Shaped by Confucius: The Cultural Origin of Corporate Behavior

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Abstract

We examine how Confucian culture operates as an informal institution by fostering relational contracts that substitute for formal legal frameworks in shaping corporate behavior. Using data on historical Confucian academies near firms' headquarters in China, we find that greater cultural exposure is associated with higher investment in stakeholder relationships—measured by social contribution, stakeholder protection, courtesy expenses, patenting, and trade credit. These effects persist after controlling for human capital and alternative cultural influences, and weaken in regions with stronger formal institutions. Our findings highlight the enduring role of culture in supporting trust-based governance when formal contracting is limited.

Keywords: Relational Contracts, Informal Institutions, Stakeholder Governance, Confucian Culture, Corporate Policy

JEL Codes: G30, L11, L21, M14, N15, Z10

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1. INTRODUCTION

Economic systems and activities are profoundly shaped by culture. Max Weber (1930) argued that differences in societal culture help explain why capitalist production first emerged in Western countries and not in China. Specifically, protestant ethics supported the rise of impersonal institutions and the "corporate entity" in the West, whereas Confucianism emphasized personal ties and implicit agreements (Greif and Tabellini, 2017), which constrained both the demand and supply of external finance and hampered formal financial development in China (Chen et al., 2022).

From an economic perspective, culture comprises deeply held values, beliefs, and intuitions about right and wrong (Nunn, 2012). A large literature documents systematic differences in decision-making among individuals with distinct cultural backgrounds, even when they face the same environment (e.g., Nisbett and Masuda, 2003; Talhelm et al., 2014). Such differences correlate with cross-regional variation in political institutions, social structures, and economic development (e.g., Guiso et al., 2003; Algan and Cahuc, 2010; Nunn, 2008; Nunn and Wantchekon, 2011; Alesina and Giuliano, 2015; Michalopoulos and Papaioannou, 2015; Nunn et al., 2020; Bursztyn et al., 2020; Guiso et al., 2024). Yet how societal culture shapes business activities and corporate policies remains underexplored (Guiso et al., 2024). Examining firm-level activities is essential for understanding cultural effects on the economy, given the substantial heterogeneity in corporate practices across firms and countries (Bertrand and Schoar, 2003; Bloom and Van Reenen, 2007).

We address this gap by examining how societal culture shapes firm behavior through relational contracting with stakeholders. Building on cultural and institutional economics, we conceptualize culture as the informal institutional foundation for a firm's implicit, norm-based agreements with employees, suppliers, customers, communities, and other stakeholders (Guiso et al., 2004, 2006,

2008a,b; Gibbons and Henderson, 2012; Alesina and Giuliano, 2015; Blader et al., 2015; Macchiavello and Morjaria, 2023). In cultures rooted in interpersonal relationships, these relational contracts substitute for formal rules and legal enforcement (Greif and Tabellini, 2017), lowering transaction costs and facilitating resource exchange, particularly where formal institutions are weak (Allen et al., 2005). To sustain these relational contracts over the long term, firms invest more heavily in building and maintaining stakeholder relationships, driven largely by concerns about repeated interactions, reputation, and the implicit threat of retaliation.

We test this mechanism in the Chinese context, where Confucianism has dominated for over two millennia and continues to shape contemporary social norms and business practices (Fei, 1992; Greif and Tabellini, 2017; Chen et al., 2022). Confucianism emphasizes bilateral relationships and interpersonal trust that align naturally with relational contracting (Fei, 1992). We assemble a novel dataset from Qing Dynasty (1644–1911 CE) local chronicles, hand-collecting 1,547 historical Confucian academies.[1] A firm's exposure to Confucianism is measured by the number of these academies located within 100 kilometers of its current headquarter, yielding a firm-level proxy that is more granular than city- or province-level measures.

As an interpretive guide, we reference the five Confucian virtues: benevolence (*Ren*), righteousness (*Yi*), propriety (*Li*), wisdom (*Zhi*), and trustworthiness (*Xin*). These virtues serve as normative principles for social behavior, describing how long-run interpersonal relationships form

[1] We choose this period because the most comprehensive and complete chronicles are only available after 1796. After 1840 (after the Opium War), Westerners established municipal authorities, schools, and judiciaries in some cities of China, which significantly disrupted the foundation of local Confucian academies (Jia, 2014). These Confucian academies were the private schools, and one of the only places where most children, including those from poor families, could then receive proper education. It has been documented that these academies attracted talented young men who were keen for more out of their Confucian educations than just the rote mental preparation provided in government schools for the civil service examinations (Elman, 1989). During the Qing Dynasty, Confucian academies gained both local and governmental support and flourished as centers of education. In the paper, we use "Confucian academies" and "Confucian schools" interchangeably.

and are maintained, particularly where formal contracts are incomplete, and they continue to inform interactions in modern China (Hwang, 1987; Huang, 2003). We map them to observable corporate policies that reflect firms' investments in and strength of stakeholder relationships: social contribution (benevolence), stakeholder protection (righteousness), business courtesy expenses (propriety), patenting (wisdom), and trade credit received (trustworthiness).

Empirically, we find that all five behaviors are positively associated with a listed firm's exposure to Confucianism, consistent with the prediction that firms embedded in relationship-oriented cultures invest more in maintaining stakeholder ties. The results are robust to alternative measures of Confucian influence used in prior work, including the local presence of Confucian temples and genealogies, and are not driven by other prevailing cultures or CEOs' cultural traits, indicating that the broader relationship-based societal environment rather than individual leaders' preferences accounts for the effects.

Some may argue that Confucian academies were not solely centers for disseminating Confucianism but also venues for rudimentary education, implying that our findings could reflect education and human capital rather than culture. To address this concern, we incorporate multiple measures of both historical and contemporary human capital. The Confucianism measure remains significant throughout, underscoring an incremental cultural effect beyond education. We also show that the results are not driven by key Qing-era geographical and demographic characteristics.

A further concern is that the presence of Confucian academies may correlate with regional economic development in the Qing period, generating persistent effects that explain current outcomes, or that omitted factors related to both Confucianism and firm behavior spuriously drive our correlations. We therefore employ an instrumental variables (IV) approach. Our first instrument is the

shortest distance between a listed firm and the nearest academy founded by Zhu Xi (1130–1200 CE). Zhu Xi's academies were pivotal in popularizing Confucianism and served as prototypes for subsequent schools. Given that high historical transport costs led to clustering of schools around these sites, proximity predicts greater Confucian exposure (Chen et al., 2022). Importantly, the locations of Zhu Xi's academies were shaped by his personal experiences, mourning rituals, and official appointments rather than regional economic conditions (Gu et al., 2024; Chen et al., 2022). We present evidence supporting this exclusion restriction. As an additional robustness check, we restrict the sample to firms within 1,500 kilometers of the centroid of the three Zhu Xi's academies (excluding Far West regions with few listed firms, such as Tibet and Xinjiang) and find that results are qualitatively unchanged.

Our second instrument is the total number of small rivers in the region of the firm's headquarter. Confucian schools were typically sited away from smaller rivers (unlike along the Yangtze or Yellow Rivers) to avoid inundation risks and to preserve books, and to ensure tranquil environments for learning as areas nearer rivers were more exposed to trade, transport, and conflict (Gilgan, 2022). Accordingly, river density is negatively correlated with the historical presence of Confucian schools. Conditional on controls for local economic development, this geographical feature is unlikely to affect contemporary firm policies through non-cultural channels. The IV estimates again confirm a large and significant effect of Confucianism on corporate policies.

We interpret higher stakeholder orientation (i.e., the "five virtues" reflected in corporate behaviors) among firms with greater exposure to Confucian culture as evidence of investment in maintaining relational contracts with stakeholders. In other words, Confucian norms help firms form self-enforcing agreements with employees, customers, and communities, substituting for for-

mal contracts. An alternative values-based explanation is that Confucian ethics directly shape a firm's and its stakeholders' preferences for virtuous or prosocial actions. To disentangle these mechanisms, we perform a horse-race test including other cultural influences in China (e.g., Buddhism, Taoism, and Western values) that are rich in spiritual and ethical insights—thus also promote virtue—but lack the mechanisms to regulate worldly interpersonal relationships in a contract-like manner. The results show that only Confucian cultural exposure has a significant effect on stakeholder-oriented practices, indicating the observed impacts reflect firms' investment in stakeholder relationships and are uniquely attributable to Confucianism rather than other religious or foreign values.

We then examine how the strength of formal institutions moderates the influence of Confucian culture. Using provincial marketization scores and the presence of non-Chinese (often Western) directors as proxies for a more market-oriented, rule-based environment, we find that Confucianism's effect is much weaker in these settings. This pattern is consistent with a substitution effect between culture-driven relational governance and formal contracting institutions. In provinces and firms with strong legal frameworks or international governance influences, companies rely less on relational contracts and thus invest less in maintaining stakeholder ties. This aligns with the idea that robust formal institutions let firms focus more narrowly on explicit agreements and shareholder outcomes, reducing the need for informal relationship-building (Greif and Tabellini, 2017).

Our study contributes to the burgeoning literature on stakeholder governance (or "stakeholderism") by highlighting an institutional mechanism through which culture shapes firm behavior. Traditional corporate governance theory posits that firms should focus on maximizing shareholder value, as shareholders are the residual claimants (Jensen, 2001). Recent work, however, challenges

this view by emphasizing firms' implicit contracts with stakeholders and the role of broader objectives (e.g., Tirole, 2010; Allen et al., 2015; Magill et al., 2015; Hart et al., 2017; Liang and Renneboog, 2017). Meanwhile, some challenge the feasibility of a stakeholderism model (e.g., Bebchuk and Tallarita, 2020; Amis et al., 2020). We add novel evidence to this debate by showing that, in the absence of strong formal institutions, Confucian culture supports relational contracts that induce firms to invest heavily in stakeholder relationships as a way to secure trust, cooperation, and access to critical resources. In such environments, culture-based relational governance effectively compels firms to balance stakeholder interests and shareholder goals when legal enforcement is weak. Our findings also provide an institutional rationale for the Friedman Doctrine's emphasis on shareholder value (Friedman, 1970). When market and legal institutions are well developed, firms can depend on explicit contracts and formal enforcement rather than on culture-based accommodations to stakeholders. In these mature environments, culture-based relational contracting plays a smaller incremental role, making it easier for shareholder interests to prevail.

We further contribute to institutional economics by clarifying how relational contract illuminates culture's role in corporate behavior. Relational contracts—informal, self-enforcing agreements upheld by the value of future relationships and social norms—facilitate cooperation when formal contracting is limited (Baker et al., 2002; Gibbons and Henderson, 2012; Blouin, 2022). Whereas Western economies have historically relied on formal corporate institutions as the primary locus of cooperation, Confucian society provided a relationship-based institutional alternative (Greif and Tabellini, 2017). Direct evidence on how such governance operates in modern firms, however, has been scarce. We argue that Confucian culture serves as an informal institutional foundation for relational contracting, and that norms of reciprocity, trustworthiness, and

reputation create incentives for firms and stakeholders to honor obligations, thereby substituting for legal enforcement (Macchiavello and Morjaria, 2023; Gibbons and Henderson, 2012). By showing that greater historical exposure to Confucian culture predicts heavier investment in stakeholder relationships, we document that relation-specific investments act as the "glue" binding firms and stakeholders under informal enforcement, consistent with the view that cultural norms of trust and repeated cooperation can sustain long-term agreements even where formal institutions are weaker.

2. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. Conceptual Framework

To explain how societal culture exerts a lasting influence on corporate behavior, we build on institutional and organizational economics, which view culture as underwriting relational contracts between firms and stakeholders (Baker et al., 2002; Gibbons and Henderson, 2012; Blouin, 2022). In cultures grounded in interpersonal trust, ethical norms, and ritual, relationship-based arrangements can substitute for formal rules by functioning as implicit agreements. According to Williamson (1975), relational contracts are non-verifiable agreements specifying mutual obligations that stand in for explicit, court-enforceable contracts. In a repeated-game framework, cooperation is sustained by the value of future interactions, credible threats of retaliation, and the desire to avoid disgrace (Macchiavello and Morjaria, 2023). The salience of such contracts varies across firms with their exposure to relationship-oriented societal cultures.

Firms are nexuses of explicit and implicit contracts among multiple parties (Coase, 1937; Williamson, 1975). Because information frictions and weak legal enforcement make exhaustive formal contracting costly or impractical, firms frequently rely on unwritten, norm-shaped agree-

ments that are self-enforcing ex post (Baker et al., 2002; Gibbons and Henderson, 2012). Relative to explicit contracts, relational contracts enable parties to incorporate local knowledge, adapt to new information, and make credible commitments without courts. The continuation value of the relationship provides incentives to honor obligations, and expectations of repeated dealings and potential retaliation deter opportunism. A standard relational contracting model predicts that opportunistic behavior is less likely when the perceived value of the relationship to one party increases or when their perceived outside options decrease (Kranton, 1996).

