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Abstract

This paper estimates a three-equation structural model based on a theory that relates corporate financial performance (CFP), corporate social performance (CSP), and social pressure. CFP is found to be independent of CSP and decreasing in social pressure, and CSP is independent of CFP and increasing in social pressure. Social pressure is increasing in CSP and decreasing in CFP, which is consistent with social pressure being directed to soft targets. These relations were stronger during the first four years of the Bush administration than the last four year of the Clinton administration. Disaggregating the measure of social pressure indicate that the relations among CFP, CSP, and social pressure are due to private politics and not public politics. For consumer industries greater CSP is associated with better CFP, and the opposite is true for industrial industries.

JEL Classifications: M14, L21

Keywords: corporate social responsibility, economics and politics

I. Introduction

Corporate social responsibility (CSR) has received increased attention from business, the media, and researchers. Empirical studies have examined the relation between CSR and corporate financial performance (CFP), and while the results are mixed, overall the research has found a positive but weak correlation. This paper provides empirical evidence on the relations among CFP, corporate social performance (CSP), and social pressure based on a theory of the underlying economics and politics of CSP. The theory and empirical analysis view CFP and CSP as jointly determined by firms operating in three markets: a product market, a capital market, and a market for social pressure as generated by government, NGOs, and social activists. The theory provides the empirical specification and is also used as a framework to interpret the estimates as an equilibrium in the three markets.

An Economist Intelligence Unit survey, the *Economist*, January 17, 2008, found that 53.5 percent of the responding firms agreed that corporate social responsibility "is a necessary cost of doing business" and 53.3 percent agreed that it "gives us a distinctive position in the market." Only 3.8 percent of the respondents believed that corporate social responsibility was a "waste of time and money." The *Economist* observed, "It is almost unthinkable today for a big global corporation to be without [a CSR policy]." The amount business spends on CSP dwarfs the amount it spends on campaign contributions and lobbying expenditures. Milyo, Primo, and Groseclose (2000) estimated that corporate campaign contributions and lobbying expenditures were $300 million and $3 billion, respectively, whereas charitable contributions alone were $35 billion. Despite the embrace by much of the business community, the relations between social performance, financial performance, and social pressure remain as much a matter of faith and speculation as of evidence, assessment, and calibration. Moreover, interpretations of empirical results vary, and the direction of causation remains an open question. That is, good CSP could cause good CFP, but good CFP could provide slack resources to spend on CSP. As the *Economist* wrote, "Whether profitable companies feel rich enough to splash out on CSR, or CSR brings profits."

Baron (2010) distinguishes between CSP and CSR, where the latter involves a moral duty to undertake social activities. In contrast, CSP need not arise from moral responsibilities. CSP as considered here pertains to social activities that satisfy two conditions. First, the activities are beyond the requirements of the law and regulation.[1] Second, the activities involve the private provision of public goods or private redistribution. CSR implies CSP, but CSP need not be

[1] The *Economist* survey found that 23 percent of the firms agreed that CSR "is meaningless if it includes things that companies would do anyway."

morally motivated, since CSP could be strategically chosen to serve the interests of the firm. CSP could also be a perquisite for management in the sense that managers receive a warm glow from the accolades of the advocates of broadened social performance.

Social pressure could come from government in the form of regulation and enforcement or from NGOs and social activists in the form of boycotts, media campaigns, and harm to a firm's reputation or brand equity. The theory predicts that CFP is decreasing in social pressure, whereas the relation between CFP and CSP depends on preferences; e.g., whether consumers, employees, or investors reward CSP. It also predicts that CSP is increasing in social pressure and also in CFP if CSP is a perquisite for management. The relation between social pressure and CSP depends on which firms are targeted by government and social activists. For some parameter values the theory predicts that activists prefer to target firms that are soft and less likely to resist their demands.

The empirics are based on a three equation, structural model in which firms choose their operating performance and their social performance in the face of social pressure generated by government and social activists, which can depend on the operations and social performance of the firm. The positive effects of CSP on CFP and CFP on CSP found in other empirical studies are due to unobserved firm characteristics, and when firm fixed effects are taken into account, there is no significant relation between CFP and CSP. The relation between CFP as measured by Tobin's Q and CSP is to be understood as an equilibrium relation or "social market line" along which firms are located and has no implications for causality.

The relations between CSP and social pressure and social pressure and CFP are not substantially affected by the introduction of firm fixed effects. Social pressure reduces CFP, and CSP is increasing in social pressure indicating that it is responsive to that pressure. Social pressure is greater the higher is CSP and the worse is CFP. These findings are consistent with targeting soft firms and indicate that firms do not receive relief from government and social activists because of their CSP.[2]

To investigate the relations among CFP, CSP, and social performance in more detail, social pressure is disaggregated into a component judged to be due to public politics (government) and a component due to private politics (NGOs and social activists).[3] CSP is also disaggregated into strategic CSP components that could directly increase revenue or productivity and components that are likely to be a response to social pressure. A five equation, structural model is estimated

[2] As an example of firms not receiving relief, Sarah Connolly of the Freedom From Oil campaign explained the group's demonstrations against Toyota, "Building the Prius does not give Toyota license to mass-produce the Tundra." (*New York Times*, April 7, 2007.)

[3] Baron (2001)(2003) introduces the concept of private politics.

with CFP, public politics social pressure, private politics social pressure, strategic CSP, and responsive CSP as endogenous variables. The pattern of results is consistent with those for the three equation model, but the components of CSP and social pressure have quite different effects. The negative effect of social pressure on CFP is due to private politics and not public politics. Moreover, both strategic and responsive CSP are increasing in private politics social pressure but not in public politics social pressure. In addition, both private and public politics social pressure are independent of strategic CSP, whereas private politics social pressure is increasing in responsive CSP, consistent with the targeting of soft firms. The action thus is in private politics.

Dividing the dataset into consumer and industrial industries reveals that the slope of the social market line for consumer industries is positive (i.e., CFP is increasing in CSP), whereas it is negative for firms in the industrial dataset. This may be due to rewards that are available to firms that sell to consumers and the absence of those rewards for firms that sell to other firms. Disaggregating the data indicates that the difference in the slopes of the market lines is due to responsive CSP and not strategic CSP.

The data period includes the last four years of the Clinton administration and the first four years of the Bush administration. CSP and social pressure were greater during the Bush years than during the Clinton years and CFP was worse. These differences, however, were confounded by large changes in the level of the stock market and by increases in CSP and social pressure over time. Examining the differences in the relations among CFP, CSP, and social pressure between the Clinton and Bush years indicates that during the Bush years an increment to CSP resulted in a significant decrease in CFP relative to the average effect for the data period and hence relative to the Clinton years. In addition, the effect of an increment to social pressure on CSP was heightened during the Bush years, as was the effect of an increment of CSP on social pressure. Although social pressure increased over time, during the Bush years public politics social pressure decreased whereas private politics social pressure increased. This suggests that increased private politics during the Bush years heightened the relations between CSP and social pressure and possibly the relation between CFP and CSP.

The contributions of this paper are fourfold. First, the paper estimates a model based on a theory in which CFP, CSP, and social pressure are endogenous and interprets the estimates as an equilibrium in three markets. The paper finds statistically significant relations between CSP and social pressure and between CFP and social pressure but not between CSP and CFP. Second, in addition to estimating those relations, the paper finds support for three hypotheses—consumers, employees, or investors penalize firms for incurring social pressure, social activist and NGOs choose soft targets to which to direct social pressure, and CSP is responsive to social pressure.

Third, disaggregating CSP and social pressure shows that the relations among CFP, CSP, and social pressure are due to social pressure from private rather than public politics. Fourth, for consumer industries the social market line is increasing in CSP whereas it is decreasing for industrial industries, and the difference is due to responsive CSP and not strategic CSP.

Margolis and Walsh (2003), Griffin and Mahon (1999), Orlinsky, Schmidt, and Rynes (2003), Roman, Hayibor, and Agle (1999), and Vogel (2005) provide surveys of the empirical research on the relation between CSP and CFP and generally conclude that the overall weight of the studies shows a positive but weak correlation between the two components of corporate performance. McGuire, Sundgren, and Schneeweis (1988) and Waddock and Graves (1997) studied the direction of causation between CSP and CFP and concluded that CFP could provide slack resources that could be expended on CSP. Dowell, Hart, and Yeung (2000) and King and Lewis (2001) found that stronger corporate environmental policies were associated with better CFP as measured by Tobin's *Q*. Moon (2007) found no relation between CSP and CFP after controlling for unobserved heterogeneity among firms, and Kotchen and Moon (2008) found that higher levels of negative CSP were associated with higher levels of positive CSP and that this effect was stronger in industries that received public scrutiny. Hamilton (1993, p. 121), Maxwell, Lyon, and Hackett (2001), Epstein and Schneitz (2002), and Binder and Neumayer (2005) have identified the effects of social pressure.

Heinkle, Kraus, and Zechner (2001) showed that if investors are willing to pay a premium for CSP and are in sufficient numbers, a premium for CSP persists in the capital markets. Hong and Kacpercyzk (2007) found that returns on sin stocks are higher than market returns, and Harjoto and Jo (2007) found that CSP activity enhances firm values. Becchetti, Ciciretti, and Hasan (2007) found that firms exiting the Domini 400 Social Index experienced a significant negative abnormal return that persisted.

For the product market Fernández-Kranz and Santaló (2007) found that greater competition was associated with greater CSP and concluded that this is consistent with the theory of strategic corporate social responsibility by Baron (2001)(2006) in which firms engage in social activities because consumers, employees, or investors are willing to reward those activities. Siegel and Vitaliano (2007) found that CSP is used more with experience and credence goods, which supports the concept of strategic CSP.[4] Fisman, Heal, and Nair (2008) present a signaling theory in which CSP provides product differentiation and find that corporate philanthropy is greater with

[4] For example, CSP can provide product differentiation as in Bagnoli and Watts (2003) and Baron (2009a) and could improve recruitment and motivate employees to be more productive or accept lower wages.

higher advertising intensity.[5] This is consistent with the finding of Navarro (1988) that corporate philanthropy is like advertising and is profit motivated.

The next section summarizes the theory and introduces the empirical specification. Section III develops additional hypotheses, Section IV identifies the data, and Section V presents and interprets the empirical results. Section VI explores the robustness of the empirical results, and conclusions are offered in the final section.

II. A Theory of CFP, CSP, and Social Pressure and the Empirical Specification

A. The Theory

The empirical specification is based on a theory by Baron (2007)(2008)(2009a) in which CFP and CSP are jointly chosen by a firm that may face social pressure from government or social activists as considered by Baron (2001) and Baron and Diermeier (2007). The theory also provides a framework for interpreting the empirical results. The theory is based on three interrelated markets: a capital market, a product market in which firms may differentiate their products through CSP, and a market for social pressure. The theory incorporates three sets of decision makers: individuals who consume in the product market, invest in the capital market, and fund social pressure; firms that choose their operations and CSP; and the government, NGOs, and social activists that generate social pressure and select targets.

The theory incorporates possible rewards from consumers, employees, and investors, so the financial performance of a firm can depend on the CSP it chooses. The theory does not provide a single prediction for all parameter values but instead provides predictions of the form: "If investors value CSP, there is a social premium in the market value of the firm that (partially) offsets the cost of CSP." and "If consumers or employees value CSP, profits can be increasing in CSP if the rewards from consumers or employees outweigh the costs of providing CSP." The empirical analysis is thus better viewed as an estimation of the model rather than a test of the theory.

The theory developed by Baron (2009a) includes a continuum of citizens with heterogeneous preferences for social causes, two firms, a capital market and a product market, and an activist NGO that can pressure firms to provide more CSP. Citizens allocate their endowments between savings, consumption, personal giving to social causes, the purchase of shares of firms that do

[5] Feddersen and Gilligan (2001) provide a signaling theory in which a social activist provides a signal to consumers that is correlated with the attributes of a credence good. This allows product differentiation even though the attributes are never observable to consumers. Besley and Ghatak (2007) considered a model in which a subset of caring consumers has a demand for public goods, where firms can provide those goods jointly with private goods.

and do not have CSP, and contributions to an activist to fund the generations of social pressure. In the product market the firms produce otherwise identical products but can use CSP to differentiate (vertically) their products. The activist chooses one firm to target with social pressure, and ex ante a firm can provide CSP intended to induce the activist to target the other firm. The social pressure must be funded by contributions from citizens, which depend on their expectations about the effectiveness of social pressure in inducing CSP.

Citizens are assumed to have warm glow or altruistic preferences for personal giving to social causes and similar preferences with varying intensities for the social performance of firms whose shares they hold. In the capital market they trade shares and can also give personally to social causes, which allows the social activities of a firm to be priced in the capital market.[6] The equilibrium yields an expression for the market value of the firm that is a linear function of the firm's profits from its operations, its social performance, and the social pressure it faces. The market value MV_i of firm *i* is

$$MV_i(O_i, C_i|S_i) = \pi_i(O_i, C_i, S_i) - C_i - H_i(S_i; C_i) + \rho_\theta C_i, \tag{1}$$

where π_i is the cash flow resulting from operations O_i of the firm, its CSP (C_i), and social pressure S_i from social activists and NGOs, $H_i(S_i; C_i)$ is the harm to the firm from social pressure as possibility mitigated by C_i, and $\rho_\theta C_i$ is the capital market premium for the social performance of the firm where ρ_θ is the (endogenous) social rate of return that is determined in the capital market equilibrium and equals the marginal rate of substitution of CSP for social givng.[7] A value-maximizing firm chooses O_i and C_i given S_i to maximize MV_i. Letting $O_i^*(C_i)$ denote the optimal O_i as a function of C_i and C_i^* denote the optimal C_i, the market value of firm *i* is $MV_i^*(O_i^*(C_i^*), C_i^*|S_i)$. The maximization of market value is a maintained hypothesis for firms; i.e., firms do what makes business sense.

Viewed across firms the market values can be expressed as a function of their C_i^*. Assuming a continuum of firms, this establishes the function $MV^*(C^*|S)$ given by

$$MV^*(C^*|S) = \pi(O^*(C^*), C^*|S) - (1 - \rho_\theta)C^* - H(S; C^*), \tag{2}$$

which represents the cross-sectional relation among firms and may be interpreted as a capital market social line. The slope of the social market line is then

[6] Graff Zivin and Small (2005) were the first to show that CSP can be priced in the capital market.
[7] In the equilibrium the firm with CSP attracts a clientele of shareholders for whom CSP is a close substitute for personal giving, whereas those individuals for whom it is a distant substitute do not hold shares of the firm but instead support social causes through personal giving. Although there is no shareholder unanimity in the theory, firms may be thought of as maximizing their market value.

$$\frac{dMV^*(C^*|\hat{S})}{dC^*} = \frac{d\pi}{dC^*} - (1-\rho_\theta) - (\frac{\partial \pi}{\partial S} - \frac{\partial H}{\partial S})\frac{d\hat{S}}{dC^*}, \quad (3)$$

where $\hat{S}$ is the choice of social pressure by government, social activists, and NGOs.

