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企业生命周期、应计特征与会计稳健性[1]

陈旭东[2]　黄登仕[3]

摘要

本文探讨了应计如何在企业生命周期的不同阶段影响会计稳健性。采用中国上市公司1998年至2005年的数据，运用基于整个现金流的信息组合构建企业生命周期的代理变量，发现中国上市公司的应计随着企业生命周期的变化，呈现规律性变化，会计稳健性的差异受到企业基本面的影响，随着应计和企业生命周期的变化也呈现规律性变化。由于应计在企业生命周期的不同阶段，其主导作用不同，使得在企业生命周期的初期，应计多且为正值，主要适用配比观，延缓了收益和损失的确认，应计起到平滑盈余的作用，企业的条件稳健性弱。相反，在企业生命周期的末期，应计为负值，主要适用市价观，应计及时确认了损失，企业的条件稳健性强。初步的证据表明在企业的整个生命周期中，会计稳健性大致呈现U型分布，由于应计的不同作用，对于总体稳健性的贡献，在生命周期的前半段，主要是由于递延确认收益造成的，在生命周期的后半段，主要是由于及时确认损失形成的。

关键词：企业生命周期、应计特征、总体稳健性、无条件稳健性、条件稳健性

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[2] 陈旭东：西南财经大学会计学院，博士，E-mail：xutung@21cn.com。

[3] 黄登仕：西南交通大学经济管理学院，副院长、教授、博导
E-mail: dengshi.huang@126.com。

一、引言

会计稳健性是会计报告的一个重要特征和惯例，也是重要的盈余属性（earnings attribute）之一，它通过应计来实现，包括条件稳健性（conditional conservatism）和无条件稳健性（unconditional conservatism）。[4]条件稳健性和无条件稳健性存在交互作用，这两种不同的稳健性在以前的文献中并没有严格区分（Beaver and Ryan, 2005）。

会计稳健性反映了会计信息的可靠性，是一项重要的盈余质量特征（Ball and Shivakumar, 2005）。现有研究认为，会计稳健性来源于契约需求，受到制度因素、经理人动机的显著影响，在国别之间，特别是普通法和大陆法国家之间具有显著差异（Ball, Kothari, and Robin, 2000）。现有研究也认为，宏观经济的周期会影响经理人的报告动机，会计稳健性的研究应考虑这些因素（Khurana *et al.*, 2006; Ryan, 2006），Khurana *et al.*（2006）发现会计稳健性随着宏观经济周期的状况而改变。其结果意味着，企业所处的经济状态会影响企业的会计报告行为。企业的基本面关注的重点是企业之间的差异，宏观经济周期会反映到企业的基本面中，但其对不同企业的影响是相同或相似的。

在中国的会计稳健性的相关研究中，由于中国会计改革和监管环境的改善，总体上，中国上市公司的会计稳健性在1998年以后有很大提高，特别是2001年以后更为明显（李增泉、卢文彬，2003；赵春光，2004a；陈旭东、黄登仕，2006a）。但是这类研究的设计中，都没有控制企业基本面的差异，由于企业的正常应计和异常应计在不同的企业生命期具有显著的差异（Liu, 2007），条件稳健性和无条件稳健性存在交互作用，没有控制这些因素的会计稳健性研究是存在瑕疵的。

现有会计稳健性研究，少有与应计的变化规律相联系以及关注应计本身（Pae, 2007）。由于历史成本和配比原则的应用，递延确认收益是会计的基本属性之一，如Ryan（1995）认为偏误（bias）和延迟（lag）是会计实践中的普遍现象，这源于会计过程和经济环境，但是少有文献探讨应计在这中间是如何发挥作用的，直到最近才有文献探讨应计对于条件稳健性的作用（Ball and Shivakumar, 2006）。本质上，应计对于收益和损失的及时确认，至少部分是基于未来现金流的预期，即是先于现金流的实现，应计反映了经理人对于公司未来预期的信息。在现有会计研究中，认为应计具有平滑盈余和及时确认损失的两种不同的作用，而现金流是基于实现原则，不受会计选择的影响，因此，应计在会计稳健性的变化规律中发挥着重要作用。

由于经营决策的变化和经营的结果直接决定了应计的演进，企业生命周期是企业战略、竞争环境和企业经营的结果，综合反映了企业的内在因素，对于应计的决定具有非常重要的作用。企业基本面的变化，会计准则的适用都会造

[4] 会计稳健性的相关综述，参见Watts（2003a, 2003b）。

成应计的正常波动，这些都不是管理者机会主义行为所造成的（Dechow and Ge, 2006; Liu, 2007; Zhang, 2007）。现有研究也认为，企业的会计政策、生命周期与企业战略之间具有互动关系。因此，企业生命周期提供了一个动态的解释财务和会计政策选择的分析框架，有助于从多期、动态的视角认识会计选择和应计会计的变化规律。

Roychowdhury and Watts（2007）认为，现有会计稳健性的研究是基于短期的结果，当将结果扩展到企业的整个生命周期，多期动态的结果与单期的结果是不同的。他们运用的是多期累计的会计稳健性度量，并没有将应计在企业生命周期的变化关联起来。

会计稳健性和应计作为重要的盈余属性之一。企业的内在因素的变化，经营环境的改变，如何影响经理人的行为，如何造成会计信息质量供给和需求的变化，在现有文献中极少涉及，企业生命周期的视角为此提供了一个分析和研究的框架，因此，本文力图探索会计稳健性是如何随企业生命周期以及应计的数量和作用的变化而发生变化的。

本文将企业生命周期、应计的变化与会计稳健性结合起来，发现了以前会计稳健性研究没有关注的现象，由于应计在企业生命周期的不同阶段，其主导作用不同，使得在企业生命周期的初期，应计多且为正值，主要适用配比观，延缓了收益和损失的确认，应计起到平滑盈余的作用，企业的条件稳健性弱。与此相反，在企业生命周期的末期，应计多且为负值，主要适用市价观，应计加速了损失的确认，企业的条件稳健性强。初步的证据表明在企业的整个生命周期中，会计稳健性大致呈现U型分布，由于应计的不同作用，对于总体稳健性的贡献，在生命周期的前半段，主要是由于递延确认收益造成的，在生命周期的后半段，主要是由于及时确认损失形成的。

据此推测，在其他条件不变的情况下，随着企业生命周期的演进，以及应计由正变负，处于引入期和增长期的公司比成熟期的公司，具有更高的无条件稳健性；处于衰退期的公司比成熟期的公司具有更高的条件稳健性；总体上，会计稳健性以成熟期为轴心，大致呈现U形分布。由于缺乏同时考虑了条件稳健性和无条件稳健性的会计稳健性度量，我们将该推断的进一步证实作为未来的研究。

Pae（2007）发现，应计中反映的条件稳健性主要源于异常应计，条件稳健性与无条件稳健性负相关，主要也是通过异常应计产生的。他认为，会计的灵活性，使得经理人能够通过应计及时确认变化，特别是在出现坏消息时，及时确认经济损失。他同时认为正常应计与异常应计的划分强烈依赖于所采用的应计模型。本文与其的差异在于，采用了企业生命周期的分析框架，用应计在企业生命周期不同阶段的不同作用解释条件稳健性、无条件稳健性和总体稳健性在企业生命周期的变化规律。

本文的贡献在于首次从企业基本面的视角，将企业生命周期、应计特征和

会计稳健性三个相关的变量联系起来，从应计的不同作用，探讨了企业会计稳健性变化规律，本文的结果表明，企业的基本面和会计准则的适用也是影响会计稳健性的重要因素之一，这在以前的文献中是忽略的。其次，以前的研究大都从契约需求、制度背景和国别差异来研究会计稳健性，本文结果表明企业所处的经济状态会影响企业的会计报告行为和盈余属性，有助于深入理解应计变化与总体稳健性、条件稳健性和无条件稳健性之间的相互关系，从而深入认识应计会计的特征和本质。

本文余下部分安排如下，第2节进行了文献回顾并提出研究假设，第3节介绍了本文的研究设计，第4节报告了实证结果，第5节是探索性分析，第6节是敏感性分析，最后是本文的结论。

二、文献综述和研究假设

（一）、企业生命周期与应计的关系

企业是一个不断演进的实体，而演进的路径和速度决定于内部因素（如战略、财务资源、经营者的能力等）和外部因素（竞争环境、宏观经济因素的变化等）。这些因素导致了企业的生命周期的变化，尤其是企业的战略决策，在不同的阶段有明显的差别。因此，企业生命周期是经营战略和资源配置的结果，综合反映了企业的内在因素。Gort and Klepper（1982）定义了生命周期的5个阶段：（1）引入期；（2）增长期；（3）成熟期；（4）淘汰期（shake-out）；（5）衰退期。这些阶段的产生是企业战略、竞争环境和企业经营的结果，它具体反映了企业的基本面状况和实际的经营状况，在实务中，企业生命周期的概念广泛用于财经媒体和投资研究中作为企业特征的描述。与生命周期相关的经济理论一般是在产品或产业的层面上进行的实证研究，但是，企业的绩效是由不同产品所提供的，这些产品的生命周期可能不同并可能横跨几个产业，它们的不同组合即表征了企业的生命周期。但是，由于这些产品生命周期的重叠和可能跨越几个产业，企业层面的生命周期的实证度量是困难的。产业内的不同公司的生命周期可能是不同的，因为在产业内部，企业进入和退出市场的数量是一个连续的过程，这形成了企业不同的生命周期。与此同时，同一产业内不同公司在知识的获取、初始投资、再投资和对于竞争环境的适应都可能是不同的，这些都导致了产业内各公司在各生命期持续时间的明显差异（Dickinson, 2007）。

Mueller（1972）采用管理者行为来解释为什么企业会经历生命周期，在企业成长的初期，企业追求生存的策略，这些生存下来的企业在早期经历了增长和盈利后，一旦成为稳定的公司后，这些公司会成为管理者的公司，这些管理者的公司只能获得低于股东机会成本的收益，尽管这些公司可能仍能获取超过平均水平的收益，后来的实证结果也支持这种观点（Mueller and Yun, 1998）。

Pashley and Philippatos（1990）研究了处于不同生命周期的企业自愿出售资产的行为，他们运用Mueller（1972）的企业生命周期分析框架，通过企业的自愿分拆出售资产的行为验证了生命周期的假设。公司在增长期或成熟期预期会进行资产分拆出售，以增加流动性和降低债务水平，因此在成熟期，高负债和差的现金流的状况会结束。在淘汰期，企业通过出售盈利差的资产，以改善企业的盈利能力。在衰退期，企业通过资产出售提高流动性和维持股利分配，这种战略使得处于衰退的企业暂时获得了资金来源。

现有研究认为在企业生命周期不同阶段的财务会计指标具有系统的变化规律，生命周期的框架有助于理解不同会计指标的有用性和价值相关性（Anthony and Ramesh, 1992; Black, 1998; Stickney and Brown, 1999）。由于应计是盈余和营业现金流之间的差异，这些研究结果意味着应计在企业生命周期的不同阶段具有规律性变化，促使我们深入探索企业的应计特征与企业生命周期之间的关系。

Healy（1996）认为应计会随着企业生命周期的变化而变化。Nissim and Penman（2001）发现公司随着销售的增长而增长，其财务比率也会随着时间而发生变化。

Dechow and Ge（2006）认为应计的数量和符号反映了企业增长的预期，是企业基本面状况的具体反映，会计对于不同基本面的企业，其适用的会计准则和标准本身具有差异，从损益表（配比观）的角度，会计准则会导致正的应计，从负债表（市价观）的角度，会导致负的应计。即会计准则会影响应计的持续性，高应计是会计配比原则的结果，配比原则强化了盈余的持续性。而低应计是公允市价原则的结果，其降低了盈余的持续性。

Zhang（2007）发现，企业的应计与增长因素，如员工人数，销售增长、投资支出的增长、融资活动的增长正相关，这意味着，应计至少部分地反映了在营运资产上的投资信息。在应计中反映的基本面的投资信息，远远超出了当期销售增长反映的信息。虽然增长或增长机会将影响应计的数量，但是企业的效率同样也影响应计的数量，Richardson *et al.*（2006）认为应计具有增长和效率两个部分，这两个部分共同作用决定了应计的数量，增长部分反映了公司产出的增长，效率部分无关于产出的增长，是企业经营效率的反映。因此，增长决定了应计的数量只是问题的一个方面，应计直接受到企业的经营决策和经营结果的影响，应计是企业所处经营阶段的函数，即随着企业固定资产投资的增加，企业的营运资本也需相应增加（Bushman, Smith, and Zhang, 2005; Zhang, 2007）。

林翔、陈汉文（2005）研究了在中国的上市公司中增长、盈余管理和应计持续性三者之间的关系。他们发现，中国上市公司在各增长阶段的盈余和应计持续性不同，对整体样本的研究忽视了子样本横截面差异对盈余和应计持续性的影响。

处于引入期和增长期的公司，需要在营运资产上进行大量投资，以扩大生

产能力和设计、试验和销售新的产品，如购置固定资产、原材料、生产存货。大规模生产将增加企业当期的库存，因此，高的应计，提供了反映企业未来经营绩效的重要信号，特别是存货的变化并不直接影响盈余，只会降低营业现金流，相应增加应计的数量。因此在企业扩张时，伴随着投资的增长，也将增加营运资本的投资，以支持增长，相应地应计也会增加。

处于衰退期的公司，其主要的业务是清算活动，包括调整公司资产的帐面价值，以反映其清算价值。当公司欲退出某一产业，需收缩规模或进行债务重组，这些都要求进行资产和债务的重估，以避免资产的高估，负债的低估。在重估的过程中，通过减值或核销工作来调整存货、应收帐款和固定资产等的价值，因此衰退期的公司将记录更多的减值和核销，会导致负的应计调整。

由于在企业生命周期的分类中，成熟期是企业经营的转折点，陈旭东、黄登仕（2006b）发现处于不同生命周期的企业，企业的投资支出、盈利能力和销售增长等财务会计指标均呈现U型或倒U型分布，因此探索不同经营阶段的会计行为，成熟期是一个比较基准。

因此，得到企业生命周期与应计数量和符号的研究假设：

假设1：在其他条件不变的情况下，处于引入期和增长期的公司比成熟期的公司具有更多的正的应计，处于衰退期的公司比成熟期的公司具有更多的负的应计。

（二）、会计稳健性的定义及分类

会计稳健性是会计报告的一个重要特征和惯例。它隐含着在确认和计量收入和资产时应保持谨慎，其结果造成企业账面净资产低于其经济价值，因为经济价值包括了租（增长期权、垄断收益等）（Watts, 2003a; Roychowdhury and Watts, 2007）。

在学术文献上，关于会计稳健性有两种有区别的定义（Beaver and Ryan, 2005）。一种是无条件稳健性（unconditional conservatism），净资产账面值较市值低，因而存在未纪录的商誉（goodwill），无条件稳健性的例子包括企业内部无形资产开发成本的立即费用化，设备、资产的折旧采用超过其经济折旧的加速折旧法，历史成本计价等。另一种是条件稳健性（conditional conservatism），表示会计报告对坏消息的确认比好消息更及时或需要更强的可验证性（Basu, 1997）。条件稳健性的例子包括存货计价的成本与市价孰低法，固定资产和无形资产等资产项目的减值准备等。条件稳健性和无条件稳健性的关键区别在于，无条件稳健性仅应用了在资产寿命期开始时已知的信息，而条件稳健性应用了资产未来价值的预期信息（Basu, 2005）。

（三）、企业生命周期、应计特征与条件稳健性的关系

现有会计稳健性研究，少有与应计的变化规律相联系以及关注应计本身（Pae, 2007）。由于历史成本和配比原则的应用，递延确认收益是会计的基本属性之一，如Ryan (1995)认为偏误（bias）和延迟（lag）是会计实践中的普遍现象，这源于会计过程和经济环境，但是少有文献探讨应计在这中间是如何发挥作用的，直到最近才有文献探讨应计对于条件稳健性的作用（Ball and Shivakumar, 2006）。本质上，应计对于收益和损失的及时确认，至少部分是基于未来现金流的预期。即应计是先于现金流的实现，反映了经理人对于公司未来预期的信息。在现有文献中，认为应计具有平滑盈余和及时确认损失的作用。在企业生命周期的不同阶段，通过应计的不同作用，将营业现金流确认到盈余中，体现了应计的主导作用的变化，即随着时间趋于逆转，这个现象与应计的主导作用在生命周期的变化有关，即应计具有的长期平滑作用（Zhang, 2007）。

应计的两种不同作用，反映了应计与营业现金流之间具有不同的相关关系。应计的平滑作用意味着当期应计与当期营业现金流之间是负相关的（Dechow, 1994; Dechow, Kothari, and Watts, 1998）。相反，应计的及时确认经济损失的作用，使得当期应计与当期营业现金流是正相关的。应计的这种作用增加了盈余的波动，与应计的盈余平滑作用是相反的（Ball and Shivakumar, 2006）。

在企业生命周期的初期，企业高速发展，有必要大量投资新的项目，因此，在这些阶段，应计的数量多且为正，起到平滑盈余的作用，这同时递延了好消息（收益）和坏消息（损失）的确认，造成条件稳健性的减弱。在这些阶段，由于企业前景看好，企业为避免放弃净现值大于零的好项目，关注的重点应是对收益确认的及时性，而不是对于坏消息的及时确认，在这个阶段，采用配比原则，递延确认收益，在一定程度上，也可以防范经理人道德风险和逆向选择的行为。

相反，处于衰退期和淘汰期的企业，由于公司可能退出经营或进行资产重组，将会变卖存货，收缩经营规模，会计原则的适用是预期可能出现的风险，避免资产的高估和负债的低估，会计原则要求企业重估资产和负债，记录减值准备等，由此，造成企业的条件稳健性强。另一方面，现有会计稳健性理论认为，条件稳健性源于企业的契约需求，处于衰退期和淘汰期的企业面临较高的诉讼风险和违约风险，具有实施条件稳健性的内在需求。从应计的数量和符号来分析，由于在这些阶段，应计的数量多且为负，起到及时确认经济损失的作用。因此，在这些阶段，企业的条件稳健性相对强。

Ball, Kothari, and Robin（2000）在跨国研究中发现盈余平滑属性与条件稳健性的属性负相关。Gassen, Fülbier, and Sellhorn（2006）在欧洲的跨国研究中发现盈余平滑属性与条件稳健性负相关。这从国家层面揭示条件稳健性与盈余平滑属性的相互关系。

因此，提出如下研究假设：

假设2：在其他条件不变的情况下，随着企业生命周期的演进，以及应计由正变负，处于引入期和增长期的公司比成熟期的公司，不具有条件稳健性；处于衰退期的公司比成熟期的公司具有更高的条件稳健性。

三、研究设计

（一）、企业生命周期的代理变量

现有的文献常用单变量的方法来反映企业的生命周期，如公司成立年限、销售增长、投资支出、股利支付以及它们的组合来度量企业的生命周期（Anthony and Ramesh, 1992; Black, 1998），单变量的方法，都假定这些变量与企业生命周期是线性关系，而多变量的方法需要事先假定生命周期在不同公司的分布或随意选取分布的某一点区分生命周期的不同阶段，但这并不符合经济理论的预期，即便是在相同的产业内。

Dickinson（2007）根据Livnat and Zarowin（1990）的发现，将现金流分解为营业活动现金流、投资活动现金流和融资活动现金流，这些不同的现金流对应的公司股价收益是不同的，因此，这些现金流反映了不同的企业的获利能力、增长和风险。运用现金流模式的组合代表了企业运用资源、获取资金、经营能力和外部宏观环境与企业战略的交互作用，应用整个现金流量的组合信息构建企业生命周期的代理变量克服了单一和组合指标的弊端，无须对生命周期在不同公司的分布进行假设，体现了现金流与生命周期的非线性关系，具体的划分如表1。[5]Dickinson（2007）定义引入期的企业为具有负的净营业现金流，反映了该阶段的成本结构和经营环境；负的净投资现金流，反映企业需要大量初始投资；正的净融资现金流，反映了外部融资的需要。在增长阶段，具有正的净