Societal culture buttress these agreements. Norms of trust and ethics raise beliefs about counterpart reliability, encouraging entry into new informal partnerships and expanding the scope of relational contracting (Guiso et al., 2004; Gibbons and Henderson, 2012; Macchiavello and Morjaria, 2023). When honesty, reciprocity, and reputation are emphasized, stakeholders are more willing to commit effort, capital, and knowledge in anticipation of reciprocal treatment, and firms are more willing to protect stakeholder interests. This results in stronger and more durable stakeholder relationships in relationship-based cultures.

This logic resonates strongly in the Confucian context. In Confucian societies, bilateral personal relationships form the foundational structure of social organization, and order has historically been maintained through personal ties and clan networks rather than formal legal codes (Chen et al., 2022; Jia and Kung, 2025). Fei (1992) characterizes this as a "differential mode of association" (*chaxu geju*), in which concentric circles of personal ties, governed by reciprocity and hierarchy, structure social and economic cooperation. Within this system, disputes are typically resolved through mediation and moral suasion rather than litigation (Fei, 1992). Frequent interpersonal interactions, combined with the importance of reputation and "face" (*mianzi*), generate strong

reciprocal obligations: parties are expected to fulfill bilateral rights and duties in order to maintain relationships, and social disgrace from breaching trust raises the perceived cost of defection (Greif and Tabellini, 2017). In this sense, Confucian culture provides an alternative, relationship-based institution for cooperation and contracting with informal, relationship-based enforcement mechanisms that substitute for formal legal enforcement. This extensive reliance on personal ties naturally encourages high relation-specific investments, as parties devote resources to building and preserving relationships that support ongoing cooperation (Greif and Tabellini, 2017).

Taken together, Confucianism—an archetypal relationship-based culture—facilitates relational contracting between firms and stakeholders. These implicit agreements, grounded in trust, reputation, and long-term reciprocity, historically served as a primary mode of economic organization and continue to shape modern corporate conduct. We therefore expect firms embedded in regions with stronger, historically preserved Confucian culture to place higher value on stakeholder relationships and commit more resources to sustaining them. This mechanism implies that culture can substitute for formal contracting by encouraging interactions that yield greater stakeholder engagement, resource sharing, and mutual trust. Building on this conceptual foundation, the next subsection develops testable hypotheses linking Confucian cultural exposure to firm-level outcomes.

2.2. Institutional Background and Hypothesis Development

Confucianism, originating from the teachings of Confucius (551–479 BCE), has been the predominant value system governing practical affairs in China since the Han Dynasty and has also influenced societies such as Singapore, Vietnam, South Korea, and Japan. Central to Confucianism is an emphasis on informal norms and interpersonal relationships, captured by five core virtues: benevolence (*Ren*), righteousness (*Yi*), propriety (*Li*), wisdom (*Zhi*), and trustworthiness (*Xin*). Shaped

through repeated interactions over a long history, these virtues became guiding principles for social conduct and interpersonal relationships. Benevolence embodies compassion and responsibility toward others; righteousness entails integrity and acting ethically even at personal cost; propriety concerns observance of etiquette and rituals that govern respectful interaction; wisdom refers to prudent judgment and intellectual development; and trustworthiness denotes credibility and consistency between words and actions. These norms continue to structure contemporary interpersonal relations and business practices even as formal rules and market institutions have expanded.

Since firms more exposed to Confucianism rely more on relational contracts with stakeholders, they invest more in stakeholder relationships to sustain such contracts. Stakeholders include parties affected by or essential to a firm's operations—employees, customers, suppliers, creditors, and local communities. Accordingly, we hypothesize that Confucian influence is associated with greater social contribution, stronger protection for vulnerable stakeholders (e.g., employees and trading partners), and greater maintenance of professional etiquette in dealings with business counterparts. These behaviors map naturally to benevolence (*Ren*), righteousness (*Yi*), and propriety (*Li*) and arise in institutional environments where relational contracts substitute for formal contracting and legal enforcement.

The strength of bilateral relationships is also reflected in how hierarchy and trust are established within and across firms. Innovation typically occurs in hierarchical teams (Lahiri et al., 2019). When mutual rights and obligations are well defined and enforced by reputation and repeated interaction, collaborative research and implementation become easier. In addition, prior research has used innovation outputs as observable proxies for relationship-specific investments, as they often reflect the extent to which firm-specific knowledge is generated with particular coun-

terparts in mind (Dasgupta et al., 2021). Stable and long-term business relationships encourage firms to invest more in innovation, given the highly uncertain timing and likelihood of innovative success (Dyer and Singh, 1998). Similarly, trade credit represents trust-based, informal financing between firms and their suppliers and customers. Firms that reliably care for their counterparties are thus more likely to receive such credit. These activities align with wisdom (*Zhi*) and trustworthiness (*Xin*) and are likewise products of a relationship-based institutional environment. Hence, we further hypothesize that firms more influenced by Confucianism will generate more innovation (e.g., patent output) and receive more trade credit.

Taken together, these corporate policies capture how firms establish and maintain relationships with stakeholders. The mapping to the five virtues should not be read as evidence for a preference-based mechanism whereby firms simply "practice" Confucian values. Rather, both the virtues and the corresponding behaviors are interpreted as outcomes of an institutional setting in which interpersonal relationships and relational governance substitute for formal contracting. In the sections that follow, we test the relations between these five corporate policies and firms' exposure to Confucianism and examine the underlying mechanisms.

3. DATA AND SAMPLE

This study utilizes data from multiple sources: (i) firms' exposure to Confucianism, measured using firm headquarters' coordinates and the number of nearby Confucian academies from local chronicles (*Difang Zhi*) of the Qing Dynasty; (ii) firm financials, social contribution, employee and supplier/customer protection, and ownership structure from the CSMAR database; (iii) population divorce rates, city-level GDP, employment, total wages, and FDI from the China National Bureau

of Statistics; (iv) firm headquarter locations from WIND; (v) river counts and lengths from the National Census for Water of China; (vi) province-level marketization scores from Fan et al. (2011); (vii) Taoist and Buddhist cultural proxies (numbers of temples) from Yang (2011); (viii) survey evidence on general attitudes from the China Family Panel Studies (CFPS) 2010; (ix) contemporary education and intergenerational co-residence from the China Population Censuses (2000, 2010); and (x) additional materials from regional archives and historical documents.

3.1. Confucianism Measure

Our main explanatory variable is firms' exposure to Confucianism, constructed from historical archives in the spirit of work linking deep historical factors to contemporary outcomes (e.g., Acemoglu et al., 2001, 2002; Nunn, 2008; Nunn and Wantchekon, 2011; Lowes and Montero, 2021). Specifically, we count private Confucian academies from the Qing Dynasty in each firm's surrounding area. Private academies were key venues for disseminating Confucian values and a major component of pre-industrial education. By the mid-sixteenth century, academies hosted regular gatherings where scholars exchanged ideas. Through repeated social interactions, Confucian values permeated local communities. Unlike official, government-funded schools that focused on civil service examination preparation, private academies were more accessible and provided elementary instruction in Confucian principles (Elman, 1989). Supported by local elites, academies flourished and gradually supplanted official schools as primary institutions for transmitting Confucian thought. This role accords with North (1990) view of culture as knowledge and values transmitted intergenerationally through education and imitation. Thus, regions with higher academy density cultivated a larger share of the population steeped in Confucian culture, implying that firms headquartered there are more exposed to Confucian norms through interactions with local community

and stakeholders.

A natural concern is that our Confucianism measure may proxy for education or human capital, since academies also provided rudimentary instruction (Chen et al., 2020). We address this by controlling for contemporary local education levels throughout the analysis, as detailed below. A second concern is whether the presence of Confucian schools more than a century ago predicts today's cultural environment, given the possibility that cultural imprints decay over time. Giuliano and Nunn (2021), however, document that China is one of the world's most culturally persistent countries, largely due to its climatic stability. This environmental consistency, combined with China's long and continuous history of repeated intergenerational interactions, has helped ensure that Confucian values remain deeply embedded and are transmitted over time. In addition, we conduct validity tests, detailed in Section 3.4, which further confirm the cross-regional persistence of Confucianism.

To build the Confucian academy dataset, we consult county-level local chronicles (*Difang Zhi*) from city archives. These chronicles, compiled by local governments and elites, document a locality's history, geography, economy, administration, biographies, and education. They have been updated since the twelfth century and cover both densely and sparsely populated areas (Dennis, 2015). A typical chronicle includes a "School" section (*Xuexiao Zhi*) listing local schools, which allows precise identification of Confucian academies' locations. Figure 1 reproduces a representative page from a chronicle. We focus on Qing-era chronicles from 1796 to 1840 to obtain comprehensive records from the final imperial period, excluding entries outside present-day Mainland China due to administrative boundary changes.[2]

[2]Despite voluminous local chronicles, only those compiled during the Ming and Qing Dynasties are available for reference according to "*General Note on Chinese Local Chronicles*" by the renowned Chinese archivist Zhu (1958). When looking up local chronicles compiled in the Ming Dynasty, we found that there were missing records for several

<Figure 1 here>

We identify 1,547 Qing-period Confucian academies and geocode their historical sites. For each publicly listed firm, we count the number of academies located within a 100-kilometer radius of its headquarters using the coordinates of both firms and academies. To smooth the distribution, we use the logarithm of one plus this count in our baseline specifications.[3,4]

3.2. Dependent Variables

Our main dependent variables are five firm-level metrics that reflect corporate investment in stakeholder relationships and are naturally aligned with the core virtues of Confucianism: (1) social contributions (benevolence), (2) stakeholder protection (righteousness), (3) courtesy expenses (propriety), (4) patenting (wisdom), and (5) trade credit granted by other firms (trustworthiness). Specifically:

Social Contribution: This is defined as the ratio of the sum of total tax contributions, employee payments, interest expenses, and donations to total assets. This variable reflects the firm's overall commitment to its stakeholders and society beyond simply shareholder return.

Stakeholder Protection: This is an ordinal variable indicating whether the firm has adopted measures to protect employees and suppliers, as reported in its annual and corporate social responsibility reports.

provinces, such as Jilin and Heilongjiang, as well as some autonomous regions, until 1796. We also exclude chronicles compiled in the late Qing Dynasty, during which the West established municipal authorities, schools, and judiciaries in some Chinese cities (Jia, 2014).

[3]Since the administrative division in the Qing Dynasty is different from that today, a city-level variable that directly records the number of Confucian academies within each city is infeasible and would introduce bias.

[4]During the Qing Dynasty, Confucian academies were typically established near the central point of a county. To estimate the locations of academies that left no physical traces, we use the geographical coordinates of the county center as a proxy. As a result, these proxy coordinates are broader and less precise, and the same coordinate may correspond to multiple academies.

Courtesy Expenses: This represents business-related entertainment and administrative expenses net of personnel costs. They are measured as the natural logarithm of management fees minus the total salaries of all executives, supervisors, and board directors, plus one.

Patenting: This is measured as the natural logarithm of the number of authorized patents held by the firm, plus one.

Trade Credit: This is defined as the sum of accounts payable and notes payable scaled by total assets.

3.3. Controls

We include firm-level controls that may correlate with both culture and corporate policies: firm size (logarithm of total assets), profitability (ROA), leverage (debt-to-assets), revenue growth, cash flow from operations, and an indicator for state ownership (SOE). To capture cross-regional economic conditions, we control for city-level GDP, population, and total employee wages. To distinguish Confucianism from education and human capital, we follow Chen et al. (2020) and control for average years of schooling at the city level (2010 National Population Census). All continuous variables are winsorized at the 1st and 99th percentiles. Appendix Table A1 provides detailed variable definitions.

Table 1 reports summary statistics for 25,343 firm-year observations from 2007-2017.[5] The average number of Confucian academies within 100 km of a firm is 23. Social contributions and stakeholder protection vary widely across firms. Courtesy expenses average about 277 million CNY (≈35 million USD) with a standard deviation of 570 million CNY (≈80 million USD). Firms hold on average 12 patents (s.d. = 37). The mean trade credit-to-assets ratio is 0.122 (s.d. = 0.098).

[5]The coverage of our key dependent variable, social contributions, only starts from 2007.

At the city level, average GDP is about 225 billion CNY (≈31 billion USD), mean employment exceeds 600,000, total employee wages average 28 billion CNY (≈3.6 billion USD), and average years of schooling are around 9.

<**Table 1 here**>

3.4. Validation Test

To validate that our coordinate-based Confucianism measure captures a time-persistent cultural influence, we conduct an out-of-sample test on life attitudes central to Confucian family ethics. Familial collectivism—viewing the family as society's fundamental unit—is a hallmark of Confucianism (Cheng, 1944; Ip, 2009). We examine four dimensions: (1) old-age support, (2) attitudes toward divorce, (3) the perceived importance of children's education, and (4) intergenerational co-residence.

