

**DOES PRODUCT MARKET COMPETITION FOSTER CORPORATE SOCIAL
RESPONSIBILITY?**

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ABSTRACT

This study examines whether product market competition affects corporate social responsibility (CSR). To obtain exogenous variation in product market competition, I exploit a quasi-natural experiment provided by large import tariff reductions that occurred between 1992 and 2005 in the U.S. manufacturing sector. Using a difference-in-differences methodology, I find that companies react to tariff reductions by increasing their engagement in CSR, consistent with the view of “CSR as a competitive strategy”. I further examine the causal mechanisms through which CSR may improve competitiveness. In particular, I find evidence suggesting that companies increase their CSR in order to 1) credibly signal product quality, 2) differentiate themselves from their competitors, and 3) improve employees’ productivity.

Keywords: corporate social responsibility; product market competition; competitive strategy; import tariffs; difference-in-differences.

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INTRODUCTION

A widely held view among economists is that product market competition fosters efficiency (e.g., Alchian, 1950; Friedman, 1953; Stigler, 1958). For instance, Shleifer and Vishny (1997) argue that “product market competition is probably the most powerful force toward economic efficiency in the world” (p. 738). While a large literature studies the effect of competition on productivity (e.g., Nickell, 1996), little is known about the relationship between competition and corporate social responsibility (CSR).

From a theoretical perspective, this relationship is ambiguous. Recent literature suggests that CSR can improve companies’ competitiveness, e.g., through the more efficient use of materials and energy, higher employee motivation, access to new market segments (such as “green” consumers), etc. In other words, companies can “do well by doing good” (e.g., Hart, 1995; Jones, 1995; Porter and Kramer, 2006, 2011; Russo and Fouts, 1997). In the spirit of this literature, higher competition fosters CSR since companies are eager to leverage the “triple bottom line” to remain competitive and ideally outperform their competitors. In contrast, the philanthropic view sees CSR as a “donation” from shareholders to stakeholders (e.g., Friedman, 1962, 1970). In this view, competition stifles CSR since it reduces firms’ profits and hence the amount that can be donated to stakeholders.

Recent anecdotal evidence suggests that product market competition leads companies to increase their investment in CSR, consistent with the view that CSR is a valuable resource and may help achieve a competitive advantage. For example, Seventh Generation’s CEO John Replogle argues that in a competitive environment where only the fittest survives, CSR is key: “Sustainability is no longer optional. Companies that fail to adopt such practice will perish. They will not only lose on a cost basis, they will also suffer in recruiting employees as well as

attracting consumers.” When referring to his former company, Burt’s Bee, he further argues: “Because we’ve trimmed our use of electricity, water, waste and most packaging inputs, we are leaner and more competitive than most companies. [...] We must kill the myth that being sustainable is at odds with driving profitable business forward. Burt’s Bees is a more competitive and profitable business BECAUSE we embrace sustainable practices” (*Forbes*, 2011, emphasis in original). Along similar lines, the declared objective of General Electric’s environmental CSR program “ecomagination” was to improve GE’s competitiveness. As GE’s CEO Jeffrey Immelt emphasizes: “We did it from a business standpoint from Day 1, [...], it was never about corporate social responsibility” (*New York Times*, 2011). More generally, recent surveys indicate that in the face of rising global competition, over 90% of CEOs see sustainability as critical for their company’s competitiveness and future success (see Accenture and UNGC, 2010; *MIT Sloan Management Review*, 2012a).

Apart from the anecdotal evidence surveyed above, very little is known about whether or not product market competition fosters CSR. This question is difficult to answer empirically, since competition (as measured by, e.g., the Herfindahl-Hirschman Index (HHI) of industry concentration) is likely endogenous with respect to CSR: unobserved characteristics may be driving a spurious relationship between the two.¹ As a result, finding a correlation between, say, HHI and CSR, would not warrant a causal interpretation.

In this paper, I overcome this obstacle by exploiting a quasi-natural experiment in the form of large import tariff reductions that occurred between 1992 and 2005 in the U.S. manufacturing sector. These tariff reductions are substantial (tariff rates decreased by about 50%

¹ For example, long-term thinking CEOs may be more inclined to implement CSR initiatives. At the same time, they may self-select into non-competitive industries, e.g., since the lower short-run pressure gives them more leeway in achieving long-term objectives. Another example is a reverse causality argument: companies could use CSR as a way to influence competition. In particular, incumbent companies may increase their CSR to preempt entry of other firms and drive competitors out of the market.

on average), and hence provide sharp exogenous shifts in the competitive pressure that U.S. companies face from foreign rivals. To estimate the effect of these “treatments” on CSR, I use a difference-in-differences approach. Specifically, if a firm operates in an industry that experiences a tariff reduction (a “treated” firm), I compute the difference in CSR before and after the tariff reduction. I then compare this difference with the corresponding difference at a “control” firm. Control firms are matched to treated firms on the basis of similar *ex ante* characteristics.

Using this difference-in-differences methodology, I find that tariff reductions lead to a significant increase in CSR, as measured by the Kinder, Lydenberg, and Domini (KLD) index of social performance. When I look at the dynamic effect of the treatment, I find that companies already increase their CSR in the first year following the tariff reduction. However, it is only after two years that the effect becomes substantial.

While tariff reductions provide plausibly exogenous variation in product market competition, a potential concern is that companies may lobby for such tariff reductions. If such lobbying efforts correlate with the implementation of CSR programs, my results could be spurious. Nevertheless, this concern is very much minimized, for two reasons. First, while domestic companies may lobby for tariff increases, it seems very unlikely that they would lobby for tariff *reductions*, as these would potentially hurt them. Second, I show that my results are virtually identical if I only include tariff reductions that were part of large-scale multilateral agreements established by the General Agreement on Tariffs and Trade (GATT), World Trade Organization (WTO), and North American Free Trade Agreement (NAFTA). Arguably, it is unlikely that a company (or a coalition of companies) would be sufficiently powerful to influence the outcome of such multilateral trade agreements.

Finding that companies respond to higher competitive pressure by increasing their CSR is consistent with the view that CSR generates valuable resources that allow companies to improve

their competitiveness. This argument is in line with, e.g., the resource-based view of the firm (e.g., Hart, 1995; Russo and Fouts, 1997), instrumental stakeholder theory (e.g., Jones, 1995), and Porter and Kramer's (2006, 2011) shared value argument.

I further extend this view of "CSR as a competitive strategy" by examining the causal mechanisms through which CSR may increase a company's competitiveness. Specifically, I distinguish between demand-side mechanisms (i.e., CSR as a means of catering to customers) and supply-side mechanisms (i.e., CSR as a means of improving productive efficiency).

In terms of the demand-side mechanisms, I argue that CSR may allow companies to 1) credibly signal product quality to their customers, and 2) differentiate themselves from their competitors. I document evidence consistent with both mechanisms. First, I find that the increase in CSR is larger for companies operating in durable experience goods markets, i.e. markets where credible signaling is especially important since the purchasing decision is characterized by greater reliance on brand, reputation, and trust. Second, in support of the differentiation mechanism, I find that the increase in CSR is stronger for companies operating in the business-to-consumer (B2C) sector, where the purchasing decision has been shown to be more responsive to companies' CSR engagement (e.g., Lev, Petrovits, and Radhakrishnan, 2010).

