



Organizational non-conformity in an emerging economy: Exploring the non-adoption of credit rating in China

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Abstract

Institutional scholarship tends to emphasize the tendency of organizations to conform to prevailing practices, but this study investigates Chinese firms' non-conformity behavior in terms of not participating in credit rating. State ownership and firm status (in terms of age, size, and human capital) are all found to be useful predictors of this non-conformity. Building on institutional theory and resource dependence theory in an emerging market context, this study proposes that non-conformity would be high for state owned enterprises (SOEs) and for both low- and high-status firms, based on their evaluations of the legitimacy of credit rating and the relative power balance between the government and themselves. In contrast, middle-status firms would be less likely to show non-conformity behaviors. Moreover, the influence of state ownership and firm status on non-conformity would be further moderated by the degree of government intervention. The results from an empirical study of 2,708 manufacturing firms in China largely support these hypotheses.

Keywords Non-conformity · Credit rating · State ownership · Status · Government intervention · China

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Institutional theory literature has increasingly paid attention to the phenomenon of non-conformity (Bascle, 2016; Jonsson, 2009; Witt et al., 2021; York et al., 2018). Non-conformity, defined as any behavior that departs from the common practices of other organizations, can sometimes benefit organizations by enabling them to differentiate from their competitors (Norman, Artz, & Martinez, 2007). Underconforming and overconforming are especially common in markets with substantial differences among organizations (Aguilera et al., 2018; Philippe & Durand, 2011), and can be important, because deviance is the driver of firm heterogeneity and change (Deephouse, 1999).

Weak institutional development in emerging economies provides more latitude for organizations' non-conformity decisions (Xie et al., 2020; Zhang & Greve, 2018), because they generally enjoy a relatively high degree of discretion when institutional intermediaries are underdeveloped. However, the extant studies of non-conformity in emerging economies mainly examine the influence of the external environment on organizational non-conformity (Xie et al., 2020; York et al., 2018), while insufficient attention has been paid to the active role of organizations in making non-conformity decisions. A few studies propose that organizations may refuse institutionalized practices when enjoying strong technical capabilities or bargaining power (Aguilera et al., 2018; Greenwood et al., 2011; Heugens & Lander, 2009; Norman et al., 2007; Waldron et al., 2013; Witt et al., 2021), but these studies fail to explain why organizations may still consider non-conformity as a strategic choice when they do not possess abundant resources or power to counteract institutional pressure.

Recent research on new practice (non)adoption (Bitektine & Haack, 2015; Suddaby et al., 2017) helps us understand organizations' non-conformity behaviors in emerging economies in a broader sense. Scholars hold that potential adopters may play more active roles in making (non)adoption decisions. Rather than simply complying with external institutional pressures and expectations, organizations can actively negotiate with the institutional environment and demonstrate varying degrees of latitude in complying with the environment's demands (Heugens & Lander, 2009; Oliver, 1991). An organization's (non)conformity is determined not only by its capability, but also by its willingness, which is based on perceptions of practice validity and corporate evaluations (Bitektine & Haack, 2015; Suddaby et al., 2017; Tost, 2011). Practice validity refers to "an opinion (supposedly) shared by the majority of actors and/or by a recognized authority" (Suddaby et al., 2017, p. 464), and derives from the external environment (Jacqueminet & Durand, 2020). Corporate evaluations denote a corporation's perceptions of the appropriateness of a new practice and its strategic importance (Durand et al., 2019). Corporate evaluations are suggested to provide a better explanation for non-conformity behavior than practice validity does, because the denial of a new practice risks legitimacy loss and hence should be made based on cautious considerations and after careful cost-benefit analysis (Durand et al., 2019).

Notwithstanding recent developments in the literature, our understanding of the internal dynamics of organizations—the power, interests, and cost-benefit assessments—that lead to firm (non)adoption behavior remains quite limited. These factors may be at least as important as other factors in explaining practice adoption and variation under the same institutional pressures.

In this study, we endeavor to investigate how firms with distinct evaluations perform differently in the non-adoption of credit rating. Credit rating is a mechanism that China's government introduced to build institution-based trust. The practice was initially developed in Western economies to assess the risk of a potential debtor (company, organization, or country) defaulting. It played a crucial role in the functioning of capital markets by mitigating information asymmetry and reducing the cost of financing (Alsakka & Gwilym, 2010). In China, although the corporate bond market and credit rating were at an early stage, the government actively introduced credit rating to build and institutionalize a new type of trust in the market. It established formal structures for trust building, and set regulations to encourage firms' participation (Zhu, 2013). Firms, at the same time, were paying increasing attention to institution-based trust, as massive market transformation in China had disrupted traditional relationship-based trust among business partners (Child & Möllering, 2003; Tan & Tan, 2005). As a result, an institutional environment favoring credit rating and its expected advantages in reducing transaction costs and producing trust led to increasingly more firms' participation.

However, not all firms conformed to the institutionalization of credit rating. Among the firms sampled in this research, about 70% had submitted to credit rating at least once since it was introduced in China (Appendix Fig. 5). Zhang and Greve (2018) proposed that while considering a firm's non-conformity to a state-endorsed policy like split-share structure reform, state power and the firm's ability to counteract it should be considered, because the firm needs to care about institutional pressure from the government, a critical and important stakeholder for firms in emerging economies. In this study, we follow this suggestion by integrating institutional theory and resource dependence theory (Pfeffer & Salancik, 1978) to explore firms' non-conformity to credit rating in China.

We propose that firms' non-conformity decisions hinge on their evaluations of both the legitimacy of a new practice and the power balance between the state and themselves. More specifically, we focus on the influence of two factors on non-conformity decisions: state ownership and firm status. State-owned firms are unwilling to adopt credit ratings because such adoption does not do much to enhance their legitimacy and because they have enough capabilities to cope with the state. Compared with those with middle status, firms with high status (with age, size, and human capital as the indicators) are more likely to engage in the non-adoption of credit rating, because credit rating adds little legitimacy value to them while at the same time incurring unnecessary costs for them such as potential information leakage and exposure to policy uncertainty. In contrast, low-status firms can enhance their legitimacy by adopting credit rating, but the costs of credit rating may outweigh the benefits, not only because they are prone to receive a low rating that does not benefit them, but also because it is expensive for them to allocate scarce resources for maintaining survival to credit rating implementation. We further examine how these main effects are moderated by government intervention through changing both the legitimacy of credit rating and the power balance between the firm and the state.

We empirically investigate Chinese firms' non-adoption of credit rating endorsed by the Chinese government. Our sample was taken from a survey conducted in

2001, eight years after the credit rating system was first introduced in China and three months before China entered the World Trade Organization (WTO). Focusing on the pre-WTO period makes the examination of firm attitudes toward credit rating easier because, with increasing global competition, credit rating has become more popular—even essential—for firms aspiring to establish credibility in the global market since that time. Among the firms sampled in this research, about 30% had not made use of credit rating since its introduction in China eight years earlier (Appendix Fig. 5). We are interested in the firms that chose not to conform, given the benefits of credit rating for both firms and the market.

Our study makes three contributions to the literature. First, we contribute to institutional theory by examining the active role of firms in making non-conformity decisions. Different from extant studies on non-conformity behavior focusing on the external environment as the driver (York et al., 2018), we suggest that a firm's non-conformity behavior depends on its own evaluation of a new practice's legitimacy and the power balance between it and the state, which originates from its attributes, including state ownership and status. We further examine the joint effect of firm attributes and government intervention on non-conformity. In this sense, this study defines the sorts of corporate profiles that characterize non-conformist firms, and then identifies the constraints on non-conformity.

Second, we extend the non-conformity literature by focusing on non-conformity behavior in the face of government pressure in emerging economies. Many prior studies suggest that high institutional pressure from the government leads to rapid rule/policy adoption by firms (Greve et al., 2010). We follow Zhang and Greve (2018)'s research and suggest that firms with specific attributes (state ownership and status) will hesitate to bend to institutional pressure because they believe that the policy adoption is of little value to them and they have the power to cope with the state.

Third, our study also contributes to middle-status conformity literature. The extant literature proposes that high- and low-status players are more likely to adopt deviant practices in order to differentiate themselves from competitors than middle-status players (Durand & Kremp, 2016; Phillips & Zuckerman, 2001). In contrast, our study suggests that in the face of government pressure, the underlying logic for high- and low-status players becomes different. They are more likely to refuse state-imposed practices than middle-status players due to their own evaluations of new practices, to avoid costs and risks rather than to differentiate themselves from competitors.

Theoretical background

Credit rating in China

In China, the old central planning system has eroded, and a new market-based system has been built. In the early stages of transition, social norms, values, and the common understandings on which trust was previously built can erode (Luo, 2008). Firms rely on trust derived from informal, relationship-based partnerships. However,

as the market grows, the number of exchange partners increases and transactions become increasingly impersonal, weakening the utility of informal, relationship-based trust (Peng & Luo, 2000). A rapidly growing economy, especially when it involves the development of exchanges across group boundaries and large geographic distances, leads to an increasing need for institution-based trust. Formal systems such as credit rating are called for to provide institutional guarantees for how much a firm can be trusted.

After recognizing this need, China began to introduce rating systems to build institution-based trust and facilitate market transactions among firms (Kennedy, 2003). The Chinese government tried to duplicate the rating system of Western economies, including credit rating agencies, and required bond issuers to receive ratings.^{1,2} Credit rating was introduced primarily as a mandatory requirement in bond issuance, but it later became a tool endorsed by the government to improve corporate image and produce institution-based trust in the market (Zucker, 1986), with the ratings and evaluations offered by rating agencies working as signals to potential investors to make inferences about a firm's creditability.

