2：较之国有企业，社会责任信息披露对分析师盈利预测准确性的正面影响在民营企业更加明显。

企业在社会责任上的表现与未来业绩的关系，还会受到公司所处地区治理环境的影响。³ 一方面，在法律保护较弱、政府干预较强等治理环境较差的地区，企业在环

² 该调查的信息引用自 Wang and Qian（2011）的研究论文。

³ 已有的大量研究发现，治理环境会对我国企业和市场参与者的经济行为产生重要的影响，包括对公司价值（夏立军和方轶强，2005）、资本结构（孙铮等，2005）、金字塔结构（Fan *et al.*, 2007）、审计师的选择（Wang *et al.*, 2008）以及关联交易（Jian and Wong, 2010）的影响等。

境污染、产品安全上的不好表现,对其未来业绩的负面影响相对较小。例如,当企业发生环境污染等行为后,在法律执行较差的地区,其被处罚的概率和处罚的严重程度要低于其他地区。同时,在政府干预较强的地区,当本地的企业发生环境污染后,政府更可能介入并通过一系列的行政措施降低此类事件对企业的影响,从而保证当地的税收,避免此类事件成为公众性的事件,对官员的政绩产生负面影响。这使得在治理环境较差的地区,公司在社会责任上的表现与未来业绩之间的相关性要低于治理环境较好的地区。另一方面,社会公众和投资者对治理环境较好地区公司的社会责任表现的关注和期待也相对较高。例如,对于治理环境较好地区的企业,当其在慈善、捐赠等方面的表现较差时,往往会产生较大的社会关注和舆论压力。企业在社会责任方面的不良表现对其未来的业绩会带来更加负面的影响。从这一角度而言,在治理环境较好的地区,公司在社会责任上的表现与未来业绩之间也具有更强的相关性。因此,对于分析师而言,企业社会责任信息对其预测治理环境较好地区的企业的未来盈余的帮助更大。基于此,本文提出如下的研究假说3:

假说3: 较之治理环境较差的地区,社会责任信息披露对分析师盈利预测准确性的正面影响在治理环境较好的地区更加明显。

此外,企业在社会责任上的表现与未来业绩的关系,还与公司所处的行业特征有关。当公司处于企业社会责任高敏感性行业时,一旦其发生环境污染等行为,社会公众通常会更加关注,舆论压力也更大(Clarkson *et al.*, 2008; Heflin and Wallace, 2011)。而这种社会的关注和舆论的压力又会导致其受到政府更严厉的处罚、银行等债权人更谨慎地提供借款、消费者对其产品进行抵制等负面效应,从而使得这些行业公司的企业社会责任表现与未来业绩之间具有更强的相关性。Greenall (2004)的研究就指出,加拿大的企业社会责任报告显示投资者对于采掘、能源、金融等行业的企业社会责任信息的需求更加强烈,对这些信息也更加敏感。Chen *et al.* (2012)则通过考察审计师收费与企业社会责任的关系发现,对于社会责任高敏感性行业,企业社会责任信息在审计师评估企业经营风险时更具价值,从而增强了审计费用与企业社会责任表现的负相关关系。这些证据均支持了企业社会责任信息在社会责任高敏感性行业更具价值。因此,对于分析师而言,我们预期企业社会责任信息对其预测社会责任高敏感性行业公司的未来盈余的帮助更大。由此,本文提出如下的研究假说4:

假说4: 较之社会责任低敏感性行业,社会责任信息披露对分析师盈利预测准确性的正面影响在社会责任高敏感性行业更加明显。

四、 样本选择和研究设计

4.1 样本选择和数据来源

本文所用的上市公司财务数据、股价数据以及分析师盈利预测数据均来源于CSMAR(国泰安)数据库,企业社会责任报告的评级得分数据来自于润灵环球责任

评级公司。⁴ 该评级采用了“MCT 社会责任报告评价体系”（具体参见本文附录）对上市公司披露的所有社会责任报告进行了评级打分，主要是从披露的角度来评价上市公司企业社会责任报告。较之于国内已有的企业社会责任的研究文献，本文采用的企业社会责任数据具有以下几个优点：首先，现有的研究一般使用调查数据或者根据年报中分散的信息进行归纳，且往往侧重于企业社会责任的某些方面，而本文采用的数据立足于独立的企业社会责任报告，因此其涵盖的企业社会责任相关信息较为完整，数据来源相对可靠；其次，现有的部分研究采用的企业社会责任数据未能够对企业社会责任的表现和企业社会责任的披露加以区分，而本文采用的评级得分指标（ CSR_{SCORE} ）主要是从披露的角度来评级企业社会责任报告，其评分的标准主要依据的是社会责任相关信息的披露程度；第三，本文采用的评级得分指标采用结构化专家打分法，在相对清晰的标准下采用业内专家打分的模式有助于降低评价过程中存在的偏差度。有关该企业社会责任评级得分指标更为详细的描述可参见润灵环球评级公司每年发布的《A 股上市公司社会责任报告蓝皮书》。

由于我国监管层要求部分上市公司从 2008 年开始披露企业社会责任报告，因此本文选取的样本期间为 2008 至 2009 年度。根据润灵环球责任评级的监测，上市公司在 2008 年和 2009 年一共披露了 842 份企业社会责任报告（其中：2008 年 371 份，2009 年 471 份）。同时，为了使样本更符合本文的研究需求，我们按以下步骤进行了筛选：（1）剔除上年度年报披露日至本年度年报披露日之间发布盈利预测的分析师人数少于 2 的公司样本；⁵（2）当分析师在同一年度对某个公司有多次盈利预测时，则选择该分析师于最接近年报披露日发布的盈利预测；（3）剔除金融保险类的公司样本；（4）剔除相关财务数据缺失的公司样本。经过这一样本筛选程序，我们得到的最终观测样本共 576 个。此外，为了减轻潜在的异常值的影响，本文在回归分析中还对所有连续变量在 2% 和 98% 的水平上分年度进行了 WINSORIZE 处理。

4.2 研究设计

本文参考现有关于分析师盈利预测的研究文献（例如，Lang *et al.*, 2003; Byard *et al.*, 2011; Dhaliwal *et al.*, 2011, 2012; 何贤杰等，2012），采用如下的模型（1）和（2）来检验本文的研究假说 1。

$$\begin{aligned}
 \text{FERROR} = & \alpha_0 + \alpha_1 \text{CSR} + \alpha_2 \text{SIZE} + \alpha_3 \text{NUM} + \alpha_4 \text{RETSTD} \\
 & + \alpha_5 \text{CORR} + \alpha_6 \text{UE} + \alpha_7 \text{HORIZON} + \alpha_8 \text{TRANSP} \\
 & + \alpha_9 \text{CG} + \sum \text{INDUSTRY} + \sum \text{YEAR} + \varepsilon
 \end{aligned} \tag{1}$$

⁴ 润灵环球责任评级是原润灵公益事业咨询研究与公众产品部，于 2010 年 7 月正式从润灵公益事业咨询剥离，是中国首家独立第三方社会责任评级机构。网址为：www.rksratings.com。

⁵ 主要是由于本文在计算分析师预测分歧度指标（ $DISPERSION$ ）时，至少要求公司有 2 个以上分析师进行跟踪。

$$\begin{aligned}
 DISPERSION = & \alpha_0 + \alpha_1 CSR + \alpha_2 SIZE + \alpha_3 NUM + \alpha_4 RETSTD \\
 & + \alpha_5 CORR + \alpha_6 UE + \alpha_7 HORIZON + \alpha_8 TRANSP \\
 & + \alpha_9 CG + \sum INDUSTRY + \sum YEAR + \varepsilon
 \end{aligned} \quad (2)$$

模型中，因变量 *FERROR* 和 *DISPERSION* 分别代表分析师的盈利预测误差和预测分歧度，反映了分析师盈利预测的准确性，数值越小，表明分析师盈利预测的准确性越高。具体的计算公式如下：

$$\begin{aligned}
 FERROR = & |Actual\ Earnings - Median(Forecasted\ Earnings)| / Price \\
 DISPERSION = & STD(Forecasted\ Earnings) / Price
 \end{aligned}$$

其中 *Actual Earnings* 为公司的实际净利润值除以年末总股数，*Forecasted Earnings* 为分析师预测的公司净利润值除以年末总股数，*Price* 为公司年初股价。⁶ 需要说明的是，考虑到公司总股本在一年之内也可能发生变动，这可能会使得分析师发布的每股收益（EPS）预测数据与按照年末总股数计算的实际每股收益缺乏可比性。因此，本研究基于分析师对净利润的预测值，并统一用年末总股数对净利润数据进行标准化。

CSR 衡量了企业社会责任信息披露质量。具体，本文采用以下两种方法来衡量：

（1）企业社会责任报告评级得分。润灵环球责任评级公司对上市公司披露的所有社会责任报告进行了评级打分，我们将该评级得分的自然对数计为 *CSR_{SCORE}*，该指标数值越大，表示企业社会责任信息披露的越好。（2）企业社会责任报告的页数。一般来说，企业社会责任报告越长，披露的越详尽，其披露质量越高（Abbott and Monsen, 1979; Dhaliwal *et al.*, 2012）。我们将企业社会责任报告页数的自然对数计为 *CSR_{PAGE}*，该指标数值越大，表示企业社会责任信息披露质量越高。

SIZE 和 *NUM* 分别代表公司在当年年末总资产的自然对数值和分析师跟踪的人数，用于控制公司规模和分析师跟踪人数对盈利预测准确性的影响。

RETSTD 和 *CORR* 分别代表公司股票回报波动性和股票回报率与会计盈余之间的相关系数。其中，*RETSTD* 为前三年公司股票月度回报率的标准差，*CORR* 为前三年公司股票季度回报率与季度会计盈余的相关系数。

UE 用来衡量未预期盈余的大小，等于公司当年 EPS 与上一年 EPS 差的绝对值再除以上一年 EPS 的绝对值。已有的研究结果显示，盈余变动幅度越大，则分析师的盈利预测准确性越低（Land and Lundholm, 1996）。

HORIZON 为分析师盈利预测发布日与年报实际披露日间隔天数的自然对数，用来控制预测时长对预测准确性的影响。显然，当预测日与披露日越接近时，分析师可获得的信息越充分，盈利预测越准确（Clement, 1999; Horton *et al.*, 2008）。

TRANSP 衡量了公司财务报告透明度。根据信息披露理论，公司财务报告信息越透明，信息环境越好，其分析师盈利预测越准确。我们参考 Bhattacharya *et al.* (2003)、

⁶ 采用实际盈余的绝对值对分析师盈利预测准确性指标进行标准化不影响本文基本结论。

Dhaliwal *et al.* (2012) 等的研究, 采用“经行业中位数调整的应计项的绝对值”来衡量公司财务报告透明度。其中, 应计项等于公司本年度净利润减去经营活动现金流量净额, 再除以期初总资产。该指标数值越大, 表示公司财务报告越不透明。

CG 为公司治理水平的代理变量, 用于控制公司的治理水平对分析师盈利预测的影响。一般来说, 公司治理越好, 其信息披露环境越好 (Bushman and Smith, 2001), 分析师盈利预测越准确。由于公司治理机制包含的内容十分广泛, 任何一个维度的度量都只能反映公司治理的一个方面或某些特征, 难以真正反映其全貌。本文借鉴白重恩等 (2005)、靳庆鲁和原红旗 (2008) 的方法, 选取以下八个指标并通过主成份分析法构建一个公司治理指数作为代理变量: (1) 公司的董事长是否兼任总经理; (2) 独立董事比例; (3) 高管的持股比例; (4) 第一大股东的持股比例; (5) 第二至第十大股东持股比例的平方和; (6) 第一大股东与第二大股东持股比例的比值; (7) 是否同时发行 B 股或 H 股; (8) 是否国有控股。与已有的文献一致 (白重恩等, 2005; 靳庆鲁和原红旗, 2008), 我们预期在主成份分析时, 独立董事比例 (*INDBOARD*)、高管持股比例 (*MGNSHR*)、第二至第十大股东持股比例的平方和 (*HFDL*) 以及公司是否同时发行 B 股或 H 股 (*BHSHARE*) 四个变量的载荷系数符号一致且与公司治理效率正相关, 而董事长和总经理兼任 (*CEO-CHAIR*)、第一大股东的持股比例 (*TOPISHR*)、第一大股东与第二大股东持股比例的比值 (*Z-INDEX*)、国有控股 (*SOE*) 这四个变量的载荷系数符号一致且与公司治理效率负相关。主成分分析结果显示,⁷ 除了 *CEO-CHAIR* 和 *BHSHARE* 外, 其它变量的载荷系数与公司治理效率的符号相反, 因此为了改变其经济意义, 我们将经主成份分析得到的公司治理指数取负值。经过这一变换后, 治理指数越高, 则表明其公司治理越好。

此外, 我们还在模型中控制了行业和年度因素的影响。

根据研究假说 1, 我们预期模型 (1) 和 (2) 中 *CSR* 的系数 α_i 均显著为负, 即企业社会责任信息披露质量越高, 其分析师盈利预测误差越低, 预测分歧度越小。

为了考察上市公司所有权性质、治理环境以及行业社会责任敏感性的差异对企业社会责任信息披露与分析师盈利预测准确性之间关系的影响, 即本文的研究假说 2、假说 3 和假说 4, 我们将样本公司进行分组并利用模型 (1) 和 (2) 进行回归检验。具体地, 对于假说 2, 我们将样本公司按照最终控制人性质划分为“国有企业”和“民营企业”。对于假说 3, 我们则以樊纲等 (2009) 编制的中国市场化指数中的市场化进程总得分 (*Marketization*) 指标作为公司外部治理环境的代理变量, 当公司所处地区的市场化进程总得分指数大于样本中位数时, 则归为“治理环境好组”, 反之则归为“治理环境差组”。而对于假说 4, 参照 Chen *et al.* (2012), Clarkson *et al.* (2008) 等的研究, 我们将“采掘业 (B)”、“造纸、印刷业 (C3)”、“石油、化学、塑胶、塑料业 (C4)”、“金属、非金属业 (C6)”、“电力、煤气及水的生产和供应业 (D)”以

⁷ 主成分分析结果显示, 本文选取的八个公司治理维度指标 *CEO-CHAIR*、*INDBOARD*、*MGNSHR*、*TOPISHR*、*HFDL*、*Z-INDEX*、*BHSHARE* 和 *SOE* 的载荷系数分别为 -0.1314、-0.0109、-0.2245、0.2795、-0.3478、0.3420、0.0303 和 0.2447。

及“社会服务业(K)”定义为“社会责任高敏感性行业”，⁸ 其他行业则定义为“社会责任低敏感性行业”。

表1列示了本文主要变量的定义。

表1 主要变量定义

变量名称	变量符号	变量定义
因变量		
分析师盈利预测误差	<i>FERROR</i>	等于所有分析师在当年年报披露前对某一公司的最后一次盈利预测的均值与公司实际盈余的误差，并用年初的股价进行标准化，×100
分析师盈利预测分歧度	<i>DISPERSION</i>	等于所有分析师在当年年报披露前对某一公司的最后一次盈利预测的标准差，并用年初的股价进行标准化，×100
解释变量		
企业社会责任报告评级得分	<i>CSR_{SCORE}</i>	等于润灵环球责任评级公司对企业社会责任报告的评级得分的自然对数
企业社会责任报告页数	<i>CSR_{PAGE}</i>	等于上市公司发布的企业社会责任报告页数的自然对数
控制变量		
公司规模	<i>SIZE</i>	等于公司年末总资产的自然对数
分析师跟踪人数	<i>NUM</i>	等于上年度年报披露日至本年度年报披露日之间发布盈利预测的分析师人数的自然对数
股票回报波动性	<i>RETSTD</i>	等于前三年公司股票月度回报率的标准差
股票回报率与会计盈余的相关性	<i>CORR</i>	等于前三年公司股票季度回报率与季度会计盈余的相关系数
未预期盈余	<i>UE</i>	等于公司当年EPS与上一年EPS差的绝对值再除以上一年EPS的绝对值
预测时长	<i>HORIZON</i>	等于分析师盈利预测发布日与年报实际披露日平均间隔天数的自然对数
财务报告透明度	<i>TRANSP</i>	等于公司“经行业中位数调整的应计项的绝对值”，其中，应计项等于公司本年度净利润减去经营活动现金流量净额，再除以期初总资产。
公司治理指数	<i>CG</i>	借鉴白重恩等(2005)，靳庆鲁和原红旗(2008)等的方法，本文选取以下八个指标并通过主成份分析法构建一个衡量公司治理水平的代理变量：(1)公司的董事长是否兼任总经理；(2)独立董事比例；(3)高管的持股比例；(4)第一大股东的持股比例；(5)第二至第十大股东持股比例的平方和；(6)第一大股东与第二大股东持股比例的比值；(7)是否同时发行B股或H股；(8)是否国有控股。

⁸ 考虑到近年来食品安全问题比较突出，例如三聚氰胺事件、瘦肉精事件等，作为稳健性检验，我们也把“食品、饮料业(C0)”归为“社会责任高敏感性行业”，得到的结果基本类似。

