Employee Satisfaction, Firm Value and Firm Productivity

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ABSTRACT

We examine whether self-reported employee satisfaction is associated with higher firm valuation and productivity. Using a sample of firms from *Fortune* magazine's list of "100 Best Companies to Work For", companies in which employees report high levels of satisfaction, we find that these firms have valuations that are significantly greater than both their respective industry medians and matched firms. The firms in our sample also exhibit greater levels of productivity and efficiency. Thus, successful efforts in increasing employee satisfaction appear to enhance overall firm productivity, which is subsequently rewarded by investors through higher equity values.

INTRODUCTION

A purported benefit of high levels of employee morale or satisfaction is lower turnover and/or higher productivity. Lower employee turnover results in a lower overall corporate cost structure because training and paperwork costs are lower. Higher productivity, ceteris paribus, implies a lower per unit cost of production. Thus, all else equal, companies with higher levels of employee satisfaction should exhibit greater levels of productivity and cost-effectiveness.

The primary source of employee satisfaction is typically assumed to be the employee's compensation and benefits package (Meyer et al. 2001). Indeed, the efficiency wage theory predicts that firms with higher levels of pay will have better overall employee performance. As confirmation, Levine (1992) and Wadhwani and Wall (1992) each find positive correlations between employee wages and various measures of productivity. Explicit wages are not the only source of compensation for employees, however. Meyer et al. (2001) expand the efficiency wage

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theory to an "efficiency compensation theory" implying that companies with well-designed compensation packages will attract and retain greater levels of talent and (implicitly) lead to a higher level of employee satisfaction. Initiating and implementing a "well-designed" compensation package and other programs that enhance employee satisfaction, however, is costly to the firm.

Thus, although companies may implement compensation systems that boost employee satisfaction, the marginal impact of these systems on overall corporate profitability may be zero or even negative given the higher costs of such systems. Indeed, Meyer et al. (2001) find that common benefits such as on-site childcare and job-sharing programs negatively affect profits on average. In general, lower profitability will adversely effect shareholder wealth. Therefore, it is unclear whether the net impact of company-provided benefits and other employee satisfaction enhancing programs on overall firm value and productivity is positive, negative, or zero. In this paper, we attempt to determine if there is an empirical link between employee satisfaction and the relative market valuation of a company. We further examine whether having satisfied employees implies greater firm efficiency or productivity.

In general, we find strong evidence to suggest that satisfied workers are associated with greater levels of productivity, and that the firms of these employees have significantly higher valuations (compared to both the industry norm and to similar matched firms). We also find that potential declines in employee satisfaction are associated with reductions in relative productivity and relative valuation. These results imply that if managers successfully design efficient compensation packages and work to create environments which foster employee satisfaction, the equity holders likely benefit through higher relative stock value.

LITERATURE REVIEW

Research regarding company-provided benefits, employee satisfaction and firm performance is complicated by the unclear or inconsistent link between company benefits and satisfaction. That is, a company may provide excellent benefits and compensation, but the work environment or culture may lead to a general level of employee dissatisfaction. Thus, we rely on self-reported employee satisfaction (instead of inferring it from the compensation package) and examine productivity at the firm-level. Three existing studies that examine the impact of self-reported satisfaction are Filbeck (2001), Chan et al. (2000), and Burnett and Best (2004). Each of these studies relies on stock market data to determine the short and/or long-term effect of employee satisfaction.

Filbeck (2001) examines whether inclusion on *Mother Jones* magazine's "20 Better Places to Work" impacts stock price. One criteria for being included on this list is that employees report high satisfaction. He finds a significant *negative* average stock price reaction surrounding the list announcement (implying these firms may be over-providing benefits in the view of market participants). Further, the firms named to the list have returns that are the same statistically as a matched group of firms over the year after inclusion on the list. Chan et al. (2000) use *Fortune* magazine's 1998 list of "100 Best Companies to Work For" to ascertain whether having "happy" workers leads to greater stock returns. These 100 firms are identified in part from employee surveys that indicate a high level of satisfaction. Chan et al. (2000) examine a number of stock return measures for the three years immediately prior to the year in which the list is published and find that these firms have significant excess stock returns. Burnett and Best (2004) also use the *Fortune* list. They examine the announcement and post-announcement stock

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returns of firms named to the list from 1997 - 1999 and find no market reaction to the list announcement nor any excess post-announcement stock returns relative to a matched sample.