In terms of the supply-side mechanisms, I argue that the implementation of targeted CSR programs may help improve the productive efficiency of labor and capital. On the labor side, employee-related CSR programs (e.g., work-life benefits such as childcare and flextime) can help attract, motivate, and maintain the most talented employees in the industry (e.g., Albinger and Freeman, 2000; Greening and Turban, 2000; Peterson, 2004; Pfeffer, 1994; Turban and Greening, 1996; Vogel, 2005). Accordingly, companies may try to increase their competitiveness by implementing CSR programs that aim at improving employee satisfaction. Consistent with

this hypothesis, I find that companies increase employee-related CSR initiatives after the treatment.

Lastly, targeted CSR initiatives may also help increase the productivity of capital. For example, Porter (1991) argues that efforts to reduce pollution (e.g., through improved technologies or production processes) might not only reduce a company's environmental footprint but also strengthen its competitiveness. Accordingly, companies may respond to fiercer competition by investing in more sustainable technologies and production processes. Such response would translate into higher investment in physical capital after the treatment. However, I find no evidence that investment goes up following the tariff reductions. A potential explanation is that, although companies react to an exogenous increase in competition by increasing their social engagement, the greater competitive pressure may prevent them from undertaking capital-intensive CSR investments (e.g., the re-engineering of their production facilities) that would require substantial time and financial resources.

Overall, the findings of this study support the view of CSR as a competitive strategy and shed light on the underlying mechanisms through which CSR may increase competitiveness. In the following, I develop the theoretical arguments in detail, describe the methodology, present the empirical results, and conclude by discussing the implications and limitations of my findings.

THEORY AND HYPOTHESES

Relationship between product market competition and corporate social responsibility

An activity is considered to be socially responsible if it goes beyond the firm's maximization of its (single) bottom line and legal requirements and contributes to the social good (e.g., Davis,

1973; McWilliams and Siegel, 2001). Given that companies operate in an increasingly global business environment, a natural question that arises is the following: Do companies respond to an increase in product market competition by increasing their social engagement? Or does competition discourage them to do so?

The early literature on CSR (e.g., Friedman, 1962, 1970) views social responsibility as an unnecessary cost of doing business. Accordingly, addressing social issues reduces the company's profits and is akin to a transfer from shareholders to stakeholders. A similar argument is made, e.g., in Elhauge (2005) who argues that CSR policies involve "sacrificing corporate profits in the public interest" (p. 733). In the spirit of this literature, an increase in competition may stifle CSR, since it reduces firms' profits and hence the amount of resources that can be transferred to stakeholders.

A different stream of literature challenges this view and emphasizes the potential value of CSR. For instance, Freeman's (1984) stakeholder theory suggests that companies should consider the interests of a broader group of stakeholders. Several extensions of stakeholder theory have been proposed (for a review, see Agle, Donaldson, Freeman, Jensen, Mitchell, and Wood, 2008). In particular, Jones (1995) argues that CSR efforts can be instrumental in obtaining necessary resources or stakeholder support. Similarly, companies may engage in CSR in order to improve their efficiency and enhance, e.g., their reputation, brand, and trust (e.g., Barney, 1991; Hart, 1995; Porter, 1991; Russo and Fouts, 1997). This argument is related to Porter and Kramer (2006, 2011) who emphasize the strategic importance of considering a broader business environment and creating "shared value" for both society and the company. The creation of shared value—as opposed to only social (i.e., philanthropic) value—is integral to a company's maximization of long-term shareholder value and its competitiveness in the global market place.

Accordingly, CSR may not be a cost but rather a resource that allows companies to, e.g., differentiate themselves, attract new customers, improve their productive efficiency, and ultimately enhance their competitiveness.² In the spirit of this literature, companies facing fierce competition in the product market may find it optimal to increase their CSR engagement.

In line with this argument, I posit that investing in CSR is a valuable business strategy that companies pursue when challenged by tougher competition. Accordingly, I hypothesize a positive causal relationship between product market competition and CSR:

Hypothesis 1. An exogenous increase in product market competition leads to an increase in CSR.

Naturally, the alternative hypothesis is that an increase in competition leads to a decrease (or no change) in corporate social responsibility, which would be in line with the earlier literature that sees CSR as an inefficient use of resources.

CSR as competitive strategy: Mechanisms

Hypothesis 1, provided it is true, raises the following question: Through which causal mechanisms does CSR increase a company's competitiveness? In the following, I propose several mechanisms and derive testable hypotheses. In doing so, I distinguish between demand-side mechanisms (i.e., CSR as a means of catering to customers) and supply-side mechanisms (i.e., CSR as a means of improving productive efficiency).

² In support of this literature, a large set of anecdotal evidence suggests that companies see CSR as a way to improve their competitiveness. In addition to the examples provided in the introduction (Seventh Generation, Burt's Bee, and GE), other well-known examples of companies that have embraced CSR policies into their strategic decision-making include IBM, Johnson & Johnson, Marks & Spencer, Nestle, Starbucks, Unilever, Walmart, etc. (see, e.g., *New York Times*, 2010; *MIT Sloan Management Review*, 2012b). For additional anecdotal evidence, see Kotler, Hessekiel, and Lee (2012).

Demand-side mechanisms

CSR as means of signaling. Companies may increase their social engagement in order to credibly signal product quality to their customers. Signaling plays an important role in durable experience goods markets (e.g., automobiles, housing, hard- and software, etc.). In such markets, product quality is unobservable prior to the purchase and customer relationships are long term. Accordingly, the purchasing decision is characterized by greater reliance and sensitivity to brand, reputation, and trust (e.g., Klemperer, 1987; Nelson, 1970, 1974; Siegel and Vitaliano, 2007).

In these markets, CSR may help alleviate information asymmetries by credibly signaling product quality to customers prior to the purchase.³ As a result, companies selling durable experience goods may respond to an exogenous increase in competition by increasing their CSR engagement more strongly. This leads to the following hypothesis:

Hypothesis 2a. An exogenous increase in product market competition leads to a larger increase in CSR for companies operating in durable experience goods markets.

CSR as means of differentiation. In catering to their customers, companies may not only use CSR as a signaling strategy, but also as a means of differentiating themselves from their competitors. Differentiation through CSR can benefit companies in two ways. First, it may reduce the price elasticity of demand—consumers are willing to pay a higher price for “ethical” goods. Second, it may increase consumer demand directly by attracting new customers such as

³ Consistent with this argument, McWilliams and Siegel (2001) and Siegel and Vitaliano (2007) find that companies selling durable experience goods devote more resources to CSR.

“green” consumers or, more generally, consumers who are responsive to sustainable practices (see, e.g., Baron, 2008; McWilliams and Siegel, 2001; Reinhardt, 1998).