The Chinese government also actively promoted the credit rating concept among organizations. However, in contrast to the compulsory rating of bond issuers, firms' adoption of credit rating was not mandated—just encouraged—by the government (please refer to Appendix Table 6 for a review of the policies issued by the Chinese authorities on credit rating). Academic institutions, industry associations, and professional bodies actively endorsed credit rating and established its social meaning. For example, business schools committed resources to introducing ratings, and equated them with professionalism. Their training of Chinese managers reinforced the credit rating concept. News of the adoption of credit rating spread through the business press, trade publications, newspapers, and websites. This environment and the expected advantages of credit rating in reducing transaction costs and conferring creditability reinforced industry support and adoption (Suchman, 1995).

Sociologists such as Zucker (1986) argue that when endorsement or certification is awarded by experts and impartial third parties, such as trade associations, rating agencies, auditors, or government regulators, being certified signals that a firm is of high quality and is trustworthy. Other scholars (DiMaggio & Powell, 1983; Meyer & Rowan, 1977) focus on how organizations gain trust and legitimacy by conforming to institutional norms, values, and expectations. Audiences perceive an organization as more serious and trustworthy if it adopts widely accepted procedures and practices. Credit rating may thus be perceived as an important mechanism for building trust in emerging economies such as China. However, not all organizations are willing to adopt the new practice of credit rating. This is the focus of the present study.

¹ Bond issuance has been limited to large SOEs or local governments. From 2000 to 2004, for example, fewer than 50 corporate bonds were issued in China, accounting for less than 1% of the country's financial activity during that period (Kennedy, 2008).

² However, prior to 2001, the Chinese government's policies and regulations were recommendations in many cases. Firms had some discretion in choosing whether to participate in credit rating (please refer to Appendix Table 6).

Firm's non-conformity to credit rating

The structuralist camp in the institutionalization literature emphasizes organizations' conformity to the institutional environment (DiMaggio & Powell, 1983; Meyer & Rowan, 1977; Scott, 2001). Scholars view the institutional environment as mostly a given—a “template for organizing” (DiMaggio & Powell, 1991, p. 27)—and argue that organizations need to adopt prevailing practices to demonstrate social conformity and gain legitimacy to increase the likelihood of survival (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). However, this perspective fails to explain non-conformity (Oliver, 1991), why some organizations conform while others do not, despite their exposure to the same institutional environment.

In contrast, neo-institutional theory emphasizes that organizations can actively negotiate with the institutional environment and have varying degrees of freedom in complying with the environment's demands (Heugens & Lander, 2009; Oliver, 1991). This view asserts that non-conformity can be predicted by the extent to which an organization relies on the institutional environment for support and survival. When an organization has abundant resources and is less dependent on the environment, it can earn accommodations and even demonstrate non-conformity without losing legitimacy (Miller & Chen, 1996; Oliver, 1991; Pfeffer & Salancik, 1978). Milliken (1990), for example, showed that decision-makers in resource-rich organizations perceive less environmental pressure than those in resource-poor organizations, because they are less vulnerable than others to external doubts about their legitimacy.

However, this research strand mainly focuses on how internal resources help shield firms from the pressure to conform, and it fails to explain why firms strategically engage in non-conformity activities. Non-conformity may reflect a deliberate reaction to the environment or an unwitting response (Suchman, 1995). Recent works in institutional theory posit that organizations' strategic non-conformity to a new practice may be driven by their overall judgment of the new practice's legitimacy and strategic importance to them (Bitektine & Haack, 2015; Mishina et al., 2012). Scholars believe that non-conformity studies need to focus on corporate evaluations (Bitektine & Haack, 2015; Durand et al., 2019; Jacqueminet & Durand, 2020). Zhang and Greve (2018) suggested that in dealing with government pressure, the power dynamics between a firm and the state will affect corporate evaluations and should be considered while analyzing non-conformity. Firms with less exposure and more state links tend to enjoy more freedom to delay the adoption of state-endorsed practices.

Following these research strands, we first focus on the effect of evaluations on firms' non-conformity to credit rating. We argue that firm characteristics, such as state ownership and status, affect how firms evaluate the legitimacy and strategic importance of credit rating and their capabilities to cope with the state. Firms will not adopt credit rating when they perceive credit rating as unimportant and have the capability to negotiate with the state. Further, we examine how government intervention moderates the influence of corporate evaluations on non-conformity.

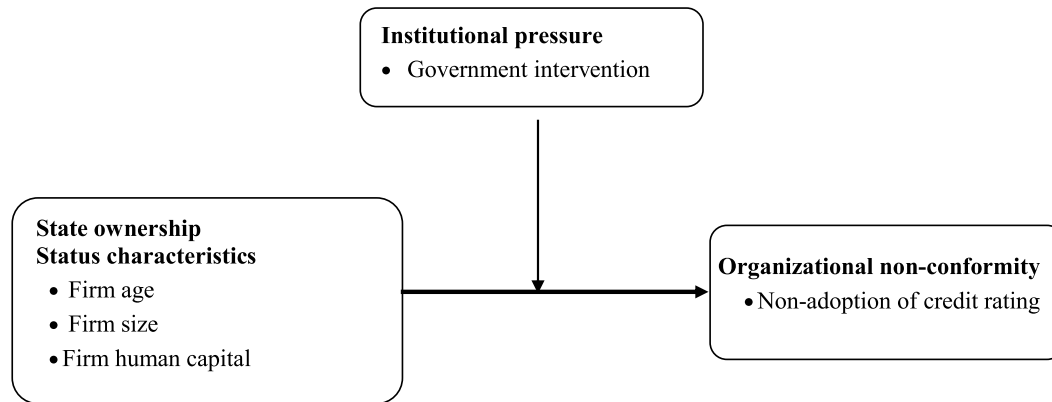


Fig. 1 Legitimacy-based explanation of organizational non-conformity

Hypothesis development

Main effects

This study is designed to consider different corporate evaluations of credit rating in predicting firms' non-conformity behavior. Corporate evaluations, as argued previously, derive mainly from firms' own perceptions of the degree to which they need the legitimacy generated by credit rating (Bundy et al., 2013; Durand et al., 2019) and the power balance between firm and state (Pfeffer & Salancik, 1978; Zhang & Greve, 2018). We focus on two important factors that affect firms' evaluation of credit rating—state ownership and firm status—and their effects on firms' non-adoption of credit rating. We further examine how government intervention may alter the influence of firm evaluations on the non-adoption of credit rating. Figure 1 illustrates the theoretical framework adopted.

State ownership State ownership is still prominent in China, as in many other emerging economies (Li et al., 2014; Peng & Luo, 2000), because the government plays an important role in the economy, and state-owned enterprises (SOEs) are major players in this context (Marquis & Qian, 2014). State ownership is a particularly important source of external legitimacy because it ensures favorable treatment from the government and preferred access to resources (Peng & Luo, 2000). State banks, for example, prefer to lend to SOEs (Haveman et al., 2017). State ownership also helps send a positive signal to other business partners and attract resources from the market, because the government provides long-term financial support and legitimacy for SOEs (Inoue et al., 2013; Sun et al., 2015).

We argue that, since SOEs enjoy sustainable legitimacy and resource support from the government (Inoue et al., 2013; Peng & Luo, 2000), they are likely to perceive credit rating as of less legitimate value because there is no need for them to rely on credit rating. Moreover, the costs associated with credit rating prevent SOEs from adopting it. For instance, rule/policy changes are usually associated with resource demands (Ritchie & Melnyk, 2012). To become rated, SOEs may need to

pay additional costs to change their inherent structure, coordinate with credit rating agencies, and sustain good credit records. Conforming to credit rating also brings risk to SOEs. In the early stages of policy enforcement, uncertainty is generally high because there might be disagreement among different stakeholders during the rule-setting process (March & Olsen, 1989). There are also doubts about the trustworthiness of Chinese credit rating agencies and whether ratings are fair and appropriate (Dhawan & Yu, 2015; Kennedy, 2008). In that case, SOEs would be reluctant to comply with credit rating.

Although SOEs face a high level of political pressure to conform to government requirements (Marquis & Qian, 2014), the case is different in our research settings because credit rating is endorsed rather than mandated by the government. The possibility of rule instability provides room for SOEs to delay or refuse the adoption of a rule change (Zhang & Greve, 2018). Additionally, strong connections with the state help SOEs to cope with the state (Hillman, 2005; Pfeffer & Salancik, 1978) and reduce the riskiness of non-conformity to government-endorsed practices (Silverstein & Hohler, 2010), because they are familiar with bureaucratic operations and maintain a good communication network with existing politicians and bureaucrats (Zhang et al., 2016). Hence, we argue that firms with state ownership in emerging economies are more likely to engage in the non-adoption of credit rating than other firms.

Hypothesis 1 (H1) In emerging economies, firm state ownership positively affects the non-adoption of credit rating, exhibiting non-conformity to new practices such as credit rating.

Firm status Status characteristics theory (Berger et al., 1977; Webster & Foschi, 1988) predicts that differences in actors' social characteristics, such as gender, age, and education, may affect audiences' beliefs about the abilities of actors and performance expectations toward them (Webster & Hysom, 1998), which subsequently determine who has stronger influences over others (Berger et al., 1977; Libaers, 2014).

