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Confucian culture and accounting conservatism: evidence from China

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ABSTRACT



This study investigates the influence of Confucian culture on accounting conservatism. Using a sample of Chinese-listed firms during the period of 2001–2017, our findings reveal that Confucian culture, measured as the number of Confucian temples (schools) within a specific radius around a firm, is significantly positively associated with accounting conservatism, suggesting that Confucian ethics and culture promote accounting conservatism. Moreover, litigation risk attenuates the positive effect of Confucian culture on accounting conservatism. The above findings are robust to a variety of sensitivity tests using alternative proxies for Confucian culture and accounting conservatism. Furthermore, our main conclusions still stand after using the instrumental variable (IV) two-stage regression method and the differential model approach to address the endogeneity issue. Lastly, the positive effect of Confucian culture on accounting conservatism is only valid for non-BIG4-audited firms, firms with lower managerial ownership and firms in highly competitive industries.

KEYWORDS

Confucian culture;
accounting conservatism;
litigation risk; Confucian
ethics

1. Introduction

Confucianism can play an important role in the Chinese society and serve as an important social norm to affect corporate decisions (L. Chen et al., 2019; Du, 2015, 2016; Hill, 2006; Ip, 2009; Miles & Goo, 2013). A branch of prior literature has theoretically expounded the potential impacts of Confucian culture on individual, enterprise and the society (Bloom & Solotko, 2003; Chan, 2008; Gao & Handley-Schachler, 2003; Hill, 2006; Ip, 2009; Miles & Goo, 2013; Romar, 2002). Besides, another branch of the very thin but growing literature has empirically examined the effects of Confucian culture on corporate behaviours (e.g. board diversity, tunnelling and over-investment; L. Chen et al., 2019; Du, 2015, 2016). Nevertheless, the research about the influence of Confucian culture on corporate behaviours is far from perfect. For example, extant studies leave a big gap about whether and how Confucian culture can affect accounting and auditing behaviours, such as accounting conservatism.

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With regard to the determinants of accounting conservatism, previous studies have documented a variety of factors, such as governance mechanisms, hedge fund, information asymmetry, litigation risk, accounting regulation, ownership structure, auditor-specific characteristics, tax avoidance (Ahmed & Duellman, 2007; Cheng et al., 2015; Haw et al., 2014; Jenkins & Velury, 2008; Khan & Watts, 2009; Lara et al., 2009; Lin, 2016; Nikolaev, 2010; Watts, 2003b). However, to our knowledge and literature in hand, little is known about whether Confucian culture affects accounting conservatism. In response, given the significant role of Confucian culture in individual behaviour and corporate decisions, to fill the above gap, our study aims to explore the impact of Confucian culture on accounting conservatism.

Referring to Du (2015, 2016), we adopt the number of Confucian temples (schools) within a specific radius around a firm as the proxy for Confucian culture. In addition, Khan and Watts (2009)'s C-Score is used to measure accounting conservatism. Using a sample of Chinese-listed firms over 2001 – 2017, our findings reveal that Confucian culture leads to a higher degree of accounting conservatism. Moreover, litigation risk attenuates the positive effect of Confucian culture on accounting conservatism. The above findings are robust to a variety of sensitivity tests using alternative proxies for Confucian culture and accounting conservatism, and further our conclusions still stand after using two-stage instrumental variable (IV) regression and differential model methods to address endogeneity. Lastly, the positive effect of Confucian culture on accounting conservatism only stands for non-BIG4-audited firms, firms with lower managerial ownership and firms in highly competitive industries.

Our study makes several contributions as below. First, this study is one of the very few studies, if it is not the first, to focus on Confucian ethics and examine the impact of Confucian culture on accounting conservatism. Prior literature has examined the impact of Confucian culture on investment efficiency, minority shareholder expropriation, and board diversity (L. Chen et al., 2019; Du, 2015, 2016). Also, a branch of very thin but growing literature has focused on the *historical* relation between Confucian culture and bookkeeping techniques, conservatism, accounting regulations and accounting profession in East Asian countries or regions (Bloom & Soltko, 2003; Gao & Handley-Schachler, 2003). However, extant studies have provided little empirical evidence about the impact of Confucian culture on accounting conservatism. In this regard, this study adds a novel insight about Confucian influence on corporate behaviour, providing important supplements to the implications of Confucian culture for East Asian accounting (Bloom & Soltko, 2003; Gao & Handley-Schachler, 2003).

Second, this study contributes to prior literature on the determinants of accounting conservatism. Conservative accounting is affected by corporate governance, contracting factors, the personal traits of corporate members, regulations, the nature of control rights, the supply chain, litigation risk and national culture (e.g. Alam & Petruska, 2012; H. Chen et al., 2010; Cheng et al., 2015; Haw et al., 2014; Ho et al., 2015; Hui et al., 2012; Jenkins & Velury, 2008; Kanagaretnam et al., 2014; Khan & Watts, 2009; Krishnan & Visvanathan, 2008; Lara et al., 2009; Lin, 2016; Liu & Elayan, 2015; Lobo & Zhou, 2006; Mitra et al., 2013; Nikolaev, 2010; Qiang, 2007; Watts, 2003b). However, it is still in void about the impact of Confucianism on accounting conservatism in East Asian countries (regions). Thus, this study adds to prior literature on accounting conservatism.

Third, this study contributes to prior literature by investigating the interactive effect between litigation risk (a formal institution) and Confucian culture (an informal institution) on accounting conservatism. Previous studies have examined the effect of litigation risk on accounting conservatism in developed countries (Liu & Elayan, 2015; Lobo & Zhou, 2006; Mitra et al., 2013; Qiang, 2007), but little is known about how litigation risk as an external monitoring mechanism and informal institution (Confucian culture) in developing economies interactively affect accounting conservatism (L. Chen et al., 2019; Du, 2015). In response, this study pays attention to this void and lends additional support to Williamson (2000)'s argument that informal and formal social systems are complementary in affecting individual behaviour and corporate decisions.

The remainder of this article is organised as below. Section 2 reviews prior literature, introduces institutional background, and develops hypotheses. Section 3 reports model specifications, the sample and data source. Section 4 reports descriptive statistics, correlation analysis and main findings. Section 5 conducts robustness checks. Section 6 discusses endogeneity and conducts additional tests. Section 7 includes conclusions, managerial implications, limitations and future research directions.

2. Literature review, institutional background and hypotheses development

2.1. Confucianism in China

Confucianism is a philosophical system of thought and ethical codes, which was created by the Chinese philosopher Confucius (551–479 BCE) during the Spring and Autumn period (770–476 BCE) of the Zhou Dynasty. The Confucianism system embodies moral, philosophical, quasi-religious, social and political thought, which brings out considerable effects on the culture and history of East Asia, such as China, Korea and Japan. Confucius wished to establish social values, institutions and transcendent ideals of traditional Chinese society, and further believed that the stabilisation and orderliness of a society should be built on ethical codes and relations (Du, 2015). During the Warring States period of the Zhou Dynasty (475–221 BCE), Confucian philosophy was further improved. In the Western Han Dynasty (202 BCE–8), Confucianism was entrenched as officially national ideology by Emperor Wu. Since the Tang Dynasty (618–907), imperial examinations were established and went on more than 1000 years as the primary channel of official selection, in which Confucianism was confirmed as the core philosophy and foundation of these examinations. In 1905, the imperial examinations were abolished, and the epoch of official Confucianism was simultaneously terminated.

Confucianism plays both ideological and educational roles in China. Accordingly, a great number of Confucian temples (schools) were built for the spread of Confucian thought. The state cult of Confucius centred upon offering sacrifices to Confucius spirit in Confucian temples, the important sites to hold ceremonies or rites for Confucius. As for the educational function, Confucian temples formerly served as the sites of the administration of the imperial examinations. Confucian schools emerged in the Tang Dynasty (618–907) and formed their system in the Song Dynasty (960–1297). Confucian schools were generally established to offer education on the basis of Confucian thought. The portraits or statues of Confucius are indispensable in Confucian schools and people

sometimes held rituals for respecting Confucius there. To sum up, Confucian temples (schools) played their important role in the cultural diffusion of Confucianism. As time went by, most Confucian temples (schools) have faded away, but some famous temples (schools) are preserved as the major historical and cultural sites protected at the national level and act as the symbol of traditional culture.

The Chinese society has been deeply branded by Confucian culture (Du, 2015). In China, for more than 2000 years, the traditional culture is affected by Confucianism and Confucian culture still plays an important and continuous role in shaping people's values, ethics, preferences, affections and emotions. For example, people usually pay more attention to the importance of a family (Gao & Handley-Schachler, 2003). In recent years, there is an obvious tendency of the Confucian revival (Du, 2015), the Confucius memorial ceremony is resurgent in Qufu (Shandong province) and officials, descendants of Confucius and experts attend it every year. Moreover, the research about Confucian thought has become a popular social phenomenon in contemporary China.

2.2. Confucian influence, ethics and corporate behaviour

Confucianism as the most important traditional culture in China plays a significant role in business activities (Bloom & Solotko, 2003; Hill, 2006; Miles & Goo, 2013). The majority of prior literature builds the relations between Confucian culture and business ethics (Chan, 2008; Gao & Handley-Schachler, 2003; Hill, 2006; Romar, 2002). Moreover, scholars lay the stress on the important role of Confucianism in forming societal value system in China, and thus put forward the viewpoint that Confucianism acts as a managerial ethic in Chinese firms (Chan, 2008; Hill, 2006; Ip, 2009; Miles & Goo, 2013; Romar, 2002). Hill (2006) examines whether social values rooted in Confucianism affect management style in Chinese firms (e.g. leadership patterns, individual values and interpersonal behaviour), revealing that Confucian principles shed light on the cooperative relationship in management and facilitate the formation of corporate culture. Focusing on the relationship between business ethics and Confucianism, Chan (2008) examines the difference, junction and approaches towards business activities within the modern capitalist framework, the principle of reciprocity and human virtues. Based on a business practice and management model from the core elements of Confucianism, Ip (2009) examines the consistence between these elements and business ethics in CSR activities. Miles and Goo (2013) theoretically illuminate how Confucian culture is applied to governance and managerial behaviour. Romar (2002) indicates that the ethical role of Confucian culture results in managerial compatibility, social contribution philosophy, hierarchical awareness and moral leadership.

In recent years, a branch of the very thin but growing literature has empirically found that Confucian can affect corporate decisions (L. Chen et al., 2019; Du, 2015, 2016). Du (2015) found that Confucianism has positive effects on corporate ethics in China, leading to a downward shift in minority shareholder expropriation. Moreover, Du (2016) reveals that prejudice against women in Confucian culture is more likely to result in a lower proportion of female directors on board, suggesting a dark-side effect of Confucianism on board gender diversity. L. Chen et al. (2019) found that Confucianism leads to an increase in financial reporting quality and mitigates overinvestment in Chinese listed firms.

In addition, a narrow stream of the literature has paid attention to the impact of Confucianism on accounting behaviour. Bloom and Solotko (2003) analysed the effect of Confucian culture on accounting practices in China and Japan. Gao and Handley-Schachler (2003) historically illuminate that the core implications of Confucianism had notable effects on the principal traits of accounting practices in China, including book-keeping techniques, private and government accounting, accounting information and regulation and professional accountants. Using survey data, Hwang et al. (2008) showed that moral virtues of Confucianism encourage whistle-blowing, but social traits in Confucian culture (e.g. relationship, balance of forces and hierarchy) mitigate whistle-blowing.

2.3. The determinants of accounting conservatism

Accounting conservatism, which is usually defined as the asymmetrical recognition requirements for gains and losses (Watts, 2003a), is one of the most important issues in accounting. Conservative accounting can be explained from the views of the contracting efficiency, tax avoidance, shareholder litigation and political costs (Watts, 2003a),¹ suggesting that accounting conservatism should be understood from multiple perspectives, rather than from a single perspective.

Conservative accounting serves as an important mechanism to reduce agency costs (Watts, 2003a), so a branch of prior literature pays close attention to the relations between accounting conservatism and governance mechanisms (Ahmed & Duellman, 2007; Cheng et al., 2015; Jenkins & Velury, 2008; Lara et al., 2009; Lin, 2016; Watts, 2003b). In general, firms with stringent corporate governance may prefer conservative accounting because contracts can benefit from the asymmetrical limitation of the recognition of gains or losses (Ahmed & Duellman, 2007; Lara et al., 2009; Watts, 2003a). Lara et al. (2009) found that accounting conservatism is negatively related to anti-takeover protections and CEO involvement, but is positively related to board effectiveness and composition. Ahmed and Duellman (2007) found that a higher ratio of insider directors resulted in lower accounting conservatism and that the ratio of shares held by outside directors was positively related to accounting conservatism. Cheng et al. (2015) revealed that hedge fund ownership and time spent monitoring target firms increase accounting conservatism. Lin (2016) found that transient institutional ownership is negatively related to accounting conservatism but dedicated institutional ownership reinforces accounting conservatism. Jenkins and Velury (2008) found the positive effect of auditor tenure on accounting conservatism.

