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Flotation costs of seasoned equity offerings: Does corporate social responsibility matter?

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Abstract

This paper investigates the effect of corporate social responsibility (CSR) on flotation costs in seasoned equity offerings (SEOs). On the basis of an international sample covering 38 countries during the period 2002–2018, we find that CSR performance is negatively associated with SEO flotation costs and this negative impact is mainly attributable to issuers' engagement in CSR, particularly in environmental and social activities. We further reveal that the CSR strategies of SEO issuers are successful in reducing market-based costs as well. Overall, this paper offers critical insights for understanding the role of stakeholder-oriented practices in adding value to shareholders through equity offerings.

KEYWORDS
corporate social responsibility, flotation costs, market-based costs, seasoned equity offerings

JEL CLASSIFICATION
D82, G15, G24, M14

1 | INTRODUCTION

Corporate social responsibility (CSR) refers to the disclosure of nonfinancial information related to social issues, such as environmental preservation, human rights protection and employee welfare, as well as a firm's societal and community contributions (Dhaliwal et al., 2014). CSR represents actions that appear to further some social good beyond the interest of the firm and that which is required by law (McWilliams & Siegel, 2001). In recent decades, interest in CSR has grown significantly worldwide, as evidenced by a growing number of firms adopting CSR reporting.[1] CSR has also attracted considerable attention among academics exploring the consequences of firms' decision to engage in CSR activities, such as the economic benefits of CSR, referred to as 'doing well by doing good' (Deng et al., 2013; Dimson et al., 2015; Falck & Heblich, 2007; Ferrell et al., 2016; Guenster et al., 2011; Renneboog et al., 2008), the cost of capital (Dhaliwal et al., 2014), firm risk (Albuquerque et al., 2019), earnings quality (Kim et al., 2012), investment efficiency (Benlemlih & Bitar, 2018; Bhandari & Javakhadze, 2017), underpricing and SEO announcement returns (Dutordoir et al., 2018), access to finance (Cheng et al., 2014) and uncertainty in mergers and acquisitions (Arouri et al., 2019). One particular aspect in the CSR literature is its potential, yet very important, signalling mechanism. From an ethical perspective, CSR contends that managers have incentives to be honest and trustworthy and thus, tend to adhere to a high standard of behaviour in their business operations. Within the ethical context in particular, managers are motivated to provide extensive information disclosure to the public, which can effectively alleviate information asymmetry. Prior studies document that socially responsible firms are more likely to constrain earnings management and to make responsible operating decisions, thereby maintaining transparency in financial reporting and improving the information environment (Dhaliwal et al., 2011, 2014). However, how issuers' CSR strategies may have a potential effect on flotation costs (FCosts), the direct costs incurred in seasoned equity offerings (SEOs), remains largely unexplored in the literature.

Seasoned equity activities are important and critical corporate events associated with future investment and financing activities and, thus, firm development. In recent decades, SEOs have become common in the global market. For example, there were 2294 completed SEOs in 2002, with total proceeds of 154 billion USD across 41 countries, and this number doubled to 5220 in 2010, with total proceeds amounting to 430 billion USD over 50 nations.[2] This indicates that SEOs play an essential role in facilitating external financing activities in the equity market. It is well known that SEOs are the most expensive capital-raising activities for issuers. As noted by Lee and Masulis (2009), underwriting fees charged by investment banks account for a substantial portion of gross proceeds, ranging from 3% to 8%, consistent with adverse selection effects driven by the degree of information asymmetry between inside managers and outside investors (Johnson et al., 2018; Lee & Masulis, 2009). Therefore, it is particularly important for issuers to consider ways to maximise the expected net proceeds in equity offerings. Prior studies adopting various proxies for information asymmetry, such as stock return volatility (Corwin, 2003), analysts' earnings forecast dispersion (Marquardt & Wiedman, 1998), debt ratings (Liu & Malatesta, 2006), the bid-ask spread (Cho et al., 2013; Corwin, 2003) and accounting information quality (Lee & Masulis, 2009), generally support the view that FCosts increase as a function of information asymmetries among participants in security offerings.

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[1]According to a survey conducted by KPMG in 2017, 93% of the world's 250 largest firms on the Fortune Global 500 ranking include their environmental, social and governance information either in stand-alone sustainable reports or as a part of annual reports.

[2]Further details are available from Thomson One Banker (http://office.banker.thomsonib.com/).

Specifically, a poor information environment lowers the demand for an issuer's new equity, creating a serious obstacle to a firm's effort to raise capital for profitable investment opportunities (Myers & Majluf, 1984), and investment banks, when facing high information risk, are highly likely to charge more for their underwriting services because it is more difficult for them to place an SEO in the equity market (Lee & Masulis, 2009).

In this study, we aim to fill this important research gap by investigating the relationship between CSR scores and the FCosts incurred in SEO offerings to enhance our understanding of the motivation for adopting CSR and its consequences at the corporate level. To examine our research question, we construct a sample consisting of 1663 completed SEOs covering 38 countries during the period 2002–2018. We particularly establish our sample from the international perspective because equity raising has become a common corporate event not only inside the United States but also across the world. According to the recent trend, for example, the proportion of completed SEOs outside the United States increased from 45% in 2002 to 85% in 2018. This tendency towards globalised SEOs suggests that it is necessary to utilise an international sample, as it allows us to better assess how CSR strategies may affect FCosts in SEOs across countries, and our study intends to provide insight into motivation of adopting CSR activities worldwide. In addition, our data on CSR performance are obtained from the ASSET4 database; notably, using the same rating agency across countries to study the consequences of CSR performance can better isolate its impact to understand the causal effects.

Our empirical evidence suggests that CSR performance is negatively associated with gross spreads, the direct measure of SEO FCosts. More importantly, this negative relationship is not only statistically significant but also economically meaningful. For example, a one standard deviation increase in CSR performance is, on average, associated with an approximately 15.29 basis point decrease in the gross spread. Our results further indicate that among CSR subcategories, the negative effect of CSR on SEO costs is mainly attributable to issuers' concentration on environmental and social commitments. Overall, our results imply that CSR activities may be viewed as a channel that can effectively add value to investors through its impact on the information asymmetry around equity offerings. Our finding is robust to a number of additional tests, such as including internal corporate governance, as well as the proportion of secondary shares over primary shares, as additional controls, employing the Granger causality test as an alternative research design and addressing potential sample bias issues. In addition, we conduct a test focusing on the presence of CSR performance; exploring the effect of CSR on three components of gross spreads, namely, management fees, underwriting fees and selling concessions; further examining the potential impact of the global financial crisis on the link between CSR ratings and SEO fees by splitting the sample around 2009 as a cut-off point. To alleviate potential endogeneity concerns, we additionally employ two alternative research designs involving the instrumental variable (IV) approach and Heckman two-stage selection analysis and our main finding survives both tests.

To deepen our understanding with respect to the role of CSR strategies in equity issuance, we extend our study on FCosts to market-based costs, including the probability of offer withdrawal, offer delay, underpricing and announcement effects, which are commonly referred to as indirect costs in SEO issuance, to further assess the extent to which CSR performance may help reduce costs related to SEO issuance. We find that CSR strategies are effective in reducing value uncertainty regarding the assets of issuing firms, which is reflected in a lower likelihood of the issue being withdrawn from the registration and mitigation of abnormal returns surrounding the issue date, although we find no evidence that CSR activities are directly associated with offer delays and underpricing.

To the best of our knowledge, this is the first study to examine the relationship between CSR performance and underwriting fees in an international setting. Our study offers two important contributions to the literature. First, we focus on the gross spreads, the costs directly observable in equity offerings and, therefore, less subject to estimation bias than indirect measures of SEO costs. Importantly, this measure reflects the risk formed at the time the decision is made. Therefore, the gross spread provides an excellent proxy for the uncertainty in raising equity capital that is incorporated into the considerations of underwriting syndicates. Consistent with prior studies showing that CSR performance has a moderating effect in reducing information asymmetry between inside managers and outside investors (Arouri et al., 2019; Dhaliwal et al., 2014; Kim et al., 2012), our finding highlights the importance of CSR strategies as a critical channel to improve SEO issuers' information environment and, therefore, add value to shareholders.

Second, we add new evidence to the literature on the determinants of the direct costs incurred in SEOs by including stakeholder-oriented practices such as CSR engagement. Prior studies highlight the effects of stock market liquidity (Butler et al., 2005), credit ratings (An & Chan, 2008; McBrayer, 2019), corporate accounting quality (Lee & Masulis, 2009) and co-managers and analyst coverage on the FCosts of equity issuance (Jeon & Ligon, 2011). Our paper reveals that CSR ratings are an important mechanism with the potential to reduce SEO FCosts through their impact on information asymmetry. Therefore, this study has critical stakeholder and value-related implications for corporate decision makers, indicating that they should consider incorporating environmental protection, employee welfare and human and labour rights protection into their business strategies to enhance capital market benefits.

The remainder of this paper is organised as follows. In Section 2, we review the literature and develop our hypothesis, with the research design covered in Section 3. Section 4 discusses the main results, as well as the robustness tests. Section 5 addresses endogeneity concerns. Section 6 extends the study to market-based costs of SEO issuance and Section 7 concludes the paper.

2 | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

In this paper, we investigate the impact of CSR on the FCosts associated with issuing seasoned equity. As such, in this section, we first review the literature relevant to the role of CSR activities in the information environment and the dependence of fees charged by investment banks in equity issuance on information asymmetry before developing our testable hypothesis.

2.1 | CSR activities and information quality

In recent years, a growing number of studies have acknowledged the increasing importance of CSR strategies. Prior studies on CSR are conducted across many dimensions and from different perspectives to identify the channels through which CSR may affect corporate policies and one particular aspect in the CSR literature is its potential link to information quality. Drawing on the ethical theory that doing what is ethically correct contributes to the good of society, CSR is based on the ethical argument that there is a moral imperative for the management team to 'do the right thing'. Lins et al. (2017) contend that to adhere to a high standard of behaviour,

managers have an incentive to be honest and trustworthy in their business affairs. Therefore, ethical practices convey strong implications on information transparency and improve investor recognition (El Ghoul et al., 2011; Kim et al., 2012). The stakeholder theory highlighting the role and implications of stakeholder-oriented practices in the capital market further suggests that CSR behaviours and profits are not mutually exclusive and that acting in all stakeholders' interests ultimately benefits shareholders (Arouri et al., 2019; Donaldson & Preston, 1995; Freeman, 2010; Mitchell et al., 1997; Porter, 2006).

Empirical studies largely support that CSR activities can effectively improve information quality and transparency. For example, Kim et al. (2012) argue that when managers engage in CSR in the context of a moral imperative, CSR firms are more likely to behave in a responsible manner to constrain earnings management through discretionary accruals or manipulation of real operating activities; thus, better CSR performance reflects managers' ethical concerns and promotes the delivery of more transparent and reliable financial information to market participants. Similarly, Cui et al. (2016) find that firms with high CSR are associated with better information environments, such as more transparent disclosure and more comprehensive CSR information, which sustains their reputation capital. Gupta et al. (2018) contend that managers may utilise CSR strategy as a means to improve corporate transparency and policies, as firms investing in CSR activities consequently become more transparent. Cho et al. (2013) document that CSR information is informative for investment decisions and contend that both positive and negative CSR information reduce information asymmetry. Collectively, CSR activities tend to provide additional nonfinancial information to financial markets and improve transparency and, therefore, should reduce information asymmetry between insiders and outsiders.

