

The Economics and Politics of Corporate Social Performance

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Abstract

This paper presents an empirical estimation of a model based on a theory that relates corporate financial performance (CFP), corporate social performance (CSP), and social pressure. A three-equation structural model is estimated for two panels for 1996-2004. CFP as measured by Tobin's Q is found to be independent of CSP and decreasing in social pressure. CSP is independent of CFP and is increasing in social pressure, indicating that social performance is responsive to social pressure but not to slack resources. Social pressure is increasing in CSP, 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. The measures of CSP and social pressure are also disaggregated, and the relations among CFP, CSP, and social pressure are due to private politics social pressure and not public politics social pressure.

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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. Interpretations vary, however, and the direction of causation remains an open question. That is, good CSR could cause good CFP, but good CFP could provide slack resources to spend on CSR. Commenting on an Economist Intelligence Unit survey, the *Economist*, January 17, 2008, stated it as, “Whether profitable companies feel rich enough to splash out on CSR, or CSR brings profits.”

The survey found that 47 percent of the responding firms agreed that corporate social responsibility “is a necessary cost of doing business” and 47 percent agreed that it “gives us a distinctive position in the market.” Only 4 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].” 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.

Baron (2010) distinguishes between corporate social performance (CSP) and CSR, where the latter involves a moral duty to undertake social activities. In contrast, corporate social performance (CSP) need not arise from moral responsibilities. CSP (and CSR) as considered here pertains to social activities that satisfy two conditions. First, the social activities are beyond the requirements of the law and regulations. Second, the social activities involve the private provision of public goods or private redistribution. CSR implies CSP, but CSP need not be morally motivated, since CSP could be strategically chosen to serve the interests of the firm.¹ 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. Most of the theoretical and empirical analyses pertain to CSP, since identifying moral duties is difficult at best.

This paper provides empirical evidence on the relations among CFP, CSP, and social pressure based on a theory of the underlying economics and politics of corporate social performance. The theory and empirical analysis view CFP and CSP as jointly determined by a firm operating in product and capital markets and in a market for social pressure as generated by

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.”

government, NGOs, and social activists. The theory is also used as a framework to interpret the estimates as an equilibrium in the three markets. Social pressure on a firm 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 threats to the 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 as well in CFP if CSP is a prerequisite for management. The relation between social pressure and CSP depends on which firms are targeted for pressure by government and social activists. For some parameter values the theory predicts that activists prefer to target firms that have high CSP because those firms are soft and more likely to concede to their demands.

The empirics are based on a three-equation, structural model in which operating performance and social performance are chosen by a firm in the face of social pressure from government and social activists, where the social pressure depends on the operating and social performance decisions made by the firm. Consistent with other empirical studies we find a strong positive effect of CSP on CFP and CFP on CSP. This finding, however, is due to persistent unobserved firm characteristics, and when firm fixed effects are introduced, there is no relation between CFP and CSP. The absence of a relation is consistent with the theory when individual investors view CSP as a close substitute for personal giving to social causes. 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, since that pressure can damage a brand or reputation and may signal future actions against the firm. CSP is increasing in social pressure indicating that it is responsive, and 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 components that could increase revenue or productivity directly and components likely to be a response to social pressure. A five equation, structural model is estimated with CFP, public politics social pressure, private politics social pressure, strategic CSP,

² 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." (*The New York Times*, April 7, 2007.)

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

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 targeting soft firms. The action thus is in private politics social pressure.

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. It is more informative to examine the differences in the relations among CFP, CSP, and social pressure between the Clinton and Bush eras. During the Bush era an increment to CSP resulted in a significant decrease in CFP relative to the average effect for the data period and hence to the Clinton era. In addition, the effect of an increment to social pressure on CSP was heightened during the Bush era as was the effect of an increment of CSP on social pressure. Although social pressure increased over time, during the Bush administration public politics social pressure decreased whereas private politics social pressure increased. This suggests that it was increased private politics during the Bush era that heightened the relations between CSP and social pressure and possibly the relation between CFP and CSP and social pressure.

The contributions of this paper are threefold. First, the paper estimates a model based on a theory in which CFP, CSP, and social pressure are endogenous and interprets the estimates in terms of that theory. 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.

The next section reviews the literature on corporate social performance, and Section III summarizes the theory and introduces the empirical model. Section IV elaborates on the implications of the theory and develops additional hypotheses. Section V identifies the data, and

Section VI presents and interprets the empirical results. Conclusions are offered in the final section.

II. Literature

Vogel (2005) assessed the literature and concluded that CSR has a small impact on social issues and on financial performance. Margolis and Walsh (2003) identified 127 empirical studies and 13 surveys focusing on the relation between CSP and CFP.⁴ Although some studies found no relation, Margolis and Walsh concluded that the overall weight of the studies showed a positive but weak correlation between the two components of corporate performance. This section discusses empirical research that has a direct bearing on the present study.

Moon (2007) found no relation between CSP and CFP after controlling for unobserved heterogeneity among firms. Distinguishing between positive CSP and negative CSP, which we use as a measure of social pressure, he found no relation between negative CSP and CFP but found a negative relation between positive CSP and CFP. Kotchen and Moon (2008) investigated the relation between positive CSP and negative CSP controlling for firm size, financial structure, and return on assets. They 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. They also found that concerns about corporate governance led firms to undertake CSP activities on matters other than corporate governance. Our results agree in part with these studies but provide a more complete picture of the relation between CSP, CFP, and social pressure.

Using a two-stage approach, a first-stage probit regression and a second-stage Heckman regression, Harjoto and Jo (2007a) control for endogenous treatment effects and find that CSR activity enhances firm value. They also find evidence that the impact of external monitoring by security analysts is more significant than those of other governance and monitoring mechanisms. Harjoto and Jo (2007b) find that engagement in CSR is positively associated with governance characteristics, including board independence, institutional ownership, and analyst following. In addition, after correcting for endogeneity, they show that CSR engagement positively influences operating performance and firm value. In contrast, we find no relation between CFP and CSP activity and no effects of governance or monitoring.

Becchetti, Ciciretti, and Hasan (2007) considered the effect on stock prices of the exit from and entry into the Domini 400 Social Index. Using an event study methodology they found that firms exiting the Index experienced a significant negative abnormal return that persisted. They also found that the magnitude of the effects of exit and entry on abnormal returns increased

⁴ See Griffin and Mahon (1999), Orlinsky, Schmidt, and Rynes (2003), and Roman, Hayibor, and Agle (1999) for other surveys.

over time and tentatively concluded that the effects were due to the investment practices of ethically screened funds rather than to information content. This study suggests that some investors may be willing to pay a premium for CSP and that they may be in sufficient numbers that the premium persists. Heinkle, Kraus, and Zechner (2001) provided a theory in which some investors shun certain stocks (e.g., non-green firms) and concluded that to have a market effect the proportion of such investors must be 20 percent or more. Hong and Kacperczyk (2007) found that returns on sin stocks are higher than market returns and calibration revealed magnitudes consistent with the theory of Heinkle, Kraus, and Zechner. We also examine the financial performance of firms engaged in controversial lines of business and identify relations to CSP and social pressure.

The findings of Becchetti, Ciciretti, and Hasan and Hong and Kacperczyk suggest that investors provide a premium for shares of firms that have good social performance and penalize firms with poor social performance. Our results are consistent with the latter but not the former finding. We find that social pressure depresses CFP directly, which could reflect an investor effect with some investors shunning firms that face social pressure.

Fernández-Kranz and Santaló (2007) tested the hypothesis that CSP is morally motivated against the hypothesis that it is strategically motivated. They argued that if it were morally motivated CSP should be independent of competition and should depend on competition if it is strategically motivated. They found that greater competition as measured by the Herfindahl-Hirschmann Index (HHI), import competition, and other indices of competition is associated with greater CSP. They conclude 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 firms for those activities.⁵ For example, CSP can provide product differentiation as in Bagnoli and Watts (2003) and Baron (2009), and it may also improve recruitment and motivate employees to be more productive or accept lower wages.⁶ Our results show no aggregate relation between CSP and industry competitiveness as measured by the HHI.

⁵ Siegel and Vitaliano (2007) conducted an empirical test of the motivation for corporate social responsibility. They hypothesized that CSP is strategic and provides product differentiation or signals high quality to consumers. They test whether firms producing experience and credence goods are more likely to engage in CSP than firms that produce search and non-durable experience goods. Their estimates indicate that CSP is used more with experience and credence goods, which supports the concept of strategic CSP.

⁶ Feddersen and Gilligan (2001) provide a signaling theory in which a social activist can signal to consumers the attributes of a credence good thus allowing product differentiation even though attributes are never observable. 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. Firms

Fisman, Heal, and Nair (2006) provide a signaling theory in which firms can either be self-interested or altruistic and can signal their altruism with CSP, which then provides product differentiation. They hypothesize that product differentiation is more important in more competitive, and hence less differentiated, industries, and thus CFP and CSP should be more highly correlated in those industries. Using measures of corporate philanthropy from the social rating organization Kinder Lydenberg Domini (KLD), they find some support for their hypothesis. Navarro (1988) provided a model in which corporate philanthropy increases profits, presented empirical evidence that corporate giving is like advertising, and concluded that the profit motive drives giving. Fisman, Heal, and Nair (2005) found that corporate social responsibility was greater for consumer products companies that were advertising intensive, which is consistent with the view that corporate social responsibility is undertaken to enhance a brand or product. We find no relation between advertising intensity and CSP.

Some empirical studies have focused on a single dimension of social performance. Dowell, Hart, and Yeung (2000) found that firms with a stringent global environmental policy had better CFP as measured by Tobin's Q than did firms without such a policy. King and Lewis (2001) found a positive relation between pollution reduction and Tobin's Q for a set of manufacturing firms that reported toxic releases. Both studies estimated single equation models, and neither was able to reach a conclusion about the direction of causality. Their results are consistent with ours to the extent that stringent environmental policies and pollution reduction reduce social pressure.

A small empirical literature links social pressure and CSP. Maxwell, Lyon, and Hackett (2001) found that the release of toxic substances by firms was lower the greater the Sierra Club membership in the state. Hamilton (1993, p. 121) examined expansions of hazardous waste facilities and concluded that firms took "into account the potential for areas to mobilize and engage in collective action in their selection of counties in which to add capacity..." Binder and Neumayer (2005) studied emissions of SO_2 , smoke, and heavy particulates for a cross-section of 35 countries and found that emissions were lower the greater the presence of environmental NGOs in a country. Our results also show that social pressure arising from private politics increases CSP, but it also decreases CFP.

Empirical research on the relation between CSP and CFP is typically silent about the direction of causation. McGuire, Sundgren, and Schneeweis (1988) studied the relation between

differentiate their offerings, and Bertrand competition leaves the surplus with consumers, but the public good is undersupplied relative to the first-best.

CSP and CFP using *Fortune* magazine's rankings of corporate reputation as an index of CSP and several market and accounting measures of CFP. They regressed CSP on CFP prior and subsequent to the year in which CSP was measured and found that prior financial performance was a better predictor than subsequent performance. They concluded (p. 869), "it may be more fruitful to consider financial performance as a variable influencing social responsibility than the reverse." Waddock and Graves (1997) also found that CSP was positively related to prior financial performance and concluded that their results supported "the theory that slack resource availability and CSP are positively related." The present paper unpacks this simultaneity to provide estimates of both the effect of CFP on CSP and the effect of CSP on CFP.

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

A. The Model

The empirical specification is based on a theory by Baron (2007)(2008a)(2009) in which CFP and CSP are jointly determined by a firm that may face social pressure from government or private citizens 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 those, government, NGOs, and social activists, that generate social pressure. Social pressure can be directed at a firm because of its operations, the industry in which it operates, or the broader social environment. That environment is characterized by a set of exogenous factors that reflect product and capital market characteristics as well as descriptors that take into account heterogeneity among firms.

