**Predicting Employee Satisfaction in the Financial Services Industry Using Financial Performance**

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Abstract – *I aim to predict the financial performance of firms in the financial services industry based on employee satisfaction and CEO approval ratings. I employ the latest Glassdoor employee satisfaction and CEO ratings on 105 financial firms and corresponding Capital IQ income statement, balance sheet, and executive compensation data to determine if a relationship exists between employee satisfaction and financial performance. Multivariate OLS regression models find that employee satisfaction and CEO approval ratings are both positively related to the financial performance of financial firms and that these two variables alone account for variation in ROA. This further illustrates the importance of traditionally intangible internal firm factors on overall financial firm performance and how human resources departments can play a key role in increasing firm value.*

1. **Introduction**

A central question for financial managers is how to select positive net present value (NPV) projects in order to maximize shareholder wealth. As ESG initiatives rise in popularity and companies begin to incorporate better ethos into the workplace, employee satisfaction has been highlighted as a target metric to improve upon and is becoming increasingly important to consumers and investors. Improving these metrics is also consistent with traditional economic theory. This is because it is theoretically assumed that there is an optimal level of employee productivity given the real value of their wages and benefits, which contributes to an optimal level of firm value. However, unhappy employees are likely to be less productive than happy employees. This lack of productivity coupled with a probable increase in employee turnover is costly to firms and lowers its overall value.

Many firms have included improving employee satisfaction in their plans for financial stability. Kraft Heinz Co., for example, publicized their creation of key performance indicators (KPIs) to improve employee engagement and employee satisfaction in order to reduce turnover (Nunes, 2020). Not only is there internal pressure to focus on employee satisfaction, but companies are now being chastised by the media for not providing safe and fair environments for their workers. Michael Bloomberg came under fire during his short run for president for buying the silence of unhappy employees, which ultimately harmed his campaign (Silver-Greenberg et al., 2020). This is especially interesting to research in the context of the financial services industry because of its reputation as being stressful, requiring long and demanding hours of its employees. Using data from Capital IQ and Glassdoor, I investigate if financial performance in the financial services industry is associated with employee satisfaction.

(results to come when I have them…) Using OLS regressions, I find that there is a linear relationship between employee satisfaction and financial performance that is strengthened by CEO approval ratings.

1. **Literature Review**

My research question lies at the intersection of employee satisfaction and financial performance in the context of the corporate culture in banking, which can be seen as intense. This culture can be illustrated by a recent New York Times article documenting how Bank of America (BAML) put the needs of the company ahead of its employees during the COVID-19 crisis. Despite the fact that New York City was and continues to be the epicenter of the virus, BAML executives publicly praised individuals who made the commute to the office every day and risked infecting themselves and others (Kelly & Silver-Greenberg, 2020). This pressured many employees to weigh the tradeoff between risking infecting themselves and their families to travel to work or to tele-commute and risk losing their jobs and income, a fear that is currently permeating through Wall Street (Kelly & Silver-Greenberg, 2020). While many would assume that employee satisfaction is low, it begs the question why employees stay dedicated to the hard-driving corporate culture of finance.

Holistically, it has been found that employee satisfaction and satisfaction with senior leadership positively impacts firm profitability. Melián-González et al. (2015) researched and confirmed this exact finding using return on assets (ROA), operating margin, and revenue per employee as their outcome variables.  Employing Glassdoor data on 475 firms, they found that overall satisfaction and CEO satisfaction was associated with firm performance (Melián-González et al., 2015, p.1). Another study by XYZ Chamberlain (2015) created a portfolio of Glassdoor’s “Best Places to Work” list and Fortune’s 100 “Best Companies to Work For” list and found that the portfolio outperformed the S&P 500 from 2009-2014. Individually, Fortune’s list outperformed the S&P 500 by 84.2% and Glassdoor’s list outperformed it by 115.6% (Chamberlain, 2015, p.2). Moreover, 30 of Glassdoor’s companies with the lowest employee ratings underperformed the market from 2009 to 2014 (Chamberlain, 2015, p.2). These statistics are important for both individual firms and investors. Individuals may invest in companies with better employee satisfaction for higher returns, further motivating firms to invest in their employees in order to attract investors.

Symitsi et al. (2018) similarly found that employee satisfaction positively impacted firm profitability using Glassdoor data on 164 firms from the UK from 2014 to 2017. They built off of these findings by calculating the risk-adjusted returns for the firms using the Capital Asset Pricing Model (CAPM) and Fama-French’s three-factor model. The CAPM is a theoretical formula that states that the expected return on an individual security is the sum of the risk-free rate and compensation for bearing risk (sensitivity to market risk premium) and Fama-French’s three-factor model states that the expected return on an individual security is based on the market, the size of the company (preferring smaller companies), and its book-to-market ratio (preferring value companies). Both methods found that investing in firms with happier employees resulted in significant abnormal returns (Symitsi et al., 2018, p.6-7). While this research on market returns differs from the previous article mentioned, I hope that my research can contribute to this ongoing debate by testing these findings on an industry level.

