Corporate Social Responsibility and Firm Risk: Theory and Empirical Evidence

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“Valuation Risk and Asset Pricing, (with Martin Eichenbaum, Victor Luo and Sérgio Rebelo). Journal of Finance, Vol. 71, pp. 2861-2903, December 2016.
“The Value of Control and the Costs of Illiquidity,” (with Enrique Schroth). Journal of Finance, Vol. 70(4), pp. 1405-1455, August 2015.

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"Information, Innovation, and Investment Timing" (with Joril Maeland), 2016, Review of Corporate Finance Studies, 5:2, 166-199.
"The Euro and Corporate Financing before the Crisis" (with Arturo Bris and Mattias Nilsson), 2014, Journal of Financial Economics, 114, 554-575.

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Lei Z, Zhang C (2016). Leveraged buybacks. Journal of Corporate Finance, 39, 242-262.

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ABSTRACT

- This paper presents an industry equilibrium model where firms have a choice to engage in corporate social responsibility (CSR) activities.
- We model CSR as an investment to increase product differentiation that allows firms to benefit from higher profit margins.
- The model predicts that CSR decreases systematic risk and increases firm value and that these effects are stronger for firms with high product differentiation.
- We find supporting evidence for our predictions.We address a potential endogeneity problem by instrumenting CSR using data on the political affiliation of the firm's home state.

1.Introduction

Background

CSR has long been a strategic concern for corporations around the world. *The Economist* concluded already in 2008 (Franklin 2008,p. 13) that " it is almost unthinkable today for a big global corporation to be without one."

CSR's increased popularity inside boardrooms has outpaced the research needed to justify it. Specifically, the mechanisms through which CSR may affect firm value are not fully understood.