To interpret this relation, suppose that CSP does not affect π or *H*, so the slope of the social market line is $-(1-\rho_\theta)$. If investors view CSP as a perfect substitute for personal giving to social causes, then $\rho_\theta = 1$ and the social market line is constant in C^*. This is a social Modigliani-Miller theorem.[8] If CSP is an imperfect (superior) substitute for personal giving, then $\rho_\theta < (>)1$ and the social market line has a negative (positive) slope. If operating performance π and the harm *H* from social pressure depend on *C*, the social market line could be increasing or decreasing in C^*.

To identify the relation between (1) for an individual firm and the social market line, note that the maximum of (1) for firm *i* yields a point on the market line in (2). The market value $MV_i(O_i, C_i|S_i)$ represents a causal relation, but $MV^*(C^*|S)$ does not. For example, the market value in (1) of an individual firm could be strictly concave in C_i reflecting a causal relation between CSP and rewards in the product, factor, and capital markets. Thus, each firm can be maximizing its market value, and the social market line traces out the equilibrium relation between market values and the optimal CSP across firms. This is illustrated in the figures presented later in the paper.

The product market theory predicts that if consumers value CSP, firms will separate with some supplying CSP and catering to a clientele with high valuations for CSP and the others supplying no CSP and catering to a clientele with low valuations. The first set of firms have high costs and extract rewards through high prices, whereas the second set of firms have low costs and extract rewards by attracting with lower prices consumers who are unwilling to pay the higher prices. Moreover, as shown in Baron (2009a) a firm that supplies no CSP could have higher profits than a firm that has positive CSP. This implies that there may be no cross-sectional relation between CFP and CSP in an equilibrium even though there may be a causal relation for individual firms.

In addition, firms could undertake CSP because managers have (e.g., warm glow) preferences for those activities. That is, social activities can be perquisites for managers. Measures of CFP, managerial entrenchment, and external monitoring of management are used in the empirical analysis to evaluate a perquisites hypothesis.

[8] In the Modigliani-Miller theorem neither consumers, employees, nor investors have a preference for corporate debt, whereas in the social Modigliani-Miller theorem they can have a preference for CSP.

Social pressure could directly affect market value by driving some investors away from the firm or could affect profits by damaging brand equity or reputation. Baron (2001)(2009a) and Baron and Diermeier show that a firm may engage in social activities to make itself a less attractive target for social pressure from NGOs and activists. In contrast, an activist seeking to increase aggregate CSP may target firms that are more likely to respond to pressure. The theory predicts that (1) an activist can have an incentive to direct private politics pressure to a soft firm, where soft is defined as having weak incentives to resist pressure, and (2) sufficient CSP could lead an activist to target another firm with less CSP.

B. Empirical Specification

The theory yields three structural equations plus a capital market clearing condition that establishes the market value of firms as in (1). One equation corresponds to the choice of operations by a firm, and a second corresponds to its choice of CSP activities. The third structural equation corresponds to the choice of social pressure implemented through public politics (government) and private politics (NGOs and social activists). The capital market clearing condition allows the elimination of one of the structural equations for the firm. Since data are not available on prices and quantities, the operations equation cannot be estimated and hence is eliminated with controls used for aspects of operations. A three equation system thus is estimated. One equation represents the financial performance of firms as evaluated by the capital market, another represents the choice of CSP, and the third represents the choice of social pressure. The empirical specification is:

$$Q_{it} = \theta_0 + \theta_1 C_{it} + \theta_2 S_{it} + f_i + X'_{it}\theta_3 + \epsilon_{it} \quad (4)$$

$$C_{it} = \alpha + \beta S_{it-1} + \rho Q_{it-1} + g_i + X'_{it}\zeta + u_{it} \quad (5)$$

$$S_{it} = \gamma + \delta C_{it-1} + \phi Q_{it-1} + h_i + X'_{it}\tau + v_{it}, \quad (6)$$

where it identifies firm *i* in period *t*, $Q_{it} = \dfrac{MV_{it}}{TA_{it}}$ where TA_{it} is the firm's total assets, f_i, g_i, and h_i are fixed effects, X_{it} denotes the matrix of observations of the control variables, ϵ_{it}, u_{it}, and v_{it} are disturbances, and the Greek letters denote parameters. The control variables pertain to the operations of the firm, its governance structure, and the monitoring of management by the capital markets. The capital market clearing condition in (4) is a cross-sectional relation, whereas (5) and (6) have a dynamic structure and a causal interpretation, since they represent the sequential choices by the firm and by government, social activists, and NGOs.

The capital market clearing condition is based on all contemporaneous information, so (4) is specified as a function of operations and contemporaneous CSP and social pressure. The *C* and *S* equations in (5) and (6) are specified in terms of lagged variables because the choice of CSP by

the firm and the choice of social pressure by social activists and government depend on the state of the system at the end of the previous period, as in a sequential equilibrium. The Q, C, and S variables should be thought of as endogenous state variables that along with contemporaneous factors influence the operations and social activity choices of the firm and the choices by social activists and government.[9] That is, firm i observes S_{it-1} and its own financial situation Q_{it-1} and then chooses its CSP to maximize its market value (or Q_{it}), where MV_{it} in (1) incorporates all information relevant to the future performance of the firm. This yields an optimal choice C^*_{it}. Similarly, the government and social activists observe (C_{it-1}, Q_{it-1}) as well as the operations of firms and then choose their targets and the intensity of their social pressure. For example, social activists can be thought of as maximizing C_{it+1} by choosing S_{it} conditional on the states (C_{it-1}, Q_{it-1}) of the firms. Because the choices of CSP and social pressure are made sequentially, there is no market clearing condition for CSP and social pressure.

The CSP and social pressure equations have no endogenous variables on the right side, so only the Q equation requires identification. That equation has three excluded variables: lagged CSP, lagged social pressure, and lagged Q. In the estimation the lagged variables are viewed as predetermined with respect to current variables and are assumed to be uncorrelated with all subsequent disturbances. The rationale for treating the lagged variables as predetermined is that the choices by the firm and the agents of social pressure are conditioned on the endogenous state variables, which from the decision makers' perspectives incorporate all information relevant to those choices.

Fixed effects regressions are used for the system in (4)-(6) to take into account unobserved fixed characteristics of firms. The structural equations represent the choices of firms and the agents of social pressure over time, so within estimation is used. In Section VI the robustness of this estimation approach is explored by estimating the system in (4)-(6) using first differences, and the estimates are consistent with the within estimates. The estimates with first differences are also used to estimate the potential bias in the fixed effects estimation due to the presence of the lagged variables in the *C* and *S* equations. The bias is found to be small.

[9] These choices can persist over time. For example, a firm may engage in partnerships with community or environmental groups that cannot be easily changed. Similarly, social pressure can be due to private politics campaigns that often last for several years, and government enforcement actions can extend over several years.

III. Hypotheses

The theory incorporates four self-interested explanations for CSP. Three focus on parties, consumers, investors, and employees and other suppliers of factor inputs, that could reward or penalize the firm for its social performance. Fourth, CSP could be a perquisite for management. In addition, CSP could be morally managed.

Consumer rewards: Consumers could value CSP and be willing to pay a premium for the goods and services of a firm that provides social performance. Hiscox and Smyth (2006), Elfenbein and McManus (2007), and Casadesus-Masanell, Crooke, Reinhardt, and Vasishth (2009) present studies indicating that some consumers are willing to pay a premium for private goods that have social performance attached to them.[10] Corporate social performance then provides product differentiation and could be either a complement to or a substitute for advertising, branding, and product quality.

Employee and supplier rewards: Employees may be more productive for, or accept lower wages from, a firm that provides CSP they value. Similarly, a firm with good CSP may attract more talented employees, or downstream firms that embrace CSP may give preference to the firm. Conversely, a firm may be rewarded if it abides by a code of conduct for social performance required by a customer.

The consumer and employee rewards explanations are referred to as "strategic CSP," since the CSP can be undertaken to increase profits. Any profit maximizing firm would undertake strategic CSP independently of any moral motivation or other preference for social activities. If CSP is strategic, theories predict both that CSP is decreasing in product market competitiveness (Bagnoli and Watts 2003) and increasing in competitiveness (Fisman, Heal, and Nair, 2008). Our estimates indicate no effect of competitiveness on CSP.

Investor rewards: Investors may value the social activities of a firm and be willing to pay a premium for its shares. The theory predicts that the capital market will incorporate shareholders' valuation ρ_θ (at the margin) of CSP into the market value of the firm. As in Heinkle, Kraus, and Zechner, green investors could shun firms with poor CSP, which yields an equilibrium premium

[10] Hiscox and Smyth conducted an experiment in which two identical products, towels and candles, were sold with and without a "Fair & Square" label that identified the products as being produced under good working conditions. Consumers were willing to pay a substantial premium for the labeled goods, but as the authors caution the retailer was known for selling cause-related goods to high income people. The authors state, "it is safe to say that we were looking for a market for labor standards in a place where one might expect to find it." Elfenbien and McManus compared the prices of identical items auctioned on eBay's non-charity and charity auction formats, where the latter involves designating a share of the proceeds to go to a charity. They found an average 6 percent premium for items sold on the charity auction. Casadesus-Masanell et.al found that consumers were willing to pay a premium for Patagonia's organic cotton sportswear.

for firms with good CSP. This could induce firms to improve their CSP to attract green investors. Investors could provide the premium by investing through socially responsible investment funds.

The combined rewards hypothesis: Since the data do not allow the separate identification of the individual effects of rewards by consumers, investors, and employees and other suppliers of factor inputs, a combined rewards effect is estimated. That is, the combined rewards hypothesis corresponds to the marginal effect of C_i on $MV_i(O_i^*(C_i), C_i|S)$.

Management perquisites hypothesis: Managers could undertake social activities because of their own personal interests. Corporate social activities could be perquisites for managers based on their own moral, warm glow, or self-interested preferences. Managers, for example, could enjoy the accolades for their CSP that can come from pressure groups and NGOs or receive satisfaction from benefitting others.[11]

As a perquisite CSP should depend on the resources (CFP) available to managers and the discretion they have to serve their own interests. That discretion should depend on the governance structure of the firm and the external monitoring of the firm by the capital market. Independent directors could also monitor management, but they could also consume perquisites or be appointed to the board in response to social pressure. Discretion should be an increasing function of managerial entrenchment, a decreasing function of the quality of the governance structure, and a decreasing function of the external monitoring of management by the investment community.

Moral management hypothesis: Baron (2009a) distinguishes between moral and self-interested motivations for corporate social activities. Moral motivation is independent of strategic considerations but could depend on firm and industry characteristics that determine whether firms encounter moral issues. For example, a firm in the oil industry necessarily faces issues associated with the environment, operating in developing countries, and safety risks. Social pressure thus can accompany moral issues.

Moral management could be rewarded by consumers, employees, and investors, and they could reward the firm both because of its CSP and its motivation. If CSP is morally motivated, then it should be independent of financial performance, whereas it could depend on the operations of the firm since operations determine the moral issues a firm encounters. Morally-motivated CSP could be independent of social pressure, or social pressure could be associated with the issues on which a firm acts morally.

Fernández-Kranz and Santaló (2007) argue that CSP should be independent of industry competitiveness if it is morally motivated. They find that CSP was greater and social pressure

[11] Social activities could also be payoffs to social pressure groups in exchange for strengthening the job security of managers, as considered by Cespa and Cestone (2007).

less in more competitive industries, suggesting that CSP is strategic rather than morally motivated. As indicated below, after controlling for unobserved heterogeneity among firms, we find no effect of competitiveness on either CSP or social pressure.

Social pressure and the responsive CSP hypothesis: Social pressure can lead a firm to increase its CSP. Social pressure could reflect a preference of citizens for environmental protection, for example, and firms criticized for their environmental practices could respond by increasing their CSP. Also, firms could be required by government to correct violations of regulations. Firms could also undertake CSP to mitigate the harm to their market values done by social pressure. CSP thus should be increasing in (lagged) social pressure in (3). Responding to social pressure is consistent with stakeholder theory in which firms undertake social activities to balance the competing pressures from stakeholders.[12]

Pressure release and soft target hypotheses: The activists and NGOs that generate private politics social pressure select the firms they target. Pressure could be directed to worst offenders, but it could also be directed to soft targets. Soft targets are those firms that have the weakest incentives to resist the activist demands.[13] Baron (2009a) shows that firms with high CSP have a weaker incentive to resist social pressure than do firms with low CSP.[14] Social pressure then should be positively related to (lagged) CSP. Firms with weak CFP should also be soft targets. In contrast, if NGOs and social activitists prefer to target the worst offenders (low CSP), social pressure should be negatively related to (lagged) CSP.

An alternative to the soft target hypothesis is the pressure release hypothesis that greater CSP reduces future social pressure because the CSP responds to the expectations and demands of government, activists and NGOs, and the public. This hypothesis is consistent with selection of the worst offenders as targets.

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[12] Tirole (2001) considers stakeholder theory from the perspective of corporate governance, focusing on incentive and control issues.

[13] As an example of social activists targeting soft firms, Argenti (2004, pp. 110-111) explained the decision by the activist organization Global Exchange to target Starbucks to sell Fair Trade Coffee: "truly socially responsible companies are actually more likely to be attacked by activist NGOs than those that are not, … Our interviews with Global Exchange suggested that Starbucks was a better target for the fair trade issue because of its emphasis on social responsibility, as opposed to a larger company without a socially responsible bent."

[14] To see this, suppose that CSP provides product differentiation, and consider a social activist that can target either a firm with high CSP or one with low CSP. Targeting consists of a demand for a very high level of CSP accompanied by a threat of harm from a campaign such as a boycott or activist generated media coverage. If the firm with low CSP is targeted and the campaign is successful in the sense that the firm concedes to the demands, its CSP will increase which can reduce product differentiation and intensify price competition. A low CSP target thus has a strong incentive to resist the campaign. In contrast if the firm with high CSP is targeted and the campaign is successful, product differentiation increases which lessens the intensity of price competition and offsets some of the additional cost of the higher CSP. The incentive of the target with high CSP to resist the campaign is then weaker.

IV. Data and Measurement

A. Data

No data are available on the expenditures by firms on CSP, but data are available on a set of social activities in which firms engage. Similarly, no expenditure data are available on social pressure, but data are available on a set of social pressure activities. Kinder, Lydenberg, Domini Research & Analytics (KLD), an independent research firm, compiles data on the social activities of firms. Its Socrates database provides the most comprehensive and widely-used data on social performance and includes data for more than 3,000 companies. KLD provides inclusive Strengths and Concerns data for the categories: community, diversity, employee relations, environment, governance, human rights, and product. These are our main variables for measuring CSP and social pressure, respectively. KLD also has "exclusionary" screens, such as alcohol, gambling, military, nuclear power, and tobacco, which are viewed as controversial lines of business that could affect social pressure and investors' attitudes toward firms.[15] The data are available for 1996 through 2004. Prior to 2001 KLD data covered only approximately 650 firms listed on the S&P 500 or the Domini 400 Social Index. For 2001 and 2002 (2003 and 2004), the KLD data included approximately 1,100 (3,100) firms listed on the S&P 500, the Domini 400 Social Index, or the Russell 1,000 (Russell 3,000) indexes.