First, following Chen et al. (2019), we construct a CFPS-based index of old-age support at the family level, which reflects the extent to which filial piety is valued in a household. We then regress it on our province-level Confucianism measure and find a positive correlation (Column 1 of Table A2). Second, using provincial divorce statistics from the China National Bureau of Statistics (2010-2017), we find that academy density is negatively correlated with divorce rates (Column 2). Third, using CFPS data on parental expenditure for children's education, we find a positive association with Confucian exposure (Column 3). Finally, using the 2000 and 2010 Population Censuses, we compute the share of households with four generations co-residing and show it is positively related to Confucianism (Column 4). Collectively, these patterns support the view that our historical, coordinate-based measure captures persistent regional variation in Confucian social

norms.

4. MAIN RESULTS

4.1. Baseline Results

We estimate the relation between exposure to Confucian culture and firm behavior using panel OLS:

$$Y_{i,t} = \alpha + \beta Confucianism_i + \gamma' Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

where $Y_{i,t}$ denotes one of firm i's five policies: social contribution (benevolence), stakeholder protection (righteousness), courtesy expenses (propriety), number of patents (wisdom), and trade credit (trustworthiness). The key explanatory variable, $Confucianism$, is the natural logarithm of one plus the number of Confucian academies within a 100-kilometer radius around the firm's headquarter. $Controls_{i,t-1}$ includes the firm- and city-level covariates described in Section 3.3, measured at $t-1$. FE denotes year and industry fixed effects. Standard errors are clustered at the firm level to address heteroskedasticity and within-firm autocorrelation.[6]

<Table 2 here>

Table 2 reports positive and statistically significant coefficients for *Confucianism* across all five outcomes. Firms located near more historical Confucian academies exhibit higher social contributions, stronger stakeholder protection, greater courtesy expenses, more patents, and higher trade credit, consistent with greater investment in stakeholder relationships under culture-supported relational contracting. The effects are economically meaningful. For example, a 10 percent increase

[6]In untabulated results where we cluster standard errors at the city-by-year level, we obtain both qualitatively and quantitatively similar results.

in the number of Confucian academies around a firm is associated with a 3.71 million yuan (0.53 million USD) increase in social contribution, a 0.6 percent increase in stakeholder protection, a 0.83 million yuan (0.11 million USD) increase in courtesy expenses, a 1.2 percent increase in the number of patents, and a 7 million yuan (0.95 million USD) increase in trade credit.

4.2. Alternative Human Capital Measures

Because Confucian academies also provided rudimentary education, the baseline effects could reflect education rather than culture. We therefore replace the baseline control for average years of schooling with alternative proxies for contemporary human capital at different margins: (i) the share of the population with high-school education or above at the city level;[7] (ii) the city-level illiteracy rate; (iii) the provincial share with high-school education or above; and (iv) the provincial number of "Project 211" universities.[8] While the illiteracy rate captures the lower end of human capital, the other measures reflect higher levels of educational attainment, collectively covering both ends of the spectrum of regional education levels.[9]

<**Table 3 here**>

Across Panels A–D of Table 3—using, respectively, *% Educated Population (city)*, *% Illiterate (city)*, *% Educated Population (province)*, and *# Project 211 Universities (province)* to control for

[7] We use the share of individuals with a high school education or higher as a measure because they are not covered by China's nine-year compulsory education system, which guarantees education only through middle school. Therefore, this metric represents the portion of the population that has received formal education beyond the compulsory level.

[8] Project 211 was a higher education development and sponsorship scheme of the Chinese central government for preparing approximately 100 universities for the 21st century, initiated in 1995 by the Ministry of Education of China, with the intent of raising the research standards of high-level universities and cultivating strategies for socio-economic development.

[9] Given the limitations of data availability, we construct city-level human capital measures using the 2010 National Population Census, as granular educational attainment data at the city level are collected by the Chinese government only once every 10 years. For provincial-level education data, which are available annually, we use the China Regional Economy Database (CRED) from the Chinese Research Data Service Platform (CNRDS). These data sources integrate information from the National Bureau of Statistics of China, local bureaus of statistics, and provincial statistics handbooks.

contemporary human capital—the coefficient of *Confucianism* remains positive and statistically significant, with magnitudes similar to the baseline. These results indicate that the Confucianism effects are not driven by contemporary education or human capital. For parsimony, we retain average years of schooling as the human capital control in subsequent tests.

4.3. Alternative Culture Measures and Specifications

We assess robustness using alternative proxies for exposure to Confucian culture and by adding further geographic and socioeconomic controls. Following Kung and Ma (2014), Chen et al. (2020), and Chen et al. (2022), we first employ two measures: (i) the density of nearby Confucian temples, and (ii) the prevalence of genealogies (clan records).

Confucian temples. Confucian temples were constructed across China by local governments under imperial auspices to promote Confucianism as orthodox ideology (Kung and Ma, 2014). Local communities conducted regular sacrificial rites to honor sages in these temples (Chow, 1996), reinforcing diffusion of Confucian norms in adjacent areas. We compile a comprehensive list of temple locations from *chinakongmiao.org* and the CNRDS dataset, and define *Confucian Temples* as the natural logarithm of one plus the number of Confucian temples within 200km radium of a firm's headquarter.[10] We re-estimate equation (1) by using this alternative culture measure as the explanatory variable. Panel A of Table 4 presents the results. We show positive and statistically significant coefficients of *Confucian Temples* across all specifications, consistent with the baseline

[10]We measure a firm's exposure to Confucian temples using a 200-kilometer radius, rather than the 100-kilometer radius applied to Confucian academies, due to the significantly lower density of Confucian temples. Unlike academies, which were widespread and integral to the educational system and civil service recruitment, Confucian temples were fewer in number, primarily dedicated to honoring Confucius and other prominent Confucian scholars. These temples were located in specific regions and mainly served ceremonial and symbolic purposes. If we restricted the measurement radius to 100 kilometers around a firm's headquarters, the majority of observations would be zero, limiting the validity of our analysis.

results.

Genealogies (clan strength). Confucianism emphasizes kinship-based obligations—filial piety, continuity and honor, hierarchy, and moral responsibility (Greif and Tabellini, 2017). From the Song Dynasty onward, lineage organizations proliferated, and genealogies served to honor ancestors, codify hierarchies, and preserve intergenerational ties. Using Shanghai Library's *Comprehensive Catalogue on Chinese Genealogy* (2009), we construct a city-level *Genealogies* measure defined as the (log) number of genealogy books, normalized by prefecture population in 2006, after excluding incomplete and non-mainland China records. We again re-estimate equation (1) by using this genealogy measure as the explanatory variable. Panel B of Table 4 presents the results. We find positive and significant coefficients of *Genealogies*, reinforcing that regions with stronger clan structures, which are rooted in Confucian traditions, exhibit the predicted outcomes.

Across both alternative measures, the results are directionally consistent and statistically robust, indicating that the relationship between Confucian exposure and stakeholder-oriented corporate policies is not an artifact of a particular historical proxy but reflects a broader pattern of culture-supported relational governance.

<**Table 4 here**>

CEO culture. We next consider whether the results reflect the culture of the CEO rather than societal culture. We replace our regional Confucianism measure with a proxy for *CEO culture*, defined as the number of Qing-era Confucian schools located in the CEO's hometown or birthplace city (mapped to contemporary administrative divisions). To construct this proxy, we hand-collected CEOs' hometown/birthplace from annual reports and executive résumés. When unavailable, we used the board chair's hometown/birthplace as a substitute. Panel C of Table 4 presents the results.

We show that the *CEO culture* proxy is insignificant across all columns, indicating that the documented effects are unlikely to be driven by individual executives' Confucian values or personal upbringing and instead reflect the broader societal cultural environment in which the firm operates.

Historical socioeconomic controls. Finally, we examine whether Confucianism proxies simply capture historical socioeconomic development. We add Qing-era geographic and demographic controls closely linked to historical economic conditions. To capture transportation advantages, we include *Distance to coast* (the log distance from a city centroid to the nearest coastline) and *Slope* (the average terrain slope within 2017 city boundaries, computed from CHGIS V4 DEM). To proxy historical population pressure and talent supply—both related to local education—we add province-level *Population density* (averaged over 1776, 1820, 1851, and 1910) and the quota of promoted scholars (*Shengyuan*) awarded at prefectural civil exams (the entry tier of the imperial examination system).[11] Detailed variable definitions are provided in Appendix 1. Panel D of Table 4 reports that the coefficients on our Confucianism measure remain positive, statistically significant, and quantitatively similar to the baseline estimates, suggesting that the results are not artifacts of historical geography or demography.[12]

4.4. Instrumental Variable Analysis

Despite controlling for a wide range of firm- and city-specific covariates, concerns may remain that unobservable factors jointly influence both the regional strength of Confucianism and corporate policies. To address these concerns, we implement an instrumental variables (IV) strategy based on historical events and physical geography. We employ two instruments that are plausibly

[11] The *Shengyuan* quota was apportioned based on factors such as county size, population, tax obligations, and historical exam achievements (Chang, 1955).

[12] In unreported tests, we include these controls along with other cultural variables, which will be detailed in Section 5.1, and find similar results.

related to the historical diffusion and siting of Confucian schools but are orthogonal to unobserved determinants of contemporary firm behavior, conditional on controls.

The first instrument is the shortest distance from a listed firm's headquarter to the nearest academy founded by Zhu Xi, a renowned Confucian scholar of the Song Dynasty and one of the most influential Confucian philosophers after Confucius and Mencius (Chan, 1989). Zhu Xi's commentaries on the *Four Books*, the core Confucian texts, became the standard interpretation for centuries (Elman et al., 2000; Gardner, 2007). He founded three academies—Yuelu Academy in Changsha (in Hunan province), Hanquan Academy in Jianyang (Fujian), and White Deer Grotto Academy in Jiujiang (Jiangxi)—that are often referred to collectively as the "Zhu Xi Academies" and widely regarded as prototypes for subsequent Confucian schools across China. The rationale is that Zhu Xi's teaching activities, public lectures, and collaborations with other scholars centered on these academies (Chan, 1989). His disciples compiled and disseminated his manuscripts, but the spread of his teachings was constrained by high transportation and communication costs at the time (Chen et al., 2022). Consequently, regions proximate to the Zhu Xi Academies were more intensely exposed to Confucian thought during the Song period, which, in turn, encouraged local elites to establish additional Confucian schools in subsequent dynasties, including the Qing, thereby entrenching Confucian values at the grassroots level. Figure 2 depicts the spatial clustering of Confucian schools around the locations of the Zhu Xi Academies, with larger symbols indicating higher concentrations of schools.

<**Figure 2 here**>

The exclusion restriction requires that the instrument affects contemporary firm outcomes only through the Confucian exposure channel. We argue that the locations of the Zhu Xi Academies

were not chosen for economic reasons and are orthogonal to regional economic development, both historically and today. Historical records show that Zhu Xi's siting decisions were shaped by personal experiences and official appointments rather than local economic fundamentals (Chen et al., 2022). For example, he established Hanquan Academy in Jianyang, where he resided for over ten years to observe the Confucian mourning ritual after his mother's burial (Liu, 2006). He rebuilt the White Deer Grotto Academy while serving as prefect in Jiujiang, and, after being appointed Governor of Changsha in 1193, he founded Yuelu Academy. These choices reflect personal and administrative contingencies rather than economic optimization. Moreover, historians document substantial discontinuities in the geography of economic development between the Song (1127–1279 CE) and the Qing (1644–1911 CE), as well as between Imperial and modern China, driven by changes in resource endowments, farming technologies, peasant wealth, the purchasing power of silver, and exogenous shocks such as wars and natural disasters (Perkins et al., 1969; Brandt et al., 2014; Deng, 2015). These discontinuities further reduce the likelihood that proximity to Zhu Xi Academies correlates with modern economic development in ways that could confound our estimates.

A remaining concern is that the instrument might correlate with pre-Qing human capital and thus indirectly influence the distribution of Qing-era Confucian schools and, ultimately, contemporary firm behavior. To mitigate this, in the IV analysis we explicitly control for historical education by adding a proxy for local intellectual stock prior to the Qing: the number of prominent Confucian Scholars in the Ming Dynasty. Using the *History of Chinese Thought in the Ming Period*, we manually identify these scholars and construct a firm-level variable by counting the number of Scholars whose hometown is located in the same city as the firm's headquarter (mapped to con-

temporary administrative divisions). We include this measure alongside the contemporary human capital control (i.e., average years of schooling) in the IV specifications to alleviate concerns that the instrument operates through historical education rather than culture.