The theory incorporates 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." The empirical analysis is thus better viewed as an estimation of the model rather than a test of the theory.

Graff Zivin and Small (2005) and Baron provide theories that yield an endogenous capital market value of CSP. The theory developed by Baron (2009) 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.⁷ Citizens allocate their endowments between savings, personal giving to social causes, the purchase of shares of firms that do and do not have CSP, and contributions to an activist to fund its production of social pressure. In the product market the firms produce 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 the firm. In the capital market they trade shares and also can give personally to social causes. This allows the social activities of a firm to be priced in the capital market. The equilibrium yields an expression (Equation (2) below) for the market value of the firm that is a linear function of the firm's profits from operations and its social performance, where the latter is valued at a social rate of return determined in the equilibrium. This provides the basis for an empirical specification in which the market value of a firm is a function of its social as well as its operating performance. The social rate of return is equal to one when corporate social performance is a perfect substitute for personal giving and is less than one if it is an imperfect substitute.⁸

The capital market theory yields a social Modigliani-Miller theorem. Suppose that firms do not compete in product markets and each can spend on CSP that has no effect on revenues. If individuals have preferences such that corporate social performance is a perfect substitute for personal giving to social causes, the market value of firms with different CSP is the same. This is an equilibrium relation and is illustrated in Section VI.B.2.

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 firm has high costs and extracts rewards through a high price, whereas the second firm has low costs and extracts rewards by attracting with a lower price consumers who are unwilling to pay the high price. Consequently, even if CFP is a direct function of CSP, the supply of CSP could differ considerably across firms. Moreover, as shown in Baron (2008b) a firm that supplies no CSP

⁷ Social pressure can also come from government.

⁸ In the equilibrium the firm with CSP attracts a clientele of shareholders for whom CSP is a close substitute for personal giving, whereas those citizens 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.

could have higher profits than a firm that has positive CSP. This prediction indicates that there may be no cross-sectional relation between CFP and CSP even though there may be a causal relation for individual firms.

In the theory CSP may be rewarded by consumers, investors, or employees and other suppliers of factor inputs. In addition, firms may undertake social activities because managers have (e.g., warm glow) preferences for those activities. That is, social activities can be perquisites for managers. Shareholders may use compensation contracts to provide incentives for managers to engage in CSP, but with hidden actions and hidden information those contracts are second best, leaving opportunities for managers to consume CSP as perquisites. Baron (2008a) finds that the optimal compensation is a weakly increasing function of the social performance of the firm. Data on compensation contracts are not available, however, so measures of CFP, management entrenchment, and external monitoring of management are used in the empirical analysis to evaluate a perquisites hypothesis.

Firms may also engage in social activities if those activities reduce potentially harmful social pressure. Baron (2001)(2008b) 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 the pressure. Baron (2009) closes the theory by requiring that the social pressure generated by the activist be funded by voluntary contributions from citizens. 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 hence be more likely to respond to demands, and (2) sufficient CSP could lead an activist to target another firm with weaker CSP. Whether social pressure targets soft firms depends on the parameters of the model.

Baron (2009) 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 concerns. Social pressure thus can accompany moral issues.

Social pressure could directly affect the market value of a firm through investors' perceptions about future social pressure, damage to brand equity or reputation, or driving some investors away from the firm. This can depend on the social issue. For example, Epstein and Schnietz (2002) conducted an event study of the share prices of firms designated by protestors as abusive in the context of the 1999 demonstrations that disrupted the Seattle WTO meetings. They

found that firms designated as environmentally abusive experienced a statistically significant decrease in their market values as a result of the demonstrations. In contrast, they found no significant change in the value of firms that had been identified as abusive of worker rights.

B. Empirical Specification

The theory yields three structural equations plus a capital market clearing condition that establishes the market value of the firm. 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 market clearing condition allows the elimination of one of the structural equations. Since data are not available on prices and quantities, the operations equation is eliminated with controls used for aspects of operations. A three equation simultaneous equation system is thus estimated. One equation represents the market value of the firm, another represents the choice of CSP, and the third represents the choice of social pressure.

The capital market equilibrium is driven by investors seeking a return on their investment, so CFP will be measured by Tobin's Q , which measures financial performance based on both the market value of the firm and the investments (assets) in the firm. Tobin's Q is defined as

$$Q = \frac{MV}{TA}, \quad (1)$$

where MV is the market value of the firm's securities and TA is its total assets. Since the capital market clearing condition is based on all contemporaneous information on operations, CSP, and social pressure, the market value is specified as a function of operations and contemporaneous CSP and social pressure; i.e.,

$$MV = \pi(O, C, S) - C - H(S; C) + \rho_\theta C, \quad (2)$$

where π is the cash flow resulting from operations O of the firm, its CSP (C), and social pressure S , $H(S; C)$ is the harm to the firm from social pressure as possibility mitigated by C , and $\rho_\theta C$ is the capital market premium for the social performance of the firm where ρ_θ is the (endogenous) social rate of return. The cash flow π should be increasing in C and decreasing in S if, for example, consumers' willingness to pay is increasing in CSP and decreasing in social pressure.

The expression in (2) identifies a "social market line" that relates the market values of firms to their CSP. That is, in a capital market equilibrium individual firms choose their CSP optimally to maximize their market values, and for a cross-section of firms those market values are related to their CSP as in (2). If CSP does not affect π or H , the slope of the social market

line is then $-(1 - \rho_\theta)$. 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 . If CSP is not a perfect substitute for personal giving, then $\rho_\theta < 1$ and the social market line has a negative slope. If operating performance π and the harm H from social pressure depend causally on C , the social market line could be nonlinear. For example, the market value in (2) of an individual firm could be strictly concave in C reflecting a causal relation between CSP and rewards in the product, factor inputs, and capital market. Then, each firm can be maximizing its market value, and the social market line traces out the relation between market value and the optimal CSP of firms.

The equations estimated are linear approximations of the specification in (3)-(5), which include firm and industry controls as well as external monitoring by the capital markets. The empirical specification is:

$$Q = f_1(C, S, \text{firm and industry characteristics, monitoring}) \quad (3)$$

$$C = f_2(\text{lagged } Q, \text{lagged } S, \text{firm and industry characteristics, monitoring}) \quad (4)$$

$$S = f_3(\text{lagged } q, \text{lagged } C, \text{firm and industry characteristics}) \quad (5)$$

The CSP and social pressure equations have no endogenous variables on the right side, so only the Q equation requires identification. That equation has four excluded variables: lagged CSP, lagged social pressure, lagged Q, and a dummy variable that under the theory affects social pressure but not Q (or CSP). The data identify “exclusionary” factors, such as cigarette production, nuclear power, and gambling, that may be thought of as controversial activities. Controversy should directly affect social pressure and not directly affect CFP or CSP, and hence it is excluded from those equations.⁹

The three primary variables of interest, Q , C , and S , have high serial correlation and hence should be thought of as endogenous state variables, or stocks, that along with contemporaneous factors influence the operations and social activities of the firm.¹⁰ That is, CSP reflects firm policies in place and increments to or decrements from those stocks in the current period, rather than being new choices each year. For example, a firm may engage in partnerships with community or environmental groups that cannot be easily changed. Similarly, social pressure is viewed as an endogenous state variable that reflects the pressure arising from the ongoing operations of the firm, its reputation, and its lines of business. Since CSP and social

⁹ Later the dummy variable will be included in the Q equation to estimate the effect found by Hong and Kacperczyk.

¹⁰ Evidence for this is the high correlation of 0.93 for CSP and lagged CSP, 0.84 for social pressure and lagged social pressure, and 0.72 for Q and lagged Q .

pressure are stocks, their increments in a period are assumed to be a function of the financial health of the firm and the social pressure and CSP, respectively, at the beginning of the period. Consequently, the stock of CSP at the end of the period is viewed as a function of lagged Q and lagged S .¹¹ Similarly, the social pressure in a year is viewed as a function of the financial health of the firm and its CSP at the beginning of the year, as measured by lagged Q and lagged CSP.

IV. Elaborations of the Theory and Empirical Specification

CSP could have a number of motivations. In addition to morally-motivated CSP 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.

Consumer rewards: Consumers could value CSP and be willing to pay a premium for the goods and services of a firm with social performance. Hiscox and Smyth (2006) and Elfenbein and McManus (2007) present empirical studies indicating that some consumers are willing to pay a premium for private goods that have social performance attached to them.¹² A firm then can have an incentive to undertake the activities. 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 has 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 require its suppliers to abide by a code of conduct for social performance, so a supplier that abides by the code is rewarded.

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

¹¹ Tobin's Q is measured at the end of the calendar year, so it represent the stock at the beginning of the next year.

¹² Hiscox and Smyth (2006) 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 (2007) 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.

(Bagnoli and Watts 2003) and increasing in competitiveness (Fisman, Heal, and Nair 2006). 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 for firms with good CSP. This can induce firms to improve their CSP to attract green investors. Investors could provide the premium by investing through socially responsible investment funds. This does not mean that CSP increases the market value of the firm, since CSP can be costly, but part of the cost of CSP can be offset by the premium investors pay for CSP, as indicated in (2). Social pressure is a response to allegedly abusive activities, and hence the market value of the firm should be decreasing in social pressure.

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, we estimate a combined rewards effect. That is, the estimated coefficient of CSP in the CFP equation corresponds to the marginal effect of C on $\pi(O, C, S) - C + \rho_\theta C$ in (2). CFP is positively related to CSP only if consumers, employees, or investors reward the firm sufficiently for its social activities.

Management perquisites hypothesis: Managers could undertake social activities because of their own personal interests. That is, 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 that can come from pressure groups and NGOs or receive satisfaction from benefitting others. 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).

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 external monitoring of the firm by the capital market. More specifically, discretion should be an increasing function of management 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. Independent directors could also monitor management, but they could also consume perquisites or be appointed to the board in response to social pressure. The management perquisites hypothesis thus is that CSP is increasing in CFP and in management discretion.

Moral management: The motivation for social activities is unobservable, and corporate statements regarding mission and responsibilities can be motivated by self-interest as well as by moral duties. 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 social issues a firm encounters. Morally-motivated CSP could be independent of social pressure, or social pressure could be associated with the issues on which the firm acts morally.

Fernández-Kranz and Santaló (2007) argue that CSP should be independent of industry competitiveness if it is morally motivated. They found that CSP was greater and social pressure 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 empirical relation between competitiveness and 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 consumers for green products, for example, and firms could respond by increasing their CSP. Firms also could be required by government to correct violations of the law. Firms could also undertake CSP in the hope that it would mitigate the harm to its market value done by social pressure. CSP thus should be increasing in (lagged) social pressure in (4). Responding to social pressure is consistent with stakeholder theory in which firms undertake social activities to balance the competing pressures from stakeholders.¹³

Pressure release and soft target hypotheses: The activists and NGOs that generate private politics social pressure select firms to target. Pressure could be directed to worst offenders, but it could also be directed to soft targets. Soft targets include those firms that have the weakest incentives to resist the activist demands and those that have provided CSP in the past.¹⁴ Baron (2009) shows that firms with high CSP have a weaker incentive to resist social pressure than do firms with low CSP.¹⁵ Social pressure thus should be positively related to

¹³ Tirole (2001) considers stakeholder theory from the perspective of corporate governance, focusing on incentive and control issues.

¹⁴ 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.”

¹⁵ To see this, suppose that CSP provides product differentiation for some consumers, and consider a social activist that can target either a firm with high CSP or one with low CSP. Targeting consists of a demand

(lagged) CSP if CSP provides product differentiation. Firms with weak CFP should also be soft targets. In contrast, if NGOs and social activities prefer to target the worst offenders (low CSP), social pressure should be negatively related to (lagged) CSP. Government could also base its enforcement activities on the social performance of firms.