Based on the contracting explanation, prior literature finds that contracting-relevant factors affect the asymmetrically timely recognition of losses (Haw et al., 2014; Khan & Watts, 2009; Nikolaev, 2010; Qiang, 2007). Khan and Watts (2009) and Haw et al. (2014)

¹The contracting explanation argues that accounting conservatism acts as a response to agency conflicts, which leads to an increase in the implementation efficiency of contracts (Watts, 2003a). According to the tax-avoidance explanation, the asymmetry in the recognition of losses reduces taxable income and leads to the delay in tax payment (Watts, 2003a). The shareholder litigation explanation shows that conservatism is conducive to reducing the expected litigation risk because the overstated accounting number is more likely to result in litigation than the understated accounting number (Watts, 2003a). The political explanation indicates that regulators and standard-setters have political incentives to encourage conservative reporting due to the asymmetry in political costs (Watts, 2003a). Managers need to make the tradeoff between different incentives (Watts, 2003a), so scholars find several phenomena against the above explanations for conservative accounting in practice.

revealed a positive relation between debt and accounting conservatism. Nikolaev (2010) shows that firms with more covenants in the public debt contracts are prone to increasing timeliness in recognition of economic losses in earnings. Qiang (2007) finds that contracting promotes conditional conservatism.

Another branch of previous literature focuses on the effect of personal traits of corporate members on accounting conservatism. Krishnan and Visvanathan (2008) found that firms with accounting or financial experts on the audit committee exhibit a higher degree of accounting conservatism. Ho et al. (2015) argue that female CEOs may prefer risk aversion and are more sensitive to corporate ethical issues and further find that accounting conservatism is higher for firms with female CEOs. Moreover, with reference to the political explanation, Lobo and Zhou (2006) uncover that the Sarbanes-Oxley Act is more likely to cause an increase in the degree of conservative accounting and reporting. In addition, Mitra et al. (2013) revealed that firms with more internal control weaknesses before the Sarbanes-Oxley Act improved the degree of accounting conservatism after the Sarbanes-Oxley Act.

Focusing on governance demand, previous literature investigates the impacts of the nature of control rights, supply chain, litigation risk and national culture on accounting conservatism (Alam & Petruska, 2012; H. Chen et al., 2010; Hui et al., 2012; Kanagaretnam et al., 2014; Liu & Elayan, 2015; Qiang, 2007). Specifically, Alam and Petruska (2012) found an increase in accounting conservatism for firms with fraud scandals during the SEC investigation, implying that accounting conservatism is likely to arise from regulations. H. Chen et al. (2010) found that state-owned debtors exhibit a lower degree of accounting conservatism and borrowers that get bank loans from state-owned banks have a lower degree of accounting conservatism. Hui et al. (2012) argue that a firm's suppliers and customers prefer it to account more conservatively in practices because of information asymmetry and asymmetric payoffs of these stakeholders in their contracts. Liu and Elayan (2015) found that litigation risk enhances the association between information asymmetry and accounting conservatism. Qiang (2007) finds the positive effect of litigation risk on conditional (unconditional) conservatism. Notably, Kanagaretnam et al. (2014) validate that accounting conservatism is negatively related to individualism at the country level, as well as a positive association between uncertainty avoidance and accounting conservatism.

2.4. The influence of Confucian culture on accounting conservatism

A firm is usually regarded as a nexus of contracts with stakeholders (Jensen & Meckling, 1976). The contracts between managers and stakeholders are the fundament and discharging fiduciary duty is a primary managerial accountability (Jensen & Meckling, 1976). Managers are in charge of capital preservation and value increasing, and thereof conservative accounting is ethical because it can serve as a strategy to discharge fiduciary duty under uncertainties and is usually associated with fewer losses for stakeholders and lower extent of negative impacts of uncertainties on firm value (Ahmed et al., 2002; Kim & Zhang, 2016; Lara et al., 2016; W. Li et al., 2017a; Zhang, 2008). Ahmed et al. (2002) validate that accounting conservatism is beneficial for mitigating conflicts between bondholders and shareholders over dividend policy, and a decrease in debt costs derived from accounting conservatism improves firm value. Kim and Zhang (2016) find that accounting

conservatism is conducive to constraining managerial incentives to hoard bad news, acts as an early warning for stakeholders to identify investment projects with the potential negative net cash inflows, and eventually mitigates stock price crash risk. Lara et al. (2016) find that conservative accounting alleviates inefficient investments and is beneficial to the maximisation of firm value. W. Li et al. (2017a) argued that accounting conservatism captures an own-manager alignment because timely recognition of economic losses in financial reports can serve as a monitoring mechanism to inhibit managerial opportunism. Zhang (2008) verifies that conservative accounting can benefit lenders *ex post* through the timely indication of default risk and accelerated covenant violations, benefit debtors *ex ante* through the lower initial cost of debt financing, and thus leads to an increase in the efficiency of debt contracts.

We address whether Confucian culture affects accounting conservatism in the following aspects: (1) the core connotation of Confucian culture; (2) the impact of the five Constants and the five Relations as basic Confucian ethics on conservative accounting; and (3) the effects of the risk-aversion preference in both Confucian doctrines and practices on accounting conservatism.

In China, Confucianism has shaped a set of rules to constrain people's behaviour and coordinate interpersonal relationships (Du, 2015; Gao & Handley-Schachler, 2003). Confucian doctrines can provide guides for people to respect the authority and desire for harmony, conservatism in daily lives, and order and stability. In reality, Confucian culture has played an important role in shaping cultural values and ethics in the Chinese society (Bloom & Solotko, 2003; Du, 2015). The root of business ethics naturally lies in Chinese culture, so Confucianism, the backbone of Chinese culture, may exert remarkable effects on Chinese enterprises (Bloom & Solotko, 2003; Du, 2015, 2016).

The five Constants and the five Relations compose the foundation of Confucian ethical systems. Five Constants refer to the virtues emphasised by Confucianism – humanity (Rén), righteousness (Yì), propriety (Lǐ), wisdom (Zhì) and trustworthiness (Xìn), which summarise Confucian ethical codes in social practices (Bloom & Solotko, 2003; Du, 2015). Moreover, five relations highlight the ethical relationships that are advocated in Chinese societies, such as parent-child, ruler-subject, husband-wife, elder-younger sibling, and friend–friend relationships, suggesting that the order and stability of a society is built on these relationships (Bloom & Solotko, 2003; Du, 2015).

In Confucian philosophy, five Constants can motivate firms to behave ethically and maintain a higher extent of accounting conservatism. First, the virtue of righteousness (Yì) involves a moral disposition to do appropriately and captures moral judgements that do not simply follow rules (Bloom & Solotko, 2003; Du, 2015). With reference to this virtue, one should achieve a balance in a situation and make their decisions properly and appropriately. Specifically, righteousness indicates a set of judgement principles, which are internalised as social norms within the whole society (Du, 2015). As a result, righteousness suggests a moral consciousness, by which individuals can identify virtuous conduct from wrongdoing. Thus, the virtue of righteousness plays a positive role in motivating ethical behaviour in various social contracts. Regarding stakeholders-manager contracts, the virtue of righteousness motivates managers to fulfil fiduciary duty, which is a consensus of social norms. Accordingly, managers may prefer conservative accounting as a strategy to preserve capital and raise firm value.

Second, trustworthiness (Xin) suggests that one should keep his/her promise (Du, 2015). Referring to the virtue of trustworthiness, Confucian culture encourages that contractual parties should keep their words to ensure the effectiveness of contracts, and actions that bring out positive outcomes for contractual parties without the expense of others' interests are usually regarded to be ethical. That is, the virtue of trustworthiness can serve as an alternative mechanism to encourage ethical behaviour in contracts. In summary, conservative accounting can serve as a strategy for managers to maintain contractual effectiveness (W. Li et al., 2017a; Zhang, 2008), and thus managers with the virtue of trustworthiness are more willing to employ accounting conservatism.

Finally, Confucianism exhibits the preference of risk aversion in both doctrines and practices (Bloom & Solotko, 2003; L. Chen et al., 2019). Specifically, Confucius advocates that a society requires stability and order. Even if a society needs renovations, Confucianism only endorses gradual reform to avoid turbulence. In this regard, Confucianism essentially pursues stabilisation and orderliness, and thus naturally dislikes uncertainties. In addition, Confucianism emphasises cautiousness and prudence in individual behaviour (Bloom & Solotko, 2003). In other words, Confucianism encourages one to consider outcomes before actions, which can attenuate the impacts of uncertainties. Previous literature argues that risk avoidance is consistent with Confucius's doctrine of means, which advocates a middle-of-the-road approach to respond to uncertainties (Bloom & Solotko, 2003), i.e. a balance between excessive and insufficient risk aversion. As Bloom and Solotko (2003, p. 31) note, 'the emphasis on conservatism in East Asian accounting conforms to the doctrine of means'. In this regard, we predict that Confucianism may affect accounting conservatism through its risk-aversion preference.

To sum up, the ethical codes in Confucianism lead to accounting conservatism, and further the preference of risk aversion in both doctrines and practices of Confucian culture shapes conservatism in accounting. Thus, we predict that Confucian culture increases the extent of accounting conservatism and formulate the first hypothesis (H1) as below.

H1: Ceteris paribus, Confucian culture is positively associated with accounting conservatism.

2.5. The moderating effect of litigation risk

Prior literature has shown that litigation risk plays an important role in accounting² conservatism (Alam & Petruska, 2012; Liu & Elayan, 2015; Qiang, 2007; Watts, 2003a). Alam and Petruska (2012) found that accounting conservatism was lower for fraud firms over the pre-fraud period but increased for these firms during the SEC investigation, implying a positive effect of litigation risk on accounting conservatism. Liu and Elayan (2015) validate that litigation risk leads to an increase in accounting conservatism by

²Our study focuses on the moderating effect of litigation risk for several reasons. First, according to Williamson (2000), Confucian culture and law environment are located at adjacent levels and belong to different social institutions, and thus they are more likely to interactively affect corporate behaviour. Second, given that law is consistent with social ethics in most cases, it is usually recognised as the bottom line of social ethics (Hubbard, 1962). However, litigation can generate a great number of uncertainties for a firm and plays a crucial role in affecting ethical judgements (Francis & Armstrong, 2003; Hubbard, 1962) and risk preference (Brink & Rankin, 2013; Heyes et al., 2004). Finally, prior literature has revealed that both litigation risk and legal costs, which are closely linked with law environment, are important determinants of accounting conservatism (Liu & Elayan, 2015; Qiang, 2007; Watts, 2003a).

enhancing the effect of information asymmetry on conservatism. Qiang (2007) verifies that litigation can induce conditional (unconditional) accounting conservatism. Thus, we predict that litigation risk is positively associated with accounting conservatism.

Next, as Williamson (2000) argues, social institutions can be classified into formal and informal systems. Clearly, Confucian culture is a typical informal institution, and the lawsuit (litigation) is a governance mechanism in formal institutions. Informal institutions are the foundation of the institutions of a society and have complementary effects on formal institutions (Williamson, 2000). When formal institutions are unavailable or out of order, informal institutions may fill the gap and play an important role in the maintenance of social operations. In this regard, we can reasonably predict the substitutive effect between litigation risk and Confucian culture on promoting conservative accounting. Thus, we put forward the second hypothesis as follows.

H2: Ceteris paribus, litigation risk attenuates the positive association between Confucian culture and accounting conservatism.

3. Methodology

3.1. Model specification for H1

To test Hypothesis 1 (H1), we use Model (1) to link accounting conservatism to Confucian culture, firm-specific control variables and macro-level determinants:

$$CONSV = \alpha_0 + \alpha_1 CONF_R + \sum \alpha_k Control\ variables + \sum Industry\ and\ Year\ dummies + \varepsilon$$

(Model 1)

In Model (1), the dependent variable is accounting conservatism (CONSV), measured as the score of conservatism (Basu, 1997; DeFond et al., 2016; Khan & Watts, 2009). CONF_R stands for Confucian culture, measured as the number of Confucian temples (schools) within R (R = 100, 200, or 300 km) radius around a firm's registered office (Du, 2015, 2016). If the coefficient on CONF_R (α_1) is positive and significant, then H1 is supported by empirical evidence.

