Business Reputation and Labor Efficiency, Productivity and Cost

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ABSTRACT. Assumed benefits from improved reputation are often used as motives to drive corporate social responsibility (CSR) initiatives. Are improved cost efficiencies among these reputation benefits? Cost efficiencies and cost management have become more relevant as revenue streams dry up in these tough economic times. Can a good reputation aid these efforts to develop cost efficiencies specifically when managing labor costs? Prior research hypothesizes that good reputation can create labor cost and productivity advantages resulting in labor cost efficiencies. The purpose of this study is to empirically investigate whether there is an association between reputation and labor efficiency, labor productivity and labor cost. Using a sample of highly reputable firms from *Fortune*'s 2006 America's Most Admired Companies list and a corresponding matched sample of firms, we find that reputation is associated with improved labor efficiency and labor productivity. However, we do not find a significant association between reputation and reduced labor costs. Our study contributes to current research hypothesizing and finding efficiency benefits associated with good reputation. Documenting these potential reputation benefits has important implications for CSR activities and initiatives. It supports recent work that incorporates reputation into a more developed model of the relationship between CSR and performance (Vilanova et al., 2009). This work is useful to businesses and supports strategies focused on "doing well by doing good" and maintaining healthy reputations.

Key words: corporate social responsibility (CSR), corporate reputation, labor efficiency, labor productivity, labor cost

Data Availability: All data used in this study are available from public sources.

Introduction

The current global economic downturn and resulting tough economic times have captured the attention of the American public, the U.S. government and certainly world-wide businesses. Uncertainty in the current recession has caused business activity and revenues to stagnate. Controlling costs and improving cost efficiencies become increasingly critical in such an environment. What tools can businesses use to create and improve cost efficiencies? Can reputation be used to improve cost efficiencies and specifically labor cost efficiencies?

The relationship between reputation and cost efficiencies has implications for corporate social responsibility (CSR) initiatives. Often, improved reputation's potential benefits drive CSR decisions and activities. In fact, recent work proposes that reputation plays a critical role in the relationship between CSR and performance (Vilanova et al., 2009). Our study investigates and documents reputation's potential labor cost efficiency benefits.

Prior work hypothesizes that a good reputation is valuable because, among other benefits, it can create labor cost advantages (Podolny, 1993, Fombrun, 1996) that can improve labor efficiency. We define labor efficiency as a measure of labor productivity per unit of labor cost. This definition is consistent with the concept of economic efficiency which refers to the production of goods and services (i.e., *productivity*) from a given quantity (i.e., *cost*) of resources (Sullivan and Sheffrin, 2003, p. 15).[1] Prior work hypothesizes that a good reputation can generate both positive cost and productivity effects. The idea is that good reputation can *attract* and *motivate* good employees (Roberts and Dowling, 2002). Employee attraction results in a

[1]This definition of efficiency is also consistent with *Merriam-Webster's* Online Dictionary definition which defines efficiency as "a comparison of production with cost" (http://www.merriam-webster.com/dictionary/efficiency). This definition of efficiency is also consistent with Data Envelopment Analysis (DEA), a nonparametric technique that produces measures of performance efficiency by using the ratio of outputs produced to the cost of inputs (Stuebs and Sun, 2009, Cooper et al., 2000, Charnes et al., 1978).

labor *cost* benefit. Because good employees are attracted to reputable firms, they may be willing to accept less compensation for the employment opportunity with reputable firms. In addition, employee motivation results in a *productivity* benefit. Because good employees are motivated by the firm's reputation, they may work harder for reputable firms. The hypothesized changes in lower labor costs and higher labor productivity should increase labor cost efficiency. The purpose of our study is to empirically examine these labor efficiency, productivity and cost hypotheses.

We use a sample of highly reputable firms from *Fortune*'s 2006 Most Admired Companies list along with a sample of matched firms to test our hypotheses. We find that reputation is positively associated with labor cost efficiency. This result is due to a positive association between reputation and labor productivity. We find no association between reputation and labor costs.

Our work adds to research supporting the performance benefits of a good reputation. Our results imply that companies with superior reputation can attract good employees who work more productively and efficiently. These results should be of interest to managers who develop strategies and engage in behavior leading to or maintaining a positive corporate reputation—including CSR initiatives. Also, the results can increase individual investors' confidence in investing in companies with superior reputation.

Literature, Motivation and Hypotheses Development

Many studies have analyzed the relationship between CSR and financial performance (Chand and Fraser, 2006, McWilliams and Siegel, 2001) and suggested that performance is indeed a key driver for adopting CSR (Bansal and Roth, 2000, Haigh and Jones, 2006, Hess et al., 2002, Juholin, 2004, Porter and Van Der Linde, 1995). Most studies hypothesize a positive association between CSR and financial performance (McWilliams and Siegel, 2001, Griffin and Mahon, 1997) although results are inconclusive (Chand and Fraser, 2006) and the nature of the relationship between CSR and performance is still somewhat unclear (McWilliams and Siegel, 2001, Porter and Kramer, 2006, Harrison and Freeman, 1999, Smith, 2003).

Recent work by Vilanova et al. (2009) attempts to clarify the nature of the relationship between CSR and dimensions of competitiveness and performance. They propose a framework that establishes a link between CSR and competitiveness and performance that can be of use to both practitioners and scholars in interpreting the relationship between CSR and performance in practice. Figure 1 presents a modified and simplified version of the Vilanova et al. (2009) framework.