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, so the data cannot distinguish between them.

The soft target and pressure release hypotheses have implications for the empirical relation between CFP and CSP. Suppose that firms are rewarded for their CSP and maximize their market value in (2) with respect to CSP. Assuming differentiability the first-order condition is

$$\frac{\partial MV}{\partial C} = \frac{\partial \pi}{\partial C} - 1 + \rho_{\theta} + \left(\frac{\partial \pi}{\partial S} - \frac{\partial H}{\partial S} \right) \frac{\partial S}{\partial C} = 0, \quad (6)$$

where $\frac{\partial H}{\partial S} > 0$ is the effect on the harm to the firm from a change in social pressure and $\frac{\partial \pi}{\partial S} < 0$ reflects, for example, the effect of social pressure on consumer demand. Under the soft target hypothesis S is increasing in C , which implies that $\frac{\partial \pi}{\partial C} - 1 + \rho_{\theta} > 0$. If the pressure release hypothesis is true, S is decreasing in C , so $\frac{\partial \pi}{\partial C} - 1 + \rho_{\theta} < 0$. Since the coefficient of CSP in the CFP equation in (3) measures $\frac{\partial \pi}{\partial C} - 1 + \rho_{\theta}$, the coefficient should be positive under the soft target hypothesis and negative under the pressure release hypothesis.

V. 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 expenditures 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 social ratings data for more than 3,000 companies. KLD provides inclusive Strengths and Concerns data for the categories: community, diversity, employee relations,

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 reduces product differentiation and intensifies 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.

environment, governance, human rights, and product. The inclusive strength and concern ratings 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 we view as affecting social pressure.¹⁶ These 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 as of August of each year. 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 as of December 31st of each year.

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.¹⁷ 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;¹⁸ and (iv) the number of analysts following a firm must be available from the *I/B/E/S* database. We also require that sufficient 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. This yields a panel of 2,010 firms. In total, twenty-one control variables are used in the estimation.

B. Measurement

CSP is measured by the KLD Strengths identified in panel A of Appendix A and as discussed above should be viewed as stocks or endogenous state variables. The strengths correspond to activities that appear to favor the public directly and seem to be cast that way by the media. To assess the quality of the KLD data, Chatterji, Levine, and Toffel (2007) used the KLD environment ratings to predict toxic releases reported in the government’s Toxic Releases Inventory 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

¹⁶ Only 3.5 percent of the firm-year observations have an exclusionary screen.

¹⁷ 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.

¹⁸ These filings contain quarterly information on common-stock positions greater than 10,000 shares or \$200,000 for each institution with more than \$100 million in securities under management.

available on environmental performance but are a good predictor of firms with the worst environmental performance.

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

$$C^{it} = \frac{\sum_j C^{ijt}}{C^t}. \quad (7)$$

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 decomposed into those activities (C_1) judged more likely and those activities (C_2) judged less likely to be directly rewarded by consumers or employees. 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, 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 strengths such as protecting the environment, philanthropy, and product quality can be advertised to consumers and emphasized to employees as part of corporate culture.

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 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 government and associated with private politics (S_r), such as workplace reductions and indigenous peoples relations, and those that may involve both such as the production of agricultural chemicals.¹⁹ Our assignment of individual KLD strengths and concerns into categories is a matter of judgment.

The KLD data collection system does not conform exactly to the definition of CSP used here. KLD, for example, 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

¹⁹ The indices for the two component of C are constructed as in (6) 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.

components among which there 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) included in the CFP equation. The estimated coefficients are not statistically significant.²⁰

CFP is measured by Tobin’s Q , which is subject to two types of variation across firms that may be independent of the operations and social activities of a firm. The first includes factors that can affect overall market values. These include macroeconomic performance, security issues, and political risks. 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 dummy variables. 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 management entrenchment, the Gompers, Iishi, and Metrick (2003) index (Gindex) is used.

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 (Dummy KLD) has been used for those firms with no KLD strength or concern in a year. Another potential problem with the data is that the early years of the panel could 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 (Domini 400) has been used to identify firms in the Domini 400

²⁰ The system was re-estimated with Emp included in CSP, and the estimates were quite similar to those presented here, but the standard errors were larger.

Index but not in either the S&P 500 or the Russell Indices. This variable is statistically significant in the CSP equation as expected.

VI. Empirical Results

A. Descriptive Statistics and Bivariate Correlations

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 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. Note that the standard deviations of these endogenous variables are larger than their means, particularly for CSP and S. Table 2 presents the same information for the balance panel. The firms in the balanced panel are larger, have greater CSP, and face more social pressure that do the firms in the unbalanced panel.

B. Estimation of the Three Equation Model

1. The Estimation

Table 3 presents OLS estimates for the relations among CFP, CSP, and social pressure for the three equation model in (3)-(5) for the unbalanced and balanced panels, including industry fixed effects and year dummy variables. The estimates indicate that CFP is increasing in CSP and decreasing in social pressure, and the coefficients are highly significant. The first result is consistent with the conclusion of Margolis and Walsh from their survey of the literature, and the second result is as expected. CSP is increasing in CFP and in social pressure, and both of the coefficients are statistically significant. Social pressure is decreasing in CFP, increasing in controversial lines of business as measured by the KLD exclusionary screens (KLD Exc), and increasing in CSP, and all 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. Introducing FFE generally results in higher standard errors of the estimators, and that is the case here. FFE account for attributes of a firm that are unchanging over time, so if a firm is morally managed, the fixed effect will pick it up rather than allow the full implications of moral management to be reflected in the relations

among CFP, CSP, and social pressure. FFE also pick up the effect of controversial lines of business that do not change for a firm over time 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 over the data period. Also, using FFE requires the elimination of the industry fixed effects.

Using FFE with the unbalanced panel also involves a considerable data problem. Many of the firms are in the database only for two years. For example, all the 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. 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 considerably reduced, and standard errors are generally greater.

Table 4 presents 2SLS estimates with FFE for the unbalanced and balanced panels.²¹ The results indicate that when FFE are taken into account, CFP is unrelated to CSP and CFP has no statistically significant effect on CSP.²² This means that the relations between CFP and CSP in Table 3 are thus artifacts of unobserved firm characteristics. In contrast, the inclusion of FFE has little effect on the relations between CFP and social pressure and on the relations between CSP and social pressure, although the standard errors of the estimates are generally larger.

The difference between the estimates with and without FFE requires explanation. One explanation focuses on the situation of the firms prior to inclusion in the data panels. For a variety of reasons some firms could have had both high Q and high CSP, whereas others could have had low Q and low CSP, as illustrated in Figure 1. 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 3 for individual firms. The results presented in Table 3 could result with no causal relation between CFP and CSP or with a causal relation as illustrated by the inverted U-

²¹ The instruments used for $c1c2$ and $SuSr$ include all right side variables in the system in (3)-(5) with the exception of lagged Q .

²² As a check on the plausibility of the estimates, consider two variables for which the signs of the coefficients are identified by their definitions. The variable KLD Dummy identifies firms with neither KLD strengths nor concerns, so the coefficients in the CSP and social pressure equations must be negative. Similarly, the variable Domini 400 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 0.05 level. This provides confidence in the data and estimations.

shaped functions illustrated in Figure 2. In this figure the effect of CSP on CFP for an individual firm could be through rewards from consumers, through product differentiation or through productivity gains from employees or suppliers. As indicated in Figures 1 and 2, a causal relation between CSP and CFP may or may not be present.

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

The absence of a relation between CFP and CSP when firm fixed effects are used is consistent with the theory discussed in Section III under either of two equilibrium conditions, one focusing on the product market and the second 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 all firms could be higher than in the absence of product differentiation. Moreover, 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 CSP provided by some firms could increase the CFP of all firms. Figure 3 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 increase the intensity of price competition. In contrast, the extent of product differentiation and the intensity of price competition depend on the CSP of firm 1, and firm 1 maximizes its financial performance at CSP_1 . The resulting financial performance of firm 2 could be better or worse than that of firm 1.

In the capital market, if investors view expenditures on corporate social performance as a close substitute for personal giving and corporate social performance, an equilibrium in the capital market is illustrated in Figure 4 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 are negative, but not statistically significant. A negative slope is consistent with investor preferences in which CSP has no effect on profits ($\pi - H$ in (2)), and investors view CSP as an imperfect substitute for personal giving. Again, these relations are not informative about causation, since individual firms could be choosing their CSP optimally as in Figure 4 based, for example, on rewards from consumers in the product market.

Although the estimates presented in Table 4 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 social pressure worsens financial performance. 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 the effects of 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. Under the framework of the theory a firm can be affected by social pressure through both the product and capital markets.

In the product market social pressure could diminish consumers' willingness to pay or lead some consumers to switch from a firm's products, as in the case of a boycott. This can be formalized using the product differentiation model of Baron (2008b) in which the maximum willingness to pay of consumers is increasing in the CSP chosen by the firm. If that maximum willingness to pay is also decreasing in social pressure, the optimal CSP for a firm 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 in the capital market CFP is decreasing in social pressure and in the product market CSP is increasing in social pressure. This is illustrated in Figure 5 for a product market in which firm 1 chooses positive CSP and firm 2 separates by choosing zero CSP. Viewing social pressure as a "shock" to the CFP and CSP equations, the three inverted U-shaped curves correspond to different levels of social pressure 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 resulting in an increase in CSP for firm 1 but with no effect on the choice of firm 2. The financial returns on both firms decrease because the greater social pressure has reduced the willingness of consumers 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 5 takes into account the increase in social pressure, the subsequent increase in CSP, and so on. 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 shocks were to affect all firms, Figure 6 illustrates a full equilibrium consistent with the empirical findings that (1) 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 between CFP and CSP is horizontal, and the social market line shifts down as social pressure

exogenously increases and firms increase their CSP. As illustrated in Figure 7, the estimated relation between CSP and CFP is negative but not statistically significant. As the figures indicate, CFP could be causally related to both CSP and social pressure for an individual firm.

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 receiving 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 ...” As discussed above the attempt to defend against social pressure is mitigated over time, since social pressure is weakly increasing in (lagged) CSP. The increase in CSP, however, could have benefits in the product market or from improved employee productivity.

C. The Five Equation System

The five equation system has the same form as the three equation system, with dependent variables Q , C_1 , C_2 , S_u , S_r . This 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 equations system with the disaggregated variables substituted for the aggregated variables on the right side of the estimated equations. The Q equation is identified by the same exclusions. Tables 5 and 6 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 a reward by consumers, employees, or investors, or could reflect the cost associated with providing strategic CSP, such as philanthropy and environmental programs.

For both panels CFP is significantly decreasing in private politics pressure (S_r), whereas the coefficients on public politics pressure (S_u) are not statistically significant. Private politics social pressure thus is responsible for an equilibrium as in Figures 5 and 6 with increases in social pressure resulting in lower CFP. Strategic CSP is significantly increasing in private politics social pressure but is not statistically 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.²³ Private

²³ 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.

politics thus accounts for the effect of social pressure on CSP. Private politics social pressure is independent of (lagged) strategic CSP but is significantly increasing in responsive CSP for the unbalanced panel and is significantly decreasing in (lagged) CFP for both panels.

Public politics social pressure is unaffected by (lagged) CSP and (lagged) CFP. If government primarily enforces the law, then S_{it} should have little interaction with the other variables, which is the empirical finding. Also, since the KLD strengths are activities that go beyond the law, enforcement of the law as reflected in S_{it} 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. Public politics social pressure is greater the more entrenched is management, whereas private politics social pressure is unaffected. This suggests that the government scrutinizes more closely firms with more entrenched management and possibly those with controversial lines of business.

The empirical findings with the disaggregation of CSP and social pressure measures 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 5 and 6. Public politics social pressure may simply be the result of the government following the law with extra attention to firms with entrenched managements.