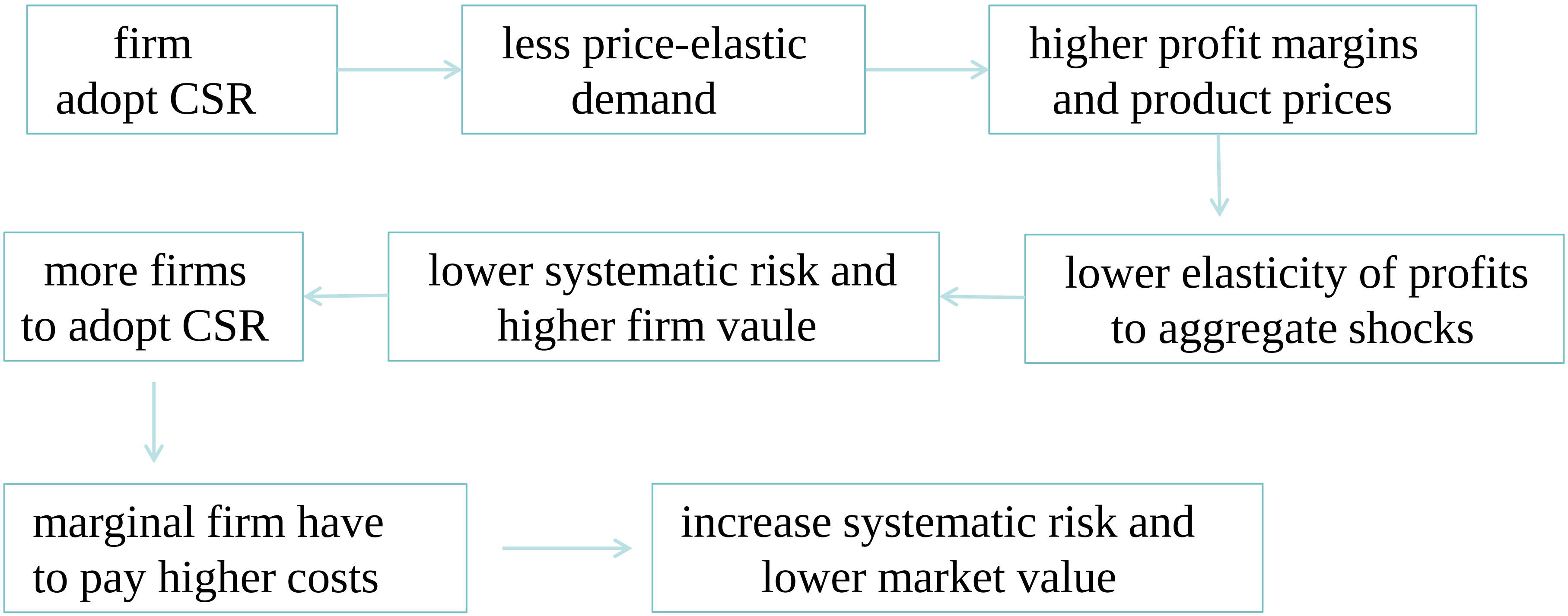
Questions

Does CSR affect systematic risk？ How is firm value affected? Is the effect of CSR on firm risk and value different across firms?

Specific methods

- We develop an industry equilibrium model where firms choose to adopt a CSR or a non-CSR production technology and embed the choice of technology within a standard asset-pricing framework.
- Firms are heterogenous in their adoption cost of the CSR technology, so that firms with lower costs are more likely to do it.
- We model the adoption of CSR technology as a firm's investment to increase product differentiation.

The industry equilibrium model



We show that the relative strength of these two effects depend on <u>consumers' expenditure share on CSR goods.</u>

Assuming small enough expenditure share on CSR goods, the model predictions are that CSR firms have lower systematic risk and higher firm value and that these effects are larger in firms with lower price elasticity of demand or greater product differentiation.

Empirical Research

Data Set : MSCI's ESG Research database on firm-level CSR

The sample : US. firms from 2003 to 2015 ; 28,578 firm-year observations

- We construct an overall CSR score that combines information on the firm's performance across community, diversity, employee relations, environment, product, and human rights attributes.
- We estimate firm systematic risk using the CAPM model as in our theory. Using the estimated betas as our dependent variable.
- We proxy product differentiation with advertising expenditures and proxy firm value with Tobin's Q.

2.Related Literature

1）CSR is a product differentiation strategy.

Luo and Bhattacharya (2006, 2009) have argued that CSR increases customer loyalty, leading to firms having more pricing power.

Direct evidence for this is observed in the ability of firms to sell more or at higher prices those products that have CSR features (see e.g., Creyer and Ross 1997, Auger et al. 2003,Pelsmacker et al. 2005, Elfenbein and McManus 2010, Elfenbein et al. 2012, Ailawadi et al. 2014, Hilger et al.2018).

Flammer (2015a) provides indirect evidence for CSR as a product differentiation strategy by showing that U.S. firms respond to tariff reductions that increase competition by increasing their CSR activities.

2）The empirical evaluation of the CSR–firm risk relationship.

Negative association between CSR and firm risk and cost of equity capital (e.g., El Ghoul et al. 2012, Oikonomou et al. 2012)

3）CSR has received scant attention in the theoretical finance literature.

Investors seem to care more about corporate governance than about CSR (Starks 2009). CEOs seem to care more about consumers when they make their CSR choices. (Hayward et al. 2013).

Gollier and Pouget (2014) build a model where socially responsible investors can take over non-CSR companies and create value by turning those into CSR companies but offer no prediction for firm systematic risk.

4）The association between CSR and firm value.

A positive effect between CSR and firm value.(Margolis et al. 2010; Servaes and Tamayo 2013;Flammer 2015b et al).

Krüger (2015) finds a negative effect on stock prices if management is likely to receive private benefits from CSR adoption but a positive effect if CSR policies are adopted to improve relations with stakeholders.

3. The model

3.1 The Model Setup

Consider an economy with a representative investor and a continuum of firms . There are two dates, 1 and 2.