Moreover, we incorporate a set of control variables into Model (1) to isolate the influence of Confucian culture on accounting conservatism. REL_R captures religious culture, measured as the number of religious sites (temples and monasteries) within R radius of a firm's registered office divided by 1000 (Du, 2013). BIG4 captures the impact of external auditing on accounting conservatism. BIG4 is an indicator, equalling 1 if a firm's annual reports are audited by one of the Big-four international audit firms and 0 otherwise (Krishnan & Visvanathan, 2008). BLOCK is the percentage of common shares outstanding held by the largest shareholder (Lara et al., 2009). INST_SHR denotes institutional ownership, measured as the proportion of shareholdings owned by institutional investors (Ahmed & Duellman, 2007). DUAL is an indicator, equalling 1 for CEO-chairman duality, and 0 otherwise (Lara et al., 2009). BOARD is board size, defined as the natural logarithm of the total number of directors (Lara et al., 2009). SIZE represents firm size, defined as the natural logarithm of total assets at the end of year t (Nikolaev, 2010). LEV denotes financial leverage, measured as the ratio of liabilities to total assets at the end

of year t (Ahmed & Duellman, 2007; Krishnan & Visvanathan, 2008; Nikolaev, 2010). MTB represents the market-to-book ratio, measured as the market value of equity deflated by the book value of equity (Khan & Watts, 2009). CFO is the ratio of operating cash flows, measured as operating cash flows divided by total assets at the beginning of year t (Ahmed & Duellman, 2007). LISTAGE is the number of years since a firm was listed (Khan & Watts, 2009). TRUST is the index of social trust at the provincial level (Zhang & Ke, 2002). GDPGW (GDP per capita growth) denotes economic development, measured as GDP per capita in the current year deflated by GDP per capita in the lagged year then minus one. POPAGE is a demographic age structure, measured as the proportion of the population aged 65 and older. POPGW denotes the natural growth rate of population, measured as the fertility rate deflated by the mortality rate at the provincial level.

Lastly, we employ industry and year dummies to isolate industry and year fixed effects.

3.2. Model specification for H2

To examine Hypothesis 2 (H2), we formulate Model (2) to link accounting conservatism to Confucian culture, corporate litigation risk, and firm-specific and macro-level determinants.

$$\begin{aligned} \text{CONSV} = & \beta_0 + \beta_1 \text{CONF_R} + \beta_2 \text{LTG} + \beta_3 \text{CONF_R} \times \text{LTG} + \sum \beta_k \text{Control variables} \\ & + \sum \text{Industry and Year dummies} + \varepsilon \end{aligned} \quad (\text{Model 2})$$

In Model (2), the dependent variable and the main independent variable are accounting conservatism (CONSV) and Confucian culture (CONF_R), respectively. The moderating variable is corporate litigation risk (LTG), measured as the number of lawsuits in which a firm is the defendant in year t . If the coefficient on CONF_R \times LTG (β_3) is significantly negative, then H2 is supported.

3.3. Accounting conservatism

Referring to prior studies (Basu, 1997; DeFond et al., 2016; Ettredge et al., 2012; Heflin et al., 2015; Khan & Watts, 2009), we use C-score as the firm-year proxy for accounting conservatism:

First, we formulate the following equations:

$$\text{G_SCORE} = \kappa_{3,i,t} = \mu_2 + \mu_2 \text{SIZE} + \mu_3 \text{MTB} + \mu_4 \text{LEV} \quad (1)$$

$$\text{C_SCORE} = \kappa_{4,i,t} = \lambda_1 + \lambda_2 \text{SIZE} + \lambda_3 \text{MTB} + \lambda_4 \text{LEV} \quad (2)$$

Second, we substitute these equations into the asymmetrically timely recognition model in Basu (1997), $\text{EPS}_{i,t}/\text{P}_{i,t-1} = \kappa_{1,i,t} + \kappa_{2,i,t} \text{DR}_{i,t} + \kappa_{3,i,t} \text{RET}_{i,t} + \kappa_{4,i,t} \text{DR}_{i,t} \times \text{RET}_{i,t}$ and formulate the following equation.

$$\begin{aligned} \text{EPS}_{i,t}/\text{P}_{i,t-1} = & \kappa_{1,i,t} + \kappa_{2,i,t} \text{DR}_{i,t} + (\mu_1 + \mu_2 \text{SIZE} + \mu_3 \text{MTB} + \mu_4 \text{LEV}) \times \text{R}_{i,t} \\ & + (\lambda_1 + \lambda_2 \text{SIZE} + \lambda_3 \text{MTB} + \lambda_4 \text{LEV}) \times \text{DR}_{i,t} \times \text{RET}_{i,t} \\ & + (\delta_1 \text{SIZE} + \delta_2 \text{MTB} + \delta_3 \text{LEV} + \delta_4 \text{DR}_{i,t} \text{SIZE} + \delta_5 \text{DR}_{i,t} \text{MTB} + \delta_6 \text{DR}_{i,t} \text{LEV}) + \varepsilon_{i,t} \end{aligned} \quad (3)$$

In Eq. (3), EPS denotes earnings per share before extraordinary items. P_{t-1} is the stock price at the end of the preceding year. RET is stock returns during the fiscal year. DR is an indicator, equalling 1 if a firm has negative returns and 0 otherwise.

Finally, we estimate the coefficients of Eq. (3) for each year and calculate the score of conservatism:

$$C_SCORE = \lambda_1 + \lambda_2 SIZE + \lambda_3 MTB + \lambda_4 LEV \quad (4)$$

3.4. Confucian culture

Referring to prior literature (Du, 2015, 2016), we construct a set of geographic-proximity-based variables as a proxy for Confucian culture. First, according to the address of a listed firm, we obtain its longitude and latitude through Google map. Second, we use the same method to collect the longitude and latitude of a Confucian temple (school), which has been listed as a major historical and cultural site protected at the national level. Third, we calculate the distance between a listed firm and a Confucian temple (school). Finally, we count the number of Confucian temples or schools within a specific radius around a listed firm, and then adopt it as a proxy for Confucian culture.

3.5. Sample and data

Our initial sample consists of all Chinese listed firms over 2001–2017, including 33,712 firm-year observations. We select a research sample based on the following principles: First, we exclude 650 firm-year observations belonging to financial industries. Second, we delete 560 firm-year observations with negative equity. Finally, we eliminate firm-year observations with missing data on the necessary variables. Our research sample includes 28,325 firm-year observations, covering 3,018 unique firms. Then, all continuous variables are winsorised at the top and bottom 1% of their distributions.

We hand-collect data on Confucian temples (schools) using Google map. The list of Confucian temples (schools) is obtained from the Chinese Confucian temple website.³ The data on the ranking of audit firms in China is obtained from the CICPA website (the Chinese Institute of Certified Public Accountants). We collect data on financial performance and stock returns from the CSMAR (China Stock Market Accounting Research) database. Moreover, we collect data on religious sites in China from the *China Data Center in the University of Michigan*. Data on GDP per capita and demography are collected from the CEIC database. The social trust index is from Zhang and Ke (2002).

4. Results

4.1. Descriptive statistics

Table 1 reports descriptive statistics. The mean value of the CONSV is -0.0119 with a relatively large standard deviation. The mean values of CONF_R (R = 100, 200, 300 km) are 2.0070, 5.2878 and 9.6728, respectively, suggesting Confucian atmosphere

³Please refer to the website of Chinese Confucian temple as below: <http://www.chinakongmiao.org/>.



Table 1. Descriptive statistics.

Variable	N	Mean	Std. Dev.	Min	25%	Median	75%	MAX
CONSV	28,325	-0.0119	0.2081	-1.9373	-0.0318	0.0081	0.0671	0.7995
CONF_100	28,325	2.0070	1.8832	0	0	2	3	8
CONF_200	28,325	5.2878	4.0027	0	3	5	7	22
CONF_300	28,325	9.6728	6.1046	0	6	8	13	33
LTG	28,325	0.2038	0.7955	0	0	0	0	13
REL_100	28,325	0.2122	0.3565	0	0.0240	0.1060	0.2540	3.4240
REL_200	28,325	0.6980	0.9111	0	0.0850	0.2660	1.0400	5.0520
REL_300	28,325	1.4606	1.6895	0	0.2710	0.5680	2.1310	7.4190
BIG4	28,325	0.1554	0.3623	0	0	0	0	1
BLOCK	28,325	0.3060	0.2046	0.0006	0.1646	0.3001	0.4582	0.8132
INST_SHR	28,325	0.2233	0.2246	0.0000	0.0382	0.1402	0.3592	0.9868
DUAL	28,325	0.2003	0.4002	0	0	0	0	1
BOARD	28,325	2.1751	0.2115	1.3863	2.0794	2.1972	2.1972	2.8332
SIZE	28,325	21.8693	1.2543	18.6569	20.9710	21.6992	22.5642	27.2732
LEV	28,325	0.4531	0.2018	0.0274	0.2985	0.4567	0.6082	0.9970
MTB	28,325	2.9888	3.4160	0.5324	1.4652	2.1061	3.3270	52.5205
CFO	28,325	0.0524	0.0951	-0.3826	0.0055	0.0502	0.1008	0.6257
LISTAGE	28,325	9.9634	5.9294	1	5	9	14	27
TRUST	28,325	0.7948	0.6676	0.0270	0.1480	0.7770	1.1870	2.1890
GDPGW	28,325	0.1131	0.0562	-0.2228	0.0758	0.1001	0.1458	0.3148
POPAGE	28,325	0.0990	0.0214	0.0449	0.0816	0.0977	0.1146	0.1638
POPGW	28,325	1.8738	0.5087	0.7823	1.4659	1.8283	2.1663	3.6009

Table 2. Pearson correlation matrix.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
CONSV	1.0000										
CONF_100	0.0039	1.0000									
CONF_200	0.0141**	0.7271***	1.0000								
CONF_300	0.0120**	0.6004***	0.8750***	1.0000							
LTG	0.0494***	-0.0100*	-0.0138**	-0.0223***	1.0000						
REL_100	0.0287***	0.1715***	0.2774***	0.2889***	-0.0046	1.0000					
REL_200	0.0305***	0.2977***	0.5010***	0.4813***	-0.0057	0.8428***	1.0000				
REL_300	0.0295***	0.3529***	0.6202***	0.5718***	-0.0089	0.7021***	0.9276***	1.0000			
BIG4	-0.0073	0.0128**	-0.0205***	-0.0287***	0.0206***	-0.0360***	-0.0333***	-0.0343***	1.0000		
BLOCK	-0.0864***	-0.0149**	-0.0043	0.0066	-0.1294***	-0.0563***	-0.0502***	-0.0483***	-0.0566***	1.0000	
INST_SHR	-0.0256***	-0.0109*	-0.0140**	-0.0129**	0.0770***	-0.0062	-0.0108*	-0.0107*	0.1124***	-0.3666***	1.0000
DUAL	0.0619***	0.0412***	0.0153**	0.0038	0.0149**	0.0512**	0.0471***	0.0446***	0.0181***	-0.1161***	0.0065
BOARD	-0.0956***	-0.0210***	-0.0152**	-0.0036	-0.0304**	-0.0411**	-0.0416**	-0.0436***	0.0015	0.1172***	0.0062
SIZE	-0.1699***	0.0050	-0.0057	-0.0017	0.0325***	-0.0625***	-0.0570***	-0.0552***	0.2483***	-0.0159***	0.2455***
LEV	0.0771***	-0.0665***	-0.0230***	-0.0141**	0.0879***	-0.0532***	-0.0431***	-0.0442***	-0.0025	0.0707***	0.0132**
MTB	0.0844***	-0.0007	0.0066	-0.0026	0.1020***	-0.0041	-0.0079	-0.0053	0.0351***	-0.1369***	0.0603***
CFO	-0.0882***	0.0113*	0.0177***	0.0297***	-0.0446***	0.0146**	0.0137**	0.0147**	0.0361***	0.0691***	0.0574***
LISTAGE	0.0091	-0.0643***	-0.0452***	-0.0459***	0.1239***	-0.0607***	-0.0438***	-0.0396***	0.0811***	-0.1978***	0.1895***
TRUST	-0.0329***	0.2150***	0.0833***	0.0308**	-0.0061	-0.0742**	0.0244**	0.0647***	0.1534***	0.0124**	0.0272***
GDPGW	-0.1432***	-0.0563***	-0.0294***	0.0180**	-0.0735**	0.0048	-0.0208**	-0.0278**	-0.1756***	0.1913***	-0.1252***
POPAGE	0.0052	0.1805***	0.2037***	0.2197***	0.0464**	0.0912**	0.1829***	0.2030***	0.0812***	-0.2362***	0.1770***
POPGW	0.0214***	-0.1404***	-0.1308***	-0.1574***	0.0303**	-0.0150**	-0.0691***	-0.0654***	0.0063	-0.1489***	0.0798***

(Continued)

Table 2. (Continued).