表1 企业不同生命周期各阶段的现金流特征

	导入期	增长期	成熟期	淘汰期	淘汰期	淘汰期	衰退期	衰退期
营业现金流	−	+	+	−	+	+	−	−
投资现金流	−	−	−	−	+	+	+	+
筹资现金流	+	+	−	−	+	−	+	−

注：当筹资现金流为零时，根据营业现金流、投资现金流的特征，分别计入成熟期、淘汰期和衰退期。当投资现金流为零时，根据营业现金流、筹资现金流的特征，分别计入成熟期、淘汰期和衰退期。

[5] 生命周期各阶段现金流的特征以及相关的理论支持，参见Dickinson（2007）表1。

营业现金流，反映其盈利的增加；具有负的净投资现金流，反映了持续投资的需要；正的净融资现金流，反映其需要外部融资支持增长。成熟期的企业具有正的净营业现金流，但是获利能力下降；负的净投资现金流，表明其在维持投资；负的净融资现金流，反映了对投资债务的偿还。竞争优势的逐渐丧失，使得处于成熟期的企业进入淘汰期，处于该阶段的企业可以通过结构改变进入重生或通过扩张进入其他市场。但经济理论对于该阶段的现金流特征没有作出预期，因此将所有的其他现金流的组合类型作为该阶段现金流的特征。由于竞争或创新不成功，企业最终只能出售资产或终止经营，从而进入衰退期，衰退期的企业具有负的净营业现金流，反映其盈利能力的下降；正的净投资现金流，反映其收缩经营规模出售资产，以获得资金支持运营，其净融资现金流是不确定的，可正可负，因为企业可能进行债务谈判或借款人认为企业的困难是暂时的而给予额外的资金。

公司的价值创造源于企业的经营活动、投资活动和融资活动，并直接与企业盈余产生过程相关，采用与企业价值创造相关的三种活动的现金流的组合符号来度量企业生命周期与直觉基本相符。Black（1998）应用Anthony and Ramesh（1992）的分类，分析了每一阶段现金流和盈余的价值相关性，他发现，在解释市值是至少有一种现金流是价值相关的，因此，运用三种现金流的组合进行构建生命周期的代理变量是合理的。在经典的财务报表分析教科书中，Stickney and Brown（1999）认为在公司生命周期的不同阶段，公司经营现金流、投资现金流和筹资现金流具有规律性变化特征。现金流量是决定企业价值的重要因素，现金流量对于公司的融资和投资决策有着重要的影响（Fazzari *et al.*, 1988）。现金流量信息一直是会计报告的一个重要方面，中国上市公司从1998年披露现金流量表以来，营业现金流量一直都具有价值相关性（赵春光，2004b）。张国清、夏立军、方轶强（2006）基于中国上市公司的研究认为，中国的投资者在估价过程中同样重视会计盈余和营业现金流。

基于三种现金流的组合，可以避免单一的现金流可能被操纵的可能，因为同时操纵三种现金流是困难的。企业生命周期的划分是基于现金流的符号组合，而不是数量，即便是有操纵的可能，对其的影响也是有限的。

但是在企业生命周期的实证度量中，没有完全一致的度量指标，不同的研究，选用了不同的指标(Liu, 2007)。同时现有的理论和方法难以给出不同的指标之间的比较基准（benchmark）。在敏感性测试中，我们应用Anthony and Ramesh（1992）的方法对结果做进一步的比较分析。

（二）、应计的计算

Hribar and Collins（2002）认为在公司出现兼并收购和停止营业的情况下，从资产负债表中计算的应计与从现金流量表中计算的应计有显著的差异，从现金流量表计算的应计误差更小，因此本文采用现金流表的数据计算应计。在应

计研究中，Richardson *et al.*（2005）对于应计的计算作了较详细的讨论，认为现有研究将应计定义为非现金的营运资本的变化减去折旧费，忽略了应计中的非流动的营运资产/负债和非现金的财务资产/负债，应计的研究应使用更一般的应计定义，他们将应计定义为非现金资产的变化减去负债的变化，从现金流量表的角度，相当于总应计 = 净利润（或营业利润）–（营业现金流 + 投资现金流 + 融资现金流）+（普通股和优先股的销售 – 购买普通股和优先股 – 现金股利）。Dechow and Ge（2006）分别采用营业应计等于净利润减去营业现金流，总应计等于净利润减去营业现金流和投资现金流，本文也采用这种定义，[6]这种定义与Richardson *et al.*（2005）的定义接近。

（三）、条件会计稳健性的度量

Basu（1997）将会计稳健性定义为会计盈余对收益的好消息与损失的坏消息的不对称反应程度，他度量的是条件稳健性，具体估计方程如下：

$$EPSP_{i,t}=\beta_0+\beta_1 RD_{i,t}+\beta_2 R_{i,t}+\beta_3 R_{i,t} * RD_{i,t}+\varepsilon_{i,t} \quad (1)$$

在这个模型中，*EPSP*表示*t*年末每股盈余除以*t*–1年末收盘价，*R*是公司年度股票的收益率,表征经济收益，*RD*是虚拟变量，如果*R*为负，取1，否则为0。β_0表示截距项，β_1表示经济收益虚拟变量的系数，β_2表示会计盈余对正的经济收益的敏感程度，表示会计盈余对负的经济收益的增加的敏感程度，即会计盈余对于好消息的确认和坏消息的确认分别由β_2和$\beta_2+\beta_3$表示，$\beta_3>0$表示存在条件稳健性。该模型的直观解释是，收益包括了预期的好消息和坏消息，相反盈余只反映了稳健会计的要求，对于坏消息要求比好消息更及时的确认，该模型关注的重点是盈余对于坏消息和好消息的不对称确认程度。

当需要比较不同样本的会计稳健性时，由于不清楚是由于β_2还是β_3使得$(\beta_2+\beta_3)/\beta_2$更大还是更小，Guay and Verrecchia（2006）认为当比较不同样本的稳健性时，应用$(\beta_2+\beta_3)/\beta_2$的比值是有缺陷的。为此Gassen, Fülbier, and Sellhorn（2006）提出了改进的方法，即比较回归方程转折点的不同角度，构建的指标为：$BASU=ARCTAN(\beta_2+\beta_3)-ARCTAN(\beta_2)$，本文采用该方法进行不同样本的条件稳健性比较。

在方程（1）中截距项β_0反映了前期消息在当期盈余的确认，它反映了递延确认的多期效应和在稳健会计原则下及时确认的损失所发生的逆转。与过去的

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[6] 关于应计的计算，在国内的一些研究中认为中国上市企业常用线下项目进行盈余管理，因此采用营业利润计算应计（如夏立军，2003；陈信元、夏立军，2006）。为使结论具有稳健性，我们采用总应计 = 营业利润 –（营业现金流 + 投资现金流）及营业应计 = 营业利润 – 营业现金流进行了重新计算，并不改变本文的结果。

好消息成正比，通过递延的方式逐步反映到将来的永久盈余中（Pope and Walker, 1999; Grambovas, Giner, and Christodoulou, 2006）。

（四）、样本及数据来源

中国上市公司从1998年开始公布现金流量表，由于中国的会计制度在1993年和1998年进行了重大改革，现有研究表明中国会计信息的质量在1998年以后得到逐步改善。因此，本文选取1998年至2005年的上市公司的数据。由于金融类上市公司以及长期处于财务困境的公司与一般上市公司的财务特征或会计制度存在差异，剔除了金融行业上市公司，剔除了PT公司和数据不全的公司，在计算平均总资产时，如果期初或期末值不能获得，用期末或期初值代替，共得到8831个公司—年样本值。为扩大样本量，在计算销售增长量，销售收入的变化等指标运用了1997年的相关数据，相应的变化量的样本数小于8831，在研究会计稳健性的变化规律时，剔除了数据不全的公司，共得到7988个公司—年样本值。所有数据取自深圳国泰安信息技术公司开发的CSMAR数据库。

四、实证结果

（一）、描述统计

根据以上标准，所选取公司的描述统计如表2所示。表中总资产收益率的中位数为0.031，营业现金流的中位数为0.045。总资产收益率的中位数与均值不同，反映了盈余的分布是有偏的。投资现金流的中位数为–0.049，表示总体上公司是增加投资。融资的现金流中位数为0.004，表示公司总体上从外部融资。营业应计的中位数为–0.022，总应计的中位数为0.039，两者的差异表示投资现金流的支出。

企业生命周期分类的合理性列示于表3，处于生命周期的不同的阶段的企业所具有的特征和变化规律，基本符合预期。所有的中位数，两两间应用Wilcoxon Rank-Sum测试其相等性，除个别的以外，均在5%的水平下显著。企业生命周期分组与营业现金流、投资现金流和融资现金流的相关系数分别为0.046、0.465、–0.447，且在5%的水平下显著，表明企业生命周期的分组与营业现金流的数量的线性相关性弱。[7]

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[7] 详细的各指标分析，参见陈旭东、黄登仕（2006b）。为扩大样本量，表3列示的是最大样本量的结果，部分表示变化量的指标，样本数量小于8831。采用表2的样本，结果是相似的。

表2 1998–2005年所有样本的描述统计

变量	样本数	中位数	均值	标准差	25%分位数	75%分位数
EARNINGS	7988	0.031	0.019	0.112	0.008	0.057
EPSP	7988	0.016	0.008	0.069	0.005	0.030
OA	7988	–0.022	–0.028	0.126	–0.069	0.025
ACC	7988	0.039	0.040	0.158	–0.027	0.118
CFO	7988	0.045	0.047	0.090	0.003	0.093
CFI	7988	–0.049	–0.068	0.097	–0.113	–0.008
CFF	7988	0.004	0.029	0.115	–0.035	0.072
MTB	7988	2.998	3.994	3.511	1.938	4.778
SIZE	7988	14.482	14.537	0.827	13.988	15.020
LEV	7988	0.136	0.238	0.327	0.055	0.305
AGE	7988	7.000	8.011	4.238	5.000	11.000

注：1.表中所有变量，除*MTB*，*SIZE*，*LEV*，*AGE*外均用平均总资产进行标准化。

2. *EARNINGS*是净利润，经总资产调整后成为总资产的收益率*ROA*；*EPSP* 是每股盈余除以上期末股价；*OA*是营业应计，等于净利润 – 营业现金流；*ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流；*CFO*是营业现金流；*CFI*是投资现金流；*CFF*是筹资现金流；*MTB*=公司的市值/公司的面值，采用年度末数据计算，市值=年末股票收盘价×年末总股本，当*MTB*小于0，将该值设为0，为避免极值效应，对处于*MTB*上端的1%数据，进行了winsorize处理；*SIZE*为公司规模（市值）的自然对数；*LEV*=（长期借款 + 短期借款）/公司市值；*AGE*为公司成立年限，等于当期年度 – 公司成立日期。各生命周期的确定根据公司现金流的模式进行计算，见表1。

（二）、关于企业生命周期与应计的数量和符号的实证结果

假设1预计处于引入期和增长期的公司比成熟期的公司记录更多正的应计，衰退期的公司比成熟期的公司记录更多负的应计。由于企业生命周期对于会计变量的影响是非线性的，因此采用多个虚拟变量的研究设计，用下列模型进行计算：

$$ACC_{i,t}=\beta_0+\beta_1\text{导入期}_{i,t}+\beta_2\text{增长期}_{i,t}+\beta_3\text{成熟期}_{i,t}(\text{省略})+\beta_4\text{淘汰期}_{i,t}+\beta_5\text{衰退期}_{i,t}+\beta_6\text{控制变量}_{i,t}+\varepsilon_{i,t} \quad (2)$$

上式中表示企业所处生命周期的变量为虚拟变量，控制变量为产业和年度虚拟变量，因变量为总应计。产业划分按照中国证监会2005年发布的《上市公司分类与代码》，其中制造业按照次类代码分类，其余按照大类代码分类，制造业次类中的木材、家具业由于公司数较少，并入其他制造业中，本文产业划分均采用这种方式。上式反映了各生命周期相对于成熟期的应计数量和符号。

表4的回归结果表明，引入期（β_1）和增长期（β_2）的系数分别为0.145、

表3 所有样本各生命周期的描述统计

	全部	导入期	增长期	成熟期	淘汰期	衰退期
N	8831	1191	3224	2662	1186	568
%	100	13.49	36.51	30.14	13.43	6.43
不同公司的中位数	1147	155	431	321	158	72
ASSET（十亿）	1.17	1.03	1.25	1.35	1.03	0.88
EQUITY（亿）	6.19	5.56	6.97	7.20	4.63	3.75
EPS	0.169	0.158	0.225	0.164	0.069	0.041
RNOA	0.051	0.037	0.067	0.058	0.018	–0.006
ROA	0.034	0.030	0.044	0.033	0.015	0.010
NOPM	0.061	0.053	0.088	0.060	0.020	–0.020
CHGNOPM	–0.012	–0.030	–0.012	–0.004	–0.012	–0.043
NOAT	0.682	0.572	0.705	0.794	0.620	0.385
CHGNOAT	0.007	–0.080	–0.005	0.052	0.021	–0.029
SGR	0.134	0.098	0.198	0.131	0.040	–0.032
CAP	0.042	0.037	0.082	0.038	0.012	0.007
DIVRATIO	0.000	0.000	0.243	0.111	0.000	0.000
D/A	0.253	0.303	0.271	0.200	0.233	0.298
OA	–0.019	0.077	–0.018	–0.052	–0.023	0.057
ACC	0.045	0.146	0.093	–0.002	–0.047	0.018
CFO	0.044	–0.044	0.059	0.081	0.028	–0.043
CFI	–0.052	–0.056	–0.112	–0.045	0.009	0.022
CFF	0.010	0.106	0.077	–0.038	–0.034	0.003

注：1. 除样本数量外，表中的所有数据均为中位数。应用中位数代替平均数可以减轻极端值的影响。

2. N为样本数量；*ASSET*为平均总资产；*EQUITY*为净资产总额；*EPS*为每股盈余 = 净利润 / 期末股本。*RNOA*为净营运资产收益率 = 营业利润 / 期末净营业资产。*ROA*为总资产收益率 = 净利润 / 平均总资产。*NOPM*为净边际营业利润 = 营业利润 / 主营业务收入净额。*CHGNOPM*为净边际营业利润变化额。*NOAT*为净营运资产周转率 = 主营业务收入净额 / 期末净营运资产。*CHGNOAT*为净营运资产周转率的变化额。*SGR*为主营业务收入净额增长率 =（当期主营业务收入净额 / 上期主营业务收入净额）– 1。*DIVRATIO*为股利支付率 = 应付普通股股利 / 净利润。*OA* 是营业应计，等于净利润 – 营业现金流；*ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流；*CFO*是营业现金流；*CFI*是投资现金流；*CFF*是筹资现金流。净营运资产 = 营运资产 – 营运负债 =（总资产 – 货币资产 – 短期投资 – 长期投资 + 长期股权投资）–（总负债 – 短期借款 – 应付票据 – 一年内到期的长期借款 – 长期借款）；*CAP*为资本支出率 = 购建固定资产、无形资产和其他长期资产所支付的现金 / 平均总资产；*D/A*为负债比率 =（短期借款 + 长期借款 + 1年内到期的长期借款）/平均总资产；各生命周期的确定根据公司现金流的模式进行计算，见表1。

3. 除*CHGNOPM*中的导入期与衰退期之间以及增长期与淘汰期之间，*NOAT*的导入期与淘汰期之间，*D/A*的导入期与衰退期之间，*CFO*的导入期与衰退期之间的检验外，所有的中位数，两两间应用Wilcoxon Rank-Sum测试其相等性，均在0.05的水平显著，各指标在各生命周期之间运用中位数测试均在5%水平显著。

表4 企业生命周期与应计的符号

	预计符号	系数值	t值	系数值	t值
β_0		0.038***	6.78	0.050***	9.94
β_1	+	0.145***	27.58	0.156***	33.65
β_2	+	0.107***	33.06	0.091***	30.92
β_3					
β_4	–	–0.057***	–10	–0.037***	–6.90
β_5	–	–0.014	–1.33	0.022**	2.35
ZF	+			0.050***	3.40
SEO	+			0.021***	4.20
LOSS	–			–0.170***	–23.65
年度和产业控制变量		YES		YES	
样本数量		7988		7988	
调整R^2		0.229		0.353	

注：1. ***、**、*分别表示该变量的系数在1%、5%、10%水平上显著。

2. *t*值采用调整了异方差的稳健*t*检验值。

3. 估计方程的因变量*ACC*为总应计，等于净利润 – 营业现金流 – 投资现金流；*ZF*是表示增发的虚拟变量；*SEO*是表示配股的虚拟变量；*LOSS*是表示亏损的虚拟变量。

4. 各生命周期的确定根据公司的现金流模式进行计算，见表1。

0.107，均大于零，且在1%的水平下显著，在淘汰期（β_4）和衰退期（β_5）的系数分别为–0.057、–0.014，均为负，β_4在1%水平下显著，β_5在5%水平下不显著，其可能的原因在于，应计的数量表示了增长和效率两个方面，在衰退期由于企业经营效率下降（表2中净营运资产周转率*NOAT*，在衰退期的中位数为0.385，是各生命周期中最低），造成了应计数量的部分增加。因此，总体上，在引入期和增长期比成熟期有更多正的应计，在淘汰期和衰退期比成熟期有更多负的应计。去掉方程（2）中的控制变量，采用分年分行业的估计，所得结果与表4相似。故验证了假设1。

在中国的制度背景下，为迎合或规避政府在上市、退市或再融资等方面的监管要求，构成了会计选择或盈余管理研究最主要的关注点，研究结果显示，中国的上市公司在配股、增发时和亏损公司都有强烈的盈余管理动机（蔡祥、李志文、张为国，2003），在出现这些事件时，管理者有动机采用正的异常应计增加公司的盈余。处于增长期的公司也有强烈的外部融资倾向，在这种解释下，这些公司都会高报盈余以获取外部长期优惠条件的融资。因此，在应计模型的设定中，应控制这些因素，我们在方程（2）中加入配股、增发和亏损的控

制变量后，估计结果见表4，引入期（β_1）、增长期（β_2）和淘汰期（β_4）的系数和显著性没有改变，衰退期（β_5）的系数改变了方向，这可能是由于衰退期的变量与表示亏损的变量，存在较强的相关性造成的，在衰退期中，约有33%的公司是亏损的。去掉方程（2）中的年度和产业控制变量，采用分年分行业的估计，结果是相似的。

对于上述结果，我们认为，配股、增发和亏损等因素与企业生命周期的变量一样，会产生正的或负的应计，也是造成应计数量和符号变化的因素之一，但是现有研究对于公司是否采用操纵应计的方式来获取优惠的外部融资条件，存在完全相反的看法，Ball and Shivakumar（2008）发现，初次发行股份以及经历重大事件的公司，如增发、配股、兼并、收购、管理层收购等，这类公司的会计特征并不是由于经理人利润操纵的结果，而是公司自己决定寻求外部融资决策的内生结果，其会计特征反映了在上市前后的公司的增长特征。Liu（2007）重做了以前文献关于初次发行股份和资产减值的相关研究，她发现，当控制了企业生命周期的因素后，出现显著正的异常应计和负的异常应计的情况消失了。因此，企业生命周期的代理变量，包含了表示企业增长和衰退的因素。

上述结果表明应计包含了企业增长和衰退的预期，验证了应计是企业所处经营阶段的函数的观点（Bushman, Smith, and Zhang 2005; Zhang, 2007）。