3.1.1. Household Sector.

The representative investor has preferences

$$U(C_1, C_2) = \frac{C_1^{1-\gamma}}{1-\gamma} + \delta E\left[\frac{C_2^{1-\gamma}}{1-\gamma}\right]. \qquad (1)$$

The relative risk aversion coefficient is $\gamma > 0$,

The parameter $\delta < 1$ is the rate of time preference.

goods
- CSR goods (G) ⟶ Low elasticity of substitution goods
- non-CSR goods (P) ⟶ High elasticity of substitution goods

A convenient analytical way to model differences in the elasticity of substitution across goods is to use the Dixit–Stiglitz aggregator.

$$C_2 = \left(\int_0^{\mu} c_i^{\sigma_G}\, di\right)^{\alpha/\sigma_G} \left(\int_{\mu}^{1} c_i^{\sigma_P}\, di\right)^{(1-\alpha)/\sigma_P}.$$

σj : the elasticity of substitution goods.($0 < \sigma j < 1$)

A lower elasticity of substitution implies lower price elasticity of demand and a more loyal demand.

α : the share of expenditures allocated to CSR goods.

μ: the fraction of CSR firms that is determined in equilibrium.

Investor optimization is subject to two budget constraints.

At date 1, the investor is endowed with stocks and with cash W1 > 0; The investor decides on the date 1 consumption, C_1 ; stock holdings, D_i ; and the total amount of lending to firms, B, subject to the date 1 budget constraint, and given the stock prices Q_i and the interest rate r .

$$\int_0^1 Q_i \, di + W_1 \geq C_1 + \int_0^1 Q_i D_i \, di + B, \qquad (2)$$

The investor decides on the date 2 consumption, c_i , subject to the budget constraint

$$W_2 \equiv \int D_i(\pi_i - F_i) \, di + wL + B(1+r) \geq \int p_i c_i \, di. \quad (3)$$

π_i is the operating profit generated by firm i , and F_i is a cash outlay to be specified later so that π_i - F_i is the net profit. Consumer's wealth at date 2 is W_2 denoted by , ω is the wage rate, L is the amount of labor inelastically supplied, and P_i is the price of good .

3.1.2. Production Sector.

Date 1

Firms choose which production technology to invest in. The decision is based on expected operating profitability and fixed adoption costs.

Firm $\boldsymbol{i}$ faces a cost of τ_{Gi} if it chooses to invest in the CSR technology and a cost $\tau_P > 0$ if it chooses the non-CSR technology.

The distribution of costs τ_{Gi} across firms is uniform and takes values between 0 and 1.

Firm $\boldsymbol{i}$ finances τ_i by raising debt B_i.

Date 2

Firm $\boldsymbol{i}$ = G, P chooses how much to produce of its good, χ_i to maximize operating profits. Firms act as monopolistic competitors, solving

$$\pi_i = \max_{x_i}\{p_i(x_i)x_i - wl_i\}, \qquad (4)$$

subject to the equilibrium inverse demand function $P_i(X_i)$ as well as the constant returns to scale production technology,

$$l_i = Ax_i. \qquad (5)$$

A, the aggregate productivity shock.Production of one unit of output requires A units of labor input. High productivity is characterized by low values of A.

In all, net profits for a non-CSR firm are $\pi_\mathrm{p} - \tau_p(1+r)$, whereas net profits for a CSR firm are $\pi_G - \tau_{Gi}(1+r)$.

3.1.3. Market Clearing.

At date 1

asset markets clear, $D_i = 1$, for all i, and $\bar{B} = \int_0^1 B_i \, di$.

At date 2

goods markets clear, $x_i = c_i$, for all i,

the labor market clears, $\int_0^1 l_i \, di = \bar{L}$.

3.2. Equilibrium

3.2.1. Date 2 Equilibrium.

Consider the date 2 investor optimization problem: $\max_{c_l} \frac{C_2^{1-\gamma}}{1-\gamma}$,

subject to the budget constraint, $W_2 = \int_0^1 p_i c_i \, di.$

The demand functions for CSR goods and non-CSR goods are, respectively,

$$c_l = \alpha \frac{p_l^{1/(\sigma_G - 1)}}{\int_0^{\mu} p_i^{\sigma_G/(\sigma_G - 1)} \, di} W_2, \quad (6) \quad \text{all } 0 \le l \le \mu,$$

$$c_k = (1-\alpha) \frac{p_k^{1/(\sigma_P - 1)}}{\int_{\mu}^{1} p_i^{\sigma_P/(\sigma_P - 1)} \, di} W_2. \quad (7) \quad \text{all } \mu \le k \le 1.$$