To control for corporate governance characteristics and capital market monitoring, we use the IRRC governance database, the IRRC director database, CDA/Spectrum 13(f) filings, and the *I/B/E/S* database that include CEO ownership, the proportion of outside independent directors, the proportion of institutional holdings, the proportion of blockholdings, and the number of security analysts following the firm.[16] We also require that COMPUSTAT and Center for Research in Security Prices (CRSP) data for operating performance, such as sales, research and development expenditures, and financial structure, are available.

B. Measurement

CSP is measured by the KLD Strengths identified in Panel A of Appendix A. The strengths correspond to activities that appear to favor the public directly and seem to be cast that way by the media. Social pressure is measured by the KLD concerns, which are presented in Panel B of Appendix A. To assess the quality of the KLD data, Chatterji, Levine, and Toffel (2009) used the

[15] Only 3.5 percent of the firm-year observations have an exclusionary screen.

[16] Specifically, (i) our sample firm must be included in the IRRC director database; (ii) CEO ownership and insider blockholding data must be available; (iii) the data for outside institutional holdings must be available from CDA/Spectrum 13(f) filings; and (iv) the number of analysts following a firm must be available from the *I/B/E/S* database.

KLD environment ratings to predict toxic releases reported in the government's Toxic Releases Inventory (TRI) and the compliance with environmental regulations including the number and amount of penalties imposed. They concluded that the KLD ratings do not reflect all the information available on environmental performance but are a good predictor of firms with the worst environmental performance.[17]

Appendices B and C list the definitions and measurement of the variables. KLD strength and concern activities are 0-1 variables, and the number of measures varies across the years, so an index is used to aggregate the individual activities.[18] Letting C^{ijt} denote an indicator variable for firm *i* with strength *j* for year *t* from Appendix A and C^t denote the maximum number of KLD strengths in year *t* for any firm, the index C^{it} for firm-year observation *it* is

$$C^{it} = \frac{\sum_j C^{ijt}}{C^t}. \tag{7}$$

A similar index is constructed for social pressure using the KLD concerns from Appendix A.

To investigate CSP in more detail, the KLD strengths have been disaggregated into those activities (C_1) judged more likely and those activities (C_2) judged less likely to be directly rewarded by consumers or employees as identified in the left and right columns in Panel A. The former category corresponds to "strategic CSP," and the latter category is viewed as "responsive CSP;" i.e., likely a response to social pressure. For example, responsive strengths such as "indigenous peoples relations," "ownership strength," and diversity on the board of directors seem unlikely to have a direct impact on rewards. In contrast, strategic CSP activities such as protecting the environment, philanthropy, and product quality can be advertised to consumers and emphasized to employees.

Social pressure is measured by the KLD Concerns, which are identified in Panel B of Appendix A and reflect private and public politics activities that are potentially harmful to a firm. Some of these activities, such as Community Other Concern reflecting "strong community opposition," are direct measures of social pressure, whereas others, such as the production of ozone depleting chemicals, are indirect measures. To investigate the source of social pressure, the concerns are disaggregated into those (S_u) that are associated with government, and hence public politics, such as civil fines and liabilities for hazardous waste sites, those that are independent of

[17] TRI emissions are a much narrower measure of environmental performance than that in the KLD environmental ratings category and hence should not be a proxy for the KLD strengths or concerns.
[18] KLD includes as an Employee Relations strength an employee retirement system, which is a private good for workers and a part of a compensation system with many components among which are tradeoffs. Consequently, only two Employee Relations strengths, "strong union relations" and "employee involvement," are included in CSP, and the other measures are incorporated as a separate independent variable (employee benefit index, Emp).

government and associated with private politics (S_r), such as pressure arising from workplace reductions and bad indigenous peoples relations, and those that may involve both such as the production of agricultural chemicals.[19] Only the first two categories, identified in the first two columns of Panel B, are used in the empirical analysis. Our assignment of individual KLD strengths and concerns into categories is a matter of judgment. The estimated coefficients for the disaggregated variables are quite different from each other, indicating that the categories are meaningful even if their composition is subject to disagreement.

CFP is measured by Tobin's Q, which is subject to two types of variation that may be independent of the operations and social activities of firms. The first includes factors, such as macroeconomic performance, security issues, and political risks, that can affect overall market values. The second is industry-specific factors such as rising or falling prices due to shifts in industry demand or restrictions on supply, as in the case of oil or other raw materials. The first is taken into account using year fixed effects. The second is taken into account using the 48 Fama and French (1997) industry dummy variables to capture differences across industries. To take into account the competitiveness of an industry, the industry HHI is used.

The other controls may be thought of as being in three categories: variables that characterize the operations of the firm (e.g., advertising, R&D, sales), those that characterize the financial structure and risk of the firm (e.g., debt ratio, dividend ratio, variability of returns), and those that pertain to governance and monitoring of the firm and its managers (e.g., entrenchment, board independence, external monitoring). To measure managerial entrenchment, the Gompers, Iishi, and Metrick (2003) index (Gindex) is used. The control variables have considerable explanatory power in the CFP equation and little in the CSP and social pressure equations. The variables are listed in Appendix C.

The SEC does not require firms to report advertising expenditures or research and development expenditures, and 73 percent and 59 percent, respectively, of the firms do not do so. To identify this non-reporting, a dummy variable with a value of 1 is included if advertising is not reported, and a dummy variable with a value of 1 is included if R&D is not reported. Also, 48 percent of the firms have no KLD strengths or concerns in a year. This could be because they faced no social pressure and had no social performance, but it could also be that KLD's data collection system failed to uncover social pressure or CSP. This is particularly possible when KLD expanded its data set in 2001 and 2003. Consequently, a dummy variable (NoKLD) has

[19] The indices for the two component of *C* are constructed as in (7) with the same denominator so that $C_1^{it} + C_2^{it} = C^{it}$, where C_k^{it} denotes the category *k=1,2* for firm *i*. The indices for S_u and S_r are constructed in the same manner.

been used for those firms with neither a KLD strength nor concern in a year. Another potential problem with the data is that the early years of the panel contain a selection effect. That is, the firms covered by KLD in the 1990s include those in the S&P 500 plus those selected for the Domini 400 Social Index, where selection for the latter index was based on CSP. To avoid selection bias, a dummy variable (Domini400) has been used to identify firms in the Domini 400 Index but not in either the S&P 500 or the Russell Indices. This variable is statistically significant in the CSP equation as expected.

V. Empirical Results

A. Descriptive Statistics

Because lagged variables are used in the CSP and S equations, the observation for the first year a firm appears in the data set is not used as a firm-year observation in the estimations. In addition, a few firms come and go as a result of missing data, acquisitions, and private buy-outs, and the KLD dataset was expanded when the Russell 1000 and Russell 3000 firms were included in 2001 and 2003. Estimations are thus provided for two panels of data. The first is unbalanced and includes 2,010 firms and 9,102 firm-year observations. The second panel is balanced with 486 firms for which data are available for all the years. Most of these firms are in the S&P 500.

Table 1 presents the means, standard deviations, minimums, and maximums of the variables for the two panels. For the unbalanced panel the mean of Tobin's *Q* is 1.63, whereas the mean of CSP $(C_1 + C_2)$ is 0.090 and social pressure $(S_u + S_r)$ is 0.079. The standard deviations of these endogenous variables are larger than their means, reflecting the skewness of the variables. The firms in the balanced panel are on average larger, have greater CSP, and face more social pressure that the firms in the unbalanced panel.

B. Estimation of the Three Equation Model

B.1. The Estimation

The approach to estimating the system in (4)-(6) is first to examine the relations among the variables of interest using OLS, and then to take into account firm fixed effects using time demeaning. Then, in Section VI the robustness of the results are examined by re-estimating the system using differences. This also allows an assessment of the possible bias in the estimates with firm fixed effects due to the lagged variables.

Table 2 presents OLS estimates for the relations among CFP, CSP, and social pressure for the three equation model for the unbalanced and balanced panels, including industry fixed effects and year fixed effects. CFP is increasing in CSP and decreasing in social pressure, and the coefficients are highly significant. CSP is increasing in CFP and in social pressure, and the

coefficients are also statistically significant. Social pressure is decreasing in CFP and increasing in CSP, and the coefficients are statistically significant with the exception of CSP in the social pressure equation for the balanced panel.

These estimates could be affected by unobserved heterogeneity among firms, so firm fixed effects (FFE) have been included in the estimation. FFE account for attributes of a firm that are unchanging over time, so if a firm is morally managed throughout the data period, the fixed effect will absorb this effect. FFE also absorb the effect of controversial lines of business that do not change for a firm over the data period, so the estimated coefficient of KLD Exc reflects information only for firms that changed the number of controversial lines of business during the data period. Also, using FFE requires eliminating the industry fixed effects.

Using FFE with the unbalanced panel also involves a data problem. Many of the firms are in the database only for two years. For example, firms added when KLD expanded its database in 2003 to include the Russell 3000 have only two years of data. The same is true for other firms that appear for only two years because, for example, of missing data for some years. For these firms the first data year is used to obtain the values of the lagged variables, which leaves only one year of data for the estimation. With FFE the data for the remaining year is in effect not used in the estimation of the coefficients in (4)-(6). For example, in an estimation with two years of data, FFE would perfectly account for the residual when lagged variables are included. The effective sample size is thus reduced.

Table 3 presents 2SLS estimates with FFE for the unbalanced and balanced panels.[20] The results indicate that when FFE are taken into account, CFP is unrelated to CSP and CFP has no statistically significant effect on CSP.[21] This means that the relations between CFP and CSP in Table 2 are due to unobserved firm characteristics. In contrast, the inclusion of FFE has little effect on the relations between CFP and social pressure or the relations between CSP and social pressure, although the standard errors of the estimates are generally larger due to inclusion of the fixed effects.

The difference between the estimates with and without FFE could be due to the situations of the firms prior to inclusion in the data panels. For a variety of reasons some firms could have had

[20] The instruments for *C1C2* and *SuSr* in the *Q* equation include all right side variables in the system in (4)-(6).

[21] As a check on the plausibility of the estimates, consider two variables for which the signs of the coefficients should be identified by their definitions. The variable NoKLD identifies firms with neither KLD strengths nor concerns, so the coefficients in the CSP and social pressure equations should be negative. Similarly, the variable Domini400 identifies firms selected for their social performance, so the coefficient in the CSP equation should be positive. The estimated equations for both panels have the correct signs and are significant at the 0.01 level. This provides confidence in the data and the estimation.

both high *Q* and high CSP, whereas others could have had low Q and low CSP. These relations could then have persisted during the data period, which would explain the positive and significant coefficient of CSP in the Q equation in Table 2.

B.2. Interpreting the Empirical Findings through the Lens of the Theory

The absence of a statistically significant relation between CFP and CSP in (4) when firm fixed effects are used is consistent with the theory discussed in Section II under either of two equilibrium conditions, one focusing on the product market and the other focusing on the capital market. In the product market if CSP provides product differentiation and firms separate in their provisions of CSP, the profits of the firms providing CSP could be higher or lower than the profits of the firms providing no CSP, so a regression of CFP on CSP could show no relation yet CFP could be causally related to CSP. Figure 1 illustrates a product market equilibrium in which firm 1 provides CSP (and charges a high price) and firm 2 provides no CSP (and charges a low price). The profit of firm 2 would decrease if it increased its CSP, since that would decrease product differentiation and intensify price competition. In contrast, firm 1 maximizes its financial performance at C_1^*, but the resulting financial performance of firm 2 could be better or worse than that of firm 1.

In the capital market, if investors view corporate social performance as a close substitute for personal giving to social causes, the social return ρ_θ in (1) is close to 1. An equilibrium in the capital market is illustrated in Figure 2, which shows the social market line reflecting no relation between CFP and CSP. The social market line could be positively or negatively sloped, and although the estimated coefficients of CSP in the CFP equation for the two panels are negative, they are not statistically significant. A negative slope is consistent with investor preferences in which CSP has no effect on profits ($\pi - H$ in (1)) and investors view CSP as an imperfect substitute for personal giving, so $\rho_\theta < 1$. Again, these relations are not informative about causation, since individual firms could be choosing their CSP optimally as in Figure 2 based, for example, on rewards from consumers in the product market.

Although the estimates presented in Table 3 indicate no equilibrium relation between CSP and CFP, the coefficients for social pressure in the CFP equations are negative for both panels and statistically significant for the balanced panel, indicating that financial performance is worse the greater is social pressure. CSP is increasing in social pressure, and the estimated coefficients for both panels are statistically significant.

To interpret the empirical findings regarding the relations between social pressure and CFP and between CSP and social pressure, consider a change in social pressure on a firm. For example, consider an exogenous shock that increases social pressure by, for example, damaging

the reputations of firms, as in the case of corporate scandals, media coverage of high management compensation or backdating of stock options, or foolish investments by banks in securities backed by subprime mortgages. In the theory a firm can be affected by the shock to social pressure through both the product market and the capital market.

In the product market social pressure could diminish consumers' willingness to pay or lead some consumers to switch away from a firm's products, as in the case of a boycott. This can be formalized using the product differentiation model of Baron (2009b) in which the maximum willingness to pay of consumers is increasing in the CSP chosen by the firm and decreasing in social pressure. Comparative statics then indicate that the optimal CSP is increasing in social pressure. Moreover, the profit of the firm is decreasing in social pressure, taking into account the optimal CSP. The theory then predicts that (1) in the capital market CFP is decreasing in social pressure and (2) in the product market CSP is increasing in social pressure. Figure 3 illustrates this equilibrium property for a product market in which firm 1 chooses positive CSP and firm 2 separates by choosing zero CSP. The three inverted U-shaped curves correspond to different levels of social pressure for firm 1 with the curve on the left reflecting the least social pressure and the curve on the right the most. An increase in social pressure shifts the financial return for CSP downward and leads to an increase in CSP for firm 1 but has no effect on the CSP of firm 2, which remains at 0. The financial returns on both firms decrease because the greater social pressure has reduced the willingness of consumers and possibly investors to reward the firm. So, increased social pressure leads the firm to increase its CSP, and CFP decreases due to the direct effect of social pressure on demand, profits, and market value. The increase in CSP also results in greater social pressure on the firm under the soft target hypothesis. The firm thus increases its CSP because an increase is rewarded by consumers who value CSP but are averse to social pressure, but the increase comes at a cost, since social pressure is greater in future periods. Figure 3 takes into account the equilibrium social pressure and CSP. Moreover, since CSP is increasing in social pressure, citizens who value CSP have an incentive to fund the NGOs and social activists that generate the social pressure.

If the social pressure shock were to affect all firms, Figure 4 illustrates a full equilibrium consistent with the empirical findings that (1) across firms CFP is unrelated to CSP, (2) CFP is decreasing in social pressure, and (3) CSP is increasing in social pressure. The equilibrium social market line is horizontal and shifts down as social pressure exogenously increases and firms increase their CSP. Figure 5 illustrates the equilibrium reflecting the negative, although not statistically significant, estimated relation between CSP and CFP. As the figures indicate, CFP

could be causally related to both CSP and social pressure for individual firms even though the social market line is horizontal or negatively sloped.