Our second instrument is the number of small rivers with drainage areas exceeding 10,000 square kilometers in the province where a firm is headquartered. The rationale is that, in ancient China, small rivers posed meaningful inundation risks that could damage school buildings and book collections without offering the transportation benefits associated with major rivers (Glomb et al., 2020; Chen et al., 2020). In addition, Confucian teachings emphasize solitude, quietness, and the purity of nature as conducive to learning (Gilgan, 2022), and historical sources note that schools were commonly located in peaceful, often mountainous areas (Wu, 2005). For both reasons, Confucian schools tended to site away from small rivers, implying a negative relation between small-river density and the local prevalence of schools.[13]

This instrument is unlikely to directly affect contemporary corporate policies once we control for local economic development, since small rivers, unlike the Yangtze or Yellow Rivers, generally did not lower transport costs or systematically raise agricultural productivity (Bai and Jia, 2016; Chen et al., 2020). To further address potential confounding, we explicitly control for current local economic development in the IV regressions.[14]

We estimate two-stage least squares using the same set of controls as in the baseline regressions. Table 5 reports the results. Panel A uses *Distance to Zhu Xi Academy* as the instrument and Panel B uses *Number of Small Rivers*. In both panels, Column (1) presents the first-stage estimates. The instrument coefficients are negative and statistically significant, indicating that firms located closer

[13] In Figure A1 of the Appendix, we graphically illustrate that Confucian schools are more densely distributed in regions with lower river density by presenting a local map of northern China.

[14] In unreported tests we also use the total length of all rivers in a city as an alternative IV, which carries the same logic, and find similar results.

to a Zhu Xi Academy and those in regions with fewer small rivers exhibit higher values of our firm-level Confucianism measure. These patterns are consistent with the historical diffusion logic, that subsequent schools concentrated near centers of Confucian influence and avoided flood-prone small-river areas. Columns (2)–(6) report the second-stage estimates for the five outcomes. Across all specifications and for both instruments, the coefficients of *Confucianism* are positive and statistically significant, indicating that greater exposure to Confucian culture causally predicts higher social contributions, stronger stakeholder protection, greater courtesy expenses, more patenting, and higher trade credit. The IV magnitudes are comparable to (and in some cases larger than) the OLS coefficients, reinforcing our interpretation of culture-supported relational contracting as the mechanism linking Confucian exposure to stakeholder-oriented corporate policies.

<**Table 5 here**>

We also conduct robustness checks tailored to the spatial distribution of the instruments. Zhu Xi Academies and subsequent schools are predominantly concentrated in eastern and southern China, whereas listed firms are distributed nationwide. To account for this discrepancy and ensure overlap between treated and comparison areas, we restrict the sample to regions within a 1,500-kilometer radius of the centroid of the three Zhu Xi Academies, thereby excluding sparsely populated western regions with few listed firms (e.g., Xinjiang, Qinghai, Tibet) while preserving maximal coverage of both firms and academies.[15] Appendix 3 shows that re-estimating the IV models on this restricted subsample yields qualitatively similar results: the coefficients on the Confucianism variable remain significantly positive across outcomes. These findings further corroborate the robustness of the causal effect of historical Confucian exposure on modern stakeholder-oriented firm behavior.[16]

[15] In Figure A2 of the Appendix, we plot the geographical distribution of Confucian schools for this restricted sample.
[16] As an additional robustness test, we use the regional death toll during the Taiping Rebellion as an alternative instrument

5. UNDERLYING MECHANISM

To explore the underlying mechanisms of the cultural effects, we disentangle an institutional channel—relational contracts between firms and stakeholders—from a preference channel—managerial or societal tastes for prosocial conduct shaped by culture. Two tests guide the analysis. First, we run a placebo-style horse-race against alternative cultural influences that also promote virtuous behavior but do not center on interpersonal, bilateral ties. Second, we examine settings where stronger formal institutions should reduce reliance on relational governance. In such cases, the attenuation of cultural effect would support the institutional channel.

5.1. Confucianism vs. Other Cultures

China also hosts other long-standing cultural and religious traditions, most notably Buddhism and Taoism, with broad adoption (Kung and Ma, 2014). While these traditions encourage prosocial conduct and self-cultivation, they place less emphasis on interpersonal, role-based obligations as a substitute for legal contracting and therefore are less directly connected to bilateral enforcement in exchange (Freiberg, 1977). We therefore estimate horse-race specifications that include firms' exposure to other traditions alongside Confucianism. Specifically, we control for the numbers of Buddhist and Taoist temples within the firm's vicinity to proxy for Buddhism and Taoism, respectively, and use city-level FDI as a proxy for exposure to Western cultural values (detailed variable definitions are provided in the Appendix A). Table 6 shows that the *Confucianism* coefficient re-

for a firm's exposure to Confucianism. For instrument relevance: higher regional death tolls are associated with subsequent reinforcement of Confucian institutions and norms. For the exclusion restriction, we argue that conditional on our historical and contemporary controls (including measures of local development and education), mid-19th-century wartime mortality affects modern corporate policies only through its impact on the local strength of Confucian culture. Appendix 4 details the historical setting, data construction, and control strategy. Table A3 reports the IV results using the Taiping death-toll instrument, which again confirm a positive and statistically significant effect of Confucianism on all five corporate policies, consistent with our baseline and other IV estimates.

mains positive and statistically significant across all five corporate policies, whereas the alternative culture proxies do not display a pattern consistent with relational-contract predictions. These results indicate that the effects we document reflect firms' maintenance of stakeholder relationships and are uniquely attributable to Confucianism's relationship-centered norms rather than to general cultural preferences.

<**Table 6 here**>

5.2. Regional Market Development

If Confucianism operates through relational governance, its impact should weaken where formal contracting institutions are stronger, because formal rules, courts, and market intermediaries substitute for informal, culture-based enforcement (Baker et al., 2002; Greif and Tabellini, 2017; Macchiavello and Morjaria, 2023). By contrast, under a pure preference channel, stronger market institutions would not make the effects different, or even amplify them if well-functioning markets raise the returns to reputation or enable the expression of prosocial preferences (Bénabou and Tirole, 2010; Edmans, 2011). To test these competing predictions, we use the annually updated marketization index for 31 provinces (Fan et al., 2011), which measures the development of market systems along five dimensions: government–market relations, private-sector development, product markets, factor markets, and the growth of intermediaries and a market-friendly legal environment (Fan et al., 2011). We sort province-year observations into terciles and compare estimates in the top (high market orientation) and bottom (low market orientation) terciles. Panel A of Table 7 shows that the Confucianism effect is strong and significant across all five outcomes in low market-orientation regions, but attenuates and becomes insignificant in high market-orientation re-

gions. This pattern is consistent with substitution between culture-based relational governance and formal contracting institutions, supporting the institutional (relational-contract) mechanism over a pure preference-based interpretation.

<**Table 7 here**>

5.3. Market-orientation of the Corporate Board

Market orientation is also reflected at the firm level through board composition. Boards with foreign (non-Chinese) directors tend to import diverse perspectives and advanced managerial practices (Giannetti et al., 2015). Under the institutional view, the impact of Confucianism should therefore weaken when boards are more market-oriented, because firms can rely more on formal governance and less on relational contracts. By contrast, a pure preference-based view would not necessarily predict attenuation by board composition, since directors from different cultures may share generic prosocial preferences. Thus, only if Confucian virtues work through relational contracting should board composition matter.

Panel B of Table 7 reports estimates from samples split by board composition: firms with at least one foreign director versus firms with exclusively Chinese directors. Among firms with foreign directors, the association between Confucianism and corporate policies is generally weak (only Column (10) remains significant). In contrast, among firms with exclusively Chinese directors, coefficients of *Confucianism* are positive and statistically significant across all outcomes. These results support the institutional channel: Confucianism's influence on corporate policy is substantially attenuated in firms with foreign directors, consistent with market-oriented boards substituting formal contracting for culture-based relational governance.

6. POST-HOC ANALYSIS: ADDITIONAL EVIDENCE ON RELATIONAL CONTRACTING

We provide further evidence on how Confucian culture is associated with corporate policies in ways consistent with relational contracting. Confucian doctrines beyond the five virtues—notably the "Three Cardinal Guides" (*Sangang*: ruler-subject, father-son, husband-wife)—codify norm-based hierarchies and bilateral obligations that function as informal institutions. Viewed through a relational-contracting lens, these prescriptions coordinate expectations, allocate authority and duties, and support self-enforcement through reputation and repeated interaction. Although they may also embody value and preference components (for example, deference and patriarchy), our interpretation in this section emphasizes their institutional role in structuring relational contracting.

First, we examine board hierarchy. In many Chinese firms, directors are listed by seniority or influence rather than alphabetically, which we interpret as an organizational manifestation of culture-based hierarchy (Zhu et al., 2016). We construct an indicator equal to one if board members are not listed alphabetically and regress this indicator on Confucian exposure with controls and fixed effects. Column (1) of Table 8 shows a positive and significant association. From the perspective of relational contracting, a clearer hierarchy can reduce ambiguity about residual control and relational obligations, thereby lowering ex post bargaining and facilitating self-enforcement in repeated interactions within the board and between the board and other stakeholders.

Second, we study board gender composition. Confucianism historically constrained women's public roles. We analyze the fraction of female directors, an indicator for at least one female director, and the Blau (1977) gender-diversity index. Columns (2)–(4) of Table 8 show negative and

significant associations with Confucian exposure. We view these patterns as descriptive evidence of cultural persistence. Institutionally, more homogeneous, status-ordered boards may find it easier to rely on shared norms and expectations to govern relationships through relational contracting.

<**Table 8 here**>

Third, we consider precaution under uncertainty. Confucian teachings emphasize preparedness for hardship, and firms embedded in such norms may be more inclined to hold precautionary buffers that help sustain relational obligations when adverse shocks occur. Following Dessaint and Matray (2017), we implement a difference-in-differences design using earthquakes as exogenous shocks, exploiting distance to the epicenter to measure shock intensity. Consistent with a precautionary motive (Kim et al., 1998; Opler et al., 1999; Bates et al., 2009), Appendix 5 shows that firms with greater Confucian exposure increase cash holdings more after earthquakes. In terms of relational contracting, larger cash buffers can help firms honor implicit commitments to employees, suppliers, and other stakeholders when formal contracting is strained by shocks.

Taken together, these post-hoc patterns are consistent with Confucian exposure co-varying with organizational forms and behaviors that facilitate relational contracting—clear hierarchies, shared norms, and precautionary slack. While some of these outcomes can also be interpreted as reflecting underlying cultural values and preferences, we view them primarily as complementary evidence that Confucian culture shapes institutional features that support relational contracting.

7. CONCLUSION

This paper reframes the link between culture and firms around an institutional mechanism: societal culture sustains relational contracts between firms and stakeholders—self-enforcing, norm-based

agreements that substitute for formal contracting and are maintained through repeated interaction. Using historical exposure to Confucianism, the dominant relationship-oriented culture in China, we show that culture's impact on corporate policy is best interpreted as relation-specific investment in stakeholder ties rather than the mere expression of prosocial preferences.

We construct a granular firm-level proxy for Confucian exposure—the number of Qing-era Confucian academies within 100 kilometers of a firm's headquarter—and find that more exposed firms make greater social contributions, provide stronger stakeholder protection, spend more on courtesy and etiquette, innovate more, and receive more trade credit. These outcomes align with the predictions of relational contracting, in which firms invest to maintain the support of employees, trading partners, communities, and other stakeholders.

These results remain robust to extensive checks that account for human capital, other potential confounds, and alternative cultural proxies (Confucian temples and genealogies). They are also supported by instrumental-variable analyses that leverage distance to Zhu Xi Academies and provincial small-river density, which predict historical diffusion of Confucian institutions but are plausibly orthogonal to modern outcomes conditional on controls, including Ming-era scholar stocks. Moreover, when exposure to Buddhism, Taoism, and Western cultural proxies (FDI) is included alongside Confucianism, only the relationship-centered Confucian measure remains positive and statistically significant, indicating that our findings are not driven by generic virtuous preferences. We further show that the effects of Confucianism attenuate in high-marketization provinces and in firms with foreign directors, a board attribute associated with more market-oriented governance, consistent with substitution between informal, culture-based relational contracting and formal contracting institutions.

Conceptually, the findings offer a firm-level account of how societal culture enters corporate governance: by raising the continuation value of bilateral relationships, culture encourages relation-specific investment that lowers transaction costs and sustains cooperation. The influence of culture is also state-contingent. Its marginal role declines as market and legal institutions deepen, while in weaker formal environments culture-based relational contracting remains pivotal. Policy aimed at improving stakeholder welfare should therefore consider how formal reforms interact with entrenched informal institutions, acknowledging where they substitute for, and where they complement, existing cultural arrangements.

The analysis also points to open questions. Beyond its institutional role, does Confucianism have intrinsic value implications for corporations? Max Weber (1930) argued that Confucianism impeded the rise of modern capitalism in China, yet China's subsequent transformation suggests a more nuanced relationship. Identifying which elements of Confucianism most directly increase the surplus from relational contracts, how they interact with modern compliance and disclosure regimes, and whether similar mechanisms operate in other relationship-oriented cultures would deepen our understanding of how culture as a foundation for relational contracting shapes corporate and macroeconomic outcomes.