Variable	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
CONSV	(1)										
CONF_100	(2)										
CONF_200	(3)										
CONF_300	(4)										
LTG	(5)										
REL_100	(6)										
REL_200	(7)										
REL_300	(8)										
BIG4	(9)										
BLOCK	(10)										
INST_SHR	(11)										
DUAL	(12)	1.0000									
BOARD	(13)	-0.1659***	1.0000								
SIZE	(14)	-0.0914***	0.1828***	1.0000							
LEV	(15)	-0.1306***	0.1347***	0.3939***	1.0000						
MTB	(16)	0.0442***	-0.1141***	-0.2197***	0.0788***	1.0000					
CFO	(17)	-0.0266***	0.0658***	0.0568***	-0.1390***	-0.0261***	1.0000				
LISTAGE	(18)	-0.1349***	0.0089	0.3190***	0.2906***	0.1740***	-0.0349***	1.0000			
TRUST	(19)	0.0522***	-0.0441***	0.0783***	-0.0701***	-0.0060	-0.0082	0.0105*	1.0000		
GDPGW	(20)	-0.0824***	0.1194***	-0.1532***	0.0912***	-0.1303***	0.0251***	-0.1420***	-0.2131***	1.0000	
POPGW	(21)	0.0285***	-0.0626***	0.1012***	-0.0128**	0.0538***	-0.0024	0.1201***	0.2944***	-0.1507***	1.0000
POPGW	(22)	0.0305***	-0.0362***	0.0185***	-0.0287***	0.0361***	0.0076	-0.0029	-0.1675***	-0.0231***	-0.6217***

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively (a two-tailed test).

(the number of Confucian temples/schools within 100, 200, and 300 km radius around a firm's registered office). The mean value of LTG is about 0.2038, suggesting that a Chinese-listed firm is involved in 0.2038 lawsuits as defendants each year.

As for control variables, the mean values of REL_R (R = 100, 200 and 300 km) are 0.2122, 0.6980, and 1.4606. Moreover, on average and approximately, 15.54% of Chinese-listed firms are audited by Big 4 audit firms (BIG4), blockholder ownership (BLOCK) is 30.60%, institutional ownership (INST_SHR) is 22.33%, CEO-chairman duality (DUAL) exists in 20.03% of sample firms (DUAL), the board of directors (BOARD) includes 9 directors, firm size (SIZE) is 3.1454 billion RMB, financial leverage (LEV) is 45.31%, the market-to-book ratio (MTB) is 2.9888, the ratio of operating cash flow (CFO) is 5.24%, the listing age (LISTAGE) is 9.9634 years, respectively. Moreover, the mean value of social trust (TRUST) is 0.7948, the growth rate of GDP per capita is 11.31%, 9.90% of population is over 65-year-old (POPAGE), and the ratio of the fertility rate to the mortality rate (POPGW) is 1.8738.

Table 2 reports Pearson correlation analysis. Accounting conservatism (CONSV) is positively correlated with Confucian culture (CONF_R, R = 100, 200, 300 km). As expected, LTG is significantly positively correlated with CONSV. For control variables, there are positive correlation coefficients between CONSV and REL_R, DUAL, LEV, MTB and POPGW, respectively. BLOCK, INST_SHR, BOARD, SIZE, CFO, TRUST and GDPGW are negatively correlated with CONSV.

4.2. Results for H1

Table 3 reports the results for H1. In Columns (1)-(3) of Table 3, the coefficients on CONF_R (R = 100, 200, 300 km) are positive and significant (0.0015 with $t = 3.40$, 0.0005 with $t = 2.51$, 0.0006 with $t = 4.21$), suggesting that Confucian culture has positive effect on accounting conservatism. Moreover, the coefficient estimations on CONF_R (R = 100, 200, 300 km) imply that, one-standard-deviation increase in Confucian culture leads to an increase in the score of accounting conservatism by about 23.74%, 16.82% and 30.78%, respectively. Clearly, these amounts have economic significance in addition to their statistical significance. The above findings, taken together, provide strong support for H1.

For control variables, REL_R is significantly positively related with accounting conservatism, consistent with findings in prior literature (Bjornsen et al., 2019; Ma et al., 2020). BIG4 has significantly positive coefficients, implying that Big 4 auditors can improve accounting conservatism. The coefficients on BLOCK are negative and significant at the 1% level, suggesting that accounting conservatism is negatively associated with the percentage of common shares owned by the largest investors. The coefficients on DUAL are positive and significant at the 1% level, implying that firms with CEO-chairman duality prefer conservative accounting. Both board size (BOARD) and firm scale (SIZE) are significantly negatively related with accounting conservatism. A positive relationship between financial leverage (LEV) and accounting conservatism suggests that the pressure from creditors may improve a firm's accounting conservatism. MTB loads significantly negative coefficients, suggesting that growth leads to a decrease in accounting conservatism. The coefficients on CFO are negative and significant at the 1% level, meaning that the ratio of operating cash flow is negatively associated with accounting conservatism. The positive coefficients on LISTAGE reveal that along with the increase in years since a firm's IPO, it may employ more conservative accounting policies and



Table 3. The influence of Confucian culture on accounting conservatism (H1).

Variable	Dependent variable: CONSV					
	(1) R = 100		(2) R = 200		(3) R = 300	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
CONF_R	0.0015***	3.40	0.0005**	2.51	0.0006***	4.21
REL_R	0.0063***	3.08	0.0019**	2.18	0.0003	0.53
BIG4	0.0210***	8.14	0.0211***	8.14	0.0212***	8.17
BLOCK	-0.0537***	-11.25	-0.0541***	-11.37	-0.0544***	-11.46
INST_SHR	-0.0023	-0.43	-0.0024	-0.45	-0.0025	-0.47
DUAL	0.0193***	8.05	0.0194***	8.11	0.0196***	8.19
BOARD	-0.0369***	-7.68	-0.0369***	-7.71	-0.0369***	-7.74
SIZE	-0.0476***	-45.05	-0.0475***	-44.90	-0.0476***	-45.06
LEV	0.2239***	34.62	0.2232***	34.60	0.2232***	34.66
MTB	-0.0026***	-5.48	-0.0026***	-5.46	-0.0027***	-5.49
CFO	-0.0679***	-5.73	-0.0680***	-5.74	-0.0682***	-5.77
LISTAGE	0.0006***	3.57	0.0005***	3.44	0.0005***	3.48
TRUST	-0.0167***	-11.58	-0.0164***	-11.61	-0.0165***	-11.68
GDPGW	-0.7183***	-45.07	-0.7173***	-45.06	-0.7202***	-45.06
POPAGE	0.3427***	4.53	0.3298***	4.39	0.3431***	4.55
POPGW	0.0114***	4.56	0.0108***	4.38	0.0112***	4.54
Constant	1.1082***	45.66	1.1071***	45.56	1.1081***	45.72
Industry and Year	Controlled		Controlled		Controlled	
Observations	28,325		28,325		28,325	
Adjusted R ²	0.1076		0.1075		0.1077	
F (p-value)	161.22***(<.0001)		161.12***(<.0001)		161.56***(<.0001)	

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.

Table 4. The moderating effect of litigation risk on the relation between Confucian culture and accounting conservatism.

Variable	Dependent variable: CONSV					
	(1) R = 100		(2) R = 200		(3) R = 300	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
CONF_R	0.0017***	3.28	0.0007**	2.56	0.0004**	2.16
LTG	0.0100***	6.84	0.0095***	5.51	0.0101***	5.18
CONF_Rx LTG	-0.0018***	-3.55	-0.0006**	-2.32	-0.0004**	-2.21
REL_R	0.0078***	3.34	0.0030***	2.90	0.0016**	2.50
BIG4	0.0293***	9.82	0.0294***	9.84	0.0294***	9.81
BLOCK	-0.0746***	-14.06	-0.0748***	-14.13	-0.0750***	-14.19
INST_SHR	-0.0040	-0.68	-0.0040	-0.69	-0.0041	-0.70
DUAL	0.0233***	8.64	0.0234***	8.69	0.0234***	8.71
BOARD	-0.0529***	-9.78	-0.0529***	-9.81	-0.0530***	-9.84
SIZE	-0.0404***	-35.10	-0.0403***	-35.03	-0.0403***	-35.04
LEV	0.1864***	27.30	0.1857***	27.28	0.1857***	27.28
MTB	-0.0010*	-1.89	-0.0010*	-1.87	-0.0010*	-1.86
CFO	-0.0831***	-6.61	-0.0832***	-6.63	-0.0833***	-6.64
LISTAGE	0.0010***	5.49	0.0010***	5.42	0.0010***	5.40
TRUST	-0.0060***	-3.66	-0.0057***	-3.60	-0.0057***	-3.60
GDPGW	-0.0249	-0.91	-0.0212	-0.78	-0.0238	-0.87
POPAGE	0.1001	1.15	0.0820	0.95	0.0816	0.94
POPGW	0.0037	1.24	0.0030	1.02	0.0029	0.99
Constant	0.9082***	34.25	0.9071***	34.20	0.9072***	34.21
Industry and Year	Controlled		Controlled		Controlled	
Observations	28,325		28,325		28,325	
Adjusted R ²	0.0774		0.0773		0.0773	
F (p-value)	83.78*** (<.0001)		83.75*** (<.0001)		83.86*** (<.0001)	

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.

judgements. The coefficients on TRUST are significantly negative, suggesting that social trust leads to a decrease in accounting conservatism (Li et al., 2017b). GDPGW loads significantly negative coefficients, implying that economic development and positive prospects are negatively related with accounting conservatism. The coefficients on both POPAGE and POPGW are significantly positive, suggesting that population ageing may generate conservative preferences in society (Danigelis et al., 2007) and population growth is positively associated with accounting conservatism at the macro level, respectively.

4.3. Results for H2

Table 4 reports the results for H2. As Columns (1)-(3) show, the coefficients on CONF_R (R = 100, 200, 300 km) are all significantly positive, supporting H1 again. Moreover, the coefficients on LTG are positive and significant at the 1% level, suggesting that litigation risk is likely to promote firms to adopt conservative accounting. More importantly, CONF_R × LTG (R = 100, 200, 300 km) has significantly negative coefficients, suggesting that litigation risk weakens the positive impact of Confucian culture on conservative accounting. These findings imply that the effect of Confucian culture on accounting conservatism decreases by about 84.23%, 68.19%, and 79.55%, respectively, along with a standard deviation increase in litigation risk. The above results, together with statistical and economic significances in the interactive relationship between Confucian culture and litigation risk lend a crucial support to H2.

5. Robustness checks

5.1. Alternative measurements of the degree of accounting conservatism

According to previous studies (Basu, 1997; Khan & Watts, 2009), we re-compute the score of accounting conservatism (CONSV_FS) based on stock returns during the period between 1st May and 30th April in the next year.⁴ Panel A of Table 5 reports the results of using CONSV_FS as dependent variable. In Columns (1), (3) and (5) of Panel A, CONF_R (R = 100, 200, 300 km) has significantly positive coefficients in most cases, lending additional supports to H1. In Columns (2), (4) and (6), CONF_R × LTG has negative and significant coefficients in most cases, consistent with H2.

Moreover, we employ the ranked CONSV as a dependent variable and re-test H1 and H2. First, we sort firm-year observations in ascending order for each year based on CONSV. Then, we divide them into 10 groups each year. Finally, we use the decile ranking as the value of the dependent variable, labelled as CONSV_RANK. As Columns (1), (3) and (5) of Panel B in Table 5 show, the coefficients on CONF_R (R = 100, 200, 300 km) are all positive and significant, additionally consistent with H1. Moreover, in Columns (2), (4) and (6) of Panel B, the coefficients on CONF_R × LTG (R = 100, 200, 300 km) are negative and significant, lending additional evidence to support H2.

⁴In China, accounting period is officially defined as the calendar year from January 1st to December 31st, and further firms need to issue financial statements before April 30th in the next year.

Table 5. Robustness checks using alternative measurements of accounting conservatism.