（三）、企业生命周期、应计特征与条件会计稳健性的实证结果

假设2预计了企业生命周期、应计特征和条件会计稳健性之间的相互关系，首先分析在企业生命周期中应计的数量变化和应计作用的变化。具体结果，如表5所示。

表5的结果表明，企业的盈余波动在增长期最小（标准差为0.051），在引入期的盈余波动小于成熟期，相反，在淘汰期和衰退期，盈余的波动大于成熟期，在衰退期盈余的波动最大（标准差为0.224），营业现金流在生命周期各阶段的波动差异较小，总应计在成熟期后，均为负值，营业应计也有类似规律，因此，随着企业生命周期的演进，应计由正变负，企业的盈余波动率逐渐增加，通过表5可以推断，应计在企业生命周期的前半部分，主要起平滑盈余的功能，各阶段的盈余标准差与营业现金流标准差之比，以及营业现金流的变化与营业应计的变化的相关系数也表明，在增长期，盈余最平滑，盈余标准差与营业现金流标准差之比为0.920，营业现金流的变化与营业应计的变化的相关系数为–0.876，在淘汰期和衰退期，盈余的波动较大，在衰退期，相应的系数分别为2.561和–0.511。同时在不同的生命周期中，总应计和营业应计的变化不是单调的，由于应计代表了增长和效率两个方面。虽然在引入期的应计数量比增长期多，但在增长期的盈余比引入期的盈余更平滑，这是由于在增长期企业的经营效率提高所致。在衰退期，由于企业的经营效率下降，造成了应计的增加，

表5 不同生命周期应计的变化

	N	*ROA*		*ACC*		*OA*		*CFO*	*ROA*标准差与*CFO*标准差之比	Δ*OA*与Δ*CFO*的相关系数
		均值/中位数	标准差	均值/中位数	标准差	均值/中位数	标准差	标准差		
全部	7988	0.019	0.112	0.040	0.158	−0.028	0.126	0.090	1.237	−0.661
		(0.031)		(0.039)		(−0.022)				
引入期	1007	0.008	0.094	0.143	0.145	0.072	0.116	0.069	1.366	−0.785
		(0.024)		(0.135)		(0.070)				
增长期	2766	0.044	0.051	0.104	0.109	−0.026	0.061	0.055	0.920	−0.876
		(0.041)		(0.088)		(−0.021)				
成熟期	2564	0.025	0.100	−0.008	0.123	−0.071	0.103	0.073	1.372	−0.674
		(0.032)		(−0.002)		(−0.053)				
淘汰期	1111	−0.015	0.152	−0.067	0.176	−0.049	0.155	0.080	1.900	−0.518
		(0.015)		(−0.047)		(−0.023)				
衰退期	540	−0.049	0.224	−0.023	0.240	0.021	0.243	0.088	2.561	−0.511
		(0.010)		(0.018)		(0.057)				

注：1. *ROA*为净利润；*ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流；*OA*是营业应计，等于净利润 – 营业现金流；*CFO*是营业现金流；（）的数据是中位数；以上数据均采用平均总资产进行标准化。

在表3中衰退期的*NOAT*（净营运资产周转率）的中位数为0.385，在所有的生命周期中最低，尽管在衰退期中，总应计和营业应计增加了，但与引入期、增长期和成熟期相比，其盈余的波动率更大（标准差为0.224），其盈余的标准差/营业现金流的标准差之比更高（为2.561），营业现金流的变化与营业应计的变化的相关系数更低（为−0.511），显示应计并没有起到平滑盈余的功能，而是及时确认损失，增加了盈余的波动。因此，在企业生命周期的不同阶段，应计所起的作用是完全不同的。

Dechow and Ge（2006）认为，高应计是会计配比原则的结果，配比原则强化了盈余的持续性。因此在企业生命周期的前半期，应计是通过递延确认收益和损失来实施配比原则，从而达到平滑盈余的目的。相反，在企业生命周期的后半期，由于公允市价原则的结果，应计通过及时确认损失来实现其目的。

表6进一步在表5的基础上，列示了条件稳健性在企业生命周期的变化规律。在全部样本的结果中β_3为0.054，大于零且在1%的水平下显著，表明总体上，上市公司的盈余在样本期具有条件稳健性，即盈余对于坏消息的确认比好消息的确认快。在引入期和增长期，β_3的系数在通常的水平下不显著，相反β_1的系数分别为0.023、0.019，且在1%的水平下显著，表明处在这些周期的企业，盈余对于坏消息和好消息的确认是一样的，即盈余不具有条件稳健性。

在表6中，β_0表示前期消息递延在当期盈余中的确认结果，全部样本的结果为0.019，在1%的水平下显著，表明总体上，上市公司递延确认了好消息。在引入期、增长期和成熟期，β_0分别为0.009、0.026、0.022，且在1%的水平下显著，表明处于这些经营阶段的企业，递延确认了好消息。相对于成熟期而言，引入期与成熟期系数差异为−0.014（$t = 4.31$），[8]增长期与成熟期的差异为0.004（$t = 1.96$），表明相对于成熟期，处于增长期的企业，前期递延的好消息在当期得到了确认。

与此同时，在这些阶段，应计为正，且数量较多，因此，应计平滑了营业现金流，在这些阶段，应计使得盈余同时递延确认好消息和坏消息，起到了配比作用。因此在这些阶段，条件稳健相对低。在Panel B中的Fama-MacBeth回归结果与混合回归的结果类似。

相反，在成熟期、淘汰期和衰退期，β_3的系数分别为0.049、0.098和0.291，且在1%的水平下显著，表示处于这些阶段的企业，盈余对于坏消息的反映比好消息更及时，符合条件稳健性的定义。在不同分组间条件稳健性的比较中，*BASU*值随着企业生命周期的变化，在衰退期最大，为0.281，在淘汰期次之，为0.097。但是在引入期、增长期的*BASU*值在通常的水平下不显著。在Panel B中的Fama-MacBeth回归结果与混合回归的结果类似。

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[8] $t = (X_1 - X_2)/\sqrt{(\sigma_1^2+\sigma_2^2)}$，其中，$X$为估计系数值，$\sigma$为变量的标准误（standard error）。

表6　不同生命周期*BASU*模型的结果

Panel A：混合数据回归结果

	N	*ACC*		β_0		β_1		β_2		β_3		调整R^2	*BASU*
		均值	中位数	系数	*t*值	系数	*t*值	系数	*t*值	系数	*t*值		
全部	7988	0.040	0.039	0.019***	20.210	−0.008***	−4.690	0.022***	8.670	0.054***	5.200	0.058	0.054***
引入期	1007	0.143	0.135	0.009***	3.110	−0.008**	−2.130	0.023***	3.260	0.011	0.710	0.041	0.011
增长期	2766	0.104	0.088	0.026***	28.040	−0.008***	−5.540	0.019***	6.900	−0.009	−1.690	0.082	−0.009
成熟期	2564	−0.008	−0.002	0.022***	14.500	−0.009***	−3.310	0.028***	5.980	0.049***	3.150	0.088	0.048***
淘汰期	1111	−0.067	−0.047	0.004	0.980	−0.007	−0.980	0.018	1.580	0.098***	2.750	0.055	0.097***
衰退期	540	−0.023	0.018	−0.002	−0.290	0.009	0.600	0.018	1.400	0.291***	3.300	0.085	0.281***

Panel B：Fama-MacBeth回归结果

	ACC		β_0		β_1		β_2		β_3		调整R^2	*BASU*
	均值	中位数	系数	*t*值	系数	*t*值	系数	*t*值	系数	*t*值		
全部	0.040	0.039	0.017***	8.18	0.004*	1.91	0.028	3.63	0.114**	2.69	0.054	0.113***
引入期	0.143	0.135	0.010	1.72	0.004	0.45	0.013	0.38	0.119	1.78	0.028	0.118*
增长期	0.104	0.088	0.025***	9.75	−0.002	−1.14	0.020*	2.23	0.031	1.45	0.067	0.031
成熟期	−0.008	−0.002	0.019***	7.04	0.005	1.16	0.029***	3.38	0.107***	4.21	0.080	0.106***
淘汰期	−0.067	−0.047	0.003	0.68	0.002	0.45	0.027*	1.99	0.098**	2.97	0.054	0.097**
衰退期	−0.023	0.018	0.000	−0.04	0.017	0.92	−0.001	−0.03	0.345*	1.98	0.083	0.332**

注：1. 模型为$EPSP_{i,t} = \beta_0 + \beta_1 RD_{i,t} + \beta_2 R_{i,t} + \beta_3 R_{i,t} * RD_{i,t} + \varepsilon_{i,t}$，*R*为经市场收益数据调整后的年度持有收益率。*RD*是虚拟变量，当$R < 0$等于1，否则等于0；*EPSP*表示年末每股盈余除以上年末每股收盘价；各生命周期的确定根据公司的现金流的模式进行计算，见表1。

2. *ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流。

3. ***、**、*分别表示该变量的参数在1%、5%、10%水平下显著。N为样本中公司—年数目。

4. *t*值采用调整了异方差的稳健*t*检验值。Fama-MacBeth回归系数采用8年分年度回归结果的平均系数和根据Fama-MacBeth方法计算的*t*检验值。

5. $BASU = ARCTAN(\beta_2 + \beta_3) - ARCTAN(\beta_2)$

在淘汰期和衰退期，β_2在通常水平下均不显著，表示处于这些经营阶段的企业，对于好消息的确认是不及时的。由于企业前景不看好，企业为防止经理人追求净现值小于零的项目，而对于坏消息的确认更加及时，在这些阶段，企业的投资支出也是比较少的（表2中的*CAP*的中位数分别为0.012、0.007，处于相对低的投资支出阶段；*CFI*的中位数分别为0.009、0.022，表明投资现金流是净流入）。

β_0在淘汰期和衰退期在通常水平下均不显著（*t*分别为0.980和–0.290），表示处于这些经营阶段的企业，没有递延确认前期的消息。

与此同时，在这些阶段，应计为负，且数量较大，因此，应计起到了及时确认损失的作用，适用市价观，未列示的分析结果表明，在处于最低十分位的应计分组中，应计与营业现金流的关系是正相关的，体现了应计的作用不是盈余平滑，而是及时确认损失，增加了盈余的波动。因此在这些阶段，条件稳健性相对高。

上述结果表明由于应计及时确认损失的作用，处于企业淘汰期和衰退期的企业，企业的条件稳健性强，而处于引入和增长期的企业条件稳健性弱，验证了假设2。上述结果也表明，在企业生命周期的不同阶段，应计具有不同的作用，在企业生命周期的前半段，应计通过递延确认收益和损失，平滑了现金流，体现了会计的配比原则，而在企业生命周期的后半段，应计通过及时确认损失，增加了盈余的波动，体现了会计的公允市价原则。

五、企业生命周期、应计特征与三种稳健性相互关系的探索性分析

会计稳健性是会计报告的一个重要特征和惯例，它隐含着在确认和计量收入和资产时应保持谨慎，其结果造成企业账面净资产低于其经济价值。本质上，会计稳健性源于企业未来现金流的不确定，由于应计只能通过递延确认收益和及时确认损失来实施会计稳健性，而应计在企业生命周期的不同阶段的主导作用不完全一致，在会计稳健性的相关研究中，收益的确认时效及其对于会计稳健性的影响是忽略的（Guay, 2006; Guay and Verrecchia, 2006），[9]但这一问题

[9] 原文为：We perceive that much of the existing literature on conservatism is focused exclusively on why information about losses should be incorporated in financial statements in a timely manner, with little if any, research on why information about gains should be excluded from timely recognition in financial statements.中译：我们认为，现有的会计稳健性文献完全集中于为什么损失应及时反映到会计报告中，极少研究为什么收益的信息不能及时确认到会计报告中。（Guay and Verrecchia, 2006, p. 151）

对于理解和计量会计稳健性却是重要的，Pope and Walker（1999）认为，延迟确认收益和及时确认损失都可以增加会计稳健性。[10]

在企业生命周期的初期，企业的快速发展，有必要大量投资新项目，使得相对于成熟期的企业，这些企业拥有更高的增长期权，但增长期权产生的现金流是不确定的，经理人和投资者之间的信息不对称随着增长期权的增加而增加，从而产生了更多的代理成本和更强的稳健性需求，另一方面，处于引入期和成熟期的企业，盈余相对较高，发展速度较快，因此，有通过会计稳健性实施规避管制和税收的动机。从应计的数量和符号来分析，在这些阶段，应计的数量多且为正，起到平滑盈余的作用，递延了收益和损失的确认，而递延确认收益，形成了企业未来的增长机会，增长也会使企业存在商誉，从而增加企业的会计稳健性。当然，由于在这个阶段应计平滑盈余也会递延确认损失，也会降低稳健性。结合假设2的分析，在企业生命周期的末期，相对于成熟期，企业具有较高的条件稳健性。因此，我们认为，在整个企业生命周期，企业的总体稳健性可能大致呈现U形分布。

*MTB*在以前的研究中常用作总体稳健性的度量（Feltham and Ohlson, 1995; Beaver and Ryan, 2000; Gassen, Fülbier, and Sellhorn, 2006），[11]但Roychowdhury and Watts（2007）认为*MTB*反映了条件稳健性的累计效应。但是，不论何种稳健性都会降低净资产的帐面价值。本文采用*MTB*作为总体稳健性的度量。

用*MTB*表示总体稳健性的结果如表7所示。在成熟期的*MTB*最低，均值和中位数分别为3.672和2.758，引入期、增长期与成熟期之间中位数的差异，在通常水平下均显著（χ^2分别为41.529、5.303），但对于均值差异，引入期和成熟期之间在通常水平下显著（$t = 5.510$），但增长期和成熟期之间在通常水平下不显著（$t = 0.418$）。在引入期和增长期，*MTB*的结果递减，表示总体稳健性下降。在淘汰期和衰退期，与成熟期比较，*MTB*的结果是递增的。因此，在企业的整个生命周期中，会计稳健性大致呈现U型分布。采用带有控制变量的*MTB*回归结果进行进一步分析，在会计稳健性决定的相关因素中，公司规模和财务杠杆是重要的因素之一（Khan and Watts, 2007），因此，在回归模型中，加入这两个因子。回归结果如表8所示，与表7的结果大致相同（除增长期外），

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[10] 原文为：In particular, the analysis suggests that when evaluating comparative conservatism, it is important to capture two distinct properties of conservative accounting: delays in reporting good news and early recognition of bad news.中译：特别是，分析表明当评价相对稳健性时，重要的是应反映稳健会计的两种截然不同的特征，递延报告好消息和及时确认坏消息。（Pope and Walker, 1999, p. 85）

[11] 原文为：But even if MTB captures overall conservatism, we assume in line with Ryan (this issue, p. 516) that unconditional conservatism is a larger contributor to overall conservatism than conditional conservatism.中译：即使*MTB*反映了总体稳健性，我们采用Ryan在本期中的观点，无条件稳健性比条件稳健性对其的贡献影响更大。（Gassen, Fülbier, and Sellhorn, 2006, p. 537）

表7 不同生命周期*MTB*的变化

	N	*ACC*		*MTB*					
		均值	中位数	均值	中位数	标准差	与成熟期的均值差异	*t*值	与成熟期中位数相等检验χ^2
全部	7988	0.040	0.039	3.999	3.000	3.518			
引入期	1007	0.143	0.135	4.374	3.381	3.609	0.702***	5.510	41.529
增长期	2766	0.104	0.088	3.707	2.916	2.734	0.035	0.418	5.303
成熟期	2564	–0.008	–0.002	3.672	2.758	3.353			
淘汰期	1111	–0.067	–0.047	4.688	3.338	4.556	–1.016***	–7.530	34.404
衰退期	540	–0.023	0.018	4.935	3.666	4.632	–1.263***	–7.396	37.888

注：1. *MTB*采用年度末数据计算。当*MTB*小于0，将该值设为0，为避免极值效应，将处于*MTB*上端的1%数据，进行了winsorize处理。N为样本中公司—年数目。

2. *ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流。

3. ***表示该变量的系数在1%水平下显著。

4. 各生命周期的确定根据公司现金流的模式进行计算，见表1。

也大体呈现U型分布，在增长期的符号与预期不符，可能的原因在于应计平滑盈余，在递延确认收益的同时，也递延确认了损失。

但是*MTB*作为总体稳健性的度量是有误差的，大量的会计和金融文献应用该比率在许多不同的地方，并具有不同的目的（Penman, 1996）。同时，在中国的制度背景下，由于股权分置的长期存在，不同的股权结构对于股价有显著影响，从而增加了*MTB*中的噪音。

尽管总体稳健性的度量存在噪音，影响*MTB*变化的因素较多，因而结果可能存在竞争性的解释，但是结合假设2的分析和表5、表6的结果，可以初步推断，在企业生命周期的不同阶段，由于应计的不同作用，对于总体稳健性的贡献，在生命周期的前半段，主要是由于递延确认收益造成的，在生命周期的后半段，主要是由于及时确认损失形成的。

会计稳健性又分为无条件稳健性和条件稳健性，我们进一步分析在企业生命周期的不同阶段，条件稳健性和无条件稳健性呈现如何的变化规律，递延确认在条件稳健性和无条件稳健性中有何的作用？由于这两类稳健性的中心是盈余相对于现金流的确认的时间，在企业生命周期内，实现的总现金流和总盈余是相等的。因此，两类稳健性是内在相关的（Gassen, Fülbier, and Sellhorn, 2006）。会计选择的形成源于企业不同利益相关方交互作用的内生结果，不同的利益相关方，在企业的不同的发展阶段，其偏好和动机可能不一样，两类不同的会计稳健性的选择反映了企业宏观经济面和内在因素变化的特征。

表8 企业生命周期与*MTB*的关系

	预计符号	系数值	*t*值
β_0		1.843***	14.110
β_1	+	0.047**	2.320
β_2	+	−0.038***	−2.720
β_3			
β_4	+	0.132***	6.240
β_5	+	0.195***	6.780
β_6		−0.033***	−3.780
β_7		−0.308***	−7.210
年度和产业控制变量		YES	
样本数量		7862	
调整R^2		0.421	

注：1. 估计方程为：

$\ln(MTB)_{i,t} = \beta_0 + \beta_1$导入期$_{i,t} + \beta_2$增长期$_{i,t} + \beta_3$成熟期$_{i,t}$(省略) $+ \beta_4$淘汰期$_{i,t} + \beta_5$衰退期$_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} +$年度和产业控制变量$_{i,t} + \varepsilon_{i,t}$

2. *MTB*采用年度末数据计算，市值＝年末股票收盘价×年末总股本。当*MTB*小于0，将该值设为0，为避免极值效应，将处于*MTB*上端的1%数据，进行了winsorize处理。*SIZE*为公司规模（市值）的自然对数，*LEV*＝（长期借款＋短期借款）/ 公司市值，估计方程包括了控制产业和年度的虚拟变量。

3. ***、**、*分别表示该变量的系数在1%、5%、10%水平上显著。

4. *t*值采用调整了异方差的稳健*t*检验值。

5. 各生命周期的确定根据公司现金流的模式进行计算，见表1。

由于无条件稳健性是普遍的，与当前的消息无关，造成了净资产的低估，由加速费用化和递延确认收益实现（Gassen, Fülbier, and Sellhorn, 2006）。[12]因此，我们推断，在企业生命周期的前半段，会计稳健性可能主要呈现无条件稳健性。其主要的原因包括，在企业生命周期的初期，企业加速发展，有必要大量投资新的项目，从而使企业相对于成熟期的企业，拥有更高的增长期权，但是这些增长期权产生的现金流是不确定的，经理人和投资者之间的信息不对称

[12] 原文为：Unconditional conservatism (balance sheet conservatism, news-independent conservatism, ex ante conservatism) is a general, pervasive bias, unrelated to current news (Basu, 1997), toward reporting low book values of stockholders' equity, achieved by accelerating expenses and/or delaying income recognition.中译：无条件稳健性（资产负债表稳健性，独立于消息的稳健性，事前稳健性）是常规、普遍的偏误，无关于当期消息（Basu, 1997），倾向于低计股东的净资产价格，由加速费用化和/或递延确任收益来实现。（Gassen, Fülbier, and Sellhorn, 2006, p. 530）

随着增长期权的增加而增加，从而产生了更高的代理成本和更强的稳健性需求，而实施这种稳健性主要只能采用加速折旧、立即费用化研发、广告支出等无条件稳健性的方式进行（如未列示的分析表明，在企业生命周期的初期，平均的折旧费用和摊销费用、营业费用均高于企业生命周期末期的相应费用）。另外在企业初期，一定程度的无条件稳健性，有助于引导企业随后的长期决策，规避随后可能产生的坏消息（Qiang, 2007a），因此这些企业具有实施无条件稳健性的内在需求。另一方面，现有会计稳健性的理论认为，无条件稳健性源于管制和税收动机，处于引入期和增长期的企业，盈余相对较高，发展速度较快，因此，也有通过无条件稳健性实施规避管制和税收的动机。进一步，从应计的数量和符号来分析，由于在这些阶段，会计的配比原则起主导作用，应计的数量多且为正，起到平滑盈余的作用，这也同时递延了好消息和坏消息的确认，造成条件稳健性的减弱，而递延确认好消息，形成了企业未来的增长机会，增长也会使企业存在商誉。从这个角度，也形成了无条件稳健性。因此处于这些阶段的企业，无条件稳健性相对强，条件稳健性相对弱。