Insert Figure 1

CSR can be defined as "the voluntary integration of social and environmental concerns in to business operations and in to interactions with stakeholders" (Vilanova et al., 2009, p. 58).[2] Fombrun (1996, p. 72) defines reputation as "a perceptual representation of a company's past

[2] Vilanova et al. (2009, p. 58-59) group CSR activities into five categories: (1) CSR vision and governance activities (Carter et al., 2003, Freeman, 1999, Humble et al., 1994, Joyner and Payne, 2002, Pruzan, 2001, Sison, 2000), (2) community relations activities (Hess et al., 2002, Freeman, 1999, Frooman, 1999, Grey, 1996, Jones, 1995, Jones and Wicks, 1999), (3) workplace and labor practices activities (Sum and Ngai, 2005), (4) accountability and transparency activities (Elkington, 1998), (5) marketplace activities (Schnietz and Epstein, 2005, Fan, 2005, Whetten et al., 2001).

actions and future prospects that describe the firm's overall appeal to all its key constituents when compared to other leading rivals." Roberts and Dowling (2002) suggest that corporate reputation is a general organizational attribute that reflects the extent to which external stakeholders view the company as "good" or "bad". Finally, Vilanova et al. (2009, p. 59-60) propose that competitiveness can be defined and grouped on five key dimensions of performance: (1) financial performance (Hamel and Prahalad, 1989), (2) quality and customer satisfaction (Barney, 1991), (3) productivity and efficiency (Porter, 1985), (4) innovation (Mintzberg, 1993) and (5) image (Kay, 1993).

Figure 1 shows a clear connection between CSR and performance, and this connection begins with issues of image and reputation (Vilanova et al., 2009, p. 63). A key determinant of firm competitiveness is reputation, and reputation is strongly influenced by CSR (Vilanova et al., 2009, p. 60). In other words, CSR impacts firm competitiveness mainly through reputation; reputation links CSR and performance (Vilanova et al., 2009, p. 63).

Reputation's performance effects are an important driver used to sell CSR policies within organizations. Since reputation is currently an accepted and valued intangible asset (Schnietz and Epstein, 2005), managers seem to focus on reputation to force corporate change towards implementing CSR (Vilanova et al., 2009, p. 63). As a result, reputation acts as a fundamental driver to initiate and implement CSR (Vilanova et al., 2009, p. 64). Given the importance of reputation's performance effects in driving CSR activity, the purpose of this paper is to build on the work of Vilanova et al. (2009) by empirically investigating the link between reputation and performance.

Reputation becomes an increasingly valuable asset in turbulent economic times. Strategic management theory suggests that good reputation can create competitive advantages for firms

(Fombrun, 1996). These advantages can buffer financial performance in a variety of ways insulating reputable businesses from the full impact of tough economic times (Dowling, 2001). First, reputation can protect revenues (Fombrun, 1996) from economic downturns. Customers value relationships with high-reputation firms and may pay a premium for offerings of high-reputation firms especially in uncertain markets and economies (Shapiro, 1983). Second, good reputation can help create cost advantages (Podolny, 1993, pp. 838-841) and is associated with firm efficiencies (Stuebs and Sun, 2009).

Labor costs generally provide a ready target for cost control and efficiency efforts since labor costs are a significant cost component of operations and production (Blinder, 1990, Freeland et al., 1979).[3] Given the significance of labor costs, improving the efficiency of labor and labor costs is critical in the current environment. Traditionally, forms of incentive compensation and contingent compensation[4] in compensation policies have been used as tangible, extrinsic approaches to improve labor efficiency. In general, forms of monetary incentives are intended to increase employee effort which increases employee performance, productivity and efficiency (Bonner and Sprinkle, 2002).[5] In reality, the flexibility and adaptability of contingent, pay-for-performance compensation also shifts risk from the firm to employees. In fact, firms use contingent compensation as a way to manage and mitigate risk in

[3] For example, Blinder estimates that labor accounts for at least 70% of total costs in his book on labor practices in the U.S., *Paying for Productivity* (1990).

[4] Contingent compensation can also include forms of contingent labor. Contingent labor is "any job in which an individual does not have an explicit or implicit contract for long-term employment or one in which the minimum hours worked can vary in a non-systematic manner" (Polivka, 1996, Polivka and Nardone, 1989, p. 10). Examples can include part-time employees, temporary employees, temporary agency workers, employees whose hours vary from week to week, employees on annual hours contracts, and flextime employees (Casey et al., 1997)

[5] There is an extensive body of research documenting that monetary incentives result in performance improvements (Wagner et al., 1988, Banker et al., 1996, Lazear, 2000, Nayar and Willinger, 2001). Sales force compensation literature suggests that performance-based contracts improve performance (Rao, 1990, Basu et al., 1985). Banker et al. (2000) found that contingent compensation increases performance in two ways: (1) a selection effect and (2) an effort effect.

response to demand uncertainty, labor supply uncertainty and turbulence (Bloom and Milkovich, 1998, Clinton, 1997, Milner and Pinker, 2001, Pinker and Larson, 2003, Stroh et al., 1996). In sum, compensation policies have been used to increase labor productivity, reduce risk and improve labor cost efficiency.