While the positive relationship between employee satisfaction and firm performance has been consistent in the context of the wider market, the magnitude of the effect has been found to differ depending on executive structure. For example, Huang et al. (2015) used Glassdoor data from 2008 to 2012 to find that family firms exhibit a human-capital-enhancing culture that improves firm performance relative to scion firms or those without active founders. Therefore, I include CEO approval ratings and executive compensation in my regression, as they both affect the magnitude of employee satisfaction generally. Huang et al. (2015) also cites using ROA as a predictive outcome variable, which motivated me to consider both ROA and return on equity (ROE) as the outcome variables of my analysis.

Employee satisfaction’s association with firm value is strengthened by its association with firm risk. Ji et al. (2017) found that employee satisfaction is specifically associated with financial reporting risk using Glassdoor data from 2008 to 2015. Firms with lower levels of job satisfaction and culture were associated with increased rates of SEC fraud enforcement actions and securities class action lawsuits (Ji et al., 2017, p.1). However, this fraudulent effect was mitigated with high CEO approval ratings (Ji et al., 2017, p.1). Ji et al. (2017) also was able to explain the relevance of Glassdoor data and supported that Glassdoor provides unbiased data from a corporate perspective because the metrics are not inflated, unlike self-reported metrics by management. Selection bias is also somewhat minimized on Glassdoor because all users that want to use the job search function need to fill out an employment ratings survey (Ji et al., 2017, p. 6).

Ji et al.’s (2017) research was supported by a paper released by the New York Fed, which cited the importance of company culture, specifically for the banking industry, as an integral part of its risk management. They highlighted that strong culture can act as a coordination mechanism by simultaneously helping employees reach their own personal desirable outcomes and eliminating Nash equilibria where employees behave poorly, reducing operational risk (Thakor, 2015, p. 13). Their framework emphasizes the importance of the banking industry investing in their intangibles to improve firm value and using human resources to unify and optimize their operations. The paper suggests regulators should step in to improve company culture to eliminate ethical lapses (Thakor, 2015, p.13). Clearly, employee satisfaction and company culture have at least a significant indirect effect on firm value, if not a direct one.

It is important to note that Glassdoor data has been validated in its use as job satisfaction data. Landers et al. (2019) researched the validity of Glassdoor data by comparing the Federal Employee Viewpoint Survey to Glassdoor data at the agency level in using 2017 data and found that they were significantly correlated with an R value of .516. This supports using Glassdoor ratings as a measure of overall job satisfaction at the organizational level and combining it with traditional data for research. This lends credibility to my research as well as to previous research off of which my questions are based.

CEO approval ratings are highest in the financial sectors on Glassdoor, with real estate having an average rating of 76.1%, finance having an average rating of 72.4%, and insurance having an average rating of 71.8% as of 2016 (Chamberlain & Huang, 2016, p.4). These ratings are driven by culture and directly related to company performance, supporting the interrelations between these factors. Studies in financial economics have shown that employee satisfaction and CEO approval are integral to the success of financial firms. Barth (2016) found that competition-oriented firms attract competitive workers which contributes to internal competition and increasing firm value, although CEO compensation lessens the magnitude of this effect. This is critical, as it highlights that the key to employee satisfaction, particularly in finance, is employee-firm culture matching.

Given the knowledge from previous empirical literature, I hypothesize that the financial performance of financial firms will have a positive relationship with overall employee satisfaction and CEO approval ratings. At the very least, previous research supports that employee satisfaction and CEO approval should be positively associated with firm value as improving these metrics reduces costs related to hiring and operational inefficiencies.

1. **Data and Summary Statistics**

I use data from Capital IQ and Glassdoor to complete my analysis. Capital IQ, part of S&P’s Global Market Intelligence platform, is a repository of financial information on private and public firms that is updated in real-time. I specifically used balance sheet, income statement, executive compensation, and general firm information to develop financial ratios to be used in the analysis of each firm’s financial performance and merged these datasets togethers. I created ROA and ROE using 2019’s net income and 2018’s total assets and equity. ROA reflects how much each dollar in a firm’s assets generates profit and ROE reflects how much each dollar in equity generates profit. I chose these measures to reflect firm performance following previous empirical research and also because of their usefulness in cross-industry analysis.

I also include earnings per share (EPS) in my analysis which is calculated as net income divided by shares outstanding. It represents average profitability per share outstanding and reflects if an association between firm performance and employee satisfaction maximizes shareholder wealth. I include the Cash ratio, Debt-Equity ratio, and Net Debt/EBITDA ratio to control for the general riskiness of the firms. The Cash ratio is calculated by dividing cash by current liabilities and reflects the liquidity of a firm. The Debt-Equity ratio is calculated by dividing total debt by total equity and reflects how levered a firm is. The Net Debt/EBITDA ratio reflects how much of a company’s interest obligations are covered. Lastly, I include inventory turnover, which is calculated by dividing the cost of goods sold by inventory and reflects how much inventory was sold in a year.