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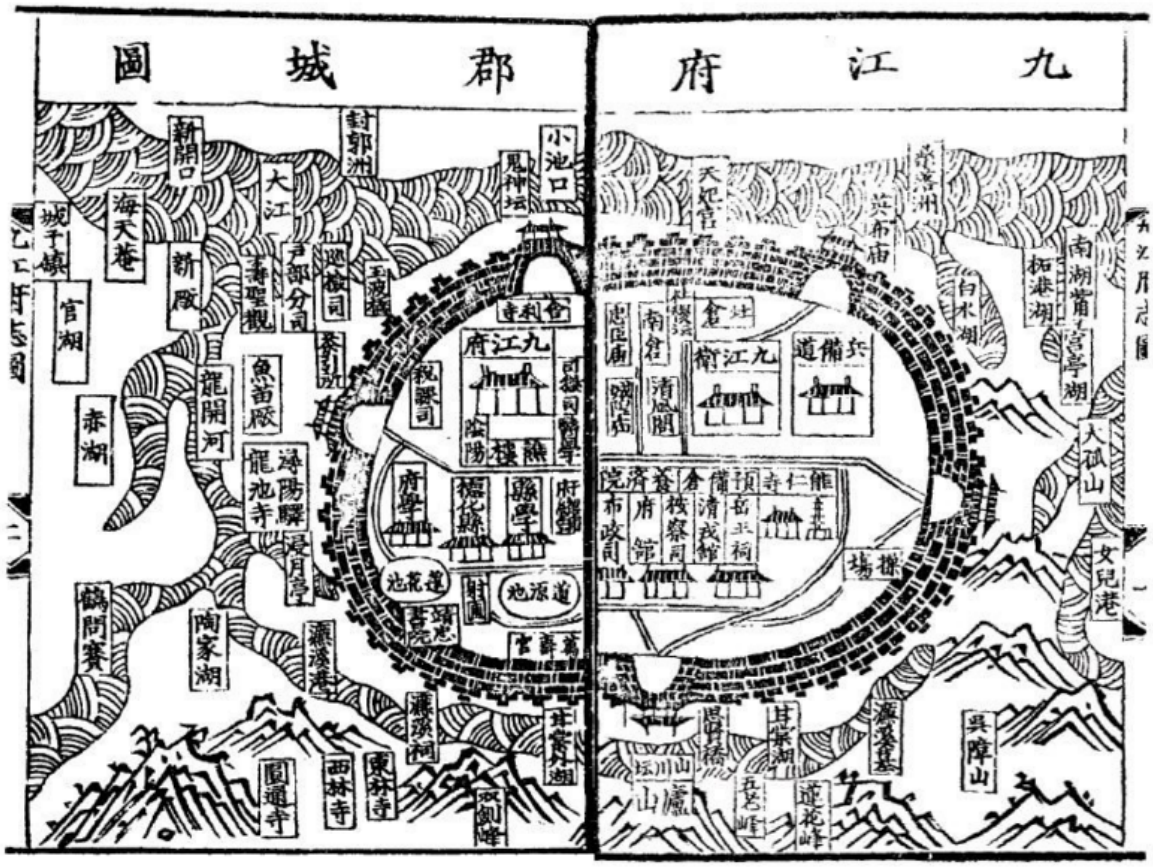

Figure 1: A One-page Snapshot of a Local Chronicle

This figure is a one-page snapshot of a local chronicle of *Jiujiang* county.

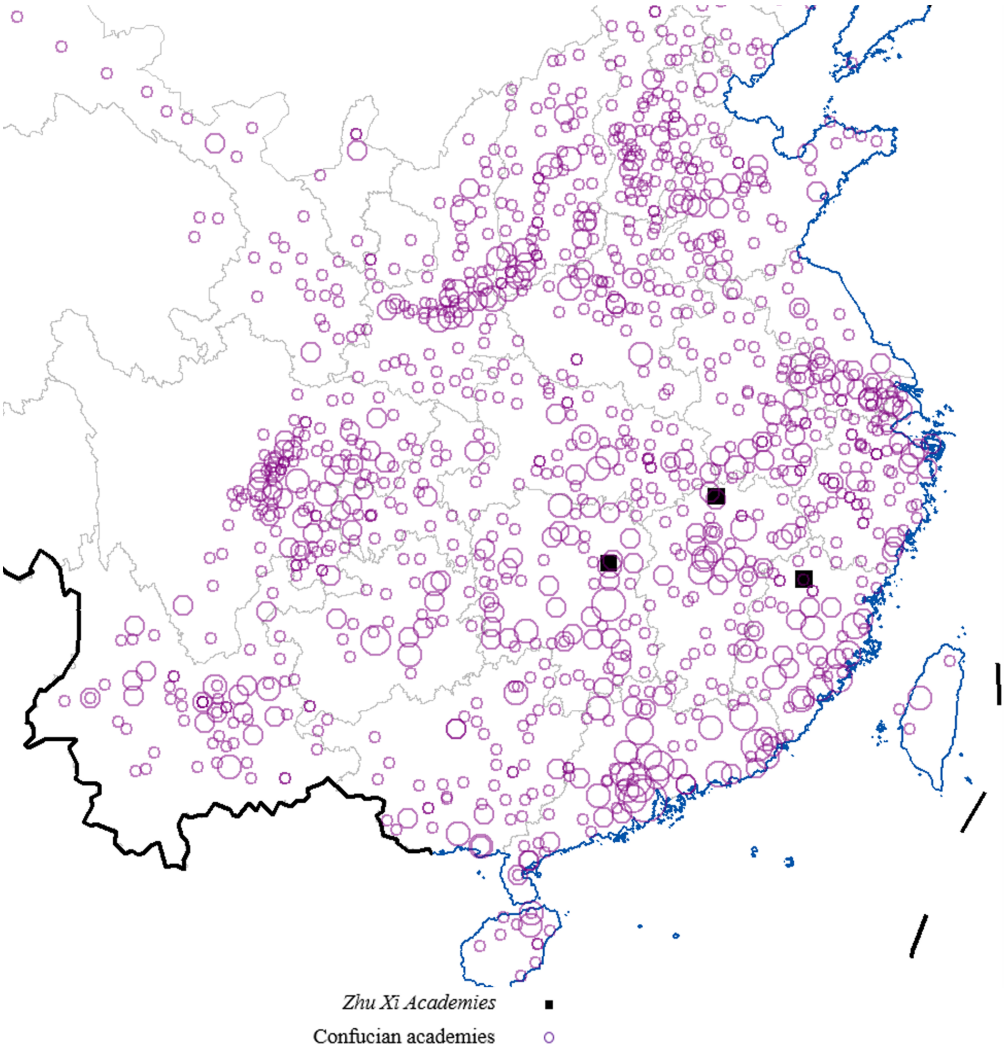

Figure 2: Geographical distribution of Confucian schools and *Zhu Xi Academies*

This figure plots the geographical distribution of Confucian schools and the three *Zhu Xi Academies* across different regions in China. Bigger circles indicating more Confucian schools at the same locations.

Table 1. Summary Statistics of Main Variables

This table provides the summary statistics on firm- and city-level variables for the whole sample. Our sample period spans from 2007 to 2017. Statistics are summarized at the firm-year level for firm characteristics, and at the city-year level for city characteristics. All variable definitions are provided in Appendix Table A.1.

Variable	Obs.	Mean	Std. Dev	Min	Median	Max
Confucianism	25855	2.912	0.899	0.000	3.135	4.205
Confucian Academies	25855	23.715	15.74	0.000	22.000	66.000
Social Contribution	25803	0.099	0.054	0.029	0.087	0.228
Stakeholder Protection	25816	0.846	0.870	0.000	1.000	2.000
Courtesy Expenses (million CNY)	25771	277.773	570.327	8.095	105.316	4041.241
Patents	25500	12.913	36.935	0.000	1.000	278.000
Trade Credit	25803	0.122	0.098	0.000	0.096	0.461
Size	25803	21.874	1.327	19.022	21.723	26.873
Leverage (%)	25803	44.626	22.651	4.698	43.752	111.215
ROA (%)	25386	3.764	6.529	-36.709	3.719	26.490
Revenue Growth (%)	25343	22.197	58.498	-62.064	12.309	429.722
Operating Cash Flow (%)	25360	4.068	7.719	-21.595	4.094	25.805
SOE	25388	0.422	0.494	0.000	0.000	1.000
Confucian Temples	25855	16.62	9.782	0.000	15.000	58.000
Taoism	25855	1.979	0.967	0.000	1.946	3.871
Buddhism	25855	3.254	1.315	0.000	3.367	5.303
City GDP (billion CNY)	2480	224.985	308.622	29.757	124.676	3292.500
City Employment (thousand)	2442	606.867	864.511	25.833	358.000	9869.700
City Total Wage (billion CNY)	2453	28.406	62.427	3.261	12.927	1018.280
FDI (million USD)	2411	981.196	214.4147	0.030	279.950	30825.631
Average Years of Schooling	254	9.009	0.850	6.550	8.935	11.710
Number of Small Rivers	31	11.677	9.624	0.000	9.000	40.000

Table 2. The Effects of Culture on Firm Policies: Baseline Results

This table reports the results of running the following regression model:

$$Y_{i,t} = \alpha + \beta Confucianism_i + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

where $Y_{i,t}$ represents five corporate policies, $Controls$ represents a vector of control variables, FE denotes fixed effects. Specifically, the dependent variables are firm-level social contribution to assets ratio (*Benevolence*, Column (1)), stakeholder protection (*Righteousness*, Column (2)), courtesy expenses (*Propriety*, Column (3)), patents (*Wisdom*, Column (4)), and trade credit (*Trustworthiness*, Column (5)), respectively. A firm's social contribution is computed by summing up its total tax contribution, employee payment, interest expense, and donations. Stakeholder protection is whether a firm reports to have taken measures to protect its staff and suppliers. Courtesy expenses are the natural logarithm of (one plus) management fees deducted by executives' and directors' wages. Patents is the natural logarithm of (one plus) the number of patents authorized by the government plus one. Trade credit is the sum of accounts payable and notes payable, scaled by total assets. The key explanatory variable is $Confucianism$, measured by the logarithm of Confucian academies in the Qing Dynasty that are within a 100-kilometer radius of a firm's headquarter based on their geographical coordinates. The OLS regression includes control variables for firm-level and city macro-economic characteristics, including firm size, leverage, ROA, revenue growth rate, operating cash flow, whether the company is a state-owned enterprise (SOE), as well as the logarithms of a city's GDP, number of employment, total employee wages, and average of schooling of the population in 2010. All columns include industry and year fixed effects. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Confucianism	0.0032***	0.0637***	0.0307**	0.1263***	0.0061***
	(3.105)	(4.504)	(2.238)	(4.741)	(3.272)
Size	-0.0072***	0.2122***	0.7741***	0.3221***	0.0027*
	(-9.546)	(22.053)	(80.200)	(13.069)	(1.859)
Leverage	0.0171***	-0.1118**	0.1472***	-0.4738***	0.1771***
	(3.904)	(-2.019)	(2.924)	(-4.911)	(21.638)
ROA	0.1314***	0.6705***	0.6531***	1.0891***	0.0611***
	(11.294)	(5.246)	(5.418)	(4.603)	(3.522)
Revenue Growth	-0.0032***	-0.0454***	0.0042	-0.0963***	0.0016
	(-5.058)	(-4.852)	(0.490)	(-6.536)	(1.323)
Operating Cash Flow	0.1559***	0.4181***	1.1293***	0.2564	-0.0182
	(20.627)	(4.154)	(12.076)	(1.543)	(-1.481)
SOE	0.0144***	0.0319	0.0905***	-0.0981**	0.0126***
	(7.406)	(1.172)	(4.051)	(-1.985)	(3.504)
City GDP	-0.0050*	-0.0753**	-0.0189	0.2530***	0.0183***
	(-1.892)	(-2.034)	(-0.565)	(3.709)	(4.167)
City Employment	-0.0045	-0.0399	-0.0675	0.0855	0.0095
	(-1.230)	(-0.686)	(-1.410)	(0.831)	(1.508)
City Total Wage	0.0111***	0.0892	0.1230**	-0.2330**	-0.0218***
	(2.767)	(1.508)	(2.511)	(-2.260)	(-3.420)
Average Years of Schooling	-0.0227*	-0.3765**	-0.0200	0.1314	0.0111
	(-1.683)	(-2.030)	(-0.122)	(0.403)	(0.509)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19662	19670	19668	19687
R^2	0.2251	0.2120	0.7563	0.3101	0.2978