2.2 | Information asymmetry and equity issuance

In secondary equity markets, it is well established that equity issuance is subject to high information risk. Opaque environments raise uncertainty about a firm's financial condition and increase information asymmetry between issuers and outside investors (Eckbo et al., 2007; Lee & Masulis, 2009). This concern can affect investors' demand for a firm's new equity and increase the volatility of the stock price. In terms of SEO fees, if the information quality of an issuer is poor, investment banks, which write fixed-price underwriting contracts, will highly likely price their underwriting services more dearly as they face greater valuation risk and higher expected selling expenses when underwriting the SEOs of such firms, increasing the costs of floating new equity. Corwin (2003) documents that underwriting fees account for approximately 78% of the total costs in raising external capital and they represent the largest portion of the FCosts. In addition, Butler et al. (2005) report that approximately 7% of the total proceeds are paid by average issuers to raise capital through SEOs and this figure varies considerably, ranging between 1% and 10% and depends largely on the degree of information asymmetry between inside issuers and outsider investors.

In the extant literature, several channels that have a potential effect in reducing such costs through their impact on information asymmetry have been examined. For example, Habib and Ljungqvist (2001) find that issuing firms actively take costly actions by hiring a reputable and thus, more expensive, underwriter due to its certification quality to reduce information asymmetry before the issuance of initial public offerings (IPOs). Jeon and Ligon (2011) indicate that highly reputable co-managers included in the syndicate, such as underwriters and commercial banks, play a certification role in reducing information asymmetries and, as a result,

lowering SEO FCosts. Butler et al. (2005) document that equity liquidity is an important determinant of the costs of raising external capital. Issuers with better market liquidity equity pay significantly lower investment banking fees. McBrayer (2019) finds that credit ratings can be viewed as a channel that mitigates information asymmetry, which, in turn, reduces the investment banking costs associated with SEO issuance. Prior studies have also found that CSR activities create value for seasoned equity issuers by focusing on market reactions to SEO announcements and underpricing (Dutordoir et al., 2018; Feng et al., 2018). Overall, prior studies find that mechanisms that have the potential to alleviate the adverse selection costs of equity issuance can effectively reduce costs in equity offerings.

Building upon theory and empirical evidence from prior studies, we develop our hypothesis positing that the CSR disclosure of issuers has a negative impact on the FCosts incurred in SEOs through its impact on information quality, thereby reducing the value uncertainty regarding the issuers' assets. In contrast, some studies relying on opportunistic use of CSR suggest a positive relation between socially responsible activities and information asymmetry (Hemingway & Maclagan, 2004; Prior et al., 2008). CSR strategies can also be used as a window-dressing tool and represent problems related to managerial incentives, thus leading to severe disclosure manipulation and a higher level of information asymmetry. However, in a more recent CSR study with a larger sample, Ferrell et al. (2016), who employ a sample consisting of more than 4700 of the largest public firms from 60 countries, document that a positive relationship exists between CSR and firm value and that CSR attenuates the negative relation between managerial entrenchment and value. This lends support to the positive view of CSR in mitigating agency problems and controlling moral hazard problems.

Overall, based on the underlying assumption that managers have an informational advantage that poses risks for new investors and underwriters when a firm issues stock and the existing literature on the positive view that CSR tends to reduce uncertainty and risks, resulting in more stable and stronger market demand for these securities, we expect that superior CSR performance before SEO issuance may, to some extent, add value to the firm by lowering the FCosts charged by investment banks. The above argument formally gives rise to our hypothesis below:

Hypothesis: The CSR performance of an issuer is negatively associated with the FCosts in equity offerings charged by investment banks.

3 | RESEARCH DESIGN

3.1 | Sample construction

We obtain data on firms' CSR performance from ASSET4 ESG of Thomson Reuters, Datastream, a database frequently used in prior studies, such as Liang and Renneboog (2017b), Arouri et al. (2019) and Dyck et al. (2019). ASSET4 collects and collates information on large publicly traded firms worldwide at an annual frequency, and from various sources, such as annual reports, corporate sustainability reports, nongovernmental organisations and media and evaluates firms' environmental, social and corporate governance beginning in 2002. In particular, the environmental score (ENV) evaluates firms' environmental commitments from three aspects: Emission reduction, production innovation and resource reduction. The social score (SOCIAL) provides measures in four areas: the workforce, human rights, community and product responsibility. Governance (CG) assesses firms' governance in three categories:

Management, shareholders and CSR strategy.[3] All scores are measured on a scale from 0 to 100. In this study, we focus on the effect of corporate activities on society at large rather than shareholders, so we specifically evaluate firms' socially and environmentally responsible commitments. On this basis, our overall CSR is measured as the equally weighted scores of these two components, in line with prior studies (Boubakri et al., 2016; Ioannou & Serafeim, 2012). We additionally examine each CSR category on investment banking fees separately, as, according to Arouri et al. (2019), it is important to examine individual dimensions rather than focus on the concept as a whole.

Information on global new equity issues is extracted from the Securities Data Company's (SDC) Global New Issues database through Thomson One Banker (Fauver et al., 2017; Lee & Masulis, 2009; McBrayer, 2019). We start with the collection of a full sample of common stock offerings from 2002 to 2018, excluding IPOs, unit offerings, rights issues, mutual conversions and equity offerings by closed-end investment funds, real estate investment trusts and beneficial interests. This results in an initial sample of 14,623 SEOs. We then exclude the issuers in the financial sector (main Standard Industrial Classification [SIC] codes 6000–6999), SEOs without financial and accounting data available for the year before the filing date and those without such data for the offer year and subsequent years. We then combine the data set on SEO characteristics with the CSR scores, along with financial data. This generates a sample of 3750 completed SEOs and 66 withdrawals of offers. For completed offers, we further delete firms without CSR ratings in the year before the SEO, which generates a final sample of 1663 SEOs from 38 countries.

Following Butler et al. (2005) and Lee and Masulis (2009), we define the FCost as the underwriter gross spread, expressed as a percentage of the offer price. Under this flotation method, underwriters buy an SEO from an issuer at an offer price discount to compensate for risk-bearing services, which represents the overall costs paid by issuers to sell an SEO at a fixed price through an underwriting syndicate. Gross spread has three components, namely, the management fee, underwriting fee and selling concessions, all obtained from the SDC.

3.2 | Firm and SEO characteristics

To address our research question, a wide range of firm-, deal- and market-related variables that may have potential influence on issuers' FCost are included in our regressions following prior studies (Jeon & Ligon, 2011; Karpoff et al., 2013; Lee & Masulis, 2009; McBrayer, 2019). First, we include a set of firm characteristic variables. Specifically, Q represents Tobin's Q, which reflects a firm's growth opportunities and is measured as the sum of the book value of total assets minus the book value of equity plus common shares outstanding multiplied by the year-end closing stock price, scaled by total assets. As firms with greater growth opportunities have higher risk regarding future cash flows, the asymmetric information problem is more severe for such firms. Therefore, investment banks are expected to charge higher FCost (Jeon & Ligon, 2011). Lev stands for leverage and is measured as the ratio of total debt to total assets. Higher leverage represents a higher risk of financial distress and thus higher FCost (Jeon & Ligon, 2011; Lee & Masulis, 2009). Size is a proxy for the size of a firm, defined as the natural logarithm of the market capitalisation of the firm. Size is frequently used to capture the quality

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of information environments and empirical studies usually find that information asymmetry is less severe for larger firms as they are frequently followed by business media, institutional investors and other market participants (Lee & Masulis, 2009; McBrayer, 2019). We, thus, expect Size to be negatively related to investment banking fees. Tangibility is measured as the ratio of property, plants and equipment to total assets. Firms with substantial physical assets tend to be easier to value than firms whose value depends more heavily on growth opportunities (Karpoff et al., 2013), implying that firms with larger tangible assets suffer less from information asymmetry. As such, Tangibility is expected to be negatively associated with FCost. Return on asset (ROA) is a proxy for a firm's profitability, defined as the earnings before interest and taxes divided by total assets. Superior operating performance indicates stable future earnings and operating capabilities, which, to some extent, reduces the expected underwriting losses and the service costs of due diligence investigations (Karpoff et al., 2013). Volatility captures the total risk or value uncertainty of a firm and is measured as the standard deviation of daily stock returns during the trading period (−90, −11), with the trading day being 0 (Lee & Masulis, 2009). As riskier issuers are subject to a greater degree of information asymmetry, we expect that stock return volatility is positively associated with FCost.

We additionally include two variables that measure firms' information environment. Analyst stands for the number of analysts providing firm earnings forecasts, measured as the natural logarithm. Karpoff et al. (2013) indicate that firms followed by more analysts tend to have a better information environment, implying a negative relationship between Analyst and SEO fees. Cross is a dummy variable that is equal to one if a firm is cross-listed on multiple stock exchanges and zero otherwise. Boubakri et al. (2016) find that a firm cross-listed on multiple stock exchanges is subject to more disclosure rules and, therefore, tends to be more information transparent than firms that are not. Thus, lower FCost are expected.

Finally, we control for a set of SEO variables. MultiB is an indicator variable that is equal to one if an SEO has more than one book-runners and zero otherwise. Lead underwriters engage multiple book-runners when the placement of the issue is difficult (McBrayer, 2019), implying higher SEO fees. Proceeds, defined as the natural logarithm of the number of shares issued multiplied by the offer price, is used to measure issue size. This variable controls for economies of scale in security issuance. Empirical studies have found a negative association between offer size and underwriting costs, consistent with the adage, 'larger is cheaper' (Jeon & Ligon, 2011; Lee & Masulis, 2009). Lockup is a dummy variable assigned a value of one if an SEO issuer offers a lockup agreement and zero otherwise. Karpoff et al. (2013) indicate that the lockup agreement can eliminate opportunistic trading by insiders and any accompanying information effects during the lockup period. This implies that the issuer's direct costs in floating new equity decrease with the existence of the lockup, suggesting a negative sign for Lockup. A full description of the variables is provided in Appendix A.

3.3 | Model specification

Following prior studies on FCost in equity offerings (Jeon & Ligon, 2011; Lee & Masulis, 2009), we estimate the following cross-sectional specification to test for the impact of CSR performance on the underwriting fees charged by investment banks:

$$\text{FCost}_i = \alpha + \beta_1 \text{CSR}_i + \beta_2 \text{Control}_i + \text{FEs} + \varepsilon_i, \tag{1}$$

where FCost denotes the flotation cost, measured as the gross spreads scaled by the offer price of SEO issuer i and CSR represents the CSR ratings in natural logarithm, which includes the overall CSR and subcategory performance for ENV, SOCIAL, and CG.[4] Control stands for a set of explanatory variables that are considered to have potential impacts on FCost. FEs is a vector included in all cross-sectional specifications controlling for year, industry, and country fixed effects to capture unobserved heterogeneity across time, industries and countries. CSR, Q, Lev, Size, Tangibility, ROA, and Analyst are all at the year-end before the SEO filing date. Our theoretical inference predicts a negative coefficient on CSR (β_1) due to its potential impact on information asymmetry that may lead to lower investment banking fees.