表 2 样本筛选与样本行业分布

Panel A: 样本筛选																
筛选过程												样本数				
2008 至 2009 年沪深 A 股披露企业社会责任报告的上市公司样本												842				
减: 上年度年报披露日至本年度年报披露日之间发布盈利预测的分析师人数少于 2 的公司样本												200				
金融保险行业的上市公司样本												48				
相关财务数据缺失的公司样本												18				
最终样本:												576				
Panel B: 样本的行业分布																
行业	总样本			国有企业			民营企业			治理环境差组			治理环境好组			
	N	百分比	评级得分	报告页数	N	评级得分	报告页数	N	评级得分	报告页数	N	评级得分	报告页数	N	评级得分	报告页数
A 农、林、牧、渔业	3	0.52%	24.08	5.33	-	-	-	3	24.08	5.33	3	24.08	5.33	-	-	-
B 采掘业	35	6.08%	39.90	25.37	31	41.68	27.77	4	26.09	6.75	21	35.45	20.71	14	46.58	32.36
C 制造业	333	57.81%	30.08	11.68	237	30.70	12.46	96	28.54	9.75	198	29.72	11.20	135	30.59	12.38
-C0 食品、饮料	28	4.86%	33.90	13.18	20	35.74	14.60	8	29.32	9.63	20	33.82	14.00	8	34.12	11.13
-C1 纺织、服装、皮毛	14	2.43%	27.14	9.36	2	32.66	16.50	12	26.22	8.17	7	29.46	9.71	7	24.82	9.00
-C2 木材、家具	1	0.17%	32.00	12.00	-	-	-	1	32.00	12.00	1	32.00	12.00	-	-	-
-C3 造纸、印刷	7	1.22%	25.67	8.57	3	25.73	10.33	4	25.64	7.25	7	25.67	8.57	-	-	-
-C4 石油、化学、塑胶、塑料	43	7.47%	28.28	9.23	34	27.97	8.94	9	29.48	10.33	29	27.71	8.97	14	29.48	9.79
-C5 电子	15	2.60%	29.08	12.00	7	32.30	17.57	8	26.26	7.13	7	28.64	10.14	8	29.47	13.63
-C6 金属、非金属	84	14.58%	31.68	13.77	79	31.93	14.13	5	27.67	8.20	64	30.62	12.11	20	35.06	19.10
-C7 机械、设备、仪表	97	16.84%	29.54	11.08	65	30.05	11.98	32	28.49	9.25	44	29.62	11.23	53	29.47	10.96
-C8 医药、生物制品	38	6.60%	29.82	12.08	27	28.36	10.15	11	33.39	16.82	15	27.91	11.47	23	31.06	12.48
-C9 其他制造业	6	1.04%	27.13	8.00	-	-	-	6	27.13	8.00	4	26.37	6.25	2	28.65	11.50
D 电力、煤气及水的生产和供应业	34	5.90%	34.37	17.50	31	34.51	18.35	3	32.86	8.67	14	31.49	15.79	20	36.38	18.70
E 建筑业	7	1.22%	34.15	20.71	4	41.92	32.25	3	23.79	5.33	2	32.77	10.00	5	34.70	25.00
F 交通运输、仓储业	53	9.20%	33.17	14.58	53	33.17	14.58	-	-	-	22	27.87	8.45	31	36.94	18.94
G 信息技术业	29	5.03%	28.80	10.00	18	29.10	9.94	11	28.29	10.09	8	31.35	13.13	21	27.82	8.81
H 批发和零售贸易	21	3.65%	31.79	15.76	15	31.89	14.40	6	31.56	19.17	8	24.92	6.63	13	36.02	21.38
J 房地产业	42	7.29%	29.75	12.88	30	31.33	14.07	12	25.80	9.92	6	27.24	8.67	36	30.17	13.58
K 社会服务业	7	1.22%	32.39	18.86	5	32.08	20.00	2	33.16	16.00	-	-	-	7	32.39	18.86
L 传播与文化产业	2	0.35%	24.20	11.00	2	24.20	11.00	-	-	-	2	24.20	11.00	-	-	-
M 综合类	10	1.74%	27.29	9.90	7	27.97	10.43	3	25.71	8.67	4	28.58	13.00	6	26.44	7.83
总计:	576	100.0%	31.16	13.40	433	32.13	14.51	143	28.25	9.96	288	29.85	11.73	288	32.47	15.07

五、实证结果与分析

5.1 描述性统计

表 2 提供了本文样本的筛选过程及其行业分布情况。其中, Panel A 列示了样本筛选情况, Panel B 列示了样本的行业分布。从总样本分布来看, 资源类公司的社会责任信息披露质量较高, 例如采掘、金属非金属、电力等行业。然而, 我国企业社会责任信息披露质量总体上仍然偏低, 企业社会责任报告评级得分和报告页数的均值分别为 31.16 分和 13.40 页。而从分组样本分布不难发现, 较之民营企业, 国有企业的社会责任报告评级得分和报告页数均较高, 社会责任信息披露质量较好; 较之治理环境差组, 治理环境好组的社会责任信息披露质量较好。

表 3 报告了本文主要变量的描述性统计结果。从 Panel A 的描述性统计可以发现, 分析师盈利预测误差和预测分歧度的均值分别为 1.1126 和 1.1520, 标准差分别为 1.2621 和 1.2197, 说明分析师对不同公司盈利的预测准确性有较大的差别。股票回报波动性的均值和中位数分别为 0.1873 和 0.1849, 股票回报率与会计盈余的相关系数的均值和中位数则分别为 0.0331 和 0.0227, 说明我国上市公司会计盈余的价值相关性较低。此外, 企业社会责任报告评级得分和报告页数的自然对数的均值分别为 3.3989 和 2.2807, 而其标准差则分别为 0.2727 和 0.7326, 这意味着不同公司企业社会责任信息披露质量存在较大差异。

Panel B 则报告了主要变量的 Pearson 相关系数表。我们发现, CSR_{SCORE} 与 $FERROR$ 和 $DISPERSION$ 的相关系数分别为 -0.1096 和 -0.0915, 在 5% 的水平上均显著为负; CSR_{PAGE} 与 $FERROR$ 和 $DISPERSION$ 的相关系数分别为 -0.0671 和 -0.0775, 亦在 10% 的水平上显著。这表明, 公司在社会责任信息上的披露质量越高, 其分析师盈利预测误差和预测分歧度越低, 这为本文的假说 1 提供了初步的证据。此外, 与以往的研究发现一致, 分析师盈利预测误差与公司规模、股票回报波动性、股票回报率与会计盈余的相关系数、未预期盈余和预测时长呈正相关, 与分析师跟踪人数、财务透明度和公司治理水平呈负相关。

5.2 企业社会责任信息披露与分析师盈利预测特征

表 4 报告了假说 1 的检验结果。其中, Panel A 列示了采用 CSR_{SCORE} 衡量企业社会责任信息披露质量的回归结果, 我们发现以分析师盈利预测误差 ($FERROR$) 和预测分歧度 ($DISPERSION$) 作为模型因变量时, CSR_{SCORE} 的系数分别在 1% 和 5% 的水平上显著为负 (系数分别为 -0.7290 和 -0.4763, T 值分别为 -3.79 和 -2.55), 此时, 对应的企业社会责任报告评级得分增加一单位标准差, 其分析师盈利预测误差平均下降约 17.8% ($= -0.7290 \times 0.2727 / 1.1126$) 或预测分歧度下降约 11.3% ($= -0.4763 \times 0.2727 / 1.1520$), 这表明企业社会责任信息披露对分析师盈利预测准确性的影响具有统计意义和经济意义上的显著性。Panel B 则报告了采用 CSR_{PAGE} 衡量企业社会责任信息披露质量的回归结果, 与 Panel A 结果类似, CSR_{PAGE} 的系数在 1% 的水平上均显著为负 (系数分别为 -0.1836 和 -0.2181, T 值分别为 -2.58 和 -3.18)。总体而言, 表 4 的

结果表明,企业社会责任信息披露质量越高,其分析师盈利预测越准确,预测分歧度越小,从而支持了本文的研究假说1。

为使上述研究结论更加稳健,我们还尝试了以下的敏感性分析:

(1) **考虑内生性问题。**首先,在本研究中,上市公司是否选择披露企业社会责任报告可能存在一定的自选择问题,公司的信息环境和是否披露社会责任报告的决定可能由其他潜在因素同时驱动,从而可能会对本研究结论的可靠性产生影响。为了尽可能减轻样本自选择问题的影响,我们采用 Heckman (1979) 两阶段模型进行回归分析。参照沈洪涛 (2007), 马连福和赵颖 (2007) 以及 Dhaliwal *et al.* (2011) 等的研究,在第一阶段,本文采用如下模型 (3) 对上市公司是否选择披露社会责任报告进行回归,然后在第二阶段把第一阶段自选择模型估计得到的 Lambda (即 Inverse Mills Ratio) 代入到模型 (1) 和 (2) 中作为额外的控制变量,并重新进行估计。

$$\begin{aligned}
 CSR_D = & \gamma_0 + \gamma_1 SIZE + \gamma_2 ROE + \gamma_3 LEV + \gamma_4 FIN + \gamma_5 TOBINQ \\
 & + \gamma_6 HHI + \gamma_7 LIQUIDITY + \gamma_8 + TRANSP + \gamma_9 CG \\
 & + \sum INDUSTRY + \sum YEAR + \xi
 \end{aligned} \quad (3)$$

这里, CSR_D 为哑变量,若公司披露社会责任报告则取值为 1, 否则为 0。 $SIZE$ 、 $TRANSP$ 和 CG 的定义同模型 (1)。 ROE 衡量公司盈利能力,等于公司净利润除以净资产。 LEV 衡量公司财务杠杆水平,等于公司总负债除以总资产。 FIN 表示公司的再融资需求,借鉴 Shyam- Sunder and Myers (1999) 的研究,我们用 (长期投资的增加 + 固定资产投资的增加 + 营运资本的增加 + 股利 - 经营活动现金流量 + 当期财

表 3 主要变量的描述性统计

Panel A: 描述性统计							
Variables	Mean	Std.	Min.	Q1	Median	Q3	Max.
<i>FERROR</i>	1.1126	1.2621	0.0255	0.2670	0.6580	1.4137	5.6073
<i>DISPERSION</i>	1.1520	1.2197	0.0683	0.3673	0.7680	1.5003	6.4690
<i>SIZE</i>	23.234	1.1313	21.131	22.489	23.130	23.983	25.976
<i>NUM</i>	2.2261	0.7852	0.6931	1.7918	2.3026	2.8332	3.8067
<i>RETSTD</i>	0.1873	0.0382	0.1103	0.1595	0.1849	0.2134	0.2807
<i>CORR</i>	0.0331	0.3085	-0.9060	-0.1856	0.0227	0.2479	0.9194
<i>UE</i>	0.6773	0.9897	0.0107	0.1977	0.3909	0.7151	5.6700
<i>HORIZON</i>	5.2464	0.2854	3.1781	5.1337	5.2781	5.4065	5.9054
<i>TRANSP</i>	0.0490	0.0441	0.0005	0.0157	0.0338	0.0732	0.1768
<i>CG</i>	0.2247	0.8747	-1.5623	-0.3918	0.2350	0.8963	2.0544
<i>CSR_{SCORE}</i>	3.3989	0.2727	2.7213	3.2272	3.3564	3.5212	4.3630
<i>CSR_{PAGE}</i>	2.2807	0.7326	0.6931	1.7918	2.1972	2.6391	4.5643

表 3 (续)

Panel B: 相关系数表												
Variables	FERROR	DISPERSION	SIZE	NUM	RETSTD	CORR	UE	HORIZON	TRANSP	CG	CSR _{SCORE}	CSR _{PAGE}
FERROR	1.0000											
DISPERSION	0.5141 ^{***}	1.0000										
SIZE	0.1452 ^{***}	0.2421 ^{***}	1.0000									
NUM	-0.1369 ^{***}	0.0778 [*]	0.4305 ^{***}	1.0000								
RETSTD	0.1790 ^{***}	0.1436 ^{***}	0.0513	-0.1788 ^{***}	1.0000							
CORR	0.0570	-0.0339	0.0346	-0.0425	0.0623	1.0000						
UE	0.2875 ^{***}	0.3126 ^{***}	0.1468 ^{***}	-0.0362	0.1115 ^{***}	0.1140 ^{***}	1.0000					
HORIZON	0.1127 ^{***}	0.0280	0.0404	0.0939 ^{**}	0.0160	0.0097	-0.0370	1.0000				
TRANSP	0.0621	0.0518	-0.0652	-0.0907 ^{**}	0.1312 ^{***}	-0.0293	0.0733 [*]	-0.0475	1.0000			
CG	-0.0537	-0.0718 [*]	-0.2557 ^{***}	0.0320	-0.0234	0.0949 ^{**}	-0.0700 [*]	-0.0205	0.0071	1.0000		
CSR _{SCORE}	-0.1096 ^{***}	-0.0915 ^{**}	0.3605 ^{***}	0.1819 ^{***}	-0.1065 ^{**}	0.0353	0.0339	0.0123	-0.0298	-0.1155 ^{***}	1.0000	
CSR _{PAGE}	-0.0671 [*]	-0.0775 [*]	0.3622 ^{***}	0.1798 ^{***}	-0.0742 [*]	0.0435	0.0325	0.0363	-0.0231	-0.1040 ^{**}	0.8500 ^{***}	1.0000

注: *、**、*** 分别表示在 10%、5%、1%的水平上显著。

表 4 企业社会责任信息披露与分析师盈利预测特征

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量				
Variable	(1)		(2)	
	Dependent Variable = $FERROR$		Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-6.5274***	(-4.11)	-3.7894**	(-2.46)
CSR_{SCORE}	-0.7290***	(-3.79)	-0.4763**	(-2.55)
$SIZE$	0.2824***	(5.01)	0.1623***	(2.97)
NUM	-0.3216***	(-4.40)	0.0842	(1.19)
$RETSTD$	2.4757*	(1.82)	2.6154**	(1.98)
$CORR$	0.1614	(0.97)	-0.0658	(-0.41)
UE	0.2944***	(5.86)	0.3327***	(6.83)
$HORIZON$	0.6526***	(3.84)	0.2107	(1.28)
$TRANSP$	0.7758	(0.69)	1.0652	(0.97)
CG	-0.0071	(-0.12)	-0.0273	(-0.48)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.193		0.187	
N	576		576	

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量				
Variable	(1)		(2)	
	Dependent Variable = $FERROR$		Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-8.2715***	(-5.23)	-5.2071***	(-3.43)
CSR_{PAGE}	-0.1836***	(-2.58)	-0.2181***	(-3.18)
$SIZE$	0.2663***	(4.69)	0.1712***	(3.14)
NUM	-0.3224***	(-4.38)	0.0862	(1.22)
$RETSTD$	2.7483**	(2.01)	2.6023**	(1.98)
$CORR$	0.1516	(0.91)	-0.0583	(-0.36)
UE	0.2964***	(5.86)	0.3332***	(6.86)
$HORIZON$	0.6616***	(3.86)	0.2216	(1.35)
$TRANSP$	0.7036	(0.62)	1.0673	(0.98)
CG	-0.0053	(-0.09)	-0.0269	(-0.48)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.182		0.192	
N	576		576	

注: *、**、*** 分别表示在 10%、5%、1%的水平上显著。

务费用)/期末总资产来衡量。*TOBINQ* 衡量公司的成长性, 等于(股票总市值 + 负债账面价值)/期末总资产。*HHI* 表示公司所处行业的竞争程度, 我们用赫芬达尔指数来衡量。*LIQUIDITY* 为公司股票流动性, 我们用公司年度总股票换手率来衡量。此外, 我们还在模型中控制了行业和年度因素的影响。表 5 报告了相应的第二阶段的检验结果。¹¹ 我们发现, 以 *FERROR* 作为模型因变量时, *Lambda* 的系数显著为正, 说明内生性问题的影响显著; 以 *DISPERSION* 作为模型因变量时, *Lambda* 的系数则不显著。然而, 我们发现在控制 *Lambda* 后, 模型中 *CSR_{SCORE}* 和 *CSR_{PAGE}* 的系数仍显著为负, 且系数大小与表 4 基本类似。因此, 采用 Heckman (1979) 两阶段模型控制内生性问题后, 本文的假说 1 仍然成立。

其次, 本文虽已尽可能控制了以往研究文献中涉及的影响分析师盈利预测的因素, 但仍可能遗漏某些变量, 这亦会引起内生性问题。为减轻遗漏变量对本文结论的影响, 我们采用变化模型, 从动态的角度考察企业社会责任信息披露质量的变化对分析师盈利预测的影响。模型中的变量为样本公司相邻两年度的差值, 例如, $\Delta FERROR$ 为公司 2009 年度的分析师盈利预测误差相较于 2008 年度的变化值, 其余变量定义类似。表 6 报告了相应的检验结果。从中不难发现, 除了 Panel B 的第(1)列中 ΔCSR_{PAGE} 的系数不显著外(系数为 -0.3223, T 值为 -1.55), 企业社会责任信息披露对分析师盈利预测准确性和分歧度的影响均在 5% 的水平上显著, 这进一步支持了本文的研究假说 1。需要说明的是, 较之于表 4, 表 6 的分析样本大幅减少, 主要是由于变化模型的分析要求上市公司样本在 2008 年和 2009 年均披露企业社会责任报告, 并且有分析师盈利预测数据。

(2) 企业社会责任报告披露动机的影响。已有文献表明, 不同的信息披露动机可能导致不同的经济后果 (Verrecchia, 2001), 根据前文对我国企业社会责任信息披露相关的制度背景介绍可知, 目前我国上市公司的社会责任报告以强制性披露为主, 但是也有部分公司选择自愿性披露。为了考察企业社会责任信息披露动机可能对本文研究结论产生的影响, 本文采用如下方法进行检验。首先, 我们将自愿性披露的公司从研究样本中予以剔除(剔除 94 个观测样本), 然后重新对假说 1 进行检验。¹² 我们发现, 检验结果与表 4 基本类似, 采用 *CSR_{SCORE}* 衡量企业社会责任信息披露质量时, 模型(1)和(2)对应的 *CSR_{SCORE}* 的系数分别为 -0.6635 和 -0.4928 (T 值分别为 -3.09 和 -2.43); 采用 *CSR_{PAGE}* 衡量企业社会责任信息披露质量时, 模型(1)和(2)对应的 *CSR_{PAGE}* 的系数分别为 -0.1600 和 -0.2280 (T 值分别为 -2.06 和 -3.14), 均在 5% 的水平上显著为负。

¹¹ 在本文未报告的模型(3)回归结果显示, 公司规模较大、盈利能力较好、财务杠杆低、成长性高以及财务透明度较高的公司更倾向于披露企业社会责任报告, 而公司的再融资需求、行业集中度、股票流动性和公司治理水平对公司是否披露企业社会责任报告则影响不明显。

¹² 根据 2008 年上海证券交易所发布的《关于做好上市公司 2008 年履行社会责任的报告及内部控制自我评估报告披露工作的通知》和深圳证券交易所发布的《关于做好上市公司 2008 年年度报告工作的通知》, 我们将“A+H 股、公司治理板块、金融板块以及深证 100 指数成份股”的上市公司归为强制性披露样本, 其余公司则归为自愿性披露样本。

