



THE UNIVERSITY *of* EDINBURGH

Edinburgh Research Explorer

Signalling effects of doing good in global ICO markets

Citation for published version:

Zhao, R, Hou, W, Kumar, V & Kumar, A 2023, 'Signalling effects of doing good in global ICO markets', *Journal of Business Research*, vol. 168, 114224, pp. 1-16. <https://doi.org/10.1016/j.jbusres.2023.114224>

Digital Object Identifier (DOI):

[10.1016/j.jbusres.2023.114224](https://doi.org/10.1016/j.jbusres.2023.114224)

Link:

[Link to publication record in Edinburgh Research Explorer](#)

Document Version:

Publisher's PDF, also known as Version of record

Published In:

Journal of Business Research

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.





Signalling effects of doing good in global ICO markets

Ruoran Zhao^{a,*}, Wenxuan Hou^{a,e,f}, V. Kumar^{b,c}, Ajay Kumar^d

^a University of Edinburgh Business School, Edinburgh, United Kingdom

^b Goodman School of Business, Brock University, St. Catharines, ON, Canada

^c Distinguished Fellow, MICA, India, and, Chang Jiang Scholar, HUST, China

^d EMLYON Business School, Ecully, France

^e School of Finance, Shanghai Lixin University of Accounting and Finance, Shanghai, China

^f Department of Finance and Tax, Commerce Faculty, University of Cape Town, South Africa

ARTICLE INFO

Keywords:

Signalling Theory
CSR
Ethical Culture
Initial Coin Offerings
Fundraising
Information Disclosure

ABSTRACT

The Initial Coin Offerings (ICOs) markets have experienced dramatic development and turmoil worldwide. This paper studies signalling effects of CSR among global ICOs by asking if CSR narratives reflect values that highlight the interests of broad stakeholders, reduce information asymmetry, and improve fundraising outcomes. We construct a sample of ICOs across 44 countries from 2014 to 2018 and define socially responsible ICOs as those that serving education, environment, health, and poverty as described in their whitepapers. We find that ICOs from countries with a lower individualism and high benevolence culture are more likely have socially responsible goals. These projects tend to have better disclosure in whitepapers and are more active in engaging with stakeholders on social networking platforms. They are as competitive as ordinary ICOs in fundraising outcomes. Our analyses could advice entrepreneurial ventures on how to build legitimacy and inform investors of the strategy to verify signals in the risky private equity markets.

1. Introduction

In the era of digitalization, new technology creates new financial channels that complement the traditional, which may better prepare firms for ‘black swan’ events, such as the current COVID-19 pandemic (Sheng et al., 2021). Nevertheless, firms in emerging technologies face unique institutional challenges and legitimacy controversies (Fotaki et al., 2021). For instance, concerns over fraud, cybersecurity, or bubbles raised by digitalization (Bertoni et al., 2021) may challenge new players in entrepreneurial finance. Responsible corporate citizenship often helps to build brand equity, signals organizational goodwill and managerial quality (Erdem, Swait, & Valenzuela, 2006; Ferrell, Liang, & Renneboog, 2016; Cowan & Guzman, 2020). To build legitimacy and reputation for early-stage entrepreneurial ventures, choosing to actively engage in CSR appears to be a promising way to overcome the “liability of newness”. In a highly asymmetric information context such as early-stage start-ups, where moral issues often emerge in corporate self-disclosure, socially responsible initiatives could play a vital role in informing investors about the quality of the ventures, leading to fundraising success.

Signalling theory contends that signalling by fundraising firms can only be effective in attracting investment if the signal is observable and

costly to imitate (Connelly et al., 2011), implying that costless CSR commitments by ventures should not exert any influence. However, socially responsible goals are often correlated with ventures’ ability, and whether investors fund responsible corporate citizens may depend on markets’ information frictions and investors’ intrinsic values of doing good. As noted by Colombo (2021), an emerging stream of literature on signalling in crowdfunding casts some doubt on the ‘costly information’ assumption by demonstrating that less costly types of communication can be particularly effective under certain conditions (e.g., Anglin, Short, et al., 2018). To better understand the signalling effects of CSR for early-stage entrepreneurs, we analyze a sample of global Initial Coin Offerings (hereafter ICOs) from 44 countries from 2014 to 2018. This study extends the signalling theory of CSR to highly unregulated ICO markets, and sheds light on the success of international entrepreneurs.

ICOs are a special form of crowdfunding, providing another opportunity for entrepreneurial finance in the era of digital connectivity. Through an ICO, start-up teams attract capital from worldwide investors without the legal and financial restrictions associated with an IPO (Saboo, Kumar and Anand, 2017), and in return receive delivery of equity in the form of tokens to investors. The innovative ICO process would greatly facilitate the international mobility of the capital.

* Corresponding author.

E-mail addresses: ruoran.zhao@ed.ac.uk (R. Zhao), wenxuan.hou@ed.ac.uk (W. Hou), vk@brocku.ca (V. Kumar), akumar@em-lyon.com (A. Kumar).

<https://doi.org/10.1016/j.jbusres.2023.114224>

Received 15 October 2022; Received in revised form 7 August 2023; Accepted 10 August 2023

Available online 14 August 2023

0148-2963/© 2023 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Blockchain technology-backed start-ups from more than 50 countries raised over \$U. S. 30 billion as of 2018 by announcing ICOs (Lyandres et al., 2018). However, cryptocurrencies currently remain risky bets, and their halo of opacity may represent an additional burden for the internationalization of ventures (Chakravarty, Cumming, Murtinu, Scalera, & Schwens, 2021).

ICOs provide a unique setting to examine signalling effects of CSR. Signalling theory assumes that in any market laden with information asymmetries, the ability to signal quality to potential investors is a critical factor in attracting funding (Mollic, 2014). In the absence of a mandatory disclosure and regulatory oversight, the information asymmetry in ICO markets is greater than in any other capital market, making it extremely difficult to assess the quality of the offering. Ventures of ICOs make the provisions of the token offering with details on token price, the number of tokens, project timelines and investor rights through whitepapers. Investors mainly rely on the voluntarily disclosed information to screen projects. The self-disclosure tends to be exaggerated by token issuers (Momtaz, 2021b). Frequent frauds and scams (Hornuf, Küick, & Schwienbacher, 2021) and the absence of rules and regulations further underscore the lack of reliable information and the need for reputation systems to gain investor trust. While CSR has been found to be related to managerial quality for large and mature companies (Ferrell, Liang, & Renneboog, 2016) and matter to the crowd-funding outcomes (Allison et al., 2015), it's unclear *whether CSR signals better quality of ICO teams, and whether socially responsible goals attract more capital*.

From a rational choice perspective, the motivation to invest in equity-based crowdfunding is to realize a financial return. Therefore, funders would not favour the pro-social orientation of ICO ventures unless CSR narratives signal quality and future financial benefits. According to signalling theory, easy-to-imitate information is not a competitive feature to attract investment (Connelly et al., 2011). Consistent with the signalling view, Hörisch (2015) observes an insignificant influence of environmental orientation on funding success. By studying equity crowdfunding, Vismara (2019) shows that although sustainability orientation does not increase the chances of success or of attracting professional investors. In the ICO setting, the content of the signals is not backed up by material performance. Narrative commitments to doing good seem to do little to distinguish some high-quality token issuers from low-quality ones. Therefore, we would expect that CSR narratives alone shouldn't attract more funding to ICO ventures worldwide.

On the other hand, investors in global ICO markets are mostly dispersed individuals (Momtaz, 2021b; Fisch et al., 2021), who may lack the skills and resources to evaluate potential investments and may select projects based on intrinsic value (as opposite to extrinsic/monetary value). A key difference between ICO markets and traditional intermediaries, noted by Lee & Parlour (2021), is that financiers of start-ups are potential consumers of their products, which makes the criteria for "a good project" different. Consumers have distinct horizons than traditional funders. According to cognitive evaluation theory, microlenders would respond to intrinsic cues embedded in entrepreneurial narratives (Mollick, 2014), because the pro-social visions of ventures satisfy the internal feelings individual founders. Thus, cognitive evaluation theory supports a positive relationship between fundraising success and being pro-social, given the unprofessional and intrinsically driven characteristics of ICO investors.

Studies on crowdfunding highlight the important role of digital platforms in financing pro-social projects (Bartenberger & Leitner, 2013; Lehner, 2013; Block et al., 2018), i.e., by attracting the attention of investors. ICOs and classical crowdfunding share similarities but differ from each other in terms of stakeholders, microstructure, and regulatory environment (Block et al., 2021). It is important to examine the ability of token sales to support pro-social entrepreneurs. Although cryptocurrencies have been criticized for enabling black e-commerce (Foley et al., 2019) and frequent fraud and scams (Hornuf, Küick, &

Schwiebacher, 2021), the bright side of blockchain technology also deserves academic attention. Therefore, we investigate the signalling effects of CSR among global ICOs. Our analyses, motivated by signalling theory, could advice new players on the path of entrepreneurial finance to build legitimacy and reputation and inform investors on strategies to verify signals in the risky private equity markets.

Our analysis covers 339 ICO projects across 44 countries from 2014 to 2018 that are listed on *TokenData*. A project is a socially responsible ICO (SR-ICOs) if its whitepaper or official website contains key words that fall into 4 main types of CSR goals: Green, Health, Poverty and Education. In line with the Institutional theory that CSR engagement is reflection of a nexus of formal and informal rules (Campbell, 2007; Matten and Moon, 2008), we find that the socially responsible goals of ICOs are likely to be driven by cultural traits related to how people value public interest over personal interest. An ICO is 6% less likely to have CSR narratives if its country has 10 points higher on individualism scores; 6.2% more likely if it scores 0.1 higher on positive reciprocity culture; 8% more likely if the social consciousness score increases by one unit of standard deviation.

We document that CSR narratives are associated with the quality of self-disclosure in terms of the Whitepaper's length, disclosure of country origins, and social media accounts. Our results suggest that ICO start-ups' willingness of committing to social welfare implies responsibility to broader stakeholders, and thus are less likely to plague investor rights through poor disclosure or deliberate withholding of information during the fundraising process. On average, SR-ICOs raise \$2.01 million less funding than ordinary ones, but the difference is not statistically significant. This finding is consistent with signalling theory that fundraising success is driven by information that signals the quality of a project, and that investors' motivation to invest in equity-based crowdfunding is to realize a financial return. Easy-to-imitate narratives, such as socially responsible goals in a whitepaper, couldn't make a project more competitive in ICO markets. Finally, our analysis based on a more recent sample, covering ICOs between 2019 and 2021, suggests that there is an increasing trend for ICOs to pay attention to socially responsible areas, and that the signalling effects of ICOs' responsible goals are consistent and even stronger over time.

This study contributes to the literature in three ways. First, to the best of our knowledge, this is the first study that uses a global setting of ICOs to examine the signalling effects of CSR. By answering whether CSR narratives are associated with start-ups' ethical values and behaviors related to public interests, we contribute to the literature on responsible corporate citizenship (Campbell, 2007; Matten and Moon, 2008; Ho et al., 2012; Ferrell, Liang, & Renneboog, 2016; de Villiers et al., 2021). Former studies mainly examine well-established firms. Our study supplements the CSR literature by showing that early-stage start-ups in highly unregulated private equity markets follow very similar patterns, with socially responsible ones inheriting ethical values and behaving in a way that are less costly to society.