All continuous variables are winsorised at the first and 99th percentiles of their respective distribution to reduce the influence of outliers. We examine the impact of the CSR performance level on SEO fees based on the sample of 1663 SEOs that have CSR scores. As the residuals from our cross-sectional regressions exhibit heteroskedasticity, we adopt White heteroskedasticity robust standard errors with adjustment for country-level clustering.

3.4 | Descriptive statistics

Table 1 summarises the distribution of SEO offers, the average SEO FCost and CSR performance over the sample period by country/region and year. Panel A shows that SEO issuers are geographically dispersed worldwide, with the majority being concentrated in developed markets, such as North America (72.1%), Australia (9.3%), Japan (5.8%), and Western Europe (4.8%). It also shows a significant variation in CSR scores across countries and years. Furthermore, Panel B shows that the number of SEO deals increases steadily from 30 in 2003 to 269 in 2018, indicating that SEO activities are becoming a frequent trend in the global market. In particular, a trend is revealed in Panel B, which shows a decline in CSR and an increase in SEOs since 2009. This pattern may simply reflect that firms with relatively low CSR scores have become more engaged in seasonal equity activities following the financial crisis than in earlier years when SEOs were mainly concentrated in larger and more prestigious firms with higher CSR performance.

The summary statistics reported in Table 2 show that the FCost, measured as gross spreads, vary from 0.25% to 10%, with a mean (median) of approximately 3.4% (4%), indicating that more than half of the sample firms have gross spreads as a percentage of the offer price higher than the average level. Among the three components of FCost, the selling concession, the fees paid to other investment banks for helping distribute issues to investors, constitute the largest proportion, with a mean equal to 2.01%, compared to 0.69% for management fees and 0.75% for underwriting fees. Overall CSR performance ranges between 7.13 and 97.66, with a mean (median) value of 33.07 (19.86) and a standard deviation of approximately 26.87. A similar distribution is observed for the three CSR categories. For example, the average performance on environmental, social and governance is 33.49, 32.65 and 55.04, respectively.

Regarding market-based costs, the mean values are 0.04, 1.32, 0.06 and −0.02 for Withdrawn, Delay, Underpricing and CAR, respectively. In addition to underpricing, defined as the return from the offer price to the closing price on the offer day, we also report a number of alternative quantitative assessments of SEO discounting for different pre-SEO closing share

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[4]Following Dyck et al. (2019), we use the log CSR scores in our empirical study to obtain better distributional properties and to reduce the impact of outliers. Our results are unaffected when the raw scores are used.

TABLE 1 Sample distribution

This table reports the distribution of the number of seasoned equity offering (SEO) deals, average gross spreads, and corporate social responsibility (CSR) scores by country/region and year during the sample period. In both panels, the overall CSR rating is measured as the equally weighted scores of environmental and social performance ratings. ENV, environmental score; SOCIAL, social score

Panel A: Distribution of SEO characteristics and CSR performance by country/region

Region	No. of SEOs	Average gross spreads (%)	CSR scores		Coverage starts	Range of overall CSR			
			ENV	SOCIAL		Min	Median	Max	SD
Australia	155	3.3534	32.3053	37.1994	2006	7.5550	27.5400	93.4450	25.7021
Austria	6	2.3333	65.9967	44.4400	2003	44.7500	44.7500	76.1550	16.2175
Belgium	4	2.9728	44.0650	42.3550	2008	14.4050	39.1750	80.0850	33.2267
Bermuda	8	4.9179	22.2325	18.5738	2013	10.3900	11.9375	72.3500	21.3437
Brazil	22	1.6166	73.8855	84.6873	2008	33.4750	80.4650	88.4050	11.5981
Canada	300	4.3033	26.2668	24.7397	2004	7.1650	16.4025	94.3600	20.0195
Chile	2	2.1210	15.4100	13.3100	2013	14.3600	14.3600	14.3600	0.0000
China	5	1.2140	21.3180	16.3120	2010	7.5700	13.0400	46.3750	15.8277
France	1	0.2500	51.9300	57.1800	2018	54.5550	54.5550	54.5550	-
Germany	5	0.9672	88.4600	83.3180	2003	81.4300	88.0450	89.2700	4.1011
Greece	1	4.5000	13.5900	13.2000	2017	13.3950	13.3950	13.3950	-
Hong Kong	9	1.6493	30.0500	36.1289	2004	10.3900	31.9750	68.1400	18.2887
India	5	1.4100	69.5200	67.2540	2009	21.5600	87.5150	93.8000	31.0403
Ireland	5	3.0586	27.7280	25.7000	2009	7.3200	10.6600	92.8400	37.1146
Israel	1	2.5000	72.0500	64.1300	2015	68.0900	68.0900	68.0900	-
Italy	2	1.0750	34.6450	46.0950	2004	30.8650	40.3700	49.8750	13.4421
Japan	96	3.5894	81.2903	65.8659	2004	7.2700	85.2575	97.6550	24.9960
Jersey	5	3.5250	25.5440	41.5780	2005	21.9400	32.3450	59.2350	15.2660
Luxembourg	6	2.3463	45.5483	50.0683	2009	20.4300	38.2850	86.1450	29.8713

TABLE 1 (Continued)

Panel A: Distribution of SEO characteristics and CSR performance by country/region

Region	No. of SEOs	Average gross spreads (%)	CSR scores		Coverage starts	Range of overall CSR			
			ENV	SOCIAL		Min	Median	Max	SD
Macau	2	0.2500	16.8550	21.8600	2012	19.0000	19.3575	19.7150	0.5056
Malaysia	1	1.0000	19.7200	30.7600	2015	30.7600	30.7600	30.7600	-
Mexico	4	2.6250	94.6050	89.4900	2003	90.2850	92.0475	93.8100	2.0352
Monaco	3	5.9437	13.8733	9.7267	2017	10.6450	10.6450	14.1100	2.0005
Netherlands	11	3.0911	41.7355	50.9464	2004	10.1150	28.4450	88.7100	32.3437
New Zealand	3	2.1877	92.6567	77.2533	2010	84.5050	84.5050	85.8550	0.7794
Norway	2	2.3015	57.1450	59.7450	2005	22.7100	58.4450	94.1800	50.5369
Panama	1	3.0000	12.0000	11.0500	2010	11.5250	11.5250	11.5250	-
Poland	2	2.2500	11.9400	23.2500	2009	17.5950	17.5950	17.5950	0.0000
Russia	1	3.0000	28.8600	38.6900	2010	33.7750	33.7750	33.7750	-
Singapore	4	5.2500	13.8625	9.7225	2010	9.9700	11.9450	13.3100	1.3749
South Africa	5	2.4816	69.0040	77.6640	2009	63.1850	73.3500	79.7600	6.2833
South Korea	15	0.6400	87.6933	75.3060	2011	66.6450	84.2300	91.8250	8.8454
Spain	2	1.0500	93.1700	84.7200	2003	88.9450	88.9450	88.9450	0.0000
Sweden	3	2.9267	82.4933	78.5600	2007	71.1800	78.2750	92.1250	10.6525
Switzerland	2	3.1480	67.0150	53.3650	2009	29.0450	60.1900	91.3350	44.0457
Taiwan	29	1.1554	55.9917	47.4362	2011	7.1300	58.7000	91.2000	34.2260
United Kingdom	36	2.9624	57.0636	57.3186	2008	12.5850	66.7050	93.9100	23.3801
United States	899	3.3618	25.9594	25.93669	2003	7.5800	15.9650	97.4350	21.2328
Total	1663	3.4021	33.4936	32.6535	-	7.1300	19.8550	97.6550	26.8704

Panel B: Distribution of SEO characteristics and CSR performance by year

Year	No. of SEOs	Average gross spreads (%)	Average CSR scores		Range of overall CSR			
			ENV	SOCIAL	Min	Median	Max	SD
2003	30	2.4492	46.7400	41.9970	13.0550	35.4100	95.6950	29.4811
2004	26	2.1449	48.8708	48.6954	11.9850	43.9500	97.4350	32.6632
2005	28	3.0912	36.8439	32.1782	13.2450	18.0125	97.6550	29.4498
2006	38	3.3767	55.4761	44.8276	12.0700	41.8750	95.8850	30.7087
2007	28	3.0165	44.3071	36.5114	10.5550	34.3600	92.1250	26.3395
2008	43	3.0811	44.1872	42.7119	10.5000	29.4550	92.3250	30.5319
2009	162	3.9109	42.2787	41.3278	7.6900	36.4350	95.4200	28.3248
2010	71	3.5621	36.4714	34.1173	7.2700	18.4250	94.1800	28.0038
2011	103	3.2761	37.6318	35.8867	8.0450	26.9650	93.1850	27.6745
2012	100	3.2204	34.6173	35.1778	7.1650	25.7675	94.3600	26.1065
2013	97	3.1714	41.7581	38.9443	7.1300	30.1650	90.9550	30.1085
2014	87	3.182	34.3836	38.8446	7.4100	28.3650	93.9100	27.1794
2015	112	2.9209	31.7544	32.7359	7.3000	20.6350	94.2950	27.4336
2016	192	2.8001	30.7298	29.8152	8.5850	20.0950	94.3250	23.3407
2017	277	3.6153	26.0364	25.8961	10.3900	14.7850	95.2000	23.2428
2018	269	4.0893	23.2701	23.2738	10.1750	14.2850	94.0450	21.6333
Total	1663	3.4021	33.4936	32.6535	7.1300	19.8550	97.6550	26.8704

TABLE 2 Descriptive statistics

This table reports summary statistics for all variables during the sample period. CAR, cumulative abnormal return; CG, governance; CSR, corporate social responsibility; ENV, environmental score; FCost, flotation costs; Lev, leverage; MagFee, management fees; SelCon, selling concession fees; SEO, seasoned equity offering; SOCIAL, social score; UndFee, underwriting fees.