The importance of this mechanism likely varies across business sectors. In particular, Lev, Petrovits, and Radhakrishnan (2010) show that individual consumers are more responsive to companies’ CSR engagement than industrial buyers, which reflects inherent differences in the purchasing decision-making process (Corey, 1991).⁴ Since sensitivity to CSR is likely higher for individual customers, it follows that the competitive gains from “CSR as a differentiation strategy” are potentially higher for companies selling to individual customers (i.e., business-to-consumer (B2C) companies), as opposed to companies selling to industrial buyers. Consequently, B2C firms may increase their CSR more strongly following an increase in competition. This motivates the following hypothesis:

Hypothesis 2b. An exogenous increase in product market competition leads to a larger increase in CSR for companies operating in the B2C sector.

Supply-side mechanisms

In addition to the demand-side mechanisms described above, targeted CSR initiatives may also improve a company’s competitiveness through supply-side mechanisms, i.e., by improving the productive efficiency of labor and capital.

CSR as means of improving labor efficiency. The literature in psychology has long argued that employee satisfaction can improve motivation (e.g., Herzberg, Mausner, and

⁴ More precisely, “[t]he purchasing decision of an individual consumer is affected not only by product attributes, but also by social group forces, psychological factors, and the consumer’s situational forces. In contrast, in industrial purchasing, the decision-making process is highly formalized, using defined procurement procedures, and subject to economic (cost/value) analysis.” (Lev et al., 2010, p. 186, adapted from Corey, 1991)

Snyderman, 1959; Maslow, 1943; McGregor, 1960). Similarly, several articles in the management literature argue that by nurturing the relationship to its employees—for example, by offering work-life benefits such as childcare and flextime—a company can attract, motivate, and maintain the most talented employees in the industry (e.g., Albinger and Freeman, 2000; Greening and Turban, 2000; Peterson, 2004; Pfeffer, 1994; Turban and Greening, 1996; Vogel, 2005), which can ultimately benefit the company’s shareholders (e.g., Edmans, 2011; Huselid, 1995; Surroca, Tribó, and Waddock, 2010).⁵ While the existing literature sheds light on the link between employee-related CSR, employees’ motivation and financial performance, little is known about the strategic use of employee-related CSR programs upon an increase in competition.

A widely shared view in the economics literature is that companies need to use their limited resources as efficiently as possible in order to remain competitive. Accordingly, if companies can improve labor efficiency through targeted CSR programs, they may react to fiercer competition by increasing their employee-related CSR. This leads to the following hypothesis:

Hypothesis 2c. An exogenous increase in product market competition leads to an increase in employee-related CSR.

CSR as means of improving capital efficiency. Targeted CSR initiatives may not only increase labor efficiency but also capital efficiency. In particular, Porter (1991) views pollution as a waste of resources (e.g., energy and material). Accordingly, efforts to reduce pollution—

⁵ Anecdotal evidence further supports this argument: Jim Sinegal, Costco’s CEO, argues: “I happen to believe that in order to reward the shareholder in the long term, you have to please your customers and workers” (*Wall Street Journal*, 2004). Similarly, in the aforementioned survey by Accenture and UNGC (2010, p. 14), “58% of CEOs identify consumers as the most important stakeholder group that will impact the way they manage societal expectations. Employees were second with 45%.”

e.g., through improved technologies or production processes—might not only reduce a company’s environmental footprint but also strengthen its competitiveness. A growing literature extends Porter’s view (for reviews of this literature, see Ambec and Lanoie, 2008; Berchicci and King, 2007; Etzion, 2007). For instance, the literature on sustainability in business examines ways in which companies can become more environment-friendly and how these greening initiatives influence financial performance. In particular, companies can become more sustainable by leveraging the low hanging fruits of efficiency and waste management and hence achieve significant financial benefits (e.g., Clelland, Dean, and Douglas, 2000; Rusinko, 2007; Russo and Harrison, 2005). More complex initiatives include efforts to integrate sustainability into product design (e.g., Lenox, King, and Ehrenfeld, 2000; Waage, 2007), to pursue environmental management systems (e.g., Melnyk, Sroufe, and Calantone, 2003; Sroufe, 2003), and to “green” the supply chain (e.g., Linton, Klassen, and Jayaraman, 2007).

When faced with fiercer competition, companies arguably try to minimize wasting their limited resources. In doing so, they may invest in more sustainable technologies and production processes. Such comprehensive response would translate into higher investment in physical capital, which motivates to the following hypothesis:

Hypothesis 2d. An exogenous increase in product market competition leads to an increase in capital investment.

DATA AND METHODOLOGY

Reduction of import tariff rates

To measure increases in product market competition, I use industry-level import tariff data

compiled by Feenstra (1996), Feenstra, Romalis, and Schott (2002), and Schott (2010). These data are available at the 4-digit SIC (Standard Industry Classification) level for the U.S. manufacturing sector (SIC 2000-3999) from 1972 to 2005. For each 4-digit SIC industry and year, I compute the *ad valorem* tariff rate which is the ratio of duties collected by the U.S. custom to the free-on-board value of imports.

Tariff rates fluctuate from year to year. However, the typical tariff change is very small and economically unimportant. To circumvent this limitation, I follow common practice in the economics literature and consider only “large” tariff reductions, i.e. tariff reductions that are above a certain threshold (e.g., Fresard, 2010; Fresard and Valta, 2012; Lileeva and Trefler, 2010; Trefler, 2004). Specifically, I follow Fresard (2010) and Fresard and Valta (2012) and qualify a tariff rate reduction in a given industry-year as large if it is at least three times larger than the average annual (absolute) change in tariff rate in the same industry across all years. The choice of the threshold is immaterial for my analysis. In robustness checks, I show that my results also hold if I consider alternative cutoffs such as tariff reductions that are two or four times the average.

There are 91 such large tariff reductions from 1972 until 2005; the first one occurring in 1975, the last one in 1998. These events correspond to an average decrease in tariff rates by about 50% (on average, the tariff rate drops from 4.60% in the year preceding the event to 2.35% in the year following the event). Fresard and Valta (2012) further show that such large tariff reductions lead to substantial increases in import penetration by about 20%. Relatedly, a large literature in international trade shows that the lessening of trade barriers triggers a significant intensification of competition on the domestic market (e.g., Bernard, Jensen, and Schott, 2006;

Lee and Swagel, 1997; Trefler, 1993).⁶ Accordingly, the treatments considered in this study provide sharp exogenous increases in competitive pressure faced by U.S. companies.