D. The Clinton and Bush Eras

The data period includes the last four years of the Clinton administration and the first four years of the Bush administration. Their 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 also a time when a number of activists and NGOs concluded that private politics was more effecting than public politics.²⁴ From the coefficients of the year dummies in Table 4 both CSP and social pressure increased substantially from 2000 to 2004, whereas from 1996-2000 there was little change reflected in the coefficients of the year dummies.

The direct effect of the presidential administrations can in principal be estimated by simply including a dummy variable for the Bush administration, but with FFE the year dummies would have to be dropped. But then the coefficient would reflect both the direct effect and any effect of time trends as well as exogenous fluctuations in the market value of firms corresponding

²⁴ See Baron (2010), Chapter 4.

to the boom of the late 1990s and the bursting of the tech bubble in 2000 and 2001. 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 effect. Performing the estimation (2SLS-FFE without year dummy variables) indicates that CFP were 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 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 0.001 level. Thus, social pressure from government was lower during the Bush administration than during the Clinton administration, 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. 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.

It is more informative to retain the year dummy variables and examine whether the relations among CFP, CSP, and social pressure during the Bush era were different from the relations during the Clinton administration. The three equation system has been re-estimated using interaction variables between the presidential dummy variable ($pres = 1$ for Bush era) and Q, C, and S while controlling for year effects. The estimates reported in Table 7 indicate that the incremental effect of CSP on CFP was negative during the Bush administration, whereas the incremental effect of social pressure on CSP was positive and the incremental effect of CSP on social pressure was also positive.²⁵ All these coefficients are significant at the 0.001 level. The interpretation of these coefficients is as follows. The coefficient of an interaction term means, for example, that an increment to CSP during the Bush era decreased CFP relative to the average for the data period. Similarly, an increment to social pressure during the Bush administration 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 stronger during the Bush era, and the negative relation between social pressure and CFP was strengthened during the Bush era. The negative relation between

²⁵ The five equation system could not be estimated because of multicollinearity between $pres * Sr$ and $pres * lagSr$ in the instrument.

social pressure and CFP thus was due to the Bush era and not the Clinton era. These estimation result are consistent with the interpretation given in the previous paragraph. The results also indicate that support for the soft target hypothesis and the responsiveness of CSP to social pressure was stronger during the Bush era than during the Clinton administration.

D. Hypotheses

Soft Target and Pressure Release Hypotheses: Three measures 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 again respond to social pressure. The second is financial weakness, as discussed above. The third is a management that is relatively unprotected from the market for control and competitive pressures and hence is more likely to respond to social pressure to offset its effect on financial performance. Social pressure is weakly increasing in (lagged) CSP, which is consistent with the first concept. 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.²⁶ Management entrenchment as measured by the Gindex has no effect on social pressure, however. For the five equation model 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. Overall, these estimates provide some support for the soft-target hypothesis and no support for the pressure release hypothesis.

As indicated in Section IV, if the soft target hypothesis is true, the coefficient of CSP in the CFP equation should be negative from (6). That coefficients is negative for both the balanced and unbalanced panels in Table 4 although neither is statistically significant.

Support for the soft target hypothesis is provided by King and Soule (2007) who studied which firms were targeted by social activist and union protests. 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 that social pressure is directed to larger firms, as measured by assets, for example.

Perquisites and Moral Management Hypotheses: The coefficient of (lagged) financial performance in the CSP equation is negative for both data panels, and for the balanced panel the estimated coefficient is statistically significant at the 0.1 level. Slack financial resources thus do not lead to greater CSP as implied by the perquisites hypothesis. Also, CSP is not increasing in

²⁶ CFP is decreasing in the standard deviation of returns indicating that higher volatility can be interpreted as weaker financial performance.

management entrenchment, but it is increasing and statistically significant in the percent of shares held by the CEO, which is consistent with the perquisites hypothesis. This effect is manifested in strategic and not responsive CSP. CSP is significantly increasing in large block holding, which is consistent with the perquisites hypothesis if large block holders can capture benefits or have warm glow preferences. The effect of large block holdings is present for responsive CSP but not for 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. There is thus no evidence that external monitoring of firms results in greater CSP.

The weak 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.

Fernández-Kranz and Santaló find that CSP is greater in more competitive industries and conclude that CSP is strategic rather than morally motivated. Consistent with their finding, the coefficients on HHI in all six estimated CSP equations in Tables 4-6 are negative, but none is statistically significant.²⁷ Overall, the empirical results provide only weak support for the perquisites hypothesis and only indirect and weak support for the moral management hypothesis.

Combined Rewards Hypothesis: To the extent that social pressure increases CSP as illustrated in Figure 5, the greater CSP results in increased social pressure which then reduces CFP. The lower CFP then makes the firm a weaker target, so social pressure increases. The greater CSP, however, could increase profits in accord with the combined rewards hypothesis. If the combined rewards effect is present in the product and employment markets, financial performance could improve which would reduce social pressure. If the reward was sufficiently strong, the social market line could be upward sloping. The empirical results, however, provide no support for this once firm fixed effects are taken into account.

Controversial Lines of Business and Sin Stocks: Hong and Kacperczyk found that sin stocks sell at a discount, and in the estimations in Tables 4-6 controversial industries are viewed as affecting social pressure which then affects CFP. To test whether there is a separate effect of firms engaged in controversial lines of business, the system was re-estimated with the variables

²⁷ Similarly, when FFE are included, there is no effect of industry concentration on social pressure.

KLD Exc and KLD Exc interacted with social pressure in the CFP equation. The estimates indicate that firms engaged in controversial lines of business that face high social pressure have better financial performance. The coefficients of social pressure in the CFP equation then are more negative and have higher significance levels indicating that the effect of social pressure on CFP is stronger for firms not engaged in controversial lines of business. These estimates, however, reflect only the effect of changes in the engagement in controversial lines of business by firms, since the firm fixed effects pick up the direct effect for firms whose engagement does not change during the data period.

Other Empirical Findings: Institutional investors shun firms with high CSP, and this relation is present for both strategic and responsive CSP, as indicated in Tables 5 and 6. The causation could run in either direction. Institutional investors could shun firms with high CSP because high CSP is (weakly) associated with worse financial performance. Alternatively, those firms with a higher proportion of institutional shareholdings may have less incentive to invest in CSP.

Institutional investors also shun firms facing social pressure, and for both panels this is true for private politics social pressure but not for public politics social pressure. Social pressure from NGOs and social activists thus appears to reduce the likelihood that institutional investors will hold shares of that firm. Both private and public politics social pressure are increasing in the dividend ratio, but the theory provides no explanation for this finding.

We find that advertising intensity has no effect on CSP, in contrast to the finding by Fisman, Heal and Nair (2005). CFP, however, is increasing in advertising intensity. We also find no clear effect of firm size on CSP, although CSP is increasing in total assets although not in sales.

Firms that are in the KLD 400 Social Index but not in the S&P or Russell indices have significantly lower financial performance. This is consistent with their selection based on CSP rather than prospects for financial performance. Firms that have neither KLD strengths nor concerns in a year also have worse financial performance.

F. Robustness

The distribution of Q is skewed, and the estimates could be overly affected by outliers, as might have occurred during the tech bubble. The three equation system thus has been re-estimated excluding firm-year observations for which $Q > 15$. For the balanced panel this eliminates any firm with $Q > 15$ in any year, and for the unbalanced panel it eliminates both the firm-year and the previous firm-year because of the lags. The estimates (not reported here) for

the three equation system show a more negative effect of social pressure on CFP for both panels, and the relations among CSP and social pressure are little affected. 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.

To examine the effect of firms with neither KLD strengths nor concerns in a year, the KLD Dummy variable was redefined as a firm with neither a strength nor a concern in all years. With this new variable the effect of social pressure on CFP was reduced in the three equation model, but for the five equation system the coefficients of private politics social pressure in the CFP equation was virtually the same as reported in Tables 5 and 6 and the significance levels were greater. In the three equation system the effect of lagged social pressure on CSP and lagged CSP on social pressure were virtually the same for the unbalanced panel and were more significant with the new KLD Dummy, and all four coefficients were significant at the 0.05 level.

To explore the measurement of CSP and social pressure, the variable Emp has been included in CSP. In addition, all other measures in the KLD database have been included, even though it is unclear what those other measures represented. With these new measures the standard errors of the coefficients of social pressure in the Q equations in the three equation system were greater. The statistical significance of the relations between CSP and lagged social pressure and between social pressure and lagged CSP were strengthened.

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 interrelation among CFP, CSP, and social pressure using a large data set of firms with social engagement for 1996 to 2004. CFP and CSP are found to be unrelated, which is consistent with the theory where CSP provides product differentiation and the social market line is horizontal. This, however, is an equilibrium relationship and does not imply the absence of a causal relation for individual firms as illustrated in Figures 3 and 4. 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, as illustrated in Figures 5 and 6. 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 nor does the moral motivation hypothesis.

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 consistent with the

combined rewards hypothesis and the other judged likely to be a response to social pressure. 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 independent of responsive CSP for both data panels and is decreasing in strategic CSP for the balanced panel. Neither is significantly affected by CFP. Private politics and not public politics accounts for the negative effect on social pressure on CFP. Responsive CSP is increasing in private politics social pressure, but strategic CSP is not. Private politics social pressures is increasing in responsive CSP, and private politics social pressure is 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 action is in private politics.

The relations among CFP, CSP, and social pressure were stronger during the Bush era than during the Clinton era. 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 effect for the data period. Similarly, an increment to CSP during the Bush era resulted in a greater increase in social pressure, providing additional support for the soft target hypothesis during the Bush era. Also, an increment to CSP during the Bush era 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 era and that CSP had a negative effect during that era.

The absence of an empirical relation between financial performance and social performance does not mean that there is no causal relation for an individual firm. As illustrated in Figures 4-7, financial performance could be causally related to social performance yet there is no statistical relation because of a social Modigliani-Miller property of the capital market equilibrium. 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.

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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)
<p>Community Generous giving Non-US charitable giving Other strength</p>	<p>Community Innovative giving Support for housing Support for education Indigenous peoples relations</p>
<p>Environment Beneficial products Pollution prevention Alternative fuels Property, plant, and equipment</p>	<p>Environment Recycling Communications Other strength</p>
<p>Diversity Promotion Family benefits</p>	<p>Diversity CEO Board of directors Women/minority contracting Employment of the disabled Progressive gay & lesbian policies Other strengths</p>
<p>Employee relations (Emp) Cash profit sharing Strong retirement benefits Health and safety strength Other strength</p>	<p>Employee relations No layoff policy Employee involvement Strong union relations</p>
<p>Human rights Labor rights strength Other strength</p>	<p>Human rights Positive record in South Africa Indigenous peoples relations</p>
<p>Product Quality R&D/Innovation</p>	<p>Product Benefits to economically disadvantaged</p>
<p>Corporate governance c₁</p>	<p>Corporate governance c₂ Limited compensation Ownership strength</p>

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

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.