Firms act as a monopolistic competitors and choose xi according to Equation (4) subject to the inverse demand functions pi(xi) derived from (6) or (7).

$$\pi_i = \max_{x_i} \{p_i(x_i)x_i - wl_i\}, \qquad (4)$$

$$l_i = Ax_i. \qquad (5)$$

The first-order conditions are

$$\sigma_G p_l = wA, \quad \sigma_P p_k = wA.$$

Using these first-order conditions, we get the optimal value of operating profits,

$$\pi_j = (1 - \sigma_j)p_j x_j. \qquad (8)$$

Goods with lower elasticity of substitution σ_j , that is, goods with more loyal demand, allow producers to extract higher profits per unit of revenue, all else equal.In our model, the profit margin is directly tied to the elasticity of substitution and hence to CSR.

Proposition 1.

For any interior value of μ and any aggregate shock A, a symmetric date 2 equilibrium exists , and is unique with goods prices,

$$p_P = \bar{p},$$

where

$$\bar{p} = (\alpha\mu^{(1-\sigma_G)/\sigma_G})^{\alpha}((1-\alpha)(1-\mu)^{(1-\sigma_P)/\sigma_P})^{(1-\alpha)}\left(\frac{\sigma_P}{\sigma_G}\right)^{-\alpha}.$$

$$\boxed{\sigma_G p_l = wA, \quad \sigma_P p_k = wA.}$$

$$\frac{p_P}{p_G} = \frac{\sigma_G}{\sigma_P}, \longrightarrow p_G = \bar{p}\frac{\sigma_P}{\sigma_G},$$

Prices are constant with respect to the aggregate shock, and there is a CSR-price premium, $p_G > p_P$, because $\sigma_G < \sigma_P$.

consumption,

$$c_G = \frac{\sigma_G}{\sigma_P}\bar{x}\frac{\alpha}{\mu}A^{-1},$$

$$c_P = \bar{x}\frac{1-\alpha}{1-\mu}A^{-1},$$

wage rate, $w = \bar{p}A^{-1}\sigma_P$, *operating profits,*

$$\pi_G = \bar{p}\bar{x}(1-\sigma_G)\frac{\alpha}{\mu}A^{-1},$$

$$\pi_P = \bar{p}\bar{x}(1-\sigma_P)\frac{1-\alpha}{1-\mu}A^{-1},$$

where

$$\bar{x} = \frac{L\sigma_P}{\alpha\sigma_G + (1-\alpha)\sigma_P}.$$

3.2.2. Date 1 Equilibrium.

To solve for the date 1 equilibrium, we need to determine the rate used by the representative investor to discount future profits. Imposing the equilibrium conditions, the date 1 budget constraint gives $C_1 = W_1 - B$, so that the inter-temporal marginal rate of substitution, or stochastic discount factor, becomes

$$m \equiv \delta \left(\frac{C_2}{C_1} \right)^{-\gamma} = \bar{m} [\bar{p} \bar{x}]^{-\gamma} A^{\gamma}, \qquad (9)$$

where $\bar{m} = \delta (W_1 - B)^{\gamma}$. States of the world with low productivity (high A) and, therefore, have higher m.

The date 1 equilibrium has the familiar pricing conditions for bonds,

$$1 = E[m(1 + r)], \qquad (10)$$

and for stocks,

$$Q_i = E[m \pi_i] - \tau_i. \qquad (11)$$

Firms choice problem is to solve $\max\{Q_G, Q_P\}$.

In equilibrium, if there is an interior solution for μ, the price of the marginal CSR firm, Q_G^*, has to equal the price of the non-CSR firm, $Q_P = Q_G^*$.

This equality determines the cutoff cost τ_G^* at which the marginal firm is indifferent between investing or not investing in CSR:

$$E[m\pi_G] - \tau_G^* = E[m\pi_P] - \tau_P. \qquad (12)$$

At an interior solution for μ, infra-marginal CSR firms with $\tau_{Gi} < \tau_G^*$ have stock prices higher than Q_G^* because π_G is equal for all CSR firms.