Since the objective of this paper is to study how import tariff reductions affect CSR, and given that CSR data from the Kinder, Lydenberg, and Domini (KLD) database are available from 1991 onward, I only consider tariff reductions that occurred as of 1992. Dropping events occurring in 1991 is due to the difference-in-differences specification that requires at least one year of CSR data in the year preceding the tariff reduction (see the methodology below). This criterion leaves me with a final set of 34 large tariff reductions, which are provided in Table 1. For each event, the table reports the year of the tariff reduction, the 4-digit SIC code, a short description of the industry, and whether the tariff reduction was implemented as part of multilateral agreements established by the GATT, WTO, or NAFTA. The latter information is obtained from the U.S. International Trade Commission.⁷

Firm-level data

The accounting data are obtained from Standard & Poor's Compustat; the CSR data are from the KLD database. KLD is an independent social choice investment advisory firm that compiles ratings of how companies address the needs of their stakeholders. During the relevant sample period, the KLD database consists of all companies listed in the S&P 500 Index as well as companies listed in the Domini 400 Social Index, which includes mainly large- and mid-sized

⁶ Anecdotal evidence confirms that U.S. companies pay close attention to import tariff reductions. For example, when referring to the recently proposed Trans-Pacific Partnership trade deal, the CEO of New Balance Athletic Shoe Inc. noted: "A rapid reduction of the existing [tariff] agreements would put our factories here at significant risk" (*Wall Street Journal*, 2013).

⁷ The sample period considered in this study has witnessed a decreasing trend in import tariffs. Accordingly, there are only two instances of large tariff rate *increases*. This prevents me from conducting the reverse analysis, i.e. studying whether companies adjust their social engagement following a decrease in product market competition.

companies (see Domini, 2013). KLD ratings are widely used in CSR studies (e.g., Berman, Wicks, Kotha, and Jones, 1999; Deckop, Merriman, and Gupta, 2006; Graves and Waddock, 1994).

The KLD database contains social ratings of companies along several dimensions including community, diversity, employee relations, environment, human rights, product quality, corporate governance, and whether firms' operations are related to alcohol, firearms, gambling, tobacco, nuclear power, and military contracting. To construct a composite KLD-index, I sum up all strengths along these dimensions.⁸ In auxiliary analysis, I also consider four subindices of this composite index (see the results section).

Methodology

To study whether an increase in product market competition affects CSR, I use a difference-in-differences methodology based on the 34 large tariff reductions identified in Table 1 ("treatments"). Specifically, I compare the difference in KLD-index before and after the treatment for firms in industries that experience large tariff reductions ("treatment group") with the corresponding difference for firms that are not affected by the tariff reduction but are otherwise similar ("control group"). In the following, I describe how the treatment and control groups are constructed.

Treatment group. The treatment group consists of all firms that operate in a 4-digit SIC industry that experiences a large tariff reduction and have coverage in Compustat and the KLD database at least one year before and one year after the tariff reduction. The 34 large tariff

⁸ A few of the specific strengths are not surveyed every year in the KLD database, which could lead to inconsistencies in the measurement of CSR over time. However, I have verified that I obtain similar results if instead of using the full index, I only include those strengths that are surveyed in all years from 1991 to 2005.

reductions yield a sample of 254 treated firms that satisfy these criteria.

Control group. To construct a sample of firms that are similar to the treated firms (except for the tariff reduction), I match each treated firm to a control firm on the basis of industry- and firm-level characteristics using the following procedure.

First, since the treatments are at the industry level, matching control firms based on the same 4-digit SIC industry is not possible. Instead, a natural approach is to match control firms based on a broader industry sector such as 1-, 2-, or 3-digit SIC codes. In my baseline analysis, I require that the control firm operates in the same 2-digit SIC industry and produces the same type of goods (consumer versus intermediate goods).⁹ This approach balances two concerns. On one hand, the industry partition needs to be sufficiently fine-grained so that industry characteristics are similar. On the other hand, the industry partition needs to be broad enough so that the pool of potential control firms for the matching based on firm-level characteristics is sufficiently large.

Second, out of the remaining candidates, I select the nearest neighbor on the basis of six firm-level characteristics: KLD-index, size, market-to-book ratio, cash flow, cash holdings, and leverage ratio, all computed as average in the three years preceding the tariff reduction.¹⁰ The nearest neighbor is the firm with the lowest Mahalanobis distance to the treated firm across these six matching characteristics.¹¹

⁹ The partition of 4-digit SIC industries into consumer versus intermediate goods is obtained from Lev et al. (2010). I obtain very similar results if the industry matching is done solely based on 2-digit SIC codes. In robustness checks, I discuss alternative matching procedures.

¹⁰ The last five characteristics are obtained from Compustat. Size is the natural logarithm of the book value of assets; market-to-book ratio is the ratio of the market value of equity to the book value of equity; cash flow is the ratio of income before extraordinary items to the book value of assets; cash holdings is the ratio of cash and short-term investments to the book value of assets; leverage is the ratio of long-term debt to the book value of assets. These five characteristics are commonly used in the economics and finance literature to construct a set of comparable firms (see, e.g., Almeida, Campello, Laranjeira, and Weisbenner, 2012; Lemmon and Roberts, 2010; Villalonga, 2004).

¹¹ Formally, the Mahalanobis distance δ between treated firm i and candidate firm j is given by $\delta = [(\mathbf{X}_i - \mathbf{X}_j)' \boldsymbol{\Sigma}^{-1} (\mathbf{X}_i - \mathbf{X}_j)]^{1/2}$, where \mathbf{X} is a (6×1) vector containing the six matching variables and $\boldsymbol{\Sigma}$ is the (6×6) covariance matrix of these six variables.

This matching procedure ensures that control firms are as similar as possible to the treated firms ex ante. In particular, using the KLD-index as a matching characteristic ensures that treated and control firms have similar CSR policies prior to the treatment. Using measures of profitability (cash flow) and growth opportunities (market-to-book) rules out concerns that the treated firms may be less profitable or operate in declining industries. Using size, cash holdings, and debt capacity (leverage) further addresses the possibility that differences along these characteristics may affect future CSR investments (e.g., through the ease of raising capital). In sum, the control firms provide a counterfactual for what would happen at the treated firms absent any increase in product market competition. Since each treated firm is matched to one control firm, the final sample consists of 508 companies (254 treated firms and 254 matched control firms).

To illustrate the similarity between treated and control firms, Table 2 reports descriptive statistics for the six matching characteristics. For each characteristic, the table reports means, medians, 25th and 75th percentiles for both the 254 treated firms and the 254 matched control firms. In the last two columns, the table further reports the *p*-value of the difference-in-means test (*t*-test) and Kolmogorov-Smirnov test (*KS*-test), respectively. As is shown, treated and control firms are very similar along all these characteristics. In particular, the null of equal means cannot be rejected (with *p*-values ranging from 0.25 to 0.99). Neither can the null of equal distribution (*p*-values from 0.17 to 0.82). Overall, the statistics in Table 2 confirm that control firms are very similar to treated firms, and hence likely provide a reliable counterfactual of how treated firms would behave absent the tariff reductions.

For each treated firm and each matched control firm, I compute the difference in the firm's average KLD-index in the three years following the tariff reduction minus the firm's

average KLD-index in the three years preceding the tariff reduction.¹² I denote this difference by ΔKLD_{it} , where i indexes the company and t indexes the year of the tariff reduction. While I focus on three years before and after the tariff reductions in the baseline specification, I show that my results are not sensitive to the choice of the treatment window. In fact, the results are robust if instead I use 1, 2, 4, or 5 years before and after the treatment.