Research (e.g., Dierickx and Cool, 1989, Fombrun and Shanley, 1990, Herremans et al., 1993, Landon and Smith, 1997) examining the relation between reputation and performance generally supports a positive relationship between reputation and various performance dimensions. Since reputation can create cost advantages and is associated with cost efficiencies, can a firm's reputation be used as a complementary, intangible, intrinsic approach to improving labor efficiency? In other words reputation can improve labor efficiency because "*ceteris paribus*, employees prefer to work for high-reputation firms" (Roberts and Dowling, 2002, p. 1079). This employee preference is hypothesized to yield two results both of which positively affect efficiency. First, there is a *productivity* result. Employees will work harder for firms with higher reputations (Roberts and Dowling, 2002, p. 1079). Second, there is a *cost* advantage. Because employees prefer high reputation firms, they are willing to work for a lower cost *ceteris paribus* (Podolny, 1993, Roberts and Dowling, 2002). Improved labor productivity with lower cost leads to improved labor efficiency. Our study empirically examines these ideas around the relationship between reputation and labor costs. Our hypotheses are as follows:

H1: Labor efficiency hypothesis: Reputation is positively associated with labor efficiency.

H2: Labor productivity hypothesis: Reputation is positively associated with labor productivity.

H3: Labor cost hypothesis: Reputation is negatively associated with labor costs.

Research Design

Measurement of Labor and Reputation Variables:

In this paper, we specifically hypothesize a positive relationship between reputation and labor efficiency, and then disaggregate labor efficiency into productivity and cost components to further explore the fundamental drivers of labor efficiency. We use the following model to explain the relationship between efficiency, productivity and cost.[6]

$$\text{Labor efficiency} = \frac{\text{Labor productivity}}{\text{Labor cost}} \tag{1}$$

Labor efficiency is a function of labor productivity per unit of labor cost.[7] In this study, we measure and operationalize the labor variables in Equation (1) as follows:

Labor efficiency = Income[8] / Labor Costs

Labor productivity = Income / Employees

Labor cost = Labor Costs / Employees

Substituting these variable measurements into Equation (1) yields Equation (2).

$$\left(\text{Income} \middle/ \text{Labor Costs}\right) = \frac{\left(\text{Income} \middle/ \text{Employees}\right)}{\left(\text{Labor Costs} \middle/ \text{Employees}\right)} \tag{2}$$

[6] Note that this decomposition of labor efficiency into productivity and cost components is similar (after rearranging terms) to the Du Pont model decomposition of return on investment (ROI) (Groppelli and Nikbakht, 2000, p. 444-445). ROI (income / assets) is a measure of a firm's asset *productivity*. The Du Pont model decomposes this productivity measure into efficiency and cost elements. Asset turnover (sales / assets) measures how *efficiently* a firm uses assets to generate sales. Return on sales (income / sales) measures how well a firm controls *costs* and expenses to generate income from sales. The Du Pont model relates these elements: ROI (productivity) = Asset Turnover (efficiency) * Return on Sales (cost control). Efficiency, productivity and cost terms can be rearranged to yield the relationships in Equation (1).

[7] Note that this labor efficiency ratio of productivity to cost is consistent with the (outputs / inputs) ratio used in Data Envelopment Analysis (DEA), a nonparametric statistical technique used to produce measures of performance efficiency (Stuebs and Sun, 2009, Cooper et al., 2000, Charnes et al., 1978).

[8] Note here that income refers to operating income before labor costs.

Labor cost measures the average labor cost per employee. Labor productivity measures the income generated per employee. Labor efficiency then measures the income generated per unit of labor cost.

Reputation is hypothesized to be associated with these labor variables. We use *Fortune*'s 2006 list of America's Most Admired Companies to measure reputation in two ways.[9] The first way we measure reputation is by a simple, dichotomous presence/absence indicator measurement. We compare firms on America's Most Admired Companies list to a similar set of matched firms not on America's Most Admired Companies list. Our second measure of reputation uses the actual reputation scores for firms on the Most Admired list and is a more detailed measure of reputation. *Fortune*'s reputation score can range from 0 to 10. Higher scores represent better reputation. The overall score is the mean score averaging ratings ranging from 0 to 10 from several key attributes of reputation including: 1) quality of management, 2) quality of products/service offered, 3) innovativeness, 4) value as a long term investment, 5) soundness of financial position, 6) ability to attract/develop/keep talented people, 7) responsibility to the community and environment, and 8) wise use of corporate assets.

The disaggregated elements of *Fortune*'s reputation scores point to positive relationships between CSR, reputation and labor efficiency, productivity and cost. The reputation score contains elements related to CSR (e.g., responsibility to the community and environment). Many of the reputation elements also identify corporate responsibilities to various stakeholder groups, for example: 1) customers: quality of products/services offered and innovativeness, 2) employees: ability to attract/develop/keep talented people. In addition, the reputation element

[9] Using the list of America's Most Admired Companies as a proxy for good corporate reputation is consistent with prior work (e.g., Anderson and Smith, 2006, Damodaran, 2003, McLaughlin et al., 1996, Wang and Smith, 2008).

"ability to attract/develop/keep talented people" gives reason to believe that the reputation score should be positively related to labor efficiency, productivity and cost.

Sample Selection, Descriptive Statistics and Preliminary Tests

The criteria for our reputation and labor variables drive our sample selection. Our sample data comes from two sources. We obtain reputation data from the 2006 company list of America's Most Admired Companies in *Fortune* Magazine.[10] The full list consists of 303 firms. Labor and financial data comes from Compustat. Since the 2006 list of America's Most Admired Companies was published in March 2006, we use the prior year's Compustat financial data (2005) in our analysis. After matching our sample of reputable firms with available Compustat labor and financial data, our final sample consists of 38 firms.[11] Table 1 Panel A reconciles the sample selection process. Table 1 Panel B presents the sample's distribution across broad industry categories. For instance, 15 out of the 38 firms are from the manufacturing industries, while 10 sample firms come from the finance industries.