For our study, instead of focusing on stock returns, we use a variety of valuation indicators and measures of firm performance to (1) determine whether stock market participants "reward" companies that have satisfied workers by placing higher values on those companies, and (2) ascertain whether satisfied workers are associated with higher (relative) firm productivity.[1]

DATA AND METHODOLOGY

We use *Fortune* magazine's list of "100 Best Companies to Work For" from 1998 through 2001 to identify public companies that have satisfied employees. The *Fortune* list is compiled each year from data gathered by the Great Places to Work Institute. A major factor in determining whether a firm makes the final list of 100 companies is the result of an employee survey that measures the workplace culture and its quality. A second important factor is the company's response to a "Culture Audit" from the Great Places to Work Institute. Thus, we infer that companies that score well and are included on *Fortune* magazine's final list have workplace cultures that lead to higher levels of employee satisfaction.

For a company to be considered for the *Fortune* list, that company must complete the culture audit and allow employees to be surveyed by the Great Places to Work Institute. Thus, our sample may not include firms with the *most* satisfied employees if some employers choose to not participate. We do suspect, however, that a company would not participate if its employees

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[1] Snipes, et al. (2005), for example, find that employee satisfaction leads to better customer service in higher education. The inference for production-oriented firms is a greater level of efficiency or productivity in job performance.

tend to be less satisfied. Although our sample may not include all firms with "highly" satisfied employees, in general we expect that firms in our sample have employees with a higher than average level of satisfaction.

To determine the firm-level impact of this satisfaction, we first compare a sample firm's relative valuation to its two-digit SIC code industry median relative valuation (after removing all sample firms from the industry list). To determine relative valuation, we collect from Standard and Poor's *Research Insight* (Compustat) database the book-to-market (BM) and price-to-earnings (PE) ratios at the end of November in the calender year prior to the list release. We use the book-to-market ratio instead of the more conceptually appealing market-to-book because of the better distributional properties of the book-to-market ratio. Further, we focus on the *median* BM and PE from each industry because of the highly skewed distribution of the valuation variables for some industries. To illustrate the relative magnitude of the valuation of the sample firm relative to the industry, we divide each sample firm's BM ratio by the industry median BM and the sample firm's PE by the industry median PE. Our statistical test, however, relies on the proportion of sample firms with BM and PE ratios below/above the industry medians. By definition, half of all valuations will be on either side of the median. Thus, if employee satisfaction does not impact valuation, we expect the sample firms to be divided approximately equally below and above the industry medians of BM and PE ratios. If employee satisfaction positively impacts valuation, we would observe a greater concentration of sample firms below the industry median for the BM ratio, and a larger proportion of firms above the industry median for the PE ratio.

Next, we supplement the industry median test with a matched-firm approach. We match

each sample firm with a control firm using three variables from *Research Insight* data–SIC code, sales level, and beta. We first identify all firms with the same 2-digit SIC code from *Research Insight*. We use the 2-digit SIC code (as opposed to the 4-digit code) because of the lack of available matches at the 4-digit level for some firms. Next, from these industry-matched firms, we find all firms that have sales that are within 20% of the sales of the sample firm to control for size.[2] If no potential match occurs in this range, we use the firm with the closest level of sales.[3] Finally, after finding the firms that match based on industry and similar sales, from this list, we choose the company with the closest beta. Using beta allows us to control for the perceived risk of the sample firm.