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 (C ₁ +C ₂)	Dummy variable = 1 if firms have no KLD Strengths or Concerns Scores in a year 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.
(S _u +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 (C₁), responsive to social pressure (C₂), 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

Variable	Obs	Mean	Std. Dev.	Min	Max
tobinq	9102	1.632959	1.626515	.042782	32.07512
c1c2	9102	.0900553	.1568454	0	1
SuSr	9102	.0787576	.1374489	0	1
c2	9102	.0499163	.0995185	0	.8
c1	9102	.040139	.0759355	0	.5833333
Su	9102	.0329773	.092887	0	1
Sr	9102	.0457803	.0834252	0	.5454546
lagc1c2	9102	.0831379	.1549815	0	1
lagSuSr	9102	.0626181	.1322774	0	1
lagc1	9102	.0378265	.0757707	0	.5833333
lagc2	9102	.0453114	.0978084	0	.7777778
lagSu	9102	.0332271	.1002509	0	1
lagSr	9102	.029391	.0691659	0	.5
KLD_Exc	9102	.0353768	.1346916	0	1
Domini400	9102	.0587783	.2352222	0	1
NoKLD	9102	.48363	.4997594	0	1
HHI	9102	.1174044	.1093268	.0202147	1
Ln_Assets	9102	7.735971	1.64944	2.819413	14.21032
Debt_ratio	9102	.2415604	.1824459	0	1.665096
RnD_ratio	9102	.0335913	.0779048	0	.991703
Capx_ratio	9102	.0688629	.1003978	0	.9948596
Adv_ratio	9102	.0090581	.0253599	0	.3519763
Div_ratio	9102	.0400048	.4064017	-6.900043	35.97784
Pct_Insti	9102	62.7976	18.71632	.0000168	99.97928
Pct_Indep	9102	.6475811	.1780366	0	1
Pct_Dir	9102	.0779213	.2091022	0	12.28997
Gindex	9102	9.404966	2.674629	2	19
Ln_Blocks	9102	14.10243	5.329727	0	20.14608
Ln_Analy	9102	2.248453	.6994011	.6931472	3.799973
Sales_Grw	9102	.1059537	.2770798	-.96719	7.11007
Std_Retu	9102	11.69067	5.901658	0	122.9874
Pct_CEO	9102	1.597749	5.130707	0	83.13101
Ln_Sales	9102	7.438582	1.431325	2.472412	12.48367
Adv_dummy	9102	.7291804	.4444075	0	1
RnD_dummy	9102	.5867941	.4924362	0	1

Table 2
Descriptive Statistics: Balanced Panel

Variable	Obs	Mean	Std. Dev.	Min	Max
tobinq	3888	1.669142	1.53209	.0780165	23.79689
c1c2	3888	.1311795	.1794214	0	1
SuSr	3888	.1075994	.1590062	0	1
c1	3888	.0599673	.0892001	0	.5833333
c2	3888	.0712121	.1137079	0	.75
Su	3888	.0496843	.1121095	0	1
Sr	3888	.0579151	.0926733	0	.5
lagc1c2	3888	.1238921	.1769562	0	1
lagSuSr	3888	.0912437	.1561593	0	1
laglc1	3888	.0573525	.0889971	0	.5833333
lagc2	3888	.0665396	.1118449	0	.7777778
lagSu	3888	.0507716	.1217173	0	1
lagSr	3888	.0404721	.0805113	0	.5
KLD_Exc	3888	.0537551	.1644772	0	1
Domini400	3888	.0761317	.2652428	0	1
NoKLD	3888	.3359053	.4723667	0	1
HHI	3888	.11461	.1114794	.0202147	1
Ln_Assets	3888	8.306593	1.493938	4.180798	13.5938
Debt_ratio	3888	.2498083	.1537018	0	1.056814
RnD_ratio	3888	.026003	.0554346	0	.7438711
Capx_ratio	3888	.0651386	.0777204	0	.8349596
Adv_ratio	3888	.0102528	.0271398	0	.3519763
Div_ratio	3888	.0614672	.6149596	-6.900043	35.97784
Pct_Insti	3888	62.64155	16.87974	.0027344	99.85014
Pct_Indep	3888	.6797995	.1638878	.0909091	.9411765
Pct_Dir_r	3888	.0513701	.1224797	0	3.62744
Gindex	3888	10.16667	2.585806	2	17
Ln_Blocks	3888	13.79874	5.975805	0	19.95798
Ln_Analy	3888	2.439651	.6424009	.6931472	3.799973
Sales_Grw	3888	.0934962	.2268507	-.8368599	4.61953
Std_Retu	3888	9.650237	3.917552	0	30.43451
Pct_CEO	3888	.868629	3.223881	0	59.65107
Ln_Sales	3888	8.025728	1.284994	4.933704	12.48367
Adv_d	3888	.721965	.4480884	0	1
RnD_d	3888	.5725309	.4947749	0	1

Table 3
OLS Estimates: Unbalanced and Balanced Panels#

	Unbalanced Panel			Balanced Panel		
	Q	c1c2	SuSr	Q	c1c2	SuSr
c1c2	0.544 (4.633)***			0.611 (4.077)***		
SuSr	-0.458 (-3.315)***			-0.328 (-1.964)**		
lagtobinq		0.003 (3.862)***	-0.002 (-2.533)**		0.007 (3.459)***	-0.004 (-2.793)**
lagc1c2			0.054 (4.065)***			0.032 (1.749)*
lagSuSr		0.110 (5.895)***			0.058 (2.405)**	
KLD_Exc			0.083 (5.753)***			0.083 (4.551)***
Observations	9102	9102	9102	3888	3888	3888
R-Sq	0.348	0.478	0.491	0.467	0.501	0.502
* p<0.1, ** p	<0.05, *** p<0.001					

The OLS regressions include all controls plus FF industry dummies and year dummies.
Z statistics are based on robust standard errors.

Table 4
2SLS-FFE Estimates: Unbalanced and Balanced Panels#

	Unbalanced Panel			Balanced Panel		
	Q	c1c2	SuSr1	Q	c1c2	SuSr
c1c2	-0.130 (-0.370)			-0.375 (-1.129)		
SuSr	-0.433 (-1.154)			-0.889 (-2.528)**		
lagtobinq		-0.000 (-0.335)	-0.001 (-1.293)		-0.003 (-1.877)*	-0.004 (-1.982)**
lagSuSr		0.069 (2.686)**			0.058 (1.793)*	
lagc1c2			0.077 (2.606)**			0.056 (1.386)
KLD_Exc			0.019 (0.731)			0.021 (0.711)
NoKLD	-0.102 (-1.853)*	-0.069 (-14.762)***	-0.088 (-20.001)***	-0.245 (-3.945)***	-0.076 (-9.446)***	-0.088 (-12.381)***
Domini400	-0.223 (-2.949)**	0.026 (3.779)***	-0.009 (-1.246)	-0.252 (-3.267)**	0.030 (3.550)***	-0.004 (-0.484)
HHI	-0.198 (-0.610)	-0.047 (-1.092)	0.058 (1.217)	-0.340 (-0.882)	-0.095 (-1.238)	0.096 (1.324)
Emp	-0.145 (-1.070)			0.082 (0.600)		
Ln_Assets	-1.169 (-16.951)***	0.023 (2.914)**	0.002 (0.269)	-1.022 (-11.706)***	0.022 (1.502)	-0.002 (-0.208)
Debt_ratio	-0.939 (-6.112)***	-0.008 (-0.694)	-0.018 (-1.156)	-1.289 (-6.235)***	-0.014 (-0.589)	-0.014 (-0.458)
RnD_ratio	-3.592 (-8.195)***	-0.025 (-1.015)	0.072 (2.743)**	-5.338 (-6.879)***	-0.056 (-0.785)	0.129 (1.642)
Capx_ratio	0.404 (1.609)	-0.000 (-0.016)	-0.020 (-0.982)	0.246 (0.639)	-0.026 (-0.765)	-0.037 (-0.743)
Adv_ratio	3.696 (2.223)**	0.036 (0.194)	0.088 (0.484)	7.496 (3.635)***	0.205 (0.765)	0.063 (0.193)
Div_ratio	0.044 (1.701)*	0.001 (1.078)	0.003 (2.721)**	0.050 (2.299)**	0.001 (1.211)	0.003 (4.350)***
Pct_Insti	0.016 (8.978)***	-0.001 (-5.114)***	-0.001 (-3.800)***	0.015 (5.800)***	-0.001 (-3.864)***	-0.001 (-3.547)***
Pct_Indep	-0.087 (-0.672)	-0.004 (-0.355)	0.009 (0.696)	-0.260 (-1.588)	-0.013 (-0.669)	0.001 (0.025)
Pct_Dir	-0.003 (-0.039)	-0.002 (-0.780)	0.006 (1.560)	-0.142 (-0.903)	-0.004 (-0.352)	0.011 (0.857)
Gindex	-0.036 (-2.159)**	0.003 (1.117)	0.002 (1.106)	0.000 (0.016)	0.006 (1.473)	0.004 (1.447)
Ln_Blocks	-0.010 (-3.166)**	0.001 (3.425)***	-0.000 (-0.090)	-0.002 (-0.694)	0.001 (2.610)**	0.000 (0.612)

Ln_Analy	0.037 (0.771)	0.002 (0.613)	-0.001 (-0.221)	0.146 (2.328)**	0.006 (0.830)	0.008 (1.103)
Sales_Grw	0.339 (7.181)***	-0.004 (-1.072)	-0.007 (-1.626)	0.206 (3.008)**	-0.009 (-0.985)	-0.013 (-1.752)*
Std_Retu	-0.043 (-7.662)***	-0.000 (-0.041)	0.001 (1.609)	-0.031 (-3.395)***	-0.001 (-0.882)	0.004 (2.511)**
Pct_CEO	0.002 (0.669)	0.000 (2.128)**	0.001 (2.429)**	0.006 (1.013)	0.001 (1.814)*	0.001 (1.180)
Ln_Sales	0.433 (6.165)***	-0.006 (-0.862)	0.014 (1.924)*	0.518 (5.501)***	-0.002 (-0.116)	0.033 (2.198)**
Adv_dummy	0.303 (4.393)***	0.007 (1.226)	-0.003 (-0.404)	0.162 (2.049)**	0.009 (1.009)	-0.007 (-0.664)
RnD_dummy	-0.022 (-0.165)	0.008 (0.930)	0.015 (1.093)	0.098 (0.645)	0.009 (0.601)	0.038 (1.696)*
year_1997	-0.204 (-2.634)**	-0.019 (-2.634)**	-0.069 (-8.283)***	(dropped)	(dropped)	(dropped)
year_1998	-0.089 (-1.227)	-0.015 (-2.167)**	-0.068 (-9.150)***	0.165 (3.120)**	0.003 (0.903)	-0.003 (-0.678)
year_1999	0.241 (3.550)***	-0.017 (-2.805)**	-0.073 (-11.425)***	0.354 (6.328)***	-0.000 (-0.078)	-0.012 (-1.931)*
year_2000	0.084 (1.347)	-0.014 (-2.538)**	-0.071 (-11.999)***	0.253 (4.131)***	0.005 (0.809)	-0.011 (-1.370)
year_2001	0.048 (0.859)	-0.005 (-1.064)	-0.064 (-13.009)***	0.214 (2.980)**	0.017 (2.144)**	-0.003 (-0.308)
year_2002	-0.130 (-2.700)**	0.003 (0.777)	-0.036 (-8.890)***	0.130 (1.604)	0.030 (3.035)**	0.034 (3.086)**
year_2003	0.017 (0.389)	-0.002 (-0.934)	-0.038 (-13.750)***	0.154 (1.780)*	0.025 (2.342)**	0.032 (2.578)**
year_2004	(dropped)	(dropped)	(dropped)	0.124 (1.339)	0.029 (2.476)**	0.070 (5.211)***
Cons	7.579 (15.437)***	0.002 (0.049)	0.046 (0.872)	5.495 (8.667)***	-0.019 (-0.218)	-0.167 (-1.728)*
Observations	9102	9102	9102	3888	3888	3888
Number of firms	2010	2010	2010	486	486	486
R-Sq Within	0.149	0.210	0.339	0.165	0.211	0.325
* p<0.1	p<0.05**	p<0.001***				