Insert Table 1

For each sample firm, a matched firm with the closest firm size (measured by total assets) within the same industry[12] is selected. Table 2 presents selected descriptive statistics for sample and matched firms (Panel A) along with tests for mean differences between the two samples (Panel B).

[10] http://money.cnn.com/magazines/fortune/mostadmired/2006/index.html
[11] A number of companies do not report Labor Cost (Compustat #42).
[12] Industry is measured by 2-digit SIC code.

Insert Table 2

The mean labor efficiency for sample firms in Table 2 (1.749) is significantly higher than the mean labor efficiency for matched firms (1.109) ($p_{t\text{-}test}$ = 0.014, $p_{Wilcoxon}$ = 0.020). This result provides initial support for our first hypothesis of a positive relationship between reputation and labor efficiency. Additional results in Table 2 indicate that this labor efficiency relationship is primarily driven by labor productivity. The significant ($p_{t\text{-}test}$ = 0.019, $p_{Wilcoxon}$ = 0.053) increase in mean labor productivity between reputable sample firms (121.292) and matched firms (69.477) provides preliminary support for a positive association between reputation and labor productivity (H2). There is, however, no difference in labor cost per employee between sample and matched firms providing no initial support for the labor cost hypothesis (H3). The mean labor cost per employee is slightly and non-significantly ($p_{t\text{-}test}$ = 0.805, $p_{Wilcoxon}$ = 0.573) higher for sample firms (67.711) relative to matched firms (65.968). The increase in labor efficiency for high reputation firms is primarily due to an increase in labor productivity.

There are no significant differences between sample and matched firms on other control variables: assets, leverage, and the market-to-book ratio. In addition, descriptive statistics on reputation score are reported for reputation sample firms. The mean score for sample firms is 6.896.

The Pearson correlation matrix in Table 3 also provides initial support for a positive association between reputation and labor efficiency consistent with the mean differences results.

Insert Table 3

Labor efficiency is positively (0.282) and significantly (p = 0.014) correlated with the dichotomous reputation variable, *REPU*. It is also marginally (p = 0.095) positively (0.275) correlated with *Fortune*'s reputation score, *Score*. Both correlations lend additional initial support for the positive association between reputation and labor efficiency (H1). This result is primarily driven by positive correlations between labor productivity and the reputation variables which provide additional support for our labor productivity hypothesis (H2). Labor productivity is significantly (p = 0.019) positively (0.270) correlated with *REPU* and significantly (p = 0.030) positively (0.353) correlated with *Score*. There are non-significant positive correlations between labor cost and the reputation variables which provide no initial support for H3.

Except for a marginally significant (p = 0.079) positive (0.2884) correlation between the market-to-book ratio and reputation score (*Score*), none of the additional variables in Table 3 are significantly correlated with the reputation variables. Also, except for a significant (p = 0.001) positive (0.099) correlation between labor efficiency and leverage, none of the additional variables in Table 3 are significantly correlated with the labor variables. The preliminary mean differences and correlation results support the labor efficiency and labor productivity hypotheses and provide reason for us to proceed with additional empirical tests.

Empirical Tests

We will use regression analyses to test our hypotheses. The dependent variable in our analyses will be one of the labor variables of interest (i.e., labor efficiency, labor productivity, or labor cost) depending on the hypothesis being tested. The independent variable of interest in our regressions will be one of the reputation variables (i.e., *REPU* or *Score*) depending on the sample used in the regression. As a result, we run three different regression analyses on two samples (i.e., 6 regression analyses = 3 dependent labor variables * 2 independent reputation variables).

The independent reputation variables (i.e., *REPU* and *Score*) will vary between the two samples' regressions while the dependent labor variables (i.e., labor efficiency, labor productivity, and labor cost) will each be used in separate regressions within each sample to test our three hypotheses. First, we use the total combined sample of both highly reputable and matched firms. In this regression, we use the dichotomous indicator variable *REPU* to differentiate between reputation sample firms (*REPU* = 1) and matched sample firms (*REPU* = 0). Consistent with the labor efficiency and labor productivity hypotheses, *REPU* should be positive and significant when labor efficiency and labor productivity are used as dependent variables. *REPU* should be negative and significant when labor cost is used as the dependent variable according to the labor cost hypothesis. In addition to reputation, we include control variables for size, leverage and the market-to-book ratio. Our first complete model is as follows:

$$\text{Labor Variable}_i = \alpha_0 + \alpha_1 * \text{REPU}_i + \alpha_2 * \text{LTA}_i + \alpha_3 * \text{LEV}_i + \alpha_4 * \text{MTB}_i + \varepsilon_i \quad (3)$$

Where

Labor Variables:

Labor Efficiency$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Labor Costs [Compustat #42] for firm *i*.

Labor Productivity$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Employees [Compustat #29] for firm *i*.

Labor Cost$_i$ = Labor Costs [Compustat #42][13] / Employees [Compustat #29] for firm *i*.

REPU$_i$ = 1 if firm *i* is selected from *Fortune's* Most Admired Company list, otherwise 0;

LTA$_i$ = natural log of total assets [Computstat #6] for firm *i* in 2005;

LEV$_i$ = leverage ratio for firm *i* (total liabilities [Compustat #9 + #34] /total assets [Compustat #6]);

MTB$_i$ = market [Compustat #199 * #25] to book [Compustat #60] ratio for firm *i* as of December 31, 2005;

We also run our regression analysis using only our sample of reputation firms. This analysis supplements our initial regression model and should support the initial regression results.