Given an equilibrium threshold level τ_G^*, the equilibrium mass of CSR firms is

$$\mu = \int_0^{\tau_G^*} di = \tau_G^*.$$

In equilibrium $Q_P = Q_G^*$. so that firm values are equal for the marginal CSR firm and all non-CSR firms.

Because the value of the marginal CSR firm is $Q_G^* = E(m\pi_G) - \tau_G^*$ and infra-marginal CSR firms have lower costs of adopting the CSR technology, that is, $\tau_{Gi} < \tau_G^*$. Thus, firm values have to be higher for the infra-marginal firms, that is, $Q_{Gi} = E(m\pi_G) - \tau_{Gi} \geq Q_G^* = Q_P$.

The next proposition states that the proportion of CSR firms is related to the expenditure share on CSR goods, when an equilibrium exists.

Proposition 2.

At an interior equilibrium for μ, the proportion of CSR firms in the industry is

$\mu < \tau_P$ *iff* $\alpha < \bar{\alpha}$, *where*

$$\bar{\alpha} = \frac{(1-\sigma_P)\tau_P}{1-\sigma_G-\tau_P(\sigma_P-\sigma_G)}.$$

Moreover, the constant $\bar{\alpha}$ *is increasing in* σ_G

The constant $\bar{\alpha}$ is the expenditure share at which $\mu = \tau_P$. Any expenditure share ($\alpha < \bar{\alpha}$,) leads to a proportion $\mu < \tau_P$. that is $\tau_G^* < \tau_P$.

4. CSR and Risk in Equilibrium

4.1. Profitability and Aggregate Shocks

Consider the elasticity of net profits to the aggregate shock for a generic firm j :

$$\frac{d\ln(\pi_j - \tau_j(1+r))}{d\ln A^{-1}} = \frac{\bar{\eta}\bar{p}\bar{x}(1-\sigma_j)(\alpha_j/\mu_j)A^{-1}}{\bar{p}\bar{x}(1-\sigma_j)(\alpha_j/\mu_j)A^{-1} - \tau_j(1+r)}.$$

We compute the elasticity with respect to A^{-1} so that the elasticity is positive (recall that a high value of A^{-1} corresponds to an economic upturn.)

The sensitivity of firms' profits to aggregate shocks depends on σ_j. The partial derivative with respect to σ_j is positive, implying that a firm facing a lower the elasticity of substitution goods (price elasticity of demand) has profits that are less sensitive to aggregate shocks.

Proposition 3.

Define the ratio of net profits evaluated at the marginal CSR firm:

$$R_\pi \equiv \frac{\pi_G - \tau_G^*(1+r)}{\pi_P - \tau_P(1+r)}.$$

$R_\pi > 1$ and is increasing with A iff $\alpha < \bar{\alpha}$.

For a sufficiently small expenditure share in CSR, $\alpha < \bar{\alpha}$; that is, for $\mu < \tau_P$, net profits of CSR firms relative to the profits of non-CSR firms are countercyclical.

The model also predicts that operating profits of CSR firms are lower than operating profits of non-CSR firms; that is, $\pi_G < \pi_P$ iff $\alpha < \bar{\alpha}$, . It is important to note that while operating profits are lower for CSR firms, net profits are larger; that is, $\pi_G - \tau_G(1+r) > \pi_P - \tau_P(1+r)$ when $\alpha < \bar{\alpha}$.

4.2. CSR and Systematic Risk

Proposition 4.

Consider firm j's market $\beta_j = \text{Cov}(r_j, r_M)/\ \text{Var}(r_M)$. *We have*

$$\beta_j = \frac{(1-\sigma_j)\alpha_j}{(1-\sigma_G)\alpha + (1-\sigma_P)(1-\alpha)} \frac{1}{\mu_j \omega_j}.$$

At an interior solution for μ, $\beta_P > \beta_G^*$ *iff* $\bar{\alpha} > \alpha$. *Keeping* μ *constant,* β_j *increases with* σ_j.