Having computed ΔKLD_{it} for the treated and matched control firms, I can measure the effect of tariff rate reductions on CSR by estimating the following regression:

$$\Delta KLD_{it} = \alpha_t + \beta \times \text{Tariff Reduction}_{it} + \gamma' \mathbf{X}_{it} + \varepsilon_{it},$$

where α_t are year fixed effects, *Tariff Reduction* is a dummy variable (treatment dummy) that equals one for treated firms and zero for matched control firms, \mathbf{X} is the vector of control variables which includes the six characteristics used to construct the matched control group (KLD-index, size, market-to-book ratio, cash flow, cash holdings, and leverage ratio, all computed as average in the three years preceding the tariff reduction), and ε is the error term. I cluster standard errors at the 4-digit SIC industry level. (I obtain similar results if instead I cluster standard errors at the year level, at both the year and industry level, at the 2-digit SIC level, or if I use heteroskedasticity-robust standard errors.) The coefficient of interest is β which measures the difference in ΔKLD between treated firms and matched control firms (i.e., the difference-in-differences). In other words, it measures the effect of tariff reductions on the KLD-index accounting for contemporaneous changes in the KLD-index at otherwise similar firms that do not experience such tariff reductions.

¹² The sample of treated and control firms is constructed by requiring that each firm has KLD coverage at least in the year before and the year after the treatment. In cases where KLD data are not available for the full three years before or after the treatment, the respective average is computed on the basis of the non-missing years. My results are virtually identical if I only include firms with the full three years of KLD data before and after the treatment.

While large tariff reductions provide plausibly exogenous variation in product market competition, there are two potential identification concerns. In the following, I describe both concerns in turn and explain how I address them.

Lobbying. A potential concern is that companies may lobby for tariff reductions. If such lobbying efforts correlate with omitted variables that also influence the implementation of CSR programs, my results could be spurious. Nevertheless, this concern is very much minimized, for several reasons. First, while domestic companies may lobby for tariff increases, it seems very unlikely that they would lobby for tariff reductions, as these would potentially hurt them. Second, I show in robustness checks that my results are virtually identical if I only include tariff reductions that are part of multilateral agreements established by the GATT, WTO and NAFTA. Arguably, it is unlikely that companies would be sufficiently powerful to influence the outcome of such multilateral trade agreements. Along similar lines, Krugman, Obstfeld, and Melitz (2011) point out that such institutions narrow the policy space of government officials (who may be influenced by individual companies) by imposing rules and formal obligations that restrict their ability to influence trade barriers. Lastly, I have verified that my results are robust if I only include smaller firms (i.e., firms whose book value of assets is below the median) in my sample. Arguably, smaller firms are less able to lobby.

Related industries. Another concern is that a tariff reduction in one industry may affect companies in related industries (e.g., suppliers), even if the latter do not experience a reduction in tariff rates. If companies from such industries happen to be in the control sample, the requirement that control firms be unaffected by the treatment would be violated. While it is unclear how such industry spillovers would bias my results, I show in robustness checks that my results are unchanged if I require control firms to operate in industries that are unrelated to those of the treated firms. To measure relatedness across industries, I use the 1992 input-output matrix

of the Bureau of Economic Analysis (BEA) and compute inter-industry relatedness following the procedure in Fan and Lang (2000). Industries are said to be related if their relatedness coefficient is larger than 5%.

RESULTS

Main results

The main results are presented in Table 3. In all regressions the dependent variable is the change in KLD-index three years after compared to three years before the treatment. In Model 1, the regression only includes the tariff reduction dummy as explanatory variable. In Model 2, I also include year fixed effects. In Model 3, I further include firm-level controls (KLD-index, size, market-to-book ratio, cash flow, cash holdings, and leverage, all measured as average in the three years preceding the tariff reduction). Finally, in Model 4, I use a median (mean absolute deviation) regression instead of ordinary least squares (OLS).¹³ For each specification, the table reports the coefficient on the tariff reduction dummy and its standard error in parentheses. As can be seen, the coefficient on the tariff reduction dummy is very stable regardless of the specification. More precisely, it lies between 0.316 and 0.403 and is always highly significant. This implies that, in the three years following the tariff reduction, companies increase their social performance by about 0.3 to 0.4 KLD strengths—loosely speaking, companies are implementing 0.3 to 0.4 CSR initiatives. While this effect may seem modest in absolute terms, it is quite substantial in relative terms. Since the average number of KLD strengths prior to the treatment is 1.75 (see Table 2), this implies that the CSR engagement of companies increases by about 18%

¹³ Since clustering techniques are not available for median regressions, standard errors in Model 4 are block-bootstrapped at the 4-digit SIC level using 500 bootstrap samples.

to 23%.

To provide more perspective on the effect of tariff reductions on CSR, Figure 1 plots the evolution of the KLD-index in the treatment and control groups five years before and after the treatment. More precisely, each point in the figure represents the average KLD-index among all firms in the respective group. (In case a company does not have KLD coverage in a given year, the average is based on the remaining firms with non-missing KLD data.) This figure provides three main insights. First, the KLD-index is trending upward in both the control and treatment groups. This is consistent with previous evidence showing that companies are increasing their CSR activities over time (see, e.g., Flammer, 2013a), and underscores the importance of using a control group—not accounting for changes in CSR at the control group would overstate the effect of tariff reductions on the KLD-index, as it would capture some of the time trend. Second, there is no apparent difference in the KLD-index in the five years preceding the treatment. Third, following the treatment, the two curves diverge: treated firms increase their KLD-index substantially compared to matched control firms.

To see whether the difference between the two curves is significant on a year-by-year basis, Table 4 provides the corresponding differences-in-means (with standard errors in parentheses). As is shown, the differences in KLD-index are small and insignificant in the five years preceding the treatment. The difference is marginally significant one year after the treatment, and it is substantial and significant at the 5% level after the first two years. Subsequently, the difference remains significant and somewhat stable in magnitude.

As Figure 1 and Table 4 illustrate, companies start increasing their CSR in the first year following the tariff reduction. However, it is only after two years that the effect becomes significant at the 5% level. Arguably, it may take some time for companies to decide upon and implement the appropriate CSR program. Lastly, the dynamic pattern in Table 4 shows that my

baseline results are not sensitive to the treatment window of three years before and after. In untabulated regressions, I confirm that my results are indeed robust to using 1, 2, 4, or 5 years before and after the treatment (albeit using a 1-year treatment window yields weaker results).

Robustness checks

I perform several robustness checks that address potential concerns. These robustness checks are presented in Table 5. In the following, I briefly discuss each of them. Unless otherwise specified, the underlying specification is the one used in Model 3 of Table 3.

Different thresholds for “large” tariff reductions. In the analysis so far, a tariff reduction is coded as large if it is at least three times larger than the average tariff change in the industry. To examine whether my results are sensitive to the choice of the cutoff, I re-estimate the baseline specification using different cutoffs. Specifically, in Models 1 and 2, the cutoff is two and four times, respectively, the average tariff change in the industry. As is shown, the coefficient on the tariff reduction dummy remains positive and significant regardless of the cutoff. Interestingly, the coefficient is smaller for the twofold cutoff (0.251) and larger for the fourfold cutoff (0.504), compared to the coefficient of 0.363 for the threefold cutoff. This pattern suggests that the increase in CSR is monotonic in the extent to which product market competition increases.