C. Disaggregating CSP and Social Pressure

The five equation system allows a more detailed investigation of the relations among CFP, strategic CSP (C_1), responsive CSP (C_2), public politics social pressure (S_u), and private politics social pressure (S_r). The control variables are the same as for the three equation system with the disaggregated variables substituted for the aggregated variables on the right side of the estimated equations. Panels A and B of Table 4 present the 2SLS-FFE estimates for the unbalanced and balanced panels, respectively.

The estimated coefficients for the disaggregated variables are informative. CFP is not related to responsive CSP (C_2), but for the balanced panel the coefficient of strategic CSP (C_1) is negative and statistically significant. The negative coefficient could be due to the absence of rewards by consumers, employees, or investors, or could reflect the cost associated with providing strategic CSP, such as philanthropy and environmental programs, or could be due to the capital market equilibrium.

For both panels CFP is significantly decreasing in private politics social pressure (S_r), and the coefficients on public politics pressure (S_u) is statistically significant only for the balanced panel and only at the 0.1 level. Private politics social pressure thus is primarily responsible for an equilibrium as in Figures 4 and 5 in which increases in social pressure result in lower CFP. Strategic CSP is significantly increasing in private politics social pressure but is not significantly related to public politics social pressure. The estimated coefficients for responsive CSP are positive for both public and private politics social pressure, but only the coefficients for private politics social pressure are statistically significant.[22] Private politics thus accounts for the effects of social pressure on both CFP and CSP.

Private politics social pressure is independent of (lagged) strategic CSP but is significantly increasing in (lagged) responsive CSP for the unbalanced panel and is significantly decreasing in (lagged) CFP for both panels. The soft target hypothesis thus is supported for private politics social pressure, which is the component to which the theory discussed in Section II pertains.

Public politics social pressure is unaffected by (lagged) CSP and (lagged) CFP. This is consistent with the government enforcing the law rather than reacting to the other variables. Also, since the KLD strengths are activities that go beyond the law, enforcement of the law as

[22] Only strategic CSP is affected by (lagged) CFP, and the coefficient is negative but significant only for the balanced panel and only at the 0.1 level.

reflected in S_u should have little effect on CSP, which is also the empirical finding. Only for the unbalanced panel and only for public politics is social pressure significantly increasing in KLD's exclusionary criteria, which is consistent with more controversial lines of business attracting government attention. Also, public politics social pressure is greater the more entrenched is management, whereas private politics social pressure is unaffected.[23] This suggests that the government scrutinizes more closely firms with more entrenched management and those with controversial lines of business.

The empirical findings with the disaggregation of CSP and social pressure activities are consistent with those for the three equation system. The estimates indicate that the action is in private politics social pressure which is increasing in responsive CSP and decreasing in CFP. Moreover, increased private politics social pressure results in an increase in CSP and lower CFP as in Figures 4 and 5. Public politics social pressure may simply be the result of the government following the law with extra attention to firms with entrenched managements.

D. Industry Estimations

The relations in (4)-(6) could differ across industries, so the dataset has been split between consumer industries and non-consumer, or "industrial," industries. Panels A and B of Table 5a present the estimates for the three equation system for the two datasets and the unbalanced panel. The relations between CSP and CFP in the *Q* equation are strikingly different. The social market line for consumer industries is increasing in CSP, reflecting rewards available to firms as, for example, in Figure 1 with $MV_1(C_1^*)$ greater than $MV_2(C_2^*)$. In contrast, the social market line for the industrial dataset is decreasing in CSP, reflecting the absence of rewards or $MV_1(C_1^*) < MV_2(C_2^*)$. Tables 5b and 5c for the five equation system show that the difference in the slopes of the social market lines is entirely due to responsive CSP (*C2*).[24]

For both the consumer and industrial data sets CSP is increasing in private politics social pressure but not in public politics (at the 0.05 significance level). Public politics social pressure is increasing in strategic CSP (*C1*) for consumer industries, and for the industrial industries private politics social pressure is increasing in responsive CSP for the unbalanced panel. Otherwise, the estimates for both the consumer and industrial datasets are consistent with the estimates in Tables 3 and 4.

[23] These estimates are not presented in the table.

[24] The unreported results for the balanced panel are qualitatively similar to those of unbalanced panel and are available upon request.

E. The Clinton and Bush Years

The data period includes the last four years of the Clinton administration and the first four years of the Bush administration. The administrations could have a direct effect on CFP, CSP, and social pressure as well as an incremental effect on the relations among the three dependent variables. Alternatively, the levels of CSP and social pressure could have changed over time or the relations among CFP, CSP, and social pressure could have changed. For example, the early 2000s were a time when a number of activists and NGOs concluded that private politics was more effective than public politics. At the same time the Internet became an important instrument for raising funds and for coordinating activities.[25] From the coefficients of the year effects in Table 3, both CSP and social pressure increased substantially from 2000 to 2004, whereas from 1996-2000 there was little change.

The direct effect of the presidential administrations could in principle be estimated by including a dummy variable for the Bush administration, but with FFE the year fixed effects would have to be dropped. But, then the coefficient would reflect both any direct effect and any effect of time trends as well as exogenous fluctuations in the market value of firms corresponding to the boom of the late 1990s and the bursting of the tech bubble in 2000 and 2001. Moreover, over the data period both CSP and social pressure have increased, so the coefficient of the dummy variable would naturally be positive even if there were no direct effects. Performing the estimation (2SLS-FFE without year fixed effects) indicates that CFP was lower during the Bush administration, CSP was greater, and social pressure was little affected, although the coefficients of social pressure in the CFP equation become more negative and more significant.

Conducting the same estimation for the five equation model indicates why the coefficient of the presidential dummy variable in the social pressure equation is close to zero. The coefficient of the presidential dummy variable in the public politics social pressure equation is negative and the coefficient of private politics social pressure is positive, and both are significant at the 0.01 level. Thus, social pressure from government was lower during the Bush years than during the Clinton years, whereas social pressure from private politics was greater. One interpretation of this is that the Bush administration enforced the law pertaining to business less aggressively than did the Clinton administration, and activists and NGOs responded by increasing their private politics activities. As noted above, this was a period in which many NGOs and social activists turned from public politics to private politics aided by the use of the Internet. Without controlling for year effects, however, such conclusions are tenuous.

[25] See Baron (2010), Chapter 4.

It is more informative to retain the year fixed effects and examine whether the relations among CFP, CSP, and social pressure during the Bush years were different from the relations during the Clinton years. The three equation system has been re-estimated using interaction variables between the presidential dummy variable (pres =1 for Bush) and *Q*, *C*, and *S* while controlling for year effects. The estimates reported in Table 6 indicate that the incremental effect of CSP on CFP was negative during the Bush years, whereas the incremental effects of social pressure on CSP and CSP on social pressure were positive.[26] All these coefficients are significant at the 0.01 level. The coefficient of an interaction term means, for example, that an increment to CSP during the Bush years decreased CFP relative to the average for the data period. Similarly, an increment to social pressure during the Bush years resulted in a greater increase in CSP relative to the average for the data period, and an increment to CSP resulted in a greater increase in social pressure. That is, the positive relations between CSP and social pressure were incrementally stronger, and the negative relation between social pressure and CFP was incrementally stronger during the Bush years. These estimation results are consistent with the interpretation given in the previous paragraph. The results also indicate that the responsiveness of CSP to social pressure was stronger during the Bush years than during the Clinton years.

F. Hypotheses

Soft Target and Pressure Release Hypotheses: The soft target hypothesis is that social pressure is increasing in CSP, and three concepts of softness can be used. The first is a firm that has already engaged in CSP, which could mean that the firm has been responsive to social pressure in the past and may do so again. The second is financial weakness, giving the firm fewer resources with which to resist social pressure. The third is a firm with a weak incentive to resist social pressure as in the case of a firm that has differentiated itself through CSP. The estimates in Tables 3, 5a, and 5b indicate that social pressure is weakly increasing in (lagged) CSP, which is consistent with the first and third concepts. Social pressure is weakly decreasing in CFP and weakly increasing in the volatility of returns on a firm's shares, which is consistent with the second concept.[27] Managerial entrenchment as measured by the Gindex has no effect on social pressure. For the five equation system private politics social pressure is increasing in responsive CSP, and the coefficients are significant for the unbalanced panel. Similarly, private politics social pressure is decreasing in CFP, and the coefficients are significant for both panels. The estimates from the consumer and industrial datasets are also consistent with the soft target

[26] The five equation system could not be estimated because of multicolinearity between pres*Sr and pres*lagSr in the instrument.

[27] CFP is decreasing in the standard deviation of returns indicating that higher volatility can be interpreted as weaker financial performance.

hypotheses, since the only significant coefficients (at the 0.05 level) of the CSP variables in the *S* equations are positive and the only significant coefficients (at the 0.05 level) of *Q* in the *S* equation are negative. Overall, these estimates provide support for the soft-target hypothesis and no support for the pressure release hypothesis.

Support for the soft target hypothesis is provided by King and Soule (2007) who studied which firms were targeted by social activists and union protests (private politics). They estimated a Probit model and concluded "that protestors tend to target large, weakly performing firms. Firms that have been targeted by protestors in the past are more likely to be protested against in the future." We find no evidence, however, that private politics social pressure is directed to larger firms, as measured by either assets or sales.

Perquisites and Moral Management Hypotheses: The coefficient of (lagged) financial performance in the CSP equation in Table 3 is negative for both data panels and for the balanced panel is statistically significant at the 0.05 level. The results in Tables 4 and 5 are consistent with those in Table 3. Slack financial resources thus do not lead to greater CSP as implied by the perquisites hypothesis and instead may decrease CSP. CSP is not increasing in managerial entrenchment, but it is increasing and statistically significant in the percent of shares held by the CEO and in large block holdings for the unbalanced panel, which are consistent with the perquisites hypothesis if the CEO and large block holders can capture benefits or have warm glow preferences for CSP. The effect of large block holdings is due to both responsive CSP and strategic CSP. Neither CSP nor CFP nor social pressure is affected by the percent of independent directors. CSP is not affected by the number of analysts covering the firm, and for both the balanced and unbalanced panels CSP is decreasing in the percent of shares held by institutional investors, and this effect is found for both strategic and responsive CSP. Overall, there is little evidence that external monitoring of firms has a significant effect on CSP and little support for the perquisites hypothesis.

The absence of support for the perquisites hypothesis provides some support for the moral management hypothesis. The negative coefficients of CFP in the CSP equations are consistent with social activities being conducted in spite of weak financial performance. That is, the firm conducts CSP because it is required by society or by moral duty and does so despite the financial health of the firm. The latter is consistent with the negative coefficients for CSP in the CFP equations in Table 3.

Fernández-Kranz and Santaló find that CSP is greater in more competitive industries, which they interpret as support for the hypothesis that CSP is strategic rather than morally motivated. Although the coefficients on HHI in all six estimated CSP equations in Tables 3 and 4 are

negative, none is statistically significant.[28] This provides some support for the morally motivated CSP hypothesis. Overall, the empirical results provide little support for the perquisites hypothesis and some indirect support for the moral management hypothesis.

Responsive CSP: Table 4 shows that CSP is responsive to private politics social pressure, and Table 3 shows that this effect is present for aggregate social pressure as well. Bailey and Moon (2008) identify a mechanism by which social pressure leads to greater CSP. They studied S&P 500 firms that established public affairs/social responsibility committees of their boards of directors and found that those under social pressure established these committees in an attempt to mitigate the harm from social pressure. They "interpret this result as evidence that companies try to defend themselves against negative social outcomes through forming a specialized Board level committee …"

Combined Rewards Hypothesis and the Dynamics of CSP and Social Pressure: If the combined rewards effect is present in the product, labor, or factor markets, financial performance should be increasing in CSP provided that the rewards exceed the costs. If the rewards were sufficiently strong, the social market line could be upward sloping. The empirical results for the full datasets, however, provide no support for this conclusion. Moreover, for the balanced panel the coefficients of strategic CSP in the CFP equation are negative and statistically significant. Only for consumer industries is there support for the combined rewards hypothesis.

To the extent that the estimated equations can be interpreted as representing an individual firm and an increase in social pressure increases CSP as illustrated in Figure 3, the greater CSP subsequently results in increased social pressure. For the aggregate dataset and for the industrial subset, the increase in social pressure reduces CFP. The lower CFP then makes the firm a weaker target, so social pressure increases. So why do firms increase their CSP in response to social pressure if doing so is not rewarded and results in greater future social pressure? One explanation is that firms increase their CSP because it is morally required and do so despite the cost. In contrast, for firms in consumer industries an increase in CSP in response to an increase in social pressure increases CFP, so being responsive could be motivated solely by financial performance objectives.

The estimates indicate that social pressure is increasing in CSP and CSP is increasing in social pressure. Since CFP is decreasing in social pressure and is not increasing in CSP for the full dataset, the dynamics of the system in (4)-(6) imply that the increase in CSP in response to an increase in social pressure reduces CFP. To assess the magnitudes implied by the dynamics, consider a firm with CFP, CSP, and social pressure equal to the means for the unbalanced panel

[28] Similarly, when FFE are included, there is no effect of industry concentration on social pressure.

in Table 1. Consider a shock to social pressure equal to one standard deviation, which is a shock representing a large increase of 175 percent relative to the mean. Over the eight years of the data panel CSP then increases by 143 percent and social pressure increases by 36.9 percent, with CFP decreasing to 30.4 percent of its original value, if the relation in Table 3 were causal.[29]

Controversial Lines of Business and Sin Stocks: Hong and Kacperczyk found that sin stocks sell at a discount, and the controversial lines of business variable KLD Exc includes sin stocks. The coefficients of KLD Exc in Tables 3 and 4 in all the *Q* equations are positive and statistically significant, indicating better financial performance for firms with these lines of business. KLD Exc was also interacted with *C* and *S* in the *Q* equation, but the estimated coefficients were not statistically significant. These estimates, however, reflect only the effect of changes in the engagement in controversial lines of business by firms, since the firm fixed effects absorb the direct effect for firms whose engagement does not change during the data period.

Other Empirical Findings: Firms with a high proportion of their shares held by institutional investors have lower CSP and face less social pressure. For both panels this is true for strategic and responsive CSP and for private politics social pressure but not for public politics social pressure. The causation, however, is likely to be that institutional investors shun firms with high CSP, possibly because high CSP is (weakly) associated with worse financial performance and also shun firms facing social pressure. Regressing the percentage of institutional holdings on *Q*, *C*, and *S* yields negative and statistically significant coefficients for *C* and *S* and a positive and statistically significant coefficient for *Q*. Social pressure from NGOs and social activists thus appears to reduce the likelihood that institutional investors will hold shares of that firm, as does greater CSP. In contrast to Harjoto and Jo (2008), we find no relation between engagement in CSP and the governance characteristics of firms.

We find that advertising intensity has no effect on CSP, in contrast to the finding by Fisman, Heal and Nair (2008). CFP, however, is increasing in advertising intensity for firms that reported advertising expenditures. Also, there is no clear effect of firm size on CSP or social pressure.