In such an equilibrium ($\alpha < \bar{\alpha}$) . The marginal CSR firm has lower β than a non-CSR firm. In addition, because for any infra-marginal CSR firm j, $Q_j \geq Q_G^*$ for any infra-marginal CSR firm j, then $\beta_j \leq \beta_G^* < \beta_P$.

Therefore, if $\mu \leq \tau_P$, then the average CSR firm has lower market β than the average non-CSR firm.

5. Data Description

CSR score : community, diversity, employee relations, environment, product, and human rights attributes.

CSR = the number of strengths - the number of concerns.

Given that the number of individual concerns and strengths in each attribute changes over time, we construct two normalized measures of CSR to ensure comparability.

$$CSR1 = \frac{\sum \text{优势数量}}{\text{最大优势数量} + \text{最大劣势数量}} - \frac{\sum \text{劣势数量}}{\text{最大优势数量} + \text{最大劣势数量}}$$

$$CSR2 = \frac{\sum \text{优势数量}}{\text{最大优势数量}} - \frac{\sum \text{劣势数量}}{\text{最大劣势数量}}$$

Table 10 List of the strength and concern items in the KLD database

KLD inclusive social ratings		
Category	Strength items	Concern items
Community	Generous giving	Investment controversies
	Innovative giving	Negative economic impact
	Support for Housing	Indigenous peoples relations (2000–2001)
	Support for education (added 1994)	Other concern
	Indigenous peoples relations (added '00, moved '02)	
	Non-U.S. charitable giving	
	Other strength	
Environment	Beneficial products & services	Hazardous waste
	Pollution prevention	Regulatory problems
	Recycling	Ozone depleting chemicals
	Alternative fuels	Substantial emissions
	Communications (added '96)	Agricultural chemicals
	Property, plant, and equipment (ended 1995)	Climate change (added 1999)
	Other strength	Other concern

To construct an estimate of systematic risk that proxies our model' s main variable, we use the CAPM model and run the following time series regression for every stock i in year t using daily data:

$$r_{i,s} - r_s = h_i + \beta_i (r_{M,s} - r_s) + \varepsilon_{i,s}, \qquad (13)$$

where $r_{i,s}$ is the return for stock i in day s, r_s is the one-month T-bill rate in day s transformed into a daily rate,

and $r_{M,s}$ is the return on the CRSP value-weighted index in day s.

The value of systematic risk for stock i at year t is taken to be the estimated value of β_i.

6. Empirical Results

6.1. Empirical Strategy

- ✓ Control variables: Leverage(long-term debt to assets), size (log of assets), and earnings variability , R&D expenditure, cash holdings, operating leverage, advertising expenditures, CAPEX, and state corporate tax rate.
- ✓ All independent variables are lagged by one year.
- ✓ We proxy product differentiation with advertising expenditures.

6.2. CSR and Risk

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable			Firm beta			
CSR variable included in the regression	CSR1	CSR2	CSR1	CSR2	CSR1	CSR2
lagged CSR variable	−0.945***	−0.403***	−0.377***	−0.139*	−0.227	−0.070
	(−5.681)	(−4.836)	(−2.790)	(−1.957)	(−1.557)	(−0.902)
lagged advertising × lagged CSR					−9.828***	−4.949**
					(−2.627)	(−2.396)
lagged advertising			−0.552***	−0.567***	−0.522***	−0.582***
			(−2.915)	(−2.993)	(−2.833)	(−3.112)
lagged operating leverage			−0.018	−0.018	−0.017	−0.017
			(−1.204)	(−1.200)	(−1.179)	(−1.178)
lagged R&D			0.635***	0.630***	0.637***	0.631***
			(5.106)	(5.046)	(5.106)	(5.046)
lagged leverage			0.133**	0.135**	0.134**	0.135**
			(1.998)	(2.026)	(2.016)	(2.040)
lagged CAPEX			0.216	0.213	0.218	0.214
			(1.449)	(1.426)	(1.461)	(1.434)
lagged cash			0.015**	0.015**	0.015**	0.015**
			(2.236)	(2.221)	(2.253)	(2.240)
lagged size			−0.035***	−0.037***	−0.035***	−0.036***
			(−3.837)	(−4.072)	(−3.836)	(−4.056)
lagged earnings variability			0.042***	0.043***	0.042***	0.042***
			(6.822)	(6.848)	(6.805)	(6.833)
lagged diversification			−0.004	−0.004	−0.004	−0.004
			(−0.970)	(−0.966)	(−0.982)	(−0.968)
lagged state tax			−0.202	−0.205	−0.211	−0.213
			(−1.473)	(−1.495)	(−1.541)	(−1.556)
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of firm-years	28,578	28,578	25,073	25,073	25,073	25,073
Adj. R^2	0.135	0.133	0.188	0.187	0.188	0.188