Tariff reductions established by the GATT, WTO, and NAFTA. In Model 3, I only consider tariff reductions that have occurred under the hospice of international institutions such as GATT, WTO and NAFTA, and hence are unlikely to be the outcome of lobbying by companies. There are 21 such large tariff reductions during the sample period (see last column of Table 1), corresponding to 142 treated firms. As can be seen, the coefficient on the tariff

reduction dummy is virtually identical to the coefficient in the baseline specification.

Excluding related industries from the control group. In Model 4, I require that matched control firms be in industries that are unrelated to the treated firms' industries. I measure industry relatedness using the input-output matrix of the BEA, as explained in the methodology section. As is shown, the coefficient on the tariff reduction dummy is again very similar to before.

Matching based on 3-digit SIC industries. In my baseline analysis, the industry matching is based on consumer versus intermediate goods within a given 2-digit SIC sector (see the methodology section). In Model 5, the matching procedure uses 3-digit SIC codes as a finer-grained industry classification. As is shown, the coefficient on the tariff reduction dummy is similar to the coefficient in the baseline specification.¹⁴

Matching based on location. The matching algorithm used in the baseline specification does not include geographic characteristics. In Model 6, I refine the algorithm by not only matching on the basis of industry- and firm-level characteristics, but also by requiring that each control firm be located in the same state as the treated firm (using the state of headquarters' location from Compustat). As is shown, this additional requirement has little impact on the coefficient of the treatment dummy.¹⁵

Confound with advertising expenses. A potential concern is that the KLD-index may correlate with advertising and public relations (PR) expenses. In particular, it could be that companies advertise their *existing* CSR more aggressively following an increase in competition. If KLD analysts are influenced by advertising campaigns in assessing a company's social

¹⁴ There are two caveats of using 3-digit SIC codes. First, several 3-digit SIC industries consist of only one 4-digit SIC industry in Compustat, in which case a control firm cannot be assigned. This explains the smaller sample size in Model 5. Second, the number of potential control firms for each treated firm is small, which may affect the reliability of the characteristics-based matching (more precisely, the average number of potential control firms for each treated firm is 2.3, compared to 18.9 in my baseline analysis).

¹⁵ Note that the sample size drops to 286 observations since there are several cases in which no Compustat company (within the relevant industry) is located in the same state as the treated firm. In those cases, a control firm cannot be assigned.

performance, my results could merely reflect a change in advertising behavior as opposed to an actual increase in CSR. In Model 7, I address this potential concern by controlling for contemporaneous changes in advertising expenses (defined as the ratio of advertising expenses to total assets from Compustat). As can be seen, the coefficient on the tariff reduction dummy is very similar to before. Thus, advertising and PR campaigns are unlikely to explain my results.

Alternative measure of CSR. Another way of addressing the potential confound with advertising expenses is to use a measure of CSR that is unrelated to advertising. In particular, a commonly used alternative to the KLD-index is total emissions of toxic chemicals from the EPA's Toxic Release Inventory (TRI) database (e.g., Hamilton, 1995; King and Lenox, 2001). In Model 8, I use the percentage change in total emissions as dependent variable (denoted by Δ Emissions). As is shown, total emissions decrease by 2.8% following the tariff reductions. This finding is consistent with my baseline result based on the KLD-index.

Mechanisms through which CSR increases competitiveness

In Table 6, I extend my baseline specification to examine the causal mechanisms through which CSR may increase a company's competitiveness.

Durable experience goods. In Model 1, I augment the baseline specification by adding an interaction term between the tariff reduction dummy and an indicator variable that equals one if the company operates in durable experience goods markets. To identify these markets, I partition 3-digit SIC industries based on the classification in Nelson (1974) and Siegel and Vitaliano (2007). As can be seen, the coefficient on the interaction term is positive and significant, which indicates that the increase in CSR is stronger for companies operating in durable experience goods markets, i.e. in those markets where the purchasing decision is more likely to rely on

brand, reputation, and trust, and hence where credible signaling is potentially more important. This finding is supportive of the signaling mechanism proposed in Hypothesis 2a.

B2C sector. In Model 2, I augment my baseline specification by including an interaction term between the tariff reduction dummy and a dummy variable indicating whether a company operates in the B2C sector. The classification of B2C industries is obtained from Lev et al. (2010). As is shown, the treatment effect is significantly stronger for companies in the B2C sector, where consumers are likely more responsive to companies' CSR engagement. This is in line with the differentiation mechanism proposed in Hypothesis 2b.

Employee-related CSR. In Models 3-6, I decompose the KLD-index into four subindices by adding up KLD strengths pertaining to employees, customers, environment, and "society at large" (i.e., all remaining KLD strengths), respectively. As can be seen from Model 3, companies substantially increase their employee-related CSR following the treatment, which is consistent with Hypothesis 2c.

The evidence in Models 4-6 yields additional insights. In particular, companies increase their customer-related CSR following the treatment, which lends additional support to the demand-side mechanisms (Hypotheses 2a and 2b). Finally, companies also seem to increase their environmental CSR, albeit to a lesser extent.

Investment. In Model 7, the dependent variable is Δ Investment, which is defined as the change in the ratio of capital expenditures to total assets (from Compustat) in the three years following the treatment compared to the three years prior. As argued in Hypothesis 2d, investment should go up if companies react to the treatment by investing in more sustainable technologies and production processes. As is shown, this hypothesis is not supported by the data: the coefficient on the treatment dummy is insignificant and has a negative sign.

The latter finding warrants further comments. In particular, not observing an increase in physical investment does not necessarily imply that companies do not expand their engagement towards the environment. In fact, the increase in environment-related CSR documented in Model 5, as well as the reduction in toxic emissions documented in Model 8 of Table 5, suggest the opposite. Taken together, these results indicate that companies do increase their environmental CSR, yet they may focus on the “low-hanging fruits” of environmental CSR. In other words, companies may prefer to, e.g., reduce their use of toxic chemicals or disinvest from their most polluting operations, as opposed to undertaking substantial capital-intensive investments (e.g., the implementation of new, environment-friendly technologies throughout the supply chain). The latter would require substantial time and financial resources, which may be in short supply in times of intensified competition.¹⁶

DISCUSSION AND CONCLUSION

To remain competitive, companies need to allocate their scarce resources as efficiently as possible. This mechanism is central to the economic argument that competition fosters efficiency and value creation (e.g., Alchian, 1950; Friedman 1953; Stigler 1958). Following this reasoning, if CSR is a valuable resource, an increase in competition may lead companies to expand their social engagement.

This paper provides empirical support for this argument by using exogenous variation in product market competition in the form of import tariff reductions that occurred between 1992 and 2005 in the U.S. manufacturing sector. Using a matched difference-in-differences approach,

¹⁶ In line with this argument, I find in untabulated regressions that the treatment effect is lower for companies that face a higher degree of financing constraints in the year preceding the treatment (as measured by above-median values of the indices of financing constraints of Kaplan and Zingales, 1997, and Whited and Wu, 2006).