Variable	Dependent variable: CONSV_FS					
	R=100		R=200		R=300	
	(1)	(2)	(3)	(4)	(5)	(6)
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Panel A: Results of using accounting conservatism score based on the announcement period						
CONF_R	0.0012	1.59	0.0012	1.05	0.0012**	2.33
LTG			0.0143**	2.21	0.0141**	2.01
CONF_R×LTG			-0.0064*	-1.79	-0.0025*	-1.78
Other Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	28,325	28,325	28,325	28,325	28,325	28,325
Adjusted R ²	0.1300	0.1304	0.1300	0.1303	0.1300	0.1302
Dependent variable: CONSV_RANK						
Panel B: Results of using the ranking of accounting conservatism score						
CONF_R	0.0234***	2.58	0.0270***	2.89	0.0111**	2.48
LTG			0.1293***	5.41	0.1399***	5.24
CONF_R×LTG			-0.0185**	-2.13	-0.0094**	-2.14
Other Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	28,325	28,325	28,325	28,325	28,325	28,325
Adjusted R ²	0.4087	0.4093	0.4087	0.4093	0.4088	0.4094

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.



Table 6. Results of robustness checks using the distance measure between firms and Confucian sites.

Variable	Dependent variable: CONSV							
	N = 1				N = 2			
	(1)		(2)		(3)		(4)	
CONF_DIS_N	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
LTG	0.0423***	2.69	0.0294*	1.85	0.0598***	4.95	0.0639***	5.62
CONF_DIS_N × LTG			0.2004***	25.32			0.1428***	5.60
REL_DIS_N	0.0721***	3.82	-0.2026***	-25.68	0.0606***	3.16	-0.1479***	-5.62
BIG4	0.0288***	9.61	0.0443**	2.45	0.0287***	9.56	0.0455**	2.53
BLOCK	-0.0776***	-14.71	0.0247***	8.89	-0.0763***	-14.41	0.0255***	8.67
INST_SHR	-0.0046	-0.78	-0.0098*	-1.70	-0.0043	-0.73	-0.0276***	-2.84
DUAL	0.0236***	8.75	-0.0235***	-4.18	0.0232***	8.58	-0.0180***	-2.99
BOARD	-0.0533***	-9.83	0.0213***	8.41	0.0232***	8.58	0.0216***	8.27
SIZE	-0.0406***	-34.89	-0.0399***	-7.81	-0.0529***	-9.77	-0.0430***	-8.13
LEV	0.1879***	27.43	-0.0459***	-41.31	-0.0404***	-34.48	-0.0442***	-33.97
MTB	-0.0009*	-1.79	0.2068***	31.02	0.1877***	27.34	0.2007***	28.43
CFO	-0.0823***	-6.55	-0.0014***	-2.61	-0.0009*	-1.76	-0.0013**	-2.35
LISTAGE	0.0010***	5.72	-0.0661***	-5.43	-0.0822***	-6.54	-0.0703***	-5.66
TRUST	-0.0058***	-3.65	0.0007***	4.26	0.0010***	5.44	0.0008***	4.27
GDPGW	-0.0289	-1.06	-0.0057***	-3.91	-0.0044***	-2.69	-0.0042***	-2.76
POPAGE	0.0909	1.06	-0.0363	-1.44	-0.0266	-0.97	-0.0318	-1.23
POPGW	0.0033	1.12	0.1240	1.53	0.0635	0.74	0.0849	1.03
Constant	0.8059***	23.41	0.0048*	1.77	0.0030	1.01	0.0037	1.33
Industry and Year	Controlled		0.8636***	26.38	0.7956***	23.15	0.8184***	25.17
Observations	28,325		Controlled		Controlled		Controlled	
Adjusted R ²	0.0767		28,325		28,325		28,325	
F(p-value)	86.92***(<0.0001)		0.0941		0.0770		0.0892	
			118.12***(<0.0001)		87.14***(<0.0001)		91.93***(<0.0001)	

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.

5.2. Using Confucian intensity based on the distance between firms and Confucian temples (Schools)

Next, we use the intensity of Confucian culture (CONF_DIS_N) for robustness checks. First, we compute ‘the average distance between a listed firm and the nearest N Confucian temples (schools), labeled as CONF_DIS_N_AVE ($N = 1, 2$)’. Then, we calculate the minimum and maximum values of CONF_DIS_N_AVE for each year, labelled as CONF_DIS_N_MIN and CONF_DIS_N_MAX, respectively. Lastly, CONF_DIS_N is defined as ‘(CONF_DIS_N_MAX- CONF_DIS_N_AVE) ÷ (CONF_DIS_N_MAX – CONF_DIS_N_MIN)’. As shown in Table 6, CONF_DIS_N ($N = 1, 2$) has positive and significant coefficients, consistent with H1. In Columns (2) and (4), the coefficients on CONF_DIS_N \times LTG are significantly negative, lending additional support to H2.

5.3. Using other models for accounting conservatism

In this subsection, we further adopt the modified Basu (1997) model (Banker et al., 2016), which integrates the effects of cost stickiness on asymmetrically timely gain or loss recognition, to re-test our hypotheses. This modified asymmetrically timely recognition model is presented as below.

$$\begin{aligned}
 EPS_{i,t}/P_{i,t-1} = & \theta_{1,i,t} + \theta_{2,i,t}DR_{i,t} + \theta_{3,i,t}RET_{i,t} + \theta_{4,i,t}DR_{i,t} \times RET_{i,t} + \theta_{5,i,t}CONF_R_{i,t} \\
 & + \theta_{6,i,t}CONF_R_{i,t} \times DR_{i,t} + \theta_{7,i,t}CONF_R_{i,t} \times RET_{i,t} + \theta_{8,i,t}CONF_R_{i,t} \times DR_{i,t} \times RET_{i,t} \\
 & + \theta_{9,i,t}LTG_{i,t} + \theta_{10,i,t}LTG_{i,t} \times DR_{i,t} + \theta_{11,i,t}LTG_{i,t} \times RET_{i,t} + \theta_{12,i,t}LTG_{i,t} \times DR_{i,t} \times RET_{i,t} \\
 & + \theta_{13,i,t}CONF_R_{i,t} \times LTG_{i,t} \times DR_{i,t} \times RET_{i,t} + \theta_{14,i,t}DS_{i,t} + \theta_{15,i,t}\Delta SALE_{i,t} \\
 & + \theta_{16,i,t}DS_{i,t} \times \Delta SALE_{i,t} + \sum \pi_{1j,i,t}Control\ Variables_{j,i,t} + \sum \pi_{2j,i,t}Control\ Variables_{j,i,t} \times DR_{i,t} \\
 & + \sum \pi_{3j,i,t}Control\ Variables_{j,i,t} \times RET_{i,t} + \sum \pi_{4j,i,t}Control\ Variables_{j,i,t} \times DR_{i,t} \times RET_{i,t} \\
 & + \sum Industry\ and\ Year\ dummies + \eta_{i,t}
 \end{aligned}
 \tag{Model 3}$$

In Model (3), EPS stands for earnings per share before extraordinary items. P is the stock price at the end of the preceding year. RET represents stock returns during a fiscal year. DR is an indicator, equalling one if stock returns are negative and 0 otherwise. $\Delta SALE$ represents change in revenue, measured as total revenues per share in year t minus those in year $t-1$ deflated by stock price at the end of year $t-1$. DS is an indicator, equalling 1 if the change in revenue is less than zero. With reference to previous studies (Ahmed & Duellman, 2007; Khan & Watts, 2009; Krishnan & Visvanathan, 2008; Lara et al., 2009; Nikolaev, 2010), we utilise REL_R, BIG4, BLOCK, INST_SHR, DUAL, BOARD, SIZE, LEV, CFO, LISTAGE, TRUST, GDPGW, POPAGE and POPGW as control variables in Model (3).

In Model (3), θ_4 captures the accounting conservatism before considering the effect of Confucian culture, which is predicted to be positive. $\theta_4 + \theta_8$ denote accounting conservatism after incorporating the impact of Confucianism. θ_8 is expected to be positive, denoting the increase in accounting conservatism caused by Confucian culture. θ_{12} stands for the incrementally positive effect of litigation risk on accounting conservatism. θ_{13} represents the adjusted effect of litigation risk on the association between Confucian culture and accounting conservatism, which is predicted to be negative.

Panel A of Table 7 reports results of using the modified Basu (1997) model. The coefficients on DR \times RET are significantly positive, implying the existence of



Table 7. Robustness checks using asymmetric timeliness models to estimate accounting conservatism.

Variable	R=100		R=200		R=300	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable: EPS/P _{t-1}						
Panel A: Results of using modified Basu (1997)'s asymmetrical timeliness measurement of accounting conservatism						
DR	0.0925***	4.25	0.0928***	4.29	0.0931***	4.27
RET	-0.0760***	-5.23	-0.0753***	-5.22	-0.0762***	-5.27
DR×RET	0.1356***	2.75	0.1291***	2.64	0.1357***	2.75
CONF_R	-0.0003	-1.06	-0.0003	-1.09	0.0001	0.36
CONF_R×DR	0.0001	0.29	0.0001	0.14	0.0000	0.09
CONF_R×RET	0.0003	0.96	0.0003	1.00	-0.0000	-0.01
CONF_R×DR×RET	0.0026*	1.87	0.0031**	2.28	0.0028***	3.01
LTG						
LTG×DR						
LTG×RET						
LTG×DR×RET						
CONF_R×LTG×DR×RET						
Other Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	28,316	28,316	28,316	28,316	28,316	28,316
Adjusted R ²	0.3008	0.3022	0.3021	0.3042	0.3043	0.3076

(Continued)

Table 7. (Continued).

Variable	R=100			R=200			R=300												
	Coefficient	t-value	(1)	Coefficient	t-value	(2)	Coefficient	t-value	(3)	Coefficient	t-value	(4)	Coefficient	t-value	(5)	Coefficient	t-value	(6)	
Dependent variable: ACC																			
Panel B: Results of using the piecewise linear relation between accruals and cash flows to estimate accounting conservatism																			
DCFO	0.0703	1.33	0.0739	1.42	0.0729	1.39	0.0759	1.47	0.0698	1.33	0.0720	1.39	0.0698	1.33	0.0720	1.33	0.0720	1.33	1.39
CFO	-1.5321***	-5.27	-1.5365***	-5.27	-1.5279***	-5.22	-1.5329***	-5.23	-1.5232***	-5.20	-1.5287***	-5.21	-1.5232***	-5.20	-1.5287***	-5.20	-1.5287***	-5.20	-5.21
DCFO×CFO	0.9277	1.15	1.0000	1.27	0.9315	1.17	0.9164	1.19	0.8096	1.02	0.7890	1.02	0.8096	1.02	0.7890	1.02	0.7890	1.02	1.02
CONF_R	-0.0002	-0.31	-0.0002	-0.30	0.0002	0.47	0.0001	0.47	0.0000	0.00	0.0000	0.01	0.0000	0.00	0.0000	0.00	0.0000	0.01	0.01
CONF_R×DCFO	0.0006	0.48	0.0008	0.64	0.0002	0.32	0.0002	0.23	-0.0003	-0.66	-0.0003	-0.65	-0.0003	-0.66	-0.0003	-0.66	-0.0003	-0.65	-0.65
CONF_R×CFO	0.0028	0.38	0.0027	0.37	0.0003	0.08	0.0003	0.08	0.0009	0.29	0.0008	0.29	0.0009	0.29	0.0008	0.29	0.0008	0.29	0.29
CONF_R×DCFO×CFO	0.0489**	2.06	0.0650***	2.72	0.0480***	3.96	0.0538***	4.55	0.0278***	3.44	0.0324***	4.10	0.0278***	3.44	0.0324***	4.10	0.0324***	4.10	4.10
LTG																			
LTG×DCFO																			
LTG×CFO																			
LTG×DCFO×CFO																			
CONF_R×LTG×DCFO×CFO																			
Other Controls, Industry and Year	Controlled		Controlled		Controlled		Controlled		Controlled		Controlled		Controlled		Controlled		Controlled		Controlled
Observations	28,289		28,289		28,289		28,289		28,289		28,289		28,289		28,289		28,289		28,289
Adjusted R ²	0.4569		0.4592		0.4606		0.4636		0.4612		0.4644		0.4612		0.4644		0.4644		0.4644

(Continued)



Table 7. (Continued).