Second, we add to signalling theory in entrepreneurial finance, particularly the microfinance literature (Connelly et al., 2011; Mollick, 2014; Ahlers et al., 2015; Vismara, 2016, 2018; Fisch, 2019), and echo Lee & Parlour's (2021) call for assessing costless signals in contexts beyond crowdfunding. Constant with the signaling view that funders are attracted to hard-to-imitate signals of higher returns from projects, we discover that ICOs' claim of doing good isn't a competitive trait for ICOs to attract funding. In fact, CSR goals in a whitepaper are not perceived as a signal of direct monetary benefits, and the promised CSR doesn't match the realized social performance, which is unlikely to lead to greater funding success. Similarly, Hörisch (2015) documents a trivial link between ventures' environmental orientation and crowdfunding success. Although exhibiting a good faith of ICO teams does not add any strength or weakness in attracting an investment, we uncover that the success of socially responsible ICOs is more sensitive to online investor attention, captured by the number of followers of ICOs' Twitter accounts.

Thirdly, this study supplements the growing literature on ICOs from a prosocial perspective. ICO studies mainly highlight the considerable uncertainty of ICO investments, such as exaggerated information disclosure (Momtaz, 2021b), frequent fraud and scams (Hornuf, Kück, & Schwienbacher, 2021), and poorly entitled investor rights (Zhao et al., 2020). Our focus on CSR and ethical norms echoes Kshetri (2018) that it's important to understand equity crowdfunding in the context of informal institutions, as most economies have yet to enact equity-crowdfunding legislation. Examining the social citizenship of ICO teams could shed light on sustainable ways to develop ICO markets. We show that in the absence of effective regulation, CSR reflects a form of self-discipline in the quality of information supply in ICOs.

2. Institutional background

Following the success of Bitcoin, many blockchain-based projects have proposed their business plans and successfully received financial support from global investors. This process is called Initial Coin Offerings (ICOs). The whitepaper provides a description and provisions for the offering. It resembles the prospectus in an IPO or the offering document in crowdfunding.

Until 2015, the ICO market was relatively small. At that time, the blockchain team at Ethereum built platforms that allow any person or team easily create an ICO through a mechanism called 'smart contracts'. Thanks to Ethereum, companies can launch an ICO without any technical knowledge of blockchain. The ICO market began to boom across the board. More than 450 ICO projects were launched in 2017, and this

number increased to 1075 in 2018. Amsden and Schweizer (2019) report that the ICO market has already surpassed the entire venture capital industry in Europe. However, since December 2017, there has been a sharp decline in the price of bitcoin, followed by a downward trend in the number of ICOs launched per month (from 225 to 50) and the total amount raised per month (from \$4.5 billion to \$0.5 billion), as shown in Fig. 1. This inflection point indicates a decline in investor confidence in utility tokens and blockchain projects due to the inherent risks of ICOs and the lack of effective regulatory institutions.

3. Hypothesis development

3.1. CSR and moral values

One of the benefits of ICOs is that they allow companies to raise funds across national borders. However, these borderless crowdfunding activities still differ due to national characteristics. Huang et al. (2020) examine the geographical distribution of ICOs. They find that countries' financial systems, stock markets, human capital skills and regulations are important for ICOs. Bellavitis et al. (2020) uncover the impact of changing regulatory institutions on the global ICO market. We still do not know how national characteristics shape the characteristics of ICOs, in particular the value of social responsibility. Ioannou and Serafeim (2012) show that about 35% of the total explainable variance in firms' CSR commitment is accounted for by national-level factors. Walker et al. (2019) also suggest that firms' responsible behaviour reflects the external institutional environment. Drawing on institutional theory

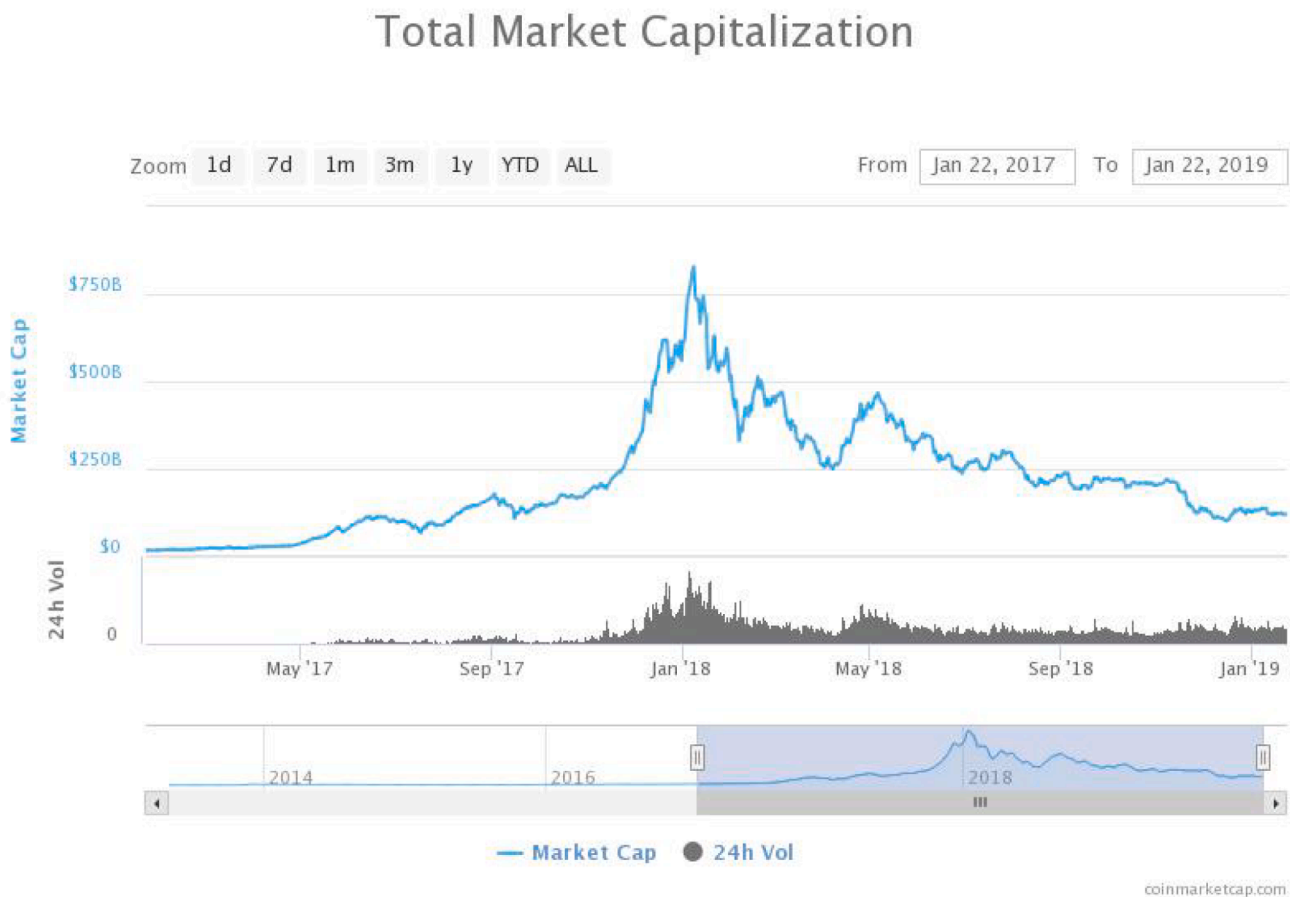


Fig. 1. The trend of global cryptocurrency market capitalization. Note: CoinMarketCap.com provides global chart of cryptocurrency market capitalization. The blue line is the total market capitalization in \$billions, and the grey column is the trade volume in \$billions over the last 24 h. After peaking in January 2018, the cryptocurrency market capitalization experienced a continuing drop. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

(Campbell, 2007; Matten and Moon, 2008), as ICO teams are embedded in a nexus of formal and informal rules, how ICOs engage with CSR may be influenced by institutional differences across countries. Given the lack of regulation in the ICO market, we argue that if ICOs are to demonstrate social responsibility, the link between CSR and institutions should be captured from a cultural perspective.

A key assumption of institutional theorists is that institutional actors seek legitimacy rather than efficiency and “accept and follow social norms” (Campbell, 2004). From a national specificity perspective, CSR represents a shared idea that is influenced and shaped by national culture, socio-economic and political dynamics (Campbell, 2007; Maignan and Ralston, 2002). Members of a given culture share a set of values that translate into shared attitudes, beliefs and identities and are embedded in societal norms and practices (Adler and Gundersen, 2007). Cultural values have been found to influence managers’ attitudes towards CSR (Waldman et al., 2006), firms’ voluntary CSR-related actions (Ringov and Zollo, 2007; Young and Makhija, 2014), firms’ social performance (Ho et al., 2012; Ioannou and Serafeim, 2012), environmental issues (Vitell, Nwachukwu and Barnes, 1993), ethical decision making (Vitell et al., 1993) and individuals’ likelihood to engage in social entrepreneurship (Stephan, Uhlaner and Stride, 2015).

We expect the CSR narratives of ICOs to reflect moral values to some extent. The culture dimensions in our proposition, which focus on the collective values of broad/global stakeholders, seem most theoretically relevant to the social responsibility value of ICOs as we define it. Specifically, SR-ICOs demonstrate their willingness to make commitments to the welfare of society, including helping the environment, health care, poverty, education, etc.

In a society with low individualism, members place more importance on the common good of society. The culture of individualism measures the extent to which the ties between individuals are loose or tight (Hofstede, 1980). Loose ties (high individualism) between people characterise those cultures in which the individual primarily seeks his or her own interests and those of the immediate family, while tight ties (low individualism) reflect the degree to which a society values cooperative action, the sharing of resources and rewards. Hofstede’s dimension of individualism shows strong effects on ethical survey responses (Cohen, Pant, and Sharp, 1996), is related to justice-based moral reasoning (Roberston and Fadil, 1999), and influences ethical practices within firms (Husted and Allen, 2008). In CSR studies, Waldman et al. (2006) show that managers in cultures that value institutional collectivism value most aspects of CSR in the decision-making process; Ringov and Zollo (2007) show that countries with a high culture of individualism have lower levels of CSR performance. A crowdfunding study by Cumming and Schwienbacher (2017) documents that a low Individualism culture is associated with more environmentally friendly projects. As an innovative form of crowdfunding, ICOs are arguably likely to have different preferences for CSR due to national culture. Given that Individualism is related to beliefs about the priority of individual over group interests, we predict that low Individualism culture will shape ICOs to be more socially responsible.

Proposition 1a. *Countries with low individualism culture have more socially responsible narratives by ICOs than countries with high individualism culture.*

The norm of benevolence, which is similar to the low individualism culture, values collective welfare, but with more emphasis on specific behaviors related to positive reciprocity and caring for others (people, in addition to relatives). In a high benevolence culture, societies reward individuals for being altruistic, generous, caring, and kind to others, even if these individuals are strangers (House, Hanges, Javidan, Dorfman, & Gupta, 2004). Even those who are complete strangers are treated with respect and seen as deserving of benevolence and kindness. The culture of benevolence is found to be positively associated with CSR. Young and Makhija (2014) show that the more benevolence is emphasised by normative institutions, the more CSR responsiveness a

firm operating in that environment will exhibit. Accordingly, we expect that ICOs’ value of social responsibility could be explained by the national culture of benevolence.

Proposition 1b. *Countries with high benevolence culture have more socially responsible narratives by ICOs than Countries with low benevolence culture.*

3.2. CSR and disclosure quality

Are ICOs with socially responsible scopes more self-disciplined in the face of regulatory opacity? The literature on CSR suggests that there is a relationship between CSR and corporate integrity. CSR, which reflects a firm’s responsibility for the wider societal good (Matten and Moon, 2008), is an ethical obligation that requires the firm to do the right thing for all stakeholders (Donaldson and Preston, 1995; Phillips, 2003). The value of good faith is widely shared throughout the organization. Ethical sensitivity is naturally integrated into all decision making, policies, and actions of the firm (Carroll, 1991). Waldman et al. (2006) find that organizational culture is associated with the CSR policies that top managers apply in their decision making. Empirically, corporate involvement in CSR activities can be attributed to the ethical attitudes of top managers (Valentine and Fleischman, 2008; Godos-Díez, Fernández-Gago and Martínez-Campillo, 2011) and the humanistic culture in firms (Galbreath, 2010).