相反，相对于成熟期的企业而言，处于衰退期和淘汰期的企业，由于公司可能退出经营或进行资产重组，将会变卖存货，收缩经营规模，会计原则的适用是预期可能出现的风险，避免资产的高估和负债的低估，会计原则要求企业重估资产和负债，记录减值准备等，由此，造成企业的条件稳健性强。另一方面，现有会计稳健性理论认为，条件稳健性源于企业的契约需求，处于衰退期和淘汰期的企业面临较高的诉讼风险和违约风险，具有实施条件稳健性的内在需求。而在这些阶段，由于企业收缩经营规模，投资项目少，企业盈利差，缺乏实施无条件稳健性（如加速折旧、费用化等）的条件。从应计的数量和符号来分析，由于在这些阶段，会计的公允市价原则起主导作用，应计为负，起到及时确认经济损失的作用。因此，在这些阶段，企业的条件稳健性相对强，无条件稳健性相对弱。

从企业内在因素分析，会计稳健性源于企业面临的不确定性，这种不确定性在企业生命周期的不同阶段，其内涵和表现形式是不同的。我们推断，盈余平滑与无条件稳健性正相关。最近的文献也认为，盈余平滑改进了盈余的信息含量（Tucker and Zarowin, 2006），Qiang（2007b）发现，条件稳健性和无条件稳健性都能降低信息不对称，但投资者没有感知无条件稳健性的作用。Li（2007）发现无条件稳健性降低了未来盈余信息的不确定性，证券分析师能够从改善的信息环境中获益。这些结果表明，无条件稳健性具有重要作用。

理论上及时确认损失和递延确认收益都会增加稳健性，但两种稳健性发挥作用的机理是不一样的。收益的递延确认对于会计稳健性的影响，在会计文献中较少涉及，Basu（1997）发现经济收益的确认对于会计稳健性的贡献是很小的，这是源于预期未来交易的收益，在现行会计准则下不能及时确认到当期盈余，而股票收益预期了未来的收益，故两者的关联度低，因此，从应计的视角

具体度量和分析盈余平滑和递延确认收益对于会计稳健性的影响将是未来研究的一个方向。前述的结果，至少表明递延确认收益所形成的会计稳健性与Basu（1997）定义的会计稳健性不完全相同，由于应计的作用不同，在企业生命周期的不同阶段，会计稳健性应具有不同的特征，因此，我们推断，在其他条件不变的情况下，随着企业生命周期的演进，以及应计由正变负，处于引入期和增长期的公司比成熟期的公司，具有更高的无条件稳健性；处于衰退期的公司比成熟期的公司具有更高的条件稳健性；总体上，会计稳健性以成熟期为轴心，大致呈现U形分布。从上述总体稳健性和条件稳健性的证据，可以间接推断这样的结果。

但需要注意的是，在现有文献中，同时考虑了条件稳健性和无条件稳健性的会计稳健性度量是缺乏的，无条件稳健性会主导（preempt）条件稳健性，无条件稳健性和条件稳健性存在复杂的交互作用。测试这种关系，需要将无条件稳健性从总体稳健性中分离出来，即从总体稳健性和条件稳健性的差异进行推测，但总体稳健性反映了无条件稳健性和条件稳健性汇总，会机械地导致无条件稳健性和条件稳健性之间负相关。同时，无条件稳健性与条件稳健性的相互关系不是线性的，两者之间的关系存在争议和矛盾（如Beatty, 2007; Roychowdhury and Watts, 2007），总体稳健性的度量也存在噪音，因此，简单地认为无条件稳健性是总体稳健性与条件稳健性的差异，可能造成错误的推断，我们将上述推断的进一步证实作为未来的研究课题。

六、敏感性分析

现有研究认为，应计与营业现金流存在相关关系（Dechow, Kothari, and Watts, 1998），为避免是营业现金流造成了应计数量和符号在企业生命周期的规律性变化。在进一步的分析中，选用Anthony and Ramesh（1992）提出的不基于现金流组合的企业生命周期的实证度量。

Anthony and Ramesh（1992）运用投资支出（*CAP*）、销售收入的增长（*SGR*）、股利支付（*DIVRATIO*）、和公司的年龄（*AGE*）四个指标度量企业所处的生命周期，对于前三个指标采用当期及前四期的中位数作为当期值，将包括公司年龄的四个指标加总采用平均分布的方式归集为三个不同的生命周期。由于我国的上市公司股利支付具有显著的管制特征，证监会分别于2000年、2001年、2004年发布规定，要求有盈利的上市公司分配红利，并以此作为配股、增发的条件之一，因此，增长期和成熟期的公司由于有盈利，并有配股、增发的需要，大部分进行了股利分配，并在增长期达到最大值，这与我国的管制政策和企业的盈利模式是一致的，但不同于一般认为股利支付率随着公司生命周期的演进逐步升高，在衰退期达到最高的模式（Anthony and Ramesh, 1992），因此，将股利支付指标剔出，仅采用其提出的三个指标汇总获得企业

生命周期的分类。为获得更多的样本数量，本文采用不严格的方式处理中位数，即利用当期及前四期可获得值计算中位数。处于生命周期初期的企业，投资支出高，随着企业生命周期的演进，投资支出下降。销售收入的增长与此类似。而处于生命周期初期的企业，公司年龄小，随后逐渐增长。根据这一预期，将每公司——年的三个指标的分别排位分为5组，每组分别标示为1至5，将每个指标的标示值标准化后相加得到公司的排位分数，然后根据该分数值的大小等分为5组，得到企业生命周期的分组。

采用这种不同的企业生命周期的分类，企业生命周期与应计的数量和符号与采用现金流组合特征的企业生命周期的结果是相似的，具体结果如表9所示。对比表9与表4的结果，可以发现，改变企业生命周期的度量方式，并不改变相关变量的预期方向，即引入期和增长期比成熟期有更多的正的应计，在淘汰期和衰退期比成熟期有更多的负的应计，配股、增发和亏损等因素与企业生命周期的变量一样，会产生正的或负的应计，也是造成应计数量和符号变量的因素之一。与表4不同的是，β_5的系数在两种情况下，均为负数，分别为–0.098、–0.063，在通常的水平下显著（t值分别为–16.68和12.65），与预期完全相符。

进一步，在这种企业生命周期的分类下，公司的条件稳健性的变化规律与采用现金流组合特征的企业生命周期的结果是相似的，具体结果如表10所示。

表9 企业生命周期与应计的符号

	预计符号	系数值	t值	系数值	t值
β_0		0.102***	18.29	0.104***	20.21
β_1	+	0.079***	18.5	0.064***	15.38
β_2	+	0.034***	8.1	0.025***	6.42
β_3					
β_4	–	–0.033***	–7.12	–0.023***	–5.38
β_5	–	–0.098***	–16.68	–0.063***	–12.65
ZF				0.068***	4.32
SEO				0.047***	8.61
LOSS				–0.150***	–20.62
年度和产业控制变量		YES		YES	
样本数量		7988		7988	
调整R^2		0.166		0.267	

注：1. ***、**、*分别表示该变量的系数在1%、5%、10%水平上显著。

2. t值采用调整了异方差的稳健t检验值。

3. 估计方程的因变量*ACC*为总应计，等于净利润 – 营业现金流 – 投资现金流；*ZF*是表示增发的虚拟变量；*SEO*是表示配股的虚拟变量；*LOSS*是表示亏损的虚拟变量。

4. 各生命周期的确定根据公司的投资支出、销售增长和公司的成立时间进行计算。

表10　不同生命周期*BASU*模型的结果

Panel A：混合数据回归结果

	N	*ACC*		β_0		β_1		β_2		β_3		调整R^2	*BASU*
		均值	中位数	系数	*t*值	系数	*t*值	系数	*t*值	系数	t值		
全部	7988	0.040	0.039	0.019***	20.210	−0.008***	−4.690	0.022***	8.670	0.054***	5.200	0.058	0.054***
引入期	1519	0.122	0.113	0.034***	25.550	−0.011***	−5.700	0.022***	8.670	0.005	0.690	0.118	0.005
增长期	1604	0.078	0.066	0.024***	12.450	−0.005*	−1.910	0.018***	4.300	0.009	0.680	0.066	0.009
成熟期	1571	0.045	0.039	0.021***	12.090	−0.006	−1.640	0.027***	3.830	0.047*	1.750	0.063	0.047*
淘汰期	1621	0.014	0.016	0.014***	8.750	−0.009***	−2.710	0.021***	4.170	0.055**	2.620	0.050	0.055**
衰退期	1673	−0.048	−0.022	−0.002	−0.860	−0.007	−1.160	0.016***	3.320	0.116***	3.970	0.055	0.115***

Panel B：Fama-MacBeth回归结果

	ACC		β_0		β_1		β_2		β_3		调整R^2	*BASU*
	均值	中位数	系数	*t*值	系数	*t*值	系数	*t*值	系数	*t*值		
全部	0.040	0.039	0.017***	8.18	0.004*	1.91	0.028***	3.63	0.114**	2.69	0.054	0.113***
引入期	0.122	0.113	0.033***	8.68	−0.002	−1.11	0.014	1.66	0.057**	3.13**	0.186	0.057**
增长期	0.078	0.066	0.024***	5.65	0.002	1.38	0.025**	2.42	0.056	1.42	0.132	0.056
成熟期	0.045	0.039	0.019***	7.77	0.009	1.50	0.030**	2.81	0.120*	1.90	0.140	0.119*
淘汰期	0.014	0.016	0.014***	4.97	0.001	0.24	0.016*	1.95	0.110**	2.50	0.099	0.110**
衰退期	−0.048	−0.022	−0.005	−0.96	0.004	0.51	0.039**	2.45	0.144**	2.99	0.087	0.142**

注：1. 模型为$EPSP_{i,t}=\beta_0+\beta_1 RD_{i,t}+\beta_2 R_{i,t}+\beta_3 R_{i,t}*RD_{i,t}+\varepsilon_{i,t}$，*R*为经市场收益数据调整后的年度持有收益率。*RD*是虚拟变量，当$R<0$等于1，否则等于0；*EPSP*表示年末每股盈余除以上年末每股收盘价；各生命周期的确定根据公司的投资支出、销售增长和公司的成立时间进行计算。

2. *ACC*是总应计，等于净利润－营业现金流－投资现金流。

4. ***、**、*分别表示该变量的参数在1%、5%、10%水平下显著。N为样本中公司—年数目。

5. *t*值采用调整了异方差的稳健*t*检验值。Fama-MacBeth回归系数采用8年分年度回归结果的平均系数和根据Fama-MacBeth方法计算的*t*检验值。

6. $BASU=ARCTAN(\beta_2+\beta_3)-ARCTAN(\beta_2)$

表11 不同生命周期*MTB*的变化

	N	*ACC*		*MTB*			
		均值	中位数	均值	中位数	标准差	与成熟期中位数相等检验χ^2
全部	7988	0.040	0.039	3.999	3.000	3.518	
引入期	1519	0.122	0.113	3.516	2.894	2.300	3.574*
增长期	1604	0.078	0.066	3.502	2.830	2.449	1.026
成熟期	1571	0.045	0.039	3.533	2.710	2.808	
淘汰期	1621	0.014	0.016	3.965	3.099	3.319	17.611***
衰退期	1673	–0.048	–0.022	5.358	3.585	5.265	77.544***

注：1. *MTB*采用年度末数据计算。当*MTB*小于0，将该值设为0，为避免极值效应，将处于*MTB*上端的1%数据，进行了winsorize处理。N为样本中公司—年数目。

2. *ACC*是总应计，等于净利润 – 营业现金流 – 投资现金流。

3. ***表示该变量的参数在1%水平下显著。

4. 各生命周期的确定根据公司的投资支出、销售增长和公司的成立时间进行计算。

对比表10与表6的结果，企业的应计，也随着企业生命周期的演进，由正变负，β_3和β_0的系数两者基本相似，但是β_2的系数存在差异，在这种分类方式下，在所有阶段对于好消息的确认都是及时的，与表6的结果有一些差异，特别是在淘汰期和衰退期。

该结果表明，处于引入和增长期的企业，盈余对于坏消息和好消息的确认是一样的，即盈余不具有条件稳健性，相反，处于淘汰和衰退期的企业，盈余具有较强的条件稳健性。

关于*MTB*的系数，采用Anthony and Ramesh（1992）提出的企业生命周期度量与采用现金流组合特征的企业生命周期的结果是相似的，具体结果如表11所示。该结果表明在引入期与成熟期，淘汰期与成熟期、衰退期与成熟期之间中位数的差异在10%的显著性水平下显著（χ^2分别为3.574、17.611、77.544），但是增长期与成熟期之间的中位数在通常的显著性水平下不显著（χ^2为1.026）。大致支持总体的会计稳健性在企业生命周期中呈现U型分布。回归分析的结果，如表12所示，该结果与表8的结果相似。

该分类方法的优点是显著提高了生命周期各阶段公司数目的稳定性，以及演进方向的一致性。如处于衰退期的企业，次年有近80%的公司仍处于该周期。但是运用该分类方法，使得许多会计指标，如反映企业盈利能力每股收益、净营运资产收益率，应计，投资支出等呈现单调下降的形态，与预期不完全相符。

尽管两种不同的方法采用了不同的分类标准，两种方法所得到的结果也具有一定的相似性，如两种分类方法形成的企业生命周期的相关系数为0.30，两种

表12 企业生命周期与*MTB*的关系

	预计符号	系数值	*t*值
β_0		1.678***	13.290
β_1	+	0.029*	1.820
β_2	+	0.011	0.690
β_3			
β_4	+	0.056***	3.240
β_5	+	0.281***	13.620
β_6		−0.025***	−2.940
β_7		−0.295***	−7.260
年度和产业控制变量		YES	
样本数量		7862	
调整R^2		0.433	

注：1. 估计方程为：

$$\ln(MTB)_{i,t}=\beta_0+\beta_1\text{导入期}_{i,t}+\beta_2\text{增长期}_{i,t}+\beta_3\text{成熟期}_{i,t}\text{（省略）}+\beta_4\text{淘汰期}_{i,t}+\beta_5\text{衰退期}_{i,t}+\beta_6SIZE_{i,t}+\beta_7LEV_{i,t}+\text{年度和产业控制变量}_{i,t}+\varepsilon_{i,t}$$

2. *MTB*采用年度末数据计算，市值＝年末股票收盘价×年末总股本。当*MTB*小于0，将该值设为0，为避免极值效应，将处于*MTB*上端的1%数据，进行了winsorize处理。*SIZE*为公司规模（市值）的自然对数，*LEV*=（长期借款＋短期借款）/公司市值，估计方程包括了控制产业和年度的虚拟变量。

3. ***、**、*分别表示该变量的系数在1%、5%、10%水平上显著。

4. *t*值采用调整了异方差的稳健*t*检验值。

5. 各生命周期的确定根据公司的投资支出、销售增长和公司的成立时间进行计算。

分类方法与本文采用变量指标（*ROA*、*ACC*、*OA*、*CFI*、*CFF*、*ZF*、*LOSS*、*SEO*）的相关系数的方向相同，但是基于现金流的分类方法，与*CFO*的相关系数为0.024，而这种不基于现金流的方法与*CFO*的相关系数为−0.195，两者是相反的。[13]

对于企业生命周期的实证度量，目前没有完全一致的度量，不同的研究，选用了不同的指标（Liu, 2007）。同时现有的理论和方法难以给出不同的指标之间的比较基准（benchmark）。因此，不同的分类方法的合理性难以比较，未来的研究应关注此。

基于上述分析，可以得出，在不同的企业生命周期分类下，应计特征与企业的会计稳健性随着企业生命周期的变化，均呈现大致相同的变化规律。因此，本文的结果对于企业生命周期的划分不是非常敏感。

[13] 样本数量为7988。

七、结论和局限

本文运用中国上市公司1998年至2005年的数据，采用Dickinson（2007）提出的基于整个现金流组合信息构建企业生命周期的代理变量，从企业生命周期的视角探讨了条件稳健性、无条件稳健性和总体稳健性随企业基本面和应计变化的规律。

本文发现在中国上市公司的应计随着企业生命周期的变化，呈现规律性变化，会计稳健性的差异受到企业基本面的影响，随着应计和企业生命周期的变化也呈现规律性变化。在企业生命周期的初期，应计多且为正值，主要适用配比观，延缓了收益的确认，应计起到平滑盈余的作用，企业的条件稳健性弱。与此相反，在企业生命周期的末期，应计为负值，主要适用市价观，应计加速了损失的确认，企业的条件稳健性强。初步的证据表明在企业的整个生命周期中，会计稳健性大致呈现U型分布，由于应计的不同作用，对于总体稳健性的贡献，在生命周期的前半段，主要是由于递延确认收益造成的，在生命周期的后半段，主要是由于及时确认损失形成的。据此，我们探索性地提出，在其他条件不变的情况下，随着企业生命周期的演进，以及应计由正变负，处于引入期和增长期的公司比成熟期的公司，具有更高的无条件稳健性；处于衰退期的公司比成熟期的公司具有更高的条件稳健性。条件稳健性和无条件稳健性是相互替代的，这体现了会计信息可靠性的内在要求。

会计系统是嵌入一国的经济和法律框架之中的，会计受到制度和公司治理的影响（Ball, 2001）。盈余属性以及会计行为是由其内在因素，以及经理人的报告和实施会计准则的动机联合决定的（Francis *et al.*, 2004），本文的结果补充了现有的研究结果，发现企业基本面因素和会计准则的适用也是会计行为和盈余属性的重要决定因素之一。

在现有文献中，同时考虑了条件稳健性和无条件稳健性差异的会计稳健性度量是缺乏的，这些都导致了缺乏一致性的变量来度量和反映会计稳健性的变化规律，增加了解释的难度和结果的可靠性，未来的研究可关注这些问题。

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THE CORPORATE LIFE CYCLE, ACCRUAL CHARACTERISTICS AND ACCOUNTING CONSERVATISM[1]

Xudong Chen[2] and Dengshi Huang[3]

ABSTRACT

This paper investigates how accruals affect accounting conservatism during the different life cycle stages of a company. Our research is based on data taken from Chinese listed companies between 1998 and 2005; cash flow pattern is used as a proxy for the corporate life cycle. The research reveals that the accruals of those companies present a systematic variation as the corporate life cycle passes through different stages. Moreover, the degree of accounting conservatism is affected by a company's fundamentals and also follows a systematic variation with changes in accruals over the life cycle. The dominant role of accruals differs at each stage of the cycle. Thus, in line with the matching principle, accruals are mostly positive and much more numerous during the early stages of the cycle. The primary role of accruals is to defer recognition of revenue and losses. Accruals can thus smooth earnings, and the firm's conditional conservatism will be weaker. In contrast,

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[2] Xudong Chen, PhD, School of Accounting, Southwestern University of Finance and Economics. E-mail: xutung@21cn.com.

[3] Dengshi Huang, Professor and Associate Dean, School of Economics and Management, Southwest Jiaotong University. E-mail: dengshi.huang@126.com.

according to the fair value concept, accruals are often negative during the end stages of the cycle. The firm promptly recognises any losses, and its conditional conservatism will be stronger. Preliminary evidence suggests that throughout the corporate life cycle, overall accounting conservatism generally shows a U-shaped distribution. Since accruals play different roles, their contribution to overall conservatism varies with the different life cycle stages; during the early stages, their contribution is mainly the result of deferring recognition of income, while during the end stages it is mainly due to the timely recognition of losses.