After merging the datasets and filtering them for firms with a SIC code between 6000 and 6999, I was left with 105 financial firms. Next, I found the corresponding employee satisfaction data on Glassdoor for each firm. Glassdoor is a website where current and former employees can review companies and provide supplemental information such as salary ranges and benefits. I collected each financial firm’s corresponding average overall employee satisfaction rating, likelihood to recommend to a friend rating, and CEO approval rating to supplement my analysis. The average ratings are updated every time a new review is made but are up to date as of March 2020 when I collected the data. Since Glassdoor does not provide public datasets, I collected these metrics manually, by searching for each company on Glassdoor and scraping the ratings from each company’s “Review” tab. I cleared all filters and confirmed each company was the correct company of interest by matching the headquarters information from Capital IQ to the headquarters listed on Glassdoor. I then inputted each rating into my STATA do file by creating an overall satisfaction rating variable, a friend recommendation variable, and a CEO approval variable. I paired these ratings with each financial services company’s latest financial information, which is 2019 quarter 4. I do minimal data cleaning, as most research papers made no mention of cleaning potential outliers.

**Figure 1: Distribution of ROA for Financial Services Companies**



**Figure 2: Distribution of ROE for Financial Services Companies**



**Figure 3: Distribution of Glassdoor Overall Employee Satisfaction Ratings**



**Figure 4: Distribution of Glassdoor Recommend to a Friend Ratings**



**Figure 5: Distribution of Glassdoor CEO Approval Ratings**

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**Figure 6: Visualizing the Relationship between Employee Satisfaction and Firm Performance**

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**Table 1: Summary Statistics**

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| --- | --- | --- | --- | --- | --- |
|  | Mean | SD | Min | Max | N |
| EMPLOYEE SATISFACTION | 3.50 | 0.60 | 0.00 | 4.50 | 102 |
| RECOMMEND TO A FRIEND | 0.65 | 0.14 | 0.00 | 0.88 | 102 |
| CEO APPROVAL | 0.80 | 0.18 | 0.00 | 1.00 | 102 |
| ROA | 0.01 | 0.01 | 0.00 | 0.08 | 99 |
| ROE | 0.04 | 0.04 | 0.00 | 0.39 | 99 |
| CEO PROFESSIONAL SALARY | 467,112.1 | 569,783.5 | 0.00 | 2e+06 | 102 |
| CEO CALCULATED COMP | 6,147,013 | 8,522,393 | 0.00 | 3.6e+07 | 102 |
| CEO RESTRICTED STOCK COMP | 3,583,010 | 5,813,235 | 0.00 | 2.9e+07 | 102 |
| CEO OPTION AWARDS | 282,905.3 | 803,877.9 | 0.00 | 4,312,489 | 102 |
| CASH RATIO | 2.69 | 20.17 | 0.00 | 203.35 | 102 |
| DEBT-EQUITY RATIO | 1.14 | 1.34 | 0.02 | 8.48 | 102 |
| NET DEBT/ EBITDA RATIO | 5.46 | 15.59 | -45.68 | 41.75 | 64 |
| INVENTORY TURNOVER | 13.56 | 53.01 | 0.01 | 299.33 | 32 |
| EPS | 1.62 | 1.43 | -0.14 | 8.38 | 102 |

1. **Methodology & Results**

**Table 2: OLS Regression Results**

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(1) (2) (3) (4) (5)

GD\_RATING GD\_RATING GD\_RATING GD\_RATING GD\_RATING

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ROA 6.298 1.276 0.537 0.488

(4.628) (2.785) (2.810) (2.831)

ROE 2.200

(1.380)

APPROVE\_CEO 2.750\*\*\* 2.654\*\*\* 2.666\*\*\*

(0.207) (0.214) (0.215)

IQ\_PROFESS~Y -0.000000102 -9.70e-08

(0.000000115) (0.000000115)

IQ\_PROFESS~P 1.69e-08 1.58e-08

(2.07e-08) (2.07e-08)

IQ\_PROFESS~K -3.23e-08 -3.14e-08

(2.48e-08) (2.49e-08)

IQ\_PROFESS~S -7.04e-09 -3.62e-09

(5.46e-08) (5.55e-08)

DEBT\_EQUIT~O 0.0344

(0.0267)

EPS 0.0106

(0.0258)

\_cons 3.431\*\*\* 3.410\*\*\* 1.300\*\*\* 1.447\*\*\* 1.382\*\*\*

(0.0775) (0.0814) (0.167) (0.175) (0.182)

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N 99 99 99 99 99

R-sq 0.019 0.026 0.655 0.679 0.685

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Standard errors in parentheses

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Although the R-squared value increases as more variables are added to the econometric model, the already small sample size decreases.

While financial ratios are used to evaluate different aspects of firm performance, there are several potential problems with using financial ratios to quantify firm value. There is no underlying theory, so there is no way to know which ratios are most relevant. Benchmarking is difficult for diversified firms. Globalization and international competition make comparison more difficult because of differences in accounting regulations. Firms use varying accounting procedures. Firms have different fiscal years. Extraordinary, or one-time, events

1. **Conclusion**

Overall,

1. **References**

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