Variable	Obs.	Mean	SD	Min	P25	Median	P75	Max
SEO characteristics								
FCost (%)	1663	3.4021	1.8091	0.2500	1.9000	4.0000	4.5290	10.0000
MagFee (%)	1663	0.6902	0.4137	0.0000	0.3584	0.8000	0.9500	4.5190
UndFee (%)	1663	0.7471	0.5061	0.0500	0.4000	0.8000	1.0000	4.7500
SelCon (%)	1663	2.0069	1.0830	0.0660	1.0588	2.2500	2.7000	6.0000
Withdrawn	1813	0.0364	0.1873	0.0000	0.0000	0.0000	0.0000	1.0000
Delay	4176	1.3196	1.9889	0.0000	0.0000	0.0000	2.3026	7.9742
Underpricing	4111	0.0589	1.0821	−5.9476	−0.2804	−0.0699	0.1481	9.6445
CAR	4543	−0.0181	0.0797	−0.4214	−0.0506	−0.0182	0.0094	1.3899
Discount1	4111	0.0480	0.1197	−0.4809	0.0001	0.0320	0.0708	0.6429
Discount5	4082	−0.1741	1.3773	−11.0757	−0.0669	0.0268	0.1247	0.9895
Discount10	4081	−0.1816	1.3857	−11.1541	−0.0767	0.0217	0.1238	0.9895
CSR performance								
CSRD	3750	0.4416	0.4966	0.0000	0.0000	0.0000	1.0000	1.0000
Overall CSR (in log)	1663	3.1941	0.7665	1.9643	2.5261	2.9885	3.8857	4.5814
Overall CSR (raw)	1663	33.0736	26.8704	7.1300	12.5050	19.8550	48.7000	97.6550
ENV (raw)	1663	33.4936	28.2678	8.8100	13.0600	17.7400	49.8000	97.2000
SOCIAL (raw)	1663	32.6535	27.6747	4.1900	11.0300	19.8200	49.7700	98.4600
CG (raw)	1656	55.0377	25.1108	1.2900	37.3600	57.2800	75.5000	97.1200

(Continues)

TABLE 2 (Continued)

Variable	Obs.	Mean	SD	Min	P25	Median	P75	Max
Firm characteristics								
Q	1663	2.2621	1.7712	0.2502	1.1608	1.6570	2.5985	9.0889
Lev	1663	0.6054	1.1446	0.0000	0.0660	0.2449	0.6420	10.4393
Size	1663	15.1936	2.7989	9.6590	13.5831	14.6900	16.0214	22.8121
Tangibility	1663	0.3827	0.3169	0.0001	0.0885	0.3023	0.6710	1.1630
Return on asset (ROA)	1663	−0.0372	0.2164	−0.7010	−0.0668	0.0319	0.0814	0.4036
Volatility	1663	0.0298	0.0179	0.0076	0.0176	0.0255	0.0360	0.1131
Analyst	1663	2.0693	0.7723	0.0000	1.6422	2.1691	2.6088	3.6485
Cross	1663	0.1209	0.3261	0.0000	0.0000	0.0000	0.0000	1.0000
MultiB	1663	0.5803	0.4937	0.0000	0.0000	1.0000	1.0000	1.0000
Proceeds	1663	5.0792	1.3456	0.1790	4.3301	5.1770	5.9240	9.4084
RelativeProceeds	1813	0.2510	1.0362	0.0008	0.0490	0.0954	0.1672	14.4600
Lockup	1663	0.7138	0.4521	0.0000	0.0000	1.0000	1.0000	1.0000
Market_runup	4543	0.0355	0.0851	−0.2679	−0.0105	0.0400	0.0816	0.3260
Stock_runup	4543	0.1337	0.3813	−0.6000	−0.0573	0.0823	0.2500	2.4872
Boardsize	1663	1.9930	0.8165	0.0000	1.9459	2.1972	2.4849	3.2958
Independent	1663	0.5031	0.3315	0.0000	0.1446	0.6023	0.8025	0.9141
%Secondary	1238	0.0263	0.1472	0.0000	0.0000	0.0000	0.0000	1.0000

price benchmarks, including Discount1, return from the offer price to the closing price 1 day before the offer, Discount5, to the average closing price 5 days before the offer, and finally Discount10, to the average closing price 10 days prior. As indicated, the discounting is observed 1 day before the offer day.

Table 3 presents the correlations of the main regression variables. We find that the correlation between CSR and FCost is significantly negative, which lends initial support to the negative impact of CSR performance on SEO FCost. None of the variables is highly correlated, thus ruling out potential multicollinearity issues.

4 | THE IMPACT OF CSR ON FCOST

4.1 | Main results

The main results are reported in Table 4. Column 1 is our baseline model where CSR is measured by the overall CSR score. It shows that firms' CSR performance rating is negatively associated with SEO FCost, as evidenced by the negative coefficient on CSR that is also statistically significant ($t = 6.74$). Moreover, this negative impact is economically meaningful, as a one-standard deviation increase in overall CSR performance is, on average, associated with a decrease of approximately 15.29 basis points in the gross spread, all else being equal.[5] The result supports our view that in the global capital market, SEO issuers with better CSR practices appear to pay lower SEO fees, implying that strong CSR performance may lessen the value uncertainty of the assets of issuing firms, which probably results in more stable and stronger market demand for these securities, leading to lower fees charged by the underwriting investment banks.

Turning to the effects of control variables on SEO fees, our results show that Tobin's Q, volatility, multiple book-runners, and lockup agreement are all positively associated with SEO FCost, whereas analyst coverage, the cross-listing dummy, firm size, return on assets, and total proceeds are negatively related to FCost, consistent with expectations.

In addition to overall CSR performance, we also explore the effect of each dimension of CSR, environmental, social, and corporate governance, which reflect various stakeholder-oriented socially responsible activities, on FCost. For this purpose, we estimate Equation (1) by replacing CSR with each of its dimensions, one by one, as the key explanatory variable, and report the results in columns 2–4. Interestingly, we find that the negative impact of CSR performance on SEOs occurs through both the environmental and social categories but not the corporate governance dimension. Therefore, our results reveal that issuers' engagement in CSR activities, particularly those related to environmental protection and human and labour rights protection, are the key channels for lowering SEO costs.

4.2 | Robustness tests

In this section, we conduct a battery of additional tests to examine the robustness of our findings. In what follows, we present our results based on the baseline model for brevity.

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[5]The CSR coefficient is −0.1995, and the standard deviation is 0.7665, as reported in Table 2. This is calculated as −0.1995 × 0.7665 = −0.1529.

TABLE 3 Correlation matrix

This table reports the Pearson correlation coefficients for the variables used in the main empirical analysis. CG, governance; CSR, corporate social responsibility; ENV, environmental score; FCost, flotation costs; Lev, leverage; SOCIAL, social score. *Significance at least the 10% level.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1) FCost (%)	1.0000															
(2) CSR	−0.3187*	1.0000														
(3) ENV	−0.2781*	0.9430*	1.0000													
(4) SOCIAL	−0.3189*	0.9540*	0.8080*	1.0000												
(5) CG	0.0791*	0.0455*	−0.0147	0.1038*	1.0000											
(6) Q	0.2471*	−0.3353*	−0.3281*	−0.3047*	−0.0239	1.0000										
(7) Lev	−0.0718*	0.2425*	0.2320*	0.2274*	−0.0516*	−0.3034*	1.0000									
(8) Size	−0.2010*	0.1856*	0.2038*	0.1454*	0.0438*	−0.0716*	−0.0400	1.0000								
(9) Tangibility	−0.0174	−0.0038	0.0075	−0.0199	0.1560*	−0.3733*	0.1472*	0.0637*	1.0000							
(10) ROA	−0.3975*	0.2919*	0.2571*	0.2813*	−0.0305	−0.4113*	0.0548*	0.2438*	0.1930*	1.0000						
(11) Volatility	0.2763*	−0.1061*	−0.0877*	−0.1114*	0.0876*	0.0400	0.2529*	−0.1077*	0.0879*	−0.3112*	1.0000					
(12) Analyst	−0.3210*	0.3511*	0.3135*	0.3458*	0.1387*	−0.1582*	0.0733*	0.3165*	0.0694*	0.1467*	−0.1122*	1.0000				
(13) Cross	−0.1811*	0.1774*	0.1617*	0.1716*	−0.0966*	−0.1030*	0.1836*	−0.1138*	−0.0395	0.0724*	0.0467*	0.0509*	1.0000			
(14) MultiB	0.2283*	0.0559*	0.0559*	0.0597*	0.0911*	0.0531*	0.0320	−0.0019	−0.1074*	−0.0640*	−0.0068	0.0419*	0.0350	1.0000		
(15) Proceeds	−0.2659*	0.2228*	0.2021*	0.2232*	0.0738*	−0.0082	−0.0011	0.3532*	−0.0718*	0.2277*	−0.2421*	0.4254*	−0.0140	0.2420*	1.0000	
(16) Lockup	0.1227*	−0.1268*	−0.1088*	−0.1250*	−0.0101	0.1529*	−0.0456*	0.1260*	−0.1283*	−0.0935*	−0.0576*	0.1116*	−0.1570*	0.1165*	0.4039*	1.0000

TABLE 4 Impact of CSR performance on SEO flotation costs

This table reports the results regarding the impact of corporate social responsibility (CSR) performance on investment banking fees associated with seasoned equity issuance. In all model specifications, dependent variable is flotation cost (FCost), measured as the gross spreads scaled by the offer price. Columns (1)–(4) present the impact of overall CSR performance, and three of its dimensions, including environmental, social performance and corporate governance, on SEO gross spreads. Standard errors are clustered at the country level and are corrected for heteroscedasticity. T-statistics are reported in parentheses. ENV, environmental score; Lev, leverage; SEO, seasoned equity offering; SOCIAL, social score. ***, ** and *Significance at the 1%, 5% and 10% level, respectively.

	Overall CSR	ENV	SOCIAL	CG
	(1)	(2)	(3)	(4)
CSR	−0.1995***	−0.1582***	−0.1673***	−0.0354
	(−6.7417)	(−6.0264)	(−6.4389)	(−0.5169)
Q	0.0495***	0.0512***	0.0514***	0.0592***
	(6.2352)	(6.8094)	(6.5868)	(7.4876)
Lev	0.0679	0.0633	0.0670	0.0482
	(1.1215)	(1.0406)	(1.1241)	(0.7925)
Size	−0.0217***	−0.0203***	−0.0239***	−0.0247***
	(−5.1061)	(−4.6625)	(−5.3465)	(−4.7147)
Tangibility	−0.2745	−0.2709	−0.2757	−0.2666
	(−1.3905)	(−1.3859)	(−1.3743)	(−1.2779)
ROA	−0.9932***	−1.0197***	−0.9796***	−1.0100***
	(−10.5945)	(−10.2785)	(−10.3571)	(−10.3270)
Volatility	9.5804***	9.6343***	9.5843***	9.8853***
	(3.2328)	(3.2978)	(3.2159)	(3.2353)
Analyst	−0.3351***	−0.3507***	−0.3341***	−0.3658***
	(−11.3046)	(−11.5635)	(−11.2923)	(−12.1768)
Cross	−0.5424***	−0.5563***	−0.5440***	−0.5720***
	(−6.5275)	(−6.7673)	(−6.3927)	(−7.2302)
MultiB	1.0055**	1.0031**	1.0040**	1.0025**
	(2.2357)	(2.2077)	(2.2302)	(2.1741)
Proceeds	−0.3111**	−0.3178**	−0.3121**	−0.3391**
	(−2.5544)	(−2.5862)	(−2.5346)	(−2.5744)
Lockup	0.3525**	0.3603**	0.3506**	0.3770***
	(2.6520)	(2.6705)	(2.6930)	(2.8036)
_cons	4.9402***	4.8008***	4.8897***	4.5363***
	(9.7153)	(9.2886)	(9.9792)	(9.9042)
Year fixed effects	Yes	Yes	Yes	Yes

(Continues)

TABLE 4 (Continued)

	Overall CSR	ENV	SOCIAL	CG
Industry fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
SEs. Clustered	Country	Country	Country	Country
No. of obs.	1663	1663	1663	1656
Adj. R^2	0.539	0.538	0.539	0.534

4.2.1 | Additional controls

We first test whether our main finding is sensitive to the inclusion of internal governance mechanisms. Recent empirical evidence has shown the effectiveness of better corporate governance, especially boards with greater independence or outside director representation, in capturing agency and moral hazard concerns, which may represent alternative mechanisms for reducing information gaps (Ajinkya et al., 2005; Duchin et al., 2010). In addition, Harjoto and Jo (2011) find that better internal governance may also give rise to greater prioritisation of CSR initiatives. To mitigate the concern that omitted variable effects may drive our results, we additionally control for board size and independence, defined as the natural logarithm of the total number of members sitting in the boardroom (BoardSize) and the percentage of independent directors in the boardroom (Independence), respectively, in our baseline regression and report the results in column 1 of Table 5. As shown, the coefficient on CSR is still negative and statistically significant ($t = 4.81$), indicating that our main finding is not sensitive to additional control of internal governance mechanisms.