Key words: Corporate Life Cycle, Accrual Characteristics, Overall Conservatism, Conditional Conservatism, Unconditional Conservatism

I. INTRODUCTION

Accounting conservatism is an important characteristic of financial statements and an important convention in accounting.[4] As a key attribute of earnings quality, conservatism is implemented through accruals. Accounting conservatism manifests in two ways: conditional and unconditional. Although the two types of conservatism interact, they have not been strictly distinguished in previous literature (Beaver and Ryan, 2005).

Accounting conservatism reflects the reliability of accounting information, which is an important earnings attribute (Ball and Shivakumar, 2005). Previous research holds that accounting conservatism arising from the needs of efficient contracting is significantly affected by such factors as institutional arrangements and management incentives. The degree of accounting conservatism differs from country to country, with an especially distinct difference between common law and civil law countries (Ball, Kothari, and Robin, 2000). Previous research also finds that the macroeconomic business cycle influences the reporting incentives of management, which should be considered when studying accounting conservatism (Khurana *et al*., 2006; Ryan, 2006). Khurana *et al*. (2006) find that accounting conservatism changes with macroeconomic situations, implying that an enterprise's economic condition affects its financial reporting behaviour. Because the macroeconomic business cycle is reflected in an enterprise's fundamentals, analyses of corporate fundamentals focus on individual differences among enterprises, even though the effects of the cycle on various enterprises may be the same or similar.

In China, research shows that, owing to reforms in accounting and improvements in the regulatory environment, accounting conservatism in Chinese listed companies has greatly improved since 1998, and especially since 2001 (Li and Lu, 2003; Zhao, 2004; Chen and Huang, 2006). However, the design of research on accounting conservatism has failed to control for differences among corporate fundamentals, leaving studies on accounting conservatism with some defects because of the

[4] For a review of conservatism in accounting, please see Watts (2003a, 2003b).

significant differences between normal and abnormal accruals over the corporate life cycle (Liu, 2007); in addition, unconditional conservatism interacts with conditional conservatism.

Prior studies on accounting conservatism have paid relatively little attention to accruals per se and have failed to associate conservatism with rules of variations in accruals (Pae, 2007). Application of the concepts of historical cost and matching has led to the deferred recognition of income that has become a fundamental accounting attribute. For example, Ryan (1995) argues that bias and lag are common in accounting practices, reflecting both the accounting system and the economic environment. However, little literature has explored the role of accruals. Only recently has some research examined their role in conditional conservatism (Ball and Shivakumar, 2006). In essence, for timely recognition of gains and losses, at least some portion of accruals must be based on revisions of future cash flow expectations, that is to say, accruals made prior to realisation of cash flows. Therefore, accruals reflect the expectations of management regarding future cash flow information. The existing accounting literature suggests that accruals play two different roles—to smooth earnings and to give timely recognition to any losses; however, cash flows based on the realisation principle are unaffected by accounting choices. Hence, accruals play an important role in the variations in accounting conservatism.

Since changes in managerial operating decisions and operational outcomes directly determine how accruals evolve, the corporate life cycle, as the combined result of business strategies, the competitive environment, and corporate operations, comprehensively reflects a company's innate factors and has a significant impact on accruals. Changes in corporate fundamentals as well as application of accounting standards result in normal variations in accruals, which are not caused by the opportunistic behaviour of management (Dechow and Ge, 2006; Liu, 2007; Zhang, 2007). Existing studies also suggest that corporate accounting policies and the corporate life cycle interact with corporate strategies. Thus, the corporate life cycle provides an analysis framework for dynamically interpreting financial and accounting policy choices. This dynamic perspective can assist in achieving a multi-period understanding of the rules of accounting choices and accrual accounting.

Roychowdhury and Watts (2007) argue that the existing research on accounting conservatism is based on a single period only, but when the horizon is extended to the entire life cycle, the multi-period cumulative results differ from those of the single period. Although symmetric timeliness is measured cumulatively over long periods, it does not take into account the association between the corporate life cycle and the variation in accruals.

Because accounting conservatism and accruals are important attributes of earnings quality, how do changes in innate corporate factors and the operating environment affect the reporting behaviour of management? At the same time, how do they cause changes in the supply and demand of earnings quality information? Previous literature has seldom touched on these questions. Because the corporate life cycle provides a framework for analysis and research, this paper seeks to explore how

accounting conservatism varies with changes in the quantities and roles of accruals over the life cycle.

By linking the corporate life cycle, changes in accruals, and accounting conservatism, this paper finds a phenomenon undiscovered by previous studies. Because the dominant role of accruals differs at each stage of the corporate life cycle, in line with the matching principle accruals are mostly positive and much more numerous during the early stages of the corporate life cycle than in the later. Because their primary role is to defer recognition of gains and losses, accruals smooth earnings, and the firm's conditional conservatism is weaker at the time. In contrast, according to the fair value concept, accruals are often negative during the end stages of the corporate life cycle; the firm recognises any losses in a timely manner, and its conditional conservatism is stronger. Preliminary evidence suggests that throughout the life cycle of an enterprise, the distribution of overall accounting conservatism generally follows a U-shaped trend. Since accruals play different roles, their contribution to overall accounting conservatism varies with the different stages of the corporate life cycle. During the early stages, their contribution is mainly the result of the deferred recognition of gains, while during the end stages it is mainly caused by the timely recognition of losses.

Accordingly, it is assumed that as the corporate life cycle develops, *ceteris paribus* accruals change from positive to negative, and unconditional conservatism is stronger in companies at the beginning and growth stages than in those at the maturity stage. In addition, the degree of conditional conservatism is higher in companies at the shakeout and decline stages than in those at the maturity stage. On the whole, the overall level of accounting conservatism largely shows a U-shaped distribution with the maturity stage as the axis. Because simultaneous consideration of measuring differences between conditional and unconditional conservatism is lacking, our future studies will seek to conduct further empirical research on the said assumption.

Pae (2007) finds that conditional accounting conservatism reflected in accruals mainly results from abnormal accruals, while the negative association between unconditional and conditional accounting conservatism also mainly stems from abnormal accruals. He argues that it would be better to maintain accounting flexibility than to eliminate such opportunities, since managers exercise their discretion over accruals to recognise changes in equity value on a timely basis, especially during periods of bad news. He also holds that classifying normal and abnormal accruals critically depends on the accrual models adopted. The difference between Pae's study and this paper lies in our use of the corporate life cycle, which acts as the analysis framework for interpreting the function of accruals at the different life cycle stages and their impact on changes in the degree of conditional conservatism, unconditional conservatism, and the overall level of accounting conservatism.

The contribution of this paper is that, to the best of our knowledge, it is the first to link these three related variables together, namely, the corporate life cycle, accrual characteristics, and accounting conservatism, from the perspective of business fundamentals. It examines the rules of variations in accounting conservatism based

on the role of accruals at the different life cycle stages. The results show that corporate fundamentals and the application of accounting standards are also important factors affecting accounting conservatism, both of which have been ignored in previous literature. In addition, most previous studies focus on accounting conservatism from such angles as contracting requirements, institutional background, and country differences. Results in this paper show that an enterprise's economic condition will affect its financial reporting behaviour and earnings attributes. This paper thus contributes to a better understanding of the interrelations between changes in accruals and accounting conservatism, including overall, conditional, and unconditional conservatism, thereby deepening our knowledge of the characteristics and essence of accrual accounting.

The remaining parts are arranged as follows: Section II reviews previous literature and proposes the research hypotheses; Section III introduces the research design; Section IV reports the empirical results; Section V contains the exploratory analysis; Section VI presents the sensitivity analysis; and the last section concludes the paper.

II. LITERATURE REVIEW AND RESEARCH HYPOTHESES

1. The Relationship between Corporate Life Cycle and Accruals

Business firms are evolving entities, and the path and rate of that evolution are determined by a firm's internal factors (such as business strategy choice, financial resources, managerial ability, etc.) and external factors (for instance, changes in the competitive environment and in macroeconomic factors, etc.). Corporate life cycles are distinct and identifiable phases resulting from changes in these fundamental factors, which arise from the strategic activities undertaken by the firm. Therefore, the corporate life cycle is the combined result of business strategies and allocation of resources, comprehensively reflecting a company's innate factors. Gort and Klepper (1982) define the five stages of the corporate life cycle thus: (1) introductory, (2) growth, (3) maturity, (4) shakeout, and (5) decline. Firms progress through these phases as a result of strategic decisions and the competitive environment, reflecting corporate fundamentals and actual operations. In practice, the concept of the corporate life cycle is widely used by the financial media and in investment analyses to describe the characteristics of an enterprise. The economic theory pertaining to life cycles has been studied empirically at the product and/or industry level. However, a firm's performance is an aggregation of all its product offerings, each of which has its own life cycle. Additionally, the firm may compete in multiple industries so that it offers diverse products. As a result, firm-specific life cycle stages are difficult to assess because of the many overlaps. Moreover, an individual firm's life cycle stages can differ within an industry because firms enter and exit the market continuously throughout the industry life cycle. Furthermore, the life cycle stages of individual firms within an industry vary markedly due to differences in levels of knowledge acquisition, levels of initial investment and re-investment of capital, and adaptability to the competitive environment. All these lead to significant

differences in the duration of each stage among companies within the same industry (Dickinson, 2007).

Mueller (1972) employs managerial behaviour to explain why a firm actually undergoes a life cycle, and why during the early stages of business growth a firm would have some degree of uncertainty concerning its survival. Those firms that survive witness strong initial growth and high rates of return, and then stabilise and become managerial corporations. Inevitably, these firms can only obtain returns lower than the shareholders' opportunity cost of capital, although they may still be able to obtain higher than average returns. Subsequent empirical results also support this view (Mueller and Yun, 1998).

Pashley and Philippatos (1990) examine the phenomenon of voluntary divestiture in the different life cycles. Adopting Mueller's (1972) corporate life cycle framework, their findings support the divestiture hypothesis suggested by the life cycle theory. During the growth or maturity period, companies expect to divest in order to improve liquidity and reduce debt levels. Therefore, a situation of high debt level and poor cash flow will end at the maturity stage. During the shakeout period, corporations divest by removing less profitable operations to improve their profitability. Moreover, during the decline period, companies might increase liquidity and maintain dividend distribution through voluntary divestiture, helping them to obtain temporary funding sources.

Previous research indicates that the financial ratios for the different stages of a corporate life cycle show a systematic variation. The corporate life cycle framework helps in understanding the value and relevance of different accounting variables (Anthony and Ramesh, 1992; Black, 1998; Stickney and Brown, 1999). Since accruals arise from the difference between earnings and operating cash flows, the findings of such previous research imply that accruals might demonstrate systematic variation along with the corporate life cycle. We therefore explore the in-depth association between the corporate life cycle and accruals.

Healy (1996) argues that accruals vary with changes in the corporate life cycle, while Nissim and Penman (2001) find that companies grow with sales growth and that financial ratios vary over time. Dechow and Ge (2006) argue that the quantity and sign of accruals reflect expectations regarding corporate growth, which is fundamentally linked to underlying economics. Companies with different fundamentals apply accounting rules differently. In addition, according to the income statement view (matching concept), accounting standards lead to positive accruals, while from the balance sheet perspective (fair value concept), accounting standards result in negative accruals. In other words, the persistence of accruals is affected by accounting standards. High accruals are likely the result of the matching concept, which maintains the persistence of earnings, while low accruals are likely due to application of the fair value concept, which reduces the persistence of earnings.

Zhang (2007) finds that accruals vary with changes in growth attributes, such as growth in employee numbers, external financing, capital expenditure, and cash sales growth, suggesting that accruals capture at least partially fundamental investment information on operating assets. This information goes well beyond that captured

by contemporaneous sales growth. Although growth or growth opportunities will affect the quantity of accruals, a firm's efficiency factor also affects quantity. Richardson *et al*. (2006) hold that accruals can be decomposed into a growth component and an efficiency component. The two jointly decide the amount that should be accrued. The growth component reflects the attributes of growth in output, while the efficiency component is, to some extent, irrelevant to output growth, reflecting instead the efficiency of business. Therefore, growth explains the amount of accruals in only one aspect. Essentially, accruals are directly affected by a firm's operational decisions and operating results and are the function of the firm's operational phase; that is to say, as the firm's investment increases, its working capital needs to grow accordingly (Bushman, Smith, and Zhang, 2005; Zhang, 2007).

Lin and Chen (2005), examining the relationships among growth, earnings management, and the persistence of accruals in Chinese listed companies, reveal that earnings and accrual persistence differ at each growth stage, and that studies based on an overall sample have neglected the impact of cross-sectional differences in sub-samples.

At the introductory and growth stages, companies experience large investments in working capital. The design, launching, and sale of a new product require a firm to build productive capacity, purchase fixed assets, and manufacture large quantities of inventory. A large scale of production increases a firm's inventories for the current period. Therefore, high accruals provide an important signal for the future operating performance of the enterprise. In particular, inventory purchases do not directly affect net income, but rather decrease cash from operations, thereby increasing the accrual component of earnings. When business is expanding, the investment in working capital increases with the growth in investment, and accruals increase accordingly to support that growth.

At the decline stage, the firm's major business is to deal with liquidation, which includes adjusting the book value of assets to reflect their liquidation value. When a firm is exiting business, downsizing, or restructuring, accounting rules require it to revalue assets and liabilities to avoid overstating assets or understating liabilities. During the process, the accounting rules are forward-looking and focus on correcting the balance sheet, resulting in accrual adjustments for impairments, write-downs, write-offs, and the like. Thus, a firm in the decline stage will record more impairments and write-offs and will report larger negative accruals.

Since the maturity stage is the turning point in classifying the corporate life cycles, Chen and Huang (2006b) find that the financial indicators of companies under different life cycles, including investment spending, profitability, and sales growth, all display a U-shaped or inverse U-shaped distribution. Therefore, the maturity stage is used as a benchmark to explore accounting behaviour at the different operational phases. The foregoing leads to our first research hypothesis on the corporate life cycle and the quantity and sign of accruals as follows:

H1: *Ceteris paribus,* companies at the introductory and growth stages will have more positive accruals than those at the maturity stage, while companies

at the decline stage will have more negative accruals than those at the maturity stage.

2. The Definition of Accounting Conservatism and its Classification

Accounting conservatism is an important characteristic and convention in financial reporting. It implies the exercise of caution in recognising and measuring income and assets, resulting in persistently understating the book value as lower than the economic value, because the latter includes the value of rents (growth options, monopoly returns, etc.) (Watts, 2003a; Roychowdhury and Watts, 2007).

Two distinct definitions of accounting conservatism are found in the literature (Beaver and Ryan, 2005). One is unconditional conservatism, which occurs when the book value of equity is lower than the market value, and where unrecorded goodwill exists. Examples of unconditional conservatism include immediate recognition of the development costs of intangible assets as an expense, accelerated depreciation for equipment and assets, and historical cost measurement. The other definition is conditional conservatism, which requires a higher degree of verification to recognise good news as gains than to recognise bad news as losses in financial reporting (Basu, 1997). Examples of conditional conservatism include the lower of cost or market accounting for inventory, and impairment accounting for long-lived tangible and intangible assets. The key distinction between unconditional and conditional conservatism is that the former utilises only information known at the inception of the asset's life, whereas the latter utilises, and hence reveals, information when it is received in future periods (Basu, 2005).

3. Interrelations among Corporate Life Cycles, Accrual Characteristics, and Conditional Conservatism

Prior studies on accounting conservatism have paid relatively little attention to accruals per se, and have failed to consider the rules of variations in accruals (Pae, 2007). Applying the concepts of historical cost and matching has led to the deferred recognition of income that has become a fundamental accounting attribute. For example, Ryan (1995) thinks that bias and lag are common in accounting practices, reflecting both the accounting system and economic environment. But little literature has explored the role played by accruals. Only recently have some studies examined their role in conditional conservatism (Ball and Shivakumar, 2006). In essence, for the timely recognition of gains and losses, at least some portion of accruals is based on revisions of future cash flow expectations, that is, prior to the realisation of cash flows. Therefore, accruals reflect the information expected by management concerning future cash flows. The existing accounting literature suggests that accruals play two different roles—to smooth earnings and to recognise any losses in a timely fashion. At different stages of the corporate life cycle, operating cash flows are recognised as earnings through these two different roles. This reflects the fact that the dominant role of accruals tends to reverse over time, a phenomenon relating to

variations in this role during the life cycle, that is to say, the long-term smoothing role of accruals in accrual accounting (Zhang, 2007).

The two different roles of accruals reflect the different correlations between accruals and operating cash flows. The smoothing function of accruals implies a negative correlation between current accruals and operating cash flows (Dechow, 1994; Dechow, Kothari, and Watts, 1998). In contrast, the function of timely recognition of economic losses shows a positive correlation between current accruals and operating cash flows. This role increases earnings variability, which is opposite the smoothing effect of accruals on earnings (Ball and Shivakumar, 2006).

During the early stages of the corporate life cycle, it is necessary for a firm to invest heavily in new projects for business growth. Therefore, at these stages accruals are mostly positive and play an important role in smoothing earnings while deferring the recognition of good news (gains) and bad news (losses), which leads to weaker conditional conservatism. During these phases, owing to expectations of business prosperity, the firm focuses on the timely recognition of gains rather than losses so that it does not have to give up good projects with positive net present value. At these stages, applying the matching principle defers income recognition, which may to some extent avoid dysfunctional outcomes associated with managers' moral hazards and adverse selections.

In contrast, during phases of shakeout and decline, a firm might discontinue operations. Such a firm may sell off its leftover inventory or downsize. Accounting rules require the firm to revalue assets and liabilities to avoid overstating assets or understating liabilities and to record write-offs. As a result, conditional conservatism becomes stronger. Moreover, previous research holds that conditional conservatism is derived from the need to contract efficiently; during the shakeout and decline periods, companies are facing relatively higher litigation and default risks, which demands application of conditional conservatism. Analyses based on the amount and sign of accruals show that at these stages, accruals tend to be negative and play a role in the timely recognition of economic losses. Therefore, corporate conditional conservatism is relatively stronger during these periods.

In a cross-national study, Ball, Kothari, and Robin (2000) find that the attribute of earnings smoothing correlates negatively with that of conditional conservatism. Gassen, Fülbier, and Sellhorn (2006), in a cross-national study on European countries, also find a negative correlation between the attributes of earnings smoothing and conditional conservatism, revealing the interrelations between them.

We thus develop the following hypothesis:

H2: *Ceteris paribus,* as the corporate life cycle develops and accruals turn from positive to negative, conditional conservatism will be weaker in companies at the introductory and growth stages than in those at the maturity stage; the degree of conditional conservatism will be higher in companies at the shakeout and decline stages than in those at the maturity stage.

III. RESEARCH DESIGN

1. Proxy for the Corporate Life Cycle

Prior literature commonly uses univariate analysis to reflect the corporate life cycle; for instance, age, sales growth, capital expenditure, dividend payouts, or a composite of these variables is used to assess life cycle stages (Anthony and Ramesh, 1992; Black, 1998). Those single-variable approaches assume a linear relationship between the variable and the corporate life cycle. On the other hand, forming a multi-variable portfolio inherently assumes either that the distribution of life cycle stages is uniform across various firms, or that the distribution at arbitrary breakpoints distinguishes different stages of the life cycle. However, this is not consistent with expected economic theory even if firms are within the same industry.

Based on Livnat and Zarowin's discovery in 1990, Dickinson (2007) finds that cash flows can be divided into three types: operating cash flows, investing cash flows, and financing cash flows. Since these cash flows affect stock returns differently, they capture the differences in profitability, growth, and risk among different firms. The combination of cash flow patterns represents a firm's resource allocation, financing, and operational capabilities, as well as its choices of strategy in responding to the macroeconomic environment. This finding, without using arbitrary breakpoints or assuming a uniform distribution, uncovers a nonlinear relationship between cash flows and the corporate life cycle and underscores the difficulty in using univariate analyses or multi-variable portfolios to capture the construct of the corporate life cycle. Table 1 shows detailed delineations.[5] Dickinson's (2007) definitions are summarised as follows: during the introductory stage, net operating cash

Table 1 Cash Flow Characteristics at Different Corporate Life Cycle Stages

	Introductory	Growth	Maturity	Shakeout	Shakeout	Shakeout	Decline	Decline
Operating Cash Flows	−	+	+	−	+	+	−	−
Investing Cash Flows	−	−	−	−	+	+	+	+
Financing Cash Flows	+	+	−	−	+	−	+	−

Note: When financing cash flows are zero, the life cycle is considered to be at the maturity, shakeout, and decline stages, respectively, in accordance with the characteristics of operating and investing cash flows. When investing cash flows are zero, the life cycle is considered to be at the maturity, shakeout, and decline stages, respectively, according to the characteristics of operating and financing cash flows.