表 5 企业社会责任信息披露与分析师盈利预测特征—Heckman (1979) 两阶段模型

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量				
Variable	(1) Dependent Variable = $FERROR$		(2) Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-12.943 ^{***}	(-3.58)	-1.7592	(-0.50)
CSR_{SCORE}	-0.7526^{***}	(-3.91)	-0.4688^{**}	(-2.50)
$SIZE$	0.5225 ^{***}	(3.91)	0.0864	(0.66)
NUM	-0.3073 ^{***}	(-4.20)	0.0797	(1.12)
$RETSTD$	2.3538 [*]	(1.73)	2.6539 ^{**}	(2.01)
$CORR$	0.1520	(0.92)	-0.0628	(-0.39)
UE	0.2736 ^{***}	(5.35)	0.3392 ^{***}	(6.81)
$HORIZON$	0.6750 ^{***}	(3.97)	0.2036	(1.23)
$TRANSP$	0.1526	(0.13)	1.2624	(1.11)
CG	-0.0317	(-0.53)	-0.0195	(-0.34)
Lambda	0.7119 ^{**}	(1.98)	-0.2253	(-0.64)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.198		0.186	
N	576		576	

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量				
Variable	(1) Dependent Variable = $FERROR$		(2) Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-14.450 ^{***}	(-3.95)	-3.2214	(-0.91)
CSR_{PAGE}	-0.1911^{***}	(-2.68)	-0.2157^{***}	(-3.14)
$SIZE$	0.4952 ^{***}	(3.68)	0.0977	(0.75)
NUM	-0.3087 ^{***}	(-4.18)	0.0818	(1.15)
$RETSTD$	2.6369 [*]	(1.93)	2.6381 ^{**}	(2.01)
$CORR$	0.1426	(0.85)	-0.0554	(-0.34)
UE	0.2766 ^{***}	(5.37)	0.3396 ^{***}	(6.84)
$HORIZON$	0.6833 ^{***}	(3.99)	0.2146	(1.30)
$TRANSP$	0.1079	(0.09)	1.2588	(1.11)
CG	-0.0287	(-0.48)	-0.0194	(-0.33)
Lambda	0.6791 [*]	(1.87)	-0.2183	(-0.62)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.186		0.191	
N	576		576	

注: *、**、*** 分别表示在 10%、5%、1%的水平上显著。

表 6 企业社会责任信息披露与分析师盈利预测特征—变化模型

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量				
Variable	(1)		(2)	
	Dependent Variable = $\Delta FERROR$		Dependent Variable = $\Delta DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-0.4591	(-0.30)	0.4338	(0.35)
ΔCSR_{SCORE}	-1.2010^{**}	(-2.39)	-0.9025^{**}	(-2.24)
$\Delta SIZE$	0.8111 ^{**}	(2.17)	-0.0664	(-0.22)
ΔNUM	-0.1771	(-0.93)	0.2819 [*]	(1.84)
$\Delta RETSTD$	-3.3896	(-0.51)	10.664 ^{**}	(2.00)
$\Delta CORR$	0.4615	(1.13)	0.0808	(0.25)
ΔUE	0.3441 ^{***}	(3.14)	0.3023 ^{***}	(3.44)
$\Delta HORIZON$	0.5141	(1.61)	0.0610	(0.24)
$\Delta TRANSP$	1.1158	(0.54)	3.2293 [*]	(1.94)
ΔCG	0.9381 ^{**}	(2.59)	0.3185	(1.10)
INDUSTRY	Yes		Yes	
Adj-R ²	0.070		0.075	
N	209		209	

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量				
Variable	(1)		(2)	
	Dependent Variable = $\Delta FERROR$		Dependent Variable = $\Delta DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-0.6011	(-0.39)	0.3035	(0.25)
ΔCSR_{PAGE}	-0.3223	(-1.55)	-0.3753^{**}	(-2.28)
$\Delta SIZE$	0.8271 ^{**}	(2.19)	-0.0326	(-0.11)
ΔNUM	-0.1976	(-1.03)	0.2720 [*]	(1.78)
$\Delta RETSTD$	-3.6300	(-0.54)	10.458 [*]	(1.96)
$\Delta CORR$	0.3826	(0.93)	0.0186	(0.06)
ΔUE	0.3336 ^{***}	(3.02)	0.3025 ^{***}	(3.45)
$\Delta HORIZON$	0.5816 [*]	(1.81)	0.1250	(0.49)
$\Delta TRANSP$	0.7839	(0.38)	2.9649 [*]	(1.79)
ΔCG	0.9673 ^{**}	(2.62)	0.3779	(1.29)
Industry	Yes		Yes	
Adj-R ²	0.054		0.076	
N	209		209	

注: *、**、*** 分别表示在 10%、5%、1%的水平上显著。

其次，我们在原模型中加入 *VOLUNTARY* 及交互项 $CSR \times VOLUNTARY$ ，然后重新进行检验。其中，*VOLUNTARY* 为哑变量，若样本公司属于自愿性披露则 *VOLUNTARY* 取值为 1，否则为 0。检验结果显示， $CSR_{SCORE} \times VOLUNTARY$ 和 $CSR_{PAGE} \times VOLUNTARY$ 的系数均为负但并不显著，即两类公司披露的社会责任信息对分析师盈利预测的影响并无显著差别。

因此，总体来看，在区分企业社会责任信息披露动机后，本文假说 1 的研究结论并没有发生实质性变化，企业社会责任信息披露对分析师盈利预测的影响在自愿性披露和强制性披露样本中均存在。限于篇幅，本文不再报告上述检验的具体结果。

5.3 所有权性质、企业社会责任信息披露与分析师盈利预测特征

表 7 报告了假说 2 的检验结果。其中，Panel A 列示了采用 CSR_{SCORE} 衡量企业社会责任信息披露质量的回归结果，我们发现以 *FERROR* 作为模型因变量时， CSR_{SCORE} 的系数在民营企业显著为负（系数为 -0.7883，T 值为 -2.32），在国有企业虽然也显著为负，但其系数值要小于前者。以 *DISPERSION* 作为因变量时， CSR_{SCORE} 的系数在民营企业显著为负，而在国有企业则不显著。Panel B 则报告了采用 CSR_{PAGE} 衡量企业社会责任信息披露质量的回归结果，我们发现无论是以 *FERROR* 还是 *DISPERSION* 作为模型因变量， CSR_{PAGE} 的系数在民营企业均显著为负，而在国有企业则都不显著。因此，总体来看，对民营企业样本，企业社会责任信息披露能够显著提高分析师盈利预测准确性；而对国有企业样本，该影响更小且基本不显著。上述检验结果基本支持了本文的研究假说 2，即较之国有企业，社会责任信息披露对分析师盈利预测准确性的正面影响在民营企业更加明显。¹³

5.4 治理环境、企业社会责任信息披露与分析师盈利预测特征

表 8 报告了假说 3 的检验结果。其中，Panel A 列示了采用 CSR_{SCORE} 衡量企业社会责任信息披露质量的回归结果，我们发现无论是以 *FERROR* 还是 *DISPERSION* 作为模型因变量， CSR_{SCORE} 的系数在“治理环境好组”样本均显著为负（系数分别为 -0.8484 和 -0.5916，T 值分别为 -3.19 和 -2.54），而在“治理环境差组”样本虽然为负但均不显著。Panel B 则列示了采用 CSR_{PAGE} 衡量企业社会责任信息披露质量的检验结果，与 Panel A 类似， CSR_{PAGE} 的系数在“治理环境好组”样本均在 1% 的水平上显著为负（系数分别为 -0.2703 和 -0.2823，T 值分别为 -2.70 和 -3.26），而在“治理环境差组”样本则均不显著。这些结果表明，企业社会责任信息披露对分析师盈利预测准确性的正面影响在治理环境好的地区更加明显，这支持了本文的研究假说 3。

¹³ 需要指出的是，本文进一步采用 SUE (Seemingly Unrelated Estimation) 的方法检验两组样本间 *CSR* 系数的差异。研究结果显示，系数差异总体上为边际显著 (Marginally Significant)。因此，读者在理解该结论时应当保持谨慎。下文按照“治理环境”和“行业特征”分组检验得到的结果类似。

表 7 所有权性质、企业社会责任信息披露与分析师盈利预测特征

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1) 国有企业		(2) 民营企业		(3) 国有企业		(4) 民营企业	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-7.4513 ^{***}	(-3.70)	-7.4814 ^{**}	(-2.58)	-4.2283 ^{**}	(-2.21)	-6.5488 ^{***}	(-2.25)
CSR_{SCORE}	-0.6485^{***}	(-2.77)	-0.7883^{**}	(-2.32)	-0.2391	(-1.07)	-0.6387^{**}	(-1.97)
$SIZE$	0.2597 ^{***}	(3.89)	0.3139 ^{***}	(2.79)	0.1209 [*]	(1.90)	0.3273 ^{***}	(2.89)
NUM	-0.4078 ^{***}	(-4.58)	-0.1147	(-0.89)	0.0683	(0.81)	0.0596	(0.46)
$RETSTD$	2.8822 [*]	(1.75)	0.3087	(0.13)	2.4644	(1.57)	2.1970	(0.90)
$CORR$	0.2833	(1.34)	0.0559	(0.22)	-0.0385	(-0.19)	-0.0778	(-0.30)
UE	0.3043 ^{***}	(5.18)	0.2513 ^{***}	(2.67)	0.2930 ^{***}	(5.25)	0.4954 ^{***}	(5.24)
$HORIZON$	0.6529 ^{***}	(3.10)	0.7248 ^{**}	(2.51)	0.2677	(1.34)	0.1866	(0.64)
$TRANSP$	2.1597	(1.55)	-2.3035	(-1.27)	2.5356 [*]	(1.91)	-1.7793	(-0.97)
CG	0.0998	(1.27)	0.1258	(1.04)	0.0890	(1.19)	-0.1326	(-1.09)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.201		0.183		0.151		0.417	
N	433		143		433		143	

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1) 国有企业		(2) 民营企业		(3) 国有企业		(4) 民营企业	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-9.0340 ^{***}	(-4.59)	-9.4490 ^{***}	(-3.40)	-4.9557 ^{***}	(-2.67)	-8.1558 ^{***}	(-2.92)
CSR_{PAGE}	-0.1069	(-1.25)	-0.3432^{***}	(-2.60)	-0.1195	(-1.49)	-0.2993^{***}	(-2.26)
$SIZE$	0.2345 ^{***}	(3.48)	0.3177 ^{**}	(2.84)	0.1275 ^{**}	(2.01)	0.3326 ^{**}	(2.96)
NUM	-0.4129 ^{***}	(-4.60)	-0.1221	(-0.96)	0.0717	(0.85)	0.0526	(0.41)
$RETSTD$	3.3250 ^{**}	(2.01)	0.3604	(0.15)	2.4251	(1.55)	2.2435	(0.93)
$CORR$	0.2627	(1.24)	0.0703	(0.27)	-0.0354	(-0.18)	-0.0652	(-0.25)
UE	0.3090 ^{***}	(5.23)	0.2244 ^{**}	(2.38)	0.2954 ^{***}	(5.30)	0.4718 ^{***}	(4.98)
$HORIZON$	0.6659 ^{**}	(3.14)	0.7156 ^{**}	(2.49)	0.2766	(1.39)	0.1791	(0.62)
$TRANSP$	2.0306	(1.45)	-2.1729	(-1.20)	2.5222 [*]	(1.91)	-1.6602	(-0.91)
CG	0.1047	(1.32)	0.1186	(1.00)	0.0880	(1.18)	-0.1360	(-1.14)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.189		0.192		0.153		0.424	
N	433		143		433		143	

注：*、**、*** 分别表示在 10%、5%、1%的水平上显著。

表 8 治理环境、企业社会责任信息披露与分析师盈利预测特征

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量									
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$				
	(1) 治理环境差组		(2) 治理环境好组		(3) 治理环境差组		(4) 治理环境好组		
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	
Constant	-7.8954 ^{***}	(-3.27)	-5.8778 ^{***}	(-2.75)	-3.4782	(-1.33)	-2.7672	(-1.48)	
CSR_{SCORE}	-0.4685	(-1.51)	-0.8484	(-3.19)	-0.1553	(-0.46)	-0.5916	(-2.54)	
$SIZE$	0.2618 ^{***}	(3.12)	0.3091 ^{***}	(3.78)	0.1425	(1.57)	0.1694 ^{**}	(2.36)	
NUM	-0.3561 ^{***}	(-3.58)	-0.2471 ^{**}	(-2.16)	0.1599	(1.49)	0.0312	(0.31)	
$RETSTD$	0.6007	(0.31)	4.4938 ^{**}	(2.03)	1.3457	(0.65)	3.4187 [*]	(1.76)	
$CORR$	0.2637	(1.11)	0.1105	(0.45)	0.0425	(0.17)	-0.1625	(-0.76)	
UE	0.2201 ^{***}	(2.86)	0.3051 ^{***}	(4.48)	0.2859 ^{***}	(3.44)	0.3575 ^{***}	(5.99)	
$HORIZON$	0.9141 ^{***}	(3.62)	0.5290 ^{**}	(2.22)	0.0333	(0.12)	0.3150	(1.51)	
$TRANSP$	1.0994	(0.68)	-0.3035	(-0.18)	1.5598	(0.90)	0.1434	(0.10)	
CG	-0.0286	(-0.33)	-0.0740	(-0.85)	-0.0060	(-0.06)	-0.0517	(-0.68)	
$INDUSTRY$ Yes			Yes		Yes		Yes		
$YEAR$ Yes			Yes		Yes		Yes		
Adj-R ²	0.150		0.231		0.136		0.224		
N	288		288		288		288		

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量									
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$				
	(1) 治理环境差组		(2) 治理环境好组		(3) 治理环境差组		(4) 治理环境好组		
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	
Constant	-9.0989 ^{***}	(-3.98)	-8.2560 ^{***}	(-3.82)	-3.8444	(-1.56)	-4.8538 ^{**}	(-2.59)	
CSR_{PAGE}	-0.0088	(-0.08)	-0.2703	(-2.70)	-0.1035	(-0.87)	-0.2823	(-3.26)	
$SIZE$	0.2438 ^{***}	(2.90)	0.3086 ^{***}	(3.70)	0.1474	(1.63)	0.1935 ^{***}	(2.68)	
NUM	-0.3593 ^{***}	(-3.59)	-0.2631 ^{**}	(-2.29)	0.1640	(1.52)	0.0190	(0.19)	
$RETSTD$	1.0019	(0.53)	4.3943 [*]	(1.96)	1.3199	(0.64)	3.0204	(1.56)	
$CORR$	0.2933	(1.24)	0.0928	(0.38)	0.0384	(0.15)	-0.1380	(-0.65)	
UE	0.2137 ^{***}	(2.76)	0.3065 ^{***}	(4.47)	0.2900 ^{***}	(3.48)	0.3536 ^{***}	(5.97)	
$HORIZON$	0.9234 ^{***}	(3.63)	0.5720 ^{**}	(2.38)	0.0199	(0.07)	0.3634 [*]	(1.75)	
$TRANSP$	1.2668	(0.79)	-0.5118	(-0.31)	1.5699	(0.91)	0.1665	(0.12)	
CG	-0.0140	(-0.16)	-0.0707	(-0.81)	-0.0087	(-0.09)	-0.0441	(-0.58)	
$INDUSTRY$ Yes			Yes		Yes		Yes		
$YEAR$ Yes			Yes		Yes		Yes		
Adj-R ²	0.143		0.222		0.137		0.236		
N	288		288		288		288		

注：*、**、*** 分别表示在 10%、5%、1%的水平上显著。

5.5 行业特征、企业社会责任信息披露与分析师盈利预测特征

表 9 报告了假说 4 的检验结果。其中, Panel A 列示了采用 CSR_{SCORE} 衡量企业社会责任信息披露质量的回归结果, 我们发现以 $FERROR$ 作为模型因变量时, CSR_{SCORE} 的系数在“社会责任高敏感性行业”样本显著为负(系数为 -0.8105 , T 值为 -2.52), 在“社会责任低敏感性行业”样本虽然也显著为负, 但其系数值要小于前者。以 $DISPERSION$ 作为因变量时, CSR_{SCORE} 的系数在“社会责任高敏感性行业”样本显著为负, 而在“社会责任低敏感性行业”样本则不显著。Panel B 则报告了采用 CSR_{PAGE} 衡量企业社会责任信息披露质量的回归结果, 我们发现无论是以 $FERROR$ 还是 $DISPERSION$ 作为模型因变量, CSR_{PAGE} 的系数在“社会责任高敏感性行业”样本均显著为负, 而在“社会责任低敏感性行业”样本则都不显著。因此, 总体来看, 企业社会责任信息披露对分析师盈利预测准确性的正面影响在“社会责任高敏感性行业”样本更加明显, 这支持了本文的研究假说 4。

5.6 其他稳健性检验

(1) 企业社会责任报告评级得分 (CSR_{SCORE}) 分解指标。润灵环球责任评级公司采用的是 MCT 评价体系, 分别从整体性、内容性和技术性三个维度来评价企业社会责任报告的披露情况。已有的一些研究表明, 不同维度企业社会责任其信息含量亦可能存在差异 (Turban and Greening, 1997; Mattingly and Berman, 2006; El Ghoul *et al.*, 2011)。¹⁴ 为了进一步探索不同维度企业社会责任评级得分对本文结论的影响, 我们分别用企业社会责任报告整体性得分 ($CSR_{SCORE-M}$)、内容性得分 ($CSR_{SCORE-C}$) 和技术性得分 ($CSR_{SCORE-T}$) 的自然对数来替代 CSR_{SCORE} , 然后重新检验本文假说。研究结果显示, 采用 $CSR_{SCORE-M}$ 和 $CSR_{SCORE-C}$ 衡量企业社会责任信息披露质量时, 得到的回归结果与前文主要结果类似, 本文主要假说仍成立; 而采用 $CSR_{SCORE-T}$ 衡量企业社会责任信息披露质量时, 假说 1 和假说 3 仍成立, 但假说 2 和假说 4 未能得到支持。一个可能的解释是, $CSR_{SCORE-T}$ 并不是一个很好的反映企业社会责任信息披露质量的指标, 该指标更多地反映报告本身的编写规范等技术层面, 而较少涉及企业社会责任信息披露实质。进一步, 我们将技术性得分从评级总得分中扣除, 即用整体性得分与内容性得分之和的自然对数 ($CSR_{SCORE-MC}$) 来衡量企业社会责任信息披露质量。我们发现, 本文主要假说均成立。