Next, we consider whether the secondary shares in SEOs may influence our results. Usually, an SEO issuance consists of secondary (existing) and primary (new) shares. While the former represents the shares sold by large insiders, the latter reflects the pure primary offerings in SEOs. Lee and Masulis (2009) document that a higher proportion of secondary shares in SEOs may potentially reduce managerial incentives to use the proceeds to build an empire, which may lower the risk that underwriters bear, suggesting an inverse relationship between secondary shares and investment banking fees. Similarly, Intintoli and Kahle (2010) find that the ratio of secondary shares to primary shares has a negative impact on SEO underpricing. To address the concern that the negative link between CSR and underwriter spreads is driven by the omitted variable, we control for %Secondary, measured as the percentage of secondary shares to primary shares offered in an SEO. On average, only 2.63% of the shares offered in an SEO are secondary shares in our sample. We insert this variable as an additional control in Equation (1) and present the regression result in column 2 of Table 5.[6] As shown, the coefficient on %Secondary is negative, but only marginally significant. Notably, however, the coefficient on CSR ratings is significant, suggesting that our finding is not affected by the inclusion of this additional control.

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[6]Controlling for this variable leads to a decrease in our sample size, from 1663 observations to 1283; this is mainly due to the missing records in the New Issues, Thomson One Banker platform.

TABLE 5 Robustness and additional tests

This table reports the robustness checks regarding the relationship between issuers' corporate social responsibility (CSR) performance and seasoned equity offering (SEO) flotation costs (FCost). Column (1) shows the result with additionally controlling for internal governance. Column (2) presents the results from the Granger causality test. Columns (3) and (4) display the results from the Granger causality test. Columns (5)–(8) report the results on sample bias issue. Column (9) reports the result based on presence of CSR scores, where CSRD is a dummy variable which is equal to 1 if an issuer receives its CSR performance score 1 year before its SEO filing date, and 0 otherwise. Columns (10)–(12) present the results of the impact of CSR performance on three component fees of SEO, namely, management fees (MagFee), underwriting fees (UndFee), and selling concession fees (SelCon), respectively. Columns (13) and (14) display the regression results during the period 2003–2008 and the period 2009–2018, respectively. Standard errors are clustered at the country level and are corrected for heteroscedasticity. T-statistics are reported in parentheses. ***, **, and *Significance at the 1%, 5% and 10% level, respectively.

Dependent variable	Internal governance FCost	Secondary shares FCost	Granger causality test FCost	Granger causality test CSR	Weighted least squares FCost	Excluding the United States FCost	Excluding Anglo-sphere FCost	Including regional dummies FCost	Presence of CSR scores FCost	Components of flotation costs MagFee	Components of flotation costs UndFee	Components of flotation costs SelCon	Subsample period 2003–2008	Subsample period 2009–2018
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
CSR	−0.1917***	−0.1989***	−0.5130***	0.8091***	−0.2025***	−0.2833**	−0.4781**	−0.1995***		−0.0607***	−0.0511***	−0.1115***	−0.2605***	−0.1673***
	(−4.8075)	(−4.5787)	(−10.5132)	(35.4715)	(−6.2671)	(−2.2267)	(−2.2525)	(−6.7417)		(−3.5056)	(−3.0093)	(−7.1178)	(−2.9925)	(−5.9195)
CSRD									−0.3076***					
									(−6.3350)					
FCost			0.2130***	0.0004										
			(4.7634)	(0.0704)										
Boardsize	−0.0485													
	(−0.8054)													
Independence	0.0358													
	(0.2195)													
%Secondary		−0.3404*												
		(−1.7031)												
NorthAmerica								−0.1639						
								(−1.0441)						

(Continues)

TABLE 5 (Continued)

Dependent variable	Internal governance FCost	Secondary shares FCost	Granger causality test FCost	Granger causality test CSR	Weighted least squares FCost	Excluding the United States FCost	Excluding Anglosphere FCost	Including regional dummies FCost	Presence of CSR scores FCost	Components of flotation costs MagFee	Components of flotation costs UndFee	Components of flotation costs SelCon	Subsample period 2003–2008	Subsample period 2009–2018
Europe								−0.7928**						
								(−2.3149)						
Pacific								0.1875						
								(0.4402)						
Asia								−1.7323***						
								(−4.7795)						
SouthAmerica								0.7252						
								(1.2089)						
Q	0.0497***	0.0101	−0.0105	−0.0115	0.0454***	0.0419	0.0025	0.0495***	0.0312***	0.0028	0.0040	0.0290***	0.0235	0.0509***
	(6.5206)	(1.0702)	(−0.6172)	(−1.4996)	(6.5721)	(0.8260)	(0.0263)	(6.2352)	(6.1113)	(0.4403)	(0.4483)	(3.9566)	(0.3744)	(5.6490)
Lev	0.0691	0.0532	0.0483	0.0274**	0.0715	−0.0612	−0.0608	0.0679	0.0163	0.0122	0.0251	0.0309	0.1053	0.0459
	(1.1481)	(0.9874)	(1.0738)	(2.8550)	(1.1809)	(−0.9580)	(−0.5973)	(1.1215)	(0.8101)	(0.9611)	(1.0400)	(1.0179)	(1.0648)	(0.8233)
Size	−0.0223***	−0.0109**	−0.1216	0.0194	−0.0221***	−0.0411*	−0.0690*	−0.0217***	−0.0530***	−0.0021	−0.0054*	−0.0128***	−0.0360	−0.0168**
	(−4.4373)	(−2.4079)	(−1.3862)	(1.2662)	(−5.5740)	(−1.7478)	(−1.7460)	(−5.1061)	(−3.3967)	(−1.1719)	(−1.7698)	(−4.2434)	(−1.2369)	(−2.6136)
Tangibility	−0.2767	−0.4761***	−1.0480	−0.1720***	−0.3145*	0.5997***	0.7136	−0.2745	−0.1525	−0.0550	−0.0350	−0.2007***	1.2241	−0.4173**
	(−1.4326)	(−3.5768)	(−1.4200)	(−3.3210)	(−1.7107)	(2.7295)	(1.0736)	(−1.3905)	(−1.0583)	(−1.0621)	(−0.4103)	(−3.2572)	(0.8174)	(−2.6507)
ROA	−0.9897***	−0.2864***	0.6451*	0.0597	−0.9765***	−1.0144**	−1.1252	−0.9932***	−1.0029***	−0.1268*	−0.1243	−0.6209***	−1.5295**	−1.0329***
	(−11.1355)	(−3.1503)	(1.8337)	(0.6713)	(−11.0891)	(−2.2047)	(−0.7350)	(−10.5945)	(−8.3034)	(−1.7333)	(−1.5796)	(−10.0097)	(−2.4636)	(−10.9269)
Volatility	9.5758***	8.7105**	11.0986***	0.2841	8.8443***	14.2201**	24.5035*	9.5804***	7.4514***	2.3949**	2.8379***	5.7043***	9.4908	9.9071***
	(3.2515)	(2.2583)	(3.9792)	(0.2541)	(2.9862)	(2.2109)	(1.8418)	(3.2328)	(3.4144)	(2.5219)	(2.9648)	(3.1675)	(1.5154)	(3.0691)
Analyst	−0.3279***	−0.4601***	−0.2766***	0.0491***	−0.3346***	−0.1350	0.0338	−0.3351***	−0.3605***	−0.0547***	−0.0321	−0.2087***	−0.2978*	−0.3371***
	(−9.4688)	(−5.4065)	(−4.5381)	(3.5409)	(−11.1885)	(−0.9385)	(0.2379)	(−11.3046)	(−18.5189)	(−3.5669)	(−1.2397)	(−10.4028)	(−1.7722)	(−11.2517)

TABLE 5 (Continued)

Dependent variable	Internal governance	Secondary shares	Granger causality test		Weighted least squares	Excluding the United States	Excluding Anglo-sphere	Including regional dummies	Presence of CSR scores	Components of flotation costs			Subsample period	
	FCost	FCost	FCost	CSR	FCost	FCost	FCost	FCost	FCost	MagFee	UndFee	SelCon	2003–2008	2009–2018
Cross	−0.5426***	0.0401	−1.1260***	0.4033***	−0.5483***	−0.9900***	−1.0421***	−0.5424***	−0.3486*	−0.1150***	−0.0694**	−0.3245***	0.2250	−0.6090***
	(−6.6016)	(0.1985)	(−6.1588)	(6.7118)	(−5.5087)	(−4.0497)	(−2.8714)	(−6.5275)	(−2.0019)	(−6.4963)	(−2.2430)	(−5.6532)	(0.8861)	(−6.0221)
MultiB	1.0044**	0.6260	1.2225***	−0.0114	0.9815**	0.1636	0.1557	1.0055**	0.8582***	0.2140**	0.2445***	0.5548**	1.0948*	0.9671**
	(2.2462)	(1.4396)	(3.5354)	(−0.4175)	(2.1353)	(1.2885)	(0.6728)	(2.2357)	(2.5339)	(2.3670)	(3.1633)	(2.1334)	(2.0055)	(2.1955)
Proceeds	−0.3070**	−0.2573***	−0.3745**	0.0119**	−0.3116**	−0.0388	−0.0630	−0.3111**	−0.3492***	−0.0728***	−0.0914***	−0.1976***	−0.1022	−0.3344**
	(−2.4601)	(−2.7728)	(−2.5677)	(2.5657)	(−2.5779)	(−0.7398)	(−0.8757)	(−2.5544)	(−3.2426)	(−3.5839)	(−4.6733)	(−2.9913)	(−1.1273)	(−2.4716)
Lockup	0.3469**	0.2998**	−0.2243	−0.0403**	0.3497**	0.4895*	1.3531***	0.3525**	0.3890***	0.0646**	0.0283	0.1510*	0.3750	0.3373***
	(2.5514)	(2.3024)	(−1.1931)	(−2.1863)	(2.5831)	(1.7502)	(3.4451)	(2.6520)	(3.4923)	(2.3572)	(1.4901)	(1.8741)	(1.1192)	(2.9793)
_cons	4.9083***	5.1443***	6.9861***	0.3702*	5.0383***	4.0800***	4.0980***	5.7330***	5.3620***	0.9379***	1.8232***	3.1045***	2.5858	5.6943***
	(8.6668)	(10.1554)	(4.5825)	(1.9482)	(9.1639)	(6.0053)	(3.8007)	(7.1983)	(5.6213)	(10.5422)	(5.1223)	(14.4302)	(1.6915)	(9.2816)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SEs. Clustered	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country	Country
No. of obs.	1663	1238	448	516	1663	764	273	1663	3750	1663	1663	1663	193	1470
Adj. R^2	0.539	0.558	0.745	0.909	0.537	0.412	0.438	0.539	0.529	0.407	0.424	0.552	0.449	0.551

4.2.2 | Granger causality test

Reverse causality may bias our results as CSR firms may actively engage in CSR practices after issuing equity capital to convey a 'socially responsible' signal to the public and address stakeholder concerns. To rule out reverse causality as an alternative explanation for our results, we turn to the Granger causality test by estimating two symmetric sets of regressions following Dyck et al. (2019). That is, we regress FCost on lagged CSR and lagged FCost as well as CSR on lagged CSR and lagged FCost, separately, with the same set of lagged control variables. The results are reported in columns 3 and 4 of Table 5, and we find that the coefficient on CSR (column 3) is negative and statistically significant ($t = 10.51$), whereas that on FCost (column 4) is not ($t = 0.07$).[7] Therefore, we conclude that it is CSR performance that reduces issuers' SEO costs rather than firms with low FCost that tend to engage in CSR activities, reaffirming our hypothesis.