Variable	R=100			R=200			R=300					
	(1)	(2)	(3)	(4)	(5)	(6)						
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value				
Dependent variable: ΔNI_t												
Panel C: Results of using the time-series of timeliness of loss recognition model to measure accounting conservatism												
ΔNI_{t-1}	0.0231	0.89	0.0224	0.88	0.0227	0.87	0.0199	0.78	0.0259	0.99	0.0220	0.87
ΔNI_{t-1}	-0.9397***	-3.72	-0.9428***	-3.75	-0.9341***	-3.68	-0.9363***	-3.70	-0.9292***	-3.68	-0.9309***	-3.70
$\Delta NI_{t-1} \times \Delta NI_{t-1}$	-0.2993	-0.37	-0.2160	-0.28	-0.4098	-0.53	-0.3682	-0.50	-0.3396	-0.44	-0.3153	-0.43
CONF_R	0.0005*	1.81	0.0005*	1.82	0.0002	1.64	0.0002	1.60	0.0001	0.95	0.0001	0.92
$CONF_R \times \Delta NI_{t-1}$	-0.0017***	-2.70	-0.0022***	-3.52	-0.0010***	-2.77	-0.0012***	-3.65	-0.0005**	-2.32	-0.0007***	-3.28
$CONF_R \times \Delta NI_{t-1}$	-0.0049	-1.02	-0.0051	-1.07	0.0001	0.05	0.0002	0.08	0.0002	0.13	0.0002	0.14
$CONF_R \times \Delta NI_{t-1} \times \Delta NI_{t-1}$	-0.0527**	-2.32	-0.0885***	-4.00	-0.0492***	-4.01	-0.0702***	-5.90	-0.0329***	-4.61	-0.0471***	-6.87
LTG			-0.0015**	-2.06			-0.0015**	-1.99			-0.0014*	-1.94
$LTG \times \Delta NI_{t-1}$			0.0003	0.20			0.0001	0.06			-0.0003	-0.20
$LTG \times \Delta NI_{t-1}$			0.0077	1.17			0.0070	1.05			0.0064	0.96
$LTG \times \Delta NI_{t-1} \times \Delta NI_{t-1}$			-0.1261**	-2.42			-0.1752***	-3.28			-0.2304***	-4.21
$CONF_R \times LTG \times \Delta NI_{t-1} \times \Delta NI_{t-1}$			0.0668***	4.59			0.0362***	5.48			0.0253***	5.81
Other Controls, Industry and Year	Controlled		Controlled		Controlled		Controlled		Controlled		Controlled	
Observations	26,483		26,483		26,483		26,483		26,483		26,483	
Adjusted R ²	0.1241		0.1304		0.1281		0.1357		0.1297		0.1385	

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.

accounting conservatism. In Columns (1) and (2) of Panel A, CONF_R×DR×RET loads positive and marginally significant coefficients. In Columns (3)-(6) of Panel A, the coefficients on CONF_R×DR×RET are positive and significant. As all columns of Panel A show, the coefficients on LTG×DR×RET are also positive and significant. Overall, these findings reveal that both Confucian culture and litigation risk facilitate an increase in accounting conservatism. The coefficients on CONF_R×LTG×DR×RET are significantly negative, suggesting that litigation risk attenuates the positive association between Confucian culture and conservative accounting. In brief, Panel A of Table 7 lends additional support to H1 and H2.

Moreover, following Ball and Shivakumar (2005, 2006), we employ the piecewise linear relation between accruals and cash flows to estimate the accounting conservatism as below.

$$\begin{aligned}
 ACC_{i,t} = & \psi_{1,i,t} + \psi_{2,i,t} DCFO_{i,t} + \psi_{3,i,t} CFO_{i,t} + \psi_{4,i,t} DCFO_{i,t} \times CFO_{i,t} + \psi_{5,i,t} CONF_R_{i,t} \\
 & + \psi_{6,i,t} CONF_R_{i,t} \times DCFO_{i,t} + \psi_{7,i,t} CONF_R_{i,t} \times CFO_{i,t} \\
 & + \psi_{8,i,t} CONF_R_{i,t} \times DCFO_{i,t} \times CFO_{i,t} + \psi_{9,i,t} LTG_{i,t} + \psi_{10,i,t} LTG_{i,t} \times DCFO_{i,t} \\
 & + \psi_{11,i,t} LTG_{i,t} \times CFO_{i,t} + \psi_{12,i,t} LTG_{i,t} \times DCFO_{i,t} \times CFO_{i,t} \\
 & + \psi_{13,i,t} CONF_R_{i,t} \times LTG_{i,t} \times DCFO_{i,t} \times CFO_{i,t} \\
 & + \text{Control Variables} + \sum \text{Industry dummies} + \sum \text{Year dummies} + \chi_{i,t}
 \end{aligned}
 \tag{Model 4}$$

In Model (4), ACC denotes total accruals and is measured as earnings before extraordinary items minus operating cash flows deflated by total assets at the beginning of the year t . CFO is the cash flows from operating scaled by beginning total assets. DCFO is an indicator, equalling 1 if CFO is negative and 0 otherwise. The control variables include REL_R, BIG4, BLOCK, INST_SHR, DUAL, BOARD, SIZE, LEV, LISTAGE, TRUST, GDPGW, POPAGE and POPGW. In Model (4), we expect ψ_4 , ψ_8 and ψ_{12} are positive and ψ_{13} is negative. In Panel B of Table 7, the coefficients on CONF_R×DCFO×CFO are significantly positive, consistent with H1. Also, CONF_R×LTG×DCFO×CFO loads significantly negative coefficients, lending additional evidence for H2.

Finally, with reference to Ball and Shivakumar (2005), we use the time-series of time-liness of loss recognition model to estimate accounting conservatism.

$$\begin{aligned}
 \Delta NI_{i,t} = & \varphi_{1,i,t} + \varphi_{2,i,t} D\Delta NI_{i,t-1} + \varphi_{3,i,t} \Delta NI_{i,t-1} + \varphi_{4,i,t} D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} \\
 & + \varphi_{5,i,t} CONF_R_{i,t} + \varphi_{6,i,t} CONF_R_{i,t} \times D\Delta NI_{i,t-1} + \varphi_{7,i,t} CONF_R_{i,t} \times \Delta NI_{i,t-1} \\
 & + \varphi_{8,i,t} CONF_R_{i,t} \times D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} + \varphi_{9,i,t} LTG_{i,t} + \varphi_{10,i,t} LTG_{i,t} \times D\Delta NI_{i,t-1} \\
 & + \varphi_{11,i,t} LTG_{i,t} \times \Delta NI_{i,t-1} + \varphi_{12,i,t} LTG_{i,t} \times D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} \\
 & + \varphi_{13,i,t} CONF_R_{i,t} \times LTG_{i,t} \times D\Delta NI_{i,t-1} \times \Delta NI_{i,t-1} \\
 & + \text{Control Variables} + \sum \text{Industry dummies} + \sum \text{Year dummies} + \tau_{i,t}
 \end{aligned}
 \tag{Model 5}$$

In Model (5), $\Delta NI_{i,t}$ represents the change in earnings deflated by total assets at the beginning of the year. $\Delta NI_{i,t-1}$ denotes ΔNI in prior period. $D\Delta NI_{i,t-1}$ is a dummy variable that equals 1 if $\Delta NI_{i,t-1}$ is negative and 0 otherwise. The control variables include REL_R, BIG4, BLOCK, INST_SHR, DUAL, BOARD, SIZE, LEV, LISTAGE, TRUST, GDPGW, POPAGE and



Table 8. Endogeneity tests using the instrumental variable (IV) two-stage regression procedures.

Variable	The First stage (DV=CONF_R)			The Second stage (DV=CONSV)					
	(1)	(2)	(3)	(4) R=100		(5) R=200		(6) R=300	
	CONF_100 Coefficient (t-value)	CONF_200 Coefficient (t-value)	CONF_300 Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)
JINSHI	0.0592*** (6.48)	0.2173*** (13.29)	0.4230*** (16.62)						
CONF_R*				0.1517*** (28.07)	0.1530*** (28.28)	0.0107*** (11.49)	0.0114*** (11.88)	0.0041*** (8.68)	0.0043*** (8.92)
LTG					0.0293*** (5.02)		0.0217*** (4.73)		0.0155*** (3.78)
CONF_R* ×LTG					-0.0128*** (-4.70)		-0.0033*** (-4.05)		-0.0012*** (-2.88)
REL_R	0.7545*** (7.73)	1.8936*** (19.12)	1.7594*** (27.70)	-0.0045** (-2.54)	-0.0043** (-2.48)	-0.0001 (-0.10)	-0.0000 (-0.06)	0.0002 (0.39)	0.0002 (0.44)
BIG4	-0.1026* (-1.76)	-0.2048* (-1.94)	-0.1677 (-1.05)	0.0197*** (8.16)	0.0197*** (8.16)	0.0225*** (8.80)	0.0225*** (8.79)	0.0220*** (8.54)	0.0219*** (8.53)
BLOCK	-0.1143 (-0.77)	0.5265* (1.92)	0.8353** (2.10)	-0.0403*** (-8.84)	-0.0394*** (-8.61)	-0.0540*** (-11.49)	-0.0525*** (-11.17)	-0.0553*** (-11.71)	-0.0538*** (-11.36)
INST_SHR	-0.1958* (-1.79)	-0.2172 (-1.08)	-0.0550 (-0.19)	0.0265*** (5.22)	0.0257*** (5.06)	0.0003 (0.06)	-0.0002 (-0.04)	-0.0017 (-0.31)	-0.0022 (-0.41)
DUAL	0.0212 (0.35)	-0.1750 (-1.60)	-0.3372** (-2.33)	0.0057** (2.44)	0.0058** (2.49)	0.0188*** (8.00)	0.0188*** (7.99)	0.0195*** (8.24)	0.0194*** (8.21)
BOARD	0.0206 (0.14)	0.1362 (0.52)	0.2297 (0.65)	-0.0244*** (-5.31)	-0.0245*** (-5.36)	-0.0342*** (-7.21)	-0.0340*** (-7.20)	-0.0358*** (-7.52)	-0.0356*** (-7.50)
SIZE	0.0779*** (2.62)	0.0973* (1.85)	0.2021*** (2.62)	-0.0660*** (-55.61)	-0.0656*** (-55.26)	-0.0494*** (-47.28)	-0.0493*** (-47.27)	-0.0486*** (-46.42)	-0.0485*** (-46.42)
LEV	-0.3334** (-2.08)	0.0807 (0.27)	0.0833 (0.19)	0.3230*** (45.31)	0.3210*** (44.89)	0.2295*** (35.80)	0.2283*** (35.56)	0.2261*** (35.19)	0.2249*** (34.96)
MTB	0.0105*	0.0262**	0.0403**	-0.0046***	-0.0047***	-0.0030***	-0.0030***	-0.0028***	-0.0028***

(Continued)

Table 8. (Continued).

Variable	The First stage (DV=CONF_R)			The Second stage (DV=CONSV)					
	(1) CONF_100		(3) CONF_300	(4) R=100		(5) R=200		(6) R=300	
	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)
CFO	(1.68) 0.0594 (0.31)	(2.21) 0.0296 (0.08)	(2.32) 0.1138 (0.22)	(-9.83) -0.0982*** (-8.45)	(-9.92) -0.0975*** (-8.40)	(-6.11) -0.0759*** (-6.40)	(-6.20) -0.0751*** (-6.33)	(-5.75) -0.0741*** (-6.23)	(-5.84) -0.0732*** (-6.16)
LISTAGE	(-2.75) -0.0148*** (-1.34)	(-1.34) -0.0129 (-1.34)	(-0.74) -0.0101 (-0.74)	0.0034*** (19.22)	0.0033*** (18.72)	0.0008*** (5.28)	0.0008*** (5.03)	0.0007*** (4.37)	0.0006*** (4.13)
TRUST	(12.15) 0.6473*** (12.15)	(8.10) 0.6581*** (8.10)	(4.79) 0.5865*** (4.79)	-0.0091*** (-6.67)	-0.0091*** (-6.71)	-0.0109*** (-7.26)	-0.0109*** (-7.28)	-0.0121*** (-7.97)	-0.0120*** (-7.98)
GDPGW	(-1.09) -0.2988 (-1.09)	(-2.34) -1.2167** (-2.34)	(2.38) 1.8709** (2.38)	-0.7049*** (-44.75)	-0.7012*** (-44.48)	-0.7236*** (-44.84)	-0.7202*** (-44.62)	-0.7245*** (-44.99)	-0.7216*** (-44.80)
POPAGE	(2.37) 4.2017** (2.37)	(4.09) 12.7901*** (4.09)	(3.21) 15.1222*** (3.21)	0.2623*** (3.81)	0.2679*** (3.89)	0.2747*** (3.72)	0.2823*** (3.83)	0.2861*** (3.86)	0.2929*** (3.95)
POPGW	(-5.01) -0.3428*** (-5.01)	(-4.28) -0.5630*** (-4.28)	(-7.02) -1.4806*** (-7.02)	0.0036 (1.50)	0.0039 (1.64)	0.0054** (2.12)	0.0058** (2.25)	0.0066** (2.57)	0.0068*** (2.67)
Constant	(-0.33) -0.2462 (-0.33)	(-0.85) -1.0967 (-0.85)	(-0.85) -1.5747 (-0.85)	1.1778*** (51.32)	1.1675*** (50.60)	1.1009*** (45.83)	1.0932*** (45.51)	1.1028*** (45.72)	1.0971*** (45.49)
Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	28,325	28,325	28,325	28,325	28,325	28,325	28,325	28,325	28,325
Adjusted R ²	0.1226	0.3070	0.4088	0.1167	0.1172	0.1096	0.1100	0.1087	0.1090
F (p-value)	16.48*** (<0.0001)	37.10*** (<0.0001)	117.48*** (<0.0001)	211.20*** (<0.0001)	202.53*** (<0.0001)	171.73*** (<0.0001)	165.37*** (<0.0001)	168.09*** (<0.0001)	161.49*** (<0.0001)

Note: ***, **, and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.