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

Table 5
2SLS-FFE Estimates: Five Equation System—Unbalanced Panel#

Variable	Q	c1	c2	Su	Sr
c1	-0.418 (-0.607)				
c2	0.152 (0.290)				
Su	0.027 (0.059)				
Sr	-1.068 (-2.131)**				
lagtobinq		0.000 (0.161)	-0.000 (-0.498)	0.000 (0.473)	-0.001 (-1.746)*
lagc1				0.056 (1.542)	0.015 (0.506)
lagc2				0.012 (0.432)	0.069 (2.604)**
lagSu		0.009 (0.453)	0.036 (1.516)		
lagSr		0.045 (2.898)**	0.057 (2.728)**		
KLD_Exc				0.042 (2.254)**	-0.023 (-1.371)
NoKLD	-0.113 (-2.038)**	-0.034 (-12.704)***	-0.036 (-11.874)***	-0.038 (-11.644)***	-0.050 (-15.233)***
Domini400	-0.215 (-2.832)**	0.019 (4.426)***	0.006 (1.247)	-0.009 (-2.422)**	0.001 (0.163)
HHI	-0.179 (-0.551)	-0.038 (-1.180)	-0.011 (-0.523)	0.008 (0.334)	0.050 (1.322)
Emp	-0.118 (-0.858)				
Ln_Assets	-1.170 (-16.976)***	0.007 (1.699)*	0.015 (2.884)**	0.000 (0.059)	0.001 (0.264)
Debt_ratio	-0.931 (-6.058)***	-0.008 (-1.098)	-0.001 (-0.086)	-0.018 (-1.438)	0.001 (0.079)
RnD_ratio	-3.586 (-8.179)***	-0.032 (-2.380)**	0.007 (0.385)	0.026 (1.355)	0.046 (1.987)**
Capx_ratio	0.385 (1.534)	0.010 (1.280)	-0.010 (-0.776)	0.008 (0.669)	-0.028 (-1.644)
Adv_ratio	3.627 (2.182)**	-0.035 (-0.336)	0.067 (0.514)	0.072 (0.590)	0.015 (0.116)
Div_ratio	0.044 (1.711)*	0.001 (1.152)	0.000 (0.723)	0.001 (2.837)**	0.001 (2.110)**
Pct_Insti	0.015 (8.752)***	-0.000 (-3.735)***	-0.000 (-3.230)**	-0.000 (-0.489)	-0.001 (-4.788)***
Pct_Indep	-0.090	0.005	-0.009	0.012	-0.003

	(-0.692)	(0.809)	(-1.165)	(1.341)	(-0.320)
Pct_Dir	-0.007	-0.005	0.003	0.005	0.001
	(-0.090)	(-1.598)	(1.167)	(2.475)**	(0.383)
Gindex	-0.039	0.001	0.001	0.004	-0.002
	(-2.350)**	(1.271)	(0.877)	(3.524)***	(-1.783)*
Ln_Blocks	-0.010	0.000	0.001	0.000	-0.000
	(-3.193)**	(1.838)*	(2.901)**	(0.060)	(-0.202)
Ln_Analy	0.037	0.000	0.002	-0.001	0.000
	(0.774)	(0.016)	(0.952)	(-0.445)	(0.115)
Sales_Grw	0.346	-0.000	-0.004	-0.009	0.002
	(7.304)***	(-0.133)	(-1.427)	(-3.193)**	(0.704)
Std_Return	-0.042	0.000	-0.000	-0.000	0.001
	(-7.454)***	(0.946)	(-0.978)	(-0.474)	(1.979)**
Pct_CEO	0.002	0.000	-0.000	0.000	0.000
	(0.679)	(3.089)**	(-0.048)	(2.628)**	(0.976)
Ln_Sales	0.431	-0.001	-0.005	0.010	0.004
	(6.135)***	(-0.131)	(-1.121)	(1.842)*	(0.671)
Adv_dummy	0.304	0.001	0.006	-0.004	0.002
	(4.411)***	(0.222)	(1.432)	(-0.789)	(0.278)
RnD_dummy	-0.032	0.002	0.006	0.017	-0.002
	(-0.238)	(0.383)	(1.081)	(1.269)	(-0.206)
year_1997	-0.289	0.001	-0.016	0.040	-0.109
	(-3.189)**	(0.280)	(-3.214)**	(5.814)***	(-17.345)***
year_1998	-0.169	0.003	-0.014	0.036	-0.104
	(-1.982)**	(0.765)	(-3.050)**	(5.917)***	(-17.874)***
year_1999	0.185	-0.002	-0.011	0.010	-0.083
	(2.486)**	(-0.671)	(-2.649)**	(2.254)**	(-16.179)***
year_2000	0.027	-0.004	-0.008	0.011	-0.081
	(0.394)	(-1.134)	(-2.099)**	(2.768)**	(-17.706)***
year_2001	-0.004	0.001	-0.004	0.010	-0.074
	(-0.063)	(0.417)	(-1.234)	(3.014)**	(-19.087)***
year_2002	-0.164	0.005	-0.000	0.011	-0.047
	(-3.181)**	(2.368)**	(-0.026)	(4.400)***	(-14.772)***
year_2003	-0.006	0.001	-0.002	-0.000	-0.038
	(-0.135)	(0.824)	(-1.388)	(-0.227)	(-15.754)***
year_2004	(dropped)	(dropped)	(dropped)	(dropped)	(dropped)
Cons	7.711	0.005	-0.006	-0.089	0.134
	(15.565)***	(0.174)	(-0.192)	(-2.512)**	(3.256)**
Observations	9102	9102	9102	9102	9102
Number of firms	2010	2010	2010	2010	2010
R-Sq Within	0.151	0.125	0.145	0.084	0.421
* p<0.1	** p<0.05	*** p<0.001			

Significance levels for the c1, c2, Su, and Sr equations are based on robust standard errors.

Table 6
2SLS-FFE Estimates: Five Equation System—Balanced Panel#

Variable	Q	c1	c2	Su	Sr
c1	-1.605 (-2.627)**				
c2	0.643 (1.254)				
Su	-0.697 (-1.674)*				
Sr	-1.306 (-2.631)**				
lagtobinq		-0.003 (-1.803)*	-0.001 (-0.534)	-0.001 (-0.517)	-0.003 (-2.515)**
lagc1				0.038 (0.817)	0.012 (0.332)
lagc2				0.020 (0.524)	0.041 (1.145)
lagSu		-0.004 (-0.177)	0.040 (1.410)		
lagSr		0.047 (2.187)**	0.049 (1.742)*		
KLD_Exc				0.028 (1.250)	-0.007 (-0.349)
NoKLD	-0.253 (-4.059)***	-0.040 (-8.537)***	-0.038 (-7.459)***	-0.052 (-9.221)***	-0.036 (-7.046)***
Domini400	-0.218 (-2.773)**	0.028 (5.397)***	0.001 (0.241)	-0.009 (-1.623)	0.004 (0.619)
HHI	-0.387 (-0.996)	-0.083 (-1.364)	-0.016 (-0.462)	0.017 (0.407)	0.080 (1.356)
Emp	0.146 (1.051)				
Ln_Assets	-1.030 (-11.758)***	0.006 (0.715)	0.016 (1.594)	-0.000 (-0.019)	-0.002 (-0.248)
Debt_ratio	-1.293 (-6.235)***	-0.014 (-0.899)	-0.001 (-0.068)	-0.018 (-0.647)	0.004 (0.213)
RnD_ratio	-5.391 (-6.920)***	-0.066 (-1.456)	0.011 (0.201)	0.044 (0.738)	0.085 (1.515)
Capx_ratio	0.242 (0.626)	0.002 (0.105)	-0.027 (-0.950)	0.014 (0.421)	-0.050 (-1.339)
Adv_ratio	7.172 (3.463)***	-0.005 (-0.027)	0.204 (1.143)	0.143 (0.585)	-0.081 (-0.396)
Div_ratio	0.051 (2.317)**	0.001 (1.381)	0.001 (0.892)	0.002 (3.758)***	0.001 (2.862)**
Pct_Insti	0.015 (5.598)***	-0.001 (-2.868)**	-0.001 (-2.404)**	-0.000 (-0.838)	-0.001 (-4.023)***
Pct_Indep	-0.235 (-1.429)	0.006 (0.428)	-0.019 (-1.368)	0.006 (0.321)	-0.005 (-0.310)

Pct_Dir	-0.146 (-0.925)	-0.004 (-0.707)	-0.000 (-0.040)	0.007 (0.887)	0.003 (0.458)
Gindex	-0.001 (-0.039)	0.003 (1.530)	0.003 (1.203)	0.006 (2.931)**	-0.002 (-1.103)
Ln_Blocks	-0.003 (-0.775)	0.000 (1.312)	0.001 (2.322)**	0.000 (0.776)	0.000 (0.043)
Ln_Analy	0.141 (2.246)**	0.003 (0.652)	0.004 (0.789)	0.009 (1.596)	-0.001 (-0.173)
Sales_Grw	0.215 (3.118)**	-0.002 (-0.356)	-0.007 (-1.128)	-0.014 (-2.401)**	0.001 (0.229)
Std_Return	-0.028 (-2.924)**	0.000 (0.196)	-0.001 (-1.571)	-0.001 (-0.621)	0.004 (3.548)***
Pct_CEO	0.007 (1.058)	0.001 (1.894)*	0.000 (0.678)	0.001 (1.403)	-0.000 (-0.149)
Ln_Sales	0.523 (5.537)***	0.002 (0.302)	-0.004 (-0.394)	0.020 (1.755)*	0.013 (1.123)
Adv_dummy	0.161 (2.022)**	0.002 (0.304)	0.007 (1.026)	-0.011 (-1.141)	0.003 (0.379)
RnD_dummy	0.096 (0.632)	0.005 (0.551)	0.004 (0.443)	0.028 (1.224)	0.010 (1.043)
year_1997	(dropped)	(dropped)	(dropped)	(dropped)	(dropped)
year_1998	0.166 (3.125)**	0.001 (0.602)	0.002 (0.764)	-0.003 (-0.611)	-0.000 (-0.332)
year_1999	0.363 (6.081)***	-0.005 (-1.686)*	0.005 (1.470)	-0.041 (-6.778)***	0.029 (6.790)***
year_2000	0.255 (3.924)***	-0.007 (-1.762)*	0.010 (2.204)**	-0.041 (-5.582)***	0.029 (5.771)***
year_2001	0.213 (2.830)**	-0.002 (-0.406)	0.017 (2.930)**	-0.038 (-4.442)***	0.034 (5.150)***
year_2002	0.147 (1.671)*	0.004 (0.656)	0.024 (3.341)***	-0.035 (-3.879)***	0.070 (8.608)***
year_2003	0.182 (1.911)*	0.002 (0.346)	0.019 (2.480)**	-0.050 (-4.861)***	0.082 (9.308)***
year_2004	0.165 (1.557)	0.002 (0.320)	0.022 (2.589)**	-0.047 (-4.306)***	0.118 (12.607)***
Cons	5.529 (8.691)***	0.002 (0.049)	-0.022 (-0.360)	-0.147 (-2.178)**	-0.020 (-0.275)
Observations	3888	3888	3888	3888	3888
Number of firms	486	486	486	486	486
R-Sq Within	0.161	0.137	0.144	0.102	0.446
* p<0.1	** p<0.05	*** p<0.001			

Significance levels for the c1, c2, Su, and Sr equations are based on robust standard errors.