The level of sales is taken from the fiscal year prior to the list publication year. For the four years in our sample, *Fortune* publishes the list in January of the respective year, but generally releases the list in mid-December prior to official publication. Using the fiscal year prior to the official list publication year means that some of our firms' reported sales are for the year prior to the list release, while others are reported after the list release (in calendar time). For example, data for firms with June through November fiscal year ends will have sales (potentially) reported before list release, while sales for firms with December through May fiscal year ends are reported after the list release. Although we do not investigate the potential impact of the list release on sales, we suspect that such an affect would be negligible. That is, sales over the list-

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[2] Because we are investigating relative valuation, we avoid matching on the basis of market value of equity. An alternative size measure is total assets. As we report later, the average total assets for the sample firms and average total assets for the sales-matched firms are statistically indistinguishable.

[3] 32 firms fail to have an adequate match based on the sales range. Of these, 19 of the matches have sales below and 13 have sales above the desired sales range.

release period should not be influenced by any "announcement" effects. We measure beta at the end of November in the calender year prior to the official list publication year. If a potential match does not have a beta reported on *Research Insight* for this time period, that firm is eliminated from consideration.

We use two approaches to determine whether the sample firm's valuation differs from that of the matched firm. First, we calculate the difference between the sample firm's valuation measure (either BM or PE) and the matched firm's valuation measure, and then use a standard matched-pair z-score to determine whether this average difference is zero. Second, we employ the non-parametric Wilcoxon signed rank test. For each statistical test in our analysis, these two approaches provide the same qualitative inferences and levels of significance. Thus, we report only the more commonly used parametric statistical test results.

After analyzing the relative valuation of our sample of firms with satisfied employees, we next focus on whether higher satisfaction is indicative of better productivity. We use four measures of firm-level efficiency and/or productivity. Our primary analysis focuses on the gross profit margin (GPM), defined as the difference between sales and cost of goods sold divided by sales, and the EBITDA margin (EM), defined as earnings before interest, taxes, depreciation and amortization divided by sales. GPM and EM should be directly correlated with the costs and/or efficiencies of the firm's operations as these measures do not include financing effects which are discretionary management decisions. We do, however, examine both the net profit margin (NPM) and return on assets (ROA) to ascertain whether any effects that may be detected in the first two measures "filter down" to net income. As with sales, we collect each of these measures for the fiscal year prior to the official list publication year.

EMPIRICAL RESULTS

Descriptive Information

A breakdown of the sample by publication year and SIC code is listed in Table 1. As shown, our sample appears to have clustering in certain sectors (for example in the 3000-3999 and 7000-7999 SIC ranges). To further investigate, we compare the percentage of firms by sector in our sample to all firms in the *Research Insight* database during the sample period and find that the percentages in our sample do not differ dramatically from the population percentages. Any problems that might arise from clustering, however, should be reduced by our methodology of comparing to the industry median and an industry-matched firm.

Table 1. Sample Firms by SIC Code Range

	List Publication Year				
SIC Code	1998	1999	2000	2001	All
1000-1999	0	1	0	0	1
2000-2999	15	8	10	8	41
3000-3999	24	16	12	14	66
4000-4999	2	3	3	3	11
5000-5999	6	9	7	7	29
6000-6999	6	7	10	9	32
7000-7999	9	15	12	10	46
8000-8999	1	0	0	0	1
Total	63	59	54	51	227

In Table 2, we include descriptive information on the sample firms by year of list publication. As shown, the market value of equity of the sample firms ranges from a low of $46 million to a high of over $469 billion. We measure market value of equity at the end of

November prior to the list publication year. Total Assets and Sales in the fiscal year prior to the

list publication exhibit a similar dispersion as market value. Thus, although our average firm is

