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Does the stock market fully value intangibles? Employee satisfaction and equity prices ☆

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ABSTRACT

This paper analyzes the relationship between employee satisfaction and long-run stock returns. A value-weighted portfolio of the "100 Best Companies to Work For in America" earned an annual four-factor alpha of 3.5% from 1984 to 2009, and 2.1% above industry benchmarks. The results are robust to controls for firm characteristics, different weighting methodologies, and the removal of outliers. The Best Companies also exhibited significantly more positive earnings surprises and announcement returns. These findings have three main implications. First, consistent with human capital-centered theories of the firm, employee satisfaction is positively correlated with shareholder returns and need not represent managerial slack. Second, the stock market does not fully value intangibles, even when independently verified by a highly public survey on large firms. Third, certain socially responsible investing (SRI) screens may improve investment returns.

"[Costco's] management is focused on … employees to the detriment of shareholders. To me, why would I want to buy a stock like that?"—Equity analyst, quoted in BusinessWeek, 8/28/03

"I happen to believe that in order to reward the shareholder in the long term, you have to please your customers and workers."—Jim Sinegal, Costco's CEO, quoted in the Wall Street Journal, 3/26/04

1. Introduction

This paper analyzes the relationship between employee satisfaction and long-run stock returns. A value-weighted portfolio of the "100 Best Companies to Work For in America" (Levering, Moskowitz, and Katz, 1984; Levering and Moskowitz, 1993) earned a four-factor alpha of 0.29% per month from 1984 to 2009, or 3.5% per year. These figures exclude any event-study reaction to list inclusion and capture only long-run drift. When compared to industry-matched benchmarks, the alpha remains a statistically significant 2.1%.

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The results are also robust to controlling for firm characteristics, different weighting methodologies, and adjusting for outliers. The outperformance is at least as strong from 1998, even though the list was published in *Fortune* magazine and thus highly visible to investors. The Best Companies (BCs) exhibit significantly more positive earnings surprises and stock price reactions to earnings announcements: over the four announcement dates in each year, they earn 1.2–1.7% more than peer firms. These findings contribute to three strands of research: the increasing importance of human capital in the modern corporation; the equity market's failure to fully incorporate the value of intangible assets; and the effect of socially responsible investing (SRI) screens on investment performance.

Existing theories yield conflicting predictions as to whether employee satisfaction is beneficial for firm value. Traditional theories (e.g., Taylor, 1911) are based on the capital-intensive firm of the early 20th century, which focused on cost efficiency. Employees perform unskilled tasks and have no special status; just like other inputs such as raw materials, management's goal is to extract maximum output while minimizing their cost. Satisfaction arises if employees are overpaid or underworked, both of which reduce firm value.[1] Principal-agent theory also supports this zero-sum view: the firm's objective function is maximized by holding the worker to her reservation wage. In contrast, more recent theories argue that the role of employees has dramatically changed over the past century. The current environment emphasizes quality and innovation, for which human, rather than physical, capital is particularly important (Zingales, 2000). Human relations theories (e.g., Maslow, 1943; Hertzberg, 1959; McGregor, 1960) view employees as key organizational assets, rather than expendable commodities, who can create substantial value by inventing new products or building client relationships. These theories argue that satisfaction can improve retention and motivation, to the benefit of shareholders.

Which theory is borne out in reality is an important question for both managers and investors, and provides the first motivation for this paper. If the traditional view still holds today, managers should minimize expenditure on worker benefits, and investors should avoid firms that fail to do so. In contrast to this view, and the existing evidence reviewed in Section 2.1, I find a strong, robust, positive correlation between satisfaction and shareholder returns. This result provides empirical support for recent theories of the firm focused on employees as the key assets, e.g., Rajan and Zingales (1998), Carlin and Gervais (2009), and Berk, Stanton, and Zechner (2010).

I study long-run stock returns for three main reasons. First, they suffer fewer reverse causality issues than valuation ratios or profits. A positive correlation between valuation/profits and satisfaction could occur if performance causes satisfaction, but a well-performing firm should not exhibit superior future returns as profits should already be in the current stock price, since they are tangible.[2] Second, they are more directly linked to shareholder value than profits, capturing all the channels through which satisfaction may benefit shareholders and representing the returns they actually receive. In addition to profits, satisfaction may lead to many other tangible outcomes valued by the market, such as new products or contracts. Studying returns also allows for controls for risk.[3] Third, valuation ratios or event-study returns may substantially underestimate any relationship, given ample previous evidence that the market fails to fully incorporate intangibles. Firms with high R&D (Lev and Sougiannis, 1996; Chan, Lakonishok, and Sougiannis, 2001), advertising (Chan, Lakonishok, and Sougiannis, 2001), patent citations (Deng, Lev, and Narin, 1999), and software development costs (Aboody and Lev, 1998) all earn superior long-run returns. The market may be even more likely to undervalue employee satisfaction since theory has ambiguous predictions for whether it is desirable for firm value.

Indeed, investigating the market's incorporation of satisfaction is my second goal. I aim not only to extend earlier results to another category of intangibles, but also to shed light on the *causes* of the non-incorporation documented previously. The main explanation for prior results is that intangibles are not incorporated because the market lacks information on their value (the "lack-of-information" hypothesis). While R&D spending can be observed in an income statement, this is an input measure uninformative of its quality or success (Lev, 2004). Even if information is available on an output measure such as patent citations, the market may ignore it if it is not salient (Deng et al.'s citation measure had to be hand-constructed) or about small firms which are not widely followed (Hong, Lim, and Stein, 2000).

This paper evaluates the above hypothesis by using a quite different measure of intangibles to prior research, which addresses investors' lack of information. The BC list measures satisfaction (an output) rather than expenditure on employee-friendly programs (an input). It is also particularly visible: from 1998 it has been widely disseminated by *Fortune*, and it covers large companies (median market value of $5bn in 1998). Moreover, it is released on a specific event date which attracts widespread attention, because it discloses information on several companies simultaneously.[4]

[1] Indeed, agency problems may lead to managers tolerating insufficient effort and/or excessive pay, at shareholders' expense. The manager may derive private benefits from improving his colleagues' compensation, such as more pleasant working relationships (Jensen and Meckling, 1976). Alternatively, high wages may constitute a takeover defense (Pagano and Volpin, 2005). Cronqvist, Heyman, Nilsson, Svaleryd, and Vlachos (2008) find that salaries are higher when managers are more entrenched, which supports the view that high worker pay is inefficient.

[2] Faleye and Trahan (2006) find that the BCs exhibit superior contemporaneous accounting performance than peers over 1998–2004. Lau and May (1998) find a similar link using the 1993 list, but Fulmer, Gerhart, and Scott (2003) find no relationship. Filbeck and Preece (2003) show that firms in the 1998 list exhibited higher returns *prior* to list inclusion. Simon and DeVaro (2006) show that the BCs exhibit higher customer satisfaction. These results are consistent with reverse causality from performance to satisfaction, and do not have implications for the market's valuation of intangibles or the profitability of an SRI trading strategy.

[3] Goenner (2008) controls for the market beta but not other factors or characteristics.

[4] By contrast, R&D is one of many measures reported in a company's earnings announcement, and such announcements occur at different times for different firms. Gompers, Ishii, and Metrick (2003), Yermack (2006), and Liu and Yermack (2007) also document long-run abnormal returns. Their measures of corporate governance, corporate jets, and CEO mansions are also not released on a specific date and widely disseminated.