[13] Compustat #42 is total labor costs and related expenses. It includes salaries, wages, incentive compensation, other benefit plans, payroll taxes, pension costs and profit sharing.

Because each of the firms in our reputation sample has a reputation score, we use that reputation score (i.e., *Score*) as our independent reputation variable in our regression. *Score* should be positive when labor efficiency and labor productivity are the dependent labor variables consistent with the labor efficiency and labor productivity hypotheses, respectively. According to the labor cost hypothesis, *Score* should have a negative coefficient when labor cost is the dependent labor variable. Our second, modified regression model is presented below:

$$\text{Labor Variable}_i = \alpha_0 + \alpha_1 * \text{Score}_i + \alpha_2 * \text{LTA}_i + \alpha_3 * \text{LEV}_i + \alpha_4 * \text{MTB}_i + \varepsilon_i \quad (4)$$

Where:

Labor Variables:

Labor Efficiency$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Labor Costs [Compustat #42] for firm *i*.

Labor Productivity$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Employees [Compustat #29] for firm *i*.

Labor Cost$_i$ = Labor Costs [Compustat #42] / Employees [Compustat #29] for firm *i*.

Score$_i$ = reputation score assigned to firm *i* on *Fortune's* Most Admired Company list;

LTA$_i$ = natural log of total assets [Computstat #6] for firm *i* in 2005;

LEV$_i$ = leverage ratio for firm *i* (total liabilities [Compustat #9 + #34] /total assets [Compustat #6]);

MTB$_i$ = market [Compustat #199 * #25] to book [Compustat #60] ratio for firm *i* as of December 31, 2005;

Figure 2 presents a diagram to improve visualization and understanding of our research design and regression model.

Insert Figure 2

The direction of the hypothesized relationships between variables of interest is indicated in parentheses in Figure 2. We operationalize the conceptual reputation variable with two measures based on *Fortune*'s Most Admired Company list, *REPU* and *Score*. We operationalize the

conceptual dependent variable, performance, with labor efficiency, productivity and cost variables. We also include variables to control for size, leverage and the market-to-book ratio.

Results

Labor Efficiency Hypothesis

We present the regression results for the labor efficiency hypothesis in Table 4. Panel A reports the regression results for the full sample of both reputation and matched firms (i.e., Equation (3)). Panel B reports the regression results for the firms in the reputation sample only (i.e., Equation (4)).

Insert Table 4

The labor efficiency regression results provide support for our labor efficiency hypothesis. The *REPU* coefficient is positive (0.522) and significant (p = 0.024) in Panel A. The *Score* coefficient is positive (0.7246) and significant (p = 0.006) in Panel B. Both results support the conclusion of a positive association between reputation and labor efficiency. There are no consistent relationships among the control variables. The next step is to explore the drivers of this positive association between reputation and labor efficiency.

Labor Productivity Hypothesis

Panel A of Table 5 reports the regression results testing the labor productivity hypothesis for the full sample of all firms (i.e., Equation (3)). Regression results for the reputation sample (i.e., Equation (4)) are presented in Panel B.

Insert Table 5

The labor productivity regression results support the labor productivity hypothesis. *REPU*'s coefficient is positive (34.781) and marginally significant (p = 0.077) in Panel A. The *Score* coefficient is positive (48.382) and significant (p = 0.036) in Panel B. Both results support a positive association between reputation and labor efficiency. There are no consistent relationships among the control variables. The relation between reputation and labor productivity appears to be a driver of the relation between reputation and labor efficiency.

Labor Cost Hypothesis

The regression results for the labor cost hypothesis are in Table 6. The results for the full sample are in Panel A (i.e., Equation (3)) while the results for the reputation sample are in Panel B (i.e., Equation (4)).

Insert Table 6

We find no support for our labor cost hypothesis. Both *REPU* and *Score* coefficients are insignificantly (p = 0.623, p = 0.996, respectively) positive (3.418, 0.039, respectively) which provides no support for the hypothesized negative association between reputation and labor costs. In fact, the only consistent relationship in Table 6 is a positive association between firm size and labor costs. The fact that reputation is not negatively associated with labor costs is not surprising for several reasons. First, high reputation firms may not reduce compensation to employees even if they *could.* Reputation is built by valuing and maintaining stakeholder relationships, not by taking advantage of them to gain cost advantages. Firms may choose to pay employees more to maintain employee relationships. Second, market forces play a role in determining compensation levels across firms even if employees are willing to work for less. In

addition, firms with higher reputations could attract higher quality employees (i.e., more productive) at comparable levels of compensation. Our results would support this conclusion. Reputation is positively associated with labor efficiency, and this result is primarily driven by the positive association between reputation and productivity.

Conclusion

Controlling and containing costs is a relevant topic for businesses in our current, turbulent economic environment. In this study, we explored whether there is an association between reputation and labor cost efficiencies. Our work builds on research that hypothesizes cost advantages for highly reputable firms (Podolny, 1993, Fombrun, 1996, Roberts and Dowling, 2002). We find that reputation is associated with labor efficiency. While we do not find that reputation is associated with a labor cost advantage, we do find that it is positively associated with a labor productivity advantage. Our results contribute to and extend current work that finds that highly reputable firms are more efficient (Stuebs and Sun, 2009). This work is important because it expands our understanding of the benefits and importance of reputation and is useful to business. It also supports reputation's connections to performance in Vilanova et al.'s (2009) model of the relationship between CSR and competitiveness. In other words, these results generate implications for the use of CSR activities to improve reputation.