Table 2. Sample Descriptive Information by Year of List

	List Publication Year				
Variable	1998	1999	2000	2001	All
MVE					
Mean	20,823	28,210	53,253	50,465	37,117
(Median)	(5,451)	(6,408)	(11,337)	(15,536)	(8,256)
Min	46	59	114	233	
Max	170,747	304,215	469,804	336,267	
Total Assets					
Mean	16,060	13,929	18,651	22,210	17,507
(Median)	(3,110)	(3,840)	(6,103)	(6,875)	(4,574)
Min	29	81	82	259	
Max	292,819	299,804	250,491	289,760	
Sales					
Mean	8,311	10,518	9,830	14,589	10,657
(Median)	(2,605)	(3,348)	(4,340)	(5,654)	(3,937)
Min	85	83	81	224	
Max	45,418	137,634	42,370	191,329	
Sample Size	63	59	54	51	227

NOTES. The sample is taken from *Fortune* magazine's "100 Best Companies to Work For". Market value of equity (MVE), total assets (TA), and sales are in millions. MVE is calculated at the end of November prior to the year of publication, where publication occurs in January of the respective year. TA and sales are taken from the fiscal year prior to the publication year.

"large," the sample provides a wide cross-section of firm sizes. Our final sample consists of 227

observations across all years. Because the sample includes firms that appear on the *Fortune* list

in more than one year, the number of unique firms in the sample is 106. In a later section, we

segment the sample based on repeat observations. Although the sample size declines

monotonically across years, the number of public firms is similar for each year of the list. The

number of firms available for actual analysis, however, is not always 227 as inclusion in a test

depends on whether the variable being analyzed is available from *Research Insight*. For

example, because beta is not available for all firms, a maximum of 213 sample firms can be used

in the matched-firm tests. We report the number of firms we have for each test with the

discussion of the results for those tests.

Finally, we provide a summary of the sample descriptive data along with the industry

average and matched-firm average for sales, total assets, and beta in Table 3. The sample firms

are significantly larger (whether size is measured by sales or total assets) and have significantly

higher betas than the average firm in the industry. The average firm in the sample has over $10.6

billion in sales, $17.5 billion in total assets, and a beta of 1.132. The average industry firm,

however, has slightly over $1.8 billion in sales, $4.4 billion in assets, and has a beta of only

0.686. The average sales and total assets for the sample firms and matched-firms, however, do

not differ statistically. The average matched firm has sales of over $9.7 billion and total assets of

slightly over $18.1 billion. Interestingly, in spite of our efforts to match firms' beta, our sample

firms' average beta is greater than the matched firms' beta of 1.029 (at a 1% level of

significance). To determine whether this difference impacts our subsequent tests, we cull the

matched-firm sample by sequentially removing the sample firms with the largest positive

difference in beta (sample firm beta minus matched firm beta) until the average betas for the

sample firms and matched firms are statistically the same (p-value > 10%). We then repeat our

relative valuation and relative performance analysis. The results for this culled sample are

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qualitatively the same as for the full sample. Thus, to maintain maximum sample size, we report

the results from the full sample only.

Table 3. Comparison of Sample Firms to Industry Means and to Matched Firms

	Variable		
	Sales	Total Assets	Beta
Sample Firms	10,657 (n=227)	17,507 (n=227)	1.132 (n=213)
Industry Mean	1,868	4,389	0.686
Matched Firms	9,755	18,107	1.029
T-test (Sample - Industry)	6.715***	4.451***	3.164***
Matched pair z-test (Sample - Match)	1.163	-1.219	3.942***

*** indicates statistical significance at the 1% level.
NOTES. The sample is taken from *Fortune* magazine's "100 Best Companies to Work For" from 1998-2001. The respective industry is the sample firm's 2-digit SIC code industry. T-test is a difference in means test (sample average minus industry average) assuming unequal variances. For matched firms, the statistical test is matched pair difference (sample firm value minus matched firm value) test to determine if the average difference is not zero. Values are in millions. The sample sizes appear in parentheses.

Relative Valuation

To determine whether firms with satisfied workers are valued differently than other firms,

we examine the sample firms' BM and PE ratios relative to the industry median and to the BM

and PE ratios of matched firms. These results are in Table 4.