4.2.3 | Addressing potential sample bias

Our sample is heavily weighted towards observations from three dominant countries, namely, the United States (899), Canada (300) and Australia (155), which account for approximately 81.4% of the sample observations. In some countries, the number of observations is fewer than 10, for example, the Netherlands (11), Austria (6), Belgium (4), China (5), Singapore (4), and France (1). This implies considerable variation with respect to the distribution of observations across countries. We address this potential sample bias in the following ways. First, we introduce the weighted least squares (WLS) procedure. This approach is designed to maximise the efficiency of parameter estimation by assigning each data point a proper amount of influence. The results are displayed in column 5 of Table 5, which shows that the coefficient on CSR is negative and significantly significant ($t = 6.27$), consistent with our hypothesis that issuers' CSR performance is negatively associated with SEO costs.

Second, our sample is dominated by issuers from the US that account for 54.1% of our sample observations (899 out of 1663 SEOs). To ensure that our result is not driven by the largest issuing country, we remove US issuers from our sample, which results in a reduced sample size of 764 observations. We present our results based on this subsample in column 6. As indicated, the negative relationship between issuers' CSR performance and SEO fees remains significant. Third, we further remove issuers from the 'Anglosphere', notably, the USA, the UK, Canada and Australia, as the similarities in the legal, regulatory and governance among these countries may underlie the strong inverse relation between CSR ratings and SEO gross spreads found in our study. We report the results in column 7, and again, the impact of issuers' CSR performance on SEO FCost remains negative.

Finally, as the current approach with country fixed effects may not adequately pick up regional or continental variations, we control for the regional effects by creating five dummies for the principal regions for countries from North America, Europe, the Pacific, Asia, and South America in our baseline regression[8] and report the results in column 8.

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[7]However, Dyck et al. (2019) indicate that this test may suffer from limitations, such as relatively short time series in panel data and a large number of cross-sectional units.

[8]We follow the World Bank in classifying the countries where SEO deals took place in our sample into six principal regions (continents), namely, North America, Europe, the Pacific, Asia, South America, and the Middle East and Africa. Please refer to https://data.worldbank.org/country for details.

Notably, the coefficients on Europe and Asia are negative and statistically significant, indicating that issuers from these two regions generally exhibit a significant decrease in SEO fees, although those on NorthAmerica, Pacific and SouthAmerica are insignificant. Importantly, CSR performance is still negative and statistically significant with the inclusion of the principal region dummies.[9]

Overall, our additional analyses addressing the unbalanced sample issue suggest that the reverse relationship between CSR and FCost seems to be a global phenomenon.

4.2.4 | The presence of CSR ratings

As indicated, our sample includes 3750 completed SEOs. Among these deals, 1663 SEOs have CSR scores, whereas the remaining 2087 have no such ratings. To further enhance our understanding of the relationship between CSR performance and FCost, we create an indicator variable, CSRD, which is equal to one if a firm receives a CSR rating in a given year and zero otherwise, to explore the impact of the presence of CSR ratings on SEO fees. The result is displayed in column 9. The significantly negative coefficient on CSRD ($t = 6.34$) indicates that firms with CSR ratings exhibit lower FCost relative to firms without such ratings.

4.2.5 | CSR and components of SEO costs

As indicated in Lee and Masulis (2009) and Jeon and Ligon (2011), the underwriting spreads have three components, namely, a management fee (MagFee) paid proportionately to the lead underwriter for its due diligence efforts, an underwriting fee (UndFee) paid proportionately to the underwriters, and a selling concession (SelCon) paid proportionately to the syndicate members in the selling group who help retail issues, all scaled by the offer price. To obtain a deeper understanding of which types of underwriting services and their related fees are moderated by initiating better CSR efforts, we examine the impact of CSR on each of these components by employing MagFee, UndFee, and SelCon as alternative key variables one at a time in Equation (1). The results are displayed in columns 10–12, which show that the coefficient on CSR is negative for all three components, implying that SEO issuers with strong CSR performance reduce all three parts of the SEO FCost. It is also notable that among the three components, the coefficient on CSR in the selling concession regression is the most significant, with the largest magnitude, indicating that the channel of the cost reduction is mainly through this component.

4.2.6 | Impact of the financial crisis

Our sample period covers a crucial event, the global financial crisis that occurred in 2008. Although we have controlled for the year fixed effects in our regression model, the financial crisis may have substantially steered the institutional setting towards higher

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[9]We thank an anonymous referee for the constructive suggestions that greatly improved this section.

demand for CSR (Lopatta & Kaspereit, 2014). Bearing this in mind, we additionally explore the varying degree of CSR effects on FCost following the financial crisis by splitting the sample around 2009 as a cut-off point and present the results in columns 13–14. Our results show that the coefficient on CSR is negative and statistically significant in both columns. Interestingly, the magnitude of the coefficient on CSR is higher in the precrisis period than in the postcrisis period. Given the observed trend of the decline in CSR and significant increase in SEO activities after the financial crisis, shown in Panel B of Table 1, these results further advance our knowledge that higher CSR performance is associated with a greater reduction in SEO costs.

Collectively, our findings are robust to a wide range of additional tests, and the negative effect of CSR is found to be significant for all three components of FCost, and across the precrisis and postcrisis periods, confirming that CSR plays an important role in lowering investment banking fees.

5 | ENDOGENEITY CONCERNS

One may argue that endogeneity could be a potential concern in this context because SEO issuers may improve their environmental and social engagement to address stakeholder concerns after completing SEO deals. It might also be possible that the SEO costs and CSR are simultaneously affected by omitted characteristics. We, therefore, address these endogeneity concerns by adopting the IV approach and Heckman two-stage estimator. In both tests, we report the results based on the baseline model for brevity.

5.1 | Instrumental variable approach

First, we resort to the instrumental variable method using a two-stage least squares estimation (IV-2SLS). To perform this test, we need to find valid instrument(s) that are not related to SEO FCost through channels other than an issuer's CSR performance, implying that firm-specific characteristics do not qualify. In this study, we use two sets of IVs: The first set is the average CSR performance at the industry level by country and year (Industry_CSR_country_year), as suggested in Liang and Renneboog (2017a). The rationale behind this choice is that a firm's CSR activities or reporting behaviour may be affected by the CSR strategies and social norms of its direct industry peers and social preferences, usually due to peer pressure and public perception, but that the CSR and social norms of industry peers do not significantly affect the firm's SEO FCost. The second set of instruments is the mean value of the CSR score by country and year (CSR_country_year) and by country and industry (CSR_country_industry), inspired by Arouri et al. (2019), who argue that firm-level CSR is probably tied to relevant country-level CSR initiatives and awareness, whereas country-level social preferences may not exert a direct influence on investment banking fees for individual SEO issuers. Prior studies indeed confirm that firms in the same industry or the same institutional environment tend to adopt similar corporate social practices (Brown et al., 2006; Ferrell et al., 2016), and corporate behaviour is in general strongly influenced by peers within the same industry or the same country (Servaes & Tamayo, 2013).

Next, we predict the value of CSR by regressing the overall CSR on instruments plus a set of controls included in Equation (1) in the first stage and report the results in columns

1 and 3 of Table 6. Both sets of instruments are highly significant, which seems to validate their use. We also perform the Cragg and Donald (1993) instrument relevance test for each IV-2SLS regression to further ensure the validity of our choice of instruments. Note that the p value for both sets of instruments is less than 0.01, indicating high correlations between the instruments and predicted values of CSR and warranting the choice of instruments. In the second stage, we substitute the predicted values of CSR obtained in the first stage with actual CSR scores and report the results in columns 2 and 4. Consistent with our finding, the predicted value of CSR is negative and highly significant in both columns. For the second set of instruments, we additionally apply the Sargan (1958) over-identification test; as shown in column 4, the p value of 0.43 indicates that there is no significant correlation between the instruments and the residuals in the regression, ruling out an over-identification issue. Therefore, we conclude that the negative relationship between CSR performance and SEO FCost is robust to the IV approach.

5.2 | Heckman two-stage estimator

The effect of CSR performance on the costs of issuing SEOs estimated by ordinary least squares is unbiased only if the decision to become CSR performance rated is independent of the decision to issue SEOs. However, the decision to obtain a CSR rating is related, at least in part, to the benefits incurred from being rated. For example, a firm may choose to engage in CSR activities and obtain higher CSR ratings when the benefits of doing so, such as low SEO issue costs, outweigh the costs of being rated. In such a case, the costs and benefits are endogenously determined, creating a potential sample construction issue if used for analysis.

We address this endogenous selection issue by employing the Heckman (1979) two-step procedure, based on the sample of 3750 completed SEOs, among which 1663 SEOs have CSR scores before seasoned equity issuance and the remaining 2087 deals have no such ratings. To perform this test, we create an indicator variable, CSRD, set to one if a firm issues a CSR report and receives a CSR rating in a given year, and zero otherwise. We also create a dummy variable, Manda, which equals one if a firm is mandated to disclose a CSR report in a given year, and zero otherwise. This variable affects firm-level CSR reporting and scores (Chen et al., 2018; Kong et al., 2020),[10] but it has no direct impact on the underwriting fees. We then run a probit model by regressing CSRD on Manda and the same set of controls included in Equation (1) to obtain the inverse Mills ratio, known as Lambda, the self-selection parameter. In the second-stage regression, we then insert Lambda in Equation (1) and report the results in Table 7. Two important results emerge. In the first stage, the coefficient on Manda is significant and positive, indicating that firms subject to a mandatory CSR reporting policy are more likely to issue their sustainability reports and receive CSR performance ratings. In the second-stage regression with Lambda included, the coefficient on CSR is still negative and statistically significant ($t = 6.80$), even after controlling for within-sample bias, consistent with our hypothesis. Note that the magnitude of the coefficient on CSR (-0.21) is very close to that (-0.20) reported in column 1 of Table 4, so the Heckman two-stage regressions suggest that our finding is unlikely to be driven by selection bias.

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[10]See Appendix B in Dhaliwal et al. (2014) for further details regarding the CSR reporting legislation across countries.

TABLE 6 Instrumental variable estimation

This table reports the impact of corporate social responsibility (CSR) performance on seasoned equity offering (SEO) flotation costs based on the IV-2SLS estimation. Two sets of instrumental variables are adopted: (1) Industry_CSR_country_year and (2) CSR_country_year and CSR_country_industry. Columns (1) and (3) display the predicted value of CSR; columns (2) and (4) present the impact of CSR performance on SEO costs with the predicted value of CSR obtained in the first stage. Two additional tests are conducted: (1) A Cragg and Donald (1993) instrument relevance test to ensure the relevance of our instruments, and (2) a Sargan (1958) over-identification test to investigate the exogeneity of chosen instruments. All regressions control for industry, year, and country fixed effects. T-statistics (or Z-statistics) are reported in parentheses. Lev, leverage. ***, ** and *Significance at the 1%, 5% and 10% level, respectively.