Future work can continue to develop our understanding of the cost efficiency benefits of reputation. For example, Podolny (1993) posits that reputation affects a number of costs including inventory and transaction costs with suppliers, advertising costs, and financing costs in addition to labor costs. Future work can look at whether reputation is associated with efficiencies related to these other costs as well. This work adds to the literature uncovering the benefits of a

good reputation. It encourages businesses to continue “doing well by doing good” and maintain a healthy reputation.

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Figure 1

Modified CSR and competitiveness framework.

Source: Vilanova et al. (2009)

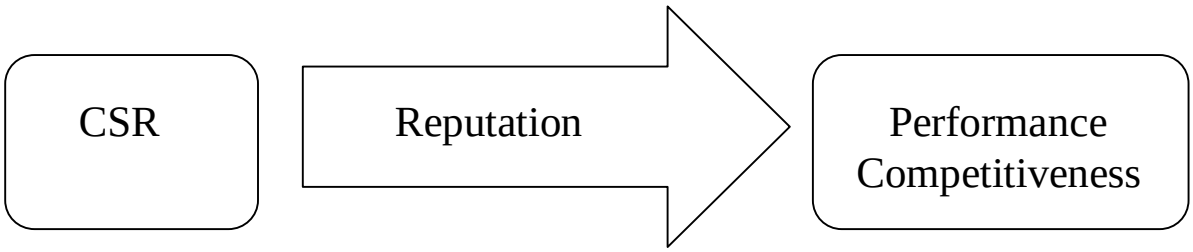

Figure 2

Diagram of Investigated Relationships

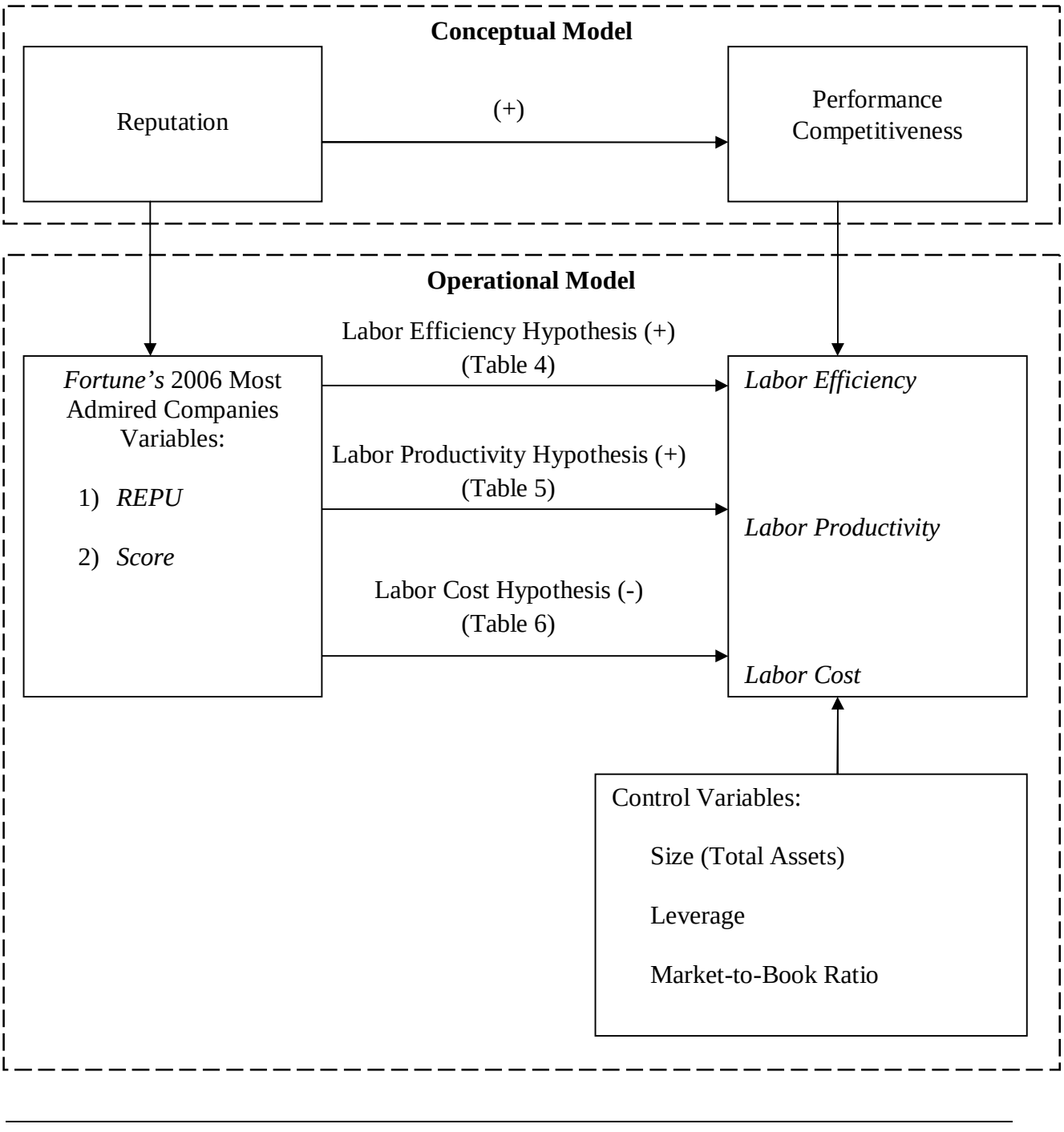

Table 1

Sample Selection and Industry Distribution

Panel A: Sample Selection

	Sample Size
2006 Most-Admired Firms Sample	303
Firms missing Compustat labor data	-265
Final Sample	38