CSR is linked to corporate citizenship in order to take responsibility for actions that affect stakeholders with transparency and accountability. Good CSR performance is seen as a signal of managerial ethics and integrity, as more socially responsible managers are more likely to be truthful in providing relevant and reliable information to stakeholders. Eccles, Ioannou and Serafeim (2014) find that high sustainability firms have higher levels of information transparency and accountability. Shafer (2015) shows that firms’ CSR initiatives adjust professional accountants’ attitudes towards business ethics, leading to more ethical reporting decisions. Employees of firms with higher CSR ratings are more likely to be whistleblowers, as shown in a sample of firms that engage in misconduct (Bereskin, Campbell, and Kedia, 2020). Socially responsible firms exhibit lower levels of earnings management (Kim et al., 2012), while firms with excessive negative CSR activities are more likely to engage in aggressive tax avoidance activities (Hoi et al., 2013), have lower disclosure quality and earnings persistence (Hsu, Koh, Liu, and Tong, 2017). Cumming and Schwienbacher (2017) find that cleantech-related crowdfunders (involved in clean energy businesses) tend to provide more photos and videos of their campaigns, and more descriptive words.

The role of information transparency is particularly important in the unregulated ICO market (Bourveau et al., 2019). Investors have access to an extremely limited amount of information (Fisch, 2019). Information such as business history, background of core team members, financial position or official website is usually not traceable. Based on the observed relationship between CSR and organisational ethical culture, it is likely that ICO start-ups’ willingness to engage in social good implies responsibility to broader stakeholders and are less likely to compromise investor rights through poor disclosure or deliberate withholding of information during the fundraising process.

ICOs typically rely on whitepapers and social media to disseminate information about the ICO process and other attributes of the token. Social media channels such as *Bitcointalk*, *Twitter*, *Reddit*, and *Telegram* serve as ICO forums (Bourveau et al., 2019). We expect that socially responsible ICOs to provide high-quality information through whitepapers and social media platforms.

Proposition 2. *Socially responsible narratives predict more detailed disclosure through whitepapers and social media platforms by ICOs.*

3.3. CSR and fundraising outcome

Between January 2014 and June 2018, ICOs raised more than \$18 billion (Howell, Niessner and Yermack, 2020). More than 200 ICOs raised over \$10 million and at least 15 ICOs raised over \$100 million. Prior literature has identified the following important factors influencing ICO fundraising: legal environment (Zhao et al., 2020), disclosure quality (Bourveau et al., 2019; Howell et al., 2020), venture quality (Amsden and Schweizer, 2019), profit distribution plans (Adhami, Giudici, and Martinazzi, 2018), issuers' social media activities (Benedetti and Kostovetsky, 2021; Bourveau et al., 2019), pre-ICO campaigns, and the underlying core technology (Fisch, 2019). As we claim that CSR narratives are related to the moral values and disclosure quality of ICOs, we ask whether CSR narratives are perceived as more dignified, predictable, and trustworthy by a broader group of investors, thus influencing the outcome of ICO fundraising.

The main driver of success for crowdfunding campaigns is always the quality of the entrepreneurial team. According to signaling theory, ventures can attract more funding by demonstrating the high quality of their projects (Spence, 1973). This view has been applied to several fields in the microfinance literature including venture capital (Busenitz et al., 2005) and crowdfunding (Ahlers et al., 2015, Anglin et al., 2018, Vismara, 2016) to test the link between crowdfunding success and founder characteristics and behaviors. Evaluating the underlying quality of ICOs is particularly important for ICO investors due to the serious problem of information asymmetry, difficulty in making informed decisions, and weak protection in the unregulated market.

From a rational choice perspective, the motivation to invest in equity-based crowdfunding is to realize a financial return, because of which funders would not favour the pro-social orientation of ICO ventures unless CSR narratives signal quality and future financial benefits. According to traditional signalling theory (see the framework in Fig. 2), easy-to-imitate information is not a competitive feature to attract investment (Connelly et al., 2011). Consistent with the signalling view, Hörisch (2015) observes an insignificant influence of environmental orientation on financing success. In the ICO setting, the content of signals is not backed up by material performance. Narrative commitments on doing good appears to do little to distinguish some token issuers from low-quality ones. Therefore, we would expect that CSR narratives alone should not attract more funding to ICO ventures.

However, the assumption of 'costly information' in signalling theory is controversial. Lee & Parlour (2021) recently call for more research efforts to evaluate costless signals in new venture financing, arguing that some empirical evidence suggests that less costly signals may be particularly effective when the target audience is less sophisticated or when objective or verifiable information is scarce. For example, Anglin et al. (2018) find that positive psychological capital language (hope, optimism, resilience and confidence) leads to better crowdfunding performance. Lee & Parlour's (2021) argument provides a direction for reassessing the effects of 'cheap talk' (such as the CSR narratives in this study) in markets that are inherently prone to fraud and lack discipline. We believe that ICO markets provide a perfect framework because 1) Investors in ICO markets are mostly dispersed individuals who may lack the skills and resources to evaluate potential investments and may select projects based on intrinsic values (as opposed to extrinsic/monetary values); 2) Unlike traditional intermediaries, financiers of ICO start-ups are potential consumers of their products, which makes the criteria for a "good project" different, as consumers have different horizons than traditional financiers (Lee & Parlour, 2021); 3) ICO investors may find it particularly difficult to identify the quality of projects in the presence of significant information asymmetries.

According to cognitive evaluation theory, microlenders would respond to intrinsic cues embedded in entrepreneurial narratives (Mollick, 2014), as pro-social visions of ventures satisfy individual founders' internal feelings of satisfaction. Thus, cognitive evaluation theory supports a positive relationship between fundraising success and pro-

sociality, given the unprofessional and intrinsically driven characteristics of ICO investors. Allison et al. (2015) find that crowdfunding lenders respond positively to narratives that highlight the venture as an opportunity to help others. Even in traditional equity markets, substantial investors are committed to combining their social values with financial goals through socially responsible investing. Danko, Goldberg, Goldberg and Grant (2008) find that socially responsible investing attracts funds faster than the broader universe of investment channels.

In addition, socially responsible goals are often correlated with firms' capabilities, which could influence ICO investors' decisions. For example, Ferrell, Liang, and Renneboog (2016) show that well-managed firms that suffer less from agency problems engage more in CSR; Hsu et al. (2017) find that CSR could serve as a signal of management integrity and ethics. If ICO investors view expressions of a caring society as a signal of reliability and low likelihood of fraud, it is likely that ICO issuers with socially responsible goals could gain more public trust and thus attract more capital. Considering the above, we expect the demand for new capital in the ICO market to be positively associated with socially responsible visions.

Proposition 3. *CSR initiatives are positively related to ICO's amount of funding.*

4. Data and descriptive statistics

4.1. Data sources

Constructing a comprehensive list of ICOs' characteristics is a common challenge. We begin by gathering an ICO sample from *TokenData*.¹ On 23rd July 2018, there are 2,241 ICOs shown on the website of *TokenData*, providing key information including ICOs name, symbol, links to official websites and whitepapers, ICO status (planned, active, completed and failed), the amount of USD raised, tokens sold and current price, returns and ICOs' duration. The ICO sample from *TokenData* is supplemented with the Token Offerings Research Database (TORD) data from Momtaz (2021a). We include only ICOs that were successfully completed before the end of 2018, and only ICOs who issue utility tokens to be analyzed. Utility tokens comprise the largest and most well-regarded ICOs, and they differ from crypto-tokens and security tokens because they are not governed by asset and securities regulations (Howell et al., 2018). Our final sample contains 339 ICOs from 44 countries or regions between 2014 and 2018. To collect a comprehensive set of ICO characteristics, we use other aggregator platforms (including icobench.com, icorating.com, icodrops.com, tokenmarket.net, coinschedule.com), Twitter and ICOs' official websites as supplementary databases. Definitions and sources of all ICO characteristics are presented in Table 1.

To identify ICOs' CSR initiatives, we read all ICO whitepapers and project descriptions on their official websites. If whitepapers are not available on the official ICO websites, we search for them on Google. We define socially responsible ICOs (SR-ICOs) as those whose project descriptions include language related to social responsibility. SR-ICOs typically run businesses in non-profitable industries such as healthcare and education, claim to protect the environment by trading green energy, or demonstrate a willingness to address issues such as poverty, food security, corruption, benefit the local community, etc. We summarise all the important keywords and then use them to identify socially responsible ICOs.

Based on different types of responsibilities, we divide SR-ICOs into 4 main groups, namely Green, Health, Poverty and Education. There is overlap between the different types, as a project may be involved in more than one type of responsibility. On the other hand, some activities could not be categorised because the description given was very general.

¹ <https://www.tokendata.io/>.

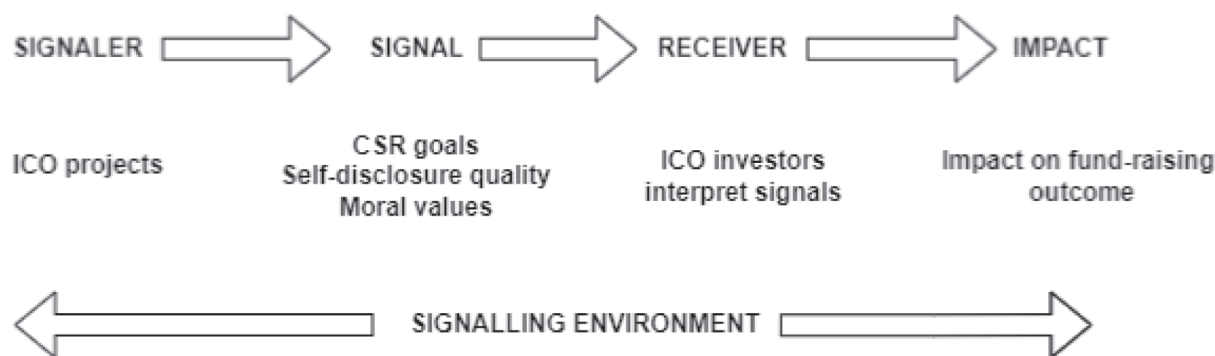


Fig. 2. Signalling framework. Note: This framework is adapted from Connelly et al. (2011).

For example, some descriptions only mention words such as 'not-for-profit' or 'mutual benefit'. In the end, we identify 45 socially responsible ICOs, representing 13.27% of the total observations. There are 10 SR-ICOs from the USA, 9 SR-ICOs from Singapore and 5 SR-ICOs from Switzerland. These are the top three countries in terms of the number of SR-ICOs. The fourth country is the UK. Table 2A provides specific CSR-related descriptors for each category. Table 2B shows the geographical distribution of SR-ICOs.

The national culture of individualism comes from one of Hofstede's cultural dimensions. The culture of benevolence comes from the Global Preferences Survey dataset. An alternative proxy for the culture of benevolence comes from the World Value Survey.

4.2. Descriptive statistics

The ICOs in our sample originate from 44 different countries. In line with the trend in Fig. 1, we observe a noticeable increase in ICO volume from 2016 to 2017, with 17 observations in 2016 and 178 observations in 2017, followed by a downward trend thereafter, with 114 observations in 2018. From 2014 to 2018, the dominant country in terms of number of ICOs and fund volume is the US. We provide a sample overview map in Fig. 3, a sample summary table in Table 3, and descriptive statistics in Table 4. We note that 25 out of 339 ICOs conceal their location.