In this study, we examine how firm status characteristics affect organizational non-conformity in emerging economies via influencing the interactions among firms and other stakeholders. We argue that firm status affects a firm's judgement of legitimacy with regard to credit rating and also the power dynamics between the firm and state. First, high- and low-status firms deem credit rating as having more costs than benefits, so they are more likely to refuse credit rating. For high-status firms that already have high visibility (Sauder et al., 2012), the role of credit rating in helping send positive information to potential investors is not that important. They will be unwilling to adopt credit rating, especially when it may incur costs for them in terms of additional resources spent on cooperating with rating agencies, possible inside information leakage, and uncertainty associated with credit rating rules (Dhawan & Yu, 2015). High-status firms also could refuse credit rating, since they are deemed as legitimate "beyond doubt" (Phillips & Zuckerman, 2001, p. 385) and can disregard negative audience evaluations of their non-conformity due

to their stable positions (Sharkey, 2014). For low-status firms, although adopting credit rating enhances their legitimacy to other stakeholders, they are prone to being given low ratings by credit rating agencies, which brings about negative effects, so they would rather avoid being rated. The implementation costs of credit rating also deter their conformity because they face a high level of survival pressure and are unwilling to allocate scarce resources to implement credit rating. Low-status firms are not fearful of negative evaluations and sanctions from stakeholders associated with the non-adoption of credit rating because they have little to lose (Durand & Kremp, 2016). Hence, credit rating is of little legitimate value for both high- and low-status firms.

In contrast, middle-status firms are most likely to perceive the legitimacy of credit rating as important for them, because they are striving to sustain their status and cannot afford the legitimacy loss associated with non-conformity (Durand & Kremp, 2016). They would also reap additional rewards from adopting credit rating aside from maintaining legitimacy, as being rated can help overcome information asymmetry between firms and their stakeholders and make it easier for firms to attract resource support (Chatterji & Toffel, 2010). Compared with low-status firms, middle-status firms have more to lose from sanctions and hence are less concerned with the implementation costs and uncertainty of credit rating. This is like the middle-status phenomenon verified in other contexts in sociological studies (Phillips & Zuckerman, 2001). Hence, we propose that firm status has a U-shaped relationship with the non-adoption of credit rating, with middle-status firms facing the strongest pressure to conform.

Second, the power dynamics between high- and low-status firms and the government are different. Status characteristics theory suggests that status characteristics affect others' perceptions of the competence and prominence of the focal actor, which subsequently translate into different interactions among the actor and others in terms of power and prestige (Libaers, 2014; Webster & Hysom, 1998). Jung and Lee (2023) found that a firm's status affects how government officials conduct rent-seeking behavior toward it. In general, high-status firms are more respected by the government than low-status firms because they are deemed more competent (Webster & Hysom, 1998). Especially in transition economies where governments rely on high-status firms to boost the economy, high-status firms enjoy huge bargaining power over governments. In this sense, high-status firms have more freedom to cope with the government in terms of credit rating non-adoption. For low-status firms at the bottom of hierarchy, less pressure is imposed on them to adopt credit rating since they are perceived as incapable by stakeholders, including the government (Berger & Zelditch, 1998; Bitektine, 2011). Regarding middle-status firms, however, the government expects them to adopt credit ratings, not only because they possess sufficient capability to follow the new rules, but also because they rely on the government to obtain resources and support.

Firm status is generally indicated by a firm's relative standing among other firms in developed economies, in terms of factors such as centrality (Edman & Makarevich, 2020) or the number of accumulative good records a firm holds (Prato et al., 2019). In emerging economies such as China, however, the market intermediary is not yet well-developed and firms' statuses change rapidly, so using a firm's relative standing to indicate status would yield unreliable results. Status characteristics theory suggests that age, size, and level of education may be significant status

characteristics (Berger et al., 2002; Bianchi et al., 2012). We follow this perspective and identify three factors that may reflect firm status in emerging economies, namely a firm's age, size, and human capital. Below, we will explain them successively and how they may affect a firm's non-conformity to credit rating.

Firm age Old firms are perceived as having strong capabilities, reliability, and credibility (Baum & Shipilov, 2006; Henderson, 1999), because longevity allows a firm to accumulate distinctive resources, skills, and experience, making age an important indicator of legitimacy (Singh et al., 1986). Age also reflects the extent of a firm's institutional relationships and is associated with legitimacy, because older firms generally enjoy a broader range of influence and endorsement than younger firms (Baum & Shipilov, 2006). Such institutional relationships are more important for firms in transition economies such as China due to the government's consistent involvement in the economy (Hoskisson et al., 2000; Peng & Heath, 1996). Hence, older firms in transition economies are generally viewed as having high reputation (Dobrev & Carroll, 2003), because compared with young firms, they are more legitimate and reliable in the eyes of stakeholders, especially the government (Freeman et al., 1983; Henderson, 1999). For older firms, the legitimacy they have built up reduces their dependence on external validation (Kraatz & Zajac, 2001), thus increasing their status and enhancing their bargaining power over the government. Young firms, by contrast, often lack social approval and external credibility, since stakeholders may not yet fully understand them. Hence, the legitimacy that credit rating carries is more important for younger firms than for older firms. According to the above arguments, when age is an indicator of firm status in emerging economies, too old or too young firms will not perceive credit rating as important and thus will be unwilling to adopt it. Conversely, firms of middle age will be more likely to adopt it to gain legitimacy, despite the additional costs.

Hypothesis 2a (H2a) In emerging economies, firm age will have a U-shaped relationship with the non-adoption of credit rating, such that older or younger firms are less likely to adopt it.

Firm size Size is another important indicator of a firm's status in emerging economies. In developed economies, being large is interpreted as an outcome of a firm's prior success and accumulated reputation, status, and prestige (Baum & Oliver, 1991; Phillips & Zuckerman, 2001). Large firms generally have the resources, freedom, and experience to deviate from industry norms (Miller & Chen, 1996) and bargain with their environment (Moon & Lado, 2000). In transition economies, organizational size carries additional institutional meaning. Large size represents a high employment level and is aligned with the government's preference for employment (Shinkle & Kriauciunas, 2010), so big firms are generally viewed as legitimate by the government (Freeman et al., 1983) and enjoy high bargaining power (Park & Luo, 2001). By contrast, small firms may lack social approval and external legitimacy, and may experience some sort of "liability of smallness" (Singh et al.,

1986). Their bargaining power with the government tends to be weak in transition economies due to their small employment impact (Park & Luo, 2001). Hence, the legitimacy that credit rating carries is important for them and is also hard for them to refuse. In line with the above argument, as size is one indicator of firm status in emerging economies, very large or very small firms will not perceive credit rating as important and thus will be unwilling to adopt it. Conversely, firms of a middle scale which are under strong institutional pressure are more likely to adopt it to gain legitimacy.

Hypothesis 2b (H2b) In emerging economies, firm size will have a U-shaped relationship with the non-adoption of credit rating, such that very big or very small firms are less likely to adopt it.

Firm human capital Firm human capital reflects the knowledge, skills, and abilities of individuals within a firm (Becker, 1964; Ployhart & Moliterno, 2011), and is often viewed as a key source of sustained competitive advantage (Coff, 1997; Hatch & Dyer, 2004) and a key driver of corporate reputation (Chadwick & Dabu, 2009). Since it is often difficult for external stakeholders to observe and evaluate the internal capabilities of a firm, external stakeholders often rely on more visible indicators to make their judgement. In the labor market, for example, economists emphasize the importance of human capital and the signaling effect of education level—completing a degree, or the so called “diploma effect”—and consider it as a dominant explanation for high returns to education (Liu & Wong, 1982; Frazis, 2002; Jaeger & Page, 1996). In the field of entrepreneurial financing, research has well explored the signaling value of corporate human capital to early-stage equity financing (Bernstein et al., 2017), especially under conditions of scarcity of reliable information about a venture and high market uncertainty (Kollmann & Kuckertz, 2010). In such a context, the founder/founding team’s human capital in the form of education and experience are frequently used to discern between high-status and low-status new ventures (Becker-Blease & Sohl, 2015; Svetek, 2022).

We therefore propose that, in transitional economies such as China, where market information is generally incomplete, stakeholders must rely on more visible and objective signals, such as the human capital of employees, to assess a firm’s status and growth potential. In addition, human capital reflects a firm’s importance to the government. Firms with strong human capital are deemed as possessing high status, especially in China, because the government often has high expectations of elites, expecting them to pioneer certain essential projects, that is, those representing national pride and/or with greater risk (Li et al., 2022).

As human capital is an indicator of firm status in emerging economies, firms with very strong or very weak human capital will not perceive credit rating as important and thus will be unwilling to adopt it. Firms with very strong human capital have much freedom to engage in non-conformity due to their huge bargaining power over the government. Firms with very weak human capital are unlikely to adopt credit

rating because they are not able to do so. Hence, the legitimacy that credit rating carries is not important for firms with very strong or very weak human capital. Conversely, firms with a moderate level of human capital are more likely to comply with state rules in terms of credit rating, as they have both the incentive and capability to adopt credit rating.

Hypothesis 2c (H2c) In emerging economies, firm's human capital will have a U-shaped relationship with the non-adoption of credit rating, such that firms having very strong or very weak human capital are less likely to adopt it.

Firms simultaneously belong to multiple institutional settings, and these different environments will change their evaluations of credit rating. We propose that the degree of government intervention will alter the effects of state ownership and firm status on non-conformity by affecting the institutional pressure imposed on firms and changing the power balance between the firm and the government.