Dependent variable	CSR	Flotation costs	CSR	Flotation costs
	(1)	(2)	(3)	(4)
CSR_predicted		−0.6698***		−0.7678***
		(−4.3452)		(−4.2239)
Industry_CSR_country_year	0.0159***			
	(16.0861)			
CSR_country_year			0.0151***	
			(6.6234)	
CSR_country_industry			0.0142***	
			(11.4549)	
Q	−0.0458***	0.0241	−0.0482***	0.0188
	(−5.0698)	(1.0091)	(−5.2045)	(0.7631)
Lev	0.0596***	0.1049***	0.0688***	0.1126***
	(4.5346)	(3.0290)	(5.1318)	(3.1529)
Size	0.0096*	−0.0169	0.0082	−0.0159
	(1.7805)	(−1.2602)	(1.4893)	(−1.1727)
Tangibility	−0.1452*	−0.2855	−0.0893	−0.2878
	(−1.9442)	(−1.5495)	(−1.1735)	(−1.5480)
ROA	−0.0247	−0.9279***	0.0457	−0.9144***
	(−0.3158)	(−4.8002)	(0.5748)	(−4.6776)
Volatility	0.4607	9.1741***	0.3776	9.0895***
	(0.5256)	(4.2313)	(0.4203)	(4.1523)
Analyst	0.1679***	−0.2419***	0.1721***	−0.2225***
	(8.4666)	(−4.1925)	(8.4770)	(−3.6398)
Cross	0.0816	−0.4612***	0.0830	−0.4443**
	(1.1778)	(−2.6602)	(1.1688)	(−2.5290)
MultiB	0.0440	1.0351***	0.0493*	1.0413***
	(1.6075)	(15.1203)	(1.7636)	(15.0208)

TABLE 6 (Continued)

Dependent variable	CSR	Flotation costs	CSR	Flotation costs
Proceeds	0.1011***	−0.2523***	0.1097***	−0.2401***
	(7.1680)	(−6.3457)	(7.6225)	(−5.7431)
Lockup	−0.0504	0.3151***	−0.0479	0.3073***
	(−1.3631)	(3.4118)	(−1.2608)	(3.2874)
_cons	1.8215***	6.4586***	0.9758*	6.6673***
	(3.2529)	(4.5407)	(1.6861)	(4.6013)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
First-stage Cragg and Donald test	$p < 0.001$		$p < 0.001$	
Sargan overidentification test				$p = 0.4328$
F-statistics (or Wald χ^2)	21.53	2146.29	19.87	2107.80
No. of obs.	1663	1663	1663	1663
Adj. R^2	0.597	0.520	0.579	0.512

6 | CSR AND MARKET-BASED COSTS OF SEO ISSUANCE

In addition to the direct costs charged by investment banks through gross spreads during the SEO process, issuers also face market-based costs that are considered indirect costs of issuance, including the probability of offer withdrawal, offer delays, underpricing, and announcement effects.[11] In this section, we further explore how CSR ratings may affect each aspect of these indirect costs associated with floating new equity.

6.1 | Probability of offer withdrawal

We first examine the effect of CSR performance on the likelihood of offer withdrawals. When a firm is subject to high information asymmetry with high uncertainty, the demand for its new security issues is likely to be weak and unstable, increasing the likelihood of a substantial drop in demand (Lee & Masulis, 2009), and eventually leading to offer withdrawal, which occurs especially when the information revealed is sufficiently negative during the book-building period (Jeon & Ligon, 2011). Issuers with superior CSR performance may convey a signal that they have a relatively transparent information environment between issuers and outside investors, making it easy for investors to evaluate a firm's true performance, and ultimately decreasing the probability of offer withdrawal.

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[11]We follow the suggestion from an anonymous referee and replace proceeds with the relative size of proceeds in the analysis of the market-based costs of SEO as this measure reflects the scale of SEO expansion. The relative size of SEO proceeds is measured as the dollar amount of SEO proceeds scaled by the dollar amount of the market value of the issuer's outstanding equity before the SEO.

TABLE 7 Heckman two-step analysis

This table reports the results based on Heckman two-step regressions. In the first stage, a probit regression model is employed to predict the presence of corporate social responsibility (CSR) performance, where a dummy variable, CSRD, set to 1 if a firm receives a CSR rating in a given year, and 0 otherwise, is regressed on mandate (Manda), a set of control variables, and dummies for year-, industry-, and country-fixed effects to estimate the Inverse Mills Ratio, denoted as Lambda. Manda is a dummy variable equal to 1 if a firm is mandated to disclose CSR report by the local regulatory authority in a given year and 0 otherwise. In the second stage, Lambda is included as an additional independent variable in our baseline model. Standard errors are corrected for heteroscedasticity and clustered at the country level. Lev, leverage. Z-statistics are reported in parentheses. ***, ** and *Significance at the 1%, 5% and 10% level, respectively.

Dependent variable	CSRD First-stage regression	Flotation costs Second-stage regression
	(1)	(2)
Manda	0.6184**	
	(2.5512)	
CSR		−0.2060***
		(−6.7987)
Q	−0.0070	0.0464***
	(−0.4603)	(4.8675)
Lev	0.0413	0.0900
	(1.0585)	(1.5684)
Size	0.0153	−0.0136
	(1.6219)	(−1.5829)
Tangibility	0.4918*	−0.0734
	(1.9152)	(−0.4011)
ROA	−0.5996***	−1.2856***
	(−5.0441)	(−5.4692)
Volatility	−3.3476*	7.5687*
	(−1.7980)	(1.9078)
Analyst	0.4140***	−0.1248
	(13.0174)	(−1.0635)
Cross	0.0037	−0.5237***
	(0.0190)	(−5.4533)
MultiB	0.1425**	1.0878**
	(2.0887)	(2.2889)
Proceeds	0.2053**	−0.2224***
	(2.0243)	(−5.5724)
Lockup	−0.2805***	0.2252*
	(−4.5634)	(1.7599)

TABLE 7   (Continued)

Dependent variable	CSRD First-stage regression	Flotation costs Second-stage regression
Lambda		0.7583*
		(1.8324)
_cons	−2.1335***	3.4230***
	(−3.6898)	(4.9201)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
Country fixed effects	Yes	Yes
SEs. Clustered	Country	Country
No. of obs.	3750	1663
Wald test of independent equations χ^2 (p value)		3.80* (0.0511)
ρ		0.6552* (1.9509)
σ		0.2763 (1.6626)

Following Lee and Masulis (2009), we construct a dummy variable, Withdrawn, which equals one if the issue is withdrawn from registration, and zero if completed, to measure the status of SEO withdrawals. We then specify a probit model with Withdrawn as the dependent variable in Equation (1). The result is presented in column 1 of Table 8 and shows that issuers with superior CSR performance are less likely to experience SEO withdrawals, as evidenced by the significantly negative coefficient on CSR. Therefore, we conclude that issuers with better CSR practices have the potential to inform the market that they are subject to less underwriting risk, thereby reducing the probability of an offer withdrawal.

6.2 | Offer delays

Next, we investigate whether CSR performance can, to some extent, prevent offer delays. Offer delay is considered one of the indirect costs incurred during the equity offering due to the money and time spent preparing a share offering without realising the actual benefit of raising the capital on schedule (Jeon & Ligon, 2011). When an issue is delayed, the SEO issuer loses part of the accounting expenses and management time devoted to the offering process because underwriters may demand higher compensation in offerings with a higher level of risk (Dunbar, 1995).

To explore how CSR performance may affect offer delays, we construct a variable, Delay, to proxy for offer delays and measure it as the natural logarithm of the length of the registration period between the SEO filing date and the offer date (Jeon & Ligon, 2011). We employ it as the dependent variable in Equation (1) and report the result in column 2. The coefficient on *CSR* is

TABLE 8 The impact of CSR on market-based costs of SEO issuance

This table reports the results of the impact of corporate social responsibility (CSR) on market-based costs of seasoned equity offering (SEO) issuance. The dependent variable is Withdrawn, a dummy that equals 1, if the issue is withdrawn from the registration, and 0 if completed, in column (1); Delay, a proxy for offer delays measured as the natural logarithm of the length of the registration period between the SEO filing date and the offer date in column (2); Underpricing, defined as the return from the offer price to the offer day's closing price, calculated as the natural logarithm of the offer day closing price divided by the offer price, in column (3); CARs, cumulated abnormal returns over the 3-day event window in column (4). All regressions control for year, industry, and country fixed effects. Standard errors are clustered at the country level and are corrected for heteroscedasticity. T (or Z)-statistics are reported in parentheses. Lev, leverage. ***, ** and *Significance at the 1%, 5% and 10% level, respectively.

Dependent variable	Withdrawn	Delay	Underpricing	CARs (−1,1)
	(1)	(2)	(3)	(4)
CSR	−0.2426***	0.0729	−0.0095	0.0062**
	(−3.2493)	(0.7914)	(−0.1333)	(2.2542)
Market_runup				−0.0176
				(−0.9105)
Stock_runup				0.0202*
				(1.9706)
Q	−0.1236	−0.0166	−0.0150	0.0001
	(−0.8691)	(−1.2101)	(−1.3392)	(0.0805)
Lev	−0.2421***	0.0693***	−0.0331	0.0005
	(−2.7125)	(2.8190)	(−1.1076)	(0.3337)
Size	−0.0003	−0.0116	0.0269**	0.0001
	(−0.0128)	(−0.9792)	(2.4914)	(0.1819)
Tangibility	0.2278	−0.1548*	0.3696***	−0.0018
	(0.6879)	(−1.8397)	(3.5615)	(−0.4276)
ROA	0.0226	0.2531	−0.1607	−0.0166
	(0.0317)	(1.6297)	(−1.4865)	(−0.9629)
Volatility	−0.7309	6.8393**	7.7745**	−0.1355***
	(−0.0703)	(2.1861)	(2.3112)	(−5.8300)
Analyst	−0.1813	−0.0094	−0.0152	0.0027
	(−1.4293)	(−0.1521)	(−0.6069)	(0.9656)
Cross	−0.4240	0.0718	−0.3423*	0.0018
	(−1.1652)	(0.3699)	(−1.7039)	(0.2582)
MultiB	−0.2574	0.4921***	0.0081	−0.0028
	(−1.0155)	(7.7065)	(0.1851)	(−1.2819)
RelativeProceeds	0.0601***	0.0336	0.1740***	0.0033**
	(2.8767)	(1.1132)	(8.0856)	(2.3482)

TABLE 8 (Continued)

Dependent variable	Withdrawn	Delay	Underpricing	CARs (−1,1)
Lockup	−0.3071	0.8265	−0.1555***	−0.0112***
	(−1.5485)	(1.5789)	(−3.2145)	(−3.5915)
_cons	−1.1038	−0.1722	−1.1644***	0.0853***
	(−1.2132)	(−0.5638)	(−5.8058)	(4.6451)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
SEs. Clustered	Country	Country	Country	Country
No. of obs.	1813	4176	4111	4543
Adj./Pseudo R^2	0.392	0.234	0.252	0.030

insignificant. Therefore, we find no evidence that CSR performance has an effect on offer delays associated with SEOs.