6.3. Endogeneity in the CSR–Risk Relation

Endogeneity problem: financially constrained; reverse causality.

To alleviate these concerns:

We deal with endogeneity by instrumenting for CSR. The instrument we use is the political affiliation of the state where the company is headquartered.

The instrument we use builds on a literature that argues that democratic-leaning voters tend to care more about CSR issues. When the electorate is more Democratic, companies may be more susceptible to pressure from activists to adopt CSR policies .

Specifically, we use the following variables to instrument for CSR:

(1) President vote, democrats (the proportion of votes in each state received by the Democratic candidate for president;)

(2) Congress, democrat captures House and Senate Democratic representation from each state;

It's equal to 0.5 × proportion of Senators who are Democrats + 0.5 × proportion of Congressmen who are Democrats from a particular state.

(3) State government, *Democrats* captures state chambers' representation by Democrats.

It's equal to 0.5 × dummy if a governor is a Democrat + 0.25 × dummy if upper chamber is controlled by Democrats + 0.25 × dummy if lower chamber is controlled by Democrats.

Table 3. IV Regressions for Firm Beta

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	CSR1	Firm beta	CSR2	Firm beta	CSR1	Firm beta	CSR2	Firm beta
Regression stage	First stage	Second stage	First stage	Second stage	First stage	Second stage	First stage	Second stage
President vote, Democrats	0.037^{***}		0.074^{***}		0.062^{***}		0.127^{**}	
	(3.201)		(3.189)		(3.011)		(2.373)	
Congress, Democrats	0.008^{***}		0.013^{**}		0.002		0.000	
	(2.635)		(2.334)		(0.313)		(0.006)	
State government, Democrats	-0.004^{***}		-0.007^{***}		-0.005^{***}		-0.010^{***}	
	(−2.777)		(−2.917)		(−3.749)		(−4.149)	
instrumented CSR		−0.706		−0.419		−1.239		−0.675
		(−0.623)		(−0.707)		(−0.570)		(−0.580)
instrumented CSR × lagged advertising		-20.482^{**}		-9.088^{*}		-28.349^{***}		-16.422^{***}
		(−2.181)		(−1.821)		(−2.785)		(−2.680)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No	No	No
Number of firm-years	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Adj. R^2	0.216	0.204	0.185	0.204	0.192	0.158	0.144	0.158
Weak instruments test, F-stat.	20.380		19.341		17.758		15.302	

6.4. Firm Value and CSR

Table 4. Tobin's Q Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable			Tobin's Q			
CSR variable included in the regression	CSR1	CSR2	CSR1	CSR2	CSR1	CSR2
lagged CSR variable	0.894*	0.531**	2.362***	1.016***	1.821***	0.725***
	(1.806)	(2.032)	(5.898)	(5.107)	(4.687)	(3.626)
lagged advertising × lagged CSR					35.611**	20.557***
					(2.536)	(2.743)
lagged advertising			4.413***	4.477***	4.304***	4.538***
			(4.784)	(4.849)	(4.796)	(5.038)
lagged operating leverage			0.004	0.004	0.003	0.003
			(0.141)	(0.133)	(0.094)	(0.085)
lagged R&D			3.917***	3.945***	3.912***	3.939***
			(9.195)	(9.259)	(9.208)	(9.275)
lagged leverage			−0.006	−0.014	−0.009	−0.016
			(−0.049)	(−0.122)	(−0.076)	(−0.146)
lagged CAPEX			1.877***	1.890***	1.871***	1.885***
			(5.274)	(5.288)	(5.244)	(5.257)
lagged cash			0.116***	0.117***	0.116***	0.116***
			(5.569)	(5.581)	(5.537)	(5.543)
lagged size			−0.100***	−0.093***	−0.101***	−0.093***
			(−7.787)	(−7.402)	(−7.840)	(−7.486)
lagged earnings variability			−0.049***	−0.050***	−0.048***	−0.049***
			(−5.882)	(−5.988)	(−5.802)	(−5.912)
lagged diversification			−0.016**	−0.016**	−0.016**	−0.016**
			(−2.029)	(−2.022)	(−2.028)	(−2.039)
lagged state tax			−0.105	−0.094	−0.074	−0.062
			(−0.205)	(−0.182)	(−0.145)	(−0.121)
Year and industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Number of firm-years	28,578	28,578	25,073	25,073	25,073	25,073
Adj. R^2	0.168	0.169	0.287	0.286	0.288	0.287