The moderating effect of government intervention

In emerging economies moving toward a market-oriented system, the government continues to be involved in the economy (Hoskisson et al., 2000; Makhija, 2003; Poynter, 1982). The government still aspires to influence firms by defining, diffusing, and enforcing certain norms and preferred practices. Hence, firms in emerging economies must deal with unpredictable government interventions on various levels. For instance, China's credit rating industry has been marked by strong government intervention. The government has directed the development of the credit rating system and implemented policies to reward firms' adoption decisions. Some policies even connect a firm's adoption of credit rating with its ability to obtain financing from banks.

When government intervention is active, the likelihood of "getting caught" and being punished is greater and the penalties for noncompliance tend to be tangible and more severe (Oliver, 1991). Hence, the institutional pressure to adopt credit rating becomes great for organizations when the government interferes in the economy. To avoid formal or informal government sanctions, firms would be less likely to risk non-conformity. In such a situation, the legitimacy value of credit rating increases, thereby decreasing the effects of corporate attributes, including state ownership and firm status. In contrast, when government intervention abates, the institutional pressure felt by firms decreases and firms enjoy greater bargaining power over the government. It thus becomes less risky for a firm to manipulate or even defy institutional norms and expectations, and firms with a low level of perceived legitimacy value with regard to credit rating should then be more likely to demonstrate non-conformist behavior.

For SOEs, the perceived legitimacy value of credit rating increases when government intervention becomes stronger. When the government intervenes more in the economy, it exerts stronger political pressure on SOEs and increases the legitimacy of credit rating. SOEs would find it harder to engage in non-adoption, not only

because non-conformity is easier to be noticed and punished by an active government, but also because SOEs have lower bargaining power over the government in regions with strong government intervention. They may choose to adopt credit rating in a symbolic way even though it involves costs. At the same time, government-endorsed credit rating becomes strategically important for SOEs, because the adoption of it will help firms obtain more valuable resources from the government. In this sense, adopting credit rating enhances legitimacy and becomes more important when government intervention is strong, thus weakening the positive effect of state ownership on non-conformity.

Hypothesis 3 (H3) Government intervention weakens the relationship between state ownership and non-conformity such that firms with state ownership are less likely to engage in non-adoption behavior when the environment is characterized by a high level of government intervention.

When government intervention becomes stronger, firms will reconsider their non-adoption behaviors because the benefits and costs associated with credit rating will change. According to resource dependence theory, when government intervention is strong, firms rely more on the government for critical resources (Pfeffer & Salancik, 1978). Hence, the legitimacy value and benefits associated with adoption of credit rating increase when the government is more engaged in the economy. At the same time, firms will find it harder to bear government sanctions when government intervention is strong, because refusing government-endorsed practices may generate huge losses in political legitimacy when government intervention is strong (Marquis & Qian, 2014). For these reasons, we propose that firm status plays a less crucial role in determining the non-adoption of credit rating when government intervention is stronger.

Hypothesis 4 (H4) Government intervention moderates the U-shaped relationships observed in H2a-H2c in such a way that the same level of firm status (firm age, firm size, and firm human capital) corresponds to a lower level of non-adoption when government intervention is high.

Methods

Data and sample

This study is based on an annual survey of Chinese chief executives and owners. It was conducted at the national level by a government research agency, the “Chinese Entrepreneur Survey System” (CESS). Affiliated with the Development Research Center of the State Council, the CESS has conducted surveys of firms nationwide every year since 1993 and supplied information to the central government, which is used to inform policy decisions. The data provided by CESS have been widely used in previous studies (e.g., Li & Tang, 2010) and are of good quality.

We use the data collected by CESS in 2001. From August to October 2001, the CESS mailed questionnaires to the CEOs of 15,000 firms and received 4,695 usable responses, representing a response rate of 31.3%. The firms surveyed constituted a proportional sample based on industry, location, ownership, and size. The survey included both general questions about the business environment and specific questions about firm characteristics, including profit-related variables and whether, among many other elements, the firm had participated in credit rating and what rating it obtained. The survey also provided demographic information regarding 135 non-respondents in our sample. Cross-tabulation analyses of the 135 non-respondents and 4,695 respondents revealed no significant industry, location, ownership, size, or age differences between the respondents and non-respondents. We also cross-checked the internal consistency and reliability of the data by analyzing questions on the same topic contained in the database. We employed objective data in our regression analyses to ensure common method variance did not impose significant inflation on the results.

The data were used to test the hypotheses. The analyses were confined to the data on manufacturing firms (63.9% of respondents). This focus facilitated the analysis of institutional factors, since firms within the same industry share the same suppliers, consumers, and regulators, and are subject to similar pressures (DiMaggio & Powell, 1983). There were 32 bond issuers in our sample. Given that the reasons for bond issuers to adopt credit rating may be different from those of other firms, we excluded these bond issuers from our sample and focused on voluntary conformity of firms. After excluding responses with missing values, the final sample consisted of 2,708 firms. They were located throughout China and were involved in 30 fields of manufacturing. The respondent firms were heterogeneous in terms of age, size, and ownership. The median number of employees was 420 and the median firm age was 16 years. In terms of ownership, 23% were state-owned. The average profit margin was self-reported as 7.1% and the average debt/asset ratio was 57.3%. A total of 1,854 of the CEOs (67.7%) stated their firm had been rated at least once, and 816 (29.8%) stated their firm had never been rated. The respondents were predominantly male (95.7%) and were 47.5 years old on average. In terms of education, 40.3% had college degrees or above. About 40.4% admitted to having been politically appointed.

Variables

The survey asked whether the CEO's firm had participated in credit rating at least once. The responses were coded as a dummy variable, *non-adoption*, using the value of one to indicate firms that had not participated in credit rating. This was the study's primary dependent variable.

Firm *state ownership* was represented by a dummy coded as one for state-owned or state-controlled firms, and zero otherwise. *Firm age* was the number of years

since the firm was founded, and *firm size* was the firm's total number of full-time employees. Given that the distributions of both age and size were highly skewed, logarithmic transformations were applied in the analysis. We also considered *firm human capital* as an important indicator of status, and measured it as the proportion of employees with a bachelor's degree or above. We included the square of firm age, size, and human capital in the model to test the curvilinear relationship between firm status and non-conformity.

We considered the impact of institutional forces in different regions in China. Institutional systems in China are fragmented, with substantial regional disparities in institutional development leading to institutional pressure being strongly correlated with a firm's location. The National Economic Research Institute (NERI) publishes an index quantifying government intervention and institutional development in China's 31 provinces (Fan et al., 2011). The NERI Index is composed of five aspect indices covering the transition of the economic, social, and legal systems. Specifically, *government intervention* was quantified using the negative of the reduction in the NERI government intervention index for 2001. A reduction in the government intervention index reflects less government intervention, and its negative value thus reflects a high level of government intervention in business.

We controlled the impacts of the CEO's education and foreign experience, and whether the CEO was politically appointed. The respondents were asked to choose their highest level of education, with "1" denoting a preliminary degree or below and "7" denoting a PhD degree. The CEOs were also asked whether they had any overseas education or working experience. *CEO foreign experience* was measured by a dummy variable coded as one for those with overseas experience, and zero otherwise. Moreover, in China, the state and the local government are often—directly or indirectly—the largest shareholders in corporations. They retain ultimate control of personnel in the corporate sector, including the right to appoint CEOs. *The political appointment of the CEO* was represented by another dummy variable coded as one for those who were politically appointed, and zero otherwise.

A *bank loan financing* indicator (financing by bank loans=1; other forms of financing=0) indicated each firm's principal way of financing its operations. We checked for a firm's overdue situation (i.e., whether other firms own a firm's money). Whether firms were listed on a stock exchange (listed company = 1; others = 0) was another control variable (*listed firm*). These variables may influence whether a firm seeks a rating.

We controlled for the *profitability* status of the firm. It was measured as the profit to sales ratio over the most recent half-year period, and the firm's predicted overall performance next year (1 = better; 2 = unchanged; and 3 = worse). *Leverage ratio* is the ratio of a firm's debts to its total assets, which may influence a firm's decision to be rated (Gray et al., 2006), and was controlled for.

Dummy variables indicated the respondents' 31 provinces were controlled, to account for regional differences. Industry dummies represented the respondents' 30 manufacturing sectors. Since the adoption of credit rating might be influenced by observing adoption undertaken by other firms in the sector, an *industry adoption* variable was created to represent the percentage of firms in each manufacturing sector that had participated in credit rating. As it turned out, the effect of the industry

adoption variable disappeared and hence the industry adoption variable was dropped in the final models when including industry dummies in the regression analyses.³

Modeling

As the dependent variable of whether a firm had participated in credit rating had a binary value of either one or zero, logistic regression with robust variance estimation was used to test the hypotheses (Long, 1997).⁴ The logistic regression model assumes that the log-odds of experiencing an event $p(x)$, in this case, not participating in credit rating, can be expressed as a linear function of the k input variables X :

$$\log \frac{p(X)}{1 - p(X)} = \beta_0 + \beta_1 X_1 + \dots + \beta_k X_k,$$

Solving for $p(X)$, this gives:

$$p(X) = \frac{\exp(\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k)}{1 + \exp(\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k)}$$

where $p(X)$ represents the probability of a firm not participating in credit rating, given the set of explanatory variables X . The coefficient β associated with X gives the change in the log-odds of not participating in credit rating for a one-unit change in variable X . Likelihood-ratio tests were applied to compare alternative models with a baseline model and to generate likelihood-ratio chi-square statistics. We winsorized all continuous variables at the 1% and 99% levels to reduce the noise of outliers. We also mean-centered variables included in interaction terms to avoid multicollinearity.