Panel A of Table 4 contains the industry comparison. The values we report are the

averages (across all firms) of the sample firm BM ratio divided by the industry median BM and

the PE ratio of the sample firm divided by the industry median PE. One sample firm does not

have a BM ratio reported on *Research Insight*, reducing our sample to 226 for this test. The

average sample firm has a BM ratio that is approximately 60% of the value of the respective

industry median, indicating a relatively higher valuation for the average sample firm versus the

typical firm in the same industry. Further, approximately 90% of the sample firms have a BM

ratio below the industry median. A z-test indicates that this proportion is significantly greater

than 50%, implying that firms with satisfied employees generally have higher valuations than the

typical firm in the respective industry. Also included in Panel A is the relative earnings multiple

of our sample firms.

Table 4. Average Relative Valuation of Firms with Satisfied Employees

	Panel A: Industry Comparison		
	Firm Measure ÷ Industry Median	Percentage Above Industry Median	z-score for proportions
Book/Market (n=226)	0.589	10.6%	-19.216***
Price/Earnings (n=217)	2.098	78.8%	10.381***
	Panel B: Matched Firm Comparison		
	Sample Firms Mean	Matched Firms Mean	z-test for difference
Book/Market (n=212)	0.235	0.380	-2.859***
Price/Earnings (n=189)	36.750	33.235	4.636***

*** indicates statistical significance at the 1% level.
NOTES. Comparison of book-to-market ratio and price-to-earnings ratio for the sample firms and either the industry median or the value from a matched firm. For the industry comparison, the firm measure is divided by the industry median. These values are then averaged. The statistical test is a test to determine whether the proportion of sample observations that are less (greater) than the industry median is greater than 50% for the BM (PE) analysis. For the matched firm comparison, the numbers reported are averages for the sample firms and matched firms respectively. The statistical test is a matched-pair z-test where the null is the average difference (sample - match) equals zero. For the matched firm PE ratio test, the z-score is based on the difference in the natural logs of the PE ratios. The sample sizes for each comparison appear in parentheses.

Because firms with negative earnings do not have meaningful PE ratios, only 217 sample firms are available for the PE ratio analysis. The average sample firm has a PE ratio more than two times larger than the industry median. Further, almost 80% of the sample firms' PE ratios are greater than their respective industry medians, a proportion that is significantly higher than the expected 50%. The BM and PE magnitudes (along with the statistically significant proportions) are consistent with higher average valuations for our sample firms relative to the typical firm in the respective industries.

To further determine whether firms with satisfied employees have greater valuations, we examine the BM and PE ratios of each sample firm relative to its matched firm. We report these results in Panel B of Table 4. Initially, we have 213 firms and their matches (recall, 14 sample firms do not have a beta coefficient reported in *Research Insight* and cannot be included in the matched-firm analysis). We exclude one sample firm that does not have a reported BM. The average BM of the remaining 212 sample firms is 0.235, compared to 0.380 for the matched firms. The average difference (sample firm BM minus matched firm BM) is significantly negative at the 1% level, implying the BM ratio for a typical sample firm is less than that of its matched firm.

For the PE ratio analysis, we are left with 189 sample firms and their matches after excluding all firms with negative earnings. The average PE ratio for our sample firms is 36.750, which is greater than the average PE of 33.235 for the matched firms. Because PE ratios are non-normally distributed (i.e., the ratios are truncated at zero and are skewed rightward), we normalize the PE ratios by taking the natural log of each. The average difference of the natural logs of the PE ratios, similar to the BM ratio result, is significantly positive at the 1% level.

Collectively, our statistical tests indicate that firms with satisfied employees have higher

relative valuations than the typical firm in the industry and individual (matched) firms. We next

examine the relative productivity of the sample firms to determine whether these higher

valuations result from greater efficiencies or from some alternative (unobserved) source.

Relative Performance

Table 5 contains the relative performance data for the sample firms. Similar to Table 4,

Panel A includes the industry comparison, and Panel B includes the matched-firm comparison.