6.3 | Underpricing

When a new stock closes its first trading day above the set SEO price, the stock is considered underpriced. Underpricing is frequently observed in equity issuance and has been extensively studied. A general consensus is that underpricing is partly related to the adverse selection costs of information asymmetry. For example, when seeking to explain the role of asymmetric information in determining issue price, Parsons and Raviv (1985) find that some of the underpricing can be explained by underwriters setting a lower offering price to attract investors with different information sets. Feng et al. (2018) document that underpricing is a form of ex ante uncertainty relating to issuing firms.

If information friction between market participants is the primary source of underpricing, strong CSR performance may have the potential to mitigate such underpricing in SEOs by revealing the true value of issues through its impact on issuers' information environment. To explore this, we define Underpricing as the return from the offer price to the closing price on the offer day, as employed in Narayanan et al. (2004), Jeon and Ligon (2011), and others, and implement it in Equation (1) as the dependent variable. The result is displayed in column 3 of Table 8. We find that although the coefficient on CSR is negative, it is not statistically significant.[12] Our results may simply indicate that underpricing is a complicated issue, as it may imply price pressure rather than information asymmetry. Corwin (2003) suggests that firms and underwriters leave some money 'on the table' to ensure the continued participation of uninformed investors.

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[12]We also employ an analogous variable, Discount1, defined as the difference between the closing share price on the day before the offer and the SEO offer price scaled by the closing share price on the day before the offer, as an alternative measure of underpricing. We find that the coefficient on CSR is still insignificant. The results are available upon request.

6.4 | Announcement effects

Finally, we examine whether CSR mitigates SEO announcement returns. SEO announcement effects have attracted considerable attention in the literature. Empirical studies have documented that SEO announcement returns are between −2% and −3% (Eckbo & Masulis, 1992; Jeon & Ligon, 2011) and this negative effect on the announcement date is largely due to the adverse selection that results from information asymmetry between issuers and outside market participants (Myers & Majluf, 1984). If CSR performance conveys a transparent environment and improves investors' recognition of the firm, it may provide an additional certification service offering assurance regarding the quality of new issues, leading to positive perceptions among investors. As a result, issuers with high CSR may experience a smaller price drop on the SEO announcement date. Hence, we posit that higher CSR consciousness may, to some extent, mitigate the announcement effect.

Announcement returns are CARs, estimated using the original filing date obtained from the SDC Global New Issues database as the announcement date, based on continuous compounding (Lee & Masulis, 2009). CAR (−1,1) represents the CARs over a 3-day event window, where returns are calculated using the market model with both the country market index and MSCI All Country World Index (ACWI) as benchmark returns, according to Fauver et al. (2017).[13] The estimation period for the parameters is from 250 to 21 trading days before the SEO filing date. We re-estimate the Equation (1) regression by replacing the dependent variable with CAR to examine the role of CSR performance in SEO announcement returns. In this test, we follow Masulis (1986) and augment the regression with two additional explanatory variables, Market_runup and Stock_runup, to control for market sentiment in a seasoned stock. Specifically, Market_runup and Stock_runup are the market returns in the country market index and individual stock returns, respectively, over the 3-month trading period preceding the new issue, measured by the cumulative return based on the continuous compounding method. The result is presented in column 4 of Table 8. The coefficient on CSR is positive and statistically significant ($t = 2.25$), indicating that strong CSR performance does have an effect that tends to mitigate announcement returns in SEOs.

Collectively, the evidence provided in this section suggests that issuers with higher CSR activities have the potential to add value to capital participants through SEOs by lowering the likelihood of the issue being withdrawn from the registration, and mitigating announcement effects on the offer date, as a result of improvement in the information environment that reduces the value uncertainty regarding the assets of issuing firms.

7 | CONCLUSIONS

In this study, we investigate the impact of CSR on the FCost charged by investment banks in association with seasoned equity issuance. Using an international sample covering 2002–2018, we provide evidence that SEO issuers with high CSR engagement pay low investment banking fees. Our results further reveal that among CSR categories, the negative effect of CSR on SEO costs is mainly attributable to issuers' focus on the environmental and social dimensions, indicating that engagement in CSR activities such as environmental protection and human and labour rights protection can be

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[13]Details on the MSCI ACWI index are available at https://www.msci.com/acwi.

viewed as a critical channel that can effectively reduce SEO costs and, thus, add value to investors through its impact on issuers' information asymmetry around equity offerings.

Our finding is robust to a number of alternative research approaches, such as including internal corporate governance, as well as the ratio of secondary shares to primary shares offered in SEOs, as an additional control, employing the Granger causality test as an alternative research design, and addressing potential sample bias issues. Our result is insensitive to the presence of CSR ratings. In addition, we find that the CSR score has a negative impact on all three components of SEO FCost, including management fees, underwriting fees and selling concessions, with the reduction in costs being more concentrated in selling concessions. Our key finding is also robust to the pre- and post-global financial crisis periods. To further address potential endogeneity concerns, we employed two research designs, the IV approach and Heckman two-stage selection analysis, and our main finding survives both tests.

Finally, investigating the market-based costs in SEO issuance, including the probability of offer withdrawals, offer delays, underpricing and announcement effects, which are commonly considered indirect costs associated with SEOs, we find that the CSR strategies of SEO issuers are effective in decreasing the likelihood of the issue being withdrawn from the registration and in mitigating abnormal returns surrounding the issue. Overall, our results contribute to the literature on both SEOs and CSR, showing that CSR may shape the value uncertainty perceived by investment banks during equity offerings, and it can be considered an important channel that has the potential to add value to investors surrounding capital-raising activities.

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APPENDIX A: Variable description

Variable	Variable definition
Dependent variables	
FCost	Underwriter gross spread scaled by the offer price. The underwriter spread is the sum of the management fee, underwriting fee and selling concessions. Taken from the New Issues, Thomson One Banker.
MagFee	A management fee paid proportionately to the lead underwriter for its due diligence efforts, expressed as a percentage of the offer price, taken from the New Issues, Thomson One Banker.
UndFee	An underwriting fee paid proportionately to the underwriters, expressed as a percentage of the offer price. Taken from the New Issues, Thomson One Banker.
SelCon	A selling concession fee paid proportionately to the syndicate members in the selling group who help retail issues, expressed as a percentage of the offer price. Taken from the New Issues, Thomson One Banker.
Withdrawn	The probability of offering withdrawals. An indicator variable equal to 1 if the SEO is not completed, and 0 otherwise. Taken from the New Issues, Thomson One Banker.
Delay	A proxy for offer delays measured as the natural logarithm of the length of the registration period between the SEO filing date and the offer date. Taken from the New Issues, Thomson One Banker.
Underpricing	Return from the offer price to the offer day's closing price, for example, ln (offer day close/offer price). Taken from the New Issues, Thomson One Banker.
Discount	Discount1 (Discount5, Discount10) is calculated as the closing share price on the day (the average closing prices 5 days, the average closing prices 10 days) before the offer minus SEO offer price, divided by the closing share price 1 day (the average closing prices 5 days, the average closing prices 10 days) before the SEO offer. Factors used to calculate the Discount are taken from the New Issues, Thomson One Banker and Datastream.
CAR	CAR (−1,1) represents the cumulative abnormal returns over three event days, where returns are calculated using the market model with the value-weighted index as the market index in a given country and the MSCI ACWI index as the world market index. Factors used to calculate the CAR are taken from Datastream.
CSR proxies	
CSR	A measure of the overall CSR performance of a firm, which is composed of the equally weighted environmental and social scores. Taken from ASSET4 ESG, Datastream.

(Continues)

Variable	Variable definition
CSRD	CSRD is an indicator variable equal to 1 if a firm receives a CSR performance rating in a given year, and 0 otherwise.
ENV	A measure of the environmental performance which is the weighted average relative rating of a company based on the reported environmental information and the resulting three environmental category scores: emissions, innovation and resource use. Taken from ASSET4 ESG, Datastream.
SOCIAL	A measure of the social performance, which is the weighted average relative rating of a company based on the reported social information and the resulting four social category scores: community, human rights, product responsibility, and workforce, taken from ASSET4 ESG, Datastream.
CG	A measure of the governance performance, which is the weighted average relative rating of a company based on the reported governance information and the resulting three governance category scores: governance members, CSR strategy, management and shareholders. Taken from ASSET4 ESG, Datastream.
Manda	Dummy variable equal to 1 if a firm is mandated to disclose a CSR report by the local regulatory authority in a given year and 0 otherwise.
Other control variables	
Q	Tobin's Q, defined as the sum of the book value of total assets minus book value of equity plus common shares outstanding multiplied by the year-end closing stock price divided by total assets, all at the year-end before the SEO filing date. Taken from Datastream.
Lev	The ratio of book value of total debt over book value of total assets at the year-end before the SEO filing date. Taken from Datastream.
Size	The natural logarithm of market capitalisation of a firm at the year-end before the filing date, taken from Datastream. Market capitalisation is equal to market price year end times common shares outstanding, where market price year end represents the closing price of the firm's stock at the 31 December for US firms. For non-US firms, it represents the closing price of the firm's stock at their fiscal year end.
Tangibility	The ratio of property, plant, and equipment (PPE) to total assets, all at the year-end before the SEO filing date. Taken from Datastream.
ROA	Earnings before interests and taxes (EBIT) over total assets, all at the year-end before the SEO filing date. Taken from Datastream.
Volatility	The standard deviation of the daily stock return (calculated by the official closing price) during the trading period $(-90, -11)$ before the SEO filing date (trading day 0). Taken from Datastream.
Analyst	The natural logarithm of the number of analysts providing firm earnings forecasts in the year before the SEO filing date (trading day 0). Taken from Datastream.
Cross	A dummy variable is equal to 1 if a firm cross-listed on multiple stock exchanges, and 0 otherwise. Source: Thomson One Banker and Datastream and authors' identification.
MultiB	An indicator variable equals 1 if the SEO issuer has more than one book-runner, and 0 otherwise. The data on book-runners is extracted from the New Issues, Thomson One Banker.

(Continues)

Variable	Variable definition
Proceeds	The natural logarithm of the number of shares issued multiplied by the offer price. This variable measures the issue size and controls for economies of scale in security issuance, and is taken from the New Issues, Thomson One Banker.
RelativeProceeds	The total SEO proceeds amount ($ Million) divided by the market capitalisation before SEO issuance ($ Million), where market capitalisation is the product of the total number of a firm's outstanding shares before equity offering and the closing price 1 day before the SEO issuance. Factors used to calculate the relative size of SEO proceeds are extracted from the New Issues, Thomson One Banker.
Lockup	A dummy variable assigned a value of 1 if an SEO issuer conducted a lockup agreement, and 0 otherwise. The data on lockup is extracted from the New Issues, Thomson One Banker.
Market_runup	The price run-up in the country market index during the pre-announcement 3-month trading period as measured by its cumulative return. Factors used to calculate the Sentiment are taken from Datastream.
Stock_runup	The common stock's price run-up over the 3-month pre-announcement period as measured by its cumulative return. Factors used to calculate the Sentiment are taken from Datastream.
Boardsize	The natural logarithm of the total number of directors in the boardroom, taken from Datastream.
Independence	The percentage of independent directors in the boardroom, taken from Datastream.
%Secondary	The ratio of secondary shares to primary shares offered in an SEO, extracted from the New Issues, Thomson One Banker.