Results

Table 1 presents descriptive statistics and correlations describing the variables. The table shows that the correlations among the key variables were not very high, indicating that multicollinearity was not a major concern. We also checked for multicollinearity by calculating the VIF values of the key variables involved in the regression. All the VIF values were below two, further indicating that multicollinearity was not a key issue in this research. To avoid possible collinearity among the squared and interaction terms, the variables involved were all mean centered by subtracting the mean from each value (Aiken & West, 1991).

Table 2 presents the results of the logistic regressions. Model 1 is the baseline model, including only the control and moderating variables. Model 2 tested the main

³ Alternatively, the industry adoption variable was included in a model while dropping the 30 industry dummies; the results remained consistent.

⁴ We used both a logistic model and a probit model and found they produced very similar results. We therefore only report the results produced by the logistic model.

Table 1 Descriptive statistics and correlation matrix

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. Non-adoption	.306	.461	1.000									
2. State ownership	.230	.421	.053*	1.000								
3. Firm age (ln)	3.192	.618	-.123*	.359*	1.000							
4. Firm size (ln)	6.087	1.354	.208*	.265*	.355*	1.000						
5. Firm human capital (%)	.096	.110	.044*	-.046*	-.173*	-.142*	1.000					
6. Government intervention	-6.789	1.287	.063*	.143*	.052*	.090*	.009	1.000				
7. CEO education	3.372	1.098	-.024	.112*	-.023	.214*	.204*	.077*	1.000			
8. CEO foreign experience	.730	.444	-.119*	-.062*	-.014	.236*	.114*	-.119*	.171*	1.000		
9. CEO political appointment	.426	.495	.033	.476*	.251*	.322*	-.071*	.121*	.187*	.038*	1.000	
10. Depend. on bank loans financing	.795	.404	-.256*	-.004	.080*	.183*	-.021	-.086*	.055*	.165*	.034	1.000
11. Overdue obligations to suppliers	.933	.250	-.060*	.103*	.128*	.079*	-.005	.054*	.017	-.021	.052*	.054*
12. If listed firm	.063	.243	-.061*	-.037*	-.025	.182*	.043*	.014	.118*	.072*	.075*	.049*
13. Ratio of profits to sales	.071	.156	-.064*	-.089*	-.077*	-.035	.106*	-.016	.055*	.042*	-.085*	-.032
14. Predicted profitability next year	.311	.66	-.017	-.070*	-.094*	-.031	.089*	-.032	.036	.060*	-.110*	.047*
15. Leverage ratio	.573	.377	.003	.229*	.217*	.155*	-.133*	.079*	.009	-.082*	.153*	.049*
16. Industry-level adoption	.695	.071	-.159*	.051*	.076*	.111*	-.047*	.036	.010	-.013	.066*	.051*
	Mean	S.D.	11	12	13	14	15					
12. If listed firm	.063	.243	.027	1.000								
13. Profits-to-sales ratio	.071	.156	-.015	.023	1.000							
14. Predicted profitability next year	.372	.789	-.004	.001	.076*	1.000						
15. Leverage ratio	.573	.377	.115*	-.048*	-.153*	-.152*	1.000					
16. Industry-level adoption	69.598	7.179	.035	.026	-.004	.027	.035					

* $p < .05$

Table 2 Coefficients of logistic regressions predicting the non-adoption of credit rating

DV= "non-participation"	(1)	(2)	(3)	(4)	(5)
	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	4.476*** [1.076]	3.765*** [1.134]	3.376** [1.138]	4.512*** [1.145]	3.140* [1.258]
CEO education	-.049 [.051]	-.034 [.052]	-.042 [.054]	-.048 [.054]	-.051 [.054]
CEO foreign experience	-.450*** [.131]	-.229 [.142]	-.193 [.144]	-.237† [.143]	-.206 [.146]
CEO political appointment	.214† [.117]	.249† [.139]	.260† [.140]	.252† [.141]	.267† [.141]
Dependent on bank loan financing	-1.161*** [.133]	-1.113*** [.141]	-1.077*** [.142]	-1.121*** [.140]	-1.094*** [.142]
Over-due obligations to suppliers	-.721** [.241]	-.771** [.235]	-.765** [.237]	-.787*** [.237]	-.800*** [.239]
If listed firm	-.566* [.252]	-.332 [.275]	-.310 [.273]	-.313 [.281]	-.304 [.280]
Profit-to-sales ratio	-1.099* [.528]	-1.120* [.559]	-1.047* [.510]	-1.120* [.556]	-1.105* [.468]
Predicted performance next year	-.038 [.074]	-.064 [.078]	-.059 [.078]	-.062 [.078]	-.057 [.079]
Leverage ratio	-.029 [.166]	.150 [.183]	.172 [.186]	.184 [.182]	.227 [.186]
Industry level adoption	-.051*** [.008]	-.050*** [.008]	-.050*** [.008]	-.049*** [.008]	-.048*** [.008]
Government intervention	-.106 [.114]	-.081 [.119]	-.092 [.119]	.044 [.123]	-.088 [.145]
Main effects					
State ownership		.620*** [.167]	.591*** [.167]	.700*** [.168]	.656*** [.169]
Firm age		-.406*** [.115]	-.388*** [.113]	-.426*** [.116]	-.402*** [.114]
Firm size		-.218*** [.050]	-.242*** [.054]	-.279*** [.055]	-.334*** [.057]
Firm human capital		-.032 [.580]	-1.747† [.969]	-.008 [.589]	-1.808† [.978]
(Firm age) ²			.374* [.176]		.354† [.181]
(Firm size) ²			.074*** [.024]		.039 [.025]
(Firm HR) ²			5.786* [2.769]		6.284* [2.930]

Table 2 (continued)

DV= "non-participation"	(1)	(2)	(3)	(4)	(5)
	Model 1	Model 2	Model 3	Model 4	Model 5
Moderating effects					
Government intervention*State ownership				-.356**	-.341**
				[.122]	[.124]
Government intervention*Firm age				.129	.136
				[.088]	[.088]
Government intervention*Firm size				-.015	-.052
				[.042]	[.041]
Government intervention*Firm HR				-.096	-1.290†
				[.500]	[.768]
Government intervention*(Firm age) ²					-.063
					[.152]
Government intervention*(Firm size) ²					.049**
					[.018]
Government intervention*(Firm HR) ²					4.460†
					[2.417]
pseudo-R-sq	.133	.164	.170	.169	.180
Log lik.	-991.372	-894.451	-887.925	-888.909	-877.972
Chi-squared	242.694***	257.881***	267.896***	265.533***	284.168***
AIC	1.114	1.041	1.037	1.039	1.034
BIC	-11913.528	-11370.341	-11360.910	-11351.450	-11328.359
Rate of correct classification	75.38%	76.79%	76.85%	77.02%	76.79%

Standard errors in brackets; † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

AIC: Akaike's Information Criterion; BIC: Bayesian Information Criterion;

effects of the independent variables: firm state ownership, firm age, firm size, and firm human capital.

The results of model 2 in Table 2 indicate that all these variables, except firm human capital, have significant relationships with firm non-adoption behavior. Consistent with our hypotheses, state ownership (H2, $\beta = .620$; $p < .001$) is a significant predictor, suggesting that firms with state ownership are more likely to risk going without credit rating. In particular, the SOE group has 85.9% ($e^{(.620)} = 1.859$) higher odds of not participating in credit rating, compared with the non-SOE group. Firm age ($\beta = -.406$; $p < .001$) and firm size ($\beta = -.218$; $p < .001$) have negative linear relationships with non-participation in credit rating. A one unit increase in firm age and size is associated with a reduction of 33% ($e^{(-.406)} = .667$) and 20% ($e^{(-.218)} = .804$)

Table 3 Analysis of the marginal effects on the probability of non-participation

DV = "non-participation"	(1)	(2)	(3)	(4)	(5)
	Coefficient	Marginal effect at the mean	Marginal effect at the min.	Marginal effect at the max.	Average of the marginal effects
State ownership	.620** [.167]	.101*** [.027]	.096*** [.024]	.114*** [.033]	.113*** [.030]
Firm age	-.406*** [.115]	-.066*** [.018]	-.076*** [.023]	-.040*** [.004]	-.074*** [.020]
Firm size	-.218*** [.050]	-.047*** [.009]	-.055*** [.009]	-.022*** [.001]	-.051*** [.009]
Firm human capital	-.032 [.580]				

Standard errors in brackets; † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

in the odds of not participating in credit rating. Wiersema and Bowen (2009) suggested computing the marginal effects of explanatory variables in LDV (limited dependent variable) models like logit models. The marginal effect tells the effect of a unit change in an explanatory variable on the dependent variable, which does not equal the variable's model coefficient. We followed their recommendations to further explore the marginal effects of these variables on non-participation in model 2 of Table 2. Table 3 reports the values of the marginal effects, standard errors, and significance levels at the mean, minimum, and maximum of the key independent variables. Column 1 reports the estimated model coefficients (as reported in model 2 of Table 2), columns 2–4 report the value and significance of the marginal effect for each model variable computed at the mean, minimum, and maximum of the model variables. Column 5 reports a summary measure of these results, computing the value of the marginal effect and the significance level at the means of all model variables. The variables of firm state ownership, firm age, and firm size were shown to have linear relationships with non-participation in credit rating. Firm state ownership has a positive effect on non-participation in credit rating (AME = .113, $p < .001$), supporting hypothesis 1, while firm age (AME = -.074, $p < .001$) and firm size (AME = -.051, $p < .001$) have negative effects on non-participation in credit rating.