We examine the GPM, EM, NPM, and ROA for both the industry and the set of matched-firms.

For the industry comparison, as before, we divide the sample firm measure by the

industry median for illustrative purposes, but test whether the proportion of sample values

above/below the median is different than 50%. In Table 5, however, we report the *median*

quotient from the sample as opposed to the mean because of the highly skewed nature of these

measures. We have 227 firms available for the GPM, NPM, and ROA analysis, and 225 firms in

the EM analysis. As shown in Panel A, for each of the productivity measures, the median sample

firm's value is at least 1.2 times the industry median. The two measures most closely related to

employee productivity are the GPM and EM. Approximately two-thirds of the sample firms

have a GPM greater than the industry median, and over 86% of sample firms have an EM greater

than the industry median. Each of these proportions significantly exceeds the expected 50%. We

also find the typical sample firm NPM is approximately 1.4 times the industry median NPM, and

the sample ROA is approximately 1.5 times the industry median. The proportion of sample firms

with NPM greater than the respective industry median (89.0%) and ROA greater than the

respective industry median (87.7%) are both greater than 50% at the 1% level of significance.

Thus, it appears that our sample firms exhibit higher productivity/profitability even after

financing effects are included.

Table 5. Average Relative Performance of Firms with Satisfied Employees

Panel A: Industry Comparison			
	Firm Measure ÷ Industry Median	Percentage Above Industry Median	z-score for proportions
Gross Profit Margin (n = 227)	1.228	66.1%	5.117***
EBITDA/Sales (n = 225)	1.290	86.2%	15.764***
Net Profit Margin (n = 227)	1.384	89.0%	18.763***
Return on Assets (n = 227)	1.566	87.7%	17.257***
Panel B: Matched-Firm Comparison			
	Sample Firms	Matched Firms	z-test for difference
Gross Profit Margin (n = 213)	45.0%	36.1%	5.255***
EBITDA/Sales (n = 210)	21.7%	17.9%	3.959***
Net Profit Margin (n = 213)	8.9%	6.4%	2.302**
Return on Assets (n = 213)	9.0%	5.4%	4.014***

, * indicates statistical significance at the 5% and 1% levels respectively.
NOTES. For the industry comparison, the firm measure is divided by the industry median. The reported value is the median of these values. The statistical test is a test to determine whether the proportion of sample observations that are greater than the industry median is different from 50%. For the matched firm comparison, the numbers reported are averages for the sample firms and matched firms respectively. The statistical test is a matched-pair z-test where the null is the average difference equals zero. The sample sizes for each comparison appear in parentheses.

In Panel B, we report the productivity of our sample of firms relative to their matched firms. We have 210 sample firms available for this EM analysis, and 213 sample firms for the remaining measures. The average GPM for the sample is more than 45%, a significantly greater margin (at the 1% level) than the 36% average for the matched firms. The average EM of 21.7% of the sample firms is also significantly greater than the 17.9% average EM of the matched firms. The sample average NPM of 8.9% is statistically greater than the matched firm average of 6.4%, and the sample average ROA of 9.0% is significantly greater than the matched firm average of 5.4%. Thus, it appears that the higher valuation of firms with satisfied employees may occur because of greater firm productivity.

Firms Dropped from the *Fortune* List

As we noted previously, our sample includes 227 firms, but only 106 of these represent unique observations across all years. We next segment the sample based on whether a sample firm appears on the list in consecutive years or is dropped from the list in the subsequent year. We then examine the relative valuation and performance of the "repeating" firms compared to the relative valuation and performance of "dropped" firms. We examine these measures for both the year in which the "dropped" firm actually appears on the list (the "current year") and the following year in which the firm does not appear on the list (the "subsequent year"). We exclude firms from the current year analysis if data is not available in the subsequent year. Further, we use the 2002 *Fortune* list to determine which firms from the last year of our sample remain or are dropped from the list.