5. Results and discussion

5.1. National Culture: Individualism and benevolence

Table 5 shows the OLS results of how national moral culture is associated with the likelihood of an ICO having socially responsible visions. In our model, the dependent variable is the dummy variable SR-ICO_{*i*}. The explanatory variable is the culture of individualism in Table 5, Panel A, the culture of benevolence in Panel B, and Panel C. To reduce estimation bias, we include other institutional differences as control variables, including the level of financial development, GDP per capita, and the quality of legal institutions. All estimates are robust to heteroskedasticity and standard errors are clustered at the country level. The results in Panel A are consistent with our Proposition 1a that SR-ICOs are associated with a low culture of individualism. The coefficient on individualism is -0.006 ($p = 0.003$). As the individualism score ranges from 0 to 100, the economic significance is large. An ICO is 6% less likely to have CSR initiatives if its country scores 10 points higher on individualism. In order to consider the influence of a comprehensive set of culture on CSR scope, we control for five other Hofstede culture dimensions

in our specifications: power distance, masculinity, uncertainty avoidance, long-term orientation and indulgence. Our results suggest that other culture dimensions do not influence CSR in ICO markets, with the exception of "Long-term Orientation".²

Panel B shows that a culture of benevolence predicts more SR-ICOs. The measure of benevolence from the Global Preferences Survey ranges from -0.83 to 0.48 . This variable measures people's willingness to return a favour and give a gift in exchange for help. We document that a 0.1 increase in the benevolence score is associated with a 6.2% increase in the probability that an ICO is socially responsible. The results in Panel C also support that higher benevolence in the population predicts more SR-ICOs. A one standard deviation increase in the World Value Survey benevolence score is associated with 8% more SR-ICOs.

Overall, this section shows that national culture has the power to explain how ICOs are willing to engage in social responsibility. This is in line with the institutional theory that CSR engagement reflects a nexus of formal and informal rules (Campbell, 2007; Matten and Moon, 2008).

5.2. Information disclosure of SR-ICOs

The next step is to test whether CSR narratives are associated with the quality of self-disclosure. The key dummy variable, SR-ICO_{*i*}, divides all ICO projects into two subsamples. First, we conduct mean difference tests on project characteristics for two groups. The characteristics include fundraising outcome, token returns, social networking activities, and disclosure quality of ICOs. The results are reported in Table 6.

SR-ICOs raise less funding on average (\$17.73 million for socially responsible projects and \$19.74 million for the remaining projects) and have lower return rates (9.18 for SR-ICOs versus 5.97 for the remaining projects). We use the text length of ICO whitepapers and the number of social networking accounts of each ICO as proxies for their information disclosure and active interaction with stakeholders, respectively. There are significant differences between the two subsamples. In line with our Proposition 2, SR-ICOs provide a significantly more detailed project description with an average length of 40 pages, while the average figure for non-SR-ICOs is 31 pages. This difference is significant at the 1% level. Campaigns with a socially responsible vision have an average of 6.3 social networking accounts, compared to 5.5 for those without a responsible vision. This difference is significant at the 10% level, suggesting that SR-ICOs are more active on social networking platforms. Social networking could be seen as the willingness of ICO teams to interact with society at large and build relationships with stakeholders.

Other project characteristics that do not show a statistically significant difference still show some economic differences. SR-ICOs post more photos and videos on Twitter (a difference of 15.73 units), provide more

² "Long Term Orientation" stands for the fostering of virtues oriented towards future rewards, in particular, perseverance and thrift.

Table 1
Variable definitions.

Variable Name	Description and Calculation
	ICO Characteristics
SR-ICO	This dummy variable equals to 1 if an ICO's involved in improving social welfare (based on its whitepaper, it should have socially responsible visions), equals to 0 otherwise.
Ln (USD raised)	The natural logarithm of amount raised in the ICO in USD
Token return	The result of tokens' current price (on 17th June 2018) divided by the first sale price per unit
ICO duration (in days)	The number of days between the completion of the ICO and the first trading day
Twitter age (in months)	The number of months between the date when the Twitter account was registered and the starting of ICO campaign
Ln Followers	The natural logarithm of the number of an ICO's Twitter followers
Photos/ Videos	The number of pictures or videos presented on an ICO's Twitter account
Networking links	The number of external links of the project to social networks (like Facebook, Twitter, or any other community website)
Country origins	This dummy variable equals to 1 if an ICO discloses its country origins, equals to 0 otherwise.
	Whitepaper Quality
Risk factor	This dummy variable equals to 1 if an ICO's whitepaper contains information of risk factors, equals to 0 otherwise
Allocation plan of funds	This dummy variable equals to 1 if an ICO's whitepaper contains information of allocation plan of funds, equals to 0 otherwise
Team member	This dummy variable equals to 1 if an ICO's whitepaper contains information of team member, equals to 0 otherwise
Whitepaper pages	The number of pages in the whitepaper
	Time Trend
Media coverage	This index is constructed by searching the popularity of "Initial Coin Offering" of countries in the month of a given ICO issuing, which is calculated by Google Trends. Following existing studies, I convert it into its logarithm form.
Bitcoin index	This index tracks the performance of the digital asset Bitcoin, by S&P Global.
	Country-level Measures
Individualism culture	This dimension is defined as a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. A society's position on this dimension is reflected in whether people's self-image is defined in terms of "I" or "we."
Benevolence culture-GPS	This variable measures people's willingness to return a favor, and give gift in exchange for help, from Global Preferences Survey database. It is constructed by Falk et al. (2018) based on a self-assessment questions "When someone does me a favor I am willing to return it?" and a hypothetical situation "Please think about what you would do in the following situation. You are in an area you are not familiar with, and you realize you lost your way. You ask a stranger for directions. The stranger offers to take you to your destination. Helping you costs the stranger about 20 Euro in total. However, the stranger says he or she does not want any money from you. You have six presents with you. The cheapest present costs 5 Euro, the most expensive one costs 30 Euro. Do you give one of the presents to the stranger as a "thank-you"-gift? If so, which present do you give to the stranger? No present / The present worth 5 / 10/ 15 / 20 / 25 / 30 Euro."
Benevolence culture-WVS	This variable is level of importance of doing good things for societies, self-reported by WVS respondents. The specific question is "To what extend do you agree that it is important to do something for the good of society?" The answer varies from 1 to 6, where the higher value the more agreement on this statement. We calculate a mean value of answers from all correspondents within each country.
Ln GDP pc	The natural logarithm of country GDP per capita in 2016 (from World Bank, in 1000 USD)
Private credit/GDP	The financial resources provided to the private sector by domestic money banks as a share of GDP, averaged over 2000–2017. Domestic money banks comprise of commercial banks and other financial institutions that accept transferable deposits, such as demand deposits.

Table 1 (continued)

Variable Name	Description and Calculation
Corruption	The country corruption score, the country rule of law score in a given country (from World Bank, as of 2016, the latest year available)
Rule of law	This variable captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.
French law	An indicator that equals one if a country implants laws from the French civil law traditions, and zero otherwise.

Table 2A

Major types of socially responsible ICOs and key words.

Category	Obs.	Key words
Green	13	Renewable energy, Climate friendly, Economically, Solar, Ecological project, Green manufacture, Clean, Sustainability, Carbon dioxide emissions, Recycling
Health	14	Healthcare, Food safety, Safe and healthy eating, Diseases
Poverty	9	Donation, Eliminating world poverty, Solving hunger, Poverty
Education	9	Proper education, Reward those who help to educate others
Others	6	Not-for-profit, Mutually benefit, Smart cities, Agriculture, Transportation

Note: This table reports the number of socially responsible ICOs by categories, and key words in whitepapers we used to classify socially responsible ICOs.

Table 2B

Socially responsible ICOs sample overview.

Country origin	Volume	Percentage
USA	10	14.71
Singapore	9	20.45
Switzerland	5	36.08
UK	3	12.5
Cayman Islands	3	30
Hong Kong	2	16.67
Lithuania	2	40
Slovenia	2	28.57
Australia	1	25
Austria	1	100
Canada	1	10
Colombia	1	100
Indonesia	1	25
Malaysia	1	100
Romania	1	50
Spain	1	33.33
Not found	1	4
Total:	45	13.27

information about team members (70% likelihood of disclosure versus 59% for other projects) and country of origin (98% likelihood versus 92%). However, SR-ICOs receive less attention from investors. On average, they have 2,125 fewer followers on their Twitter accounts. As for the macro environment of SR-ICOs, the average GDP per capita (\$000) of their countries is 53.30, higher than the figure of 48.86 for other countries. This indicates that ICOs in developed countries put more emphasis on CSR.

Next, we conduct OLS regressions to analyze how CSR influences the information disclosure behavior of ICOs. Is the information disclosure of SR-ICOs materially different from that of ordinary projects? The results are presented in [Table 7](#). The dependent variables are disclosure on country of origin, the length of the whitepaper, and the number of social networking accounts as shown on ICOs' websites. We control for other variables that may influence the quality of ICO disclosure: other ICO characteristics (age of ICO's Twitter account, ICO duration) and country level legal conditions, economic and financial development levels. We assess the statistical and economic significance of the estimates for the

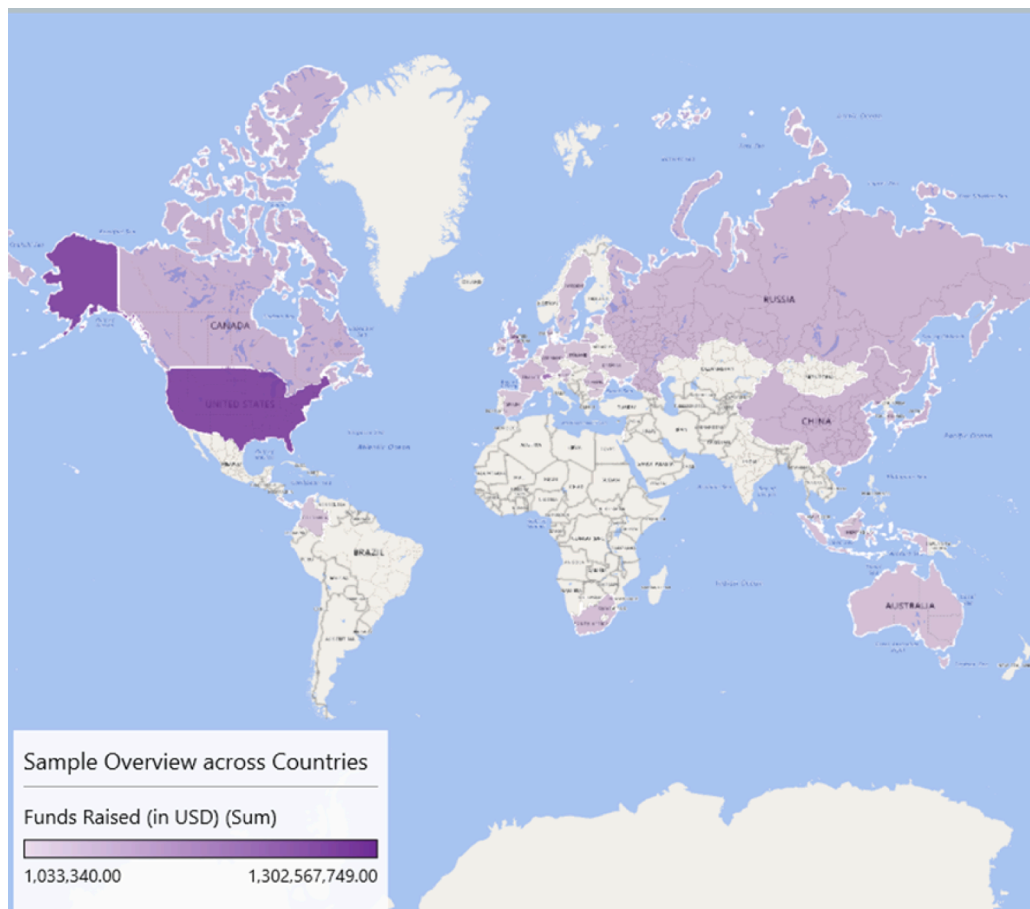


Fig. 3. Sample map. Note: This map shows the total amount of dollars raised by sample ICOs across countries. The dark color represents a high amount of value. On the collecting date, 23rd July 2018, there were 2,241 ICOs on the website of TokenData (<https://www.tokendata.io/>). We include only ICOs that were successfully completed and have return ratios available, which leaves the final sample with 334 ICOs from 44 countries/regions.