Model 3 in Table 2 includes the squared terms of firm age, firm size, and firm human capital, to test the U-shaped relationships. Consistent with Hypotheses 2a, 2b, and 2c, the results of model 3 show strong and significant curvilinear effects for firm age, size, and human capital, with a significantly negative linear term and a significantly positive quadratic term. The explanatory power also increases from .164 (model 2) to .170 (model 3).

We followed the recommendations of Haans et al. (2016) and Zhang et al. (2020) to perform supplementary analysis for the U-shaped curve. First, we used the U test developed by Lind and Mehlum (2010) and found that the U-shape curve is significant at the 5% level. Model 3 in Table 2 suggests that the inflection point occurs at

.51 for mean-centered firm age, 1.63 for mean-centered firm size, and .15 for mean-centered firm human capital, which is within or around one standard deviation of firm age (logged; $\text{std} = .62$), firm size (logged; $\text{std} = 1.35$), and firm human capital ($\text{std} = .11$). We also found that the marginal effects of firm age, firm size, and firm human capital on non-participation at both their minimum and maximum values are strong enough to qualify an inverted U-shaped relationship. The results suggest that an increase in firm age, size, and human capital is first associated with a reduction in the possibility of non-participation in credit rating, and then an increase in the possibility of non-participation in credit rating. Compared with firms in the middle, firms that are old, are large, or have a high level of human resources, and firms that are young, are small, or have poor human resources, are more likely to risk non-adoption, and hypotheses 2a, 2b, and 2c are thus supported.

Models 4 and 5 in Table 2 tested the moderating effects (hypotheses 3 and 4). Model 4 tested the moderating effects of government intervention on the linear relationships between the four independent variables and a firm's non-participation in credit rating. Model 5 further considered the squared terms of firm age, size, and human capital. As shown by model 5 in Table 2, government intervention weakens the positive relationship between a firm's state ownership and a firm's non-participation in credit rating. Model 5 in Table 2 also indicates that government intervention significantly moderates the relationship between firm size, firm human capital, and a firm's non-adoption of credit rating. The interactions between government intervention and firm age, including both the linear and the quadric effects, were not significant.

As suggested by Wiersema and Bowen (2009), in an LDV model, the influence of a moderator variable on the relationship between an explanatory variable and the dependent variable may not be directly illustrated by the sign and statistical significance of the estimated coefficient on the interaction variable in the model. Instead, a moderating effect is itself a marginal effect, and hence a moderator hypothesis in an LDV model should be tested by examining the sign (positive or negative) and statistical significance of the values of the moderator variable's marginal effect on the relationship between the explanatory variable and the dependent variable over all sample values of the model variables. We thus conducted a series of sub-group analyses to further explore the marginal effects of the moderating variables. Tables 4 and 5 report the results of the subgroup analysis and the marginal effects of the moderating variables.

The results shown in Table 4 indicate that the impacts of the key independent variables on non-participation vary with different levels of government intervention. The positive relationship between state ownership and non-participation is weakened in areas with a high level of government intervention.

Table 5 reports the average marginal effects of the four independent variables in environments with different levels of government intervention. As can be seen from Table 5, when the level of government intervention is low, firm state ownership ($\text{AME} = .128, p < .001$) demonstrates a linear relationship with non-participation in credit rating, while when government intervention is high, the positive relationship between firm state ownership ($\text{AME} = .122, p < .01$) and non-participation is

Table 4 Sub-group analysis of the moderating effects

DV= "Non-participation"	Model 1	Model 2
	Low intervention	High intervention
Constant	4.008** [1.222]	3.887** [1.287]
CEO education	-.102 [.074]	.019 [.081]
CEO foreign experience	-.282 [.205]	-.117 [.208]
CEO political appointment	.307 [.191]	.204 [.208]
Dependent on bank loan financing	-1.190*** [.207]	-1.012*** [.199]
Over-due obligations to suppliers	-.846** [.303]	-.722† [.410]
If listed firm	-.216 [.401]	-.378 [.384]
Ratio of profit to sales	-.903 [.833]	-1.060^ [.606]
Predicted performance next year	-.009 [.111]	-.089 [.113]
Leverage ratio	.365 [.317]	.097 [.236]
Industry level adoption	-.041*** [.011]	-.061*** [.012]
State ownership	.763** [.238]	.437† [.240]
Firm age	-.232 [.150]	-.212 [.177]
Firm size	-.300*** [.079]	-.380*** [.080]
Firm human capital	-.997 [1.274]	-2.820† [1.519]
(Firm age) ²	.369 [.233]	.324 [.279]
(Firm size) ²	-.029 [.035]	.113*** [.033]
(Firm HR) ²	4.184 [4.005]	8.040† [4.333]
pseudo R-sq	.181	.172
Log lik.	-473.100	-405.966
Chi-squared	156.058	126.688
N	1004	793

Standard errors in brackets; † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5 Marginal effect analysis of the moderator: Government intervention

DV = "non-participation"	(1) low		(2) high		
	Coeff.	AME	Coeff.	AME	AME
					<turning point >turning point
State ownership	.763** [.238]	.128*** [.039]	.437† [.240]	.122** [.040]	
Firm age	-.232 [.150]		-.212 [.177]		
Firm size	-.300*** [.079]	-.050*** [.013]	-.380*** [.080]	-.069** [.023]	.068† [.036]
Firm human capital	-.997 [1.274]		-2.820† [1.519]	-.079*** [.016]	.108* [.048]
(Firm age) ²	.369 [.233]		.324 [.279]		
(Firm size) ²	-.029 [.035]		.113** [.033]		
(Firm Human Capital) ²	4.184 [4.005]		8.040† [4.333]		

Standard errors in brackets; † $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

AME = Average Marginal Effects

weakened. The results suggest that state-owned firms are more likely to refuse credit rating when government pressure is low rather than high, supporting hypothesis 3.

Firm size demonstrates a negative relationship with non-participation when government intervention is low (AME = $-.050$, $p < .001$) and a U-shaped relationship when government intervention is high (AME = $-.069$, $p < .01$ when size < turning point, and AME = $.068$, $p < .1$ when size > turning point). This suggests that the middle-status conformity phenomena regarding firm human capital and firm size is more significant in an environment with a high level of government intervention. Firm human capital has an insignificant relationship with non-participation when government intervention is low, but has a U-shaped relationship (AME = $-.079$, $p < .001$ when firm human capital < turning point, and AME = $.108$, $p < .05$ when firm human capital > turning point) with non-participation when government intervention is high.

To give a more direct illustration of the patterns of the interaction effects in predicting firm non-participation behavior, the significant interaction effects (with confidence at the $p \leq .05$ level or better) are plotted in Figs. 2, 3 and 4 using levels of the moderating variables one standard deviation above and below the mean (Aiken & West, 1991) based on the coefficients in the full model (Model 5 in Table 2) (Hoetker, 2007). Figure 2 shows that when operating in an environment with a high level of government intervention, firms with state ownership are less likely to risk non-participation in credit rating. Figures 3 and 4 indicate that when the environment is characterized by a high level of government intervention, firms with the same size

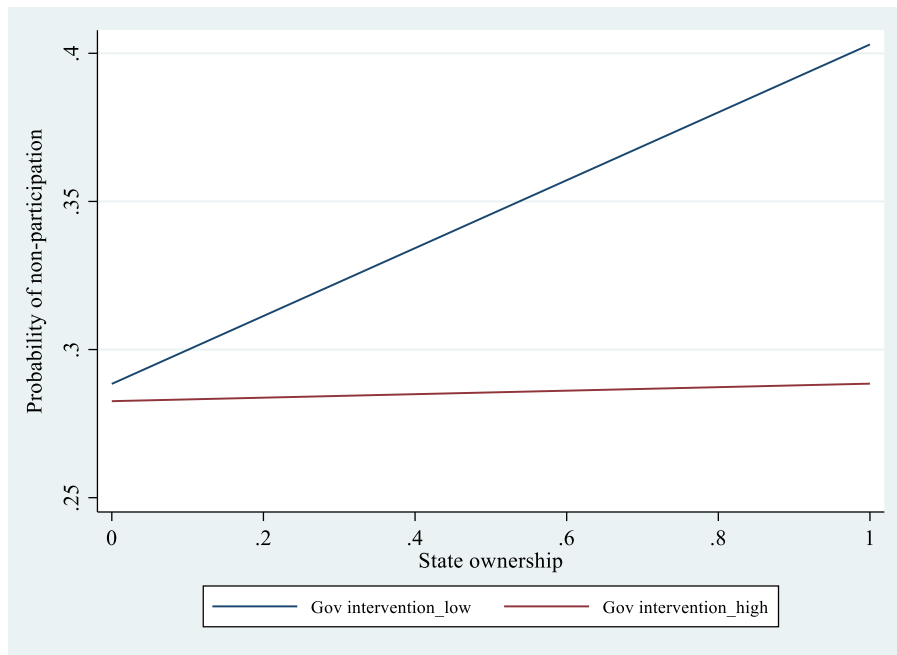


Fig. 2 The moderating effect of government intervention on firm state ownership and non-participation in credit rating