VI. Robustness

A. Skewness

The distributions of Q, *C*, and *S* are highly skewed. The skewness of *C* and *S* is controlled for to some extent by the dummy variable NoKLD for a firm with neither CSP nor social pressure activities in a year. Tobin's *Q*, however, is right skewed, and the estimates could be overly affected by outliers, as might have occurred during the tech bubble. The three equation system

[29] The estimates hold constant all the variables other than CFP, CSP, and social pressure.

thus was re-estimated excluding firm-year observations for which $Q > 15$. The estimates (not reported here) for the three equation system show a more negative and statistically significant estimate of social pressure in the CFP equation for the unbalanced panel and for the balanced panel the coefficient is also negative and significant at the 0.01 level. The relations among CSP and social pressure are little changed for either panel. The same effects are present for the five equation system for the unbalanced panel and for the balanced panel with the exception that for the balanced panel the effect of strategic CSP in the CFP equation is significantly negative.

The system in (4)-(6) was also estimated using three-stage least squares, but it failed to converge. This may be due to the skewness of the principal variables of interest or to autocorrelation. The system in (4)-(6) was estimated using 3SLS with lagged *C* and lagged *S* replacing *C* and *S* in the *Q* equation, and convergence was attained. The estimated coefficients for the *C* and *S* equations had the same signs as in Table 3, and the coefficients for lagged *C* in the *S* equation and lagged *S* in the *C* equation were significant at the 0.01 level.

B. Estimation with Differences I

To examine the robustness of the estimates in Tables 3 and 4, the system was re-estimated using first differences to eliminate unobserved firm fixed effects. The focus in this section is on the *C* and *S* equation in (5) and (6), since they involve lagged variables. Taking first differences in (5) and (6), respectively, yields

$$C_{it} - C_{it-1} = \beta(S_{it-1} - S_{it-2}) + \rho(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\zeta + u_{it} - u_{it-1} \qquad (8)$$

$$S_{it} - S_{it-1} = \delta(C_{it-1} - C_{it-2}) + \phi(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\tau + v_{it} - v_{it-1} \qquad (9)$$

These equations can be estimated viewing the differenced Q variables as predetermined. Three-stage least squares estimates of the system in (8) and (9) for both panels are presented in Table 7 and indicate a positive relation between *C* and *S*. The coefficients of $C_{it-1} - C_{it-2}$ in (9) are positive and statistically significant at the 0.01 level, and the estimated coefficients for β and δ are quite close to those in Table 3, although the estimates of β are not statistically significant.[30]

C. Estimation with Differences II

The equations in (5) and (6) have an autoregressive structure identified by substituting $S_{it-1} - S_{it-2}$ from (9) into (8) to obtain

[30] The number of observations is reduced by the differencing, particularly for the unbalanced panel.

$$C_{it} - C_{it-1} = \beta(\delta(C_{it-2} - C_{it-3}) + \phi(Q_{it-2} - Q_{it-3}) + (X_{it-2} - X_{t-3})'\tau + v_{it-1} - v_{it-2}) + \rho(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\zeta + u_{it} - u_{it-1}. \quad (10)$$

Similarly, substituting from (8) into (9) yields

$$S_{it} - S_{it-1} = \delta(\beta(S_{it-2} - S_{it-3}) + \rho(Q_{it-2} - Q_{it-3}) + (X_{it-2} - X_{it-3})'\zeta + u_{it-1} - u_{it-2}) + \phi(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\tau + v_{it} - v_{it-1}. \quad (11)$$

These equations can be rewritten as

$$C_{it} - C_{it-1} = \mu_1(C_{it-2} - C_{it-3}) + \mu_2(Q_{it-2} - Q_{it-3}) + (X_{it-2} - X_{t-3})'\mu_3 + w_{it-1} - w_{it-2} + \mu_4(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\zeta + u_{it} - u_{it-1}. \quad (12)$$

and

$$S_{it} - S_{it-1} = \eta_1(S_{it-2} - S_{it-3}) + \eta_2(Q_{it-2} - Q_{it-3}) + (X_{it-2} - X_{it-3})'\eta_3 + y_{it-1} - y_{it-2} + \eta_4(Q_{it-1} - Q_{it-2}) + (X_{it} - X_{it-1})'\tau + v_{it} - v_{it-1}, \quad (13)$$

where $w_{ik} = \beta v_{ik-1}, k = t, t-1, \mu_1 = \beta\delta, \mu_2 = \beta\phi, \mu_3 = \beta\tau, \mu_4 = \rho,$ $y_{ik} = \delta u_{ik-1}, k = t, t-1, \eta_1 = \delta\beta, \eta_2 = \delta\rho, \eta_3 = \delta\zeta,$ and $\eta_4 = \phi$.

Following the approach in Greene (p. 341), for $t = 3$ the third difference $C_{i1} - C_{i0}$ is a predetermined variable, since its disturbance terms are predetermined with respect to the subsequent disturbance terms. Similarly, $S_{i1} - S_{i0}$ is predetermined. To lessen the problems caused by serial correlation, (12) and (13) have been estimated using $S_{il-2} - S_{il-3}$ and S_{il-3} as instruments for $C_{il-2} - C_{il-3}$ and using $C_{il-2} - C_{il-3}$ and C_{il-3} as instruments for $S_{il-2} - S_{il-3}$.[31] For the estimates to be logically consistent with the system in (5) and (6), two conditions must be satisfied. First, $\mu_1 = \eta_1$, and second, $\mu_1 = \eta_1 = \frac{\eta_2\mu_3}{\mu_3\eta_3}$. That is, $\mu_1 = \eta_1 = \beta\delta$, $\beta = \frac{\mu_2}{\eta_4}$, and $\delta = \frac{\mu_2}{\eta_4}$. Moreover, the recovered parameters should correspond to those in Table 3. The estimates are presented in Table 8. The first condition is satisfied, since $\mu_1 = 0.1057$ and $\eta_1 = 0.0638$ are statistically very close. The recovered values are $\beta = 0.1358$ and $\delta = 0.9449$. Then, $\beta\delta = 0.1284$, which is close to the values of μ_1 and η_1.[32] The recovered value for β is close to the estimated coefficient of lagged social pressure in the *C* equation in Table 3, but the recovered value for δ is considerable larger than the corresponding coefficient in Table 3. From Table 7 $\rho = -0.0042$ and $\phi = -0.0039$, and these values are statistically significant and agree closely with the coefficients of lagged *Q* in the *C* and *S* equations, respectively, in Table 3. This estimation using differences thus is consistent with the

[31] The balanced panel has been used, since the unbalanced panel loses more observations and has firms entering and exiting the panel.

[32] The system in (12) and (13) was estimated directly, but the two conditions were not satisfied, since the recovered values for β and δ were positive but the estimated values of μ_1 and η_1 were negative. This could be due to serial correlation between the first and the third differences. Similarly, the system in (12) and (13) was estimated for the unbalanced panel, but the two conditions were not satisfied.

positive effect of lagged social pressure on CSP and the positive effect of lagged CSP on social pressure and provides support for the soft target hypothesis.

The recovered values of β and δ can be used to assess the bias in the estimates of the coefficients of the fixed effects estimation due to the lagged *C* and *S* variables in (5) and (6).[33] An expression for the covariance between $C_{it-1} - \bar{C}_i$ and $v_{it} - \bar{v}_i$, where $\bar{C}_i$ and $\bar{v}_i$ are the firm means, in the *S* equation is given in Greene (equation (12-31); p. 341) which represents the asymptotic bias in the estimates of the coefficient of C_{it-1} in (12) (and correspondingly of S_{it-1} in (13)). For the *C* equation the covariance is -0.000504, which means that the estimated coefficient of lagged SuSr in the *C* equation is biased downward. For the *S* equation the covariance is -0.00293, which indicates that the estimated coefficient of lagged *C1C2* in the *S* equation is also biased downward. Although these assessments are ad hoc, they provide a degree of support for the soft target hypothesis and for CSP being increasing in social pressure.

D. Estimation with Differences III

The CSP and S equations in (8) and (9) can be rewritten by substituting in

$$Q_{it} - Q_{it-1} = \theta_1(C_{it} - C_{it-1}) + \theta_2(S_{it} - S_{it-1}) + (X_{it} - X_{it-1})'\theta_3 + \epsilon_{it} - \epsilon_{it-1} \qquad (14)$$

and collecting terms to obtain[34]

$$\begin{aligned} C_{it} - C_{it-1} &= \mu_1(C_{it-1} - C_{it-2}) + \mu_2(S_{it-1} - S_{it-2}) + (X_{it-1} - X_{it-2})'\mu_3 \\ &\quad + w_{it-1} - w_{it-2} + (X_{it} - X_{it-1})'\zeta + u_{it} - u_{it-1} \end{aligned} \qquad (15)$$

$$\begin{aligned} S_{it} - S_{it-1} &= \eta_1(C_{it-1} - C_{it-2}) + \eta_2(S_{it-1} - S_{it-2}) + (X_{it-1} - X_{it-2})'\eta_3 \\ &\quad + y_{it-1} - y_{it-2} + (X_{it} - X_{it-1})'\tau + v_{it} - v_{it-1}, \end{aligned} \qquad (16)$$

where $\mu_1 = \rho\theta_1$, $\mu_2 = \beta + \rho\theta_2$, $\mu_3 = \rho\theta_3$, $\eta_1 = \delta + \phi\theta_1$, $\eta_2 = \phi\theta_2$, and $\eta_3 = \phi\theta_3$. The equations in (15) and (16) have been estimated using 3SLS, and the results are reported in Table 9. The parameters β and δ have been recovered from the estimates using the estimates in Table 3 for the values of θ_1 and θ_2. The recovered values and the estimates for β and δ in Table 3 are presented in Table 10. The recovered values are positive, confirming the positive relation between CSP and social pressure, and the values are close to the estimated coefficients in Table 3 except for β for the unbalanced panel. The estimation of (15) and (16) thus provides support for the soft target hypothesis and confirms the estimated relation between CSP and social pressure reported in Table 3.

[33] See Greene, p. 341. We thank Francesco Trebbi for pointing this out.
[34] Note that (5) and (6) cannot be written as a function of only their own lagged differences.

VII. Conclusions

Despite the frequently claimed causal impacts, the empirical evidence regarding the relations among CFP, CSP, and social pressure has been mixed. This paper examines the interrelations among CFP, CSP, and social pressure using a large data set of firms with social engagement for 1996 to 2004. For the full dataset CFP and CSP are found to be largely unrelated, which is consistent with the theories in which CSP provides product differentiation or the social market line is horizontal. This, however, is an equilibrium relationship and does not imply the absence of a causal relation between CSP and CFP for individual firms. In contrast, greater social pressure is associated with worse CFP, which could reflect the effects of pressure on firms' reputations, brand equities, or productivity. Greater social pressure also results in greater CSP. Greater CSP and weaker CFP result in greater social pressure, which supports the soft target hypothesis. The perquisites hypothesis finds little support in the data and the moral motivation hypothesis finds only weak and indirect support.

To understand the relations among CSP, CFP, and social pressure in more detail, CSP was disaggregated into two components, one judged to be strategic and the other judged to be responsive. Social pressure was also disaggregated into two components, one associated with public politics and the other with private politics. The results show that CFP is unrelated to responsive CSP for both data panels and is decreasing in strategic CSP for the balanced panel. Neither form of CSP is significantly affected by CFP. With regard to social pressure the action is in private politics. Private politics and not public politics account for the negative effect of social pressure on CFP. Responsive CSP is increasing in private politics social pressure, but strategic CSP is not. Private politics social pressure is increasing in responsive CSP for the unbalanced panel and decreasing in CFP, both of which are consistent with the soft target hypothesis. Public politics social pressure is unaffected by CSP and CFP, which suggests that the government basically enforces the law.

The relations among CFP, CSP, and social pressure can differ across industries. Dividing the dataset into consumer and industrial industries reveals that the social market line is increasing for consumer industries and decreasing for industrial. This may be due to rewards for CSP being more readily available in consumer industries, but it could also be due to other industry characteristics. Disaggregating the CSP and social pressure reveals that the difference between the slopes of the social market lines for the two datasets is due to responsive CSP and not strategic CSP.

The relations among CFP, CSP, and social pressure were stronger during the Bush years than during the Clinton years. That is, during the first four years of the Bush administration an

increment of social pressure had a greater effect on CFP than the average for the data period. Similarly, an increment to CSP during the Bush years resulted in a greater increase in social pressure, providing additional support for the soft target hypothesis during those years. Also, an increment to CSP during the Bush years had a more negative effect on CFP than the average for the data period. The interpretation of these results for CFP is that the negative effect of social pressure on CFP is due to the Bush years.

The absence of an empirical relation between financial performance and social performance or the presence of a positive relation for consumer industries and a negative relation for industrial industries does not mean that there is no causal relation for an individual firm. As illustrated in Figures 2-5, financial performance could be causally related to social performance yet there is no statistical relation reflected in the social market line resulting from the capital market equilibrium. Moreover, the positive slope of the social market line for consumer industries is an equilibrium relation and may not indicate the presence of a causal effect. The challenge for empirical research is to determine whether a causal relation exists, and this will have to be done at the level of individual firms.

References

Argenti, Paul A. 2004. "Collaborating with Activists: How Starbucks Works with NGOs." *California Management Review*. 47: 91-114.

Bailey, Elizabeth E. and Jon J. Moon. 2008. "Board Committees and Integrated Strategy: How Firms Integrate Market and Non-market Strategies for Mitigation." Working paper, University of Pennsylvania.

Bagnoli, Mark and Susan G. Watts. 2003. "Selling to Socially Responsible Consumers: Competition and the Private Provision of Public Goods." *Journal of Economics and Management Strategy*. 12: 419-445.

Baron, David P. 2001. "Private Politics, Corporate Social Responsibility, and Integrated Strategy," *Journal of Economics and Management Strategy*. 10 (Spring): 7-45.

Baron, David P. 2003. "Private Politics." *Journal of Economics and Management Strategy*. 21: 31-66.

Baron, David P. 2007. "Corporate Social Responsibility and Social Entrepreneurship." *Journal of Economics and Management Strategy*. 16: 683-717.

Baron, David P. 2008. "Managerial Contracting and Corporate Social Responsibility." *Journal of Public Economics*. 92: 268-288.

Baron, David P. 2009a. "A Positive Theory of Moral Management, Social Pressure, and Corporate Social Performance." *Journal of Economics and Management Strategy*. 18: 7-43.

Baron, David P. 2009b. "Credence Standards and Social Pressure." In *Voluntary Programs: A Club Theory Perspective*, Aseem Prakash and Matthew Potoski, eds. MIT Press (forthcoming).

Baron, David P. 2010. *Business and Its Environment*, 6th ed. Upper Saddle River, New Jersey: Pearson Prentice Hall.

Baron, David P. and Daniel Diermeier. 2007. "Strategic Activism and Nonmarket Strategy." *Journal of Economics and Management Strategy*. 16: 599-634.

Bebchuk, L. and A. Cohen. 2005. "The costs of entrenched boards." *Journal of Financial Economics*. 78: 409-433.