independent variable $SR-ICO_i$. The first model shows that the coefficient for CSR_i is 0.056 ($p = 0.057$). SR-ICOs are 5.6% more likely to disclose their country of origins. When the country of origin is unknown, we could not control for any country-level features, so we only include ICO-specific controls in model (1). In model (2), the independent variable is the total number of pages in the ICO whitepaper, which is a proxy for the amount of information disclosed. The results in model (2) show that after controlling for ICO-specific features and national institutions, SR-ICOs tend to provide whitepapers that are 8.2 more pages longer ($p = 0.032$). The difference is not marginal, considering that the average length of a whitepaper in our sample is only 32.4 pages. In model (3), the coefficient of SR-ICO is 0.957 ($p = 0.059$), which means that SR-ICOs actively provide information and build relationships with broad stakeholders by opening 1 more social networking accounts than other ICOs. The results in this section are in line with our Proposition 2 that SR-ICOs are more likely to provide detailed information through whitepapers and social networking platforms, through which CSR could signal ICOs' self-discipline.

5.3. Fundraising outcome

Next, we use OLS regressions to examine whether CSR-related project descriptions have a direct impact on ICO fundraising. In this section, the key explanatory variable in our specifications is $SR-ICO_i$. The dependent variable is the amount of funds raised in logarithmic form. We control for some project characteristics and time-varying ICO market covariates that have been found to have explanatory power for ICO fundraising outcomes. These are ICO duration, age of ICOs' Twitter

accounts, online investor attention to ICO markets, and a bitcoin index from S&P Global. In Panel A model (1), we include variables for national institutions. It is possible that new ICO projects receive more funding in countries that have had more ICOs than other countries, which could bias our estimation. To mitigate this endogeneity problem, we include country fixed effects in model (2). Essentially, we compare whether socially responsible ICOs in the same country receive more funding from investors than other ICOs. In Panel B, we isolate the effects of ICO disclosure and investor attention from the explanatory variable SR-ICOs by including more ICO characteristics as control variables, such as the number of followers of ICOs' Twitter accounts, the number of whitepaper pages, the number of networking links provided by ICOs. We also analyze the heterogeneous impact of online investor attention on fundraising outcomes between SR and non-SR-ICOs. The standard errors are clustered at the country level. The results are presented in Table 8.

The coefficient for SR-ICOs is statistically insignificant in Panel A, which means that the fundraising outcome of SR-ICOs is not significantly different from that of other ICOs. Instead, other characteristics such as national legal institutions, investor attention to ICO markets and bitcoin performance have significant and positive impacts. In model (1), we control for national characteristics, including the level of financial development, GDP per capita and legal conditions. Among these country-level controls, the coefficient of the national corruption index is significantly negatively associated with the amount of ICO funding. The corruption index varies between -0.86 and 2.24 . The amount of ICO funding increases by 15.5% when the corruption index decreases by 1 unit, suggesting that the ICO outcome is positively influenced by the national quality of legal systems. This result is consistent with Zhao et al.

Table 3
Sample overview.

Country/ Region	2014	2015	2016	2017	2018	USD Raised (millions)
USA	1	1	2	38	26	1,539
Singapore				24	21	989
Switzerland		1	3	18	10	863
UK			2	14	8	308
Russia				10	2	185
Hong Kong				8	4	161
China			3	2	6	194
Cayman Islands				3	7	172
Canada			1	8	1	229
Estonia				3	5	161
Slovenia		1		3	3	80
Netherlands				3	2	43
Lithuania				3	2	135
France				3	2	133
Japan				4		233
Indonesia					4	59
Germany				4		80
Australia		1		2	1	63
Spain				3		26
South Korea				2	1	56
Gibraltar				2	1	88
Sweden				1	1	29
South Africa				2		69
Romania					2	60
Poland		1		1		14
Luxembourg				2		6
Liechtenstein				1	1	43
Israel				1	1	157
Denmark		2				2
Costa Rica				2		15
Ukraine				2		24
Thailand					1	4
Taiwan				1		13
Seychelles				1		14
Panama				1		1
Nevis				1		3
Marshall Islands					1	12
Malaysia				1		4.5
Isle of Man				1		32
Ireland				1		3
Colombia					1	20
Bulgaria		1				6
Belize				1		11
Austria				1		20

Note: This table shows the number of ICOs and amounts raised in USD (amount raised) for each respective year in each country. The sample period is 2014 through 2018. Data source: TokenData (<https://www.tokendata.io/>).

(2021). In model (2), we add country fixed effects, so that all country-level covariates are omitted. The coefficient of SR-ICOs is similar to that in model (1), which shows that SR-ICOs could not outperform other ICOs, although they are as competitive as ordinary ICOs in terms of fundraising results. In addition, both online attention to ICO markets and bitcoin performance have explanatory power for ICO fundraising outcomes with a positive sign.

As we discover that SR-ICOs tend to provide better disclosure and engage more actively with stakeholders on social networking platforms, we next test the role of these good features and CSR scope on ICO fundraising outcomes separately. In Panel B model (1), the results suggest that the outcome of socially responsible ICOs is worse than that of non-SR ICOs. The coefficient of *SR-ICO* is -0.404 ($p = 0.015$), which means that, holding other conditions such as disclosure and networking activities equal, SR-ICOs tend to raise -33.24% ($=e^{-0.404}-1$) less funds than ordinary ones. This result is consistent with signalling theory, which suggests that signalling by fundraising firms can only effectively attract investment if the signal is observable and costly to imitate (Connolly et al., 2011). In the absence of signalling features such as better disclosure, costless commitments related to CSR by ventures only

lead to worse outcomes. The coefficients of the number of Twitter followers (in natural logarithm) and whitepaper pages are 0.304 and 0.014 ($p = 0$ and 0.008, respectively). Providing information on ventures' country origins also exert positive influences on the fundraising outcome (see Appendix Table S2). This supports Cumming and Schwienbacher (2017), Mollick (2014), Ahlers, Cumming, Günther and Schweizer (2015) and Fisch (2019), who note that the result of a crowdfunding project is influenced by the content and quality of self-disclosure. Although it is likely that soft information and project descriptions can be manipulated, investors distinguish a valuable ICO from the rest through investigating the quality of disclosed information. It is interesting to note that ICOs' warnings about the risks inherent in investing can be a major deterrent for potential investors. The number of links to ICOs' social networking accounts, the photos and videos shown on ICOs' Tweeter accounts, the disclosure of ICO team members and the allocation plan of funds exert little influence on the outcome of ICOs.

In model (2), the results suggest that the fundraising outcome of SR-ICOs is more sensitive to investors' attention to ICOs' social networking platforms than to ordinary ones. We use the number of Twitter followers of ICOs to capture online investors' attention to ICO projects. A 10% increase in the number of Twitter followers is associated with a 3.08% higher increase in the amount raised for SR-ICOs than non-SR ICOs ($p = 0.023$). The *SR-ICO* alone has a coefficient of -3.288 ($p = 0.013$). The results imply that, holding other project characteristics that we consider in the model constant, SR-ICOs should put more effort into attracting investors' attention in order to become as competitive as normal ICOs. We don't observe a significantly different role of other factors on the fundraising outcome between SR-ICOs and other ICOs.

Finally, we replicate the analysis of ICO fundraising outcomes by including only ICOs from the four largest markets to ensure that our results are not driven by a sample from countries with no socially responsible ICOs or too few socially responsible ICOs. In Table 3, we report the distribution of the sample by country. The US, Singapore, Switzerland and the UK have more ICOs than other countries and more socially responsible ICOs. ICOs from these frictionless markets are more comparable and more representative of the global ICO population. We add country fixed effects in Panel C to further address the concern of endogeneity. The results are presented in Table 8 Panel C. Very similar to Table 8 Panel A and B, we still fail to find a direct effect of CSR on the amount of funds raised by ICOs. The number of Twitter followers (in natural logarithm) still has explanatory power for the outcome of ICOs. Our results do not support Proposition 3 that CSR increases the attractiveness of ICOs for new equity. Instead, the results suggest that without advantages in disclosure and social networking activities, current socially responsible visions do not make ICOs more competitive.

Because the specifications in this section include either country fixed effects or national controls, we are unable to include ICOs that did not disclose their country of origin. Given the issue of missing country of origin information, we ask whether hiding information of country origins would negatively affect the outcome of ICOs. To answer this question, we regress the amount of funds raised in a logarithm form on an indicator of whether an ICO discloses its country of origin or not, meanwhile controlling for other project characteristics and time trends. The results show that ICOs whose country of origin is known receive approximately 117.06% ($=e^{0.775}-1$) more funding than those whose country of origin is hidden (see table in Appendix 2). The difference is economically large. We note that there are 25 ICOs for which we could not identify the country origins. Among the 25 anonymous ICOs, only one of them is a socially responsible ICO.

5.4. An increasing trend of ICOs' social scope

Our main sample covers ICOs during a period between the year 2014 and 2018. One may worry that our sample is relatively outdated and that our findings may not reflect the trend of recent ICOs. To address this concern, we construct an additional sample based on Momtaz's TORD

Table 4
Summary statistics.

Variable name	Obs.	Mean	Std.	Min	Max	Data source(s)
ICO characteristics						
SR-ICO	339	0.13	0.34	0	1	Various
Ln (USD raised)	339	16.08	1.54	9.64	18.88	Tokendata
ICO Duration (in days)	339	27.87	33.47	0	365	Tokendata
Twitter age (in months)	339	11.19	16.96	0	106	Twitter
Ln Followers	332	9.43	1.40	1.79	12.69	Twitter
Photos/ Videos	339	204.62	271.70	0	1899	Twitter
Networking links	339	5.63	2.65	0	15	ICO websites
Risk factor	312	0.36	0.48	0	1	Whitepapers
Allocation plan of funds	312	0.53	0.50	0	1	Whitepapers
Team members	312	0.60	0.49	0	1	Whitepapers
Whitepaper pages	312	32.37	19.67	1	127	Whitepapers
Country origins	339	0.93	0.26	0	1	Various
Time trend						
Media coverage	339	3.36	1.31	-0.69	4.61	Google Trend
Bitcoin index	339	897.86	614.02	31.27	2013.78	S&P Global
Country-level measures						
Individualism	295	60.31	29.14	11	91	Geert-Hofstede
Benevolence-GPS	224	0.09	0.24	-0.83	0.48	GPS
Benevolence-WVS	191	4.27	0.25	3.15	5.14	WVS
Ln GDP pc	304	3.80	0.51	1.34	4.55	World Bank
Private credit/GDP	285	0.92	0.41	0.22	1.66	World Bank
Corruption	306	1.08	0.94	-0.86	2.24	World Bank
Rule of law	297	1.23	0.82	-0.85	1.94	World Bank
French law	298	0.08	0.27	0	1	La Porta et al. (1988)

(2021). The additional sample includes ICOs between 2019 and 2021 as recorded in TORD (TORD's update ends in 2021). To identify socially responsible ICOs, we rely on the content of ICO whitepapers. Thus, ICOs should have whitepapers available online at the time of our second search (July 2023) to be included in this additional sample. There are initially 217 ICOs in this sub-sample, of which 58 are socially responsible and 159 are ordinary. The share of socially responsible ICOs between 2019 and 2021 is substantially higher than in the original sample (26.73% vs. 13.27%), suggesting that there is an increasing trend in the ICO markets to pay attention to socially responsible areas. We note that the number of ICOs in the new sample is further reduced when we analyse them in OLS models, as some ICOs are missing information on their nationality and other national-level factors.