I find that following the tariff reductions, companies increase their CSR efforts. Specifically, the KLD-index increases significantly in the three years following the treatment. This finding is consistent with the view that CSR generates valuable resources that allow companies to improve their competitiveness.

I further extend this view of “CSR as a competitive strategy” by examining the causal mechanisms through which CSR increases firms’ competitiveness. In doing so, I distinguish between demand- and supply-side mechanisms.

From the demand-side perspective, I first argue that CSR may allow companies to credibly signal product quality to their customers. Consistent with this hypothesis, I find that the increase in CSR is larger for companies operating in durable experience goods markets, i.e. markets where the purchasing decision is characterized by greater reliance on brand, reputation, and trust. Second, I argue that CSR may be used as a differentiation strategy. In support of this argument, I find that the increase in CSR is stronger for companies operating in the business-to-consumer (B2C) sector, where the purchasing decision has been shown to be more responsive to companies’ CSR engagement (e.g., Lev et al., 2010).

From the supply-side perspective, I argue that the implementation of targeted CSR programs may help improve labor productivity. Arguably, employee-related CSR programs (e.g., childcare and flextime) can help attract, motivate, and maintain talented employees. Accordingly, companies may try to increase their competitiveness by implementing CSR programs aimed at improving employee satisfaction. Consistent with this view, I find that companies increase employee-related CSR initiatives when faced with fiercer competition. Finally, targeted CSR initiatives may also help increase the productivity of capital. This argument goes back to Porter’s (1991) claim that efforts to reduce pollution might not only reduce a company’s environmental footprint but also strengthen its competitiveness.

Accordingly, companies may respond to fiercer competition by investing in environment-friendly technologies and production processes. Such response would translate into higher investment in physical capital following the treatment. I find no support for this hypothesis: if at all, companies seem to reduce physical investment following import tariff reductions. A potential explanation is that greater competitive pressure may prevent companies from undertaking capital-intensive CSR investments (e.g., the re-engineering of production facilities) that take a long time to implement and require substantial financial resources. In contrast, companies may rather focus on the “low-hanging fruits” of environmental CSR (e.g., reduce their use of toxic chemicals, disinvest from their most polluting facilities, etc.). I provide a set of auxiliary results that are consistent with this view. First, I find that companies do increase their environmental CSR following the treatment (as measured by the number of KLD strengths related to environment). Second, I also find that companies tend to reduce their emissions of toxic chemicals.

To the best of my knowledge, this study is the first to examine the causal effect of product market competition on CSR. The papers that are most closely related are Fernandez-Kranz and Santalo (2010) and Fisman, Heal, and Nair (2006). Consistent with my findings, they find a positive correlation between competition (as proxied by the Herfindahl-Hirschmann Index (HHI) of industry concentration) and CSR. However, as mentioned above, such correlation does not warrant a causal interpretation. Several unobserved variables may correlate with both HHI and CSR, and hence drive a spurious relationship between the two. In addition, this study further contributes to the literature by examining several causal mechanisms through which CSR may improve a company’s competitiveness.

A limitation of my study is that, although it shows that companies respond to an exogenous increase in product market competition by increasing their social engagement, it does

not provide *direct* evidence that this increase in CSR is value-enhancing. An alternative interpretation of my results could be that competition leads to corporate inefficiencies that translate into wasteful CSR efforts. Nevertheless, this alternative interpretation is very unlikely, for two reasons. First, if—as many economists argue—product market competition fosters efficiency, it seems implausible that companies would respond to higher competition by increasing CSR if doing so were value-destroying. Second, a large literature examines the relationship between CSR and financial performance (for reviews, see, e.g., Margolis, Elfenbein, and Walsh, 2007; Margolis and Walsh, 2001, 2003; Orlitzky, Schmidt, and Rynes, 2003). While there is some heterogeneity in the findings, Margolis *et al.* (2007) note in their meta-analysis of this literature that the “overall effect is positive but small” (p. 2). This suggests that CSR is unlikely to destroy value.¹⁷

Finally, finding that competition fosters corporations’ social engagement has potentially important policy and welfare implications. In the economic literature, the typical view is that competition increases social surplus by improving productive efficiency and consumers’ welfare. The results of this study suggest that the welfare of various stakeholders improves as well. Accordingly, taking into account this positive externality, the overall benefits of competition on society as a whole may be larger than previously assumed.

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¹⁷ A caveat of this literature is that CSR is endogenous with respect to financial performance. However, recent evidence by Flammer (2013b), who relies on exogenous variation in CSR in the form of CSR-related shareholder proposals that pass or fail by a small margin of votes, suggests that the positive link between CSR and financial performance is in fact causal.

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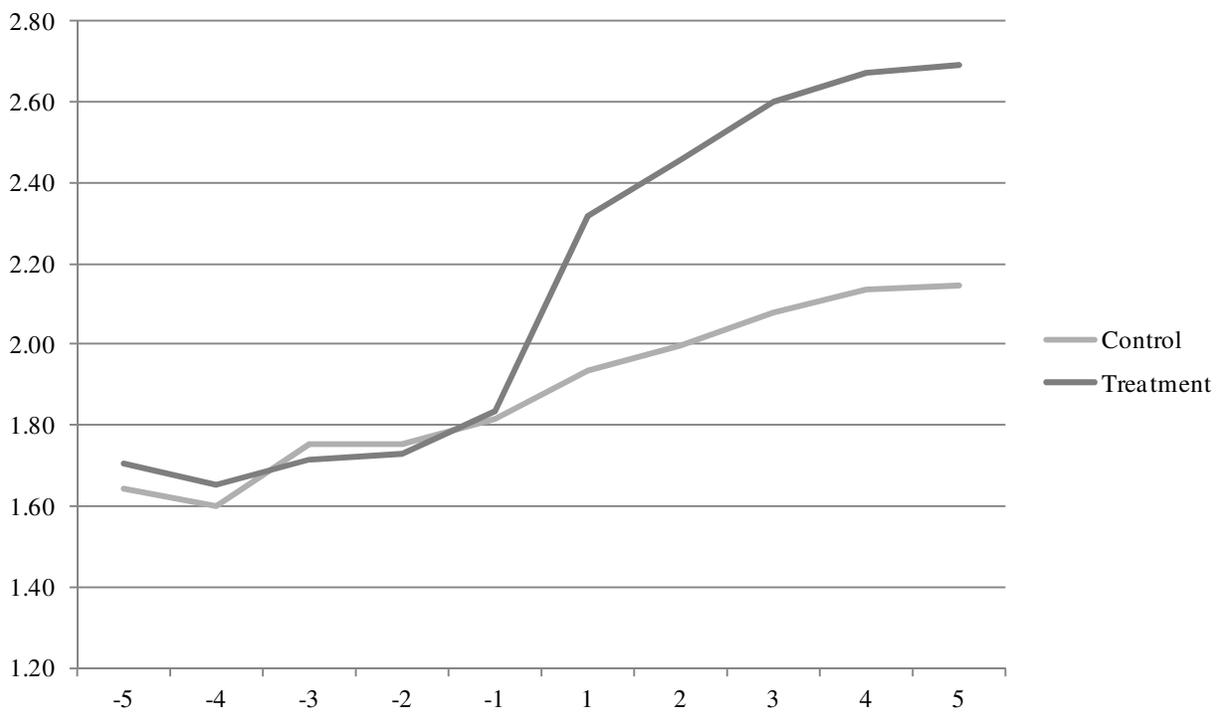
Figure 1. Evolution of KLD-index in control and treatment groups