(2) 配对样本方法。考虑到检验本文的假说 2 时, 国有企业和民营企业样本量相差悬殊, 可能对本文研究结论产生影响。为此, 我们亦采用了配对样本的方法重新检验假说 2。具体来说, 对于每个民营企业样本, 本文选取具有相同年度相同行业、且总资产规模最为接近的国有企业与之组成配对样本。研究结果显示, 无论是以 $FERROR$ 还是 $DISPERSION$ 作为模型因变量, CSR_{SCORE} 和 CSR_{PAGE} 的系数在民营企业均在 5% 的水平上显著为负, 而在国有企业则都不显著, 即本文的假说 2 仍然成立。

¹⁴ 我们非常感谢匿名审稿人提供的建议。

表9 行业特征、企业社会责任信息披露与分析师盈利预测特征

Panel A: 采用 CSR_{SCORE} 衡量企业社会责任信息披露质量								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1) 低敏感性行业		(2) 高敏感性行业		(3) 低敏感性行业		(4) 高敏感性行业	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-5.1487**	(-2.54)	-8.5256***	(-3.36)	-3.4114*	(-1.87)	-1.2257	(-0.45)
CSR_{SCORE}	-0.6081**	(-2.49)	-0.8105**	(-2.52)	-0.3161	(-1.43)	-0.9306***	(-2.68)
$SIZE$	0.2528***	(3.23)	0.2524***	(2.92)	0.1202*	(1.70)	0.1595*	(1.71)
NUM	-0.2831***	(-3.02)	-0.3382***	(-2.86)	0.0743	(0.88)	0.1302	(1.02)
$RETSTD$	1.8446	(0.99)	1.5696	(0.70)	2.1457	(1.28)	-0.4675	(-0.19)
$CORR$	0.0927	(0.43)	0.2602	(0.95)	-0.0663	(-0.34)	-0.0556	(-0.19)
UE	0.2687***	(3.80)	0.3279***	(4.72)	0.3370***	(5.27)	0.3241***	(4.31)
$HORIZON$	0.4404**	(2.08)	1.2450***	(4.22)	0.2447	(1.28)	0.1153	(0.36)
$TRANSP$	1.7632	(1.23)	-0.3926	(-0.21)	1.5059	(1.17)	1.0260	(0.50)
CG	-0.0213	(-0.28)	0.0165	(0.18)	0.0207	(0.30)	-0.0927	(-0.93)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.147		0.273		0.136		0.232	
N	366		210		366		210	

Panel B: 采用 CSR_{PAGE} 衡量企业社会责任信息披露质量								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1) 低敏感性行业		(2) 高敏感性行业		(3) 低敏感性行业		(4) 高敏感性行业	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-6.5774***	(-3.22)	-10.491***	(-4.30)	-4.3663**	(-2.38)	-3.5498	(-1.36)
CSR_{PAGE}	-0.1280	(-1.33)	-0.2171**	(-2.00)	-0.1174	(-1.36)	-0.3709***	(-3.21)
$SIZE$	0.2377**	(2.98)	0.2343**	(2.72)	0.1240*	(1.73)	0.1599*	(1.74)
NUM	-0.2829***	(-3.00)	-0.3398***	(-2.86)	0.0732	(0.87)	0.1395	(1.10)
$RETSTD$	2.0426	(1.10)	2.0365	(0.91)	2.1997	(1.32)	-0.2249	(-0.09)
$CORR$	0.0937	(0.43)	0.2226	(0.81)	-0.0593	(-0.30)	-0.0842	(-0.29)
UE	0.2724***	(3.83)	0.3271***	(4.68)	0.3386***	(5.30)	0.3233***	(4.33)
$HORIZON$	0.4418**	(2.07)	1.2614***	(4.25)	0.2538	(1.32)	0.1191	(0.38)
$TRANSP$	1.6855	(1.17)	-0.3781	(-0.20)	1.4487	(1.12)	1.2010	(0.59)
CG	-0.0256	(-0.33)	0.0247	(0.27)	0.0230	(0.33)	-0.1038	(-1.05)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.136		0.265		0.136		0.244	
N	366		210		366		210	

注：*、**、*** 分别表示在 10%、5%、1%的水平上显著。

(3) 改变极值处理方法。在本文的实证检验部分,我们对回归分析中的所有连续变量在 2%和 98%的水平上进行了 WINSORIZE 处理,一定程度上减轻了异常值的影响。作为敏感性测试,我们分别在 1%和 99%,以及 5%和 95%的水平上进行 WINSORIZE 处理,本文的主要研究结论未发生实质性变化。

六、 结论与研究局限

6.1 研究结论及启示

本文利用上市公司企业社会责任报告的相关数据,考察了企业社会责任信息披露对分析师盈利预测行为的影响。我们的研究结果显示,总体而言,企业社会责任信息披露质量越高,其分析师盈利预测误差和预测分歧度越低,即企业社会责任信息的披露有助于提高分析师盈利预测准确性。进一步地,我们考察了所有权性质、治理环境以及公司所处行业特征的影响,发现企业社会责任信息披露对分析师盈利预测准确性的正面影响在民营企业、处于治理环境较好地区以及社会责任高敏感性行业的公司更加明显。

本文的研究结论具有重要的启示意义。近年来,随着对慈善捐款、企业环境污染等一系列社会问题的讨论,社会公众对企业社会责任问题的关注度日益提高,监管部门也制定和出台了一系列与企业社会责任有关的政策和法规进行规范和引导。本文的研究发现表明,企业社会责任信息为投资者提供了有用的信息,降低了信息不对称的程度。同时,其作用还会受到公司的所有权性质和所处地区的治理环境等制度因素的影响。因此,对于监管和政策制定部门而言,应加强和完善上市公司企业社会责任相关信息的披露制度,同时应切实结合公司所有权性质和治理环境等的差异,以保证相关政策的有效执行。同时,研究新兴市场国家的企业社会责任问题,需要考虑具体的制度背景。惟其如此,才能获得比较可靠的研究结论。

6.2 研究局限

(1) 虽然本文采用了 Heckman (1979) 检验等统计方法以及在模型中尽可能控制遗漏变量,来减轻研究中可能存在的内生性问题,但是仍然需要承认的是,本文的研究结论可能在一定程度上还会受到内生性问题的影响。

(2) 目前,我国尚未建立类似 KLD 等已在学术界获得较高认同的高质量的社会责任数据库,缺乏权威的机构或部门对我国上市公司的社会责任信息披露履行情况进行统一的评价。本文采用润灵环球责任评级公司的评级得分作为衡量企业社会责任信息披露质量的主要指标,在数据的权威性和可靠性上与 KLD 等研究数据库存在一定的差距。这可能会对我们的研究结论产生一定的影响。因此,我们提醒读者注意,本文的研究结论可能会受到数据质量的影响,在后续的研究中仍需要用不同的企业社会责任评级数据进行验证。

(3) 由于目前我国并未要求所有的上市公司都强制性披露企业社会责任报告,

这导致本文的样本占 2008 至 2009 年期间所有上市公司样本的比例还相对不高(这一比例大约在 18%左右), 因此我们提醒读者注意, 本文的研究结果在适用性和推广性上可能存在一定的局限。研究结论是否具有足够的代表性还有待数据条件成熟时进一步验证。

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附录：MCT 企业社会责任报告评价体系

MCT 评价体系从整体性、内容性和技术性三个角度出发，分别设立 13 个一级指标和 44 个二级指标对社会责任报告进行全面评价。MCT 评价体系评分采用结构化专家打分法，满分为 100 分，其中整体性评价 M 值权重为 40%，满为 40 分；内容性评价 C 值权重为 40%，满分为 40 分；技术性评价 T 值权重为 20%，满分为 20 分。

具体来说，根据指标内容说明为每一个指标赋值，从 0~4，0 为最低分，4 为最高分，每 0.5 为一个评分段。评分段说明：0 分—无信息描述，完全无体现；0.5 分—零星模糊信息；1 分—字面提及，无展开披露；1.5 分—微量数据信息披露；2 分—少量数据信息披露；2.5 分—部分数据信息披露；3 分—大部分数据信息披露；3.5 分—基本完整的数据信息披露；4 分—完整且明确的数据信息披露。

润灵环球责任评级公司主要是从披露的角度来评级企业社会责任报告，其评分的标准主要依据的是社会责任相关信息的披露程度。

来源：整理自润灵环球责任评级公司发布的《A 股上市公司社会责任报告蓝皮书 2009》。

Ownership Structure, Institutional Environment, and the Economic Consequences of Corporate Social Responsibility Information Disclosure: Evidence from Analysts' Earnings Forecasts¹

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Abstract

In recent years, as corporate social responsibility (CSR) has been drawing increasing public attention, the regulatory authorities in China have implemented a series of regulations and rules on the disclosure of CSR which have required listed companies to disclose CSR reports since 2008. This paper examines whether the disclosure of CSR-related information can provide useful information to investors. Specifically, we examine the impact of CSR disclosure on the accuracy and dispersion of analysts' earnings forecasts. The results show that higher quality CSR disclosure by firms leads to smaller analysts' earnings forecast errors and dispersion. The conclusions still hold after eliminating the endogenous concerns. In a further analysis, we find that the impact of CSR disclosure on the accuracy and dispersion of analysts' earnings forecasts is stronger for

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firms which are ultimately controlled by private enterprises, located in regions with a good institutional environment, and in industries with high CSR concern. Collectively, our findings suggest that the disclosure of CSR-related information provides useful information to investors and decreases the degree of information asymmetry. Meanwhile, the relationship between CSR disclosure and forecast accuracy is also affected by the structure of corporate ownership, institutional environment, and industry characteristics.

Keywords: Corporate Social Responsibility Information, Analysts' Earnings Forecasts, Ownership Structure, Institutional Environment

CLC Codes: F23, F27, F830

I. Introduction

In recent years, the issue of corporate social responsibility (CSR) has been drawing increasing public attention. Examples of CSR include corporate charitable donations and environmental pollution issues. The problems related to CSR have caused great concern among policy makers. The regulatory authorities in China have issued a series of policies and rules on CSR disclosure which have required listed companies to disclose CSR reports since 2008.³ Subsequently, the number of firms issuing stand-alone CSR reports has increased substantially, from 54 in 2007 to 471 in 2009. At the same time, attention from the public and policy makers to the issue of CSR has also aroused interest among academic researchers. For instance, what are the effects of implementing policies and rules on CSR information disclosure? Can CSR information disclosure provide useful information to investors to decrease information asymmetry and improve the corporate information environment? What is the impact of institutional factors such as corporate ownership and institutional environment on the usefulness of CSR-related information disclosure? Studies on these issues not only help us understand the issue of CSR in China but also provide empirical evidence and implications for the improvement of relevant policies.

However, in spite of the actual increase in demand for CSR, there is little academic evidence on the issue of CSR in China. The existing empirical studies mainly focus on the determinants of CSR information disclosure (Shen *et al.*, 2007; Wang, 2008; Mao and

³ For example, in 2008, the Shanghai Stock Exchange issued the *Notification about Disclosing Social Responsibility Reports and Internal Control Self-Evaluation Reports for Listed Companies in 2008*, which required listed companies in the corporate governance sector, companies issuing foreign-listed shares, and financial firms to disclose CSR reports concurrently with their annual reports of 2008 and also encouraged other companies to disclose their CSR reports. The Shenzhen Stock Exchange also issued the *Notification about Disclosing Annual Reports of 2008 for Listed Companies* in the same year; this required listed companies constituting the Shenzhen Stock Exchange 100 Index to disclose their CSR reports and also encouraged other companies to disclose their CSR reports. More details about the development of China's CSR information disclosure policies are given in Section II.

Zhang, 2009; Shen *et al.*, 2010) and the economic consequences of CSR information disclosure, such as its decision-making value (Chen and Ma, 2005; Li, 2006; Liu and Kong, 2006; Song and Gong, 2006, 2007; Li and Xiang, 2007; Wen and Fang, 2008). These studies play an important role in helping us to better understand the issue of CSR in China. Nonetheless, there is still much room for extending the relevant literature. In particular, most prior studies use survey data or fragmentary information in annual reports and pay special attention to some aspects of CSR. Few empirical studies are based on stand-alone CSR reports. In other words, we still know little about the effect of implementing policies on CSR information disclosure. Therefore, investigating the issue of CSR in China has important practical and academic value.

Actually, studying the CSR issue on the basis of China's capital market not only enhances our understanding of the CSR issue in China but also expands the international literature (Ingram, 1978; Anderson and Frankle, 1980; Milne and Patten, 2002; Gross and Roberts, 2011; Dhaliwal *et al.*, 2011, 2012). The literature review of Margolis and Walsh (2001) finds that there are many studies that have examined the economic consequences of CSR information disclosure. However, the conclusions of these studies are inconsistent due to differences in research sample and design. Therefore, studies based on different capital markets and perspectives are needed (Wang and Qian, 2011). What is more important is that the above literature is mainly based on mature capital markets like the US, while there is a lack of studies on emerging markets. It is known that emerging markets differ greatly from developed markets in aspects such as institutional environment and system of property rights. Therefore, it would be impossible to achieve similar results in emerging markets, where the institutional environment is much weaker than it is in developed markets. Differences in institutions have brought challenges for studies based on emerging market countries like China but have also provided a good opportunity to inspect the economic consequences of CSR from different perspectives. For instance, do state-owned companies and private companies experience different economic consequences as a result of CSR information disclosure? What impact does the institutional environment have on the economic consequences of CSR disclosure? Investigating these questions can extend and supplement the existing literature on CSR.

Among the economic consequences of CSR information disclosure, an issue that regulators and scholars are especially interested in is the effect of CSR disclosure on firms' information environment, which is also one of the key factors for assessing the effect of implementing policies on CSR information disclosure. As it is difficult to observe and quantify the information environment directly, empirical studies usually use alternative proxies. One of the most widely used measures is the characteristics of analysts' earnings forecasts (Lang *et al.*, 2003). As important information intermediaries in the capital market, financial analysts act as information transmission agents between investors and firms.

Through their professional knowledge, information acquisition, and processing ability, they provide market participants with reasonable information that reflects the intrinsic value of a stock, thereby increasing market efficiency as well as reducing the deviation of stock prices (Zhu *et al.*, 2007). It can be said that the achievements of financial analysts have become a major information source for investors. In short, financial analysts play an important role in the transmission, absorption, and transformation of information. Therefore, this measure is widely used by scholars (Land and Lundholm, 1996; Healy *et al.*, 1999; Gebhardt *et al.*, 2001). In this paper, we offer dimensional empirical evidence on the effect of implementing policies on CSR information disclosure by inspecting the impact of CSR disclosure on the characteristics of analysts' earnings forecasts and investigating whether stand-alone CSR reports can provide useful information to investors.

Specifically, we first examine the overall impact of CSR information disclosure on the accuracy and dispersion of analysts' earnings forecasts. The results show that firms with a higher quality of CSR information disclosure give rise to lower analysts' earnings forecast errors and dispersion. The conclusions still hold after eliminating the endogenous concerns as far as possible. In addition, we further study the influence of ownership structure, institutional environment, and industry characteristics. The results indicate that the positive influence of CSR information disclosure on the accuracy and dispersion of analysts' earnings forecasts is stronger for firms which are ultimately controlled by private enterprises, located in regions with a good institutional environment, and in industries with high CSR concern. Collectively, our findings suggest that the disclosure of CSR-related information provides useful information for investors and decreases the degree of information asymmetry. Meanwhile, the relationship between CSR disclosure and forecast accuracy is also affected by the ownership structure, the governance system, and industry characteristics.

Our paper makes the following contributions:

First, it expands the literature on the economic consequences of CSR disclosure in China. The existing literature mainly focuses on the impact of CSR practice on corporate performance and value relevance, while this paper examines the relation between CSR practice and the corporate information environment from the perspective of information disclosure, which enriches and expands the studies on the economic consequences of CSR and also provides more direct evidence to understand how CSR affects corporate value. This paper shows that CSR information disclosure may play a role similar to that of financial information disclosure; an increase in CSR disclosure quality will obviously decrease the information asymmetry between enterprises and investors, increase the accuracy of analysts' earnings forecasts, and improve the corporate information environment.

Second, this paper provides emerging market evidence for the relationships between

the economic consequences of CSR disclosure and institutional factors such as ownership structure and the institutional environment which expands the findings of prior studies on CSR disclosure (Ingram, 1978; Abbott and Monsen, 1979; Anderson and Frankle, 1980; Milne and Patten, 2002; Li and Zhang, 2010; Gross and Roberts, 2011; Dhaliwal *et al.*, 2011, 2012; Wang and Qian, 2011).

Using firm-level data from 31 countries, Dhaliwal *et al.* (2012) find that CSR information disclosure has a positive influence on analysts' earnings forecasts and also that the relationship is stronger for firms and countries with more opaque financial disclosure. Our paper expands this finding to China's capital market and conducts a deep inspection into the influence of CSR information disclosure on analysts' earnings forecasts by investigating institutional factors such as ownership structure and the institutional environment. The advantage of our research is that using single-country data can better avoid the limitations, such as missing variables, inherent in an international setting. More importantly, in contrast to the findings of Dhaliwal *et al.* (2012), our results show that the positive influence of CSR disclosure on analysts' earnings forecasts is stronger for firms with less government intervention (e.g. private firms; a better institutional environment) in emerging markets like China. Therefore, an analysis of the economic consequences of CSR information disclosure should consider institutional factors such as ownership structure and the institutional environment so that we can obtain more reliable and convincing conclusions. This is especially true in emerging market countries like China. Our results also have important implications for other emerging markets, especially for those with a high proportion of state-owned companies and strong government intervention.

Finally, our empirical results will be useful to the regulators, helping them to better understand the effect of implementing policies on CSR information disclosure and providing implications for the further improvement of relevant policies.

The remainder of the paper proceeds as follows: Section II introduces the development of China's CSR information disclosure policies; Section III discusses the prior literature and the development of the hypotheses; Section IV describes the sample selection and research design; Section V reports the empirical results; and Section VI concludes the paper.