We use this additional sample to re-examine our hypotheses 1 and 2. We report the results in Table 9, which are consistent with our baseline results that 1) ICOs from countries with lower individualism are more likely to have socially responsible goals, and 2) socially responsible projects tend to have better disclosure in whitepapers and to engage more actively with stakeholders on social networking platforms. The magnitudes of the key coefficients are quite comparable to our baseline results. We show that for ICOs in the years 2019 to 2021, the effect of national culture is relatively higher than before (-0.009 vs. -0.006, from Table 5 and Table 9). Similarly, the signalling effect of responsible scope is stronger for ICOs in the years 2019 to 2021. We found that the magnitudes of the coefficients of SR-ICO on ICO disclosure quality and the number of social networking accounts of ICOs are larger than in the original sample (a comparison between Table 7 and Table 9). Overall, our new results based on the additional sample suggest that the signalling effects of ICOs' responsible goals are consistent and even stronger over time. This additional sample not only demonstrates the robustness of our key results, but also reveals a more recent trend in the socially responsible scope of ICOs.

5.5. Discussion

Overall, our results suggest how good faith of cultural environment influences the adoption of CSR in unregulated equity markets. ICOs from countries with low individualism or high benevolence culture are more likely to integrate CSR into their organizational perspectives. Responsible ICO projects typically show more care for society by running

business for not-for-profits purposes such as alleviating poverty, investing in education or healthcare, benefiting communities, and protecting the environment. This good faith is associated with other responsible behaviours of ICOs. We show that SR-ICOs are more willing to provide high quality project descriptions, therefore, to improve information transparency. SR-ICOs have a more active level of communication with potential investors on Twitter, thus maintaining a good relationship with stakeholders. Although CSR does not directly facilitate the fundraising outcome of ICOs, we show that high disclosure quality does indeed predict more ICO funding. Compared to other ICOs, SR-ICOs can raise more funds only if they attract more attention from online investors.

Kreps (1996) theorizes that firms with an ethical corporate culture are less likely to engage in irresponsible practices that are costly to society. Our results suggest that ICO start-ups' willingness of committing to social welfare implies a responsibility to a broader set of stakeholders, and thus they are less likely to plague investors' rights through poor disclosure or deliberate withholding of information during the fundraising process. Our finding on the link between CSR and self-disclosure is particularly meaningful for ICO markets, where the opacity of information makes it difficult to verify signals. Related to our finding, CSR has been found to be negatively associated with unethical practices such as earnings management (Kim, Park, and Wier, 2012; Shafer, 2015), tax sheltering activities (Hoi, Wu, and Zhang, 2013), and corporate misconduct (Bereskin, Campbell and Kedia, 2020).

Connelly, Certo, Ireland and Reutzel (2011) state that investors prefer to act on information that is costly because costly signals are believed indicate higher firm quality, while costless signals are ignored because they can be sent by both high and low quality firms. This signalling view may explain why we do not find a direct influence of CSR-related descriptions on the fundraising outcome of ICOs. Expressions about ventures' CSR are easy to create or imitate, and therefore are not as influential as we expected in Proposition 3. Our results suggest that, as in other established equity markets, language indicating CSR lacks the power to attract new equity, even though ICO markets are full of individual and non-professional investors who may be investing for non-monetary purposes.

The concerns of this study include the definition of SR-ICOs and information on the country origins of ICOs. At this moment, there is no proper measure of the actual CSR performance of ICOs. We define SR-

Table 5
The influence of national culture.

Panel A. Individualism culture						
	(1)			(2)		
	SR-ICO					
	Estimate	SE	p-value	Estimate	SE	p-value
Individualism culture	-0.005***	0.002	(0.004)	-0.006***	0.002	(0.003)
Ln GDP pc				-0.024	0.074	(0.753)
Private credit/GDP				-0.038	0.087	(0.662)
Corruption				-0.037	0.033	(0.271)
Rule of law				0.047	0.057	(0.413)
French law				0.027	0.051	(0.599)
Intercept	0.656**	0.279	(0.025)	0.838*	0.429	(0.06)
Year FE	No			Yes		
Obs.	294			278		
R-squared	0.035			0.061		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Panel B. Benevolence culture from Global Preferences Survey						
	(1)			(2)		
	SR-ICO					
	Estimate	SE	p-value	Estimate	SE	p-value
Benevolence culture	0.480*	0.310	(0.059)	0.62**	0.276	(0.034)
Ln GDP pc				0.175***	0.053	(0.003)
Private credit/GDP				-0.144**	0.058	(0.02)
Corruption				-0.015	0.014	(0.317)
Rule of law				0.164***	0.036	(0)
French law				0.023	0.089	(0.802)
Intercept	0.332**	0.143	(0.023)	-0.476**	0.214	(0.036)
Year FE	No			Yes		
Obs.	224			224		
R-squared	0.021			0.083		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Panel C. Benevolence culture from World Value Survey							
	(1)			(2)			
	SR-ICO						
	Estimate	SE	p-value	Estimate	SE	p-value	p-value
Benevolence culture	0.243**	0.086	(0.01)	0.321***	0.107	(0.007)	(0.007)
Ln GDP pc				-0.019	0.085	(0.822)	(0.822)
Private credit/GDP				0.017	0.116	(0.887)	(0.887)
Corruption				0.04	0.090	(0.657)	(0.657)
Rule of law				0.024	0.045	(0.602)	(0.602)
French law				0.07	0.158	(0.661)	(0.661)
Intercept	-0.897**	0.360	(0.022)	-1.393***	0.411	(0.003)	(0.003)
Year FE	No			Yes			
Obs.	191			191			
R-squared	0.030			0.065			

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

ICOs as those projects that mention CSR-related visions either through whitepapers or official websites. It is possible that ICO ventures claiming to improve public welfare are instead using this message as a promotional strategy to attract more investment. Also, scams could be hiding behind SR-ICOs. In our ICO sample, we find three scams and one of them is in the group of SR-ICOs. The SR-ICO team, *Micromoney*, claims that “we are passionate about our mission in solving the financial needs of people who live under the poverty”. The fact is that this ICO has low trading volume on the exchanges, no updates to their software and no active developers working on the code for a long period.³ A Reddit user alerted that *Micromoney*’s address, Twitter account and photos of team members as shown on its official website are most likely fake. However, this is just an extreme case. Since our research of interest is ICOs’ CSR initiatives rather than actual CSR performance, we believe our approach to identifying ICOs with CSR goals is appropriate. The second issue is the

³ https://www.reddit.com/r/CryptoCurrency/comments/87azw9/ugly_truth_of_micromoney_amm_coin_a_sophisticated/.

reliability of the country origins of ICOs. We collect this information from Token Market (tokenmarket.net) and compliment it with data from ICOs’ official websites, whitepapers, and Twitter homepages. However, ICOs can manipulate or conceal their true country origins, making this data problematic. To mitigate this concern, we combine and compare multiple sources to ensure the quality of our data.

6. Conclusion and perspective questions

Like other early-stage entrepreneurial ventures that struggle to gain legitimacy, ICOs encounter many doubts in the global market because of its newness and inherent risks, which hinders ICOs’ easing of cross-border entrepreneurial finance. Signalling theory suggests that CSR helps to overcome such difficulty by distinguishing good quality projects from others. We use the ICO context to understand how CSR can make a nascent financial tunnel succeed in global markets by reflecting moral values and signalling the quality of start-ups.

The information hidden behind CSR is not well declassified by prior ICO studies. Drawing on the Signalling theory related to CSR, we provide

Table 6
Differences between Socially Responsible ICOs and Non-SRs.

Variable	Non-CSR cared (obs. = 294)		CSR cared (obs. = 45)		Mean diff.
	Mean	S.D.	Mean	S.D.	
Project characteristics					
USD raised (in millions)	19.74	22.67	17.73	20.10	-2.01
Token return	9.18	40.54	5.97	17.29	-3.21
Twitter age (in months)	11.48	17.56	8.51	10.58	-2.97
Followers ('000)	28.15	44.27	26.02	40.65	-2.13
Photos/ Videos	202.54	278.30	218.27	225.84	15.73
Networking links	5.52	2.56	6.30	3.04	0.78*
Country origins	0.92	0.27	0.98	0.15	0.06
Whitepaper quality					
Risk factor	0.37	0.48	0.34	0.48	-0.03
Allocation plan of funds	0.53	0.50	0.53	0.50	0
Team members	0.59	0.49	0.70	0.46	0.11
Whitepaper pages	31.13	18.65	40.05	23.71	8.92***
Macro-condition					
GDP per capita (\$000)	48.86	20.21	53.30	20.29	4.44

***, **, * denote significance levels at 1%, 5% and 10% respectively. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

initial insights into the social responsibility of ICOs. We find that some ICOs integrate CSR into their business perspectives and that the national culture has an explanatory power for this phenomenon. We support the view that CSR engagement is reflection of a nexus of formal and informal rules. Secondly, CSR goals can predict other responsible behaviors of ICOs. We find that SR-ICOs provide more detailed project descriptions and are more active in keeping communications with stakeholders. Although CSR-related visions cannot directly attract new equity, we find that SR-ICOs can raise significantly more funds than others when they attract more investor attention on social networking platforms. Finally, our analysis based on a more recent sample of ICOs suggests that the signalling effects of ICOs' responsible goals are consistent and even stronger over time.

Our results have important implications for the ICO markets. CSR reflects the good faith of ICOs and indicates high quality of information supply. The willingness of ICOs to engage in responsible business practices may imply that they are less likely to have ethical concerns in the future. Investors who invest more in socially responsible ICOs may enjoy greater information transparency and better protection. To gain public trust, ICO ventures should be committed to full disclosure, answering questions from potential investors, and honestly discussing concerns raised by investors. For ICO ventures that are interested in contributing to society, our results provide advice on possible methods to maximize their potential for success. Start-ups should make themselves more visible on the Internet and improve information transparency. It is likely that early transparency and trust will become a

Table 7
SR-ICOs and information disclosure.

	(1)			(2)			(3)		
	Country origins			# Whitepaper page			# Networking link		
	Estimate	SE	p-value	Estimate	SE	p-value	Estimate	SE	p-value
SR-ICO	0.056*	0.029	(0.057)	8.178**	3.801	(0.032)	0.957*	0.504	(0.059)
Twitter age	0	0.001	(0.692)	0.077	0.085	(0.367)	0	0.010	(0.996)
ICO duration	0	0.0003	(0.326)	-0.038	0.030	(0.207)	-0.003	0.005	(0.588)
Ln GDP pc				-0.146	3.088	(0.962)	0.225	0.448	(0.616)
Private credit/GDP				-0.538	2.931	(0.854)	0.080	0.403	(0.844)
Corruption				1.178	1.252	(0.348)	-0.384**	0.184	(0.038)
Rule of law				-2.328	1.732	(0.180)	-0.144	0.225	(0.523)
French law				1.010	5.841	(0.863)	0.140	0.645	(0.828)
Intercept	0.978***	0.034	(0)	38.357***	11.322	(0.001)	4.888***	1.659	(0.003)
Year FE	Yes			Yes			Yes		
Obs.	339			270			286		
R-squared	0.025			0.138			0.059		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

valuable asset of ICOs. For policymakers interested in developing regulations for ICOs, they may find our findings useful as a first step towards introducing effective regulations for future token offerings such as the introduction of a reporting standard.