Table 1. Industries affected by large import tariff reductions

Year	SIC	Industry Description	Multilateral Agreement
1992	3613	Switchgear and Switchboard Apparatus	Other
1992	3669	Communications Equipment, Nec	Other
1993	2761	Manifold Business Forms	GATT
1993	2522	Office Furniture, Except Wood	GATT, NAFTA
1993	2451	Mobile Homes	GATT, NAFTA
1993	3715	Truck Trailers	GATT, NAFTA
1994	3651	Household Audio and Video Equipment	Other
1994	3577	Computer Peripheral Equipment, Nec	GATT, NAFTA
1994	3341	Secondary Nonferrous Metals	GATT
1995	3555	Printing Trades Machinery	WTO, NAFTA
1995	2834	Pharmaceutical Preparations	WTO
1995	2835	Diagnostic Substances	WTO
1995	3822	Environmental Controls	Other
1995	3944	Games, Toys, and Children's Vehicles	WTO
1995	3011	Tires and Inner Tubes	WTO
1995	3842	Surgical Appliances and Supplies	WTO
1995	2842	Polishes and Sanitation Goods	WTO, NAFTA
1995	3579	Office Machines, Nec	Other
1995	2844	Toilet Preparations	Other
1995	3942	Dolls and Stuffed Toys	WTO
1995	2833	Medicinals and Botanicals	WTO
1995	3559	Special Industry Machinery, Nec	WTO, NAFTA
1995	3612	Power, Distribution and Specialty Transformers	Other
1995	3843	Dental Equipment and Supplies	WTO
1995	3561	Pumps and Pumping Equipment	Other
1997	3695	Magnetic and Optical Recording Media	WTO, NAFTA
1997	3812	Search and Navigation Equipment	WTO, NAFTA
1997	3578	Calculating and Accounting Equipment	WTO, NAFTA
1997	3826	Analytical Instruments	WTO, NAFTA
1997	3844	X-ray Apparatus and Tubes	WTO, NAFTA
1998	3829	Measuring and Controlling Devices, Nec	Other
1998	3845	Electromedical Equipment	Other
1998	3089	Plastics Products, Nec	Other
1998	3663	Radio and T.V. Communications Equipment	Other

Table 2. Summary statistics for treated and matched control firms

		Observations	Mean	25th Pctl.	50th Pctl.	75th Pctl.	<i>p</i> -value(<i>t</i> -test)	<i>p</i> -value(<i>KS</i> -test)
KLD-Index	Treated	254	1.751	0.000	1.000	3.000	0.918	0.816
	Matched	254	1.759	0.000	1.000	3.000		
Size	Treated	254	7.954	7.064	7.791	9.113	0.275	0.173
	Matched	254	8.138	6.847	8.025	9.574		
Market-to-book	Treated	254	2.092	1.419	1.655	2.310	0.267	0.353
	Matched	254	2.262	1.329	1.594	2.599		
Cash flow	Treated	254	0.069	0.038	0.063	0.096	0.464	0.596
	Matched	254	0.066	0.026	0.061	0.103		
Cash holdings	Treated	254	0.089	0.027	0.053	0.113	0.254	0.620
	Matched	254	0.098	0.028	0.047	0.138		
Leverage	Treated	254	0.132	0.065	0.132	0.198	0.990	0.795
	Matched	254	0.132	0.047	0.135	0.198		

Table 3. Does product market competition lead to higher CSR?

Dependent Variable:	Δ KLD	Δ KLD	Δ KLD	Δ KLD
	Model 1	Model 2	Model 3	Model 4
Tariff Reduction	0.402*** (0.090)	0.403*** (0.089)	0.363*** (0.085)	0.316*** (0.091)
Control Variables	No	No	Yes	Yes
Year Fixed Effects	No	Yes	Yes	Yes
Regression Type	OLS	OLS	OLS	Median
R-squared	0.04	0.05	0.12	0.05
Observations	508	508	508	508

All tests two-tailed. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 4. Dynamic effect of import tariff reductions on CSR

Tariff Reduction (Year -5)	0.066 (0.257)
Tariff Reduction (Year -4)	0.052 (0.210)
Tariff Reduction (Year -3)	-0.036 (0.203)
Tariff Reduction (Year -2)	-0.021 (0.190)
Tariff Reduction (Year -1)	0.020 (0.181)
Tariff Reduction (Year +1)	0.381* (0.196)
Tariff Reduction (Year +2)	0.459** (0.201)
Tariff Reduction (Year +3)	0.520** (0.219)
Tariff Reduction (Year +4)	0.537** (0.227)
Tariff Reduction (Year +5)	0.542** (0.239)

All tests two-tailed. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 5. Robustness checks

	<i>Tariff Reductions with 2 × Cutoff</i>	<i>Tariff Reductions with 4 × Cutoff</i>	<i>Tariff Reductions from WTO/NAFTA Agreements</i>	<i>Excluding Related Industries from Matched Sample</i>	<i>Matching based on 3-digit SIC Industries</i>	<i>Matching based on Location</i>	<i>Controlling for Changes in Advertising</i>	<i>Alternative CSR Measure</i>
Dependent Variable:	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ Emissions
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Tariff Reduction	0.251*** (0.059)	0.504*** (0.151)	0.301** (0.122)	0.507*** (0.092)	0.394*** (0.092)	0.436*** (0.115)	0.360*** (0.085)	-0.028* (0.017)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.12	0.14	0.16	0.14	0.17	0.14	0.13	0.10
Observations	1,092	222	284	508	414	286	508	508

All tests two-tailed. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 6. CSR as competitive strategy: What are the mechanisms?

Dependent Variable:	<i>Interaction with Industry Characteristics</i>		<i>KLD Subindices for Stakeholder Groups</i>				<i>Capital Expenditures</i>
	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ KLD	Δ Investment
	Model 1	Model 2	Employees	Consumers	Environment	Society at Large	Model 7
Tariff Reduction	0.291*** (0.091)	0.250*** (0.095)	0.173*** (0.047)	0.134*** (0.054)	0.057** (0.027)	0.001 (0.043)	-0.005 (0.004)
Tariff Reduction \times Durable Experience Goods	0.466** (0.182)						
Tariff Reduction \times B2C Sector		0.306** (0.142)					
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.13	0.13	0.05	0.08	0.06	0.08	0.04
Observations	508	508	508	508	508	508	508

All tests two-tailed. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.