Table 9. Endogeneity tests using differential (change) models based on a subsample with registered office change.

Variable	Dependent variable: ΔCONSV							
	N = 1				N = 2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
$\Delta\text{CONF_DIS_N}$	-0.7169***	-3.09	-1.1637***	-3.68	-0.7682***	-3.32	-1.1356***	-3.82
ΔLTG			0.0021	0.55			0.0020	0.52
$\Delta\text{CONF_DIS_N} \times \Delta\text{LTG}$			0.8143***	2.76			0.7115***	2.64
$\Delta\text{REL_DIS_N}$	-0.3407	-0.93	-0.2360	-0.73	-0.3167	-0.94	-0.2546	-0.82
ΔBIG4	-0.0183	-1.16	-0.0195	-1.27	-0.0173	-1.11	-0.0187	-1.21
ΔBLOCK	0.1295	1.61	0.1210	1.52	0.1220	1.52	0.1069	1.35
$\Delta\text{INST_SHR}$	-0.0083	-0.19	-0.0037	-0.09	-0.0077	-0.18	-0.0035	-0.08
ΔDUAL	-0.0011	-0.09	-0.0021	-0.15	-0.0018	-0.14	-0.0027	-0.20
ΔBOARD	-0.0353	-0.97	-0.0373	-1.03	-0.0350	-0.97	-0.0370	-1.02
ΔSIZE	-0.0551***	-2.98	-0.0565***	-3.06	-0.0567***	-3.08	-0.0581***	-3.16
ΔLEV	0.2948***	4.66	0.2830***	4.50	0.3000***	4.71	0.2907***	4.59
ΔMTB	-0.0091***	-3.30	-0.0090***	-3.36	-0.0093***	-3.36	-0.0092***	-3.40
ΔCFO	-0.0707*	-1.69	-0.0692*	-1.65	-0.0703*	-1.69	-0.0680	-1.64
ΔTRUST	0.0339	1.36	0.0284	1.20	0.0285	1.13	0.0233	0.96
ΔGDPGW	0.1607	0.80	0.1687	0.84	0.1616	0.81	0.1669	0.83
ΔPOPAGE	-0.5739	-0.87	-0.6543	-0.99	-0.5824	-0.89	-0.6515	-1.00
ΔPOPGW	-0.1123**	-2.45	-0.1123**	-2.48	-0.1149**	-2.52	-0.1165**	-2.57
Constant	-0.1257***	-3.67	-0.0412	-1.33	-0.1267***	-3.70	-0.0433	-1.43
Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	1,340	1,340	1,340	1,340	1,340	1,340	1,340	1,340
Adjusted R^2	0.7815	0.7828	0.7828	0.7822	0.7822	0.7834	0.7834	0.7834
F(p-value)	37.50***(<0.0001)	36.11***(<0.0001)	36.11***(<0.0001)	37.70***(<0.0001)	37.70***(<0.0001)	36.42***(<0.0001)	36.42***(<0.0001)	36.42***(<0.0001)

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm level.

POPGW. In Model (5), ϕ_4 is expected to be significantly negative. Also, we expect that ϕ_8 and ϕ_{12} are negative and ϕ_{13} is positive, respectively. In Panel C of Table 7, $\text{CONF_R} \times \text{D}\Delta\text{NI}_{t-1} \times \Delta\text{NI}_{t-1}$ has significantly negative coefficients, suggesting that Confucian culture leads to an increase in accounting conservatism and supporting H1. $\text{CONF_R} \times \text{LTG} \times \text{D}\Delta\text{NI}_{t-1} \times \Delta\text{NI}_{t-1}$ loads significantly positive coefficients, revealing that litigation risk attenuates the effect of Confucian culture on accounting conservatism and supporting H2.

6. Endogeneity and additional tests

6.1. Endogeneity tests using instrumental variable (IV) two-stage regression approach

Our study measures Confucian culture as the geographical proximity between a Confucian temple (school) and a firm. Thus, it is likely that firms with high accounting conservatism may be prone to locating into the area with strong Confucian atmosphere, which leads to mistakes in casual inference. In response, we employ instrumental variable (IV) two-stage regression approach to alleviate the endogeneity issue of bidirectional causal inference. In doing so, we first employ JINSHI as the instrumental variable, measured as the natural logarithm of (one plus the number of chin-shih during the Ming and Qing dynasties in a Chinese province where a listed firm is located).⁵ In ancient China, chin-shih (进士) referred to candidates for the highest imperial examinations, which were generally based on Confucian culture. Theoretically and logically, the number of chin-shih is positively related with local Confucian culture atmosphere, but may not be the determinant of a firm's addresses.

In the first stage, we regress Confucian culture on JINSHI and control variables, and Columns (1) to (3) of Table 8 report the regression results. The coefficients on JINSHI are positive and significant at the 1% level, suggesting a significantly positive effect of Confucianism on the number of chin-shih during the Ming and Qing dynasties. In the second stage, we add the predicted value of Confucian culture of CONF_R^* into Models (1) and (2) to re-test H1 and H2. In Columns (4) to (6) of Table 8, $\text{CONF_R}^*(R = 100, 200, 300 \text{ km})$ has significantly positive coefficients, validating H1 again. Moreover, the coefficients on $\text{CONF_R}^* \times \text{LTG}$ are negative and significant at the 1% level, consistent with H2.

6.2. Endogeneity tests using the change model approach

Next, we select firm-year observations that have changed the addresses of the registered office to construct a subsample, and then use a change model to examine the impact of the change in Confucian culture on the change in accounting conservatism (ΔCONSV). Clearly, $\Delta\text{CONF_DIS_N}$ is an inverse proxy for Confucian culture, measured as the change in Confucian culture (the average distance between a firm and the nearest N Confucian temples or schools; $N = 1, 2$) between year $t-1$ and year t . ΔCONSV is the change in accounting conservatism between years $t-1$ and t .

⁵A book, entitled 'The index of stelae of chin-shih in the Ming and Qing dynasties' (Zhu & Xie, 1979), records the names, ranks and birthplaces of chin-shih, by which we calculate the number of chin-shih in each province.

In Columns (1) and (3) of Table 9, $\Delta\text{CONF_DIS_N}$ ($N = 1$ and 2) loads negative and significant coefficients, implying that accounting conservatism is mitigated along with the weakened Confucian culture (the increased average distance between a firm and the nearest N Confucian temples/schools). In Columns (2) and (4) of Table 9 $\Delta\text{CONF_DIS_N} \times \Delta\text{LTG}$ has significantly positive coefficients, suggesting that the change in litigation risk attenuates the association between the change in Confucian influence and the change in accounting conservatism. These results additionally support H1 and H2.

6.3. Excluding the stochastic influence of Confucian culture on accounting conservatism

To release the potential concern about whether the effect of Confucian culture on accounting conservatism is driven by a stochastic process, we randomly allocate the score of Confucian culture to firms by year, and then re-run empirical models to obtain the estimated coefficients on Confucian culture. To reduce the impact of randomness, referring to extant studies (Koch et al., 2016; Xu et al., 2021), we repeat the stochastic process 5000 times, and then examine whether the mean value of the estimated coefficients on CONF_R ($R = 100, 200$ and 300) is significantly different from zero. If the baseline results are (not) seriously affected by randomisation, we will observe that the mean value of the t-statistics of the estimated coefficients on CONF_R ($R = 100, 200, 300$) is significant (insignificant).

The untabulated results reveal that the mean values of all estimated coefficients on CONF_R are close to zero. Moreover, the mean values of all the estimated coefficients on $\text{CONF_R} \times \text{LTG}$ are also close to zero. The above results, taken together, reveal that the coefficients of our interest variables (CONF_R and $\text{CONF_R} \times \text{LTG}$; $R = 100, 200$ and 300) are statistically insignificant for the repeated stochastic process, suggesting that our main finding results are less likely to be caused by a stochastic process.

6.4. Channel tests for ethical influence and risk preference

During the process of developing our research hypotheses, we argue that ethical influence and risk aversion preferences are two channels by which Confucian culture affects accounting conservatism. To ensure ethical influence as the channel for the effect of Confucian culture on accounting conservatism, referring to Gubler et al. (2018) and McGuire et al. (2012) that recognise financial irregularity as corporate unethical behaviour, we introduce a proxy for corporate ethical performance (ETHICS), gauged as 'the number of financial irregularities' $\times -1$ '. Moreover, to ensure the channel of risk aversion preference, we construct a mediating variable of RISKAVS as the proxy for risk aversion (Hilary & Hui, 2009). RISKAVS is defined as 'the standard deviation of industry-median-adjusted returns on assets over year t and year $t + 2$ ' $\times -1$ '. Panels A and B of Table 10 provide the results of channel tests using ETHICS and RISKAVS as the mediating variables.

First, for the channel of ethical influence, as shown in Column (1) of Panel A, ETHICS has a significantly positive coefficient, implying that ethical influence does lead to higher accounting conservatism. In Columns (2)-(4) of Panel A where the dependent variable is ETHICS, the coefficients on CONF_R ($R = 100, 200$ and 300 km)

Table 10. Channel tests for ethical influence and risk aversion preferences.

Variable	Dependent variable: CONSV		Dependent variable: ETHICS			Dependent variable: CONSV		
	(1)	(2) R = 100	(3) R = 200	(4) R = 300	(5) R = 100	(6) R = 200	(7) R = 300	
	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	
Panel A: Channel tests for ethical influence								
ETHICS	0.0185*** (4.88)				0.0183*** (4.83)	0.0183*** (4.83)	0.0183*** (4.84)	
CONF_R		0.0080*** (3.76)	0.0034*** (3.59)	0.0020*** (2.84)	0.0015*** (2.94)	0.0008*** (3.66)	0.0005*** (3.53)	
Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	
Observations	28,325	28,325	28,325	28,325	28,325	28,325	28,325	
Adjusted R ²	0.0780	0.0235	0.0233	0.0231	0.0781	0.0782	0.0782	
F(p-value)	91.03*** (<0.0001)	7.23*** (<0.0001)	7.15*** (<0.0001)	7.02*** (<0.0001)	86.50*** (<0.0001)	86.68*** (<0.0001)	86.84*** (<0.0001)	
Sobel Z					2.88***	2.82***	2.38**	
Mediation Ratio					8.52%	6.87%	6.11%	

(Continued)



Table 10. (Continued).

Variable	Dependent variable:CONSV		Dependent variable:RISKAVS		Dependent variable:CONSV		
	(1)	(2) R = 100	(3) R = 200	(4) R = 300	(5) R = 100	(6) R = 200	(7) R = 300
	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)
Panel B: Channel tests for risk aversion preference							
RISKAVS	0.1644*** (4.00)				0.1625*** (3.96)	0.1619*** (3.95)	0.1619*** (3.95)
CONF_R	(2.36)	0.0005**	0.0003*** (2.74)	0.0002*** (2.94)	0.0015*** (3.05)	0.0008*** (3.71)	0.0005*** (3.47)
Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	28,289	28,289	28,289	28,289	28,289	28,289	28,289
Adjusted R ²	0.0771	0.0777	0.0779	0.0781	0.0772	0.0773	0.0773
F(p-value)	87.40*** (<0.0001)	16.18*** (<0.0001)	16.19*** (<0.0001)	16.20*** (<0.0001)	83.09*** (<0.0001)	83.37*** (<0.0001)	83.48*** (<0.0001)
Sobel Z					2.02**	2.25**	2.36**
Mediation Ratio					5.40%	5.81%	6.75%

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics and Sobel z-statistics are based on the robust standard errors clustering at firm level.

are all significantly positive, implying that Confucian culture is positively related with ethical behaviour. In Columns (5)-(7) of Panel A, both ETHICS and CONF_R have significantly positive coefficients, and further Sobel Z statistics are significant, implying that the mediating effects of ETHICS are valid. Furthermore, the last line of Panel A in Table 10 shows that the mediating effects of ETHICS on the relation between Confucian culture and accounting conservatism range from 6.11% to 8.52%, depending on Confucian culture variables.