Table 3. Alternative Human Capital Measures

This table reports the results of distinguishing the effects of Confucianism and the effects of human capital development on contemporary firm behaviors by estimating the model in Table 2 and employing several alternative contemporary human capital measures. The five dependent variables (Social Contribution, Stakeholder Protection, Courtesy Expenses, Patents, Trade Credits), the key explanatory variable (*Confucianism*), control variables and fixed effects are the same as those in Table 2. For alternative measures of human capital, in Panel A, we replace the average years of schooling with the share of population with high school education or above at the city level (*% Educated Population (city)*). In Panel B, we use the share of illiterate population (i.e., those with no education) in 2010 at the city level (*% Illiterate (city)*). In Panel C, we use the share of population with high school education or above at the province level over time (*% Educated Population (province)*). In Panel D, we use the number of "Project 211 Universities" at the province level (*# Project 211 Univs. (province)*). Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Panel A: Measuring human capital using a city's share of population with high school education or above in 2010					
Confucianism	0.0032***	0.0640***	0.0303**	0.1257***	0.0061***
	(3.079)	(4.529)	(2.220)	(4.733)	(3.300)
% Educated Population (city)	-0.0095**	-0.1220**	-0.0217	0.0224	0.0060
	(-2.289)	(-2.141)	(-0.429)	(0.229)	(0.927)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19662	19670	19668	19687
R^2	0.2258	0.2121	0.7563	0.3101	0.2980
Panel B. Measuring human capital using a city's share of illiterate population in 2010					
Confucianism	0.0033***	0.0653***	0.0289**	0.1229***	0.0060***
	(3.251)	(4.642)	(2.111)	(4.683)	(3.240)
% Illiterate (city)	-0.0010	-0.0233	-0.0286*	-0.0357	0.0003
	(-0.703)	(-1.207)	(-1.774)	(-0.959)	(0.136)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19662	19670	19668	19687
R^2	0.2245	0.2115	0.7565	0.3103	0.2978

(Continued)

Table 3 *(Continued)*. Alternative Human Capital Measures

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Panel C. Measuring human capital using the share of population with high school education or above over time at the province level					
Confucianism	0.0030***	0.0666***	0.0286**	0.1117***	0.0051***
	(2.864)	(4.589)	(2.037)	(4.056)	(2.681)
% Educated Population (province)	-0.0052	-0.0092	-0.0352	-0.2188**	-0.0134**
	(-1.399)	(-0.178)	(-0.768)	(-2.358)	(-2.029)
Controls & Yes	Yes	Yes	Yes	Yes	
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19691	19666	19674	19672	19691
R^2	0.2247	0.2111	0.7564	0.3110	0.2986
Panel D. Measuring human capital using the number of "Project 211 Universities" at the province level					
Confucianism	0.0029***	0.0673***	0.0280**	0.1222***	0.0062***
	(2.780)	(4.659)	(1.981)	(4.484)	(3.258)
# Project 211 Univs. (province)	-0.0003**	0.0001	-0.0021	-0.0023	0.0002
	(-2.023)	(0.055)	(-1.034)	(-0.570)	(0.673)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19691	19666	19674	19672	19691
R^2	0.2252	0.2111	0.7564	0.3101	0.2979

Table 4. Alternative Culture Measures and Specifications

This table reports the results of testing the effect of Confucianism by employing alternative culture measures and including more controls. The dependent variables below are firm-level social contribution to assets ratio (*Benevolence*, Column (1)), stakeholder protection (*Righteousness*, Column (2)), courtesy expenses (*Propriety*, Column (3)), patents (*Wisdom*, Column (4)), and trade credit (*Trustworthiness*, Column (5)), respectively. These five dependent variables are measured in the same way as in Table 2. The key explanatory variable is $Confucianism$, which is measured alternatively as: a. the number of Confucian temples within a 200-kilometer radius of a firm's headquarters (Panel A); b. the number of genealogy books in the city of a firm's headquarter (Panel B); c. the number of Confucian schools during the Qing Dynasty in the CEO's hometown or birthplace city (*CEO culture*; Panel C). In Panel D, we follow the specification in Table 2 and additionally control for a city's *distance to coast* and average *slope*, and a province's *population density* and *Shengyuan quota* in Qing. Controls and FE represent the same set of control variables and fixed effects as in Table 2. Standard errors are clustered at the firm level in Panel A, C, and D and at the city by year level in Panel B. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Panel A. Alternative Measure of Confucianism - *Confucian Temples*					
Confucian Temples	0.0019*	0.0691***	0.0285*	0.1323***	0.0054**
	(1.700)	(4.319)	(1.936)	(4.508)	(2.559)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19662	19670	19668	19687
R^2	0.2235	0.2118	0.7562	0.3095	0.2969
Panel B. Alternative Measure of Confucianism - *Genealogies*					
Genealogies	0.0006**	0.0421***	0.0118***	0.0656***	0.0038***
	(2.207)	(7.412)	(3.278)	(8.376)	(7.490)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19579	19557	19562	19560	19579
R^2	0.2241	0.2122	0.7561	0.3091	0.2966

(Continued)

Table 4 *(Continued)*. Alternative Culture Measures and Specifications

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Panel C. Measure of CEO's Culture					
CEO culture	0.0009	0.0204	-0.0224	-0.0367	0.0025
	(0.494)	(0.874)	(-1.122)	(-0.707)	(0.842)
Controls	Yes	Yes	Yes	Yes	Yes
Industry &Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	6859	6853	6856	6856	6859
R^2	0.2583	0.2434	0.8014	0.3165	0.3276
Panel D. Additional Controls					
Confucianism	0.0036***	0.0574***	0.0333**	0.0937***	0.0043**
	(3.316)	(3.895)	(2.399)	(3.328)	(2.276)
Distance to Coast	-0.0015**	-0.0358***	-0.0074	-0.0340*	-0.0002
	(-2.282)	(-3.710)	(-0.887)	(-1.960)	(-0.180)
Slope	-0.0001	0.0139***	0.0008	0.0169***	0.0004
	(-0.585)	(4.126)	(0.279)	(2.914)	(1.015)
Population Density	-0.0000**	0.0001	-0.0002	0.0010***	0.0001**
	(-2.307)	(0.478)	(-0.976)	(2.794)	(2.370)
The *Shengyuan* Quota	-0.0004	0.0047	-0.0028	-0.0187**	-0.0020***
	(-0.726)	(1.095)	(-0.579)	(-2.155)	(-4.242)
Controls	Yes	Yes	Yes	Yes	Yes
Industry &Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19662	19670	19668	19687
R^2	0.2274	0.2168	0.7565	0.3132	0.3003

Table 5. Instrumental Variable Regression

This table reports the results of instrumental variable (IV) tests using two-stage least square (2SLS) regressions:

$$Confucianism_i = \delta_0 + \delta_1 IV_{i/p} + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

$$Y_{i,t} = \beta_0 + \beta_1 \widehat{Confucianism}_i + \gamma^{'} Controls_{i,t-1} + FE + \epsilon_{i,t},$$

where the dependent variable in the first stage (Column (1) of Panels A and B) is $Confucianism$, measured in the same way as in Table 2, and the dependent variable $Y_{i,t}$ in the second stage represents five corporate policies measured in the same way as in Table 2. Specifically, for both Panel A and Panel B, the dependent variables are firm-level social contribution to assets ratio (*Benevolence*, Column (2)), stakeholder protection (*Righteousness*, Column (3)), courtesy expenses (*Propriety*, Column (4)), patents (*Wisdom*, Column (5)), and trade credit (*Trustworthiness*, Column (6)), respectively. IV represents the instrumental variables, which are: (1) *Distance to Zhu Xi Academy* in Panel A, and (2) *Number of Small Rivers* in the province where a firm is headquartered in Panel B. Control variables and fixed effects in the first-stage and second-stage models are the same as those in Table 2, and we additionally control for the number of Confucian Scholars in Ming Dynasty to account for the possibility that the distance to Zhu Xi Academy may affect the establishment of Confucian schools through influencing the human capital development prior to Qing. Standard errors are clustered at the firm level in Panel A and at the province by year level in Panel B. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Confucianism	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Using the Distance to Zhu Xi Academy as IV						
Distance to Zhu Xi Academy	-0.0010***					
	(-29.792)					
Confucianism		0.0070***	0.1202***	0.0541**	0.2225***	0.0071*
		(3.368)	(4.016)	(2.052)	(4.418)	(1.837)
Confucian Scholars in Ming		-0.0004**	-0.0035	-0.0007	-0.0022	0.0005*
		(-2.444)	(-1.519)	(-0.368)	(-0.556)	(1.671)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	19687	19687	19662	19670	19668	19687
R^2	0.5680	0.2243	0.2100	0.7561	0.3074	0.2989
Panel B. Using the Number of Small Rivers as IV						
Number of Small Rivers	-0.0369***					
	(-5.884)					
Confucianism		0.0053***	0.1860***	0.0750***	0.5018***	0.0240***
		(3.249)	(5.464)	(3.254)	(6.525)	(4.808)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	19,687	19687	19662	19670	19668	19687
R^2	0.2042	0.2241	0.1989	0.7554	0.2675	0.2762

Table 6. Disentangling the Effects of Confucian Culture and Other Cultures

This table reports the results of testing the effect of other cultures by running a horserace regression:

$$Y_{i,t} = \alpha + \beta Confucianism_i + \rho Values_{i.t-1} + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

where $Y_{i,t}$ are firm-level social contribution to assets ratio (*Benevolence*, Column (1)), stakeholder protection (*Righteousness*, Column (2)), courtesy expenses (*Propriety*, Column (3)), patents (*Wisdom*, Column (4)), and trade credit (*Trustworthiness*, Column (5)), respectively. These five dependent variables and $Confucianism$ are measured in the same way as in Table 2, and $Values$ denotes a vector of other culture measures, including Buddhism (the logarithm of the number of (one plus) Buddhist temples within a 100km radius of a firm's headquarter), Taoism (the logarithm of the number of (one plus) Taoist temples within a 100km radius of a firm's headquarter), and FDI (the logarithm of the total foreign direct investment (plus one) in the city where the firm is headquartered). Controls and FE represent the same set of control variables and fixed effects as in Table 2. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)
Confucianism	0.0047***	0.0746***	0.0392**	0.1649***	0.0056**
	(3.508)	(3.948)	(2.305)	(4.355)	(2.376)
Buddhism	-0.0010	-0.0083	-0.0290	-0.0042	-0.0006
	(-0.546)	(-0.323)	(-1.385)	(-0.091)	(-0.207)
Taoism	-0.0011	-0.0026	0.0114	-0.0517	0.0005
	(-0.840)	(-0.149)	(0.730)	(-1.528)	(0.224)
FDI	0.0015	-0.0205	0.0183	0.0806***	0.0062***
	(1.501)	(-1.410)	(1.512)	(3.174)	(3.498)
Controls	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes
Obs.	19484	19459	19467	19465	19484
R^2	0.2273	0.2110	0.7573	0.3118	0.2999

Table 7. Relational Contracting vs. Market Institutions

This table reports the results of testing the cross-sectional heterogeneity in the effect of Confucianism by estimating the model in Table 2. The five dependent variables (social contribution, stakeholder protection, courtesy expenses, patents, trade credits), as well as the key explanatory variable, *Confucianism*, are measured in the same way as in Table 2. In Panel A, we partition the whole sample into a low-marketization group (Columns 1, 3, 5, 7, 9) and a high-marketization group (Columns 2, 4, 6, 8, 10) based on whether the marketization index score (compiled by Fan et al. (2011) and updated every year) for the focal province in each year belongs to the top or the bottom tercile. In Panel B, we partition the whole sample into two subsamples based on whether there is at least one foreign director on the board or not (columns with even numbers are those with foreign directors and columns with odd numbers are those without). The control variables and fixed effects in all columns are the same as those in Table 2. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

Panel A. The Effects of Confucianism Conditional on Marketization of the Local Economy

	Social Contribution		Stakeholder Protection		Courtesy Expenses		Patents		Trade Credit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Market-orientation	Low	High	Low	High	Low	High	Low	High	Low	High
Confucianism	0.0028**	0.0017	0.0626***	0.0091	0.0435**	0.0050	0.1158***	0.0264	0.0057**	0.0061
	(2.008)	(0.605)	(3.334)	(0.231)	(2.223)	(0.146)	(3.486)	(0.415)	(2.307)	(1.292)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	6967	5560	6955	5551	6957	5557	6968	5562	6967	5560
R^2	0.2396	0.2594	0.2044	0.2510	0.7425	0.7917	0.2921	0.3262	0.2748	0.3377

Panel B. The Effects of Confucianism Conditional on Presence of Foreign Directors

	Social Contribution		Stakeholder Protection		Courtesy Expenses		Patents		Trade Credit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Non-Chinese director	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Confucianism	0.0032***	0.0021	0.0677***	0.0289	0.0324**	-0.0041	0.1290***	0.1314	0.0057***	0.0110**
	(3.090)	(0.613)	(4.696)	(0.666)	(2.281)	(-0.122)	(4.759)	(1.401)	(2.969)	(2.264)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	18047	1639	18022	1639	18033	1636	18029	1638	18047	1639
R^2	0.2264	0.2325	0.2111	0.2405	0.7483	0.8285	0.3064	0.3198	0.2957	0.3377

Table 8. Post-hoc Tests

This table reports the results of several post-hoc tests on hierarchy and gender diversity on board by running the following regression model:

$$Y_{i,t} = \alpha + \beta Confucianism_{i,t} + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

Where $Y_{i,t}$ represents firm-level structure or policy, Controls represents a vector of control variables, FE denotes fixed effects. The dependent variable in Column (1), is board hierarchy, a dummy variable that equals 1 if all the firm's independent directors are placed at the bottom rungs of the director list and 0 otherwise. The dependent variable is the female director ratio on board in Column (2), the female directors dummy, a binary indicator that equals 1 if there is at least one female director on the board, and 0 otherwise, in Column (3), the Blau index of female directors following Blau (1977) in Column(4). The key explanatory variable, $Confucianism$, the control variables and fixed effects in all columns are the same as those in Table 2. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A.1.