II. Development of China's CSR Information Disclosure Policies

Although China's CSR-related information disclosure system was only established recently, it has developed rapidly in recent years. Before 2002, the rules on CSR disclosure were mainly scattered in the relevant provisions of the *Company Law* (Shanghai National Accounting Institute, 2008). At that time, the regulators, enterprises, and public in China

were relatively unfamiliar with the concept of CSR and there were no formal rules about CSR information disclosure. In January 2002, the China Securities Regulatory Commission (CSRC) and the State Economic and Trade Commission jointly issued *The Code of Corporate Governance for Listed Companies*, which for the first time required listed companies to fulfill their social responsibility and clarified that companies should protect stakeholders' interests, pay attention to CSR, and disclose CSR-related information as required by laws and regulations (Li and Xiang, 2007). After the *Code* was issued, there was a clear improvement in CSR information disclosure among Chinese listed companies and quite a number of the companies disclosed CSR-related information in their annual reports (Shen and Jin, 2006).

In September 2006, the Shenzhen Stock Exchange issued *Social Responsibility Guidance for Listed Companies* to encourage listed companies to establish a CSR system, through which the implementation of the system could be checked and evaluated regularly, and to prepare and disclose their CSR reports together with their annual reports (Meng *et al.*, 2010). This was the first time that China's securities supervisory authorities had issued CSR guidance for listed companies. The *Guidance* requires listed companies to disclose their CSR performance to interested parties, including shareholders, banks and other creditors, employees, customers, consumers, suppliers, the community, and other stakeholders.

In May 2008, the Shanghai Stock Exchange issued the *Notification about Strengthening Social Responsibility for Listed Companies* and the *Environmental Information Disclosure Guidance for Listed Companies at Shanghai Stock Exchange* to encourage listed companies to actively bear CSR and to disclose their CSR reports with their annual reports on the website of the Shanghai Stock Exchange. In addition, companies that pay high attention to CSR performance and disclosure were given priority for selection into the corporate governance sector, where the auditing procedures for the ad hoc announcements of such companies were simplified (Meng *et al.*, 2010).

In December 2008, the Shanghai Stock Exchange issued the *Notification about Disclosing Social Responsibility Reports and Internal Control Self-Evaluation Reports for Listed Companies in 2008*. This required three types of listed companies, including companies issuing A and H shares and companies in the corporate governance sector and the financial industry, to disclose CSR reports with their annual reports and also encouraged other companies to disclose their CSR reports. At the same time, the Shenzhen Stock Exchange issued the *Notification about Disclosing Annual Reports of 2008 for Listed Companies*, which required listed companies constituting the Shenzhen Stock Exchange 100 Index to disclose their CSR reports and also encouraged other companies to disclose their CSR reports. These two *Notifications* played an important role in the preliminary establishment of China's CSR information disclosure system.

In addition, during this period, relevant departments or associations of various areas and industries also issued a series of policies on CSR disclosure. At present, the laws and regulations on CSR disclosure in China are still under development, and empirical evidence is urgently needed to test the effect of implementing policies on CSR and provide implications for the improvement of relevant policies.

III. Literature Review and Hypothesis Development

Since the CSR information disclosure system for China's listed companies was only formally established recently, there is little academic research on the economic consequences of CSR information disclosure. Some scholars have explored the issue of CSR in China theoretically (e.g. Huang and Yu, 2006; Feng, 2009; Li, 2009; Zhang *et al.*, 2009; Gao, 2010; Li, 2010; Meng *et al.*, 2010). However, there is little empirical evidence on CSR disclosure, and prior studies on the economic consequences of CSR have mainly focused on the value relevance. For example, based on China's capital market, Chen and Ma (2005) examine the market reaction to CSR-related information. They find that the average market reaction is insignificant, which indicates that investors do not pay attention to CSR-related information. Using questionnaire survey data, Song and Gong (2006) investigate the value relevance of CSR information, and their results show that both the decision-making and public relations values of CSR information are low. In addition, for voluntary CSR reporting, the public relations value is higher than that of decision-making, while the decision-making value is higher than that of public relations for mandatory CSR reporting. Using content analysis, Song and Gong (2007) find that both the quality and the value relevance of CSR information disclosed in annual reports are low. Liu and Kong (2006) examine the relation between CSR information disclosure and accounting performance, and Hong and Yang (2008) examine the relation between CSR information disclosure and market return; both studies find that the relationship is positive, which implies that CSR information has value for investment decisions. In addition, other researchers have studied specific social responsibility events. For example, Xiao *et al.* (2010) examine the punishment effect given by the capital market following successive employee suicide events at Foxconn Ltd. The empirical results show that during the event window, neither Foxconn Ltd. nor its controlling shareholder experienced a significant change in stock return or trade volume in emerging markets. After the Songhua River pollution incident caused by Jilin Chemical in 2005, Xiao and Zhang (2008) used 79 firms in the chemical industry as the sample to investigate the influence of a major environmental accident on stock prices and the environmental information disclosure behaviour of companies in the same industry as Jilin Chemical. Their study indicates that

following the incident, the cumulated abnormal returns of Jilin Chemical and other companies in the chemical industry were significantly negative.

The disclosure theory suggests that information disclosure practice can decrease the degree of information asymmetry among investors, increase the liquidity of stocks, and thus reduce the cost of equity capital (Diamond and Verrecchia, 1991; Clarkson *et al.*, 1996; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002). Verrecchia (2001) points out that CSR information disclosure plays a role similar to that of financial disclosure, which is to decrease information asymmetry among investors, reduce transaction cost, and thus reduce the cost of capital. Cornell and Shapiro (1987) elaborate the mechanism of how CSR information disclosure influences the cost of capital and suggest that CSR information disclosure can reduce investors' doubt and avoid the high financing cost caused by the increase in risk premium. Dhaliwal *et al.* (2011) find that firms with high cost of equity capital tend to release CSR reports and that firms with relatively superior CSR performance enjoy a reduction in the cost of equity capital. Goss and Roberts (2011) indicate that firms with good CSR practice are associated with lower bank loan spreads and longer maturities. Using Fortune 500 firm data, Ingram (1978) shows that CSR information is not relevant to stock prices. However, it is value relevant after controlling for firm characteristics, including industry and year dummies, the sign of unexpected earnings, and other control variables. Similarly, both Abbott and Monsen (1979) and Anderson and Frankle (1980) also find that CSR information is value relevant for Fortune 500 companies. Milne and Patten (2002) surveyed 76 practising accountants, who act as a substitute for market investors, and investigated their responses to firms' CSR information disclosure. They show that most people allocate more long-term investment in companies whose current environmental performance is bad but with sufficient information disclosure.

The possible channel through which CSR information disclosure influences analysts' earnings forecasts is as follows:

CSR information → Future performance → Analysts' earnings forecasts

Firms' CSR practices are usually associated with their future financial performance. On the one hand, actions such as corporate donations and charity and public welfare activities will improve corporate reputation and thus have a positive influence on the future sales and performance of a company (Shan *et al.*, 2008). A very good example is the case of Wang-Lao-Ji Ltd. This company donated a lot of money after the Wenchuan earthquake, and this played an important role in the establishment of its corporate brand image and thus promoted sales of its products. On the other hand, a company's CSR performance in the areas of environmental pollution and product safety will have a negative influence on its future performance. Take Zijin Mining Group Ltd. and Shuanghui Group Ltd. as examples:

The firm value of both of these companies decreased greatly after environmental pollution and product safety problems were found; furthermore, the sales of Shuanghui Group Ltd. declined sharply, and this had a severe negative influence on its financial performance. Obviously, if companies disclose detailed CSR-related information in a timely manner in their CSR reports, the degree of information asymmetry will be reduced (Verrecchia, 2001). CSR information will be useful to analysts in forecasting sales, costs, operating risk, and financial performance. This means that CSR-related information helps analysts to make better judgments about firm value, thereby increasing the accuracy of earnings forecasts. In addition, CSR information disclosure increases the supply of public information, which helps analysts to make earnings forecasts that depend less on subjective judgments and private information so as to increase the consensus of the earnings forecasts.

Based on the above analysis, we put forward the first hypothesis of this paper:

Hypothesis 1: The quality of CSR information disclosure is positively associated with the accuracy of analysts' earnings forecasts.

The relationship between firms' CSR practices and their future financial performance is strongly affected by the structure of corporate ownership. On the one hand, as Wang and Qian (2011) point out, compared to state-owned firms, private firms have inherent weaknesses in terms of ownership protection, relationships with the government (including gaining political resources through government ownership), and the ability to gain government resources (including accompanied competitive advantage). Therefore, there are more incentives for private firms to establish relationships with the government through corporate philanthropy. On the other hand, the public and investors often have a higher sensitivity to the CSR performance of private firms. For example, compared with state-owned firms, private firms are more inclined to create a favourable impression and improve corporate reputation through corporate philanthropy, and thus CSR performance has a stronger positive influence on their future financial performance. A relevant survey shows that over 99 per cent of Chinese government officials and 80 per cent of private Chinese entrepreneurs believe that the social and political status of entrepreneurs and their firms clearly improves when they offer donations to local communities or participate in charity activities.⁴ The empirical analysis of Wang and Qian (2011) also supports this survey's result. Their finding indicates that the positive relationship between corporate philanthropy and financial performance is stronger for private firms than for state-owned firms. Similarly, the negative influence of bad CSR performance in relation to environmental pollution and product safety is also stronger in private firms. Generally speaking, if the above problems happen in state-owned firms, they are more likely to be

⁴ The survey result is cited from the study of Wang and Qian (2011).

protected by the local government. The local government has a strong incentive to take a lot of actions to decrease the negative influence of CSR events. Therefore, compared with state-owned firms, the relationship between firms' CSR practices and their future financial performance is stronger in private firms. The stronger the relationship between acquired information and firms' future financial performance, the more useful it is to analysts in making their forecasts and the more informative their future earnings forecasts are. Therefore, we put forward the following hypothesis:

Hypothesis 2: Compared with state-owned firms, the positive relationship between CSR information disclosure and analysts' earnings forecasts accuracy is stronger in private firms.

The relationship between firms' CSR practices and their future financial performance is also affected by the institutional environment of the regions in which the firms are located.⁵ On the one hand, the negative influence of bad CSR performance in relation to environmental pollution and product safety is weaker in regions with a poor institutional environment where legal protection is weak and government intervention is strong. For example, when a CSR incident happens (e.g. environmental pollution), firms located in areas of poor law enforcement are less likely to be punished. Meanwhile, in areas with strong government intervention, when a local firm causes environmental pollution, the government may intervene and try to reduce the negative influence of the CSR incident by administrative measures to ensure local tax income and prevent the CSR incident from becoming public knowledge, which would have a negative effect on the officials. Therefore, for firms located in regions with a poor institutional environment, the relationship between CSR practice and future performance is weaker than it is for firms located in regions with a good institutional environment. On the other hand, the public and investors often have higher concern about the CSR performance of firms in a good institutional environment. For example, firms located in regions with a good institutional environment will be confronted with great attention and pressure from the public when their CSR performance (e.g. corporate philanthropy) is poor, and this will have a negative influence on their future financial performance. Overall, the relationship between firms' CSR performance and their future financial performance is stronger for firms located in a good institutional environment. Therefore, CSR-related information will be more useful to analysts in making forecasts for firms in a good institutional environment. Based on the above analysis, we put forward Hypothesis 3:

⁵ A great deal of the prior literature suggests that the institutional environment plays an important role in the economic behaviour of Chinese enterprises and market participants because it may have great influence on firm value (Xia and Fang, 2005), capital structure (Sun *et al.*, 2005), pyramid structure (Fan *et al.*, 2007), auditor selection (Wang *et al.*, 2008), and related-party transactions (Jian and Wong, 2010).

Hypothesis 3: Compared with firms located in regions with a poor institutional environment, the positive relationship between CSR information disclosure and accuracy of analysts' earnings forecasts is stronger for firms located in regions with a good institutional environment.

In addition, the relationship between firms' CSR practices and their future financial performance is also related to industry characteristics. Once a CSR incident like environmental pollution occurs, the public may pay more attention to firms in industries with high CSR concern (Clarkson *et al.*, 2008; Heflin and Wallace, 2011). Public attention and pressure may also lead to a potential adverse impact on related firms, such as more severe punishment from the government, stricter loan requirements from banks and other creditors, and more severe resistance to products from consumers, and thus the relationship between firms' CSR performance and their future financial performance is stronger for firms in industries with high CSR concern. Greenall (2004) reveals that in Canada, investors are more sensitive towards firms in industries like mining, energy, forestry, and banking and demand better CSR practices in these firms. Chen *et al.* (2012) examine whether and how firms' CSR performance affects audit fees and find that the negative influence of CSR performance on audit fees is stronger in industries with high CSR concern. The above evidence supports the argument that CSR information is more useful to auditors in evaluating the client's audit risk in industries with high CSR concern. Therefore, CSR-related information will be more useful to analysts in making forecasts for firms in industries with high CSR concern. Based on the above analysis, we put forward Hypothesis 4:

Hypothesis 4: Compared with industries with low CSR concern, the positive relationship between CSR information disclosure and accuracy of analysts' earnings forecasts is stronger for industries with high CSR concern.

IV. Sample Selection and Research Design

4.1 Sample Selection and Data Source

We obtain accounting, stock return and analysts' earnings forecast data from the China Stock Market and Accounting Research (CSMAR) database and the rating score of CSR reports from Rankins CSR Ratings (RKS).⁶ RKS evaluates firms' CSR reports according

⁶ Rankins CSR Ratings is the former Research and Public Product Department of Running & Loving Consulting for Common Welfare (RLCCW). It was separated from RLCCW in July 2010, and it is the first independent and third-party social responsibility rating agency in China. Its website is at www.rksratings.com.

to the “MCT Corporate Social Responsibility Report Evaluating System” (refer to the Appendix for more details) mainly from the perspective of information disclosure. Compared with the prior literature on CSR in China, the CSR data adopted in this paper have the following advantages. First, existing studies mainly use the survey data or the dispersive information in annual reports and pay special attention to certain aspects of CSR, while our paper adopts data from stand-alone CSR reports that provide relatively complete and reliable information about CSR. Second, most of the existing studies do not distinguish clearly between CSR performance and CSR information disclosure, while the CSR score (CSR_{SCORE}) used in this paper rates CSR reports from the perspective of information disclosure so as to measure the quality of CSR report disclosure. Third, the proxy of the CSR score constructed by the expert grading method helps to reduce bias in the evaluation process. For a more detailed description of the CSR score, please refer to the *Blue Book of Corporate Social Responsibility Reports for A-Stock Listed Companies* issued by RKS.

As the Chinese regulatory authorities have required some listed companies to disclose CSR reports since 2008, we choose 2008 to 2009 as our sample period. According to the RKS statistics, listed companies disclosed 842 CSR reports from 2008 to 2009, 371 reports in 2008 and 471 reports in 2009. Meanwhile, we apply the following process to refine our sample. First, we discard the sample with less than two analysts following between the last announcement date and the announcement date of the forecasted year.⁷ Second, where analysts have made several forecasts in the same year, the earnings forecast closest to the announcement date of the forecasted year is selected. Third, we exclude the firms in the financial industry. Fourth, we eliminate sample firms with incomplete financial data. After these procedures, we obtain 576 firm-year observations. To reduce the effect of potential outliers, we winsorise all continuous variables at the 2nd and 98th percentiles by year.

4.2 Research Design

Following the prior literature on analysts' earnings forecasts (Lang *et al.*, 2003; Byard *et al.*, 2011; Dhaliwal *et al.*, 2011, 2012; He *et al.*, 2012), we use the following Models (1) and (2) to test Hypothesis 1:

$$\begin{aligned}
 FERROR = & \alpha_0 + \alpha_1 CSR + \alpha_2 SIZE + \alpha_3 NUM + \alpha_4 RETSTD \\
 & + \alpha_5 CORR + \alpha_6 UE + \alpha_7 HORIZON + \alpha_8 TRANSP \\
 & + \alpha_9 CG + \sum INDUSTRY + \sum YEAR + \varepsilon
 \end{aligned}
 \tag{1}$$

⁷ The main reason is that at least two analysts' earnings forecast records should be included when the dispersion of analyst forecasts is calculated.

$$\begin{aligned}
 DISPERSION = & \alpha_0 + \alpha_1 CSR + \alpha_2 SIZE + \alpha_3 NUM + \alpha_4 RETSTD \\
 & + \alpha_5 CORR + \alpha_6 UE + \alpha_7 HORIZON + \alpha_8 TRANSP \\
 & + \alpha_9 CG + \sum INDUSTRY + \sum YEAR + \varepsilon
 \end{aligned} \tag{2}$$

The dependent variables *FERROR* and *DISPERSION* respectively represent the analysts' earnings forecast errors and dispersion, which measure the accuracy of analysts' earnings forecasts (the smaller the value, the higher the accuracy of analysts' earnings forecasts). Specifically, the dependent variables are calculated as follows:

$$\begin{aligned}
 FERROR = & |Actual\ Earnings - Median(Forecasted\ Earnings)| / Price \\
 DISPERSION = & STD(Forecasted\ Earnings) / Price
 \end{aligned}$$

Actual Earnings is the firms' actual net income divided by outstanding shares at the end of the fiscal year. *Forecasted Earnings* is the analysts' forecasted net income divided by outstanding shares at the end of the fiscal year. *Price* represents the stock price at the beginning of the fiscal year.⁸ It should be noted that we calculate the accuracy of analysts' earnings forecasts based on the forecasted earnings divided by outstanding shares at the end of the fiscal year because changes in outstanding shares during the fiscal year may lead to a lack of comparability between the forecasted *EPS* and the actual *EPS* calculated according to the outstanding shares at the end of the fiscal year.

Our main variable of interest, *CSR*, measures the quality of CSR-related information disclosure. Specifically, we employ the following two quality proxies: (1) The rating score of CSR reports (*CSR_{SCORE}*), which is defined as the natural logarithm of the rating score provided by RKS about a firm's CSR report disclosure. The greater the *CSR_{SCORE}*, the higher quality of CSR information disclosure is. (2) The number of pages of the CSR report (*CSR_{PAGE}*), which is defined as the natural logarithm of the number of pages of a firm's CSR report. A longer report is likely to contain more information and hence indicates a higher quality of CSR information disclosure (Abbott and Mosen, 1979; Dhaliwal *et al.*, 2012). Similarly, the greater the *CSR_{PAGE}*, the higher the quality of CSR information disclosure.