[5] For summaries of the relevant theory and cash flow predictions of the corporate life cycle, please see Table 1 in Dickinson (2007).

flows are negative, reflecting cost structures and the operating environment in this period; net investing cash flows are also negative, reflecting preemptive investments in assets; while net financing cash flows are positive, reflecting borrowings from creditors. During the growth stage, net operating cash flows are positive, reflecting the firm's increasing profit margins; net investing cash flows are negative, reflecting the continuance of investment; while net financing cash flows are positive, reflecting external financing for growth. A mature firm continues to experience positive net cash flows from operations, but profitability erodes as the firm matures; net investing cash flows are negative, reflecting the maintenance of capital; while net financing cash flows are also negative, reflecting debt servicing. The erosion of competitive advantage, which characterises the maturity stage, leads to an inevitable shakeout where firms can either rejuvenate operations through making structural changes or expanding into other markets. However, economic theory is silent with respect to the anticipated cash flow effects of the shakeout stage. It classifies all other combinations of cash flow activities into this phase. If competitive adaptation or innovation is unsuccessful, the firm enters the decline phase, where eventual options include disposing of business units or discontinuing the entire firm. At this stage, net operating cash flows are negative, reflecting decreasing profitability; net investing cash flows are positive, reflecting the liquidation of the asset base to internal fund operations; while net financing cash flows are indeterminable, because firms in decline can renegotiate debt and/or secure additional funds if lenders perceive the firm's downturn to be temporary.

A company's value is created by its operating, investing, and financing activities and directly relates to the formation of earnings. Adopting the signs of the combined cash flows related to value creation to measure the corporate life cycle is basically done by intuition. Black (1998) uses Anthony and Ramesh's method to determine life cycle stages and examines the value relevance of earnings and cash flows at each stage. He documents that at least one cash flow component is value relevant for explaining the market value of equity at each life cycle stage. This lends support to the notion that combining cash flow activities will capture a comprehensive assessment of life cycle stages at a given point in time. As far as classical financial accounting is concerned, Stickney and Brown (1999) hold that a company's cash flows, including all three types, experience systematic variations at different stages of the life cycle. Cash flows, as an important factor in determining company value, have a significant impact on the company's financing and investment decisions (Fazzari *et al*., 1988). As cash flow information is always a key aspect of financial reports, operating cash flows have always been value relevant ever since listed companies in China began disclosing cash flow statements in 1998 (Zhao, 2004b). Zhang, Xia, and Fang (2006) in their research on Chinese listed companies reveal that investors in China also pay attention to accounting earnings and operating cash flows during the valuation process.

Combining all three types of cash flow can avoid possible manipulation by a single type of cash flow as it is hard to manipulate all three simultaneously. The life cycle is divided into different stages according to the combination of cash flow

signs rather than quantities, so that even if manipulation occurs, its impact is limited.

Nevertheless, there is no consensus in empirical studies on how the corporate life cycle should be measured; different studies use different life cycle measures (Liu, 2007). Meanwhile, prior theories and methods fail to provide comparison benchmarks between different measures. For the sensitivity test, we apply the method proposed by Anthony and Ramesh (1992) to conduct further comparative analyses for the results.

2. Calculation of Accruals

Hribar and Collins (2002) find that when mergers and acquisitions occur or operations are discontinued, the balance sheet approach is potentially contaminated by measurement errors in accrual estimates. The results differ significantly from those based on the cash flow statement approach, with smaller deviations in the calculation for accruals from the cash flow statement. We therefore adopt the data from cash flow statements. Richardson *et al*. (2005), examining the definition of accruals in detail, argue that the convention in academic research of defining accruals as the change in non-cash working capital less depreciation expenses omits many accruals and deferrals relating to non-current operating assets, non-current operating liabilities, non-cash financial assets, and financial liabilities. They provide a comprehensive definition such that accruals represent the change in all non-cash assets less the change in all liabilities. From the view of the cash flow statement, total accruals are equal to "net income (or operating income) – (operating cash flows + investing cash flows + financing cash flows) + (sales of common stock – stock repurchases – cash dividends)". Dechow and Ge (2006) use "operating accruals = net income – operating cash flows" and "total accruals = net income – (operating cash flows + investing cash flows)". We also adopt this definition,[6] which is similar to Richardson *et al*.'s (2005).

3. Measurement of Conditional Conservatism

Basu (1997) defines accounting conservatism as the accounting earnings' degree of asymmetric timeliness in reflecting good news and bad news. His definition equates to conditional conservatism, and the estimation equation is as follows:

$$EPSP_{i,t} = \beta_0 + \beta_1 RD_{i,t} + \beta_2 R_{i,t} + \beta_3 R_{i,t} * RD_{i,t} + \varepsilon_{i,t} \quad (1)$$

In this model, *EPSP* represents earnings per share at the end of year t divided by the closing stock price at the end of year $t - 1$; R is the annual return on shares,

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[6] Some studies in China argue that listed companies often manipulate earnings through below-the-line items. These studies calculate accruals from operating income (e.g. Xia, 2003; Chen and Xia, 2006). For the robustness of our results, we recalculate them using total accruals = operating income – (operating cash flows + investing cash flows) and operating accruals = operating income – operating cash flows. Our results remain qualitatively similar.

which shows the economic benefits; *RD* is a dummy variable, which takes the value of 1 if it is negative, and 0 otherwise. β_0 is the interception, andβ_1 represents the coefficient of the dummy variables for economic benefits. β_2 represents the degree of sensitivity of accounting income to positive economic benefits, and β_3 the degree of sensitivity of accounting income to the increase in negative economic benefits. The degree of accounting income sensitivity to recognition of good or bad news is manifested in the variables β_2 and $\beta_2 + \beta_3$, respectively, and if $\beta_3 > 0$, there is conditional conservatism. The intuitive interpretation of this model is that the return includes the expected good news as well as bad news; in contrast, earnings reflect only the conservative accounting requirement, which demands a more timely recognition of bad news than of good news. The model's focus is the degree of asymmetric timeliness in recognizing the two.

When comparing the relative levels of conservatism in different samples, it is unclear whether the higher or lower $(\beta_2 + \beta_3)/\beta_2$ is due to higher levels of β_2 or β_3. Guay and Verrecchia (2006) argue that the measure $(\beta_2 + \beta_3)/\beta_2$ is defective since it has ill-designed properties for β_2, which is close to and below zero. Therefore, Gassen, Fülbier, and Sellhorn (2006) propose an improved method—to calculate the metric of asymmetric timeliness based on regression coefficients and the geometric notion of the kink in the resulting regression line. The model is $BASU = ARCTAN(\beta_2 + \beta_3) - ARCTAN(\beta_2)$. We also adopt this measurement to compare the degree of conditional conservatism of different samples.

In equation (1), the interception β_0 reflects current-period income recognition of prior-period news, which shows the multi-period effect of deferred recognition and the reverse effect of timely recognition of losses under the guidance of accounting conservatism. It is also proportional to the good news valued by the market in the past, the recognition of which is deferred to future periods in a gradual yet permanent manner (Pope and Walker, 1999; Grambovas, Giner, and Christodoulou, 2006).

4. Samples and Data Sources

Chinese listed companies have been disclosing cash flow statements since 1998. China's accounting system underwent major reforms in 1993 and 1998, and prior research shows that the quality of accounting information has gradually improved since 1998. This paper thus selects data from listed companies between 1998 and 2005. We exclude financial institutions and PT companies because of the differences in financial characteristics and accounting policies between general companies and financial institutions or distressed companies. We also exclude companies with missing data. If the opening or closing value in a period is not available for calculating average total assets, either value is used as substitution. Our final sample with non-missing financial statement data consists of 8831 firm-year observations. To expand the sample size for calculating sales growth, change variables use data extending back to 1997. The corresponding data for these variables are less than 8831 firm-year observations, while in the study of variations in accounting conservatism, our sample with non-missing financial statement data consists of 7988

firm-year observations. All data are taken from the CSMAR database developed by Shenzhen GTA Information Technology Co., Ltd.

IV. EMPIRICAL RESULTS

1. Descriptive Statistics

Based on the above criteria, the selected companies' descriptive statistics are shown in Table 2. The median of return on total assets is 0.031, while the median of operating cash flows is 0.045. The deviation between the median and mean values of the return on total assets indicates an asymmetric distribution of earnings. The median of investing cash flows is −0.049, which shows that on the whole the company increases investment; while the median of financing cash flows is 0.004, reflecting generally the seeking of external financing. The median of operating accruals is −0.022 and the median of total accruals is 0.039, the difference between them representing the investing cash outflows.

Table 3 lays down the validation for the division of the corporate life cycle. The embodied features and variations of companies at different life cycle stages are in

Table 2 Descriptive Statistics for All Samples (1998–2005)

Variables	No. of observations	Median	Mean	Std. Dev.	25% Percentile	75% Percentile
EARNINGS	7988	0.031	0.019	0.112	0.008	0.057
EPSP	7988	0.016	0.008	0.069	0.005	0.030
OA	7988	–0.022	–0.028	0.126	–0.069	0.025
ACC	7988	0.039	0.040	0.158	–0.027	0.118
CFO	7988	0.045	0.047	0.090	0.003	0.093
CFI	7988	–0.049	–0.068	0.097	–0.113	–0.008
CFF	7988	0.004	0.029	0.115	–0.035	0.072
MTB	7988	2.998	3.994	3.511	1.938	4.778
SIZE	7988	14.482	14.537	0.827	13.988	15.020
LEV	7988	0.136	0.238	0.327	0.055	0.305
AGE	7988	7.000	8.011	4.238	5.000	11.000

Notes: 1. All variables in the table, excluding *MTB*, *SIZE*, *LEV*, and *AGE*, are scaled by the average total assets.

2. *EARNINGS* is the net income which, after adjustment by total assets, becomes the return on assets (*ROA*). *EPSP* is the earnings per share divided by the prior-year closing share price; *OA* (operating accruals) = net income − operating cash flows; *ACC* (total accruals) = net income − operating cash flows − investing cash flows; *CFO* is operating cash flows; *CFI* is investing cash flows; *CFF* is financing cash flows; *MTB* is the ratio of market value to book value at year-end market value = closing share price at year-end × paid-in capital at year-end; when *MTB* is less than 0, we replace it with 0, and to avoid extreme effects, *MTB* data above 1% have been winsorised; *SIZE* is the natural logarithm of the company size (market value); *LEV* = (long-term debt + short-term debt) / market value; *AGE* is the company's years of existence, equivalent to "current year − year of establishment". Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

Table 3 Descriptive Statistics at Each Life Cycle Stage for All Samples

	All	Introductory	Growth	Maturity	Shakeout	Decline
N	8831	1191	3224	2662	1186	568
%	100	13.49	36.51	30.14	13.43	6.43
Medians of different companies	1147	155	431	321	158	72
ASSET (in billion RMB)	1.17	1.03	1.25	1.35	1.03	0.88
EQUITY (in hundred million RMB)	6.19	5.56	6.97	7.20	4.63	3.75
EPS	0.169	0.158	0.225	0.164	0.069	0.041
RNOA	0.051	0.037	0.067	0.058	0.018	–0.006
ROA	0.034	0.030	0.044	0.033	0.015	0.010
NOPM	0.061	0.053	0.088	0.060	0.020	–0.020
CHGNOPM	–0.012	–0.030	–0.012	–0.004	–0.012	–0.043
NOAT	0.682	0.572	0.705	0.794	0.620	0.385
CHGNOAT	0.007	–0.080	–0.005	0.052	0.021	–0.029
SGR	0.134	0.098	0.198	0.131	0.040	–0.032
CAP	0.042	0.037	0.082	0.038	0.012	0.007
DIVRATIO	0.000	0.000	0.243	0.111	0.000	0.000
D/A	0.253	0.303	0.271	0.200	0.233	0.298
OA	–0.019	0.077	–0.018	–0.052	–0.023	0.057
ACC	0.045	0.146	0.093	–0.002	–0.047	0.018
CFO	0.044	–0.044	0.059	0.081	0.028	–0.043
CFI	–0.052	–0.056	–0.112	–0.045	0.009	0.022
CFF	0.010	0.106	0.077	–0.038	–0.034	0.003

Note: 1. All data presented are median figures except for the number of observations. Using medians instead of means mitigates the effect of extreme observations.

2. N is the number of observations; *ASSET* is the average of total assets; *EQUITY* is the total of equities; *EPS* (earnings per share) = net income / paid-in capital at the end of the year; *RNOA* (return on net operating assets) = operating income / ending net operating assets; *ROA* (return on total assets) = net income / average of total assets; *NOPM* (net operating profit margin) = operating income / net sales; *CHGNOPM* is the change in *NOPM*; *NOAT* (net operating asset turnover) = net sales / ending net operating assets; *CHGNOAT* is the change in *NOAT*; *SGR* (sales growth) = (current net sales / previous net sales) – 1; *DIVRATIO* (dividend payout ratio) = payable dividend / net income; *OA* (operating accruals) = net income – operating cash flows; *ACC* (total accruals) = net income – operating cash flows – investing cash flows; *CFO* is operating cash flows; *CFI* is investing cash flows; *CFF* is financing cash flows; net operating assets = operating assets – operating liabilities = (total assets – cash assets – short-term investments – long-term investments + long-term equity investments) – (total liabilities – short-term loan – payable notes – long-term liabilities due within one year – long-term liabilities); *CAP* (capital expenditure) = cash paid to acquire fixed assets, intangible assets, and other long-term assets / average of total assets; *D/A* (debt to asset ratio) = (short-term debts + long-term debts + long-term debts due within one year). Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

Table 3 Continued

3. Among all medians, Wilcoxon rank-sum tests are used to examine the equality of median values between life cycle stages, and except for *CHGNOPM*, between the introductory and decline periods, and between the growth and shakeout periods, *NOAT* between the introductory and shakeout periods, *D/A* between the introductory and decline periods, and *CFO* between the introductory and decline periods; all are significant at the 5 per cent level. All variables are significant at the 5 per cent level using Wilcoxon rank-sum tests to examine the equality of all median values over the life cycle stages.

line overall with predictions. Among all medians, Wilcoxon rank-sum tests are used to examine the equality of median values between life cycle stages; except for a few individuals, all are significant at the 5 per cent level. The correlation coefficients between corporate life cycle stages and operating cash flows, investing cash flows, and financing cash flows are 0.046, 0.465, and −0.447, respectively, and are significant at the 5 per cent level, showing a weak linear correlation between corporate life cycle stages and operating cash flows.[7]

2. Empirical Results for the Corporate Life Cycle and Accrual Amounts and Signs

Hypothesis 1 predicts that companies at the introductory and growth stages will have more positive accruals than those at the maturity stage, while companies during the decline period will have more negative accruals than those at the maturity stage. Because of the nonlinear relationship between the corporate life cycle and accounting variables, multi-dummy variables are used in the research design to develop the following model:

$$AAC_{i,t} = \beta_0 + \beta_1 \text{introductory}_{i,t} + \beta_2 \text{growth}_{i,t} + \beta_3 \text{maturity}_{i,t}(\text{omit}) + \beta_4 \text{shakeout}_{i,t} + \beta_5 \text{decline}_{i,t} + \beta_6 \text{control variable}_{i,t} + \varepsilon_{i,t} \quad (2)$$

In the above formula, the dummy variable is the life cycle a company is experiencing; control variables are the dummy variables for industry and year, while the dependent variable is total accruals. Industries are classified in accordance with the "Listed Companies Classification and Codes" issued by the China Securities Regulatory Commission (CSRC), which codes companies in the manufacturing industry by sub-categories and the remaining companies according to general categories. For the manufacturing sector, companies belonging to some sub-categories, such as the wood and furniture industry, are grouped into "other manufacturing" because their numbers are small. This paper also adopts the said industrial classification. The above formula reflects the relation of each life cycle stage to accrual amounts and signs when compared with the maturity stage.

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[7] For a detailed analysis of each ratio, please see Chen and Huang (2006b). To increase samples, Table 3 shows the results with the maximum number of samples; results remain similar when the samples in Table 2 are used.

Table 4 Corporate Life Cycle and Accrual Signs

	Predicted sign	Coefficient	*t* value	Coefficient	*t* value
β_0		0.038***	6.78	0.050***	9.94
β_1	+	0.145***	27.58	0.156***	33.65
β_2	+	0.107***	33.06	0.091***	30.92
β_3					
β_4	–	–0.057***	–10	–0.037***	–6.90
β_5	–	–0.014	–1.33	0.022**	2.35
ZF	+			0.050***	3.40
SEO	+			0.021***	4.20
LOSS	–			–0.170***	–23.65
Annual and industry control variables		YES		YES	
No. of observations		7988		7988	
Adjusted R^2		0.229		0.353	

Notes: 1. ***, **, and * denote coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively.
2. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors.
3. In the regression, the dependent variable *ACC* (total accruals) = net income − operating cash flows − investing cash flows; *ZF* is the dummy variable for rights offerings; *SEO* is the dummy variable for seasoned equity offerings; and *LOSS* represents the dummy variable for losses.
4. Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

In Table 4, the regression results show that the coefficients for the introductory (β_1) and growth (β_2) periods are 0.145 and 0.107, respectively; both are greater than zero and significant at the 1 per cent level. For the shakeout (β_4) and decline (β_5) phases, coefficients are −0.057 and −0.014, respectively, and both are negative; β_4 is significant at the 1 per cent level, while β_5 appears to be not significant at the 5 per cent level. A possible explanation is that the amount of accruals reflects two aspects—growth and efficiency; therefore, operating efficiency decreases during the decline period (Table 2 shows that the median of the net operating turnover rate [*NOAT*] during the decline period is 0.385, which is the lowest over the entire life cycle), resulting in an increase in accrual amounts. On the whole, companies at the introductory and growth stages have more positive accruals than those at the maturity stage, while companies during the decline period have more negative accruals than those at the maturity stage. The control variables in equation (2) are removed, and cross-sectional regressions within each industry and each year are conducted. The results are similar to those in Table 4. H1 is thus supported.

In view of how the system is arranged in China, as companies try to meet or avoid the regulatory requirements for listing, delisting, and refinancing, research is mostly concerned with accounting choices or earnings management. Findings show that Chinese listed companies have strong incentives to manage earnings in the event of seasoned equity offerings, rights offerings, and losses (Cai, Li, and Zhang, 2003). When these events occur, managers are motivated to make positive abnormal accruals in order to increase earnings. In the growth phase, companies also have a strong tendency to finance externally; therefore, these companies will report higher earnings to obtain long-term benefits from external financing. The specifications of the accrual model should control for those factors, and so in model (2) we add control variables on seasoned equity offerings, rights offerings, and losses. The estimated results are shown in Table 4. There are no changes in the sign of the coefficients or significance level during the introductory (β_1), growth (β_2), and shakeout (β_4) periods, while the sign of the coefficients in the decline period (β_5) does change, possibly owing to the strong correlation between decline phase variables and loss variables. During the decline period, about 33 per cent of the companies are suffering losses. Annual and industrial control variables are removed from equation (2), and cross-sectional regressions within each industry and each year are used; the results are similar.

In view of the above results, we believe that, similar to the variables for the corporate life cycle, such factors as seasoned equity offerings, rights offerings, and losses lead to changes in the amount and sign of accruals. However, prior research holds two completely contrary views on whether a company can manipulate accruals to benefit from external financing. Ball and Shivakumar (2008) find that the accounting characteristics of IPO companies and those experiencing major events, such as seasoned equity offerings, rights offerings, mergers and acquisitions, or management buyouts, are not the result of manipulation by management, but rather the endogenous result of the company's external financing decisions, reflecting the fact that firms are most likely experiencing unusual growth around the time of the IPO. Liu (2007) replicates tests used in prior studies for income-increasing (decreasing) earnings management around the IPO (asset write-downs) for recent periods, and discovers that after controlling for the firm's life cycle stage, significant changes in both positive and negative abnormal accruals disappear.