For future research, we suggest some promising perspectives that emerge from this study. Presenting social responsibility in whitepapers is arguably costless to present, which may lead to moral hazard problems in signalling. Momtaz (2021b) has evidenced that token issuers systematically exaggerate the information disclosed in whitepapers to raise more funds in less time. Researchers may find it interesting to check whether ICO ventures fulfil the responsible goals promised in the whitepapers, and whether the consistency between prospectus and post-ICO behavior contributes to start-ups' reputation, relationship with investors, and long-term performance. Alternatively, will sending biased signals lead to penalties? Signals of social responsibilities are ideal for detecting such moral hazards in information disclosure. Furthermore, Hornuf et al. (2021) note that information disclosure prior to the ICO issuance can predict fraud. Do responsible goals contribute to a lower probability of fraud? Answering these questions could add to the enrichment of the signaling theory while informing a wide range of stakeholders.

Although we show that responsible ICOs are as competitive as ordinary ICOs in terms of fundraising outcomes, there could be potential moderators of CSR on ICO success. For example, industry type, start-up characteristics, investor identity, or future policies may differentially affect the impact of CSR goals on ICO success. As investor-level data become available, it should be valuable to assess the effect of ICO investor preferences on CSR, e.g., Fisch et al. (2021). Also, does the cultural background of investors play a role in token sales? Furthermore, understanding the relationships could add to institutional theory, and guide ICOs on strategies to attract investment.

Will CSR affect the long-term performance of ICO start-ups? ICO start-ups are funded by investors from around the world and are therefore more exposed to global disasters (either financial or non-financial). Can CSR help them build resilience to global risks by strengthening relationships with stakeholders such as customers, investors, employers, suppliers, and authorities? Does CSR imply better corporate governance that maximizes investor wealth? More work needs to be done in the future to provide relevant insights into this new investment strategy.

CRedit authorship contribution statement

Ruoran Zhao: Conceptualization, Methodology, Formal analysis, Writing - Original Draft, Writing- Reviewing and Editing. **Wenxuan Hou:** Writing - review & editing, Supervision, Conceptualization. **V. Kumar:** Writing - review & editing, Supervision, Conceptualization.

Table 8
Comparison of fundraising outcomes between SR-ICOs and Non-SRs.

Panel A. Whole sample						
	(1)			(2)		
	Ln (USD raised)					
	Estimate	SE	p-value	Estimate	SE	p-value
SR-ICO	-0.295	0.238	(0.313)	-0.321	0.318	(0.323)
Twitter age	0.007*	0.003	(0.063)	0.008**	0.004	(0.036)
ICO duration	-0.010*	0.005	(0.061)	-0.01*	0.005	(0.051)
Ln GDP pc	0.111	0.213	(0.603)			
Private credit/GDP	-0.340	0.223	(0.136)			
Corruption	-0.155*	0.081	(0.063)			
Rule of law	0.140*	0.082	(0.098)			
French law	-0.460	0.357	(0.206)			
Media coverage	0.328***	0.102	(0)	0.389***	0.081	(0)
Bitcoin index	0.001***	0	(0)	0.001***	0	(0)
Intercept	14.591***	0.842	(0)	14.551***	0.284	(0)
Year FE	Yes			Yes		
Country FE	No			Yes		
National institutions	Yes			Omit		
Obs.	283			271		
R-squared	0.310			0.376		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Panel B. Whole sample						
	(1)			(2)		
	Ln (USD raised)					
	Estimate	SE	p-value	Estimate	SE	p-value
SR-ICO	-0.404**	0.157	(0.015)	-3.288**	1.247	(0.013)
SR-ICO # Ln Followers				0.308**	0.130	(0.023)
Ln Followers	0.304***	0.071	(0)	0.246***	0.074	(0.002)
Whitepaper pages	0.014***	0.005	(0.008)	0.015***	0.005	(0.010)
Photos/ Videos	0	0	(0.202)	0	0	(0.160)
Team members	0.159	0.231	(0.495)	0.127	0.237	(0.596)
Risk factor	-0.314**	0.135	(0.026)	-0.331**	0.143	(0.027)
Allocation plan of funds	-0.001	0.117	(0.990)	0.017	0.125	(0.890)
Networking links	0.007	0.033	(0.828)	0.004	0.033	(0.915)
Twitter age	0.003	0.003	(0.226)	0.003	0.003	(0.315)
ICO duration	-0.007	0.005	(0.123)	-0.007	0.004	(0.120)
Ln GDP pc	-0.050	0.212	(0.814)	-0.049	0.216	(0.821)
Private credit/GDP	-0.288	0.229	(0.217)	-0.350	0.234	(0.144)
Corruption	-0.093	0.086	(0.283)	-0.120	0.093	(0.203)
Rule of law	0.127	0.078	(0.112)	0.159*	0.082	(0.061)
French law	-0.391	0.298	(0.198)	-0.365	0.290	(0.217)
Media coverage	0.441***	0.130	(0.002)	0.420***	0.121	(0.001)
Bitcoin index	0.0004**	0	(0.028)	0.0004**	0	(0.034)
Intercept	11.491***	0.933	(0)	12.193***	0.824	(0)
Year FE	Yes			Yes		
Obs.	247			247		
R-squared	0.407			0.416		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Panel C. Largest four ICO markets only (U.S., Singapore, Switzerland, and U.K.)						
	(1)			(2)		
	Ln (USD raised)					
	Estimate	SE	p-value	Estimate	SE	p-value
SR-ICO	-0.169	0.397	(0.698)	-0.295	0.162	(0.166)
Ln Followers				0.284**	0.079	(0.037)
Whitepaper pages				0.016	0.008	(0.134)
Photos/ Videos				0	0	(0.406)
Team members				0.183	0.307	(0.594)
Risk factor				-0.413*	0.169	(0.093)
Allocation plan of funds				-0.029	0.148	(0.859)
Networking links				0	0.489	(0.993)
Twitter age	0.013*	0.004	(0.050)	0.007	0.005	(0.219)
ICO duration	-0.017**	0.005	(0.044)	-0.012*	0.004	(0.069)
Media coverage	0.431**	0.094	(0.020)	0.538*	0.196	(0.071)
Bitcoin index	0.001**	0	(0.029)	0	0	(0.465)
Intercept	14.508***	0.367	(0)	11.132***	0.802	(0.001)
Year FE	Yes			Yes		
Country FE	Yes			Yes		
Obs.	163			147		
R-squared	0.365			0.472		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Table 9
ICOs in 2019 to 2021.

Panel A. Individualism culture and SR-ICOs						
	(1)			(2)		
	SR-ICO			Estimate	SE	p-value
Individualism culture	Estimate	SE	p-value	Estimate	SE	p-value
	−0.009***	0.002	(0)	−0.009***	0.002	(0)
Ln GDP pc				−0.041	0.046	(0.380)
Private credit/GDP				0.002**	0.001	(0.049)
Corruption				0.120	0.508	(0.815)
Rule of law				−0.224	0.533	(0.677)
French law				−0.125*	0.064	(0.061)
Intercept	0.971***	0.335	(0.007)	1.592***	0.385	(0)
Year FE	No			Yes		
Obs.	133			131		
R-squared	0.093			0.139		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Panel B. SR-ICOs and information disclosure									
	(1)			(2)			(3)		
	Country origins			# Whitepaper page			# Networking link		
	Estimate	SE	p-value	Estimate	SE	p-value	Estimate	SE	p-value
SR-ICO	0.090*	0.051	(0.080)	25.918***	5.212	(0)	1.075**	0.425	(0.013)
Twitter age	0	0.002	(0.782)	−0.141**	0.059	(0.019)	0.009	0.008	(0.235)
ICO duration	0	0	(0.278)	0.024***	0.007	(0.001)	0	0.001	(0.767)
Ln GDP pc				−0.112	3.411	(0.974)	−0.688**	0.309	(0.028)
Private credit/GDP				−0.019	0.053	(0.725)	−0.003	0.007	(0.612)
Corruption				−28.123	24.404	(0.252)	−3.689*	2.088	(0.080)
Rule of law				33.070	25.228	(0.193)	5.032**	2.142	(0.020)
French law				1.549	4.175	(0.711)	0.997**	0.385	(0.011)
Intercept	0.928***	0.043	(0)	25.454	30.429	(0.405)	10.504***	2.911	(0)
Year FE	Yes			Yes			Yes		
Obs.	188			122			140		
R-squared	0.057			0.333			0.132		

Standard deviations are estimated robust to heteroscedasticity, and p statistics are in parentheses. ***, **, * denote significance levels at 1%, 5% and 10% respectively.

Ajay Kumar: Writing – review & editing, Supervision, Project administration.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

No funding was received to assist with the preparation of this manuscript. The authors have no relevant financial or non-financial interests to disclose.

We thank the editors and the reviewers for their thoughtful guidance during the revision process. We thank Renu for copyediting the manuscript.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jbusres.2023.114224>.

References

- Adhami, S., Giudici, G., & Martinazzi, S. (2018). Why do businesses go crypto? An empirical analysis of initial coin offerings. *Journal of Economics and Business*, 100, 64–75.
- Adler, N. J., & Gundersen, A. (2007). *International dimensions of organizational behavior*. Cengage Learning.
- Ahlers, G. K. C., Cumming, D., Günther, C., & Schweizer, D. (2015). Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice*, 39(4), 955–980.
- Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic versus Extrinsic Cues. *Entrepreneurship Theory and Practice*, 39(1), 53–73.
- Anglin, A. H., Short, J. C., Drover, W., Stevenson, R. M., McKenny, A. F., & Allison, T. H. (2018). The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of Business Venturing*, 33(4), 470–492.
- Amsden, R., & Schweizer, D. (2019). Are blockchain cowdsales the new 'Gold Rush'? Success determinants of initial coin offerings. Available at SSRN. <https://ssrn.com/abstract=3163849>.
- Bartenberger, M., & Leitner, P. (2013). Crowdsourcing and crowdfunding: Approaches to foster social innovation. *Proceedings of the IADIS International Conference Web Based Communities and Social Media*, 2013(2013), 81–85.
- Bellavitis, C., Cumming, D., & Vanacker, T. (2020). Ban, Boom, and Echo! Entrepreneurship and Initial Coin Offerings. *Entrepreneurship Theory and Practice*, 1042258720940114.
- Benedetti, H., & Kostovetsky, L. (2021). Digital Tulips? Returns to investors in initial coin offerings. *Journal of Corporate Finance*, 66, Article 101786.