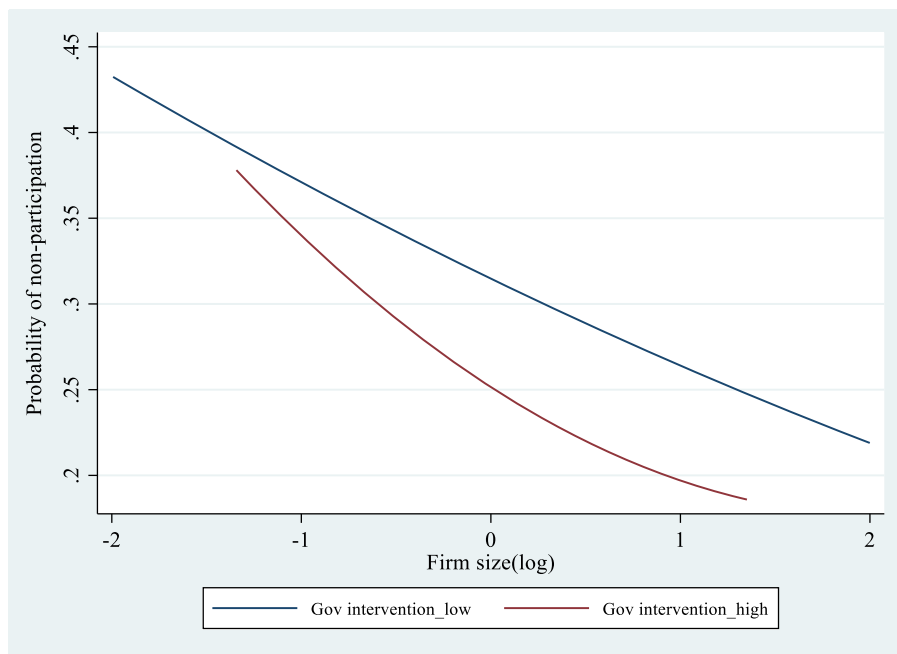


Fig. 3 The moderating effect of government intervention on firm size and non-participation in credit rating

or firms with the same level of human capital will correspond to a lower likelihood of non-participation in credit rating than firms operated in an environment with low government intervention.

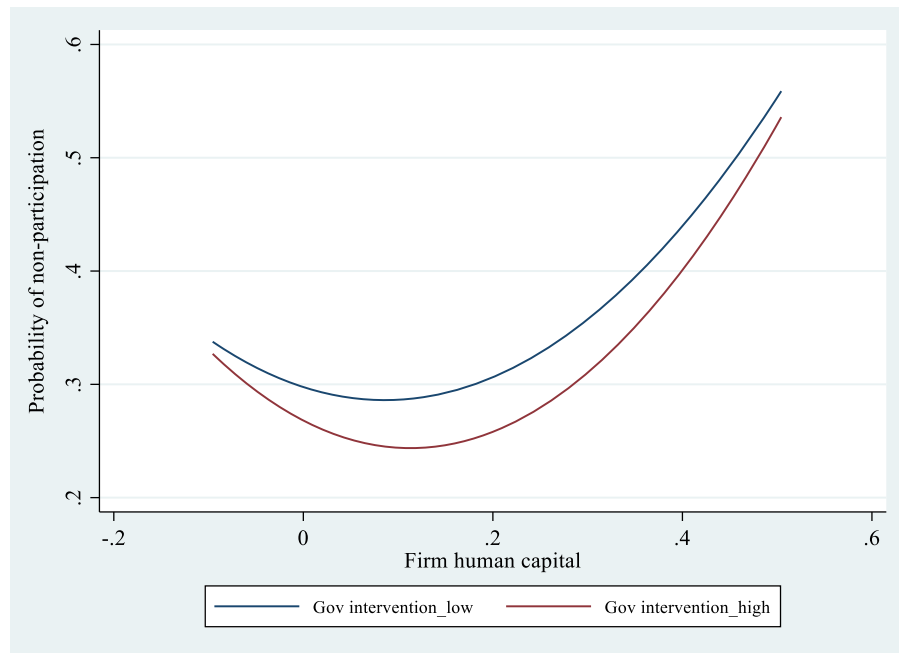


Fig. 4 The moderating effect of government intervention on firm human capital and non-participation in credit rating

To test the robustness of these findings, several other issues were considered. First, age and size are strongly inter-correlated ($r = .355$, $p \leq .001$), as might be expected. Firms generally grow as they get older. We therefore re-evaluated the models twice, once without size and once without age. Removing either one resulted in no significant change in the other's coefficient, indicating that both are robust predictors of non-adoption.

Firm age, size, and human capital were taken as proxies for a firm's status. Besides these indicators, firm financial resources are also important for status too. We therefore tested the effect of firm financial resources on non-conformity as substitutes for firm age, size, and human capital. However, instead of the curvilinear relationships with firm age, size, and human capital, firm financial resources were found to predict non-adoption monotonically. This may be because firm age, size, and firm human capital are more visible to key stakeholders than firm financial resources are, and hence are better indicators of firm status.

Discussion and conclusion

The expansion of financial markets, the increasing complexity and variety of financial instruments, and the spread of the legal obligation to use credit rating have resulted in an increase in credit rating activities in China (Banner & Hirsch, 2010; Zhu, 2013). As an innovative way to generate trust, credit rating has helped to reduce Chinese firms' financing costs and smooth out their business operations. However, there are still some firms not willing to engage in adoption of credit rating. Studies based on institutional theory normally emphasize how organizations conform to

institutional pressure and adopt widely accepted practices such as credit rating. Yet, the non-adoption of organizational practices in emerging economies has rarely been mentioned.

This study fills this gap and extends the institutional literature by approaching the non-adoption of credit rating in Chinese firms from the perspectives of legitimacy and of resource dependence theory. This study uncovers the underlying dynamics of non-conformity by focusing on corporate evaluations regarding credit rating in emerging economies. It emphasizes state ownership and firm status in terms of age, size, and human capital as influences on non-conforming behavior, because they bring about different corporate evaluations and firm-state power dynamics. Our results support Zucker's (1986) argument that both firm-specific characteristics and institutional guarantees help to reduce uncertainty and complexity in the economy. However, when organization-level factors are sufficient to convey creditability to business partners and stakeholders, a firm's demand for institutional guarantees should be lower. Similarly, firms will not adopt government-endorsed credit rating when they can convey creditability to other firms by themselves through state ownership and status.

Particularly notable is the curvilinear relationship demonstrated between firm age, size, human capital, and the non-adoption of credit rating. The dominant perspective in the status literature suggests that middle-status actors conform more (or deviate less) than those who have a low or high status (Durand & Kremp, 2016; Edman & Makarevich, 2020; Phillips & Zuckerman, 2001). Some recent studies challenge the assumption that status is stable and examine the conditions under which middle-status conformity does not hold. For instance, Prato et al. (2019) showed that middle-status conformity applies only to actors with a high ascribed status, because they have a sense of security. However, the examination of middle-status conformity is generally conducted in developed economies; whether middle-status conformity exists in emerging economies where status is changing rapidly remains unknown. Our study shows that the middle-status conformity also holds in emerging economies, where status is not yet fixed.

In accordance with Suchman's (1995) recommendation that legitimacy should encompass both strategic and institutional approaches, we also take the effect of environmental forces on non-conformity into account. We find that government intervention can modify the influences of firm state ownership and firm status. State-owned firms are less likely to participate in non-adoption when government intervention is strong. Curvilinear relationships also change between firm size, firm human capital, and firm non-adoption when there is strong government intervention. This suggests that firms with very strong or weak human capital and very large or small firms are less likely to engage in non-adoption of credit rating when the government intervenes strongly in business activities.

In all, the results suggest that firm characteristics do indeed predict the likelihood of organizational non-conformity but, at the same time, such non-conformity is constrained by the institutional environment. These results evidence a process of accommodation and negotiation between organizations and their external environments. Organizations differ in their ownership and status, which enables some to risk non-conformity. However, their non-conformity remains constrained

by institutional pressure. The ultimate response of an organization to credit rating depends on the one hand, on the organization's evaluation of the legitimacy of credit rating and its ability to negotiate with the environment and, on the other hand, on the strength of the environmental pressure. By elucidating this pushing and pulling process, this study outlines a more complete picture of organizational non-conformity behavior.

Contributions and implications

The adoption of practices is a central concern in strategic management and institutional theory (Kennedy & Fiss, 2009). The literature has thoroughly examined how practices are diffused across populations of organizations. In most of this research, scholars have typically assumed a population-level perspective, emphasizing how a firm's external competitive and social context, including market pressures (Geroski, 2000), institutional forces (DiMaggio & Powell, 1983; Palmer et al., 1993), or inter-organizational conditions (Westphal et al., 1997), exert important influences on the adoption of a practice. Legitimacy is viewed as a key factor behind the adoption of a new practice (DiMaggio & Powell, 1983), and the increasing institutionalization and conformity pressures limit the latitude that potential adopters have in making practice (non)adoption decisions, leading over time to homogeneity of practices within an organizational field (DiMaggio & Powell, 1983). In these accounts, later adopters are described as passive and "a-rational" (Lounsbury, 2007). Under high institutional pressure, they imitate each other in a contagion-like process that is decoupled from rational calculation (Tolbert & Zucker, 1983).