The above results show that accruals include the company's expectations concerning growth and decline, supporting the view that accruals are a function of corporate operational phases (Bushman, Smith, and Zhang, 2005; Zhang, 2007).

3. Empirical Results for the Corporate Life Cycle, Accrual Characteristics, and Conditional Conservatism

Hypothesis 2 predicts the interrelations among the corporate life cycle, accrual characteristics, and conditional conservatism. First, we analyse variations in accrual amounts and their roles in different stages of the corporate life cycle. Detailed results are shown in Table 5.

Table 5 Accrual Variations at Different Life Cycle Stages

	N	*ROA*		*ACC*		*OA*		*CFO*	Ratio of *ROA*'s std. dev. to *CFO*'s std. dev.	Coefficients of ΔOA and ΔCFO
		Mean/ Median	Std. Dev.	Mean/ Median	Std. Dev.	Mean/ Median	Std. Dev.	Std. Dev.		
All	7988	0.019 (0.031)	0.112	0.040 (0.039)	0.158	–0.028 (–0.022)	0.126	0.090	1.237	–0.661
Introductory	1007	0.008 (0.024)	0.094	0.143 (0.135)	0.145	0.072 (0.070)	0.116	0.069	1.366	–0.785
Growth	2766	0.044 (0.041)	0.051	0.104 (0.088)	0.109	–0.026 (–0.021)	0.061	0.055	0.920	–0.876
Maturity	2564	0.025 (0.032)	0.100	–0.008 (–0.002)	0.123	–0.071 (–0.053)	0.103	0.073	1.372	–0.674
Shakeout	1111	–0.015 (0.015)	0.152	–0.067 (–0.047)	0.176	–0.049 (–0.023)	0.155	0.080	1.900	–0.518
Decline	540	–0.049 (0.010)	0.224	–0.023 (0.018)	0.240	0.021 (0.057)	0.243	0.088	2.561	–0.511

Note: *ROA* is net income; *ACC* (total accruals) = net income − operating cash flows − investing cash flows; *OA* (operating accruals) = net income − operating cash flows; *CFO* is the operating cash flows; data in parentheses are medians; and all data above are scaled by average total assets.

The results in Table 5 show that the variability of corporate accounting earnings is lowest during the growth phase (standard deviation is 0.051), and is less in the introductory phase than in the maturity stage. In contrast, variability is greater in the shakeout and decline stages than in the maturity stage and reaches its maximum in the decline stage (standard deviation is 0.224). The variability of operating cash flows at various stages of the corporate life cycle is relatively smaller. After the maturity stage, all total accruals are negative. The operating accruals also have a similar variation rule. Therefore, during the evolution of the corporate life cycle the variability in accounting earnings gradually increases. It could be inferred from Table 5 that accruals smooth earnings during the early stages of the life cycle. Both the ratio of *ROA*'s standard deviation to that of *CFO* and the correlation coefficient between ΔOA and ΔCFO over the life cycle stages reveal that earnings are smoothest at the growth stage, where the ratio is 0.920 and the correlation coefficient −0.876. At the shakeout and decline stages, earnings variability is comparatively higher, where the corresponding coefficients are 2.561 and −0.511, respectively. Meanwhile, the variations in total accruals and operating accruals are not monotonic, and the accruals represent aspects of growth and efficiency. Although the amount of accruals at the introductory stage is much higher than at the growth stage, earnings at the growth stage are smoother than those at the introductory stage, which can be attributed to the improved efficiency of business at the growth stage. During the decline stage, accruals increase due to a decrease in business efficiency. Table 3 shows that the median of *NOAT* is 0.385—this is the lowest among all stages. Hence, during the decline stage, total accruals and operating accruals are growing, but the variability in earnings is even greater (standard deviation 0.224); the ratio of *ROA*'s standard deviation to *CFO*'s standard deviation is higher (2.561), and the correlation coefficient between ΔOA and ΔCFO is lower (−0.511), showing that accruals do not smooth earnings, while the timely recognition of losses increases earnings variability. Therefore, the role of accruals differs at different stages of the corporate life cycle.

Dechow and Ge (2006) argue that high accruals are likely the result of the matching concept, which maintains the persistence of earnings. Therefore, at the early stages of the corporate life cycle, the matching principle is applied to accruals through the deferred recognition of gains and losses to smooth earnings. In contrast, at the end of the life cycle, the fair value concept is applied to accruals through the timely recognition of any losses to achieve the desired results.

Based on Table 5, Table 6 further lists the rules of variations in conditional conservatism over the life cycle stages. The results for all samples show that β_3 is 0.054, which is greater than zero and significant at the 1 per cent level. This demonstrates that conditional conservatism exists overall in the earnings of listed companies in the sample period, that is to say, bad news for earnings is recognized in a more timely fashion than good news. During the introductory and growth periods, the coefficients of β_3 are not significant at usual levels, while those of β_2 are significant at the 1 per cent level, which are 0.023 and 0.019, respectively. This indicates that for companies at these cycle stages, the recognition of both bad and good news

Table 6 Results of the *BASU* Model at Different Corporate Life Cycle Stages

Panel A: Results of pooled regressions

	N	*ACC*		β_0		β_1		β_2		β_3		Adjusted R^2	*BASU*
		Mean	Median	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value		
All	7988	0.040	0.039	0.019***	20.210	−0.008***	−4.690	0.022***	8.670	0.054***	5.200	0.058	0.054***
Introductory	1007	0.143	0.135	0.009***	3.110	−0.008**	−2.130	0.023***	3.260	0.011	0.710	0.041	0.011
Growth	2766	0.104	0.088	0.026***	28.040	−0.008***	−5.540	0.019***	6.900	−0.009	−1.690	0.082	−0.009
Maturity	2564	−0.008	−0.002	0.022***	14.500	−0.009***	−3.310	0.028***	5.980	0.049***	3.150	0.088	0.048***
Shakeout	1111	−0.067	−0.047	0.004	0.980	−0.007	−0.980	0.018	1.580	0.098***	2.750	0.055	0.097***
Decline	540	−0.023	0.018	−0.002	−0.290	0.009	0.600	0.018	1.400	0.291***	3.300	0.085	0.281***

Panel B: Fama-MacBeth regression results

	ACC		β_0		β_1		β_2		β_3		Adjusted R^2	*BASU*
	Mean	Median	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value		
All	0.040	0.039	0.017***	8.18	0.004*	1.91	0.028	3.63	0.114**	2.69	0.054	0.113***
Introductory	0.143	0.135	0.010	1.72	0.004	0.45	0.013	0.38	0.119	1.78	0.028	0.118*
Growth	0.104	0.088	0.025***	9.75	−0.002	−1.14	0.020*	2.23	0.031	1.45	0.067	0.031
Maturity	−0.008	−0.002	0.019***	7.04	0.005	1.16	0.029***	3.38	0.107***	4.21	0.080	0.106***
Shakeout	−0.067	−0.047	0.003	0.68	0.002	0.45	0.027*	1.99	0.098**	2.97	0.054	0.097**
Decline	−0.023	0.018	0.000	−0.04	0.017	0.92	−0.001	−0.03	0.345*	1.98	0.083	0.332**

Note: 1. The model is $EPSP_{i,t} = \beta_0 + \beta_1 RD_{i,t} + \beta_2 R_{i,t} + \beta_3 R_{i,t} * RD_{i,t} + \varepsilon_{i,t}$, where *R* represents the annual holding return ratio after adjustment by market returns; *RD* is the dummy variable, which takes the value of 1 when $R < 0$, and 0 otherwise; *EPSP* is earnings per share divided by the prior-year closing share price. Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

2. *ACC* (total accruals) = net income − operating cash flows − investing cash flows.

3. ***, **, and * denote variable coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively. N represents the number of observations.

4. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors. The Fama-MacBeth coefficient is the mean of coefficients obtained from 8 annual regressions; t-statistics are calculated by the Fama-MacBeth method.

5. $BASU = ARCTAN(\beta_2 + \beta_3) - ARCTAN(\beta_2)$

for earnings is the same, meaning that earnings do not show conditional conservatism.

In Table 6, β_0 represents the result of deferred earnings recognised in the current period; the result for all samples is 0.019, which is significant at the 1 per cent level. This shows that listed companies generally defer the recognition of good news. During the introductory, growth, and maturity periods, β_0 is 0.009, 0.026, and 0.022, respectively, and significant at the 1 per cent level, showing that companies at those stages defer the recognition of good news. Compared with the maturity stage, the difference in coefficients between the introductory and maturity periods is −0.014 ($t = 4.31$),[8] while that between the growth and maturity periods is 0.004 ($t = 1.96$), indicating that, compared with mature companies, companies in the growth phase recognise previously deferred good news in the current period.

Meanwhile, in these phases, accruals are positive and relatively larger so that they smooth the operating cash flows. During these stages, accruals induce the deferred recognition of good news and bad news and play a role in matching. Therefore, conditional conservatism at these stages is relatively weaker. In Panel B, the Fama-MacBeth's regression results are similar to those of the pooled regression.

In contrast, during the mature, shakeout, and decline periods, the coefficients for β_3 are 0.049, 0.098, and 0.291, respectively, and are significant at the 1 per cent level, indicating that for companies at these stages, earnings reflect bad news more promptly than good news. This is consistent with the definition of conditional conservatism. Comparing conditional conservatism among different groups shows that the *BASU* value changes over the corporate life cycle. The largest value is recorded during the decline period, amounting to 0.281, and the second largest during the shakeout stage, amounting to 0.097. However, during the introductory and growth periods, the *BASU* values are not significant at the usual level. In Panel B, the Fama-MacBeth's regression results are similar to those of the pooled regression.

During the periods of shakeout and decline, β_2 is usually not significant, indicating that companies at these operating stages do not recognise good news in a timely fashion. Since they are not optimistic about business prosperity, they recognise bad news more promptly to prevent managers from seeking projects with a negative net present value. During these periods, corporate investment spending is also relatively low. In Table 2, the medians of *CAP* are 0.012 and 0.007, respectively, indicating low investment spending, while the medians of *CFI* are 0.009 and 0.022, respectively, indicating net investing cash inflows.

β_0 is not significant at the usual level during the periods of shakeout and decline (t values are 0.980 and −0.290 respectively), indicating that companies at these stages do not defer recognition of previous events.

Moreover, accruals at these stages are negative and relatively larger and thus play a role in the timely recognition of losses, which applies the concept of fair value.

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[8] $t = (X_1 - X_2)/\sqrt{(\sigma_1^2 + \sigma_2^2)}$, where X is the estimated coefficient, and σ the standard error for the variable.

The analysis results not listed here show that for the lowest decile, accruals are positively correlated with operating cash flows, indicating that their function is to recognise losses in a timely manner rather than smooth earnings, thus increasing the variability in accounting earnings. At these stages, therefore, conditional conservatism is comparatively stronger.

The results above show that since accruals recognise any losses in a timely fashion, the conditional conservatism for companies at the shakeout and decline stages is stronger, and weaker for those at the introductory and growth stages, thus supporting Hypothesis 2. The results also indicate that the role of accruals varies at different stages of the corporate life cycle. In the early stages, accruals defer recognition of income and losses, in which the matching principle is applied to smooth cash flows. But at the end of the life cycle, accruals promptly recognise any losses, whereby the fair value concept is applied and the variability in accounting earnings increases.

V. EXPLORATORY ANALYSES OF INTERRELATIONS AMONG CORPORATE LIFE CYCLE, ACCRUAL CHARACTERISTICS, AND ACCOUNTING CONSERVATISM

Accounting conservatism is an important characteristic of financial statements and a convention in accounting. It implies the exercise of caution in recognising and measuring income and assets, resulting in persistently understating book value as lower than economic value. In essence, accounting conservatism results from the uncertainty of future cash flows. Accruals can only apply accounting conservatism through deferring gains and promptly recognising losses. However, accruals do not play precisely the same leading role at different stages of the corporate life cycle. Moreover, accounting conservatism-related research has ignored the impact of the timely recognition of gains (Guay, 2006; Guay and Verrecchia, 2006).[9] This issue is crucial for understanding and measuring accounting conservatism; Pope and Walker (1999) argue that both deferred gains and timely recognition of losses can increase accounting conservatism.[10]

At the early stages of the corporate life cycle, as business is growing, a company needs to invest heavily in new projects, giving it greater growth options than a mature company. However, these growth options generate uncertainties in cash flows, while the information asymmetry between managers and investors grows with the increase in growth options, resulting in more agency costs and a stronger

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[9] "We perceive that much of the existing literature on conservatism is focused exclusively on why information about losses should be incorporated in financial statements in a timely manner, with little if any, research on why information about gains should be excluded from timely recognition in financial statements." (Guay and Verrecchia, 2006, p. 151)

[10] "In particular, the analysis suggests that when evaluating comparative conservatism, it is important to capture two distinct properties of conservative accounting: delays in reporting good news and early recognition of bad news." (Pope and Walker, 1999, p. 85)

need for conservatism. On the other hand, earnings are relatively higher and development is faster for companies at the introductory and maturity stages. Therefore, implementing accounting conservatism may serve to avoid regulation and taxation. Analysis of the amounts and signs of accruals show that at these stages, accruals are mostly positive and play a role in smoothing earnings, which defers the recognition of gains as well as losses so as to constitute opportunities for future growth. In addition, their growth creates goodwill, which in turn increases corporate accounting conservatism. Of course, the earnings-smoothing role of accruals also defers the recognition of losses, leading to a lower degree of accounting conservatism. However, as the analysis of Hypothesis 2 shows, conditional conservatism for companies at the shakeout and decline stages is stronger; thus we infer that throughout the corporate life cycle, overall accounting conservatism generally follows a U-shaped distribution.

In previous studies *MTB* is often used for measuring the overall level of accounting conservatism (Feltham and Ohlson, 1995; Beaver and Ryan, 2000; Gassen, Fülbier, and Sellhorn, 2006).[11] However, Roychowdhury and Watts (2007) argue that *MTB* reflects the cumulative effect of accounting conservatism, whereas the book value of equity will not be reduced regardless of the kind of conservatism. Therefore, in this paper, we adopt *MTB* to measure the overall level of accounting conservatism.

The results are shown in Table 7. At the maturity stage, *MTB* is at its lowest, with a mean and median of 3.672 and 2.758, respectively. At the introductory, growth, and maturity stages, the differences between medians are significant at the usual level (the values of χ^2 are 41.529 and 5.303); the difference in means between the introductory and maturity stages is also significant at the usual level ($t = 5.510$), but at the growth and maturity stages it is not ($t = 0.418$). During the introductory and growth periods, the gradual decrease in *MTB* indicates a decline in the overall level of accounting conservatism. Moreover, at the shakeout and decline stages, *MTB* gradually increases compared with the maturity stage. Therefore, the overall level of accounting conservatism largely follows a U-shaped distribution over the entire corporate life cycle. Based on the *MTB* regression results with control variables, further analysis shows that firm size and financial leverage are key factors in determining the degree of accounting conservatism (Khan and Watts, 2007). We therefore add these two variables into the regression model. The regression results, shown in Table 8, are roughly the same as those in Table 7 (except for the growth stage). The results also generally follow a U-shaped distribution, though the signs in the growth phase are inconsistent with predictions, probably because the smoothing function of accruals defers the recognition of gains as well as of losses.

However, using *MTB* to measure the overall level of accounting conservatism does have flaws. A great deal of accounting and financial literature uses this ratio

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[11] "But even if *MTB* captures overall conservatism, we assume in line with Ryan (this issue, p. 516) that unconditional conservatism is a larger contributor to overall conservatism than conditional conservatism." (Gassen, Fülbier, and Sellhorn, 2006, p. 537)

Table 7 Variations in *MTB* at Different Corporate Life Cycle Stages

	N	*ACC*		*MTB*					
		Mean	Median	Mean	Median	Std. Dev.	Difference in mean compared with the maturity stage	*t* Value	Equality of median values compared with the maturity stage
All	7988	0.040	0.039	3.999	3.000	3.518			
Introductory	1007	0.143	0.135	4.374	3.381	3.609	0.702***	5.510	41.529
Growth	2766	0.104	0.088	3.707	2.916	2.734	0.035	0.418	5.303
Maturity	2564	–0.008	–0.002	3.672	2.758	3.353			
Shakeout	1111	–0.067	–0.047	4.688	3.338	4.556	–1.016***	–7.530	34.404
Decline	540	–0.023	0.018	4.935	3.666	4.632	–1.263***	–7.396	37.888

Note: 1. *MTB* is the ratio of market value to book value at year-end; market value = closing share price at year-end × paid-in capital at year-end; when *MTB* is less than 0, we replace it with 0, and to avoid extreme effects, *MTB* data above 1 per cent have been winsorised; N is the number of observations.
2. *ACC* (total accruals) = net income – operating cash flows – investing cash flows.
3. *** represents a variable significant at the 1 per cent level.
4. Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

Table 8 Relations between the Corporate Life Cycle and *MTB*

	Predicted sign	Coefficient	*t* Value
β_0		1.843***	14.110
β_1	+	0.047**	2.320
β_2	+	–0.038***	–2.720
β_3			
β_4	+	0.132***	6.240
β_5	+	0.195***	6.780
β_6		–0.033***	–3.780
β_7		–0.308***	–7.210
Annual and industrial control variables		YES	
No. of observations		7862	
Adjusted R^2		0.421	

Note: 1. The estimation equation is: $\ln(MTB)_{i,t} = \beta_0 + \beta_1 \text{introductory}_{i,t} + \beta_2 \text{growth}_{i,t} + \beta_3 \text{maturity}_{i,t}(\text{omit}) + \beta_4 \text{shakeout}_{i,t} + \beta_5 \text{decline}_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \text{control variable}_{i,t} + \varepsilon_{i,t}$

2. *MTB* is the ratio of market value to book value at year-end; market value = closing share price at year-end × paid-in capital at year-end; when *MTB* is less than 0, we replace it with 0, and to avoid extreme effects, *MTB* data above 1 per cent have been winsorised; *SIZE* is the natural logarithm of the company size (market value); *LEV* = (long-term debts + short-term debts) / market value. The estimation equation comprises dummy variables used to control for industries as well as years.

3. ***, **, and * denote variable coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively.

4. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors.

5. Each life cycle stage is determined by the company's cash flow patterns as shown in Table 1.

in many different areas for different purposes (Penman, 1996). Meanwhile, owing to the split share structure in China (untradable and tradable shares), different ownership structures have a significant impact on share prices, thus increasing the noise of *MTB*.

While noise exists in measuring the overall level of conservatism, there are relatively more factors affecting changes in *MTB*, which may result in competing explanations. But combined with the analysis of Hypothesis 2 and the results from Tables 5 and 6, it could be preliminarily inferred that since accruals play different roles, their contribution to overall conservatism varies with the life cycle stages. At the beginning of the cycle, their contribution is mainly the result of the deferred recognition of gains, while at the end of the cycle it is due to the timely recognition of losses.

Accounting conservatism is categorised into unconditional and conditional conservatism. We further analyse their variation rules at different stages of the corporate life cycle, as well as the impact of deferred recognition on these two types of

conservatism. Since the centre of these two types is the timing of earnings recognition relative to cash flows, the total realised cash flows are eventually equal to the total earnings recognised. Therefore, these two types of conservatism are inherently linked to each other (Gassen, Fülbier, and Sellhorn, 2006). Accounting choice is the endogenous result of mixing different stakeholders' interests within the company. Preferences and incentives for different stakeholders may vary within the life cycle stages. The choice of the two types of conservatism reflects changes in the company's macroeconomics and internal factors.