	Board Hierarchy	Female Directors Ratio	Female Director Dummy	Blau Index
	(1)	(2)	(3)	(4)
Confucianism	0.0919*	-0.0072***	-0.0734*	-0.0080***
	(1.801)	(-2.879)	(-1.861)	(-2.597)
Control Variables	Yes	Yes	Yes	Yes
Industry & Year FE	Yes	Yes	Yes	Yes
Obs.	12438	19289	19289	19289
R^2	0.0406	0.0677	0.0239	0.0629

Appendix 1: Definitions of Variables

Table A1. Variable Definition

Variable	Source	Description
Confucianism	Local Chronicles in Qing Dynasty	The natural logarithm of (one plus) the number of Confucian academies within a 100km radius of a firm's headquarter.
Social Contribution	CSMAR	Social contribution (summing up total tax contribution, employee payment, interest expense, and donations) divided by total assets.
Stakeholder Protection	CSMAR	The sum of binary indicators of whether a firm reports to have taken measures to protect its staff and suppliers.
Courtesy Expenses	CSMAR	The natural logarithm of management fees deducted by executives' and directors' wages plus one.
Patents	CSMAR	The natural logarithm of the number of patents authorized by the government plus one.
Trade Credit	CSMAR	The sum of accounts payable and notes payable divided by total assets.
Size	CSMAR	The natural logarithm of a firm's total assets plus one.
Leverage	CSMAR	The ratio of debt to total assets of a firm.
ROA	CSMAR	The ratio of a firm's net profit to total assets.
Revenue Growth	CSMAR	The annual revenue growth rate of a firm.
Operating Cash Flow	CSMAR	The cash flow generated by operating activity dived by total revenue.
SOE	CSMAR	A binary variable that equals 1 if the ultimate owner of the firm is the state, and 0 otherwise.
Buddhism	Yang (2011)	The natural logarithm of the number of Buddhist temples within a 100km radius around a firm's headquarter plus one.
Taoism	Yang (2011)	The natural logarithm of the number of Taoist temples within a 100km radius around a firm's headquarter plus one.
Confucian Temples	*chinakongmiao.org*	The natural logarithm of one plus the number of Confucian temples within a 200km radius of a firm's headquarters.
Genealogies	*Comprehensive Catalogue on Chinese Genealogy*	The number of genealogy books normalized by the population of the respective prefecture in 2006 (log-transformed).
CEO Culture	CSMAR	The number of Confucian schools during the Qing Dynasty located in the CEO's or board chairperson's hometown or birthplace city, based on contemporary administrative divisions.
Board Hierarchy	Zhu et al. (2016)	A binary variable that equals 1 if all the firm's independent directors are placed at the bottom rungs of the director list and 0 otherwise.
Women Directors Ratio	CSMAR	The ratio of female directors to all directors on the board.

(Continued)

Table A1 *(Continued)*. Variable Definition

Variable	Source	Description
Women Directors Dummy	CSMAR	A binary variable that equals 1 if there is at least one female director on the board and 0 otherwise.
Blau Index	CSMAR	The Blau index of gender diversity in the board: $Blau = 1 - \sum_i P_i^2$ Where P_i refers to the percentage of female or male board members (Blau, 1977).
Cash Ratio	CSMAR	The ratio of a firm's cash to its total assets.
City GDP	National Bureau of Statistics of China	The natural logarithm of the city's GDP (in billion RMB).
City Employment	National Bureau of Statistics of China	The natural logarithm of the number of residents who are currently employed in the city (in thousand).
City Total Wage	National Bureau of Statistics of China	The natural logarithm of total employee wages (in thousand RMB) of the city.
Average years of schooling	China Population Census in 2010	The average years of schooling in 2010 measured at the city level.
The share of educated population at the city-level	China Population Census in 2010	The share of population with high school education and above in 2010 measured at the city level.
The illiteracy rate at the city-level	China Population Census in 2010	The share of population with no education in 2010 measured at the city level.
Distance to Coast	Self-Constructed	The natural logarithm of the distance between a city's centroid in Qing Dynasty to the closest point on the coast plus one.
Slope	Self-Constructed	The average slope within each city by matching CHGIS V4 DEM with city boundary in 2017.
The share of educated population at the province-level	National Bureau of Statistics of China	The share of population with high school education and above over the sample period measured at the province level.
The number of "Project 211 Universities"	Ministry of Education of China	The number of "Project 211 Universities" at the province level.
FDI	National Bureau of Statistics of China	The natural logarithm of total foreign direct investment (in million USD) plus one.
Number of Small Rivers	National Census for Water of China	The number of small rivers (excluding major ones that cross many provinces, such as Yangtze River and Yellow River) with drainage area greater than 10,000 square kilometers in the province where a firm is headquartered.
Distance to Zhu Xi Academy	*Baidu Map*	The shortest distance between a listed firm's headquarters and the nearest Zhu Xi Academy. Zhu Xi Academies are prestigious schools established by Zhu Xi (also spelled "Chu Hsi"), the renowned Confucian scholar in the Song Dynasty (1130-1200 CE). The three Zhu Xi Academies are Yuelu Academy in Changsha, Hunan province; Hanquan Academy in Jianyang, Fujian province; and White Deer Grotto Academy in Jiujiang, Jiangxi province.

(Continued)

Table A1 *(Continued)*. Variable Definition

Variable	Source	Description
Confucian Scholars in Ming	*History of Chinese Thought in the Ming Period*	The number of prominent scholars in Ming Dynasty whose hometown's center point is within a 100km radius around a firm's headquarter.
Population Density	Cao (2000)	The average of a province population density in 1776, 1820, 1851, and 1910.
Shengyuan Quota	Chang (1955)	The quota for *shengyuan* (*promoted scholar*) degree for counties in Qing Dynasty aggregated at the province-level. The *shengyuan* (*promoted scholar*) degree was awarded to a successful candidate at the prefectural civil exam, the entry level of China's civil exam.
Marketization Index	Fan et al. (2011)	The index constructed by Fan et al. (2011) that captures the development of market-orientation of a province every year. This index is assessed in five fields with 23 component indicators. The five fields are the level of resource allocation by governments and the market, market intermediaries and the legal environment for the market, the development of the non-state enterprise sector, the development of the product market, and the development of labor, financial, and technology markets. This paper focuses on the development of market intermediaries and the legal environment for the market.
Perspectives on Raising Children	China Family Panel Studies 2010	The percentage of respondents who choose "for old-age support" in response to the question "why do you want to have children?" at the family level.
Divorce Population Ratio	National Bureau of Statistics of China	The percentage of divorced pairs to the average population between 2010 and 2017 at the provincial level.
Education Expenses	China Family Panel Studies 2010	The natural logarithm of the amount of money that a family spends on children education plus one.
Intergenerational Coresidence Ratio	China Population Census in 2000 and 2010	The percentage of households with four generations living under the same roof at the provincial level in 2000 and 2010.

Appendix 2: Validating the Confucianism Measure

Table A2. Validation Test of the Confucianism Measure

This table reports the results of validating the Confucianism measure as a proxy for Confucian culture. The dependent variables are survey-based ratings based on four major Confucian cultures that are not directly related to our firm policy variables: a. perspectives on raising children (Column (1)), b. provincial divorce population ratio (Column (2)), c. a family's education expense (Columns (3)), and d. the ratio of intergenerational coresidence ratio (the percentage of population for which at least four generations live under the same roof) of the local province (Column (4)). The key explanatory variable Confucianism is the natural logarithm of (one plus) the number of Confucian academies in a province. In Column (1), Controls include father age, mother age, father education level, and mother education level. In Column (2), the year fixed effect is controlled, and the control variables include provincial GDP, provincial GDP per capita, the logarithm of total employee wages in the province, and logarithm of the total employment in the province. In Column (3), Controls include family's total saving, an binary indicator for whether the family holds financial securities, total annual income, and total annual expenses. Column (4) includes year fixed effects as well as provincial GDP, provincial GDP per capita, and logarithm of the total employment in the province. Standard errors are clustered at the provincial level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively.

	Perspectives on Raising Children	Divorce Population Ratio	Education Expenses	Intergenerational Coresidence Ratio
	(1)	(2)	(3)	(4)
Confucianism	0.0243**	-0.5437***	0.3176***	0.0011***
	(2.252)	(-4.584)	(10.116)	(4.301)
Controls & FEs	Yes	Yes	Yes	Yes
Observations	8,675	248	1,2871	62
R^2	0.0059	0.4563	0.0609	0.3787

Appendix 3: Instrumental Variable Regression Using Restricted Samples

Table A3. IV Regression Using Restricted Samples

This table reports the results of instrumental variable (IV) tests using two-stage least square regressions (2SLS):

$$Confucianism_i = \delta_0 + \delta_1 IV_i + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

$$Y_{i,t} = \beta_0 + \beta_1 \widehat{Confucianism}_i + \gamma^{'} Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

where the dependent variable in the first stage (Column (1)) is $Confucianism$, measured in the same way as in Table 2, and the dependent variable $Y_{i,t}$ in the second stage represents five corporate policies measured in the same way as in Table 2. Specifically, the dependent variables are firm-level social contribution to assets ratio (*Benevolence*, Column (2)), stakeholder protection (*Righteousness*, Column (3)), courtesy expenses (*Propriety*, Column (4)), patents (*Wisdom*, Column (5)), and trade credit (*Trustworthiness*, Column (6)), respectively. IV represents the instrumental variables, *Distance to Zhu Xi Academy*. We restrict our sample to the region within a 1500km radius from the enter point of the three Zhu Xi Academies to exclude observations in the Far West (such as Xinjiang, Qinghai, Tibet). Controls represents a vector of control variables, and FE denotes industry and year fixed effects, which are the same as those in Panel A of Table 5 and are included in both stages. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A1.

	Confucianism	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)	(6)
Distance to *Zhu Xi Academy*	-0.0008***					
	(-12.282)					
Confucianism		0.0082***	0.1815***	0.0843***	0.2597***	0.0069**
		(2.276)	(4.406)	(4.116)	(4.665)	(1.969)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry & Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	18421	18421	18399	18404	18401	18421
R^2	0.4382	0.2209	0.2015	0.7587	0.3020	0.3038

Appendix 4: IV Results Using Alternative Instrumental Variables

As a further robustness check, we also employ the regional death rate in Taiping (and Nian) Rebellion as an alternative IV, which is measured as either the percentage death rate of the local population or the natural logarithm of (one plus) the death toll in each province between 1851 and 1865. The rebellion was a revolt against the Qing Dynasty and established the "Taiping Heavenly Kingdom" after the Taiping army won several battles against the Imperial Qing army. This rebellion induced the largest number of war deaths in human history, with over 40 million people killed (Wakeman, 1997).

The rebellion repulsed Confucianism and aimed to spread Christianity by destroying many Confucian temples, which triggered resistance by local Confucian gentry and suppression by the Qing government, which eventually defeated the rebellion army. We argue that the regional death toll caused by the rebellion is positively associated with the strength of Confucianism in the region. On one hand, the rebel's agenda included social reforms, such as shared "property in common," equality for women, and the replacement of Confucianism, Buddhism, and Chinese folk religion with a form of Christianity. This doctrine was generally questioned and opposed by Confucian scholars at the time and provoked the anger of local gentry because it violated traditional Chinese ethics and morals. The ruthless means of the Taiping Army in spreading their bogus religion did not leave an imprint of Christianity among the local people but only triggered strong resistance. It also inspired another major armed uprising in northern China, the Nian Rebellion, which happened around the same time also with the aim of toppling the Qing Dynasty, and caused immerse economic devastation and loss of life. The great turmoil of the revolt and memories of the atrocities, transmitted across generations, make residents in more affected areas value the stability that

Confucianism emphasizes and helps mitigate the adverse effects of the negative events (Ke et al., 2019; Chen and Kung, 2020).

On the other, after repressing the rebellions, the Qing government started to rebuild the affected regions. Rawski (1979) documented that, in Ancient China, the government often spent enormous effort to rebuild schools in areas that recently experienced war and famine as a means of restoring the Confucian order and sustaining the monarchy. Wooldridge (2009) documents that Zeng Guo-fan, the governor general in charge of the reconstruction of Nanjing, attached great importance to the Confucian school and temple complex and considered education and ritual as palliatives for the rebellion, a view that justified the vast sum spent on the construction of the school. Similarly, Wright (1957) argues the Taiping Rebellion forced the reassertion of Confucian moral values and the revival of Confucian institutions. Hence, we expect the severity of damage caused by the rebellions to be positively related to the strength of Confucianism, due to local resistance and post-war restoration efforts. Meanwhile, it is unlikely that the regional death toll caused by the Taiping (and Nian) Rebellion will directly influence economic development today. Alternatively, we also employ the regional death toll in the Taiping (and Nian) Rebellion as an alternative instrumental variable. Mortality data during the rebellions is obtained from China Demographic History (Cao, 2000), which records population information at provincial level.