Panel B: Industry Distribution

Industry	Number of Firms
Agriculture, forestry and fisheries (SIC 01-09)	0
Mineral Industries (SIC 10-14)	0
Construction Industries (SIC 15-17)	1
Manufacturing Industries (SIC 20-39)	15
Transportation, communication and utilities (SIC 40-49)	7
Wholesale (SIC 50-51)	0
Retail (SIC 52-59)	3
Finance (SIC 60-69)	10
Service (SIC 70-89)	2
Total	38

Table 2
Descriptive Statistics

Panel A: Basic Descriptive Statistics

	Sample Firms (n=38)			Matched Firm (n=38)		
	Mean	Std. Dev.	Median	Mean	Std. Dev.	Median
Labor Efficiency	1.749	0.987	1.428	1.109	1.207	1.277
Labor Productivity	121.292	86.648	108.376	69.477	100.396	73.024
Labor Cost	67.711	29.055	65.765	65.968	32.102	60.066
Assets	114,698.363	233,198.456	38,227.300	100,976.913	228,821.478	12,366.5
LEV	0.679	0.182	0.666	0.7111	0.237	0.747
MTB	3.188	2.210	2.373	3.414	4.913	2.495
Score	6.8963	0.7328	6.975			

Panel B: Paired Difference in Mean

	T-test (p-value)	Wilcoxon Test (p-value)
Labor Efficiency	0.0136	0.0196
Labor Productivity	0.0185	0.0527
Labor Cost	0.8046	0.5730
Assets	0.7964	0.1430
LEV	0.5128	0.2221
MTB	0.7963	0.5049

Variable definition:

Labor Efficiency = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Labor Costs [Compustat #42]

Labor Productivity = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Employees [Compustat #29]

Labor Cost = Labor Costs [Compustat #42] / Employees [Compustat #29].

Assets = total assets [Computstat #6] in 2005

LEV = leverage ratio (total liabilities [Compustat #9 + #34] /total assets [Compustat #6])

MTB = market [Compustat #199 * #25] to book [Compustat #60] ratio as of December 31, 2005

Score = reputation score assigned to firms on *Fortune's* Most Admired Company list

Table 3

Pearson Correlations among the Variables

	Labor Efficiency	Labor Productivity	Labor Cost	REPU	Score	Asset	LEV
Labor Productivity	0.0585						
(p-value, two-tailed)	0.0509						
Labor Cost	0.0035	0.9932					
(p-value, two-tailed)	0.9072	<0.0001					
REPU	0.2821	0.2696	0.0289				
(p-value, two-tailed)	0.0136	0.0185	0.8046				
Score	0.2747	0.3528	0.2033	N/A			
(p-value, two-tailed)	0.0951	0.0298	0.2210	N/A			
Asset	0.0118	-0.0019	-0.0021	0.0301	0.1625		
(p-value, two-tailed)	0.6929	0.9483	0.9444	0.7964	0.3297		
LEV	0.0986	0.0210	0.0134	-0.0762	-0.1849	0.0914	
(p-value, two-tailed)	0.0010	0.4836	0.6539	0.5128	0.2665	0.0023	
MTB	-0.0125	-0.0059	-0.0036	-0.0301	0.2884	-0.0106	0.0093
(p-value, two-tailed)	0.6774	0.8441	0.9044	0.7963	0.0790	0.7243	0.7571

Variable definition:

Labor Efficiency = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Labor Costs [Compustat #42]

Labor Productivity = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Employees [Compustat #29]

Labor Cost = Labor Costs [Compustat #42] / Employees [Compustat #29].

$REPU_i$ = 1 if firm *i* is selected from *Fortune's* Most Admired Company list, otherwise 0

Score = reputation score assigned to firms on *Fortune's* Most Admired Company list

Assets = total assets [Computstat #6] in 2005

LEV = leverage ratio (total liabilities [Compustat #9 + #34] /total assets [Compustat #6])

MTB = market [Compustat #199 * #25] to book [Compustat #60] ratio as of December 31, 2005

Table 4
Labor Efficiency Regression Analysis

Panel A: Reputation sample and matched sample firms (n=76)

Model: Labor Efficiency$_i$ = β_0 + β_1*REPU$_i$ + β_2*LTA$_i$ + β_3*LEV$_i$ + β_4*MTB$_i$ + ρ_i

Results: (Adjusted R^2 = 0.3041)

	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	0.4407	0.5985	0.74	0.4640	0
REPU	0.5217	0.2268	2.30	0.0244**	1.0774
LTA	0.0989	0.0520	1.90	0.0616***	1.3624
LEV	0.2077	0.5993	0.35	0.7299	1.3148
MTB	-0.1134	0.0323	-3.51	0.0008*	1.2355

Panel B: Reputation sample firms only (n=38)

Model: Labor Efficiency$_i$ = β_0 + β_1*Score$_i$ + β_2*LTA$_i$ + β_3*LEV$_i$ + β_4*MTB$_i$ + ρ_i

Results: (Adjusted R^2 = 0.1495)

	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	-2.4040	1.6477	-1.46	0.1540	0
Score	0.7246	0.2482	2.92	0.0063*	1.4779
LTA	-0.1945	0.1029	-1.89	0.0676***	1.7951
LEV	2.2515	1.0207	2.21	0.0345**	1.5414
MTB	-0.1231	0.0756	-1.63	0.1131	1.2475