Since unconditional conservatism is pervasive and unrelated to current news, it results in underestimating equities, which is achieved by accelerating expenses and/or delaying income recognition (Gassen, Fülbier, and Sellhorn, 2006).[12] Therefore, we infer that during the first half of the corporate life cycle, accounting conservatism is mainly unconditional, primarily because at the early stages of the cycle, a company needs to invest heavily in new projects as the business grows, giving it greater growth options than a mature company. However, these growth options generate uncertainties in the cash flows, while the information asymmetry between managers and investors grows with the increase in growth options, resulting in more agency costs and a stronger need for conservatism. Such needs can only be met by unconditional conservatism, such as accelerated depreciation and the immediate recognition of research and development expenses and advertising expenditures. For example, the unpresented analysis shows that enterprises early in the life cycle incur higher average depreciation and amortisation charges and operating expenses than those at the end of the cycle. In addition, at the early stages, a certain degree of unconditional conservatism helps guide a company in making long-term decisions so as to immunise its accounting system against future bad news (Qiang, 2007a). Therefore, a growing company has an internal demand for implementing unconditional conservatism. On the other hand, prior accounting theories of accounting conservatism suggest that unconditional conservatism derives from motives over regulation and taxation. For companies at the introductory and growth stages, earnings are relatively higher and their development is faster. Therefore, implementing accounting conservatism may serve to avoid regulation and taxation. Furthermore, analysis of the amounts and signs of accruals shows that, at these stages, the matching principle is dominant, and accruals are mostly positive and play a role in smoothing earnings, deferring the recognition of good as well as bad news. This reduces conditional conservatism and constitutes opportunities for future business growth. In addition, business also creates goodwill, in view of which unconditional conservatism is formed. Therefore, the degree of unconditional conservatism

[12] "Unconditional conservatism (balance sheet conservatism, news-independent conservatism, ex ante conservatism) is a general, pervasive bias, unrelated to current news (Basu, 1997), toward reporting low book values of stockholders' equity, achieved by accelerating expenses and/or delaying income recognition." (Gassen, Fülbier, and Sellhorn, 2006, p. 530)

is relatively higher while that of conditional conservatism is relatively lower for companies at these stages.

In contrast, during the phases of shakeout and decline, a company may shut down its operations, sell off leftover inventory, or downsize. Accounting rules require that it revalue assets and liabilities to avoid overstating assets or understating liabilities, and it is expected to record write-downs and write-offs. As a result, its conditional conservatism is stronger. On the other hand, previous research holds that conditional conservatism derives from the need to contract efficiently. During the shakeout and decline periods, companies face relatively higher litigation and default risks, which demand the application of conditional conservatism. Analysis of the amount and signs of accruals shows that, at these stages, they tend to be negative and play a role in the timely recognition of economic losses. Therefore, corporate conditional conservatism is relatively stronger during these periods.

According to the analysis of internal company factors, accounting conservatism stems from uncertainties in business, which differ in form and content at different stages of the life cycle. We infer a positive correlation between earnings smoothing and unconditional conservatism. Some recent literature also indicates that earnings smoothing improves the information content of earnings (Tucker and Zarowin, 2006). Qiang (2007b) finds that both types of conservatism can reduce information asymmetry, but investors do not realise the information role played by unconditional conservatism. Li (2007) reveals that unconditional conservatism may reduce information uncertainty in future earnings, and security analysts may benefit from the improved information environment. These results imply that unconditional conservatism plays an important role.

Theoretically, both the timely recognition of losses and the deferred recognition of revenue would increase the level of conservatism, but the mechanisms of the two types of conservatism are not the same. Little accounting literature discusses the influence of deferred recognition of income on accounting conservatism. Basu (1997) finds that recognising economic gains contributes little to accounting conservatism because expected future transaction gains cannot be recognised as current earnings in a timely manner according to accounting standards, whereas stock returns anticipate future transaction gains; therefore, the correlation between the two is weak. One research direction for future studies would be to measure and analyse the impact of earnings smoothing and deferred income on accounting conservatism from an accrual perspective. The stated results at least show that accounting conservatism caused by the deferred recognition of income is not identical with Basu's (1997) definition of accounting conservatism. Since the dominant role of accruals differs at each stage of the corporate life cycle, accounting conservatism accordingly has different attributes throughout the life cycle stages. Therefore, we infer that, *ceteris paribus*, as the corporate life cycle develops and accruals change from positive to negative, unconditional conservatism is stronger in companies at the introductory and growth stages than those at the maturity stage, while the degree of conditional conservatism is higher in companies at the shakeout and decline stages than those at the maturity stage. On the whole, the overall level of accounting con-

servatism largely follows a U-shaped distribution with the mature stage as the axis. This result can be indirectly inferred from the above evidence on overall conservatism and conditional conservatism.

However, existing literature does not consider simultaneously the measurement of conditional and unconditional conservatism. Unconditional conservatism preempts conditional conservatism, and there are complex interactions between the two. To test this relationship, it is necessary to separate unconditional from overall conservatism, that is, to make inferences from the differences between overall and conditional conservatism. Nevertheless, overall conservatism reflects both unconditional and conditional conservatism, mechanically leading to a negative correlation between the two types. At the same time, their relationship appears to be nonlinear, and there are conflicts between them (Beatty, 2007; Roychowdhury and Watts, 2007). There is also noise in the measurement for overall conservatism. Therefore, simply reckoning that unconditional conservatism is the difference between overall and conditional conservatism may result in a misleading inference. We will further confirm the inference in a future study.

VI. ROBUSTNESS CHECKS

Prior research assumes a correlation between accruals and operating cash flows (Dechow, Kothari, and Watts, 1998) to avoid operating cash flows causing regular changes in the amount and sign of accruals over the corporate life cycle. For further analysis, we use the corporate life cycle measure developed by Anthony and Ramesh (1992), which is not an empirical measurement constructed by combining cash flows. This measure uses four variables to classify the life cycle stages, including capital expenditure (*CAP*), sales growth rate (*SGR*), dividend ratio (*DIVRATIO*), and age (*AGE*). For each firm-year observation, they adopt the median of the prior four years' data and current data as the current value for the first three variables; they then sum the four variables (including age) to be grouped into three life cycle stages based on a uniform distribution of the composite score. The dividend payouts of Chinese listed companies have significant regulatory characteristics. The China Securities Regulatory Commission promulgated policies in 2000, 2001, and 2004 requiring profitable listed companies to pay out dividends and making this a precondition for authorising equity and rights offerings. Therefore, considering the demand for these offerings, both growing and mature companies would distribute dividends, with payment reaching a maximum at the growth stage. This is in accordance with the regulation policies and the profit patterns of corporations in China, but differs from the pattern in which the dividend ratio increases gradually as the corporate life cycle evolves and reaches its maximum at the stage of decline (Anthony and Ramesh, 1992). Therefore, we exclude the dividend ratio variable and use only the above three classification variables to construct the corporate life cycle stages.

To obtain more observations, we use a not-so-strictly defined method to calculate the median, that is, to calculate the median of any available observations from the

five-year window consisting of years $t-4$, $t-3$, $t-2$, $t-1$, and t, while capital expenditures are expected to decrease over the life cycle. Moreover, sales growth is expected to decrease while firm age increases over the life cycle. Based on this prediction, we rank each firm-year variable and group the variables equally into quintiles. The lowest is assigned to 1 and the highest to 5; afterwards, the standardised score of each firm-year is summed to create the life cycle measure. Finally, firm-year observations are classified into introductory, growth, maturity, shakeout, and decline stages based on the quintiles of the life cycle measure.

The amounts and signs of accruals under alternative classifications of the corporate life cycle are similar to those classifications determined by combining cash flows. Detailed results are shown in Table 9. Comparing Table 9 with Table 4, we find that the predictions of corresponding coefficients remain similar after changing the life cycle classification; in other words, companies at the introductory and growth stages have more positive accruals than those at the maturity stage, while companies at the shakeout and decline stages have more negative accruals than those at the maturity stage. Similar to the variables for the corporate life cycle, such factors as seasoned equity offerings, rights offerings, and losses also lead to changes in the amounts and signs of accruals. In contrast to Table 4, the coefficients of β_5 are

Table 9 Corporate Life Cycle and Accrual Signs

	Predicted sign	Coefficient	*t* value	Coefficient	*t* value
β_0		0.102***	18.29	0.104***	20.21
β_1	+	0.079***	18.5	0.064***	15.38
β_2	+	0.034***	8.1	0.025***	6.42
β_3					
β_4	–	–0.033***	–7.12	–0.023***	–5.38
β_5	–	–0.098***	–16.68	–0.063***	–12.65
ZF				0.068***	4.32
SEO				0.047***	8.61
LOSS				–0.150***	–20.62
Annual and industrial control variables		YES		YES	
No. of observations		7988		7988	
Adjustment R^2		0.166		0.267	

Note: 1. ***, **, and * denote variable coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively.

2. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors.

3. In the regression, the dependent variable *ACC* (total accruals) = net income – operating cash flows – investing cash flows; *ZF* is the dummy variable for rights offerings; *SEO* is the dummy variable for seasoned equity offerings; and *LOSS* represents the dummy variable for losses.

4. Each life cycle is determined according to the capital expenditure, sales growth rate, and the age of the corporation.

negative in the two regressions at −0.098 and −0.063, respectively, and are significant at the usual level (*t* values are −16.68 and 12.65, respectively). The findings are consistent with predictions.

Furthermore, the systematic variation of conditional conservatism with the corporate life cycle under this life cycle classification is similar to the outcome of the life cycle based on combining cash flows. Details are shown in Table 10. Comparing Table 10 with Table 6 shows that as the corporate life cycle develops and accruals change from positive to negative, the coefficients of β_3 and β_0 remain similar for the two classifications of the life cycle stages. However, the coefficient of β_2 shows some differences. For this classification, good news is recognised in a timely manner at all stages, which differs from the results in Table 6, especially at the shakeout and decline stages.

The findings indicate that at the introductory and growth stages, the recognition of bad news is the same as that for good news with respect to earnings; that is to say, earnings do not show conditional conservatism. In contrast, they do show stronger conditional conservatism at the shakeout and decline stages.

Regarding *MTB*, the results obtained from adopting the measure for the corporate life cycle proposed by Anthony and Ramesh (1992) and those from adopting the measure based on cash flow patterns are similar, as shown in Table 11. This indicates that between the introductory and maturity stages, the shakeout and maturity stages, and the decline and maturity stages, the differences in medians are significant at the 10 per cent level (values of χ^2 are 3.574, 17.611, and 77.544, respectively). However, between the growth and the maturity stages, the median is not significant at the usual level (χ^2 is 1.026). This supports the conclusion that overall accounting conservatism generally follows a U-shaped distribution during the life cycle. The regression results as shown in Table 12 are similar to those in Table 8.

This classification improves the persistence of company numbers at each stage and the consistency of a company's evolution. For example, about 80 per cent of firms at the decline stage remain in the same life cycle stage compared to prior years. But this classification leads to a monotonic decreasing pattern for many accounting variables, such as profitability ratios, earnings per shares, returns on net operating assets, accruals, and investment expenditures, which is not consistent with predictions.

Although these two life cycle measures adopt different classification standards, their outcomes are similar. For example, the correlation coefficient of the two measures is 0.30. The correlation coefficient signs of these two classifications are similar to those of the correlation variables used in this paper, such as *ROA*, *ACC*, *OA*, *CFI*, *CFF*, *ZF*, *LOSS*, and *SEO*. But the coefficient signs of *CFO* are opposite:[13] for the life cycle measure based on cash flow patterns, the correlation coefficient of *CFO* is 0.024, while for those life cycles not based on cash flow patterns, the correlation coefficient is −0.195.

[13] No. of observations is 7988.

Table 10 Results from the *BASU* Model at Different Corporate Life Cycle Stages

Panel A: Regression results of pooled data

	N	*ACC*		β_0		β_1		β_2		β_3		Adjusted R^2	*BASU*
		Mean	Median	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value		
All	7988	0.040	0.039	0.019***	20.210	–0.008***	–4.690	0.022***	8.670	0.054***	5.200	0.058	0.054***
Introductory	1519	0.122	0.113	0.034***	25.550	–0.011***	–5.700	0.022***	8.670	0.005	0.690	0.118	0.005
Growth	1604	0.078	0.066	0.024***	12.450	–0.005*	–1.910	0.018***	4.300	0.009	0.680	0.066	0.009
Mature	1571	0.045	0.039	0.021***	12.090	–0.006	–1.640	0.027***	3.830	0.047*	1.750	0.063	0.047*
Shakeout	1621	0.014	0.016	0.014***	8.750	–0.009***	–2.710	0.021***	4.170	0.055**	2.620	0.050	0.055**
Decline	1673	–0.048	–0.022	–0.002	–0.860	–0.007	–1.160	0.016***	3.320	0.116***	3.970	0.055	0.115***

Panel B: Regression results of Fama-MacBeth

	ACC		β_0		β_1		β_2		β_3		Adjusted R^2	*BASU*
	Mean	Median	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value	Coefficient	*t* value		
All	0.040	0.039	0.017***	8.18	0.004*	1.91	0.028***	3.63	0.114**	2.69	0.054	0.113***
Introductory	0.122	0.113	0.033***	8.68	–0.002	–1.11	0.014	1.66	0.057**	3.13**	0.186	0.057**
Growth	0.078	0.066	0.024***	5.65	0.002	1.38	0.025**	2.42	0.056	1.42	0.132	0.056
Mature	0.045	0.039	0.019***	7.77	0.009	1.50	0.030**	2.81	0.120*	1.90	0.140	0.119*
Shakeout	0.014	0.016	0.014***	4.97	0.001	0.24	0.016*	1.95	0.110**	2.50	0.099	0.110**
Decline	–0.048	–0.022	–0.005	–0.96	0.004	0.51	0.039**	2.45	0.144**	2.99	0.087	0.142**

Note: 1. The model is $EPSP_{i,t} = \beta_0 + \beta_1 RD_{i,t} + \beta_2 R_{i,t} + \beta_3 R_{i,t} * RD_{i,t} + \varepsilon_{i,t}$, where *R* represents the annual holding return ratio after adjustment by market return; *RD* is the dummy variable, which takes the value of 1 when $R < 0$, and 0 otherwise; *EPSP* is earnings per share divided by the prior-year closing share price. Each life cycle is determined according to the capital expenditure, sales growth rate, and age of the corporation.

2. *ACC* (total accruals) = net income – operating cash flows – investing cash flows.

3. ***, **, and * denote variable coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively. N represents the number of observations.

4. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors. The Fama-MacBeth coefficient is the mean of coefficients obtained from 8 annual regressions; t-statistics are calculated by the Fama-MacBeth method.

5. $BASU = ARCTAN(\beta_2 + \beta_3) - ARCTAN(\beta_2)$

Table 11 Variations in *MTB* at Different Corporate Life Cycle Stages

	N	*ACC*		*MTB*			
		Mean	Median	Mean	Median	Std. Dev.	Equality of median values compared with the maturity stage χ^2
All	7988	0.040	0.039	3.999	3.000	3.518	
Introductory	1519	0.122	0.113	3.516	2.894	2.300	3.574*
Growth	1604	0.078	0.066	3.502	2.830	2.449	1.026
Mature	1571	0.045	0.039	3.533	2.710	2.808	
Shakeout	1621	0.014	0.016	3.965	3.099	3.319	17.611***
Decline	1673	–0.048	–0.022	5.358	3.585	5.265	77.544***

Note: 1. *MTB* is the ratio of market value to book value at year-end; market value = closing share price at year-end × paid-in capital at year-end; when *MTB* is less than 0, we replace it with 0, and to avoid extreme effects, *MTB* data above 1 per cent have been winsorised; N is the number of observations.
2. *ACC* (total accruals) = net income − operating cash flows − investing cash flows.
3. *** represents a variable significant at the 1 per cent level.
4. Each life cycle is determined according to the capital expenditure, sales growth rate, and age of the corporation.

Nevertheless, there is no consensus in empirical studies on how the corporate life cycle should be measured. Different studies use different life cycle measures (Liu, 2007). Meanwhile, prior theories and methods fail to provide comparison benchmarks between different measures, making it difficult to compare the validation for each method; future studies may focus on this.

Based on the analyses above, we conclude that with different life cycle classifications, accrual characteristics and accounting conservatism present a similar systematic variation with the corporate life cycle. Therefore, our results do not depend much on classifications of the corporate life cycle.

VII. CONCLUSIONS AND LIMITATIONS

This paper uses data from Chinese listed companies between 1998 to 2005 and constructs the proxy for the corporate life cycle based on the combination of cash flows developed by Dickinson (2007). It also explores rules of variation among conditional conservatism, unconditional conservatism, and overall conservatism with changes in corporate fundamentals and accruals from the perspective of the corporate life cycle.

The results reveal that accruals of those companies present a systematic variation with the corporate life cycle. In addition, the degree of accounting conservatism is affected by the company's fundamentals and follows a systematic variation with changes in accruals over the corporate life cycle. The dominant role of accruals

Table 12 Relations between the Corporate Life Cycle and *MTB*

	Predicted sign	Coefficient	*t* value
β_0		1.678***	13.290
β_1	+	0.029*	1.820
β_2	+	0.011	0.690
β_3			
β_4	+	0.056***	3.240
β_5	+	0.281***	13.620
β_6		–0.025***	–2.940
β_7		–0.295***	–7.260
Annual and industrial control variables		YES	
No. of observations		7862	
Adjustment R^2		0.433	

Note: 1. The estimation equation is: $\ln(MTB)_{i,t} = \beta_0 + \beta_1 \text{introductory}_{i,t} + \beta_2 \text{growth}_{i,t} + \beta_3 \text{maturity}_{i,t}(\text{omit}) + \beta_4 \text{shakeout}_{i,t} + \beta_5 \text{decline}_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 LEV_{i,t} + \text{control variable}_{i,t} + \varepsilon_{i,t}$

2. *MTB* is the ratio of market value to book value at year-end; market value = closing share price at year-end × paid-in capital at year-end; when *MTB* is less than 0, we replace it with 0, and to avoid extreme effects, *MTB* data above 1 per cent have been winsorised; *SIZE* is the natural logarithm of the company size (market value); *LEV* = (long-term debt + short-term debt) / market value. The estimation equation comprises dummy variables used to control for industries as well as years.

3. ***, **, and * denote variable coefficients significant at the 1 per cent, 5 per cent, and 10 per cent levels, respectively.

4. *t* value uses robust t-statistics corrections for general heteroscedasticity in standard errors.

5. Each life cycle is determined according to the capital expenditure, sales growth rate, and age of the corporation.

differs at each stage of the cycle. Thus, at the early stages, in line with the matching principle, accruals are mostly positive and much greater in quantity. Their primary role is to defer recognition of revenue and losses. Hence, accruals smooth earnings and the firm's conditional conservatism is weaker. In contrast, at the end of the life cycle, accruals are often counted as negative according to the fair value concept. The firm promptly recognises any losses and its conditional conservatism is stronger. Preliminary evidence suggests that throughout the life cycle, overall accounting conservatism generally follows a U-shaped distribution. Since accruals play different roles, their contribution to overall conservatism varies with the life cycle stage. At the beginning, their contribution is mainly the deferred recognition of income; at the end, it is mainly the timely recognition of losses. Accordingly, we put forward an exploratory proposal to the effect that, *ceteris paribus*, as the corporate life cycle develops and accruals change from positive into negative, unconditional conservatism is stronger in companies at the introduction and growth stages than in those at the maturity stage, while the degree of conditional conservatism is higher in companies

in the shakeout and decline stages than in those in the maturity stage. There are substitution relations between conditional and unconditional conservatism, indicating a quality requirement for reliable accounting information.

An accounting system is embedded in the economic and legal framework of a country. It is affected by institutions and corporate governance (Ball, 2001). Earnings attributes and accounting practices are jointly determined by their innate factors, as well as by management's reporting incentives and its motivations for implementing accounting standards (Francis *et al*., 2004). The results of this paper complement prior research results, revealing that a company's fundamentals and the application of accounting standards are also important determinants of accounting behaviour and earnings attributes.

Prior literature lacks simultaneous consideration of the measurement of conditional and unconditional conservatism, leading to a lack of consistency in variables for measuring and reflecting variations in accounting conservatism; this in turn increases the difficulty of interpretation and casts doubt on the reliability of results. Future research may look at these issues.

REFERENCES

Please refer to pp. 29–33.