For this analysis, we do not attempt to control for the reason a firm is dropped. There are three potential reasons this might happen: (1) employees are relatively less satisfied and the

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company does not "score" well enough to make the list, (2) the company ceases to exist (i.e., is the target of a merger/acquisition or liquidates), or (3) the company chooses not to participate (e.g., Southwest Airlines chose not to participate in the survey for the 2002 list). Firms ceasing to exist would not appear in our analysis because of lack of data; if a firm were to liquidate because of financial difficulties, this would potentially bias our subsequent year analysis towards finding no difference between repeating and dropped firms. And, although it is feasible that a company with extremely satisfied employees may choose to not participate (for example, to avoid the explicit and implicit costs of participating in the survey process), we assume that these companies withdraw because of internal indications of less satisfied employees. Thus, we assume that companies in the dropped-firm sample are there because of a relative decline in employee satisfaction. Therefore, our analysis should provide insight into the impact of a decline in relative employee satisfaction on valuation and productivity.

We use only the matched-firm approach for this analysis, incorporate only the BM ratio to determine relative valuation, and use the GPM, EM, and ROA for the productivity measures. We are left with 138 firms that appear in a given year and then repeat the following year, and 73 firms that appear on the list in a given year but then are not included in the next year's *Fortune* list. Additionally, there are two obvious outliers in the dropped firms sample. These firms have extreme BM ratios in the year of being dropped from the list and we remove them from this analysis. Our results appear in Table 6.

In Panel A, we report valuation and productivity measures for the year in which the firms initially appear on the *Fortune* list. We label these "Current Year" results and segment the sample by whether the firms appear on the next year's list ("repeating firms") or do not appear on

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Table 6. Relative Valuation and Performance of Firms Dropped from the *Fortune* List

Panel A: Current Year			
	Repeating Firms	Dropped Firms	T-test for differences (Repeating - Dropped)
Book-to-Market	0.225 [-1.683*]	0.257 [-3.927***]	-1.065
Gross Profit Margin	44.26% [3.665***]	46.60% [4.203***]	-0.719
EBITDA/Sales	23.16% [3.817***]	19.22% [1.396]	1.639
Return on Assets	10.33% [5.012***]	6.27% [0.489]	1.806*

Panel B: Subsequent Year			
	Repeating Firms	Dropped Firms	T-test for differences (Repeating - Dropped)
Book-to-Market	0.240 [-1.916*]	0.328 [-3.194***]	-2.045*
Gross Profit Margin	44.29% [4.213***]	45.54% [3.622***]	-0.079
EBITDA/Sales	22.40% [4.188***]	16.94% [-0.209]	2.523**
Return on Assets	9.36% [2.814***]	4.24% [1.138]	3.216***

*, **, *** indicates statistical significance at the 10%, 5%, and 1% levels respectively.
NOTES. Current Year refers to the year in which all sample firms appear on *Fortune* magazine's list of "100 Best Companies to Work For." Subsequent Year refers to the next year. Repeating Firms are those firms that appear on the *Fortune* list in both the Current Year and the Subsequent Year, while Dropped Firms are those firms that appear on the list in the Current Year but do not appear on the list in the Subsequent Year. Matched-pair z-scores, which test for differences in valuation and performance measures for sample firms relative to matched firms (sample firm value - matched firm value) appear in brackets.

the next year's list ("dropped firms"). For the year in which they both appear on the list (the

Current Year), repeating firms and dropped firms each have statistically similar BM ratios (0.225

and 0.257 respectively) and gross profit margins (44.26% and 46.60% respectively). The

repeating and dropped firms' BM ratios are each statistically smaller, while the GPM for each is

statistically larger, than those of their respective matched firms. Interestingly, the average EM

for dropped firms (19.22%) does not differ statistically from the average EM of their matched

firms (t-statistic of 1.396). And although the average EM of repeating firms (23.16%) is

significantly higher than the average for their matched firms, the average EM of repeating and

dropped firms is statistically indistinguishable in the current year (t-statistic of 1.639). The

6.27% ROA of the dropped firms, however, is statistically smaller at the 10% level than the

10.33% ROA of the repeating firms for the year in which both appear on the list. Collectively,

however, our results for the current year indicate that firms that are dropped from the subsequent

year's list have similar relative valuations and productivity as firms that appear on the next year's

list.