Second, for the channel of risk aversion preference, in Column (1) of Panel B, the coefficient on RISKAVS is significantly positive, suggesting that risk aversion preference may generate a higher extent of accounting conservatism. Columns (2)-(4) of Panel B show that Confucian culture leads to an increase in risk aversion. Columns (5)-(7) of Panel B reveal that the coefficients on both CONF_R (R = 100, 200 and 300 km) and RISKAVS are significantly positive. What is more, Sobel Z statistics are significant. The above results collectively support the mediating effect of RISKAVS on the relationship between Confucian culture and accounting conservatism. Furthermore, the last line of Panel B reveals that the mediating effects of RISKAVS vary from 5.40% to 6.75%, depending on Confucian culture variables.

6.5. Asymmetry in the persistence of cash flows and accounting conservatism

The premise of this study is that accounting conservatism leads to asymmetrically timely gains and losses recognition. But there exists an alternative explanation that a firm with strong Confucian culture may have more transitory losses, because Confucianism causes an increase in the diversity of business targets for a firm. To rule out this alternative explanation, we construct the following model to test the association between Confucian culture and asymmetry in the persistence of cash flows.

$$\begin{aligned}
 CFO_{i,t+1} = & \rho_{1,i,t} + \rho_{2,i,t} DCFO_{i,t} + \rho_{3,i,t} CFO_{i,t} + \rho_{4,i,t} DCFO_{i,t} \times CFO_{i,t} + \rho_{5,i,t} CONF_R_{i,t} \\
 & + \rho_{6,i,t} CONF_R_{i,t} \times DCFO_{i,t} + \rho_{7,i,t} CONF_R_{i,t} \times CFO_{i,t} \\
 & + \rho_{8,i,t} CONF_R_{i,t} \times DCFO_{i,t} \times CFO_{i,t} + \text{Control Variables} + \sum \text{Industry dummies} + \sum \text{Year dummies} \\
 & + \omega_{i,t}
 \end{aligned}
 \tag{Model 6}$$

In Model (6), ρ_3 and $\rho_3 + \rho_4$ capture the persistence of positive cash flows and negative cash flows for firms without Confucian influence, respectively. ρ_8 stands for the incremental effects of Confucian culture on the persistence of negative cash flows.

Untabulated results show that the coefficients on CONF_R \times DCFO \times CFO are insignificant, suggesting that Confucian culture has little influence on the persistence of economic losses and lending important evidence to reject the alternative explanation that there are differences in the persistence of economic losses between the treatments and the control groups.⁶

⁶Downwards earnings management may also result in the recognition of losses. Referring to Choi et al. (2012), we test whether more timely recognition of losses results from downwards earnings management. Untabulated results reveal that Confucian culture does not lead to an increase in downwards earnings management. That is, managing earnings downward cannot offer an explanation for the asymmetrically timely recognition of gains and losses.



Table 11. Cross-sectional analyses considering governance mechanisms.

		Dependent variable: CONSV					
		The subsample with Big4 auditors		The subsample with Non-Big4 auditors			
		(1) R = 100	(2) R = 200	(3) R = 300	(4) R = 100	(5) R = 200	(6) R = 300
Variable		Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)	Coefficient (t-value)
Panel A: Results using the subsamples with Big4 and non-Big4 auditors							
CONF_R		0.0008 (0.48)	0.0004 (0.35)	0.0001 (0.07)	0.0013*** (2.76)	0.0006*** (3.08)	0.0007*** (4.65)
Controls, Industry and Year		Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations		4,403	4,403	4,403	23,922	23,922	23,922
Adjusted R ²		0.2670	0.2670	0.2670	0.0864	0.0864	0.0866
F (p-value)		53.31***	53.37***	54.21***	111.49***	111.69***	112.13***
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)
Dependent variable: CONSV							
The subsample with the high proportion of managerial shareholding							
		(1) R = 100	(2) R = 200	(3) R = 300	The subsample with the low proportion of managerial shareholding		
Variable		Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)	Coefficient(t-value)
Panel B: Results using the subsamples based on managerial ownership							
CONF_R		0.0002 (0.24)	-0.0004 (-0.90)	0.0003 (1.21)	0.0015*** (2.99)	0.0006** (2.54)	0.0005*** (3.08)
Controls, Industry and Year		Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations		6,530	6,530	6,530	21,795	21,795	21,795
Adjusted R ²		0.0996	0.0998	0.0998	0.1076	0.1075	0.1076
F (p-value)		26.71***	26.85***	26.89***	134.74***	134.61***	134.83***
		(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)	(<.0001)

(Continued)

Table 11. (Continued).

Variable	Dependent variable: CONSV					
	The subsample in lowly competitive industries			The subsample in highly competitive industries		
	(1) R = 100 Coefficient(t-value)	(2) R = 200 Coefficient(t-value)	(3) R = 300 Coefficient(t-value)	(4) R = 100 Coefficient(t-value)	(5) R = 200 Coefficient(t-value)	(6) R = 300 Coefficient(t-value)
Panel C: Results using the subsamples in different competitive industries						
CONF_R	0.0013 (0.66)	0.0001 (0.03)	0.0007 (0.64)	0.0014*** (3.08)	0.0005** (2.36)	0.0006*** (4.01)
Controls, Industry and Year	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Observations	3,009	3,009	3,009	25,316	25,316	25,316
Adjusted R ²	0.1139	0.1138	0.1138	0.1101	0.1100	0.1102
F(p-value)	29.01*** (<.0001)	29.68*** (<.0001)	29.12*** (<.0001)	156.81*** (<.0001)	156.27*** (<.0001)	156.57*** (<.0001)

Note: ***, ** and * represent the 1%, 5% and 10% levels of significance, respectively, for a two-tailed test. All reported t-statistics are based on the robust standard errors clustering at firm and year level.

6.6. Cross-sectional analyses considering governance mechanisms

Accounting conservatism is affected by governance mechanisms (Cano-Rodríguez, 2010; Dhaliwal et al., 2014; Lafond & Roychowdhury, 2008). In response, we conduct cross-sectional analyses based on different governance mechanisms.⁷ Governance includes monitoring and incentives. Regarding the monitoring mechanisms, we focus on auditing and industry competition. External audit is always viewed as a mechanism for shareholders to monitor corporate behaviour and thus can exert important impacts on corporate ethical judgements (Cohen & Bennie, 2006; Dillard & Yuthas, 2001) and risk preference (Koh & Lee, 2017). Moreover, industry competition is a market-oriented monitoring mechanism that affects corporate ethical decisions and risk assessments (Dhaliwal et al., 2014; Hui et al., 2012). As for the incentive mechanisms, we pay attention to managerial ownership – which affects corporate ethical behaviour (Yeo et al., 2002) and risk preference (Benson & Davidson III, 2009).

First, according to whether the auditor is a Big4 auditing firm, we partition the sample into the subsamples with Big4 auditors and without Big4 auditors. Panel A of Table 11 reports results using these subsamples. As shown in Columns (1)-(3) of Panel A, the coefficients on CONF_R (R = 100, 200, 300) are insignificant for BIG4-audited firms. Columns (4)-(6) of Panel A reveal that Confucian culture is significantly positively associated with accounting conservatism for non-BIG4-audited firms.

Second, according to the proportion of managerial ownership (the industry mean value), the sample is divided into the subsample with high proportion of managerial shareholding and the subsample with low proportion of managerial shareholding. As Columns (1) to (3) of Panel B displayed, CONF_R (R = 100, 200, 300) loads insignificant coefficients in the subsample with more managerial shareholding. Columns (4) to (6) show that the coefficients on CONF_R (R = 100, 200, 300) are significantly positive for the firms with less managerial shareholding.

Finally, we investigate the effects of industry competition and partition the sample into the subsample in the highly competitive industries and the subsample of lowly competitive industries. Lowly competitive industries are identified if the Herfindahl–Hirschman index is greater than its mean. Panel C of Table 11 reports the grouping results on the basis of industrial competition. Columns (1)-(3) of Panel C show that there are insignificant relations between Confucian culture and accounting conservatism in the subsample with low competition. In Columns (4)-(6), Confucian culture is significantly positively related with accounting conservatism in the subsample with high competition.

Overall, the above results reveal that the role of Confucian culture in promoting accounting conservatism is only valid in firms with weak governance mechanisms.

⁷Williamson (2000) indicates that interactive effect between adjacent hierarchic levels may not be only available. In this case, we further investigate the interaction between first level (informal systems) and the third level (various governance mechanisms). As Cano-Rodríguez (2010) argues, Big 4 auditors provide high-quality auditing services and increase the contracting efficiency of accounting information. Moreover, managerial ownership is conducive to reducing agency costs, which are positively associated with uncertainties, and thus lower managerial ownership may generate the demand for the timely recognition of economics losses (Lafond & Roychowdhury, 2008). In addition, Dhaliwal et al. (2014) and Hui et al. (2012) find high competition causes more ethical issues and uncertainties. Thus, we predict that the roles of Confucian culture on accounting conservatism may be more pronounced in above cases.

7. Conclusions, managerial implications, limitations and future research

This study explores the effect of Confucian culture on accounting conservatism. Using a sample of Chinese firms during the period of 2001–2017, our findings reveal that Confucian culture is significantly positively related to accounting conservatism, suggesting that Confucian culture promotes managers to exhibit more conservatively in financial reporting. Moreover, litigation risk attenuates the positive effect of Confucian culture on accounting conservatism. Our findings can facilitate the understanding of the impact of Confucianism on accounting practices in China.

This study provides several managerial implications as follows. First, the positive relation between Confucian culture and accounting conservatism implies that managers should take Confucian influence into account when they understand how Confucian culture affects enterprises operating, corporate governance and accounting behaviour in China. Given Confucianism is an important social ideology in China, it is rational for managers to attach the importance to the governance role of Confucianism in practices. Also, it is necessary for investors to pay close attention to the effects of Confucian culture on the contracting efficiency of accounting information.

Second, policymakers and regulators should consider Confucian influence on corporate decisions because cultural factors may affect the efficiency of policy execution. As Williamson (2000) notes, culture is the foundation of institutional hierarchy, which has remarkable and long-term effects on social activities and plays an important role in shaping values, ethics and preferences and provides a crucial guideline for decision-making. In this regard, regulators and policymakers should understand the implications of Confucian culture in accounting behaviours.

Lastly, the finding about the positive association between litigation and accounting conservatism suggests that lawsuit as a formal system can serve as a crucial mechanism to affect a firm's accounting behaviour in China although formal institutions in China are regarded as weaker than those in developed countries. More importantly, the moderating effects of litigation risk (a formal institution) on the positive relationship between Confucian culture (an informal institution) and accounting conservatism imply that managers, regulators and practitioners should pay attention to the interactive effects between formal and informal institutions on corporate behaviour.

This study has several limitations that can be further addressed by the follow-up studies. First, this study regards Confucianism as a whole to examine its effects on accounting conservatism, but we do not distinguish various Confucian genres. In this regard, future research can further investigate the effects of different Confucian genres (ramifications) on corporate decisions. Second, this study only examines the effects of Confucian culture on conservative accounting, and future research can explore Confucian influence on over-investment, and the quality of accounting information. Third, geographic- proximity-based Confucian variables are used in our study to capture the influence of Confucian culture on accounting conservatism. Geographic-proximity-based Confucian variables are broadly used in previous studies (Du, 2015, 2016), but they cannot directly capture Confucian influence at the individual level. Thus, scholars can further use data on Confucian philosophy from questionnaires, combined with geographic-proximity-based Confucian variables, to better capture Confucian influence. Lastly, our study is conducted in the Chinese context, so the conclusions can be better applied to firms in some East-Asian countries (regions) that

have been historically affected by Confucianism. However, it should be cautious for researchers to generalise our findings to other contexts.

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