Table 7
Comparison of the Clinton and Bush Eras

Equation	Unbalanced Panel			Balanced Panel		
	Q	c1c2	SuSr	Q	c1c2	SuSr
c1c2	0.379 (1.00)			0.024 (0.88)		
SuSr	-0.503 (-1.25)			-0.005 (-0.17)		
lag c1c2			-0.009 (0.27)			-0.034 (-1.48)
lag SuSr		0.014 (0.46)			0.004 (0.28)	
lag Q		-0.001 (-0.76)	0.0003 (0.17)		-0.004 (-2.00)**	-0.0015 (-0.64)
pres*c1c2	-0.619 (-3.13)**			-0.625 (-3.10)**		
pres*SuSr	0.164 (0.62)			-0.187 (-0.69)		
pres*lag Q		0.0014 (0.86)	-0.0013 (-0.86)		0.011 (0.67)	-0.003 (-1.73)*
pres*lagSuSr		0.098 (3.24)**			0.110 (6.67)**	
pres*lagc1c2			0.122 (5.11)**			0.134 (7.58)**

Figure 1

Relation between CFP and CSP prior to the data period

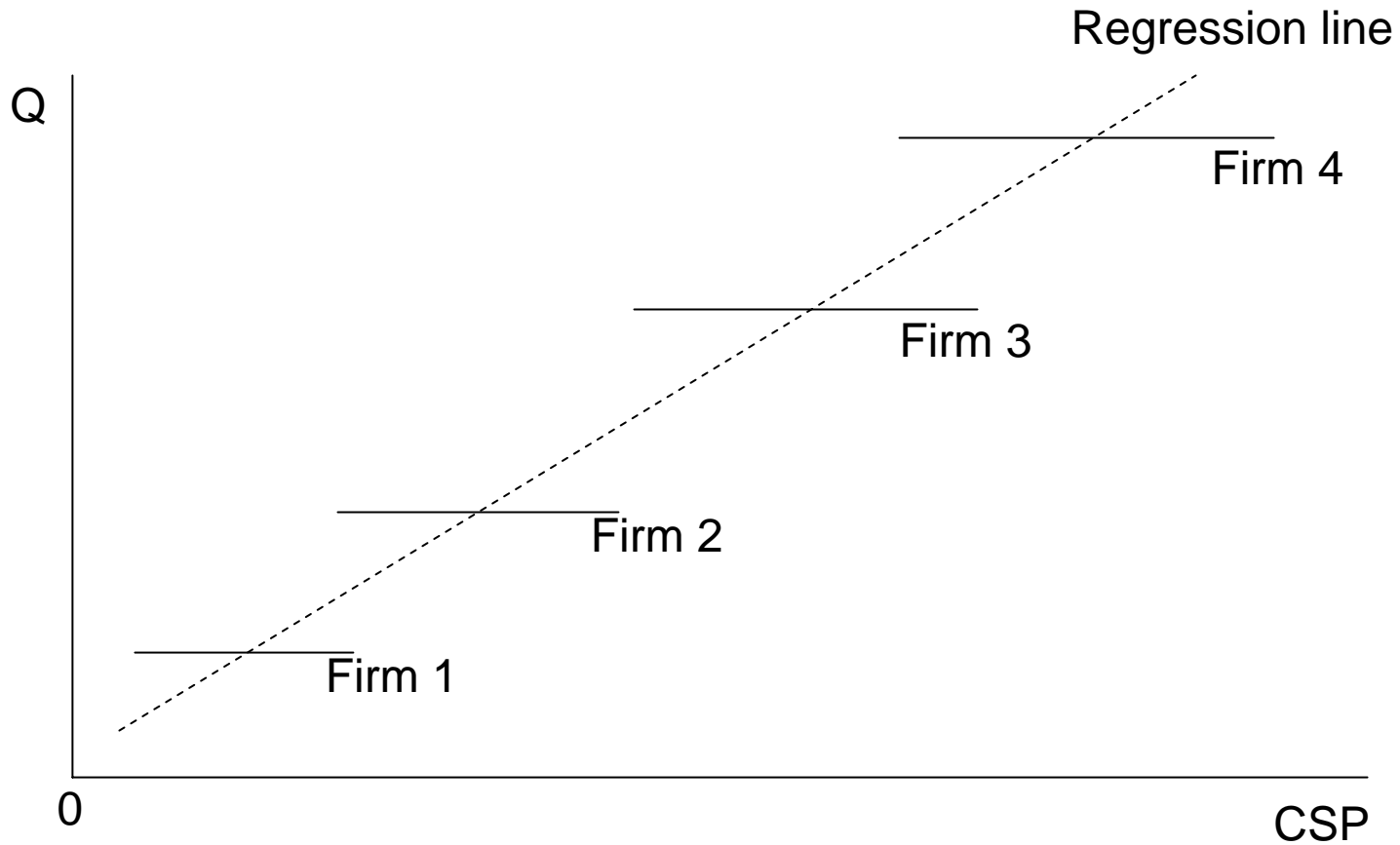