Becchetti, Leonardo, Rocco Ciciretti, and Iftekhar Hasan. 2007. "Corporate Social Responsibility and Shareholder's Value: An Event Study Analysis." Working Paper 2007-6, Federal Reserve Bank of Atlanta.

Besley, Timothy and Maitreeshh Ghatak. 2007. "Retailing public goods: The economics of corporate social responsibility." *Journal of Public Economics*. 91: 1645-1663.

Binder, Seth and Eric Neumayer. 2005. "Environmental pressure group strength and air pollution: An empirical analysis." *Ecological Economics*. 55: 527-538.

Casadesus-Masanell, Ramon, Michael Crooke, Forest Reinhardt, and Vishal Vasishth. 2009. "Households' Willingness to Pay for "Green" Goods: Evidence from Patagonia's Introduction of Organic Cotton Sportswear." *Journal of Economics and Management Strategy*. 18: 203-233.

Cespa, Giovanni and Giancinta Cestone. 2007. "Corporate Social Responsibility and Managerial Entrenchment." *Journal of Economics & Management Strategy*. 16: 741-771.

Chatterji, Aaron K., David I. Levine, and Michael W. Toffel. 2009. "How Well Do Social Ratings Actually Measure Corporate Social Responsibility?" *Journal of Economics and Management Strategy*. 18: 125-169.

Dowell, G., S. Hart and B. Yeung 2000. "Do Corporate Global Environmental Standards Create or Destroy Market Value?" *Management Science*. 46: 1059-1074.

Elfenbein, Daniel W. and Brian McManus. 2007. "A Greater Price for a Greater Good? Evidence that Consumers Pay More for Charity-Linked Products." Working paper, Washington University.

Epstein, Marc J. and Karen E. Schnietz. 2002. "Measuring the Cost of Environmental and Labor Protests to Globalization: An Event Study of the Failed 1999 Seattle WTO Talks." *International Trade Journal*. 41:129-160.

Fama, Eugene F. and Kenneth R. French. 1997. "Industry Costs of Equity." *Journal of Financial Economics*. 43: 153-197.

Feddersen, Timothy J. and Thomas W. Gilligan. 2001. "Saints and Markets: Activists and the Supply of Credence Goods." *Journal of Economics and Management Strategy*. 10: 149-171.

Fernández-Kranz, Daniel and Juan Santaló. 2007. "When Necessity Becomes a Virtue: The Effect of Product Market Competition on Corporate Social responsibility." Working paper, Saint Louis University, Madrid.

Fisman, Ray, Geoffrey Heal, and Vinay B. Nair. 2008. "A Model of Corporate Philanthropy." Working paper, Columbia University.

Gompers, Paul, Joy Ishii, and A. Metrick. 2003. "Corporate governance and equity prices." *Quarterly Journal of Economics*. 118: 107-155.

Gompers, Paul, Joy Ishii, and A. Metrick. 2006. "Extreme governance: an analysis of dual-class firms in United States." Working paper, Harvard University.

Graff Zivin, Joshua and Arthur Small. 2005. "A Modigliani-Miller Theory of Altruistic Corporate Social Responsibility." *Topics in Economic Analysis & Policy*. 5: Article 10.

Greene, William H. 2008. *Econometric Analysis*, 6th ed. Upper Saddle River, NJ: Pearson Prentice Hall.

Hamilton, James T. 1993. "Politics and Social Costs: Estimating the Impact of Collective Action on Hazardous Waste Facilities." *RAND Journal of Economics*. 24: 101-125.

Harjoto, Maretno A. and Hoje Jo. 2007. "Corporate Governance and Firm value: The Impact of Corporate Social Responsibility." Working paper, Santa Clara University.

Harjoto, Maretno A. and Hoje Jo. 2008. "Why Do Firms Engage in Corporate Social Responsibility?" Working paper, Santa Clara University.
Heinkle, Robert, Alan Kraus, and Josef Zechner. 2001. "The Effect of Green Investment on Corporate Behavior." *Journal of Financial and Quantitative Analysis*. 36: 431-449.
Hiscox, Michael J. and Nicholas F.B. Smyth. 2006. "Is There Consumer Demand for Improved Labor Standards? Evidence from Field Experiments in Social Product Labeling." Working paper, Harvard University.
Hong, Harrison and Marcin Kacperczyk. 2007. "The Price of Sin: The Effects of Social Norms on Markets." *Journal of Financial Economics* (forthcoming).
King, Andrew A. and Michael J. Lewis. 2001. "Does It Pay to Be Green?" *Journal of Industrial Ecology*. 5: 105-116.
King, Brayden G. and Sarah A. Soule. 2007. "Social Movements as Extra-institutional Entrepreneurs: The Effect of Protests on Stock Price Returns." *Administrative Science Quarterly*. 52: 413-442.
Kotchen, Matthew J. and Jon Jungbien Moon. 2008. "Corporate Social Responsibility for Irresponsibility." Working paper, University of California-Santa Barbara.
Mahon, John F., and Jennifer J. Griffin. 1999. "Painting a Portrait." *Business & Society*, 38(March), 126–133.
Margolis, Joshua D. and James P. Walsh. 2003. "Misery Loves Companies: Rethinking Social Initiatives by Business." *Administrative Sciences Quarterly*. 48: 268-305.
Maxwell, John W., Thomas P. Lyon, and Steven C. Hackett. 2000. "Self-Regulation and Social Welfare: The Political Economy of Corporate Environmentalism." *Journal of Law and Economics*. 43: 583-618.
McGuire, Jean B., Alison Sundgren, and Thomas Schneeweis. 1988. "Corporate Social Responsibility and Firm Financial Performance." *Academy of Management Journal*. 31: 854-872.
Milyo, Jeffrey, David Primo, and Timothy Groseclose. (2000). "Corporate PAC Campaign Contributions in Perspective." *Business and Politics*, 2: 75–88.
Moon, Jon Jungbien. 2007. "In Good Companies? A Critical Evaluation of the Corporate Social Performance-Corporate Financial Performance Link." Working paper, University of Pennsylvania.
Navarro, Peter. 1988. "Why Do Corporations Give to Charity?" *Journal of Business*. 61: 65-93.
Orlinsky, Marc, Frank L. Schmidt, and Sara L. Rynes. 2003. "Corporate Social and Financial Performance: A Meta-analysis." *Organizational Studies*. 24: 403-411.
Roman, Ronald M., Sefa Hayibor, and Bradley R. Agle. 1999. "The Relationship Between Social and Financial Performance: Repainting a Portrait." *Business & Society*, 38: 109–125.
Siegel, Donald S. and Donald F. Vitaliano. 2007. "An Empirical Analysis of the Strategic Use of Corporate Social Responsibility." *Journal of Economics & Management Strategy*. 16: 773-792.
Tirole, Jean. 2001. "Corporate Governance." *Econometrica*. 69: 1-35.
Vogel, David. 2005. *The Market for Virtue: The Potential and Limits of Corporate Social Responsibility*. Washington, DC: Brookings Institute.
Waddock, Sandra A. and Samual B. Graves. 1997. "The Corporate Social Performance-Financial Performance Link." *Strategic Management Journal*. 18: 303-319.

Appendix A: KLD Strengths and Concerns Categorization

Panel A: KLD Strengths (Corporate Social Performance, C) Categorization

Strategic CSR (C_1)	Responses to social pressure (C_2)
Community	**Community**
Generous giving	Innovative giving
Non-US charitable giving	Support for housing
Other strength	Support for education
	Indigenous peoples relations
Environment	**Environment**
Beneficial products	Recycling
Pollution prevention	Communications
Alternative fuels	Other strength
Property, plant, and equipment	
Diversity	**Diversity**
Promotion	CEO
Family benefits	Board of directors
	Women/minority contracting
	Employment of the disabled
	Progressive gay & lesbian policies
	Other strengths
Employee relations (Emp)	**Employee relations**
Cash profit sharing	No layoff policy
Strong retirement benefits	Employee involvement
Health and safety strength	Strong union relations
Other strength	
Human rights	**Human rights**
Labor rights strength	Positive record in South Africa
Other strength	Indigenous peoples relations
Product	**Product**
Quality	Benefits to economically disadvantaged
R&D/Innovation	
Corporate governance c_1	**Corporate governance c_2**
	Limited compensation
	Ownership strength

Panel B: KLD Concerns (Social Pressure, S) Categorization

Concerns—Public Politics s_u	Concerns—Private Politics s_r	Concerns—Both (s_u and s_r)
Community		
	Investment controversies	
	Negative economic impact	
	Indigenous peoples relations	
	Other concerns	
Environment		
Regulatory problems	Ozone depleting chemicals	Hazardous waste
	Substantial emissions	Agricultural chemicals
	Climate change	Other concern
Diversity		
Controversies	Non-representation	Other concern
Employee relations		
Poor union relations	Workplace reductions	Other concerns
Health safety concern	Pension/benefits	
Human rights		
	South Africa	Other concerns
	Northern Ireland	
	Burma	
	Mexico	
	International labor	
	Indigenous peoples relations	
Product		
Product safety		Marketing/contracting controversy
Antitrust		
Other concerns		
Corporate governance		
Tax disputes	High compensation	Other concern
	Ownership concerns	

Source: The Kinder, Lydenberg, and Domini's (KLD) Socrates database

Appendix B: Strategic choice (C_1), reaction to social pressure (C_2), employee benefits index (Emp), public pressure (S_u), private pressure (S_r), and KLD Exclusionary indices

Strategic CSP (C_1): it is calculated from the sum of all strategic choice criteria (c_1) defined in Panel A of Appendix A for each firm in year t divided by the maximum sum of all KLD strengths for all firms in year t.

Responsive CSP (C_2): it is calculated from the sum of all reactions to social pressure (c_2) criteria defined in Panel A of Appendix A for each firm in year t divided by the maximum sum of all KLD strengths for all firms in year t.

Public pressure index (S_u): it is calculated from the sum of all public pressure criteria (S_u) defined in Panel B of Appendix A for each firm in each year t divided by the maximum sum of all KLD concerns for all firms in year t.

Private pressure index (S_r): it is calculated from the sum of all private pressure criteria (S_r) defined in Panel B of Appendix A for each firm in each year t divided by the maximum sum of all KLD concerns for all firms in year t.

KLD Exclusionary index (KLD Exc): it is calculated from the sum of all KLD exclusionary screens (Alcohol, Gambling, Firearms, Military, Nuclear Power, and Tobacco) defined in KLD Socrates database for each firm in each year t divided by the maximum sum of all KLD exclusionary screens for all firms in year t.

Employee index (Emp): it is calculated from the sum of Strong union relationships, Cash profit sharing, Strong retirement benefits, Health and safety benefits, and Other strengths in KLD Employee Relations Strengths criteria from Panel A of Appendix A for each firm in each year t divided by the maximum sum of Strong union relationships, Cash profit sharing, Strong retirement benefits, Health and safety benefits, and Other strengths in KLD Employee Relations Strengths criteria for all firms in year t.

The IRRC volumes are available only for the years of 1993, 1995, 1998, 2000, 2002, and 2004. Following Bebchuk and Cohen (2005) and Gompers, Ishii, and Metrick (2003, 2006), we fill in the missing years by assuming that the governance provisions reported in any given year are also in place in the year preceding the volume's publication. For instance, in the case of 1999 for which there is no IRRC volume in the subsequent year, we assume that the governance provisions are the same as those reported in the IRRC volume published in 1998.

Appendix C: Variable Definitions and Measures

Variable	Definition
Tobin Q	(Market value of common equity + Preferred Stock + Total Debt)/Total Assets (CFP)
Lg(Tobin Q)	One year lag of Tobin Q
Dummy KLD	Dummy variable = 1 if firms have no KLD Strengths or Concerns Scores in a year
(C_1+C_2)	Corporate Social Performance (CSP) Index
$Lg(C_1+C_2)$	One year lag of Corporate Social Performance (CSP) Index
C_1	Strategic CSP Index
C_2	Responsive to Social Pressure Index
$Lg(C_1)$	One year lag of C_1
$Lg(C_2)$	One year lag of C_2
Emp	Employee Index, consists of Strong union relationships, Cash profit sharing, Strong retirement benefits, Health and safety benefits, and Other strengths in KLD Employee Relations Strengths criteria.
$(Su+S_r)$	Social Pressure Index from Public (s_u) and Private (s_r) Pressures
$Lg(S_u+S_r)$	One year lag of Social Pressure Index
S_u	Public Pressure Index
S_r	Private Pressure Index
$Lg(S_u)$	One year lag of Public Pressure Index
$Lg(S_r)$	One year lag of Private Pressure Index
Domini400	Dummy variable = 1 if firms are in Domini400 but not in SP500 or Russell 1000/2000 Firms with Domini400 = 1 is also known as the Subsample of Domini400
KLD Exc	KLD exclusionary criteria index from the KLD Exclusionary Screens including Alcohol, Gambling, Firearms, Military, Nuclear Power, and Tobacco
Ln(Sale)	Natural log of firm's annual net sales
Ln(Asset)	Natural log of firm's annual total assets
Debtr	Long term debt divided by total asset
Rndr	Research and development expense divided by total sales
Advr	Advertising expense divided by total sales
Rndumy	Dummy variable = 1 if firms do not have reported Research and development expense
Advdumy	Dummy variable = 1 if firms do not have reported advertising expense
IndusHHI	Industry Herfindahl-Hirschman Index calculated based on firms' annual sales using the Fama-French 48 Industries
Capxr	Capital expenditure expense divided by total sales
Salegrw	Sales growth rate from previous year to current year
Divr	Dividend divided by book value of equity
Stdret	Standard deviation of monthly stock returns three years prior to current year
Gindex	Gompers, Ishii and Metrick index
Pctdirshr	Percentage of director shares ownership
Pctceown	Percentage of CEO shares ownership
Pctindep	Number of independent outside directors/Number of total directors
Ln(Block)	Natural log of sum of total blockholdings (5% or more)
Pctinsti	Percentage of institutional share ownerships
Loganal	Natural log of (number of analysts + 1)
pres	Dummy variable =1 if year is 2001, 2002, 2003, 2004

Note: Strategic CSP (C_1), responsive to social pressure (C_2), employee index (Emp), public pressure (S_u), and private pressure (S_r) indices are calculated based on the sum of KLD criteria for each of these measures indicated in Appendix A for each firm divided by the sum of KLD criteria for each of these measures year by year, since KLD criteria and availability of KLD scores in each criteria changes year by year. Appendix B describes the construction of these indices.