- Bereskin, F., Campbell, T., & Kedia, S. (2020). Whistle blowing, forced CEO turnover, and misconduct: The role of socially minded employees and directors. *Management Science*, 66(1), 24–42.
- Bertoni, F., Bonini, S., Capizzi, V., Colombo, M. G., & Manigart, S. (2021). Digitization in the market for entrepreneurial finance: Innovative business models and new financing channels. *Entrepreneurship Theory and Practice*. <https://doi.org/10.1177/10422587211038480>
- Block, J. H., Colombo, M. G., Cumming, D. J., & Vismara, S. (2018). New players in entrepreneurial finance and why they are there. *Small Business Economics*, 50(2), 239–250.
- Block, J. H., Groh, A., Hornuf, L., Vanacker, T., & Vismara, S. (2021). The entrepreneurial finance markets of the future: A comparison of crowdfunding and initial coin offerings. *Small Business Economics*, 57(2), 865–882.
- Bourveau, T., De George, E., Ellahie, A., & Macciocchi, D. (2019). Information Intermediaries in the Crypto-Tokens Market. Available at SSRN. <https://ssrn.com/abstract=3193392>.
- Busenitz, L. W., Fiet, J. O., & Moesel, D. D. (2005). Signaling in venture capitalist—New venture team funding decisions: Does it indicate long-term venture outcomes? *Entrepreneurship theory and practice*, 29(1), 1–12.
- Campbell, J. L. (2004). *Institutional change and globalization*. Princeton University Press.
- Campbell, J. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32(3), 946–967.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 34(4), 39–48.
- Chakravarty, S., Cumming, D. J., Murtinu, S., Scalera, V. G., & Schwens, C. (2021). Exploring the next generation of international entrepreneurship. *Journal of World Business*, 56(5), Article 101229.
- Cohen, J. R., Pant, L. W., & Sharp, D. J. (1996). A methodological note on cross-cultural accounting ethics research. *The International Journal of Accounting*, 31(1), 55–66.
- Colombo, O. (2021). The use of signals in new-venture financing: A review and research agenda. *Journal of Management*, 47(1), 237–259.
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling Theory: A Review and Assessment. *Journal of Management*, 37(1), 39–67.
- Cowan, K., & Guzman, F. (2020). How CSR reputation, sustainability signals, and country-of-origin sustainability reputation contribute to corporate brand performance: An exploratory study. *Journal of Business Research*, 117, 683–693.
- Cumming, D. J., Leboeuf, G., & Schwiendbacher, A. (2017). Crowdfunding cleantech. *Energy Economics*, 65, 292–303.
- Danko, D., Goldberg, J. S., Goldberg, S. R., & Grant, R. (2008). Corporate social responsibility: The United States vs. Europe. *Journal of Corporate Accounting and Finance*, 19(6), 41–47.
- de Villiers, C., Kuruppu, S., & Dissanayake, D. (2021). A (new) role for business – Promoting the United Nations’ Sustainable Development Goals through the internet-of-things and blockchain technology. *Journal of Business Research*, 131, 598–609.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65–91.
- Eccles, R. G., Ioannou, I., & Serafeim, G. (2014). The impact of corporate sustainability on organizational processes and performance. *Management Science*, 60(11), 2835–2857.
- Erdem, T., Swait, J., & Valenzuela, A. (2006). Brands as signals: A cross-country validation study. *Journal of marketing*, 70(1), 34–49.
- Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., & Sunde, U. (2018). Global evidence on economic preferences. *The Quarterly Journal of Economics*, 133(4), 1645–1692.
- Ferrell, A., Liang, H., & Renneboog, L. (2016). Socially responsible firms. *Journal of Financial Economics*, 122(3), 585–606.
- Fisch, C. (2019). Initial coin offerings (ICOs) to finance new ventures. *Journal of Business Venturing*, 34(1), 1–22.
- Fisch, C., Masiak, C., Vismara, S., & Block, J. (2021). Motives and profiles of ICO investors. *Journal of Business Research*, 125, 564–576.
- Fotaki, M., Voudouris, I., Lioukas, S., & Zyglidopoulos, S. (2021). More Accountable, More Ethical, Yet Less Trusted: Misplaced Corporate Governance in the Era of Big Data. *British Journal of Management*, 32(4), 947–968.
- Galbreath, J. (2010). Drivers of Corporate Social Responsibility: The Role of Formal Strategic Planning and Firm Culture. *British Journal of Management*, 21(2), 511–525.
- Godos-Díez, J., Fernández-Gago, R., & Martínez-Campillo, A. (2011). How Important Are CEOs to CSR practices? An analysis of the mediating effect of the perceived role of ethics and social responsibility. *Journal of Business Ethics*, 98(4), 531–548.
- Ho, F. N., Wang, H. M. D., & Vitell, S. J. (2012). A global analysis of corporate social performance: The effect of cultural and geographic environment. *Journal of Business Ethics*, 107(4), 423–433.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Newbury Park (CA): Sage Publications.
- Hoi, C. K., Wu, Q., & Zhang, H. (2013). Is corporate social responsibility (CSR) associated with tax avoidance? Evidence from irresponsible CSR activities. *The Accounting Review*, 88(6), 2025–2059.
- Hornuf, L., Küick, T., & Schwiendbacher, A. (2021). Initial coin offerings, information disclosure, and fraud. *Small Business Economics*.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Sage publications.
- Howell, S. T., Niessner, M., & Yermack, D. (2020). Initial Coin Offerings: Financing Growth with Cryptocurrency Token Sales. *The Review of Financial Studies*, 33(9), 3925–3974.
- Hörisch, J. (2015). Crowdfunding for environmental ventures: An empirical analysis of the influence of environmental orientation on the success of crowdfunding initiatives. *Journal of Cleaner Production*, 107, 636–645.
- Hsu, A., Koh, K., Liu, S., & Tong, Y. H. (2017). Corporate Social Responsibility and Corporate Disclosures: An Investigation of Investors' and Analysts' Perceptions. *Journal of Business Ethics*.
- Huang, W., Meoli, M., & Vismara, S. (2020). The geography of initial coin offerings. *Small Business Economics*, 55, 77–102.
- Husted, B. W., & Allen, D. B. (2008). Toward a model of cross-cultural business ethics: The impact of individualism and collectivism on the ethical decision-making process. *Journal of Business Ethics*, 82(2), 293–305.
- Ioannou, I., & Serafeim, G. (2012). What drives corporate social performance? The role of nation-level institutions. *Journal of International Business Studies*, 43(9), 834–864.
- Kim, Y., Park, M. S., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *The Accounting Review*, 87(3), 761–796.
- Kreps, D. M., Alt, J. E., & Shepsle, K. A. (1996). *Corporate culture and economic theory* (pp. 221–275). Firms: Organizations and Contracts, Oxford University Press, Oxford.
- Kshetri, N. (2018). Informal Institutions and Internet-based Equity Crowdfunding. *Journal of International Management*, 24(1), 33–51.
- Lee, J., & Parlour, C. A. (2021). Consumers as Financiers: Consumer Surplus, Crowdfunding, and Initial Coin Offerings. *The Review of Financial Studies*, 35(3), 1105–1140.
- Lehner, O. M. (2013). Crowdfunding social ventures: A model and research agenda. *Venture Capital*, 15(4), 289–311.
- Lyandres, E., B. Palazzo, and D. Rabetti. (2018). “Are Tokens Securities? An Anatomy of Initial Coin Offerings.” *Working paper*.
- Maignan, I., & Ralston, D. (2002). Corporate Social Responsibility in Europe and the U.S.: Insights from Businesses' Self-Presentations. *Journal of International Business Studies*, 33(3), 497–514.
- Matten, D., & Moon, J. (2008). ‘Implicit’ and ‘explicit’ CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2), 404–424.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, 29(1), 1–16.
- Momtaaz, P.P. (2021) Token Offerings Research Database (TOR), available at: <https://www.paulmomtaaz.com/data/tord>.
- Momtaaz, P. P. (2021b). Entrepreneurial Finance and Moral Hazard: Evidence from Token Offerings. *Journal of Business Venturing*, 36(5), Article 106001.
- Phillips, R. A. (2003). Stakeholder legitimacy. *Business Ethics Quarterly*, 13(1), 25–41.
- Ringov, D., & Zollo, M. (2007). The impact of national culture on corporate social performance. *Corporate Governance: The international journal of business in society*, 7(4), 476–485.
- Roberston, C., & Fadi, P. A. (1999). Ethical decision making in multinational organizations: A culture-based model. *Journal of Business Ethics*, 19(4), 385–392.
- Saboo, A. R., Kumar, V., & Anand, A. (2017). Assessing the impact of customer concentration on initial public offering and balance sheet-based outcomes. *Journal of Marketing*, 81(6), 42–61.
- Shafer, W. E. (2015). Ethical climate, social responsibility, and earnings management. *Journal of Business Ethics*, 126(1), 43–60.
- Sheng, J., Amankwah-Amoah, J., Khan, Z., & Wang, X. (2021). COVID-19 pandemic in the new era of big data analytics: Methodological innovations and future research directions. *British Journal of Management*, 32(4), 1164–1183.
- Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87, 355–374.
- Stephan, U., Uhlauer, L. M., & Stride, C. (2015). Institutions and social entrepreneurship: The role of institutional voids, institutional support, and institutional configurations. *Journal of International Business Studies*, 46(3), 308–331.
- Vismara, S. (2016). Equity retention and social network theory in equity crowdfunding. *Small Business Economics*, 46(4), 579–590.
- Vismara, S. (2018). Information Cascades among Investors in Equity Crowdfunding. *Entrepreneurship Theory and Practice*, 42(3), 467–497.
- Vismara, S. (2019). Sustainability in equity crowdfunding. *Technological Forecasting and Social Change*, 141, 98–106.
- Vitell, S. J., Nwachukwu, S. L., & Barnes, J. H. (1993). The effects of culture on ethical decision-making: An application of Hofstede's typology. *Journal of Business Ethics*, 12(10), 753–760.
- Waldman, D. A., Sully de Luque, M., Washburn, N., House, R. J., Adetoun, B., Barrasa, A., & Wilderom, C. P. M. (2006). Cultural and leadership predictors of corporate social responsibility values of top management: A GLOBE study of 15 countries. *Journal of International Business Studies*, 37(6), 823–837.
- Walker, K., Zhang, Z., & Ni, N. (2019). The Mirror Effect: Corporate Social Responsibility, Corporate Social Irresponsibility and Firm Performance in Coordinated Market Economies and Liberal Market Economies. *British Journal of Management*, 30(1), 151–168.
- Zhao, X., Hou, W., An, J., Liu, X., & Zhang, Y. (2021). Initial Coin offerings: What rights do investors have? *The European Journal of Finance*, 27(4–5), 305–320.

Wenxuan Hou is Chair of Corporate Finance at the University of Edinburgh Business School, Special-term Distinguished Professor at Shanghai Lixin University of Accounting and Finance and Honorary Professor at the University of Cape Town. His research interests include corporate finance and financial development. He has published articles in the Journal of Financial Economics, the European Journal of Operation Research, Auditing: A Journal of Practice & Theory, and the Journal of Business Research, among others.

Dr. V. Kumar (VK) is the Professor of Marketing, and the Goodman Academic-Industry Partnership Professor, Goodman School of Business, Brock University. Prior to joining Brock, VK was the Salvatore Zizza Professor of Marketing, Tobin College of Business at St. John's University, NY. He has held/holds several Distinguished Fellowships across universities worldwide. VK has also been honored as a Legend in Marketing through the Legends in Marketing series published by Sage Publications. Professor Kumar has published over 300 scholarly papers and 30 books, received over 20 Lifetime Achievement

Awards, and over 25 Research and Teaching Excellence Awards. Professor Kumar has served as the Editor-in-Chief of the Journal of Marketing (2014-2018) and serves/served as the Department Editor of POM, and as the Consulting Editor of JIBS. Global Fortune 500 firms have implemented many of VK's ideas and models which have resulted in gains of over multi-billion dollars. (URL: www.drvkumar.com and www.vkclv.com)

Ajay Kumar is an Associate Professor at EMLYON Business School in France. His research and teaching interests are in AI, business analytics, and enterprise modelling. He has been a Postdoctoral Fellow at the Massachusetts Institute of Technology and Harvard University. He has published several research papers in reputed journals, including the Journal of Business Research, Production and Operations Management, Harvard Business Review, British Journal of Management, International Journal of Operations & Production Management, Decision Support Systems, International Journal of Production Economics, Technological Forecasting & Social Change.