We include the same set of control variables in our two-stage IV regressions. Table A4 presents the results, with Panels A and B showing the results using the regional death rate and death toll in the Taiping (and Nian) Rebellion as the IV, respectively. For both panels, we report the first-stage results of regressing the Confucianism measure on the IV in Column (1), and the second-stage results of regressing the five corporate policy variables on the "predicted" Confucianism variable.

We find that both regional death rate and death toll positively predict the firm's exposure to Confucianism (Column (1) of both panels), supporting our conjecture that regions that experienced suppression of Confucian culture had stronger Confucianism. In Columns (2)-(6) of both panels, we again find that a firm's exposure to Confucian culture is significantly and positively associated with its five corporate polices. These results further substantiate our key IV analysis in Table 5, and confirm the role of exposure to Confucianism on corporate behavior.

Table A4. IV Regression Using Death Rate and Death Toll during Taiping Rebellion

This table reports the results of instrumental variable (IV) tests using two-stage least square regressions (2SLS):

$$Confucianism_i = \delta_0 + \delta_1 IV_p + \gamma' Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

$$Y_{i,t} = \beta_0 + \beta_1 \widehat{Confucianism}_i + \gamma' Controls_{i,t-1} + FE + \varepsilon_{i,t},$$

Where the dependent variable in the first stage (Column (1) of Panels A and B) is $Confucianism$, measured in the same way as in Table 2, and the dependent variable $Y_{i,t}$ in the second stage represents five corporate policies, measured in the same way as in Table 2. Specifically, for both Panel A and Panel B, the dependent variables are firm-level social contribution to assets ratio (*Benevolence*, Column (2)), stakeholder protection (*Righteousness*, Column (3)), courtesy expenses (*Propriety*, Column (4)), patents (*Wisdom*, Column (5)), and trade credit (*Trustworthiness*, Column (6)), respectively. IV represents the instrumental variables, which are: (1) death rate, measured as the death rate of the local population and (2) death toll, measured as the logarithm of (one plus) the total death toll at the provincial level during the Taiping (and Nian) Rebellion in late Qing. Controls represents a vector of control variables, and FE denotes industry and year fixed effects, which are the same as those in Table 2 and are included in both stages. Standard errors are clustered at the firm level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A1.

	Confucianism	Social Contribution	Stakeholder Protection	Courtesy Expenses	Patents	Trade Credit
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Using Regional Death Rate as IV						
Death Rate	0.0109***					
	(9.771)					
Confucianism		0.0054*	0.1108***	0.0360*	0.3454***	0.0343***
		(1.686)	(3.217)	(1.660)	(5.477)	(6.836)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19687	19687	19662	19670	19668	19687
R^2	0.1928	0.2801	0.2100	0.7563	0.2956	0.2444
Panel B. Using Regional Death Toll as IV						
Death Toll	0.0003***					
	(6.326)					
Confucianism		0.0036	0.0614*	0.0463**	0.4781***	0.0462***
		(0.928)	(1.903)	(2.279)	(5.042)	(5.876)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19687	19687	19662	19670	19668	19687
R^2	0.1867	0.2801	0.2120	0.7562	0.2738	0.1894

Appendix 5: Testing on Precautionary Savings

As a further post-hoc test, we recognize that Confucianism also advocates the development of "preparedness for the unexpected and hardship," which stresses the importance of having consciousness of uncertainty and taking precautions. To test whether firms with greater exposure to Confucianism are more likely to have precautionary policies, we examine a firm's cash holdings when facing unexpected shocks. A large literature has documented that firms may hold excess cash as a precaution (e.g., Kim et al., 1998; Opler et al., 1999; Bates et al., 2009) In particular, firms could hold cash to better cope with adverse shocks when there is the risk of a liquidity shortage (Acharya et al., 2012), such as exposure to natural disasters. To this end, we follow Dessaint and Matray (2017) and adopt a difference-in-difference identification approach using earthquakes as adverse shocks to firms' operations. Since the saliency and influence of an earthquake are magnified by its proximity, we can rely on a natural experiment framework by leveraging the distance between a firm and the epicenter of an earthquake.

We separate firms into three groups based on the distance between a firm and the epicenter of an earthquake: the affected firms, the firms in the neighborhood, and the unaffected firms. We define "affected firms" as those within 400 kilometers from the epicenters and "neighboring firms" as those that are over 400 kilometers and within 800 kilometers from the epicenters. We define an "Affected" dummy variable, which equals one if the firm is in the affected group over the past 12 months, and a "Neighboring" dummy, which equals one if the firm is in the neighboring firms group over the past 12 months in our difference-in-differences regression. Unaffected firms are treated as the baseline. Across all specifications, the dependent variable is a firm's quarterly cash holdings over assets. Since most of the usual firm-level control variables are themselves affected

by the disaster proximity, we do not include them in the regression to avoid the "overcontrolling" problem, following Dessaint and Matray (2017).

Table A5 presents the results. Column (1) includes the Confucianism variable, the Neighboring dummy, the Affected dummy, and the interaction term between Confucianism and the Neighboring dummy. In Column (2), we replace the interaction term in Column (1) with the interaction between Confucianism and the Affected dummy. Column (3) includes both interaction terms above. In all specifications, we control for firm-quarter fixed effects and year-quarter fixed effects to account for the seasonality in earthquake shocks and firms' cash holding patterns. The coefficient of the interaction Neighbor $\times$ Confucianism is significant and positive, whereas that of the interaction Disaster Zone $\times$ Confucianism is negative and statistically insignificant. The insignificance of the latter is likely due to the fact that firms in affected areas experience cash drain, due to their operations and supply chains being harmed by the earthquakes. These results suggest that firms with greater exposure of Confucianism in the neighboring area—which are supposedly not directly affected by the unexpected negative shocks on their operations—will accumulate more cash as a precaution, which is consistent with our prediction.

Table A5. Testing on Precautionary Cash Holding Motive

This table reports the results of running the following regression model:

$$Y_{i,t} = \alpha_{i,q} + \delta_{t,q} + \beta_1 Neighbor_{i,t,q} + \beta_2 Disaster Zone_{i,t,q} + \beta_3 Confucianism_i + \beta_4 Neighbor_{i,t,q} \times Confucianism_i + \beta_5 Disaster Zone_{i,t,q} \times Confucianism_i + \varepsilon_{i,t},$$

Where i indexes firm, t indexes year, q indexes calendar quarter (1 to 4), the dependent variable is cash (to asset) ratio at the end of quarter q of year y, $\alpha_{i,q}$ are firm-quarter fixed effects, $\delta_{t,q}$ are year-quarter effects, $Neighbor$ is a dummy variable that equals one if the firm is headquartered in the neighborhood of an area (over 400 kilometers and within 800 kilometers from the epicenter) hit by an earthquake over the last 12 months and zero if not, $Disaster\ Zone$ is a dummy variable that equals one if the firm is headquartered within 400 kilometers from the epicenter of an earthquake over the last 12 months and zero if not. The key explanatory variable $Confucianism$, the logarithm of the number of Confucian academies within a 100-kilometer radius around a firm's headquarter. Since most of the usual firm-specific control variables are themselves affected by the disaster proximity, we do not include these control variables in the to avoid an "overcontrolling" problem (Dessaint and Matray, 2017). Standard errors are clustered at the city level. The t-statistics are reported in the parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1%, respectively. All variable definitions are provided in Appendix Table A1.

DV = Cash Ratio	(1)	(2)	(3)
Neighbor	0.7313*	0.7374*	0.7424*
	(1.761)	(1.789)	(1.799)
Disaster Zone	1.4960***	1.4549***	1.4657***
	(3.155)	(3.089)	(3.108)
Confucianism	0.0081	0.0018	0.0036
	(0.216)	(0.047)	(0.095)
Neighbor × Confucianism		0.0142**	0.0124**
		(2.456)	(2.063)
Disaster Zone × Confucianism	-0.0112		-0.0072
	(-1.572)		(-1.061)
Firm-quarter Fixed Effects	Yes	Yes	Yes
Year-quarter Fixed Effects	Yes	Yes	Yes
Observations	94479	94479	94479
R^2	0.5013	0.5013	0.5013

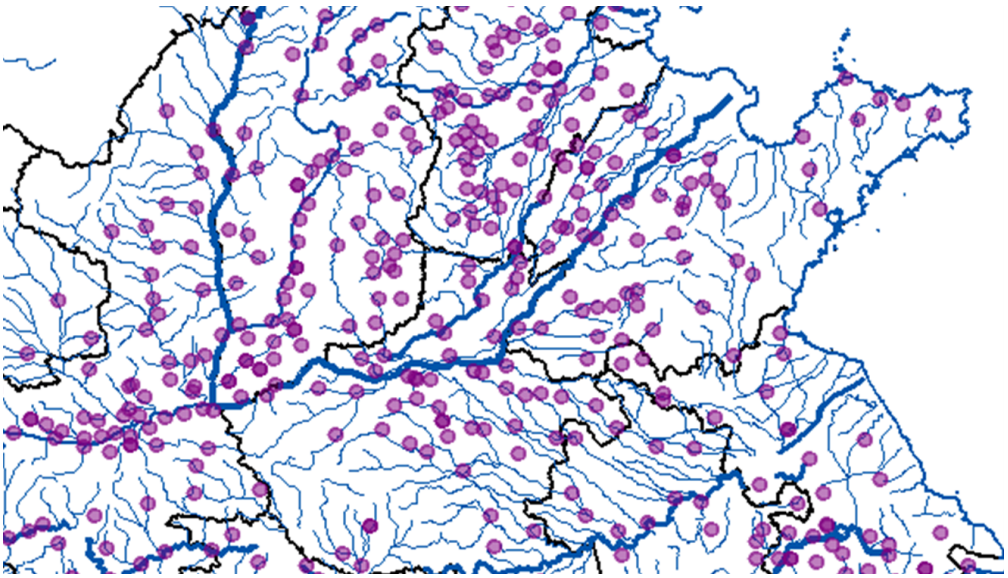

Figure A1: Geographical distributions and small rivers in northern China

This figure plots the geographical distributions of Confucian schools and small rivers in a local map of northern China. The purple dots represent Confucian academies and the blue lines represent small rivers.

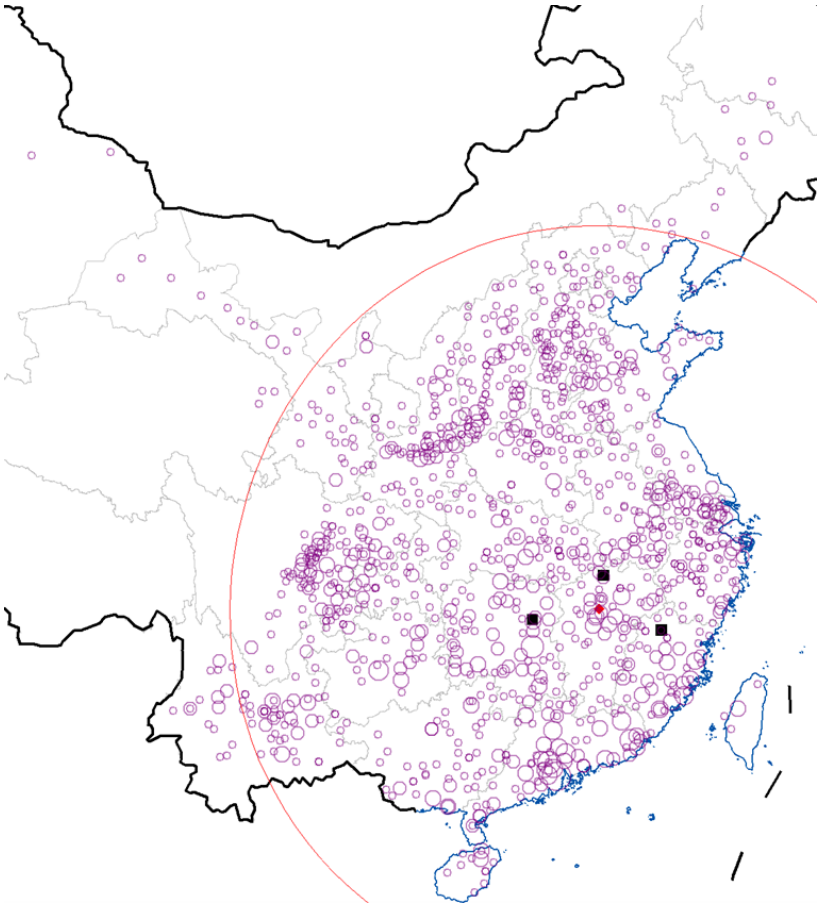

Figure A2: Geographical distribution of Confucian schools for the restricted sample

This figure plots the geographical distribution of Confucian academies for the restricted sample used in the IV analysis. The red point indicates the center point of three *Zhu Xi Academies*. The red circle plots the 1500km radius around this center point.