Table 1
Descriptive Statistics

	Unbalanced Panel (9102 observations)				Balanced Panel (3888 observations)			
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max
tobinq	1.632959	1.626515	.042782	32.07512	1.669142	1.53209	.0780165	23.79689
C1C2	.0900553	.1568454	0	1	.1311795	.1794214	0	1
SuSr	.0787576	.1374489	0	1	.1075994	.1590062	0	1
C2	.0499163	.0995185	0	.8	.0599673	.0892001	0	.5833333
C1	.040139	.0759355	0	.5833333	.0712121	.1137079	0	.75
Su	.0329773	.092887	0	1	.0496843	.1121095	0	1
Sr	.0457803	.0834252	0	.5454546	.0579151	.0926733	0	.5
lagC1C2	.0831379	.1549815	0	1	.1238921	.1769562	0	1
lagSuSr	.0626181	.1322774	0	1	.0912437	.1561593	0	1
lagC1	.0378265	.0757707	0	.5833333	.0573525	.0889971	0	.5833333
lagC2	.0453114	.0978084	0	.7777778	.0665396	.1118449	0	.7777778
lagSu	.0332271	.1002509	0	1	.0507716	.1217173	0	1
lagSr	.029391	.0691659	0	.5	.0404721	.0805113	0	.5
KLD_Exc	.0353768	.1346916	0	1	.0537551	.1644772	0	1
Domini400	.0587783	.2352222	0	1	.0761317	.2652428	0	1
NoKLD	.48363	.4997594	0	1	.3359053	.4723667	0	1
HHI	.1174044	.1093268	.0202147	1	.11461	.1114794	.0202147	1
Ln_Assets	7.735971	1.64944	2.819413	14.21032	8.306593	1.493938	4.180798	13.5938
Debt_ratio	.2415604	.1824459	0	1.665096	.2498083	.1537018	0	1.056814
RnD_ratio	.0335913	.0779048	0	.991703	.026003	.0554346	0	.7438711
Capx_ratio	.0688629	.1003978	0	.9948596	.0651386	.0777204	0	.8349596
Adv_ratio	.0090581	.0253599	0	.3519763	.0102528	.0271398	0	.3519763
Div_ratio	.0400048	.4064017	-6.90004	35.97784	.0614672	.6149596	-6.90004	35.97784
Pct_Insti	62.7976	18.71632	.0000168	99.97928	62.64155	16.87974	.0027344	99.85014
Pct_Indep	.6475811	.1780366	0	1	.6797995	.1638878	.0909091	.9411765
Pct_Dir	.0779213	.2091022	0	12.28997	.0513701	.1224797	0	3.62744
Gindex	9.404966	2.674629	2	19	10.16667	2.585806	2	17
Ln_Blocks	14.10243	5.329727	0	20.14608	13.79874	5.975805	0	19.95798
Ln_Analy	2.248453	.6994011	.6931472	3.799973	2.439651	.6424009	.6931472	3.799973
Sales_Grw	.1059537	.2770798	-.96719	7.11007	.0934962	.2268507	-.836859	4.61953
Std_Retu	11.69067	5.901658	0	122.9874	9.650237	3.917552	0	30.43451
Pct_CEO	1.597749	5.130707	0	83.13101	.868629	3.223881	0	59.65107
Ln_Sales	7.438582	1.431325	2.472412	12.48367	8.025728	1.284994	4.933704	12.48367
Adv_dummy	.7291804	.4444075	0	1	.721965	.4480884	0	1
RnD_dummy	.5867941	.4924362	0	1	.5725309	.4947749	0	1

Table 2
OLS Estimates: Unbalanced and Balanced Panels

	Unbalanced Panel			Balanced Panel		
	Q	**C1C2**	**SuSr**	**Q**	**C1C2**	**SuSr**
C1C2	0.540			0.616		
	(4.61)***			(4.10)***		
SuSr	-0.423			-0.337		
	(-3.04)***			(-1.97)**		
lagtobinq		0.003	-0.002		0.006	-0.004
		(3.84)***	(-2.53)**		(3.00)***	(-2.83)**
lagC1C2			0.051			0.030
			(3.74)***			(1.59)
lagSuSr		0.096			0.057	
		(5.29)***			(2.41)**	
Control Var.	Y	Y	Y	Y	Y	Y
Industry FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Firm FE	N	N	N	N	N	N
Observations	9102	9102	9102	3888	3888	3888
R-Sq	0.350	0.500	0.491	0.467	0.519	0.502
* p<0.1	** p<0.05	*** p<0.01				

NB: z statistics are based on robust standard errors.

Table 3
2SLS-FFE Estimates: Unbalanced and Balanced Panels

	Unbalanced Panel			Balanced Panel		
	Q	C1C2	SuSr	Q	C1C2	SuSr
C1C2	-0.107			-0.342		
	(-0.307)			(-1.030)		
SuSr	-0.504			-0.951***		
	(-1.343)			(-2.704)		
lagtobinq		-0.000	-0.001		-0.004**	-0.004**
		(-0.429)	(-1.286)		(-2.064)	(-1.980)
lagSuSr		0.066***			0.057*	
		(2.667)			(1.804)	
lagC1C2			0.078***			0.056
			(2.673)			(1.409)
KLD_Exc	0.577***	-0.005	0.019	0.505***	-0.010	0.021
	(3.939)	(-0.258)	(0.734)	(3.525)	(-0.438)	(0.711)
NoKLD_old	-0.089	-0.065***	-0.088***	-0.222***	-0.073***	-0.088***
	(-1.612)	(-14.029)	(-20.282)	(-3.561)	(-8.869)	(-12.551)
Domini400	-0.221***	0.023***	-0.008	-0.251***	0.027***	-0.004
	(-2.925)	(3.211)	(-1.187)	(-3.256)	(3.156)	(-0.479)
HHI	-0.236	-0.041	0.057	-0.419	-0.087	0.096
	(-0.728)	(-1.033)	(1.209)	(-1.088)	(-1.236)	(1.325)
Gindex	-0.038**	0.003	0.002	-0.005	0.006	0.004
	(-2.324)	(1.227)	(1.096)	(-0.241)	(1.600)	(1.455)
Ln_Assets	-1.167***	0.021***	0.002	-1.015***	0.021	-0.002
	(-16.943)	(2.798)	(0.284)	(-11.640)	(1.436)	(-0.208)
Ln_Sales	0.417***	-0.005	0.014*	0.491***	-0.000	0.033**
	(5.927)	(-0.710)	(1.909)	(5.201)	(-0.029)	(2.198)
Debt_ratio	-0.955***	-0.007	-0.018	-1.326***	-0.013	-0.014
	(-6.217)	(-0.552)	(-1.171)	(-6.414)	(-0.526)	(-0.458)
RnD_ratio	-3.615***	-0.022	0.072***	-5.308***	-0.049	0.129
	(-8.254)	(-0.896)	(2.735)	(-6.849)	(-0.692)	(1.643)
Capx_ratio	0.391	-0.001	-0.020	0.244	-0.029	-0.037
	(1.561)	(-0.061)	(-0.979)	(0.636)	(-0.828)	(-0.741)
Adv_ratio	3.657**	0.011	0.090	7.402***	0.191	0.063
	(2.201)	(0.059)	(0.499)	(3.594)	(0.726)	(0.193)
Div_ratio	0.042*	0.001	0.003***	0.049**	0.001	0.003***
	(1.651)	(1.240)	(2.729)	(2.261)	(1.353)	(4.337)
Pct_Insti	0.016***	-0.001***	-0.001***	0.015***	-0.001***	-0.001***
	(8.917)	(-4.890)	(-3.822)	(5.672)	(-3.634)	(-3.533)
Pct_Indep	-0.086	-0.002	0.009	-0.268	-0.011	0.001
	(-0.658)	(-0.228)	(0.685)	(-1.639)	(-0.563)	(0.025)
Pct_Dir	-0.001	-0.002	0.006	-0.143	-0.004	0.011
	(-0.011)	(-0.608)	(1.562)	(-0.908)	(-0.394)	(0.857)
Emp	-0.152	0.078***	-0.008	0.074	0.068**	-0.000

	(-1.118)	(3.634)	(-0.372)	(0.545)	(2.515)	(-0.012)
Ln_Blocks	-0.010***	0.001***	-0.000	-0.002	0.001***	0.000
	(-3.117)	(3.521)	(-0.098)	(-0.631)	(2.680)	(0.613)
Ln_Analy	0.044	0.002	-0.001	0.151**	0.006	0.008
	(0.918)	(0.379)	(-0.199)	(2.425)	(0.724)	(1.095)
Sales_Grw	0.344***	-0.005	-0.007	0.219***	-0.009	-0.013*
	(7.282)	(-1.147)	(-1.622)	(3.193)	(-0.960)	(-1.750)
Std_Return	-0.043***	0.000	0.001	-0.032***	-0.001	0.004**
	(-7.677)	(0.015)	(1.607)	(-3.447)	(-0.789)	(2.510)
Pct_CEO	0.002	0.000**	0.001**	0.006	0.001*	0.001
	(0.608)	(2.136)	(2.433)	(0.915)	(1.907)	(1.180)
Adv_dummy	0.302***	0.006	-0.003	0.159**	0.008	-0.007
	(4.389)	(0.990)	(-0.387)	(2.015)	(0.879)	(-0.665)
RnD_dummy	-0.025	0.009	0.015	0.095	0.008	0.038*
	(-0.186)	(0.986)	(1.089)	(0.623)	(0.565)	(1.696)
year_1997	-0.225***	-0.020***	-0.069***	0.000	0.000	0.000
	(-2.904)	(-2.828)	(-8.266)	.	.	.
year_1998	-0.108	-0.015**	-0.068***	0.170***	0.005	-0.003
	(-1.482)	(-2.242)	(-9.143)	(3.222)	(1.293)	(-0.682)
year_1999	0.225***	-0.018***	-0.073***	0.364***	-0.000	-0.012*
	(3.309)	(-2.970)	(-11.409)	(6.503)	(-0.005)	(-1.933)
year_2000	0.077	-0.015***	-0.071***	0.277***	0.004	-0.011
	(1.233)	(-2.811)	(-12.003)	(4.498)	(0.680)	(-1.371)
year_2001	0.043	-0.009*	-0.064***	0.241***	0.013	-0.003
	(0.768)	(-1.821)	(-12.810)	(3.342)	(1.607)	(-0.304)
year_2002	-0.133***	0.001	-0.036***	0.158*	0.028***	0.034***
	(-2.765)	(0.288)	(-8.861)	(1.943)	(2.927)	(3.084)
year_2003	0.012	-0.003	-0.038***	0.179**	0.024**	0.032**
	(0.277)	(-1.380)	(-13.664)	(2.068)	(2.291)	(2.577)
year_2004	0.000	0.000	0.000	0.154*	0.029**	0.070***
	.	.	.	(1.657)	(2.501)	(5.211)
constant	7.701***	-0.007	0.047	5.695***	-0.037	-0.167*
	(15.668)	(-0.160)	(0.891)	(8.957)	(-0.424)	(-1.731)
Observations	9102	9102	9102	3888	3888	3888
Number firms	2010	2010	2010	486	486	486
R-Sq Within	0.151	0.219	0.339	0.167	0.219	0.325

* p<0.1, ** p<0.05, *** p<0.01

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the c1c2 and SuSr equations.

Table 4
2SLS-FFE Estimates: Five Equation System

Panel A: Unbalanced Panel

Variable	Q	C1	C2	Su	Sr
C1	-0.215				
	(-0.312)				
C2	0.033				
	(0.062)				
Su	-0.157				
	(-0.344)				
Sr	-0.976*				
	(-1.946)				
lagtobinq		0.000	-0.000	0.000	-0.001*
		(0.093)	(-0.602)	(0.545)	(-1.757)
lagSu		0.010	0.036		
		(0.549)	(1.501)		
lagSr		0.040***	0.054***		
		(2.615)	(2.643)		
lagC1				0.058	0.014
				(1.602)	(0.465)
lagC2				0.015	0.067**
				(0.516)	(2.553)
Control variables	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	9102	9102	9102	9102	9102
Number of firms	2010	2010	2010	2010	2010
R-Sq Within	0.152	0.137	0.148	0.085	0.422

Panel B: Balanced Panel

Variable	Q	C1	C2	Su	Sr
C1	-1.375**				
	(-2.240)				
C2	0.512				
	(0.997)				
Su	-0.782*				
	(-1.877)				
Sr	-1.295***				
	(-2.613)				
lagtobinq		-0.003*	-0.001	-0.000	-0.003***
		(-1.932)	(-0.657)	(-0.411)	(-2.605)
lagSu		-0.002	0.040		
		(-0.085)	(1.395)		
lagSr		0.041**	0.048*		
		(1.968)	(1.714)		
lagC1				0.041	0.010
				(0.875)	(0.267)
lagC2				0.022	0.039
				(0.566)	(1.106)

Control variables	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	3888	3888	3888	3888	3888
Number of firms	486	486	486	486	486
R-Sq Within	0.164	0.151	0.146	0.104	0.447

* p<0.1, ** p<0.05, *** p<0.01

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the C1, C2, Su and Sr equations.

Table 5a
Consumer and Industrial Industries: 2SLS-FFE

Panel A: Unbalaned Panel	**Industrial**			**Consumer**		
Variables	**Q**	**C1C2**	**SuSr**	**Q**	**C1C2**	**SuSr**
C1C2	1.578***			-1.592***		
	(2.620)			(-3.787)		
SuSr	-0.920			-0.539		
	(-1.069)			(-1.346)		
lagtobinq		0.001	-0.000		-0.003*	-0.002
		(1.609)	(-0.450)		(-1.940)	(-1.637)
lagSuSr		0.126***			0.042	
		(2.849)			(1.448)	
lagC1C2			0.052			0.092**
			(1.317)			(2.291)
Control variables	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Observations	3784	3784	3784	5318	5318	5318
Number of firms	853	853	853	1157	1157	1157
R-Sq Within	0.187	0.229	0.392	0.140	0.224	0.329

Panel B: Balanced Panel	**Industrial**			**Consumer**		
Variable	**Q**	**C1C2**	**SuSr**	**Q**	**C1C2**	**SuSr**
C1C2	2.006***			-1.706***		
	(3.774)			(-3.953)		
SuSr	-1.485**			-0.829*		
	(-2.088)			(-1.938)		
Lagtobinq		0.003	-0.003		-0.007***	-0.004**
		(1.296)	(-0.797)		(-3.360)	(-2.152)
lagSuSr		0.098*			0.040	
		(1.784)			(1.120)	
LagC1C2			0.024			0.077
			(0.462)			(1.430)
Control variables	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Observations	1464	1464	1464	2424	2424	2424
Number of firms	183	183	183	303	303	303
R-Sq Within	0.163	0.218	0.399	0.176	0.241	0.321

* p<0.1, ** p<0.05, *** p<0.01

NB: Consumer industries (cons = 1) using Fama-French classifications: food products, candy and soda, alcoholic beverages, tobacco products, recreational products, entertainment, printing and publishing, consumer goods, apparel, healthcare, miscellaneous, automobiles and trucks, telecommunications, personal services, computers, business supplies, retail, restaurants, hotels, motels, banking, insurance. Consumer industries account for 0.415 and 0.377 of the observations for the unbalanced and balanced panels, respectively.

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the C1C2 and SuSr equations.

Table 5b

Consumer Industries: Unbalanced Panel—2SLS-FFE

Variable	**Q**	**C1**	**C2**	**Su**	**Sr**
C1	-0.934				
	(-0.666)				
C2	2.935***				
	(3.513)				
Su	-1.038				
	(-0.899)				
Sr	-0.952				
	(-0.932)				
lagtobinq		0.000	0.001	0.000	-0.001
		(0.756)	(1.440)	(1.109)	(-1.348)
lagSu		0.055*	0.076*		
		(1.910)	(1.684)		
lagSr		0.008	0.113***		
		(0.329)	(2.934)		
lagC1				0.104**	-0.078*
				(2.337)	(-1.647)
lagC2				0.020	0.046
				(0.570)	(1.382)
Control variables	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	3784	3784	3784	3784	3784
Number of firms	853	853	853	853	853
R-Sq Within	0.182	0.126	0.179	0.072	0.449

* p<0.1, ** p<0.05, *** p<0.01

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the C1, C2, Su, and Sr equations.