* Significant at 0.01, two-tailed test;
**Significant at 0.05, two-tailed test;
* **Significant at 0.1, two-tailed test;

Variables:

Labor Efficiency$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Labor Costs [Compustat #42] for firm *i*

REPU$_i$ = 1 if firm *i* is selected from *Fortune's* Most Admired Company list, otherwise 0

Score$_i$ = reputation score assigned to firm *i* on *Fortune's* Most Admired Company list

LTA$_i$ = natural log of total assets [Computstat #6] for firm *i* in 2005

LEV$_i$ = leverage ratio for firm *i* (total liabilities [Compustat #9 + #34] /total assets [Compustat #6])

MTB$_i$ = market [Compustat #199 * #25] to book [Compustat #60] ratio for firm *i* as of December 31, 2005

Table 5
Labor Productivity Regression Analysis

Panel A: Reputation sample and matched sample firms (n=76)

Model: Labor Productivity$_i$ = α_0 + α_1*REPU$_i$ + α_2*LTA$_i$ + α_3*LEV$_i$ + α_4*MTB$_i$ + ε_i

Results: (Adjusted R^2 = 0.2928)

Variable	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	-46.5016	51.1198	-0.91	0.3661	0
REPU	34.7809	19.3703	1.80	0.0768***	1.0774
LTA	15.4156	4.4451	3.47	0.0009*	1.3624
LEV	-7.7548	51.1868	-0.15	0.8800	1.3148
MTB	-5.8795	2.7577	-2.13	0.0365**	1.2355

Panel B: Reputation sample firms only (n=38)

Model: Labor Productivity$_i$ = α_0 + α_1*Score$_i$ + α_2*LTA$_i$ + α_3*LEV$_i$ + α_4*MTB$_i$ + ε_i

Results: (Adjusted R^2 = 0.1282)

Variable	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	-288.7636	146.4892	-1.97	0.0571	0
Score	48.3822	22.0621	2.19	0.0355**	1.4779
LTA	3.8936	9.1521	0.43	0.6733	1.7951
LEV	84.7070	90.7433	0.93	0.3574	1.5414
MTB	-6.5263	6.7206	-0.97	0.3386	1.2475

* Significant at 0.01, two-tailed test;
**Significant at 0.05, two-tailed test;
* **Significant at 0.1, two-tailed test;

Variables:

Labor Productivity$_i$ = (Net Income [Compustat #18] + Labor Costs [Compustat #42]) / Employees [Compustat #29] for firm *i*

REPU$_i$ = 1 if firm *i* is selected from *Fortune's* Most Admired Company list, otherwise 0

Score$_i$ = reputation score assigned to firm *i* on *Fortune's* Most Admired Company list

LTA$_i$ = natural log of total assets [Computstat #6] for firm *i* in 2005

LEV$_i$ = leverage ratio for firm *i* (total liabilities [Compustat #9 + #34] /total assets [Compustat #6])

MTB$_i$ = market [Compustat #199 * #25] to book [Compustat #60] ratio for firm *i* as of December 31, 2005

Table 6
Labor Cost Regression Analysis

Panel A: Reputation sample and matched sample firms (n=76)

Model: Labor Cost$_i$ = λ_0 + λ_1*REPU$_i$ + λ_2*LTA$_i$ + λ_3*LEV$_i$ + λ_4*MTB$_i$ + £$_i$

Results: (Adjusted R^2 = 0.0892)

Variable	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	19.9562	18.2475	1.09	0.2778	0
REPU	3.4175	6.9143	0.49	0.6227	1.0774
LTA	5.1813	1.5867	3.27	0.0017*	1.3624
LEV	-8.9983	18.2714	-0.49	0.6239	1.3148
MTB	1.4147	0.9844	1.44	0.1551	1.2355

Panel B: Reputation sample firms only (n=38)

Model: Labor Cost$_i$ = λ_0 + λ_1*Score$_i$ + λ_2*LTA$_i$ + λ_3*LEV$_i$ + λ_4*MTB$_i$ + £$_i$

Results: (Adjusted R^2 = 0.1888)

Variable	Parameter Estimate	Standard Error	t Value	Pr > l t l	Variance Inflation
Intercept	-11.0919	47.3822	-0.23	0.8164	
Score	0.0392	7.1360	0.01	0.9957	1.4779
LTA	8.6948	2.9603	2.94	0.0060*	1.7951
LEV	-18.6141	29.3511	-0.63	0.5303	1.5414
MTB	0.8198	2.1738	0.38	0.7085	1.2475

* Significant at 0.01, two-tailed test;
**Significant at 0.05, two-tailed test;
* **Significant at 0.1, two-tailed test;

Variables:

Labor Cost$_i$ = Labor Costs [Compustat #42] / Employees [Compustat #29] for firm *i*
REPU$_i$ = 1 if firm *i* is selected from *Fortune's* Most Admired Company list, otherwise 0
Score$_i$ = reputation score assigned to firm *i* on *Fortune's* Most Admired Company list
LTA$_i$ = natural log of total assets [Computstat #6] for firm *i* in 2005
LEV$_i$ = leverage ratio for firm *i* (total liabilities [Compustat #9 + #34] /total assets [Compustat #6])
MTB$_i$ = market [Compustat #199 * #25] to book [Compustat #60] ratio for firm *i* as of December 31, 2005