SIZE and *NUM* are respectively the natural logarithm of a company's total assets at the end of the fiscal year and the number of analysts following the firm and are used to control for the size effect and the influence of analyst following on the accuracy of earnings forecasts.

RETSTD and *CORR* measure the volatility of stock returns and the correlation between returns and earnings, respectively. *RETSTD* is defined as the standard deviation of

⁸ Standardizing the accuracy of analysts' earnings forecasts by the absolute value of actual *EPS* will not change the main results.

monthly returns over the previous three years, and *CORR* is defined as the correlation between quarterly returns and earnings over the previous three years.

UE measures unexpected earnings, defined as the absolute value of the difference between current *EPS* and *EPS* from the prior year divided by the absolute value of the *EPS* from the prior year. Prior studies have documented that *UE* is positively correlated with analysts' earnings forecast errors (Land and Lundholm, 1996).

HORIZON is the natural logarithm of the number of days between the forecast's issue date and the earnings announcement date and is used to control for the influence of forecast interval on the accuracy of the forecast. Obviously, when the forecast's issue date is closer to the earnings announcement date, analysts can obtain more abundant information and make fewer errors in their earnings forecasts (Clement, 1999; Horton *et al.*, 2008).

TRANSP measures a firm's financial transparency. According to the disclosure theory, firms with higher transparency have a better information environment, and hence analysts' earnings forecasts about these firms are more accurate. Following Bhattacharya *et al.* (2003) and Dhaliwal *et al.* (2012), *TRANSP* is defined as the absolute value of a firm's industry-mean-adjusted total scaled accruals, where scaled accruals are computed as the difference between the net income and the net operating cash flow in the current fiscal year divided by the total assets at the beginning of fiscal year. Consequently, a greater value of *TRANSP* means higher financial opaqueness.

CG is the proxy variable for the level of corporate governance and is used to control for the influence of corporate governance on analysts' earnings forecasts. Generally speaking, better corporate governance leads to a better information environment (Bushman and Smith, 2001), and thus the more accurate analysts' earnings forecasts are. As corporate governance has many aspects, the measurement of any dimension is only able to reflect one aspect or some characteristics of corporate governance rather than the full picture. Following the studies of Bai *et al.* (2005) and Jin and Yuan (2008), we select the following eight indicators to construct the index of corporate governance through principal component analysis: (1) whether the chairman of the company also serves as the chief executive officer (CEO) (*CEO-CHAIR*); (2) the proportion of independent directors on the board (*INDBOARD*); (3) the percentage of shares held by senior executives (*MGNSHR*); (4) the percentage of shares held by the first largest shareholder (*TOP1SHR*); (5) the sum of squares of the percentage of shares held by the second to the tenth largest shareholders (*HFDL*); (6) the ratio of the percentage of shares held by the first largest shareholder to that held by the second largest shareholder (*Z-INDEX*); (7) whether the company issues B or H shares simultaneously (*BHSHARE*); and (8) whether the company is state owned (*SOE*). On the basis of the prior literature (Bai *et al.*, 2005; Jin and Yuan, 2008), we expect that the loading coefficients of *INDBOARD*, *MGNSHR*, *HFDL*, and *BHSHARE* will be positively related to corporate governance efficiency and the loading coefficients of *CEO-CHAIR*,

TOPISHR, *Z-INDEX*, and *SOE* will be negatively related to corporate governance efficiency. Untabulated results of the principal component analysis show that except for the variables *CEO-CHAIR* and *BHSHARE*, the signs of the loading coefficients of the other variables are contrary to that of corporate governance efficiency.⁹ Therefore, in order to change the economic meaning, we take the negative values for the principal components of corporate governance. After this transformation, a higher value of *CG* suggests higher corporate governance efficiency.

In addition, we also include year and industry dummies to control for time- and industry-specific factors.

According to Hypothesis 1, the significant and negative coefficients of *CSR* in Models (1) and (2) would indicate that a higher quality of *CSR* information disclosure is related to a lower level of analysts' earnings forecast error and dispersion.

To investigate the influence of ownership structure, institutional environment, and industry characteristics on the relationship between *CSR*-related information disclosure and the accuracy of analysts' earnings forecasts (i.e. Hypotheses 2, 3, and 4 described herein), we divide the sample into two groups for regression tests using Models (1) and (2). Specifically, to examine Hypothesis 2, we classify the sample companies into state-owned firms and private firms according to the ownership structure of the firms. For Hypothesis 3, we use the marketisation index formulated by Fan *et al.* (2009) to proxy for the firms' external institutional environment and divide the sample into two groups according to the median value of the marketisation index. Firms located in regions with a marketisation index higher than the median value of the sample are classified as the good institutional environment group and the others as the poor institutional environment group. For Hypothesis 4, following the research of Chen *et al.* (2012) and Clarkson *et al.* (2008), firms in industries that operate in intensely regulated or pollution-prone environments, such as mining (B), paper and printing (C3), petroleum, chemicals, rubber and plastics (C4), metals and non-metals (C6), electricity, and gas and water production and supply (D), and those in social services (K) are defined as the high *CSR* concern group,¹⁰ and the rest are defined as the low *CSR* concern group.

Table 1 summarises the definitions of main variables used in this paper.

⁹ The results of principal component analysis show that the loading coefficients of eight indicators, *CEO-CHAIR*, *INDBOARD*, *MGNSHR*, *TOPISHR*, *HFDL*, *Z-INDEX*, *BHSHARE*, and *SOE*, are -0.1314, -0.0109, -0.2245, 0.2795, -0.3478, 0.3420, 0.0303, and 0.2447, respectively.

¹⁰ Since the food safety problem has been prominent in recent years (e.g. the melamine incident and the lean meat powder incident), we also classify firms in the food and beverages (C0) industry as a high *CSR* concern group and find that the results are qualitatively the same.

Table 1 Variable Definitions

Variable	Variable symbol	Definition
<i>Dependent variables</i>		
Analysts' earnings forecast error	<i>FERROR</i>	The absolute value of the difference between forecasted <i>EPS</i> and actual <i>EPS</i> , standardised by the stock price at the beginning of the fiscal year, $\times 100$
Analysts' earnings forecast dispersion	<i>DISPERSION</i>	The standard deviation of the forecasted <i>EPS</i> , standardised by the stock price at the beginning of the fiscal year, $\times 100$
<i>Explanatory variables</i>		
Rating score of CSR reports	<i>CSR_{SCORE}</i>	The natural logarithm of the rating score provided by RKS about the firm's CSR reports.
Number of pages of CSR reports	<i>CSR_{PAGE}</i>	The natural logarithm of the number of pages of the firm's CSR reports.
<i>Control variables</i>		
Firm size	<i>SIZE</i>	The natural logarithm of total assets at the end of the fiscal year.
Number of analysts following	<i>NUM</i>	The natural logarithm of the number of analysts following between the last announcement date and the announcement date of the forecasted year.
Volatility of stock return	<i>RETSTD</i>	The standard deviation of monthly returns over the previous three years.
Correlation between returns and earnings	<i>CORR</i>	The correlation between quarterly returns and earnings over the previous three years.
Unexpected earnings	<i>UE</i>	The absolute value of the difference between current <i>EPS</i> and <i>EPS</i> from the prior year divided by the absolute value of the <i>EPS</i> from the prior year.
Forecast horizon	<i>HORIZON</i>	The natural logarithm of the number of days between the forecast's issue date and the earnings announcement date.
Financial transparency	<i>TRANSP</i>	The absolute value of industry-mean-adjusted total scaled accruals, where scaled accruals are computed as the difference between the net income and the net operating cash flow in current fiscal year divided by the total assets at the beginning of fiscal year.
Corporate governance index	<i>CG</i>	Following the studies of Bai <i>et al.</i> (2005) and Jin and Yuan (2008), we select the following eight indicators to construct the index of corporate governance through principal component analysis: (1) whether the chairman of the company also serves as the CEO; (2) the proportion of independent directors on the board; (3) the percentage of shares held by senior executives; (4) the percentage of shares held by the first largest shareholder; (5) the sum of squares of the percentage of shares held by the second to the tenth largest shareholders; (6) the ratio of the percentage of shares held by the first largest shareholder to that held by the second largest; (7) whether the company issues B or H shares simultaneously; and (8) whether the company is state owned.

V. Empirical Results and Analysis

5.1 Descriptive statistics

Table 2 shows the sample selection process and the industry distribution of the final sample. Specifically, Panel A illustrates the sample selection process and Panel B reports the distribution of the sample by industry. Obviously, the results show that the quality of CSR information disclosure is higher for firms in pollution-prone industries such as mining, metals and non-metals, and electricity. However, the overall quality of CSR information disclosure is relatively low in China, with the mean value of (a) the rating score and (b) the number of pages of CSR reports being 31.16 and 13.40, respectively. The subsample analysis indicates that both the rating score and the number of pages of CSR reports of state-owned firms are higher than those of private firms. Similarly, compared with the poor institutional environment group, the quality of CSR information disclosure is higher for firms within the good institutional environment group.

Table 3 reports the descriptive statistics for the main variables. Panel A illustrates that the mean values of *FERROR* and *DISPERSION* are 1.1126 and 1.1520, respectively, and the standard deviations are 1.2621 and 1.2197, respectively, which indicates that the accuracy of analysts' earnings forecast varies across firms. The means (medians) of *RETSTD* and *CORR* are respectively 0.1873 (0.1849) and 0.0331 (0.0227), which suggests that the value relevance of earnings in listed companies is very low in China. In addition, the mean values of the natural logarithm of the rating score and the number of pages of CSR reports are respectively 3.3989 and 2.2807, while the standard deviations are 0.2727 and 0.7326, respectively, indicating that the quality of CSR information disclosure varies remarkably across firms.

Panel B provides the Pearson correlation matrix of the main variables. The results show that the Pearson correlation coefficients between *CSR_{SCORE}* and *FERROR* and *CSR_{SCORE}* and *DISPERSION* are respectively -0.1096 and -0.0915, and both of them are significantly negative at the 5 per cent level. Meanwhile, the correlation coefficients between *CSR_{PAGE}* and *FERROR* and *CSR_{PAGE}* and *DISPERSION* are -0.0671 and -0.0775, respectively, and are also significantly negative at the 10 per cent level. The above findings suggest that a higher quality of CSR information disclosure leads to a lower level of analysts' earnings forecast error and dispersion, providing preliminary evidence in support of Hypothesis 1. Moreover, consistent with previous studies, analysts' earnings forecast errors are positively correlated with *SIZE*, *RETSTD*, *CORR*, *UE*, and *HORIZON* but negatively correlated with *NUM*, *TRANSP*, and *CG*.

Table 2 Sample Selection and Distribution

Panel A: Sample Selection		Full Sample										Private Firms			Poor Institutional Environment			Good Institutional Environment								
Selection Process		Percent		Score		Pages		N		Score		Pages		N		Score		Pages		N		Score		Pages		
The initial sample for our study consists of listed companies that disclosed CSR reports in China from 2008 to 2009.																										
Minus: The firms with less than two analysts following between the last announcement date and the announcement date of the forecasted year																										
The firms in the financial industry																										
The firms with incomplete financial data																										
Final sample:																										
Panel B: Sample Distribution by Industry																										
Industry	N	Percent	Score	Pages	N	Score	Pages	N	Score	Pages	N	Score	Pages	N	Score	Pages	N	Score	Pages	N	Score	Pages	N	Score	Pages	
A. Farming, forestry, animal husbandry, and fishing	3	0.52%	24.08	5.33	-	-	-	3	24.08	5.33	3	24.08	5.33	3	24.08	5.33	-	-	-	-	-	-	-	-	-	-
B. Mining	35	6.08%	39.90	25.37	31	41.68	27.77	4	26.09	6.75	21	35.45	20.71	14	46.58	32.36	14	46.58	32.36	14	46.58	32.36	14	46.58	32.36	
C. Manufacturing	333	57.81%	30.08	11.68	237	30.70	12.46	96	28.54	9.75	198	29.72	11.20	135	30.59	12.38	135	30.59	12.38	135	30.59	12.38	135	30.59	12.38	
-C0. Food and beverages	28	4.86%	33.90	13.18	20	35.74	14.60	8	29.32	9.63	20	33.82	14.00	8	34.12	11.13	8	34.12	11.13	8	34.12	11.13	8	34.12	11.13	
-C1. Textile, apparel, and fur	14	2.43%	27.14	9.36	2	32.66	16.50	12	26.22	8.17	7	29.46	9.71	7	24.82	9.00	7	29.46	9.71	7	29.46	9.71	7	24.82	9.00	
-C2. Lumber and furniture	1	0.17%	32.00	12.00	-	-	-	1	32.00	12.00	1	32.00	12.00	-	-	-	-	1	32.00	12.00	-	-	-	-	-	
-C3. Paper and printing	7	1.22%	25.67	8.57	3	25.73	10.33	4	25.64	7.25	7	25.67	8.57	-	-	-	-	7	25.67	8.57	-	-	-	-	-	
-C4. Petroleum, chemicals, rubber, and plastics	43	7.47%	28.28	9.23	34	27.97	8.94	9	29.48	10.33	29	27.71	8.97	14	29.48	9.79	14	29.48	9.79	14	29.48	9.79	14	29.48	9.79	
-C5. Electronics	15	2.60%	29.08	12.00	7	32.30	17.57	8	26.26	7.13	7	28.64	10.14	8	29.47	13.63	8	29.47	13.63	8	29.47	13.63	8	29.47	13.63	
-C6. Metals and non-metals	84	14.58%	31.68	13.77	79	31.93	14.13	5	27.67	8.20	64	30.62	12.11	20	35.06	19.10	20	35.06	19.10	20	35.06	19.10	20	35.06	19.10	
-C7. Machinery, equipment, and instruments	97	16.84%	29.54	11.08	65	30.05	11.98	32	28.49	9.25	44	29.62	11.23	53	29.47	10.96	53	29.47	10.96	53	29.47	10.96	53	29.47	10.96	
-C8. Medicine and biological products	38	6.60%	29.82	12.08	27	28.36	10.15	11	33.39	16.82	15	27.91	11.47	23	31.06	12.48	23	31.06	12.48	23	31.06	12.48	23	31.06	12.48	
-C9. Other manufacturing	6	1.04%	27.13	8.00	-	-	-	6	27.13	8.00	4	26.37	6.25	2	28.65	11.50	2	28.65	11.50	2	28.65	11.50	2	28.65	11.50	
D. Electricity, gas, and water production and supply	34	5.90%	34.37	17.50	31	34.51	18.35	3	32.86	8.67	14	31.49	15.79	20	36.38	18.70	20	36.38	18.70	20	36.38	18.70	20	36.38	18.70	
E. Construction	7	1.22%	34.15	20.71	4	41.92	32.25	3	23.79	5.33	2	32.77	10.00	5	34.70	25.00	5	34.70	25.00	5	34.70	25.00	5	34.70	25.00	
F. Transportation and warehousing	53	9.20%	33.17	14.58	53	33.17	14.58	-	-	-	22	27.87	8.45	31	36.94	18.94	31	36.94	18.94	31	36.94	18.94	31	36.94	18.94	
G. Information technology	29	5.03%	28.80	10.00	18	29.10	9.94	11	28.29	10.09	8	31.35	13.13	21	27.82	8.81	21	27.82	8.81	21	27.82	8.81	21	27.82	8.81	
H. Wholesale and retail trades	21	3.65%	31.79	15.76	15	31.89	14.40	6	31.56	19.17	8	24.92	6.63	13	36.02	21.38	13	36.02	21.38	13	36.02	21.38	13	36.02	21.38	
J. Real estate	42	7.29%	29.75	12.88	30	31.33	14.07	12	25.80	9.92	6	27.24	8.67	36	30.17	13.58	36	30.17	13.58	36	30.17	13.58	36	30.17	13.58	
K. Social services	7	1.22%	32.39	18.86	5	32.08	20.00	2	33.16	16.00	-	-	-	7	32.39	18.86	7	32.39	18.86	7	32.39	18.86	7	32.39	18.86	
L. Communication	2	0.35%	24.20	11.00	2	24.20	11.00	-	-	-	2	24.20	11.00	-	-	-	-	2	24.20	11.00	-	-	-	-	-	
M. Comprehensive	10	1.74%	27.29	9.90	7	27.97	10.43	3	25.71	8.67	4	28.58	13.00	6	26.44	7.83	6	26.44	7.83	6	26.44	7.83	6	26.44	7.83	
Total:	576	100.0%	31.16	13.40	433	32.13	14.51	143	28.25	9.96	288	29.85	11.73	288	32.47	15.07	288	32.47	15.07	288	32.47	15.07	288	32.47	15.07	

Table 3 Descriptive Statistics of the Main Variables

Panel A: Descriptive Statistics							
VARIABLES	Mean	Std.	Min.	Q1	Median	Q3	Max.
<i>FERROR</i>	1.1126	1.2621	0.0255	0.2670	0.6580	1.4137	5.6073
<i>DISPERSION</i>	1.1520	1.2197	0.0683	0.3673	0.7680	1.5003	6.4690
<i>SIZE</i>	23.234	1.1313	21.131	22.489	23.130	23.983	25.976
<i>NUM</i>	2.2261	0.7852	0.6931	1.7918	2.3026	2.8332	3.8067
<i>RETSTD</i>	0.1873	0.0382	0.1103	0.1595	0.1849	0.2134	0.2807
<i>CORR</i>	0.0331	0.3085	-0.9060	-0.1856	0.0227	0.2479	0.9194
<i>UE</i>	0.6773	0.9897	0.0107	0.1977	0.3909	0.7151	5.6700
<i>HORIZON</i>	5.2464	0.2854	3.1781	5.1337	5.2781	5.4065	5.9054
<i>TRANSP</i>	0.0490	0.0441	0.0005	0.0157	0.0338	0.0732	0.1768
<i>CG</i>	0.2247	0.8747	-1.5623	-0.3918	0.2350	0.8963	2.0544
<i>CSR_{SCORE}</i>	3.3989	0.2727	2.7213	3.2272	3.3564	3.5212	4.3630
<i>CSR_{PAGE}</i>	2.2807	0.7326	0.6931	1.7918	2.1972	2.6391	4.5643