Figure 2

Relation between CFP and CSP prior to the data period

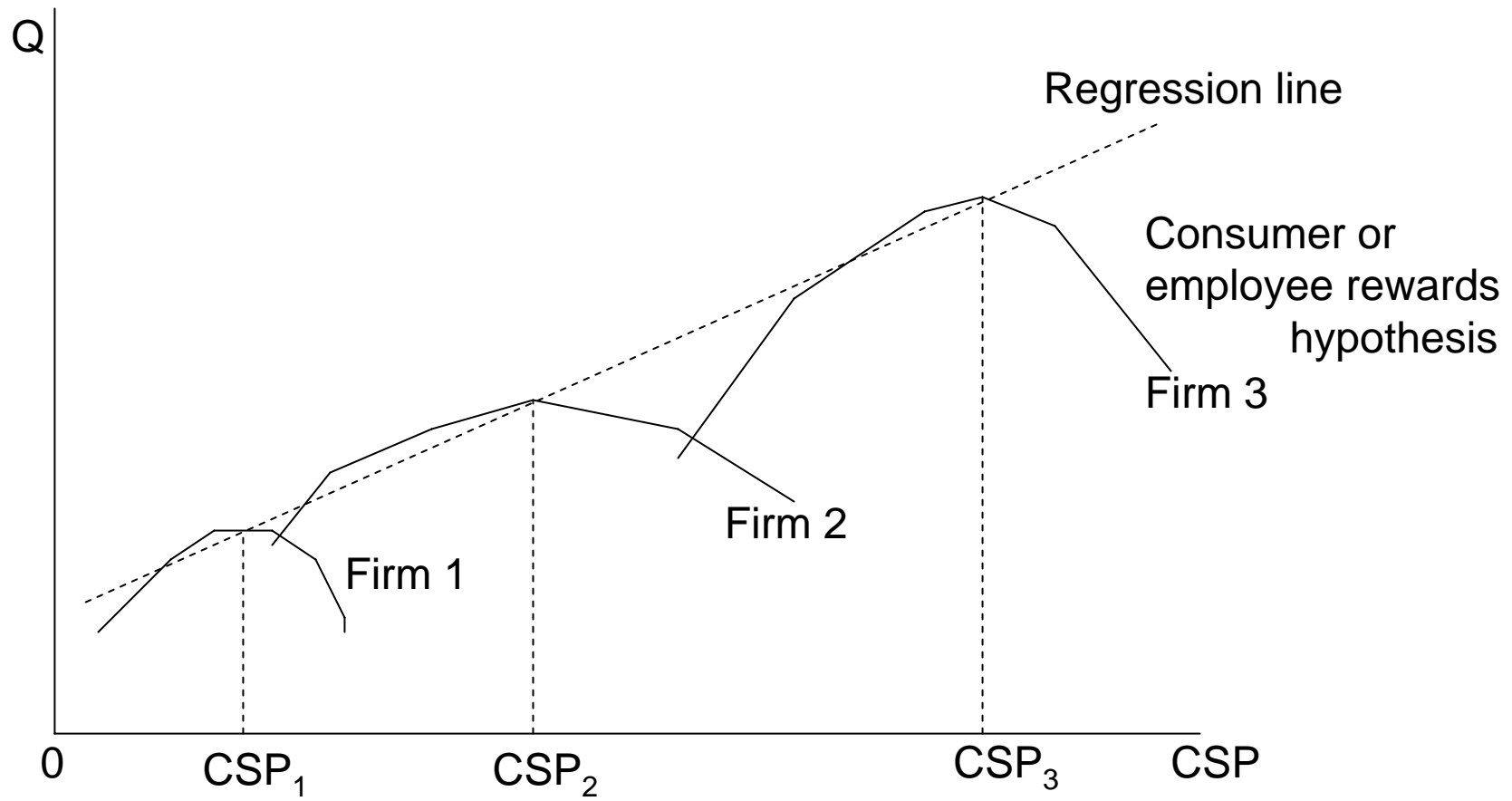


Figure 3
CFP and CSP: Product Market
Product Differentiation

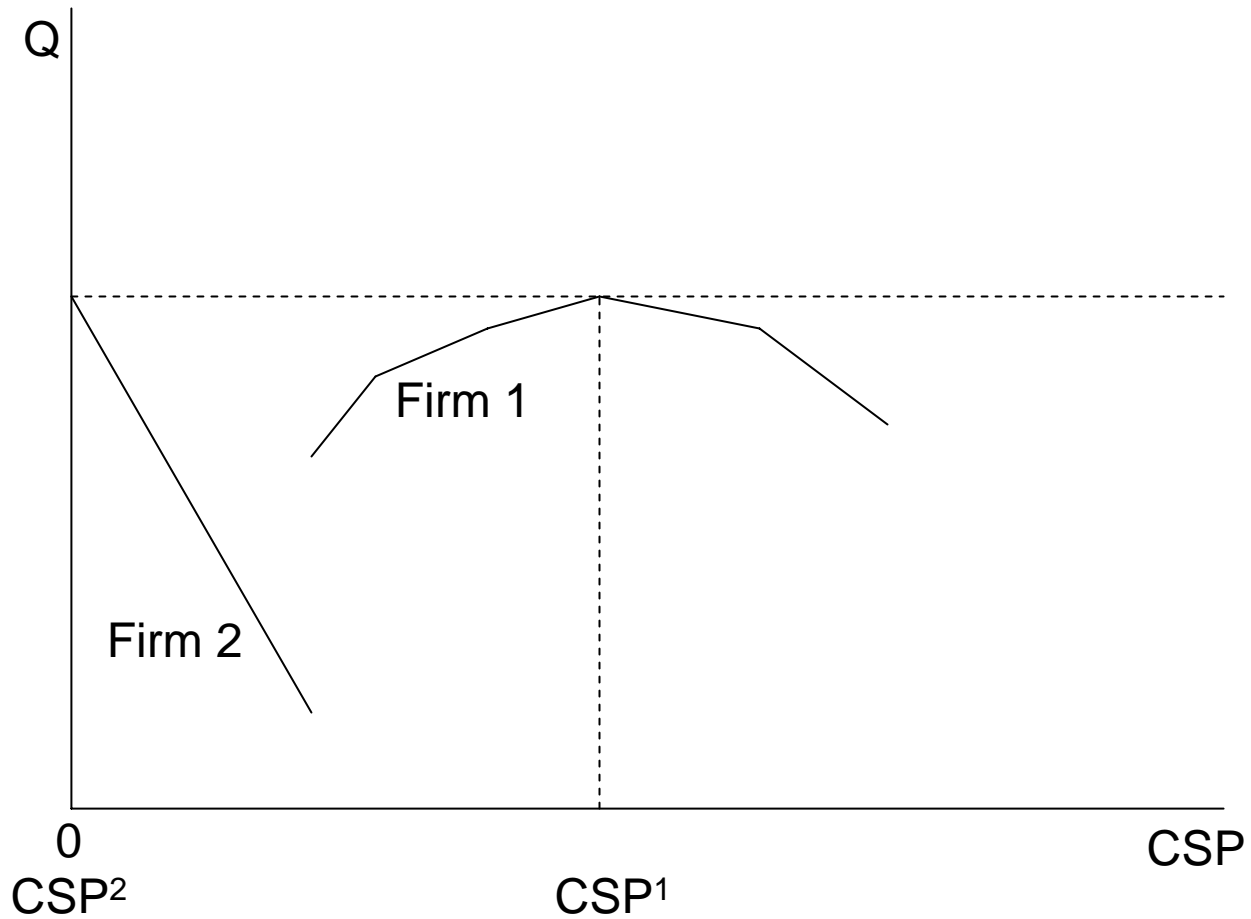


Figure 4

CFP and CSP: Capital Market Equilibrium

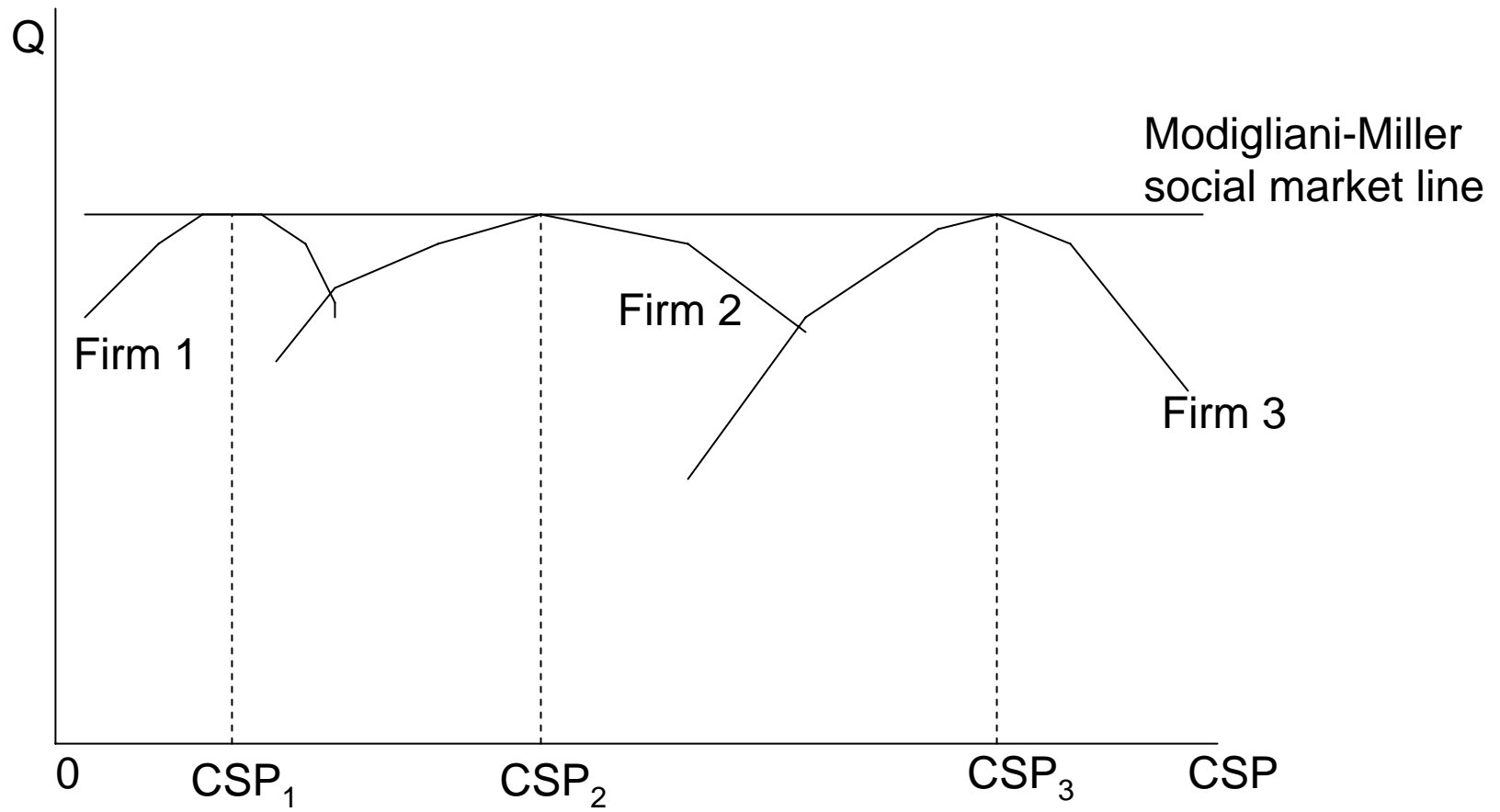


Figure 5

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.

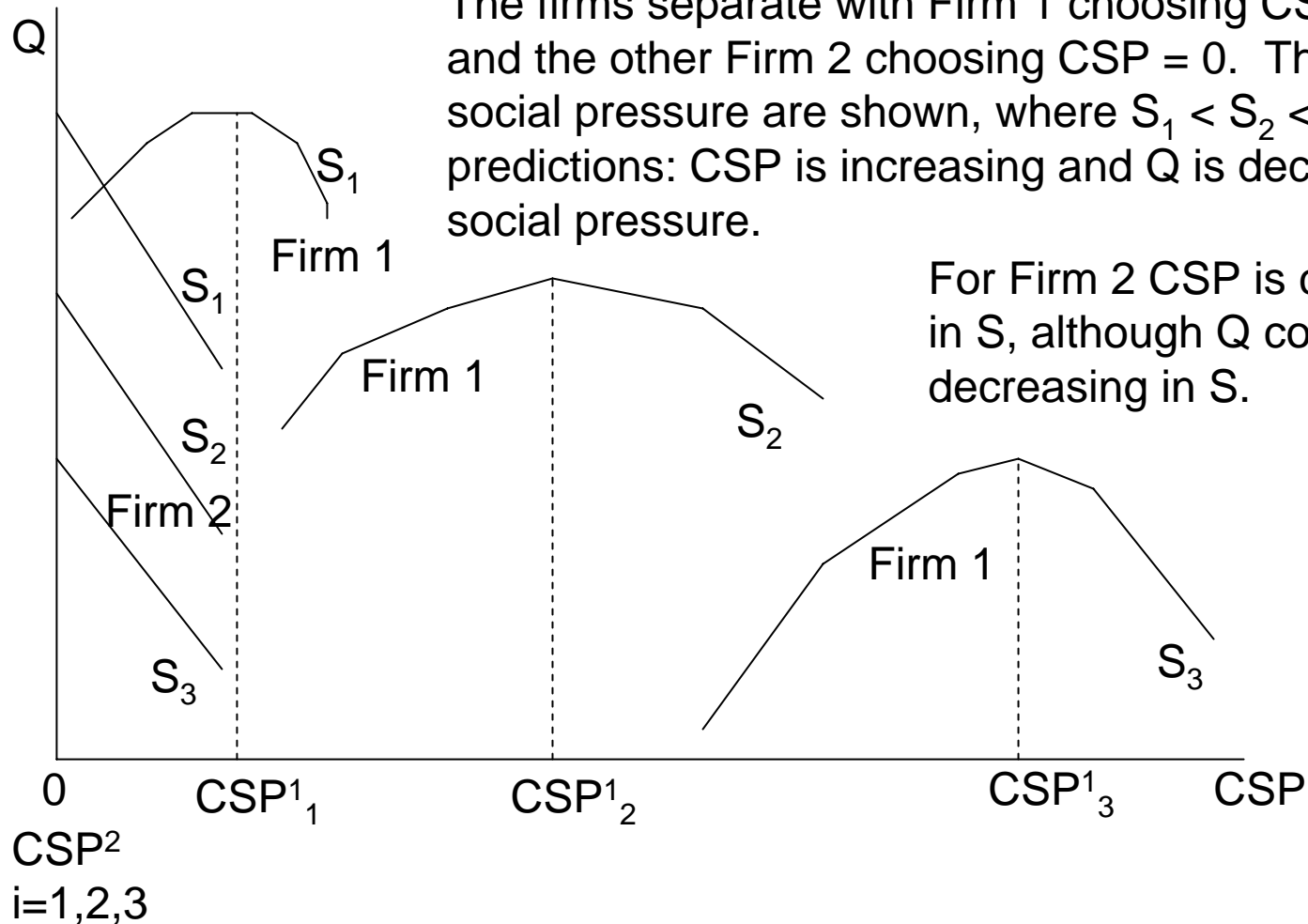


Figure 6

Capital and product market equilibria (perfect substitutes) with three levels of social pressure

Social pressure: $S_1 < S_2 < S_3$

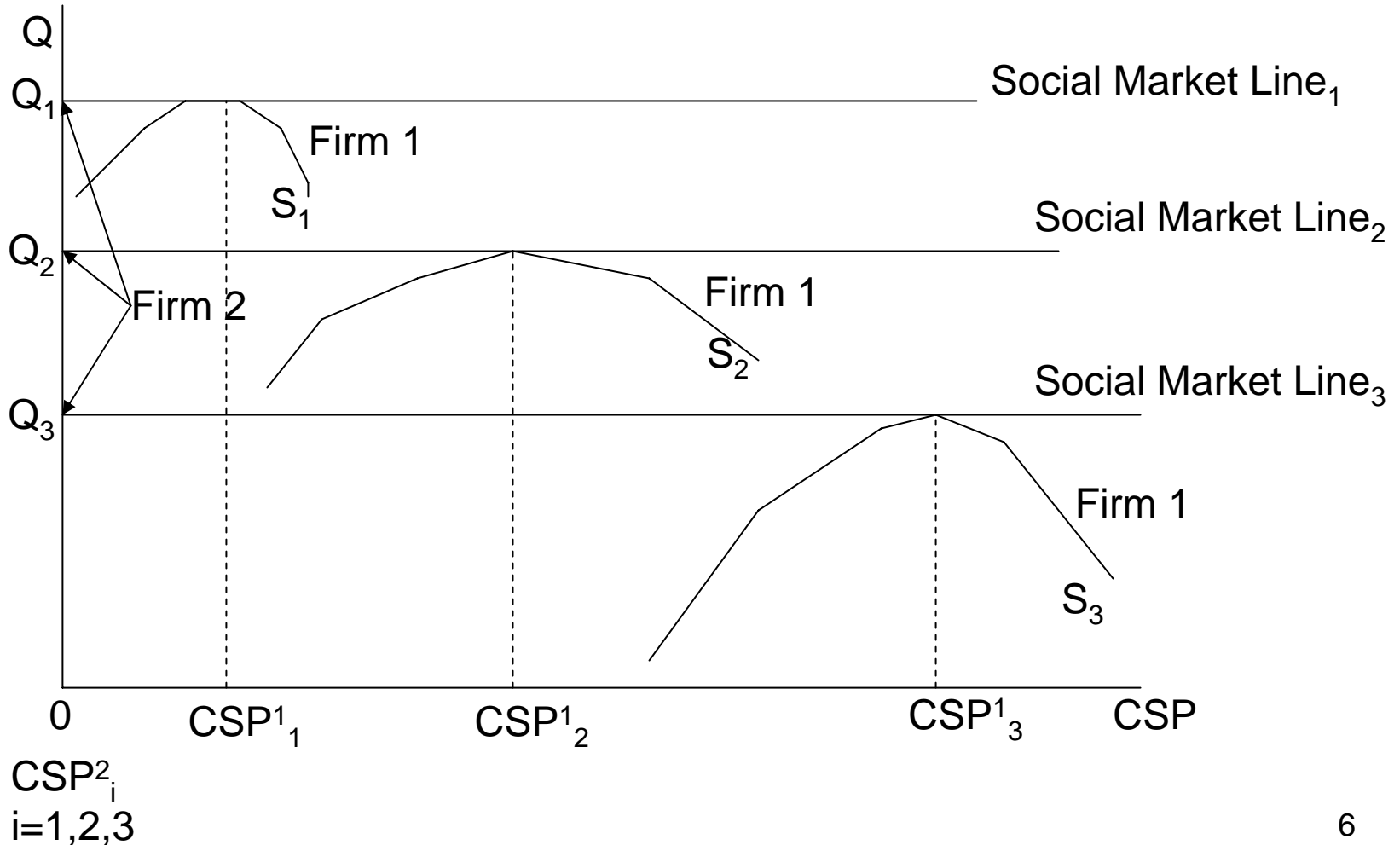


Figure 7

Capital and product market equilibria (imperfect substitutes) with three levels of social pressure