Table 5c

Industrial Industries: Unbalanced Panel—2SLS-FFE

Variable	**Q**	**C1**	**C2**	**Su**	**Sr**
C1	0.581				
	(0.732)				
C2	-3.247***				
	(-4.732)				
Su	-0.162				
	(-0.341)				
Sr	-1.068*				
	(-1.896)				
lagtobinq		-0.000	-0.002***	-0.001	-0.001
		(-0.352)	(-3.269)	(-0.892)	(-1.382)
lagSu		-0.006	0.023		
		(-0.262)	(0.812)		
lagSr		0.052***	0.031		
		(2.771)	(1.335)		
lagC1				0.032	0.059
				(0.677)	(1.612)
lagC2				0.003	0.089**
				(0.060)	(2.253)
Control variables	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y
Observations	5318	5318	5318	5318	5318
Number of firms	1157	1157	1157	1157	1157
R-Sq Within	0.138	0.164	0.140	0.110	0.416

* p<0.1, ** p<0.05, *** p<0.01

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the C1, C2, Su, and Sr equations.

Table 6
Comparison of the Clinton and Bush Years

	Unbalanced Panel			Balanced Panel		
Variable	**Q**	**C1C2**	**SuSr**	**Q**	**C1C2**	**SuSr**
C1C2	0.248			0.104		
	(0.873)			(0.366)		
SuSr	-0.809***			-0.884***		
	(-2.587)			(-3.011)		
pres*C1C2	-0.639***			-0.541***		
	(-3.408)			(-2.862)		
pres*SuSr	0.430*			0.247		
	(1.725)			(1.067)		
Lagtobinq		-0.001	0.000		-0.004	-0.002
		(-0.774)	(0.159)		(-1.225)	(-0.531)
lagSuSr		0.016			0.006	
		(0.517)			(0.179)	
lagC1C2			-0.009			-0.036
			(-0.257)			(-0.788)
pres*lagtobinq		0.001	-0.001		0.001	-0.003
		(0.821)	(-0.829)		(0.368)	(-0.972)
pres*lagSuSr		0.091***			0.103***	
		(3.059)			(2.888)	
pres*lagC1C2			0.123***			0.135***
			(5.143)			(4.185)
Control variables	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Observations	9102	9102	9102	3888	3888	3888
Number firms	2010	2010	2010	486	486	486
R-Sq Within	0.152	0.225	0.349	0.171	0.228	0.337

* p<0.1, ** p<0.05, *** p<0.01

NB: pres =1 if Bush

NB: The z statistics are reported in the parentheses. Robust standard errors are used for the C1C2, and SuSr equations.

Table 7
Estimation of C and S Equations with Differences 3SLS: (8)-(9)

	Unbalanced Panel		Balanced Panel	
Variables	Ct - Ct-1	St – St-1	Ct – Ct-1	St - St-1
St-1 - St-2	0.010		0.003	
	(1.104)		(0.255)	
Ct-1 - Ct-2		0.069***		0.069***
		(4.637)		(2.670)
Qt-1 - Qt-2	-0.000	-0.001	-0.005**	-0.004**
	(-0.0963)	(-1.556)	(-3.614)	(-2.445)
CVt - CVt-1	Y	Y	Y	Y
CVt-1 - CVt-2	N	N	N	N
Dif Year fixed effects	Y	Y	Y	Y
Observations	6993	6993	3402	3402
Number of firms			486	486
R-Sq	0.124	0.172	0.120	0.130

* p<0.1 ** p<0.05 *** p<0.01
NB: CV denotes control variables

Table 8
Estimation with Differences (12) and (13)—Balanced Panel

Variables	Ct - Ct-1	St - St-1
Ct-2 - Ct-3	0.106	
	(0.784)	
St-2 - St-3		0.064
		(0.494)
Qt-1 - Qt-2	-0.004***	-0.004**
	(-2.996)	(-2.045)
Qt-2 - Qt-3	-0.001	-0.004**
	(-0.391)	(-2.300)
CVt - CVt-1	Y	Y
CVt-1 - CVt-2	Y	Y
Year fixed effects	N	N
Observations	2916	2916
Number of firms	486	486
R-Sq Between	0.208	0.139

* p<0.1 ** p<0.05 *** p<0.01
NB: CV denotes control variables

Table 9
3SLS Estimates of (15) and (16)

	Unbalanced Panel		Balanced Panel	
	$C_t - C_{t-1}$	$S_t - S_{t-1}$	$C_t - C_{t-1}$	$S_t - S_{t-1}$
$C_{t-1} - C_{t-2}$	-0.086***	0.049***	-0.052***	0.055**
	(-7.000)	(3.122)	(-2.927)	(2.390)
$S_{t-1} - S_{t-2}$	-0.002	-0.174***	-0.009	-0.171***
	(-0.214)	(-14.062)	(-0.654)	(-10.024)
$CV_t - CV_{t-1}$	Y	Y	Y	Y
$CV_{t-1} - CV_{t-2}$	Y	Y	Y	Y
Year FE	N	N	N	N
Observations	6959	6959	3402	3402
R-Sq-Between	0.136	0.200	0.128	0.161

Table 10
Comparison of Estimates for (15)-(16) and Table 3

	Unbalanced Panel		**Balanced Panel**	
Parameter	Recovered value from (15)-(16)	Estimate from Table 3	Recovered value from (15)-(16)	Estimate from Table 3
β	0.402	0.066	0.135	0.057
δ	0.086	0.078	0.116	0.056

Figure 1

CFP and CSP: Product Differentiation Equilibrium

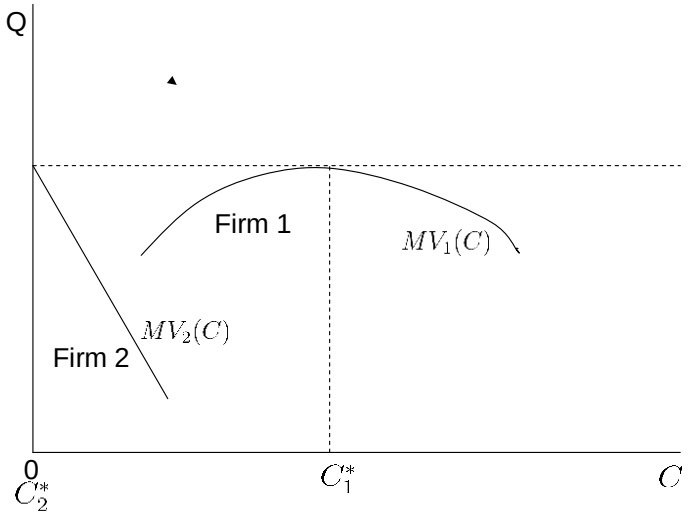


Figure 2

CFP and CSP: Capital Market Equilibrium

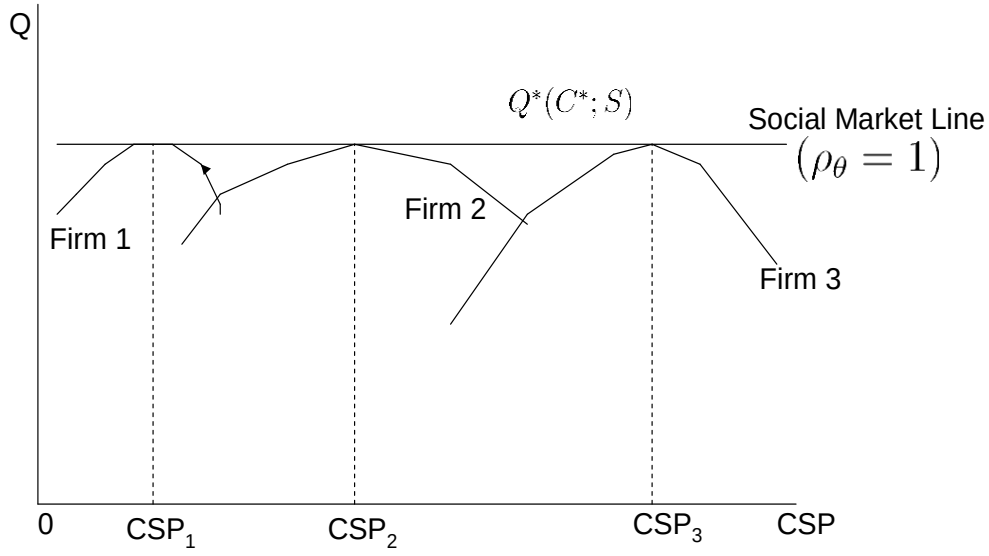
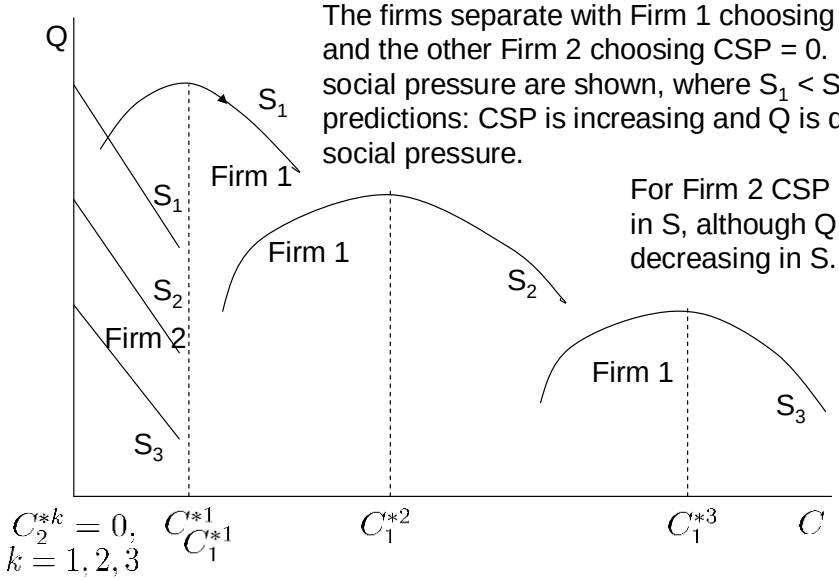


Figure 3

Comparative Statics wrt Social Pressure



Two firms compete in a market in which each consumer buys one unit of a product differentiated only by CSP. The firms separate with Firm 1 choosing CSP as below and the other Firm 2 choosing CSP = 0. Three levels of social pressure are shown, where $S_1 < S_2 < S_3$. Two predictions: CSP is increasing and Q is decreasing in social pressure.

For Firm 2 CSP is constant in S, although Q could be decreasing in S.

Figure 4

Capital and product market equilibria with three levels of social pressure

Social pressure: $S_1 < S_2 < S_3$

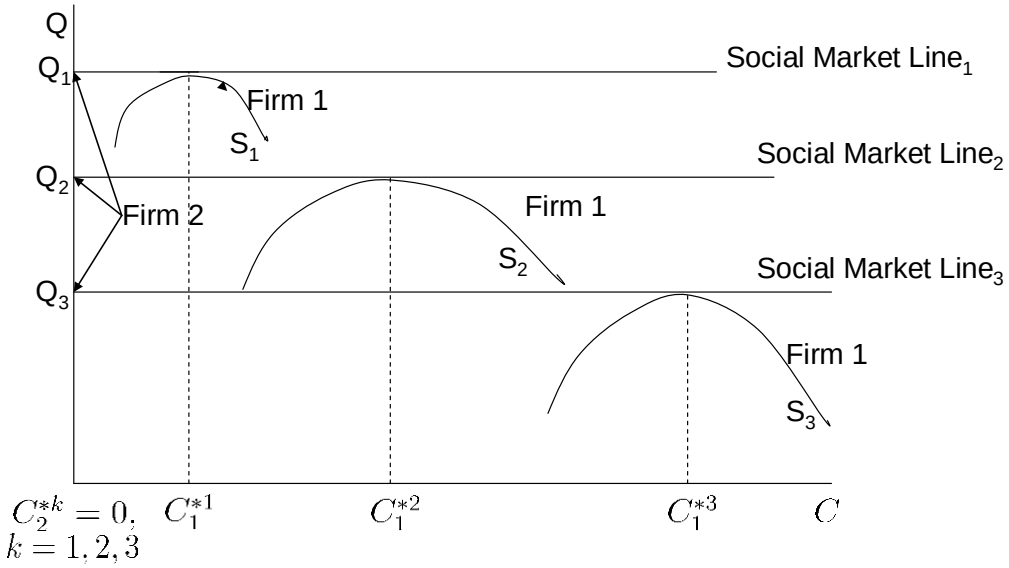
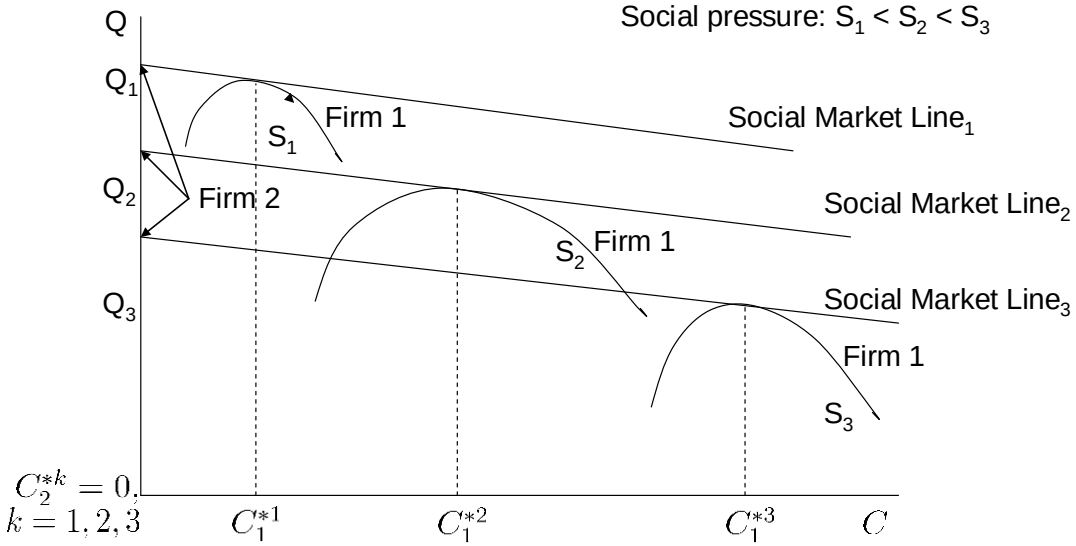


Figure 5

Capital and product market equilibria with three levels of social pressure



Slope: $\frac{dQ^*}{dC^*} = \frac{d\pi}{dC^*} - (1 - \rho_\theta) - \frac{\partial H}{\partial S^*}\frac{dS^*}{dC^*}$