Panel B: Pearson Correlation Matrix												
Variables	<i>FERROR</i>	<i>DISPERSION</i>	<i>SIZE</i>	<i>NUM</i>	<i>RETSTD</i>	<i>CORR</i>	<i>UE</i>	<i>HORIZON</i>	<i>TRANSP</i>	<i>CG</i>	<i>CSR_{SCORE}</i>	<i>CSR_{PAGE}</i>
<i>FERROR</i>	1.0000											
<i>DISPERSION</i>	0.5141***	1.0000										
<i>SIZE</i>	0.1452***	0.2421***	1.0000									
<i>NUM</i>	-0.1369***	0.0778*	0.4305***	1.0000								
<i>RETSTD</i>	0.1790***	0.1436***	0.0513	-0.1788***	1.0000							
<i>CORR</i>	0.0570	-0.0339	0.0346	-0.0425	0.0623	1.0000						
<i>UE</i>	0.2875***	0.3126***	0.1468***	-0.0362	0.1115***	0.1140***	1.0000					
<i>HORIZON</i>	0.1127***	0.0280	0.0404	0.0939**	0.0160	0.0097	-0.0370	1.0000				
<i>TRANSP</i>	0.0621	0.0518	-0.0652	-0.0907**	0.1312***	-0.0293	0.0733*	-0.0475	1.0000			
<i>CG</i>	-0.0537	-0.0718*	-0.2557***	0.0320	-0.0234	0.0949**	-0.0700*	-0.0205	0.0071	1.0000		
<i>CSR_{SCORE}</i>	-0.1096***	-0.0915**	0.3605***	0.1819***	-0.1065**	0.0353	0.0339	0.0123	-0.0298	-0.1155***	1.0000	
<i>CSR_{PAGE}</i>	-0.0671*	-0.0775*	0.3622***	0.1798***	-0.0742*	0.0435	0.0325	0.0363	-0.0231	-0.1040**	0.8500***	1.0000

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

5.2 CSR Information Disclosure and Characteristics of Analysts' Earnings Forecasts

Table 4 reports the result of tests for Hypothesis 1. Specifically, Panel A shows the results obtained by adopting CSR_{SCORE} to measure the quality of CSR information disclosure. Using $FERROR$ and $DISPERSION$ as dependent variables, the coefficients of CSR_{SCORE} are significantly negative at the 1 per cent and 5 per cent levels, respectively (corresponding coefficients are -0.7290 and -0.4763, respectively, and t-values are -3.79 and -2.55, respectively), suggesting that the analysts' earnings forecast error decreases by 17.8 per cent ($= -0.7290 \times 0.2727 / 1.1126$) or earnings forecast dispersion decreases by 11.3 per cent ($= -0.4763 \times 0.2727 / 1.1520$), corresponding to a one standard deviation increase in firms' CSR_{SCORE} . The above evidence indicates that the influence of CSR information disclosure on the accuracy of analysts' earnings forecasts has both statistical and economic significance. Panel B presents the results obtained by adopting CSR_{PAGE} to measure the quality of CSR information disclosure. Similar to the results in Panel A, the coefficients of CSR_{PAGE} are significantly negative at the 1 per cent level (corresponding coefficients are -0.1836 and -0.2181, respectively, and t-values are -2.58 and -3.18, respectively). Overall, the evidence in Table 4 suggests that a higher quality of CSR information disclosure leads to the higher accuracy of analysts' earnings forecasts, which supports Hypothesis 1.

To provide additional assurance of the robustness of our results, we also perform the following sensitivity tests:

(1) Endogeneity Issues. Firstly, in our sample, listed companies that have more transparent financial disclosure policies would also have better non-financial disclosure, thus causing a self-selection problem for CSR reporting. To diminish the self-selection problem of CSR report disclosure, we adopt the two-stage model of Heckman (1979). In the first stage, following Shen *et al.* (2007) and Dhaliwal *et al.* (2011), we use Model (3) to make a probit regression analysis of whether listed companies choose to disclose CSR reports. Then, in the second stage, the inverse Mills ratio ($LAMBDA$) obtained by the self-selection model in the first stage is added into Models (1) and (2) as an extra control variable, which are then re-estimated by the ordinary least squares method.

$$\begin{aligned}
 CSR_D = & \gamma_0 + \gamma_1 SIZE + \gamma_2 ROE + \gamma_3 LEV + \gamma_4 FIN + \gamma_5 TOBINQ \\
 & + \gamma_6 HHI + \gamma_7 LIQUIDITY + \gamma_8 + TRANSP + \gamma_9 CG \\
 & + \sum INDUSTRY + \sum YEAR + \xi
 \end{aligned} \tag{3}$$

CSR_D is a dummy variable which equals 1 if a firm discloses a CSR report and 0 otherwise. The variables of $SIZE$, $TRANSP$, and CG are defined as in Model (1). In addition, ROE measures the firm's profitability, which is defined as the net income divided by the net assets. LEV is a proxy for the firm's financial leverage, defined as total liabilities

Table 4 CSR Information Disclosure and Characteristics of Analysts' Earnings Forecasts

Panel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure				
Variable	(1) Dependent Variable = $FERROR$		(2) Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-6.5274***	(-4.11)	-3.7894**	(-2.46)
CSR_{SCORE}	-0.7290***	(-3.79)	-0.4763**	(-2.55)
$SIZE$	0.2824***	(5.01)	0.1623***	(2.97)
NUM	-0.3216***	(-4.40)	0.0842	(1.19)
$RETSTD$	2.4757*	(1.82)	2.6154**	(1.98)
$CORR$	0.1614	(0.97)	-0.0658	(-0.41)
UE	0.2944***	(5.86)	0.3327***	(6.83)
$HORIZON$	0.6526***	(3.84)	0.2107	(1.28)
$TRANSP$	0.7758	(0.69)	1.0652	(0.97)
CG	-0.0071	(-0.12)	-0.0273	(-0.48)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.193		0.187	
N	576		576	

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure				
Variable	(1) Dependent Variable = $FERROR$		(2) Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-8.2715***	(-5.23)	-5.2071***	(-3.43)
CSR_{PAGE}	-0.1836***	(-2.58)	-0.2181***	(-3.18)
$SIZE$	0.2663***	(4.69)	0.1712***	(3.14)
NUM	-0.3224***	(-4.38)	0.0862	(1.22)
$RETSTD$	2.7483**	(2.01)	2.6023**	(1.98)
$CORR$	0.1516	(0.91)	-0.0583	(-0.36)
UE	0.2964***	(5.86)	0.3332***	(6.86)
$HORIZON$	0.6616***	(3.86)	0.2216	(1.35)
$TRANSP$	0.7036	(0.62)	1.0673	(0.98)
CG	-0.0053	(-0.09)	-0.0269	(-0.48)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.182		0.192	
N	576		576	

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

divided by total assets. *FIN* indicates the firm's funds flow deficit. Following Shyam-Sunder and Myers (1999), we define *FIN* as (increase in long-term investment + increase in fixed investment + increase in working capital + dividend payment – operating cash flow + financial expense) divided by total assets at the end of fiscal year. *TOBINQ* measures the firm's growth opportunity, which is defined as the sum of total equity value and total book value of liabilities divided by total assets at the end of fiscal year. *HHI* is the proxy for the degree of industry competition, which is measured by the Herfindahl Index. *LIQUIDITY* is the firm's stock liquidity, defined as the annual total stock turnover. We also include year and industry dummies to control for time- and industry-specific factors. Table 5 provides the results for the second stage.¹¹

When *FERROR* is set as the dependent variable, the coefficient of *LAMBDA* is significantly positive, showing the significant influence of endogeneity problems. When *DISPERSION* is set as the dependent variable, the coefficient of *LAMBDA* is not significant. However, after controlling for the *LAMBDA* variable, the coefficients of both *CSRSCORE* and *CSR_{Page}* are significantly negative and remain qualitatively unchanged. Overall, after correcting for self-selection bias through the two-stage model of Heckman (1979), Hypothesis 1 still holds.

Secondly, although our study controls for the factors that affect analysts' earnings forecasts in previous studies as far as possible, our model may have some missing variables, thus causing endogeneity problems. In order to decrease the influence of missing variables, we adopt a change model to investigate the influence of a change in CSR disclosure quality on analysts' earnings forecasts from a dynamic angle. The variables included in the model are defined as the difference between two adjacent years. For instance, $\Delta FERROR$ is defined as the change in analysts' earnings forecast error in 2009 compared with 2008, and the definitions of the other variables are similar. Table 6 provides the test results. The empirical results show that the influence of CSR information disclosure on the accuracy of analysts' earnings forecasts is still significantly negative at the 5 per cent level except for the coefficient of ΔCSR_{PAGE} in Column (1) of Panel B which is insignificant (coefficient is -0.3223, and t-value is -1.55). The above evidence further supports Hypothesis 1. It should be noted that the sample size used in Table 6 is significantly smaller than that used in Table 4; this is because the change model requires that the sample companies disclose CSR reports in both 2008 and 2009 and have analysts' earnings forecast data.

¹¹ Untabulated results of Model (3) show that firms with a larger size, better profitability, lower financial leverage, higher growth opportunity, and more financial transparency are more likely to disclose CSR reports, while firms with higher financing demand, higher industry concentration, more liquidity of stock, and better corporate governance do not have significant influence on the CSR report disclosure decision.

Table 5 CSR Information Disclosure and Characteristics of Analysts' Earnings Forecasts – Two-Stage Model of Heckman (1979)

Panel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure				
Variable	(1)		(2)	
	Dependent Variable = $FERROR$		Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-12.943 ^{***}	(-3.58)	-1.7592	(-0.50)
CSR_{SCORE}	-0.7526^{**}	(-3.91)	-0.4688^{**}	(-2.50)
$SIZE$	0.5225 ^{***}	(3.91)	0.0864	(0.66)
NUM	-0.3073 ^{***}	(-4.20)	0.0797	(1.12)
$RETSTD$	2.3538 [*]	(1.73)	2.6539 ^{**}	(2.01)
$CORR$	0.1520	(0.92)	-0.0628	(-0.39)
UE	0.2736 ^{***}	(5.35)	0.3392 ^{***}	(6.81)
$HORIZON$	0.6750 ^{***}	(3.97)	0.2036	(1.23)
$TRANSP$	0.1526	(0.13)	1.2624	(1.11)
CG	-0.0317	(-0.53)	-0.0195	(-0.34)
$LAMBDA$	0.7119 ^{**}	(1.98)	-0.2253	(-0.64)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.198		0.186	
N	576		576	

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure				
Variable	(1)		(2)	
	Dependent Variable = $FERROR$		Dependent Variable = $DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-14.450 ^{***}	(-3.95)	-3.2214	(-0.91)
CSR_{PAGE}	-0.1911^{***}	(-2.68)	-0.2157^{***}	(-3.14)
$SIZE$	0.4952 ^{***}	(3.68)	0.0977	(0.75)
NUM	-0.3087 ^{***}	(-4.18)	0.0818	(1.15)
$RETSTD$	2.6369 [*]	(1.93)	2.6381 ^{**}	(2.01)
$CORR$	0.1426	(0.85)	-0.0554	(-0.34)
UE	0.2766 ^{***}	(5.37)	0.3396 ^{***}	(6.84)
$HORIZON$	0.6833 ^{***}	(3.99)	0.2146	(1.30)
$TRANSP$	0.1079	(0.09)	1.2588	(1.11)
CG	-0.0287	(-0.48)	-0.0194	(-0.33)
$LAMBDA$	0.6791 [*]	(1.87)	-0.2183	(-0.62)
$INDUSTRY$	Yes		Yes	
$YEAR$	Yes		Yes	
Adj-R ²	0.186		0.191	
N	576		576	

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 6 CSR Information Disclosure and Characteristics of Analysts' Earnings Forecasts – Change ModelPanel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure

Variable	(1)		(2)	
	Dependent Variable = $\Delta FERROR$		Dependent Variable = $\Delta DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-0.4591	(-0.30)	0.4338	(0.35)
ΔCSR_{SCORE}	-1.2010**	(-2.39)	-0.9025**	(-2.24)
$\Delta SIZE$	0.8111**	(2.17)	-0.0664	(-0.22)
ΔNUM	-0.1771	(-0.93)	0.2819*	(1.84)
$\Delta RETSTD$	-3.3896	(-0.51)	10.664**	(2.00)
$\Delta CORR$	0.4615	(1.13)	0.0808	(0.25)
ΔUE	0.3441***	(3.14)	0.3023***	(3.44)
$\Delta HORIZON$	0.5141	(1.61)	0.0610	(0.24)
$\Delta TRANSP$	1.1158	(0.54)	3.2293*	(1.94)
ΔCG	0.9381**	(2.59)	0.3185	(1.10)
<i>INDUSTRY</i>	Yes		Yes	
Adj-R ²	0.070		0.075	
N	209		209	

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure

Variable	(1)		(2)	
	Dependent Variable = $\Delta FERROR$		Dependent Variable = $\Delta DISPERSION$	
	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-0.6011	(-0.39)	0.3035	(0.25)
ΔCSR_{PAGE}	-0.3223	(-1.55)	-0.3753**	(-2.28)
$\Delta SIZE$	0.8271**	(2.19)	-0.0326	(-0.11)
ΔNUM	-0.1976	(-1.03)	0.2720*	(1.78)
$\Delta RETSTD$	-3.6300	(-0.54)	10.458*	(1.96)
$\Delta CORR$	0.3826	(0.93)	0.0186	(0.06)
ΔUE	0.3336***	(3.02)	0.3025***	(3.45)
$\Delta HORIZON$	0.5816*	(1.81)	0.1250	(0.49)
$\Delta TRANSP$	0.7839	(0.38)	2.9649*	(1.79)
ΔCG	0.9673***	(2.62)	0.3779	(1.29)
<i>INDUSTRY</i>	Yes		Yes	
Adj-R ²	0.054		0.076	
N	209		209	

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

(2) Motivation for CSR Report Disclosure. Prior literature suggests that the different motivations for information disclosure may lead to different economic consequences (Verrecchia, 2001). As introduced in Section II on the institutional background of China's CSR information disclosure, most of the listed companies' CSR reports are mandatory; only a few are voluntarily provided. To investigate whether our results are driven by the motivations for CSR reporting, we estimate our regression models using the following methods. First, we discard the companies with voluntary reporting regimes (94 observations are excluded) and re-estimate Hypothesis 1.¹² We find that the results are similar to those in Table 4. Specifically, using CSR_{SCORE} to measure the quality of CSR information disclosure, the coefficients of CSR_{SCORE} in Models (1) and (2) are -0.6635 and -0.4928, respectively (corresponding t-values are -3.09 and -2.43, respectively). Using CSR_{PAGE} to measure the quality of CSR information disclosure, the coefficients of CSR_{PAGE} in Models (1) and (2) are -0.1600 and -0.2280, respectively (corresponding t-values are -2.06 and -3.14, respectively), and both of them are significantly negative at the 5 per cent level.

Second, we add the variable $VOLUNTARY$ and the interaction variable $CSR \times VOLUNTARY$ into Models (1) and (2), respectively, and re-estimate Hypothesis 1. $VOLUNTARY$ is a dummy variable which equals 1 if the sample company voluntarily provides a CSR report and 0 otherwise. Untabulated results show that the coefficients of both $CSR_{SCORE} \times VOLUNTARY$ and $CSR_{PAGE} \times VOLUNTARY$ are insignificantly negative, which indicates that the influence of CSR information disclosure on analysts' earnings forecasts shows no significant difference between voluntary and mandatory reporting regimes.

Overall, after differentiating between the motivations for CSR reporting, the conclusion of Hypothesis 1 shows no significant change. The influences of CSR information disclosure on analysts' earnings forecasts are similar in both voluntary and mandatory reporting regimes. For simplicity, we do not tabulate the results of the robustness tests.

5.3 Ownership Structure, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Table 7 reports the test results for Hypothesis 2. Specifically, Panel A shows the

¹² Following the *Notification about Disclosing Social Responsibility Reports and Internal Control Self-Evaluation Reports for Listed Companies in 2008* issued by the Shanghai Stock Exchange and the *Notification about Annual Reports of 2008 for Listed Companies* issued by the Shenzhen Stock Exchange in 2008, we classify listed companies within the following categories as the mandatory reporting group: issuing A and H shares simultaneously, belonging to the corporate governance sector, firms in the financial industry, and constituents of the Shenzhen Stock Exchange 100 Index; and others as the voluntary reporting group.

results obtained by adopting CSR_{SCORE} to measure the quality of CSR information disclosure. Using $FERROR$ as the dependent variable, the coefficient of CSR_{SCORE} is significantly negative in private firms (corresponding coefficient is -0.7883, and t-value is -2.32), albeit somewhat weaker in state-owned firms. Alternatively, using $DISPERSION$ as the dependent variable, the coefficient of CSR_{SCORE} is significantly negative in private firms but not significant in state-owned firms. Panel B presents the results obtained by adopting CSR_{PAGE} to measure the quality of CSR information disclosure. Using either $FERROR$ or $DISPERSION$ as the dependent variable, the coefficient of CSR_{PAGE} is significantly negative in private firms but not significant in state-owned firms. Overall, CSR information disclosure increases the accuracy of analysts' earnings forecasts significantly in private firms, while the influence is smaller and almost insignificant in state-owned firms. These empirical results suggest that the positive relationship between CSR information disclosure and the accuracy of analysts' earnings forecasts is stronger in private firms compared with state-owned firms, which supports Hypothesis 2.¹³

5.4 Institutional Environment, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Table 8 reports the test results for Hypothesis 3. Specifically, Panel A presents the results obtained by adopting CSR_{SCORE} to measure the quality of CSR information disclosure. We find that using either $FERROR$ or $DISPERSION$ as the dependent variable, the coefficients of CSR_{SCORE} are significantly negative in the good institutional environment group (corresponding coefficients are -0.8484 and -0.5916, respectively, and t-values are -3.19 and -2.54, respectively), while both of them are insignificantly negative in the poor institutional environment group. Panel B presents the results obtained by adopting CSR_{PAGE} to measure the quality of CSR information disclosure. Similar to the results of Panel A, the coefficients of CSR_{PAGE} are significantly negative at the 1 per cent level in the good institutional environment group (corresponding coefficients are -0.2703 and -0.2823, respectively, and t-values are -2.70 and -3.26, respectively), while they are insignificantly negative in the poor institutional environment group. The above findings thus support Hypothesis 3, that is, the positive relationship between CSR information disclosure and analysts' earnings forecasts accuracy is stronger in regions with a good institutional environment.