More recently, researchers have shifted focus from assuming that practices are adopted uncritically to viewing practices as mutable during their diffusion processes (Ansari et al., 2010; Uchida, 2021). Firms may have different responses to the same institutional pressures, depending on, for example, the interests, understanding, and power of the decision makers (Fiss & Zajac, 2004; Compagni et al., 2015), or the internal culture or environment of a firm (Greenwood & Hinings, 1996). However, our understanding of practice variation, in particular, firms' non-adoption behavior in response to institutional pressure, is still quite limited.

This paper is concerned with the non-adoption behavior of firms under external institutional pressure. It contributes to a growing number of studies that point to an active role of adopters in creating practice variation (e.g., Maguire et al., 2004, Lawrence & Suddaby, 2006). We argue that, when faced with externally imposed practices, those potential adopters may negotiate with the external environment and even reject a practice, depending on their bargaining power and interests, as predicted by the ownership structures and status characteristics in the environment and their rational cost-benefit assessment. A burgeoning literature has been focusing on optimal distinctiveness theory to analyze the optimal level of a firm's non-conformity (Zhao, 2022). In this way, we offer some new insights about the sources of non-conformity in the face of institutional pressure (Oliver, 1991), and contribute to a more complete picture of firm practice (non)adoption behavior in the literature.

Specifically, our empirical findings suggest that institutions, especially in emerging economies, hardly constitute a cage for firms from which no escape is possible. Organizations have different degrees of motivation and discretion in responding to institutional pressure, depending on their internal characteristics. Aside from resource and governance advantages mentioned in previous studies (Aguilera et al., 2018; Milliken, 1990; Westphal & Zajac, 2001; Witt et al., 2021; Xie et al., 2020), our analysis emphasizes that corporate evaluations of a new practice also determine non-adoption behaviors. Our findings demonstrate the merits of incorporating organization-level factors—particularly political considerations—into institutional models (Heugens & Lander, 2009), which is also consistent with the co-evolution perspective (Tan, 2009; Tan & Wang, 2011).

Second, our findings confirm the middle-status conformity argument in the institutional literature. Diffusion scholars have long debated the relationships between firms' status and (non)conformity behavior (Cancian, 1979; Gartrell, 1977). Are large, resourceful, and high-status firms more able to resist institutional demands? Do smaller or newer firms have more latitude in how to respond? How much discretion do firms have in dealing with external legitimacy pressures (Greenwood et al., 2011)? Some studies find that large, high-status organizations, as “visible exemplars” (Wry et al., 2011), are more likely to conform to prevailing norms and expectations; while others find that large, high-status organizations are immune from institutional pressures. They are usually beyond the control of regulatory agents and have more discretion over how to respond to institutional pressures (Greenwood & Suddaby, 2006). Different from the proposed linear relationships between firms' status characteristics and (non)conformity behavior in the literature, we find evidence of middle-status conformity to institutional pressure, as indicated by the U-shaped relationships of firm non-adoption of credit rating with firm age, size, and level of human capital. Such patterns of relationships can enable finer-grained theorizing about the mechanisms of practice adoption and legitimation in the institutional environment.

The findings concerning the moderating effects of environmental variables help to define an interactive model that considers both organizational agency and environmental determinism. This augments the traditional one-shot, deterministic model and, to some extent, addresses the “structure versus agency” debate by illustrating how institutionalization involves dialogue between an organization's agency and the external environment (Heugens & Lander, 2009; Tan, 2009). In particular, the

demonstrated moderating effects of government intervention confirm that the environment influences institutionalization (Scott, 2001; Suchman, 1995). The moderating effects of government intervention suggest a passive conformity process in which external forces pressure a firm to adopt certain practices independent of managerial manipulation. Hence, our study suggests that a framework that considers both institutional control and management discretion is perhaps the most appropriate for understanding organizational non-conformity.

Our study also contributes to the non-adoption literature by considering political economy. We argue that state ownership enhances non-adoption, since it affects how firms perceive the importance of credit rating. In addition, firms' tendency toward non-adoption is constrained by political institutions, such as government intervention, which increase the institutional pressure to adopt credit rating. When the government intervenes more in the local economy, firms stop their non-adoption behavior, even though their internal conditions suggest that there is no need to adopt.

This research suffers from several limitations. It should be noted that the cross-sectional data used in this study did not allow us to infer any causal relationships among the variables. The predictive power of these variables over time also remains unexplored. A longitudinal research design is needed to confirm the directions of causality underlying the hypotheses, as well as to assess any changes in the predictive power of the key variables. Also, the value of some key variables in predicting non-conformity was demonstrated, but other factors are surely also at work. Future studies may benefit from testing some candidates in this respect. For example, it would be interesting to examine the impact of managers' characteristics on conformity decisions. A business degree may incline a manager to respect practices prevailing overseas.

In addition, more direct indicators of conformity predilections would certainly be useful in this context. Future studies might fruitfully quantify the trust-building effect of credit rating by investigating its economic and social consequences—whether, for example, a firm's refusal to be rated influences its access to government funding, the economic rents it can collect, or its survival chances. It may also be necessary to understand how such relationships vary among different organizations. Some may be able to manage unconventional behavior to benefit more from making good use of their resources than they suffer through social opprobrium (Miller & Chen, 1996). More systematic investigations of the relationship between an organization's resources, conformity, and performance are much needed.

Appendix 1

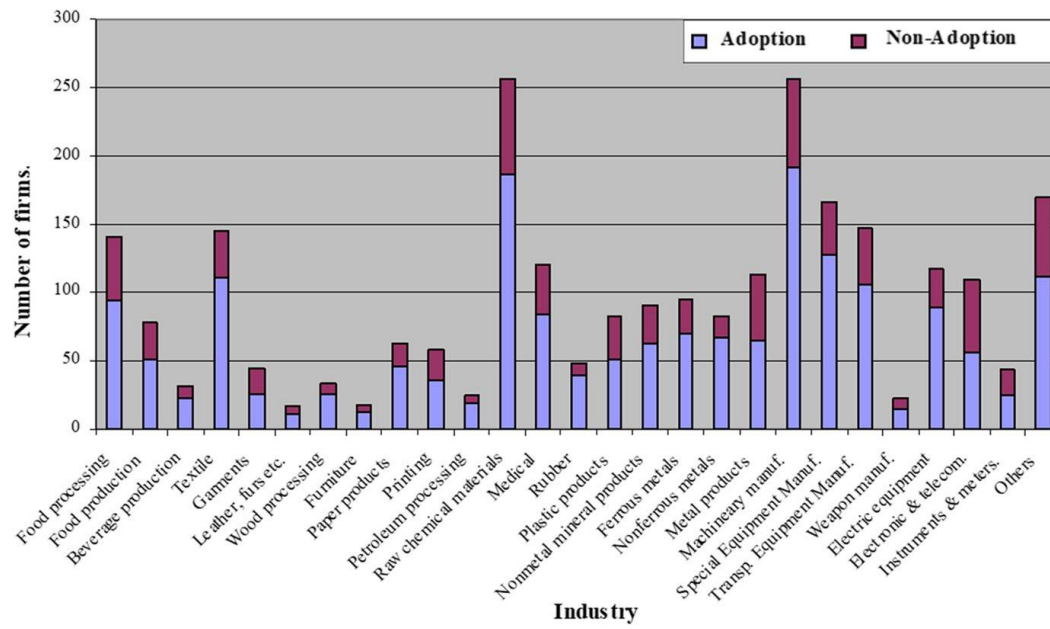


Fig. 5 Credit rating in China: Adopting vs. non-adopting firms in the 2001 survey

Appendix 2

Table 6 Policies related to credit rating in China

Date	Policies/Measures	Issuing Dept.*	Requirements for Rating
1993.8	Regulations for the management of corporate bonds	State Council	Issuers <i>could</i> obtain ratings
1996.4	Administrative measures for loan notes	PBOC	<i>Could</i> obtain ratings
1996.8	General principles on lending	PBOC	<i>Could</i> obtain ratings
1997.3	Administration of convertible corporate bonds	State Council	<i>Could</i> obtain ratings
1998.1	Administrative procedures for the issuance of bonds in foreign currencies by institutions in the territory	PBOC	<i>Should</i> obtain ratings
2001.3	Temporary regulations on risk management of SMEs' financing guarantee agencies	Ministry of Finance	<i>Could</i> obtain ratings
2001.4	Credit management issues relating to small and medium-sized enterprises	SETC	<i>Could</i> obtain ratings
2003.8	Interim measures for the administration of bonds for securities companies	CSRC	<i>Should</i> obtain ratings
2004.4	General principles on lending (amended)	PBOC, CBRC	<i>Could</i> obtain ratings
2004.6	Administration of the issue of commercial bank subordinated bonds procedures		
2005.4	Administrative measures for the securitization of credit assets	PBOC, CBRC	<i>Should</i> obtain ratings
2005.5	Interim measures for the administration of bonds	PBOC	<i>Should</i> obtain ratings
2006.9	Announcement on the issuance of hybrid capital bonds by commercial banks	PBOC	<i>Should</i> obtain ratings
2007.7	Notice of the issuance of financial bonds by finance companies of enterprise group procedures	CBRC	<i>Should</i> obtain ratings
2007.8	Pilot rules on the issuance of corporate bonds	CSRC	<i>Should</i> obtain ratings
2008.4	Administrative measures for debt financing instruments of non-financial enterprises in the inter-bank bond market	PBOC	<i>Should</i> obtain ratings

*PBOC: People's Bank of China; SETC: State Economic and Trade Commission; CBRC: China Banking Regulatory Commission; CSRC: China Securities Regulatory Commission

Data Availability The data that support the findings of this study are available from the authors on reasonable request.

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