Table 5. IV Regressions for Tobin's Q

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dependent variable	CSR1	Tobin's Q	CSR2	Tobin's Q	CSR1	Tobin's Q	CSR2	Tobin's Q
Regression stage	First stage	Second stage	First stage	Second stage	First stage	Second stage	First stage	Second stage
President vote, Democrats	0.037***		0.074***		0.062***		0.127**	
	(3.201)		(3.189)		(3.011)		(2.373)	
Congress, Democrats	0.008***		0.013**		0.002		0.000	
	(2.635)		(2.334)		(0.313)		(0.006)	
State government, Democrats	−0.004***		−0.007***		−0.005***		−0.010***	
	(−2.777)		(−2.917)		(−3.749)		(−4.149)	
instrumented CSR		2.639		1.347		0.103		0.040
		(0.661)		(0.647)		(0.017)		(0.013)
instrumented CSR × lagged advertising		110.872**		63.905***		101.750*		66.444**
		(2.505)		(3.014)		(1.959)		(2.303)
Firm controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	No	No	No	No
Number of firm-years	24,000	24,000	24,000	24,000	24,000	24,000	24,000	24,000
Adj. R^2	0.216	0.311	0.185	0.311	0.192	0.282	0.144	0.282
Weak instruments test, *F*-stat.	20.380		19.341		17.758		15.302	

6.5. CSR and Cyclicality of Profits

Table 6. Profitability Regressions

	(1)	(2)	(3)	(4)
Dependent variable		Change in ROA		
CSR variable included in the regression	CSR1	CSR2	CSR1	CSR2
CSR variable	0.011	0.005	0.007	0.004
	(0.992)	(0.944)	(0.746)	(0.866)
CSR × GDP growth	−0.016**	−0.009***	−0.017***	−0.009***
	(−2.052)	(−2.590)	(−2.610)	(−3.354)
lagged advertising			−0.004	−0.004
			(−0.273)	(−0.275)
lagged operating leverage			0.002*	0.002*
			(1.919)	(1.918)
lagged R&D			0.061***	0.061***
			(2.726)	(2.722)
lagged leverage			0.014***	0.014***
			(2.880)	(2.881)
lagged CAPEX			−0.074***	−0.073***
			(−3.291)	(−3.279)
lagged cash			−0.004***	−0.004***
			(−5.725)	(−5.735)
lagged size			−0.000	−0.000
			(−0.167)	(−0.191)
lagged earnings variability			0.000	0.000
			(0.333)	(0.334)
lagged diversification			0.000	0.000
			(1.016)	(1.023)
lagged state tax			0.009	0.009
			(0.626)	(0.631)
Year and industry FE	Yes	Yes	Yes	Yes
Number of firm-years	24,300	24,300	21,662	21,662
Adj. R^2	0.021	0.021	0.033	0.033

7. Conclusion

This paper studies a mechanism through which CSR policies affect firms' systematic risk based on the premise that CSR is a product differentiation strategy. CSR decreases systematic risk and increases firm value.

Consumers are important agents in influencing firm policies , in line with recent CEO survey evidence showing that consumers are more important than investors in determining firms' CSR policies.

THANK YOU!