¹³ It should be noted that the seemingly unrelated estimation (SUE) method is further adopted to test the difference in the coefficients of CSR between the two groups, and the results show that the difference in the coefficients is marginally significant. Therefore, readers should be cautious when interpreting the conclusions. Besides, the results are quite similar when the sample is divided by institutional environment and industry characteristics, respectively.

Table 7 Ownership Structure, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Panel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1)		(2)		(3)		(4)	
	State-owned Firms	Private Firms	State-owned Firms	Private Firms	State-owned Firms	Private Firms	State-owned Firms	Private Firms
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-7.4513***	(-3.70)	-7.4814**	(-2.58)	-4.2283**	(-2.21)	-6.5488***	(-2.25)
CSR_{SCORE}	-0.6485***	(-2.77)	-0.7883**	(-2.32)	-0.2391	(-1.07)	-0.6387**	(-1.97)
$SIZE$	0.2597***	(3.89)	0.3139***	(2.79)	0.1209*	(1.90)	0.3273***	(2.89)
NUM	-0.4078**	(-4.58)	-0.1147	(-0.89)	0.0683	(0.81)	0.0596	(0.46)
$RETSTD$	2.8822*	(1.75)	0.3087	(0.13)	2.4644	(1.57)	2.1970	(0.90)
$CORR$	0.2833	(1.34)	0.0559	(0.22)	-0.0385	(-0.19)	-0.0778	(-0.30)
UE	0.3043***	(5.18)	0.2513***	(2.67)	0.2930***	(5.25)	0.4954***	(5.24)
$HORIZON$	0.6529***	(3.10)	0.7248**	(2.51)	0.2677	(1.34)	0.1866	(0.64)
$TRANSP$	2.1597	(1.55)	-2.3035	(-1.27)	2.5356*	(1.91)	-1.7793	(-0.97)
CG	0.0998	(1.27)	0.1258	(1.04)	0.0890	(1.19)	-0.1326	(-1.09)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.201		0.183		0.151		0.417	
N	433		143		433		143	

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1)		(2)		(3)		(4)	
	State-owned Firms	Private Firms	State-owned Firms	Private Firms	State-owned Firms	Private Firms	State-owned Firms	Private Firms
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-9.0340***	(-4.59)	-9.4490***	(-3.40)	-4.9557***	(-2.67)	-8.1558***	(-2.92)
CSR_{PAGE}	-0.1069	(-1.25)	-0.3432**	(-2.60)	-0.1195	(-1.49)	-0.2993**	(-2.26)
$SIZE$	0.2345***	(3.48)	0.3177***	(2.84)	0.1275**	(2.01)	0.3326***	(2.96)
NUM	-0.4129***	(-4.60)	-0.1221	(-0.96)	0.0717	(0.85)	0.0526	(0.41)
$RETSTD$	3.3250**	(2.01)	0.3604	(0.15)	2.4251	(1.55)	2.2435	(0.93)
$CORR$	0.2627	(1.24)	0.0703	(0.27)	-0.0354	(-0.18)	-0.0652	(-0.25)
UE	0.3090***	(5.23)	0.2244**	(2.38)	0.2954***	(5.30)	0.4718***	(4.98)
$HORIZON$	0.6659***	(3.14)	0.7156**	(2.49)	0.2766	(1.39)	0.1791	(0.62)
$TRANSP$	2.0306	(1.45)	-2.1729	(-1.20)	2.5222*	(1.91)	-1.6602	(-0.91)
CG	0.1047	(1.32)	0.1186	(1.00)	0.0880	(1.18)	-0.1360	(-1.14)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.189		0.192		0.153		0.424	
N	433		143		433		143	

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

Table 8 Institutional Environment, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Panel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure									
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$				
	(1)		(2)		(3)		(4)		
	Poor Institutional Environment		Good Institutional Environment		Poor Institutional Environment		Good Institutional Environment		
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	
Constant	-7.8954***	(-3.27)	-5.8778***	(-2.75)	-3.4782	(-1.33)	-2.7672	(-1.48)	
CSR_{SCORE}	-0.4685	(-1.51)	-0.8484***	(-3.19)	-0.1553	(-0.46)	-0.5916**	(-2.54)	
$SIZE$	0.2618**	(3.12)	0.3091***	(3.78)	0.1425	(1.57)	0.1694**	(2.36)	
NUM	-0.3561***	(-3.58)	-0.2471**	(-2.16)	0.1599	(1.49)	0.0312	(0.31)	
$RETSTD$	0.6007	(0.31)	4.4938**	(2.03)	1.3457	(0.65)	3.4187*	(1.76)	
$CORR$	0.2637	(1.11)	0.1105	(0.45)	0.0425	(0.17)	-0.1625	(-0.76)	
UE	0.2201***	(2.86)	0.3051***	(4.48)	0.2859***	(3.44)	0.3575***	(5.99)	
$HORIZON$	0.9141***	(3.62)	0.5290**	(2.22)	0.0333	(0.12)	0.3150	(1.51)	
$TRANSP$	1.0994	(0.68)	-0.3035	(-0.18)	1.5598	(0.90)	0.1434	(0.10)	
CG	-0.0286	(-0.33)	-0.0740	(-0.85)	-0.0060	(-0.06)	-0.0517	(-0.68)	
$INDUSTRY$	Yes		Yes		Yes		Yes		
$YEAR$	Yes		Yes		Yes		Yes		
Adj-R ²	0.150		0.231		0.136		0.224		
N	288		288		288		288		

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure									
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$				
	(1)		(2)		(3)		(4)		
	Poor Institutional Environment		Good Institutional Environment		Poor Institutional Environment		Good Institutional Environment		
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	
Constant	-9.0989***	(-3.98)	-8.2560***	(-3.82)	-3.8444	(-1.56)	-4.8538**	(-2.59)	
CSR_{PAGE}	-0.0088	(-0.08)	-0.2703***	(-2.70)	-0.1035	(-0.87)	-0.2823***	(-3.26)	
$SIZE$	0.2438***	(2.90)	0.3086***	(3.70)	0.1474	(1.63)	0.1935***	(2.68)	
NUM	-0.3593***	(-3.59)	-0.2631**	(-2.29)	0.1640	(1.52)	0.0190	(0.19)	
$RETSTD$	1.0019	(0.53)	4.3943*	(1.96)	1.3199	(0.64)	3.0204	(1.56)	
$CORR$	0.2933	(1.24)	0.0928	(0.38)	0.0384	(0.15)	-0.1380	(-0.65)	
UE	0.2137***	(2.76)	0.3065***	(4.47)	0.2900***	(3.48)	0.3536***	(5.97)	
$HORIZON$	0.9234***	(3.63)	0.5720**	(2.38)	0.0199	(0.07)	0.3634*	(1.75)	
$TRANSP$	1.2668	(0.79)	-0.5118	(-0.31)	1.5699	(0.91)	0.1665	(0.12)	
CG	-0.0140	(-0.16)	-0.0707	(-0.81)	-0.0087	(-0.09)	-0.0441	(-0.58)	
$INDUSTRY$	Yes		Yes		Yes		Yes		
$YEAR$	Yes		Yes		Yes		Yes		
Adj-R ²	0.143		0.222		0.137		0.236		
N	288		288		288		288		

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

5.5 Industry Characteristics, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Table 9 reports the test results for Hypothesis 4. Specifically, Panel A shows the results obtained by adopting CSR_{SCORE} to measure the quality of CSR information disclosure. Using $FERROR$ as the dependent variable, the coefficient of CSR_{SCORE} is significantly negative in the high CSR concern group (corresponding coefficient is -0.8105, and t-value is -2.52), albeit somewhat weaker in the low CSR concern group. Using $DISPERSION$ as the alternative dependent variable, the coefficient of CSR_{SCORE} is significantly negative in the high CSR concern group but not significant in the low CSR concern group. Panel B shows the results obtained by adopting CSR_{PAGE} to measure the quality of CSR information disclosure. Using either $FERROR$ or $DISPERSION$ as the dependent variable, the coefficient of CSR_{PAGE} is significantly negative in the high CSR concern group, while it is not significant in the low CSR concern group. Overall, these results illustrate that the positive relationship between CSR information disclosure and the accuracy of analysts' earnings forecasts is stronger for industries with high CSR concern, supporting Hypothesis 4.

5.6 Other Robustness Tests

(1) Decomposed indicators of CSR_{SCORE} . Adopting the MCT CSR Report Evaluation System, RKS evaluates CSR reports from three dimensions: Macrocosm, Content, and Technique. Prior studies suggest that the informativeness of CSR performance in different dimensions varies (Turban and Greening, 1997; Mattingly and Berman, 2006; El Ghoul *et al.*, 2011).¹⁴ To investigate whether our conclusions are driven by the rating scores of CSR dimensions, we replace CSR_{SCORE} with the natural logarithm of Macrocosm Score ($CSR_{SCORE-M}$), Content Score ($CSR_{SCORE-C}$), and Technique Score ($CSR_{SCORE-T}$), respectively, and then retest the hypotheses. Untabulated results are similar to our main results, confirming the four hypotheses when adopting $CSR_{SCORE-M}$ and $CSR_{SCORE-C}$ to measure the quality of CSR information disclosure, respectively. However, when using $CSR_{SCORE-T}$ as the proxy of CSR information disclosure, the results of Hypotheses 1 and 3 are qualitatively the same while Hypotheses 2 and 4 are not further supported. One possible explanation is that $CSR_{SCORE-T}$ is not a good proxy to measure the quality of CSR disclosure, which mainly captures the technology of CSR reports, such as the compiling standard, rather than the essence of CSR performance disclosure. Furthermore, we remove the Technique Score from the total rating score, which means that we measure the quality of CSR information disclosure as the natural logarithm of the sum of Macrocosm Score and Content Score ($CSR_{SCORE-MC}$). We find that the results are qualitatively the same as our main results.

¹⁴ We are grateful to two anonymous referees for providing valuable suggestions.

Table 9 Industry Characteristics, CSR Information Disclosure, and Characteristics of Analysts' Earnings Forecasts

Panel A: Using CSR_{SCORE} to measure the quality of CSR information disclosure								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1)		(2)		(3)		(4)	
	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-5.1487**	(-2.54)	-8.5256***	(-3.36)	-3.4114*	(-1.87)	-1.2257	(-0.45)
CSR_{SCORE}	-0.6081**	(-2.49)	-0.8105**	(-2.52)	-0.3161	(-1.43)	-0.9306***	(-2.68)
$SIZE$	0.2528***	(3.23)	0.2524***	(2.92)	0.1202*	(1.70)	0.1595*	(1.71)
NUM	-0.2831**	(-3.02)	-0.3382***	(-2.86)	0.0743	(0.88)	0.1302	(1.02)
$RETSTD$	1.8446	(0.99)	1.5696	(0.70)	2.1457	(1.28)	-0.4675	(-0.19)
$CORR$	0.0927	(0.43)	0.2602	(0.95)	-0.0663	(-0.34)	-0.0556	(-0.19)
UE	0.2687***	(3.80)	0.3279***	(4.72)	0.3370***	(5.27)	0.3241***	(4.31)
$HORIZON$	0.4404**	(2.08)	1.2450***	(4.22)	0.2447	(1.28)	0.1153	(0.36)
$TRANSP$	1.7632	(1.23)	-0.3926	(-0.21)	1.5059	(1.17)	1.0260	(0.50)
CG	-0.0213	(-0.28)	0.0165	(0.18)	0.0207	(0.30)	-0.0927	(-0.93)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.147		0.273		0.136		0.232	
N	366		210		366		210	

Panel B: Using CSR_{PAGE} to measure the quality of CSR information disclosure								
Variable	Dependent Variable = $FERROR$				Dependent Variable = $DISPERSION$			
	(1)		(2)		(3)		(4)	
	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern	Low CSR Concern	High CSR Concern
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
Constant	-6.5774***	(-3.22)	-10.491***	(-4.30)	-4.3663**	(-2.38)	-3.5498	(-1.36)
CSR_{PAGE}	-0.1280	(-1.33)	-0.2171**	(-2.00)	-0.1174	(-1.36)	-0.3709***	(-3.21)
$SIZE$	0.2377***	(2.98)	0.2343***	(2.72)	0.1240*	(1.73)	0.1599*	(1.74)
NUM	-0.2829***	(-3.00)	-0.3398***	(-2.86)	0.0732	(0.87)	0.1395	(1.10)
$RETSTD$	2.0426	(1.10)	2.0365	(0.91)	2.1997	(1.32)	-0.2249	(-0.09)
$CORR$	0.0937	(0.43)	0.2226	(0.81)	-0.0593	(-0.30)	-0.0842	(-0.29)
UE	0.2724***	(3.83)	0.3271***	(4.68)	0.3386***	(5.30)	0.3233***	(4.33)
$HORIZON$	0.4418**	(2.07)	1.2614***	(4.25)	0.2538	(1.32)	0.1191	(0.38)
$TRANSP$	1.6855	(1.17)	-0.3781	(-0.20)	1.4487	(1.12)	1.2010	(0.59)
CG	-0.0256	(-0.33)	0.0247	(0.27)	0.0230	(0.33)	-0.1038	(-1.05)
$INDUSTRY$	Yes		Yes		Yes		Yes	
$YEAR$	Yes		Yes		Yes		Yes	
Adj-R ²	0.136		0.265		0.136		0.244	
N	366		210		366		210	

Note: *, **, and *** represent significance at the 10%, 5%, and 1% levels, respectively.

(2) Matching sample approach. Considering that the significant difference in sample size between state-owned and private firms may affect our main results, we retest Hypothesis 2 using the matching sample approach. Specifically, private firms are matched with state-owned firms of the same year and industry and similar total assets. Untabulated results show that using either *FERROR* or *DISPERSION* as the dependent variable, the coefficients of *CSR_{SCORE}* and *CSR_{PAGE}* are both significantly negative at the 5 per cent level in private firms but not significant in state-owned firms. These results further support Hypothesis 2.

(3) Changing the treatment of extreme values. In our main empirical results, we winsorise all continuous variables at the 2nd and 98th percentiles by year, which reduces the effect of potential outliers. In the sensitivity test, we winsorise all continuous variables at the 1st and 99th percentiles and the 5th and 95th percentiles, respectively. The results remain unchanged.

VI. Conclusion and Limitations

6.1 Conclusions and Implications

Using the data of CSR reports disclosed in China, this paper investigates the influence of CSR information disclosure on analysts' earnings forecasts. The empirical results show that for firms with a higher quality of CSR information disclosure, analysts' earnings forecasts have less errors and lower dispersion. These findings suggest that the disclosure of CSR-related information is conducive to increasing the accuracy of analysts' earnings forecasts. In addition, we further study the influence of ownership structure, institutional environment, and industry characteristics. We find that the positive influence of CSR information disclosure on the accuracy and dispersion of analysts' earnings forecasts is stronger for firms which are ultimately controlled by a private enterprise, located in regions with a good institutional environment, and in industries with high CSR concern.

The results of this paper generate some important implications for policymakers. In recent years, as the public has been paying increasing attention to the issue of CSR, such as corporate charitable donations and environment pollution, the CSR problem has also led to a high level of attention from the regulatory authorities, who have issued a series of policies and rules on CSR disclosure. Our findings suggest that the disclosure of CSR-related information provides useful information for investors and decreases the degree of information asymmetry. Meanwhile, the relationship between CSR disclosure and forecast accuracy is also influenced by ownership structure, institutional environment, and industry characteristics. Therefore, an analysis of the economic consequences of CSR disclosure should be conducted with reference to the institutional background; only after

such an analysis can we obtain more reliable and convincing conclusions.

6.2 Limitations

First, several tests were performed in this study, including the two-stage model of Heckman (1979), the change model, and controlling for the factors affecting analysts' forecasts to mitigate the problem of missing variables and to eliminate the effect of endogeneity problem as far as possible. However, we have to admit that it is impossible to completely get rid of the influence of endogeneity.

Second, since there is no authoritative organisation to evaluate the quality of CSR information disclosure using consistent criteria, we have still not established a high quality CSR database like KLD, which has been widely used and is accepted by academics. Our paper employs the rating score of RKS as the proxy for the quality of CSR information disclosure, but this company's database is not comparable to KLD's in terms of authority and reliability. Therefore, readers should be aware that some limitations exist in the validity of database which may influence our conclusions. We look forward to more academic research based on mature CSR data in the future.

Third, as not all listed companies are required to disclose CSR reports, the samples in this paper only account for 18 per cent of all listed firms during 2008 to 2009. Therefore, readers should be aware that there are some limitations to the applicability and extensibility of the study results of this paper. Further tests are required when the data conditions are mature to ascertain whether the study results are representative.

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Appendix: MCT Corporate Social Responsibility Report Evaluating System

The MCT CSR Report Evaluation System evaluates firms' reports from three dimensions (Macrocosm, Content, and Technique) in which there are 13 top-tier indicators and 44 second-tier indicators. The MCT Evaluation System rates CSR reports using the expert grading method, and the total score is 100, in which the Macrocosm Score, Content Score, and Technique Score are weighted 40%, 40%, and 20%, respectively.

Specifically, each indicator ranges from 0 to 4, and according to the explanation of the grades, 0 is the lowest score and 4 the highest and the grade sections are divided every 0.5 score. The explanations of the grade sections are as follows: 0 represents absolutely no CSR information disclosure; 0.5 represents fragmentary and fuzzy CSR information disclosed; 1 represents literally mentioned CSR information disclosed; 1.5 represents trace CSR information disclosed; 2 represents a little CSR information disclosed; 2.5 represents some CSR information disclosed; 3 represents most CSR information disclosed; 3.5 represents almost complete CSR information disclosed; 4 represents complete and explicit CSR information disclosed.

RKS evaluates firms' CSR reports mainly on the basis of information disclosure, which measures the degree of CSR information disclosure.

Source: Please refer to the *Blue Book of Corporate Social Responsibility Reports for A Stock Listed Companies 2009* published by Rankins CSR Ratings Corporate.