We next examine relative valuation and productivity for firms in the year subsequent to

being initially named to the *Fortune* list. For "dropped" firms, these measures occur over the

period in which the firm *does not* appear on the list. These results are in Panel B of Table 6.

As shown, dropped firms have a significantly higher average BM ratio than repeating

firms in the year subsequent to initial listing by *Fortune* (0.328 versus 0.240). Thus, these firms

have a significantly lower relative value than those firms that remain on the list. Though not

reported in tabular form, we also find that the relative valuation of the dropped firms is

significantly worse (at the 1% level) in the subsequent year (0.328) when compared to the current

year (0.257). For the productivity measures, we find that dropped firms have a significantly

lower average EM (16.94% versus 22.4%) and ROA (4.24% versus 9.36%) than firms that are

repeating on the *Fortune* list. Again, although we do not report the statistical test in the table, the subsequent year average EM and ROA for the dropped firms are statistically smaller (at the 5% level) than the current year values for these same firms. Interestingly, the average GPM is not different statistically for dropped and repeating firms in the subsequent year. However, the decline in average GPM from the current year (46.60%) to the subsequent year (45.54%) for the dropped firms, though small numerically, is statistically significant at the 5% level.

Thus, overall, our evidence suggests that dropped firms (i.e., firms with employees that become relatively less satisfied) are not valued as highly nor are as productive as firms that maintain a higher level of employee satisfaction. Further, firms with relative declines in employee satisfaction lose relative value and exhibit lower levels of productivity than in previous periods. From a policy perspective, it appears that firms engaging in activities which promote and maintain employee satisfaction benefit from higher relative productivity and valuations.[4]

CONCLUSIONS

We examine whether reported employee satisfaction is associated with higher firm valuation and productivity. Using a sample of firms in which employees report high levels of satisfaction, we find that these firms have relative stock market valuations that are significantly greater than both the respective industry medians and the relative market valuations of matched

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[4] We conduct additional tests that we do not report in tabular form in the interest of space. For example, we conduct several regression analyses. We calculate the difference in valuation (using the BM ratio) and productivity (using the GPM) for sample firms relative to their matched firms to use as dependent variables. For independent variables we use dummy variables that represent industry classifications and other variables that indicate the rank of the company in the *Fortune* list. In general, we find little or no evidence of industry variations. There is limited evidence that better-ranked sample firms have larger differences in gross profit margins (compared to matched firms) than for worse-ranked sample firms.   These results are available upon request from the authors.

firms. The firms in our sample also exhibit greater levels of productivity and efficiency as measured by profit margins and returns on assets. Thus, successful efforts in increasing employee satisfaction appear to enhance overall firm productivity, which is subsequently rewarded by investors through higher equity values.

We also examine the impact of an apparent relative reduction in the level of employee satisfaction by examining firms that are dropped from the *Fortune* list of "100 Best Companies to Work For". We find that these firms have a lower (average) relative stock market valuation in the year of being dropped from the list, and experience lower productivity compared to matched firms and prior year results. Our findings imply that financial managers may, ceteris paribus, enhance firm-level productivity and valuation by implementing and maintaining processes that increase employee satisfaction.

While our results imply a linkage between employee satisfaction and higher levels of both firm-level productivity and stock market valuation, our methodology does not allow us to test for *causality*. It is possible that our observations are caused by some other unobserved factor. Our research is also limited to publicly-traded companies, even though the *Fortune* list includes many private firms. Finally, it is probable that any impact of employee satisfaction on firm performance or value can be easily overwhelmed by other factors such as poor product placement and demand, poor market execution by management, or disaster. This implies that an extraordinary focus on enhancing employee satisfaction by management is likely fruitless without other basic factors of success in place.

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